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PROJE SOVE TE
(HAITI: Hillside Soil Conservation/Income Augmentation Project)
MIDTERM REPORT

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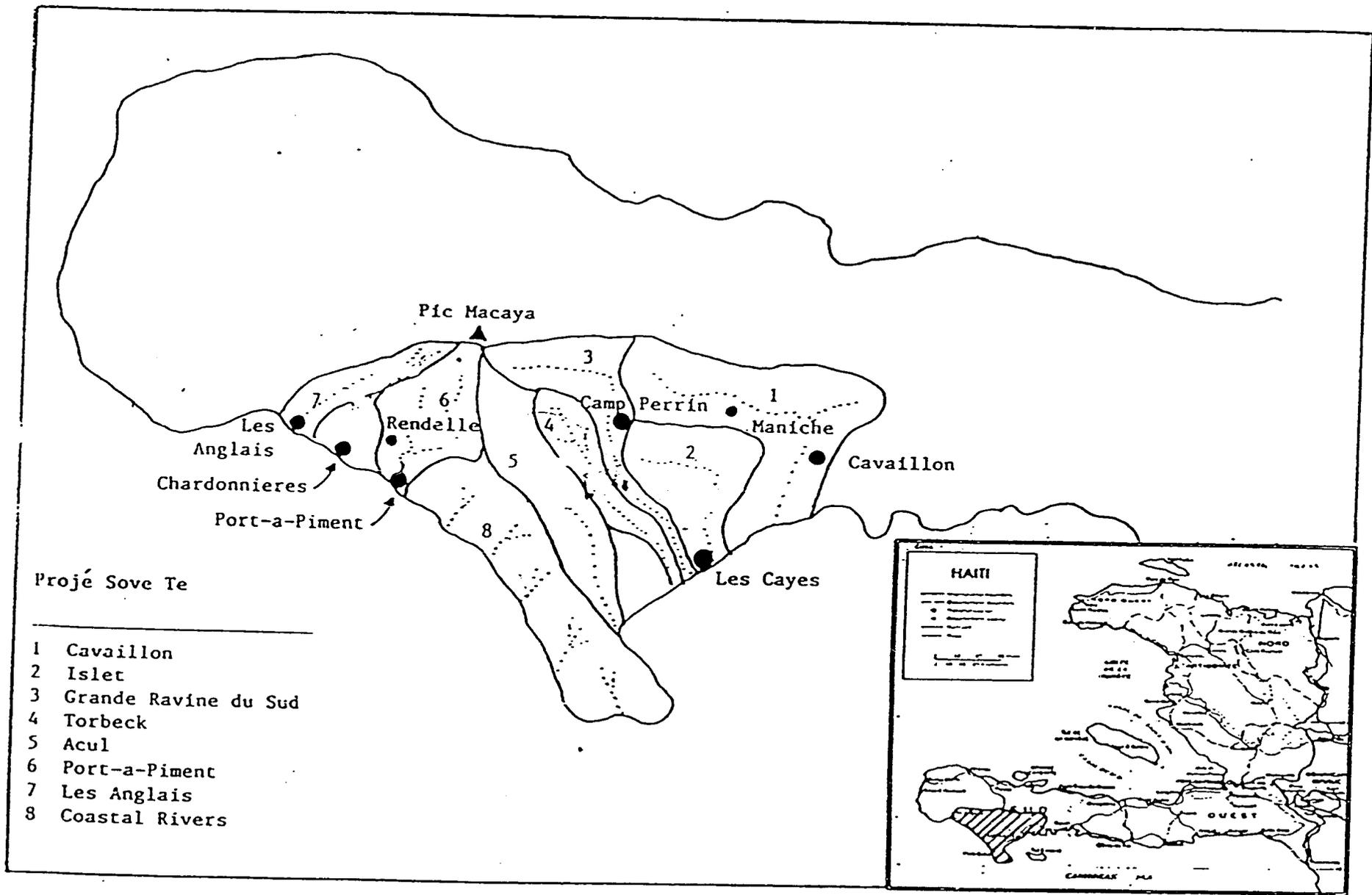


Figure 1. PST Area

TABLE OF CONTENTS

MIDTERM REPORT ON PROJE SOVE TE

| | Page |
|---|------|
| Executive Summary and Major Issues Facing Proje Sove Te | 1 |
| Introduction | 4 |
| SECTION I: PROPOSED ACTIONS UNDER ARD'S BEST-AND-FINAL PROPOSAL AND ACTIONS ACTUALLY UNDERTAKEN | |
| Background and Concept of Proje Sove Te | 5 |
| Logical Framework of Proje Sove Te | 5 |
| Philosophy and Approach of Proje Sove Te | 6 |
| - Voluntary Participation by Farmers on Land Which They are Farming/Controlling | 6 |
| - Use of Private Voluntary Organizations to Work with Farmers | 6 |
| - Selection of an Area with Relatively Good Soil and Rainfall | 6 |
| - Use of an Expatriate Organization to Help PST to Design and Implement an Effective Program | 6 |
| - Role of the Ministry of Agriculture | 7 |
| - "Parcel" Approach versus "100% Coverage of Watershed" Approach | 8 |
| - PST's "Parcel" Approach, with Progressive Steps to Treat Mini-Watersheds | 8 |
| - "Starting at the Top" of the Watershed Versus Working Effectively with Farmers | 9 |
| - Focusing on the Hillside Areas Versus Working with Both Hillside Areas and the Plains Areas | 10 |
| - Focusing on Agro-Silvo-Pastoral Issues Versus Carrying Out an Integrated Program Which Includes Non-Agricultural Activities | 11 |
| - Combining Soil Conservation with Activities to Increase Income | 11 |
| - Key Element of PST: Livestock and Forage Program | 12 |
| - Animal Health Program | 13 |

TABLE OF CONTENTS (continued)

| | Page |
|---|------|
| Governance of Projé Sove Te | |
| - Conseil Consultatif/Working Group | 13 |
| - USAID Six-Month Review | 15 |
| Role of the Expatriate Organization | 15 |
| PST Planning System | 16 |
| - Background | 16 |
| - Implications of Using a Cooperative Agreement | 16 |
| - Preparing the First-Year PVO Plans/Cooperative Agreements | 16 |
| - Criteria Used in Designing the PST Planning System | 17 |
| - Planning and the Farming Systems Approach | 18 |
| - Document Outlining the PST Planning System | 18 |
| Monitoring--Measuring Impact--Evaluation--Audit System | |
| - Monitoring | 20 |
| - Measuring Impact | 21 |
| - Evaluation | 21 |
| - Audit | 22 |
| ARD's Role in the Planning Process | |
| - Coordination of PVO Plans | 22 |
| - ARD Plan for the Activities of ARD staff | 24 |
| PVO Regular Reports | 24 |
| ARD Reports | 25 |
| ARD's Technical Assistance Role | |
| - Finance and Administration | 26 |
| - Personnel Oversight | 27 |
| - Procurement | 27 |

TABLE OF CONTENTS (continued)

| | Page |
|---|------|
| Consultants | |
| - ARD-Hired Consultants | 28 |
| - PVO-Hired Consultants | 30 |
| Baseline Studies | 30 |
| Socio-Political Climate at Time PST Started Operations | 33 |
| Delimitation of Priority Work Areas | 33 |
| Aerial Photography/Video Reconnaissance | 34 |
| Soil Studies | 34 |
| - Measuring Erosion | 36 |
| Sondeo: Rapid Reconnaissance Survey | 36 |
| On-Going Survey of Prices | 38 |
| Incentives Assessment | 38 |
| Credit Programs/PST "Boutiques" | 39 |
| PVO Methods of Working with Farmers | |
| - Working with Individuals and Working with Groups | 40 |
| - Working with the "Poorest of the Poor" and Working With Other Farmers | 41 |
| - Recruiting Local Farmers as PVO Staff and Using Persons Who Have Been Given Formal Agricultural Training as PVO Staff | 42 |
| - Emphasizing Quality Rather than Quantity | 42 |
| Training | |
| - Short and Long-Term Training | 43 |
| - Training Materials | 44 |
| - Radio Broadcasts and Posters | 45 |

TABLE OF CONTENTS (continued)

| | Page |
|--|------|
| Recommendations (Interventions) with Broad Applicability | 45 |
| - Project-Managed Research (PMR) | 46 |
| - Farmer-Managed Experimentation (FME) | 47 |
| - Demonstrations | 47 |
| - Selecting Technical Interventions | 48 |
| Technologies and Plant Materials Which Are Proving To Be Effective and/or Promising | |
| - Improved Plant Materials Grown in Traditional Ways | 48 |
| - Construction of Furrows/Berms Along the Contour and "Tying" the Furrows/Berms to Prevent Lateral Flow of Water | 49 |
| - Planting Hedgerows | 50 |
| - Measuring Hedgerow Activity | 51 |
| - Traditional Rampe Paille and Improved Rampe Paille | 51 |
| Increasing Soil Fertility | |
| - Composting | 52 |
| - Application of Hedgerow Clippings to Alleys as a Mulch | 53 |
| - Using Herbaceous Legumes to Increase Soil Fertility | 53 |
| - Using Legumes for an Improved Fallow | 53 |
| - Using Legumes as an Intercrop or Short-Term Cover Crop | 53 |
| - Alternating Strips on Contour of Legumes and Annual Crops | 53 |
| - Using Rhizobium Inoculant | 54 |
| - Using Chemical Fertilizers to Improve Soil Fertility | 54 |
| No-till Agriculture ("Zero Labour") | 55 |
| "Wynn Digue Canals"/Deep Contour Canals/Water Traps | 55 |

TABLE OF CONTENTS (continued)

| | Page |
|--|------|
| Alternatives to Annual Crops | 56 |
| - "Jarden Zeb" (Field of Grasses) | 56 |
| Planting Trees Grown in Nurseries | |
| - General Comments | 57 |
| - Central Nurseries Operated by PVO Personnel and Decentralized Nurseries Operated by Farmers | 57 |
| - Tree Distribution Policy | 57 |
| - Tree Survival | 58 |
| Sources for Seeds and Plant Materials | 58 |
| Controlling Tiny Ravines | 58 |
| Integrated Pest Management | 59 |
| Tool Development and Manufacture | 59 |
| Relations with Other Projects | 60 |
| Improvements of Household Infrastructure | 60 |
| Transformation and Marketing of Farmer Produce | 61 |
| Role of Women | 61 |
| Access Development | 62 |
| Technical Publications Library | 62 |
| Administrative Matters | |
| - Physical Location of ARD Office | 62 |
| - Road Communications to Port-au-Prince | 63 |
| - Communications | 63 |
| - ARD's Haitian Personnel | 63 |
| - ARD Staffing Pattern for Expatriates | 64 |

TABLE OF CONTENTS (continued)

| | Page |
|---|------|
| Section II: Summary of Proje Sove Te Activities By DCCH, IRD, ORE and UNICORS | |
| Overall View of PVO Activities (Outputs) Since PST Started | |
| - Hedgerows | 65 |
| - PVO Tree Production and Distribution--Other than Hedgerows | 66 |
| - Number of Participating Farmers | 66 |
| Summary of PST Activities (Outputs) During the First Agricultural Season of 1990 1 February, 1990 - 31 July, 1990 | 67 |
| DCCH Activities: Cumulative and First Season 1990 | |
| - DCCH's Development Philosophy and Previous Development Experience | 68 |
| - Farmer Demands on DCCH for Jobs | 69 |
| - DCCH's Contour Soil Conservation Measures | 69 |
| - DCCH's Tree Production and Distribution--Other than Hedgerows | 69 |
| - DCCH's Membership: Latest Season and Cumulative; Non-Members Who Participate in PST Activities | 70 |
| IRD Activities: Cumulative and First Season 1990 | |
| - IRD Development Philosophy and Previous Development Experience | 70 |
| - Special Problems | |
| - Relatively Poor Agricultural Conditions in Several Parts of the IRD Area | 70 |
| - Working with Individual Farmers Versus Working Via Groupements | 71 |
| - IRD's Contour Soil Conservation Measures | 71 |
| - IRD Tree Production and Distribution-- Other than Hedgerows | 72 |
| - Veterinary Activities | 72 |

TABLE OF CONTENTS (continued)

| | Page |
|---|------|
| ORE's Activities: Cumulative and First Season 1990 | |
| - ORE's Development Philosophy and Previous Development Experience | 73 |
| - Farmer Demands in the Saut Mathurine Area | 73 |
| - ORE--University of Florida Coordination in Formond | 73 |
| - ORE's Contour Soil Conservation Measures | 73 |
| - ORE's Tree Production/Distribution--Other than Hedgerows | 74 |
| - ORE's "Leading Role" in Tree Production Techniques | 74 |
| - ORE's Work in Producing and Storing Beans and Corn | 74 |
| - ORE's Work With Sweet Potatoes and Yams | 75 |
| - ORE's Tissue Culture Activities | 75 |
| - ORE's Work with Cover Crops and Zero Tillage ("zero labour") | 75 |
| - ORE Membership | 75 |
| UNICORS Activities: Cumulative and First Season 1990 | |
| - UNICORS' Development Philosophy and Previous Development Experience | 75 |
| - Farmer Attitudes Towards Proje Sove Te | 76 |
| - UNICORS' Contour Soil Conservative Measures | 76 |
| - UNICORS' Tree Production and Distribution--Other than Hedgerows | 77 |
| - UNICORS' Membership | 77 |
| - Other UNICORS Activities; Difficult Transportation Conditions | 77 |

TABLE OF CONTENTS (continued)

Attachments

"PST: Summary of ONG Outputs" (table prepared by ARD on the basis of reports from the four PVOs participating in Proje Sove Te)

List of ARD's American staff

"List of ARD's Haitian staff

"Principal (non-Livestock/Forage) Reports and Documents of PST/ARD"

"List of Reports" by ARD's Livestock/Forage Specialist

"PST Monthly Work Plan/Evaluation Form"

"ARD Progress Report Form"

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MIDTERM REPORT ON PROJE SOVE TE

EXECUTIVE SUMMARY AND MAJOR ISSUES FACING PROJE SOVE TE

In carrying out its "mission" of helping hillside farmers both to increase their incomes and to save their soil, Proje Sove Te has:

-trained and assisted farmers who are volunteers, not paid labor, and who normally control the land they are farming;

-used Private Voluntary Organizations to work with farmers;

-selected areas with relatively good soil and rainfall (with several sections of the IRD area being exceptions);

-used an expatriate organization to help design and implement an effective program;

-helped farmers on their individual parcels even though these parcels do not constitute 100% coverage of a watershed;

-emphasized working with farmers where they are living-- rather than working only at the higher elevations of watersheds;

-focused on hillside areas rather than working in both hillsides and the plains below;

-focused on agro-silvo-pastoral issues rather than undertaking a broad "integrated" program also involving non-agricultural activities;

-emphasized livestock and forage programs, including animal health;

-emphasized working with farmers who control their land and have some economic flexibility rather than working with the poorest of the poor;

-overcome very difficult socio-political problems in the area;

-concluded that it is not feasible to set up a system for determining "macro baseline conditions" and has adopted the policy of measuring the impact of improved technologies and calculating the number of hectares where the new technologies are being practiced -- thus giving an estimate of the benefits of Proje Sove Te;

- set up a planning, evaluation, and reporting system;
- adopted a farming systems approach to development in the region;
- identified several superior planting materials, e.g. beans which are properly treated and stored, and the Tapato sweet potato;

The four Private Voluntary Organizations working with farmers in Proje Sove Te have reported on three full seasons of field work. During this period they:

- established effective organizations for reaching farmers;
- worked with approximately 6,000 farmers, including 4,000 farmers who participated in soil conservation activities during the first season of 1990;
- helped farmers to install over 2 million linear meters of soil conservation measures--enough to provide relatively effective erosion control to over 1,000 hectares of land.
- helped farmers to plant over 1.4 million trees;
- established nurseries for the tree program and performed on-site grafting of valuable fruit trees;
- provided a wide variety of training courses to their own staffs and to farmers in the area;
- established a system of effective intra-PVO cooperation;

As AID's Designated Agreement Manager, the expatriate organization (Associates in Rural Development) has:

- helped the PVOs to establish a Planning System;
- provided assistance for applied agricultural research, including work to increase soil fertility, to underplant hedgerows with perennial herbaceous legumes, to develop an effective livestock/forage program, and to assist the PVOs to strengthen their institutional capacity in areas such as administration and finance;
- recruited consultants for the PVOs;
- prepared reports on the work of PST, including reports on the field work of the farmers working with the PVOs;

- set up training programs for the PVOs in areas such as Africa and Central/South America;

- prepared special reports for PST, e.g. soils reports, a rapid reconnaissance survey, and price surveys;

- helped to organize and co-chair the quarterly Working Group Meetings and the semi-annual Conseil Meetings of groups interested in Proje Sove Te.

By expanding the scale of current operations, Proje Sove Te should be able to greatly increase the number of farmers participating in the program. (The PVOs have gained valuable experience in working with farmers and their staffs have received very relevant training. Thus, the PVOs now have a much stronger institutional capacity than they had before and they have been able to gain the confidence of a sizable number of peasants in the areas where they are active.)

In order to achieve maximum effectiveness, Proje Sove Te will need to resolve several important issues:

- what type of permanent structure should be created for the various groups involved in Proje Sove Te?

- should Proje Sove Te have a decentralized or a centralized system for reporting on project outputs, including the quality of the outputs?

- to what degree should Proje Sove Te work on a program for "technology generation", i.e., identifying appropriate technical interventions, including improved planting materials, through Project Managed Research and Farmer Managed Experimentation as well as calculating the increased revenues brought about by the new technologies and planting materials?

- what arrangements and programs are most likely to assure that the Private Voluntary Organizations continue to strengthen themselves?

INTRODUCTION

The Project Paper for Proje Sove Te represented a major planning effort by AID. A large number of experts reviewed thoroughly AID's experience with rural development projects in the hillside areas and they studied the situation in Southern Haiti before writing the Project Paper. As written, Proje Sove Te was to be carried out by four Private Voluntary Organizations (PVOs), also known by the acronyms NGOs (Non-governmental Organizations) or the French equivalent "Organisation Non-Gouvernemental" (ONGs). The four PVOs of Proje Sove Te are: DCCH (Développement Communautaire Chrétien d'Haiti), IRD (Integrated Rural Development), ORE (Organisation for the Rehabilitation of the Environment) and UNICORS (Union des Cooperatives de la Région du Sud d'Haiti). Proje Sove Te is the major component of AID's "Targeted Watershed Management Project" which also includes the University of Florida's Biosphere Reserve Project designed to protect the Pic Macaya Park area.

The arrangements for the project also included an Umbrella Organization and an AID Project Coordinator in Les Cayes. In order to select a contractor to serve as the umbrella organization, AID issued a call for proposals and several groups made submissions to AID. AID selected the Best-and-Final proposal of Associates in Rural Development (ARD), a small-business firm located in Burlington, Vermont. This Proposal of ARD outlined in some detail how ARD believed the project should be carried out.

After discussing the background and basic concepts of Proje Sove Te, this Midterm Report outlines in Section I the steps which ARD suggested be followed in carrying out Proje Sove Te and then discusses what actions were taken. Section II is a summary discussion of the activities by farmers who are working with the four PVOs. Attachments include a table listing the PVO outputs for contour soil conservation measures and the production/distribution of trees by the PVOs as well as lists of ARD personnel and ARD reports. This Midterm Report also is the PST semi-annual report on PST activities for the period 1 February, 1990 - 31 July, 1990.

SECTION I: PROPOSED ACTIONS UNDER ARD'S BEST AND FINAL
PROPOSAL AND ACTIONS ACTUALLY UNDERTAKEN

Background and Concept of Proje Sove Te

As part of its hillside strategy, AID designed Proje Sove Te (Project to Save the Soil) as a model to stop the steady deterioration of the environment and living standards in the hill areas. The need for the project was clear: as population pressure increased, the life blood of the hillside people was ebbing away as erosion continually reduced their resource base. AID realized that unless this degradation could be halted, and hopefully reversed, the vast majority of rural people now living in the hillside areas would have to move to the already-crowded capital or to emigrate to other countries.

It was assumed that it would be unrealistic to expect that significant numbers of farmers could move from the hillsides to the richer agricultural land in the plains. This land in the plains is very limited in size; there is already a large natural increase in population on these lands, and there are relatively few technologies which will increase agricultural employment.

Logical Framework of Proje Sove Te

In preparing projects, AID outlines its basic thinking in the form of a "logical framework" which lists the goal and the purpose of the project as well as the outputs which AID expects the project to achieve and the inputs which will be needed to achieve the outputs. For Proje Sove Te, AID lists:

"Program or sector goal: to arrest the process of environmental degradation in Haiti's watershed areas.

Project purpose: to extend soil-conserving and fertility-augmenting land management practices in the target area and to apply lessons learned from this field effort to national-level hillside management planning.

Outputs: MARNDR Coordinating Secretariat established. Watershed surface area transformed and farmers' productivity and income raised. Erosion rates diminished. Baseline studies completed and kept up to date. Input supply logistics effective. Improved animal health and production and increased pasture available. Staff trained in appropriate institutions in Haiti and overseas. PVO management and technical capacity upgraded." (Note: inputs are listed in Annex B of the "Targeted Watershed Management" Project Paper.)

Philosophy and Approach of Proje Sove Te

Voluntary Participation by Farmers on Land Which They are Farming/Controlling

A number of soil conservation projects have paid farmers to undertake soil conservation work, e.g. the expenditure of P.L. 480 funds to build stone walls in order to control soil erosion. In nearly every case, the farmers considered themselves as day laborers who had obtained a job and they made no effort to maintain the structures which they had constructed. Proje Sove Te set the goal of having voluntary participation by farmers, even though as described below, this policy was often difficult to apply in areas where paid work had been done and farmers assumed that any foreign-aid project should include a major wage component.

Use of Private Voluntary Organizations to Work with Farmers

Proje Sove Te was based on the idea of using Private Voluntary Organizations to work with the farmers. This decision reflected in part the good work undertaken in tree planting by CARE and by the Pan American Development Foundation (PADF) which worked with local voluntary agencies. The Minister of Agriculture agreed with this approach and the official GOH letter requesting the project, received by AID on August 13, 1986, (see page 1 of Annex D of the Project Paper) indicated that the work would be carried out by private local organizations. To help assure that Proje Sove Te would not be working at cross-purposes with the Haitian Government, USAID required that each PVO demonstrate that it had been recognized as a PVO by the Haitian Government.

Selection of an Area with Relatively Good Soil and Rainfall

AID had noted that the Southern part of Haiti contains practically the last remaining natural forest area (the Pic Macaya area), and that the hillside areas in the South generally have heavy rainfall and, it was hoped, major areas where soil erosion had not yet destroyed the basic agricultural potential.

Use of an Expatriate Organization to Help PST to Design and Implement an Effective Program

Since AID wanted to create an effective model in PST which could be used elsewhere in the country, AID included in the project a team of expatriate advisors who could increase the chances that the basic ideas used in PST would be successful and could be transferred to other hillside projects. AID also felt that this outside technical assistance group would be required to strengthen the administrative and financial structures of the PVOs so

that they could meet AID requirements for the use of economic assistance funds.

Based on AID's experience with PADF and CARE, the drafters of the Project Paper envisioned that AID would sign a basic agreement with the expatriate organization and that this organization would serve as the intermediary with all other organizations working with the project (page 26 of PP), and would play the central role in implementation. The expatriate organization was to be known as the "umbrella organization". Originally, AID funds were to be passed via the umbrella organization. Subsequently, however, AID decided that it would be more appropriate for AID to make funds available directly to PVOs via a Cooperative Agreement.

Role of the Ministry of Agriculture

Although both USAID and the GOH agreed that the field work of Proje Sove Te was to be performed by PVOs, they also planned to have the Ministry of Agriculture play a major role. With help from AID and the international assistance community, the Ministry had formed a special branch to deal with hillside agriculture and watershed management issues: STAB (Secretariat Technique de l'Amenagement des Bassins Versants, which is known in English as the Technical Secretariat for Watershed Management). STAB was to play a major, formal role in directing the project, as was the regional office of the Ministry in Les Cayes. With the cut-off of American assistance to the Haitian Government, these relationships became informal. Useful and productive discussions continued between PST and STAB as well as with the Minister of Agriculture. The early discussions with the regional office of the Ministry of Agriculture in Les Cayes involved primarily the local officials explaining their belief that paid work on soil conservation is a necessary part of an effective program and PST personnel explaining the problems that paid work creates in areas where PST is carrying out its activities. (In a meeting held in early 1990, the new head of the regional office outlined a series of studies where Ministry officials and PST personnel could work together cooperatively to solve the agricultural problems of the South.)

"Parcel" Approach versus "100% Coverage of Watershed" Approach

The early studies by STAB indicated that hillside projects generally use one of two approaches:

-a "parcel approach" in which the project administrators try to find individual farmers who are interested in preventing erosion on specific parcels of land. Generally speaking, these projects try to avoid wage/food-for-work payments to farmers. The basic idea is that successful soil conservation must involve a commitment by the farmer that he will save his soil and that he will continue the effort for as long as necessary. This approach has the potential advantage that farmers in the program will be committed to soil conservation and will ensure that the proper steps are taken on their land to save the soil. The approach has the disadvantage that it doesn't guarantee complete treatment of any specific watershed in the short-run. The use of only voluntary labor also makes it difficult to undertake tasks which benefit all and not just one farmer, e.g. control of major ravines.

-a watershed approach, in which the project administrators identify watersheds which are in need of soil conservation and undertake whatever measures are required to save the soil of the watershed. Historically in Haiti, these projects have involved the use of paid labor to assure that all the necessary actions are taken in a particular watershed to achieve erosion control. This approach has the advantage that it can be targeted at watersheds which have the highest priority, e.g. watersheds with the highest erosion, and/or watersheds which provide the most benefits when erosion is halted such as stopping erosion on watersheds which are silting the Peligre hydro-electric dam. The approach has had the disadvantage that in nearly all cases the farmers have considered themselves to be paid laborers and have not continued soil conservation activities after the payments have stopped.

PST's "Parcel" Approach, with Progressive Steps to Treat Mini-watersheds

Proje Sove Te is based on the premise that a successful attack on the erosion problem will require that a large majority of hillside farmers with annual crops install hedgerows ("ramp vivan") of some plant such as leguminous trees, grasses, pineapple, etc. (It would, of course, be preferable in many cases for hillside farmers to have perennial crops growing on their land.) In order for these hedgerows to be successful, farmers must be trained and motivated to plant them correctly and to maintain them after they are planted. Thus, PST has adopted the "parcel" approach.

PST assumes that the fundamental building block of a successful national soil conservation effort is a technical package which is effective and which is seen by the farmer as meeting enough of his basic needs to warrant the expenditure of the work required to carry out the package. (As discussed below, this technical package may well need to contain some activities which will lead to an early increase in the farmer's income.) PST has recognized that this approach effectively limits the PST actions in the first instance primarily to farmers who have medium-term and long-term control over their land. If a workable model is discovered, it should be possible in a few watersheds to get a critical mass of farmers to participate so that the program will have a significant impact on these watersheds. (UNICORS is already consciously trying to concentrate its efforts on mini-watersheds in areas where farmers are interested in the PST message).

However, it is well known that in most watersheds there are large numbers of farmers who do not effectively control their land and who will not be interested in carrying out soil conservation measures. Working with these farmers will require innovative new approaches. If a landlord-tenant relationship is involved, some effective formula will need to be found, e.g. to get a long-term agreement between the landlord and tenant which will give the tenant the assurance he needs to be interested in undertaking soil conservation. If a farmer on undivided family land doesn't feel confident in his benefitting from the fruits of his labor, negotiations will need to be undertaken to clarify the situation with other family members. PST has felt that these efforts will best come at a later date and that the focus of current efforts should be on getting a basic package/approach which interests farmers who effectively control their land. Once this package/approach has been put in place and has been proved to be effective and beneficial to the farmer, it should be much easier to move onto the next, more difficult, stage which involves the critical questions of arrangements for the use of land. These later stages would include, of course, the question of what the Haitian Government can do to assure that the land it now owns and leases to individuals is utilized in ways which reduce erosion to acceptable levels.

"Starting at the Top" of the Watershed Versus Working Effectively with Farmers

In combatting erosion on a single (continuous) hillside, it is common knowledge that one should start working at the top of the hill where the amount of water to be treated is relatively modest and then work down the hill as the interventions at the top prove their effectiveness.

The question has been raised as to why PST didn't follow this practice more closely. (The University of Florida and ORE are both working, of course, at Formond, a relatively high part of the watershed and UNICORS has a number of activities at relatively high altitudes.) One minor technical point is that there is not a single hillside which starts at Pic Macaya and slopes continuously to the plains. Instead, there are a series of discontinuous mountains which feed into the major river basins, e.g. the Ravine du Sud. Water from Pic Macaya flows into these rivers so that the hills above Camp Perrin are subject to local rains but not subject directly to the run-off from Pic Macaya. The question remains, however: why didn't all the PST work start at higher elevations where rainfall is generally higher and presumably is causing more erosion to the soil? The basic reason is given above: PST has wanted to perfect a method of working with farmers in hillside areas and has not tried to follow a primarily "engineering approach" to the problem.

There are several reasons for working at lower altitudes:

- it is necessary to build an administrative infrastructure of agronomes, agricultural technicians, and animators to work with farmers. It is much easier to build this infrastructure in areas where transportation is reasonably good, and this approach generally favors working in lower level areas.

- the project must work with people and most of the people have their permanent homes at lower-altitudes. Thus, a significant portion of the land in the higher elevations is worked by persons who live at lower levels.

- if a farmer is to volunteer his labor for soil conservation, he must feel he has effective control of the land. At many higher elevations, the land is controlled by the government and leased out to selected farmers who in turn rent the land to the farmers who are currently cultivating the land. This latter group is notoriously hard to reach with a soil conservation message: they have little incentive to apply conservation techniques on State land which is leased out to another person.

Focusing on the Hillside Areas Versus Working With Both Hillside Areas and the Plains Areas.

Proje Sove Te focuses very specifically on working with hillside farmers. Some persons have questioned this focus. They argue that a watershed project should deal explicitly with all parts of a watershed--not only the hillside areas but also with the plains.

In fact, the focus on hillsides appears on balance to have been a wise decision. While there is obviously a symbiotic relationship between the hills and the plains areas below, it is very difficult to affect this relationship through any action of a project. PST has had to struggle to set priorities among the many urgent tasks which should be accomplished in the hill areas. It would have overwhelmed the planning & implementation capabilities of AID-ARD-the PVOs if Proje Sove Te had tried to formulate an "integrated" approach to developing both the hillside parts of the PST watersheds and the plains areas.

Focusing on Agro-Silvo-Pastoral Issues Versus Carrying Out an Integrated Program Which Includes Non-Agricultural Activities.

With one exception, Proje Sove Te focuses on agroforestry-livestock issues. Some persons have proposed that a better strategy would be to include other areas such as health, education, and transportation in an integrated attack on hillside problems.

Again, the major problem is one of planning, financing and implementing a successful "integrated" program which tries to resolve all, or at least a large number, of the problems facing the farmer in the hillside areas. There have been relatively few successful integrated programs in Haiti or Third World Countries and most of the successful programs have been so expensive that they can not serve as a model for the rest of the country--one of the goals of Proje Sove Te. (Again, such an integrated program would have exceeded AID-ARD-PVO capabilities).

One exception to the purely agroforestry-livestock focus of Proje Sove Te has been transportation. The PVOs have pressed for help to upgrade certain access roads to the hill areas and AID has responded favorably by arranging with the Haitian Government for the use of PL 480 funds to upgrade selected access roads. These road improvements have served a very useful purpose.

Combining Soil Conservation with Activities to Increase Income

Proje Sove Te is not primarily a tree project, nor even a hedgerow project. Proje Sove Te is a project to increase farmers' incomes and to save their soil. Thus, Proje Sove Te also has a major agricultural component and a major livestock component. By combining these elements, Proje Sove Te hopes to :

-increase the income, and thus the well-being, of hillside farmers

-save the soil so it can support not only current families but also future generations.

The ideal is a package of activities which will both increase income and save the soil. If the project pushes ideas which will only increase income and do not save the soil, the day will inevitably come when the farmers do not have enough soil to support themselves. If the project advocates soil conservation without showing the farmers how to increase their income, it is very likely that the farmers will ignore the soil conservation message in their desperate attempts to keep their families alive.

Normally, each project group feels it has a special mission to play. PST recognizes that several other groups are undertaking extremely important hedgerow work. However, PST believes it is playing a unique role in the agriculture and livestock area. Thus, PST's work lays particular emphasis on the agricultural/livestock part of the concept of an agro-silvo-pastoral project to raise farmer income.

Key Element of PST: Livestock and Forage Program

Livestock-forage is one of the key elements of Proje Sove Te. PST assumes that many Haitian farmers will adopt new technologies if they see a clear advantage in the new approaches. When the hedgerow technology is explained to farmers, their first question--often unstated-- appears to be "what benefits will I obtain for the major investment of labor you are asking me to make?". When PST staff explain the advantages of growing leguminous trees in hedgerows as a green manure, many farmers remain skeptical. When PST staff explain the advantages of growing grasses, perennial herbaceous legumes and leguminous trees in hedgerows as a source of feed for their animals, then the farmers often become very interested in the project. (As explained in the literature on rural Haiti and ARD's sondeo report, nearly all farmers desire to have livestock as a "walking bank account".)

Thus, PST is putting together an integrated livestock program which consists of:

- increasing the supply of animal feed through hedgerow production as well as the development of improved pastures on very steep land which is unsuitable for annual crops (see discussion below of "jarden zeb").

- improving animal health care

- training technicians

- providing support services

-improving animal husbandry

-slowly upgrading the breeding stock as farmers are trained to provide proper care and sufficient feed to genetically superior--but more "demanding"-- animals.

Animal Health Program

A significant part of the PST Livestock and forage program consists of working to improve animal health. ARD's Livestock/Forage advisor has played a major role in planning the program and providing administrative support in such matters as obtaining the permits required to import pharmaceuticals, helping to prepare the forms used in recording work under the program, and working on a formula for mineral supplements.

IRD's expatriate veterinarian is effectively charged by the PVOs with the task of implementing the animal health program. Each of the PVOs has selected individuals who are trained to be independent veterinary assistants, i.e. they are not paid employees but are members of the rural service sector and earn their income by rendering services to farmers who pay for the services.

IRD's veterinarian, and a one-time training specialist, have given a series of courses to the veterinary assistants and have worked with these individuals in clinics held in rural areas where animals are vaccinated and given other necessary care. The PVOs have agreed on a common "Price List" which is used by the veterinary assistants. Field kits of pharmaceuticals have been distributed and the animal health program is now in operation.

Governance of Proje Sove Te

Conseil Consultatif/Working Group

In line with the Project Paper, ARD outlined a proposal for a "Conseil Consultatif", or Advisory Board. The Chief of Party was to prepare an agenda. Minutes of the meetings were to be prepared.

There have been a number of changes in the structure and procedures of the Conseil. At early meetings, ARD and AID dealt with a number of outstanding issues, such as the system to be used for preparing the annual plans of the PVOs.

The PVOs suggested a number of changes in the Conseil procedures. As for subject matter, it was agreed that technical issues should be dealt with outside the framework of the Conseil meetings. It was also felt that the meeting would be more productive if the number of organizations

attending the meeting were to be reduced. As a result of this suggestion, Proje Sove Te now holds a Working Group ("Atelier de Travail") meeting every three months which is attended only by USAID, ARD, and the four Private Voluntary Organizations of PST. The Working Group Meetings have recently been led by co-chairpersons: the Chief of Party of ARD and a person designated by the PVOs. This position of PVO co-chairperson has been rotated among the PVOs.

In order to cooperate more effectively among themselves and to assure that all points of interest to them will be covered in the Working Group Meetings, the PVOs have formed a "Conseil des ONGs". This PVO group meets the day before the Working Group meeting and on other special occasions as required.

The agenda for the Working Group meeting is normally worked out jointly by the ARD Chief of Party and the PVO person who will serve as co-chairperson. This PVO person also serves as representative of all the PVOs during the period between Working Group meetings. When there have been important issues to discuss, ARD has often summarized these issues in a letter sent to the PVOs several weeks before the Working Group meeting and the PVOs have then discussed these issues at their "Conseil des ONGs." At the Working Group meeting, there is often a presentation by the PVOs of their conclusions and a discussion. After recent Working Group Meetings, a representative of the PVOs has prepared the minutes of the meeting.

The formal Conseil Meetings, i.e. those meetings which bring together all groups interested in Proje Sove Te, are now being held approximately every six months. The agenda and purpose of these meetings remain fluid. Normally, these Conseil meetings have included the University of Florida and the Ministry of Agriculture office in Les Cayes. AGRICORP, a local firm which AID had contracted to work with the Targeted Watershed Management Project, has attended several meetings. The PADF regional office in Les Cayes is also on the invitation list. Not all of these meetings have been successful. At one early meeting the Ministry of Agriculture office in Les Cayes raised a series of objections to the PST program and its use of voluntary labor while the PVOs expressed the view that the Ministry was not doing all it should to achieve good working relationships. (As a backdrop to this question, it should be remembered that the Government of Haiti in general, and the Ministry of Agriculture in particular, have felt frustrated over the amount of information which they have on the activities of the PVOs and the difficulty of assuring that Ministry activities and PVO activities are mutually supportive of each other. During the fall of 1989, a decree was prepared which outlined new procedures for the PVOs: they were to submit their programs to the government and the government

would review the proposed PVO programs. The current status of the decree and the procedures outlined in the decree are unclear).

USAID Six-Month Review

As part of AID's monitoring and evaluation system, each USAID is to carry out a review of all significant projects every six months. This review involves the preparation of a basic briefing paper by USAID staff on the project. For the Targeted Watershed Management project, the review has taken place in the field and has involved someone from the "AID front office," i.e. either the USAID Director or the Deputy Director as well as key staff from the Agricultural Development Office. At these meetings, AID is able to monitor progress and identify any issues which need to be addressed. In the earlier meetings, the USAID personnel have spent half a day with the PVOs, with the ARD Chief of Party in attendance to answer any questions on ARD's activities, and half a day with the ARD staff. A more recent AID review included a field trip to observe activities being undertaken by the farmers as well as discussions around the table with PVO and ARD staff. These meetings, plus the ARD/AID review of the work plans of the PVOs, provide AID with a basis for determining the level of funding for Proje Sove Te.

Role of the Expatriate Organization

As explained above, the original concept of the project was to have the expatriate organization, Associates in Rural Development, serve as the umbrella organization for Proje Sove Te. Under this concept, all PST funds would be given to the umbrella organization and AID personnel would administer and supervise only one large grant. Although this approach was dropped and AID gave funds directly to the PVOs via Cooperative Agreements, the term "umbrella organization" continued to be used even though its original sense had been changed.

As an alternative, AID arranged that ARD serve as the "Designated Agreement Manager ("Responsable Désigné de l'Accord") of Proje Sove Te.

PST Planning System

Background

The Project Paper, ARD's Proposal, and the AID-ARD contract all stress the importance of having an effective planning process and PVO plans which will achieve the project's outputs and goal/purpose.

AID decided that a plan should be prepared by each ONG and that this plan should be incorporated into a Cooperative Agreement which would be signed by AID and the PVO as a means of agreeing on the program and obligating AID funds.

Implications of Using a Cooperative Agreement

When AID has a particular task to be performed, AID normally signs a contract with a group to carry out the task. When AID wants an organization to operate an already-described program without substantial involvement by AID, then AID normally signs a grant agreement with the organization in question. However, in the case of Proje Sove Te, AID decided to utilize a Cooperative Agreement since AID wanted to support the programs of the PVOs. AID also wanted to be substantially involved in the project since it hoped that the PST program would provide a model for future actions. According to AID policy, Cooperative Agreements are to be used when:

- the intention is to support or stimulate the proposed grantee's own program, and

- AID expects to become substantially involved in that program.

Preparing the First-Year PVO Plans/Cooperative Agreements

Although most of the ARD team began to work in the fall of 1987, the team members were not able to get settled in the South until early in 1988 because of the political disturbances. Since ORE had already prepared its plan in considerable detail, this ORE plan was used as a basis for creating a model PST plan. The ORE document was reviewed by the ARD staff in Burlington which had prepared ARD's Best-and-Final Proposal. The ARD staff then prepared a prototype Cooperative Agreement for discussion with the various PVOs. The Cooperative Agreement with ORE was signed on March 21, 1988. The necessary modifications were made to the document in talks with UNICORS and IRD and agreements were signed with these two organizations at the end of July 1988. DCCH reviewed the proposed document and concluded that it failed to incorporate the unique farmer-oriented philosophy and program of DCCH. Accordingly, a completely new Cooperative Agreement was drafted with DCCH, based on the

planning document which DCCH had prepared earlier. This Cooperative Agreement was the last to be signed (late August 1988.)

Criteria Used in Designing the PST Planning System

Each of the original Cooperative Agreements said that additional funds would be added in one year on the basis of a new Work Plan. Since the Cooperative Agreements were signed over a period of roughly half a year, this formula could have led each PVO to use a different planning period.

As an alternative, ARD developed a planning system based on the following principles:

- each PVO should use the same planning period;
- the planning period should correspond to the agricultural calendar;
- plans should relate to each of the two principal agricultural seasons in the PST area;
- the planning period should be timed to take into account the PVOs' need for funds and the date AID is likely to have funds available for obligation.

Southern Haiti has two rainy seasons. Although there are significant variations of rainfall within the project area depending on altitude, etc., one agricultural season--usually termed the first season--starts early in the calendar year and the second starts in the late "summer" and continues into the "fall". Based on the above principles, the PST agricultural year was fixed as running from February 1 of one year to January 31 of the following year. The first season of six months runs from February 1 through July 31 and the second season runs from August 1 through January 31 of the following year. In order to take account of the Christmas holiday season, the PVOs are scheduled to submit their plans for the agricultural year by January 15. This date of January 15 was also sensible in terms of the need of the PVOs for funds, e.g. ORE's first year funds would have been exhausted by the end of March, 1989. The date was also reasonable in terms of the U.S. fiscal year. AID often does not have funds available in the first quarter of the U.S. fiscal year (October-December) and AID wishes to obligate funds before the fourth quarter (July-September).

The planning system was based on combining and/or reconciling:

-the PST objectives of increasing farmer income and helping farmers to save their soil.

-the farmers' interests and objectives.

Planning and the Farming Systems Approach

AID/ARD noted that the PVOs were eager to work closely with farmers and to base programs on farmer needs. Thus, a farming system's approach was incorporated into the planning document to assure that all planning begins with a study of the agricultural system used by the farmers and their problems as well as discussions with farmers concerning their ideas and their objectives. The desire of the PVOs is to listen to the farmer.

Document Outlining the PST Planning System

ARD then prepared a document entitled: "Proje Sove Te Proposal for a PST Planning and Evaluation System". The planning and evaluation system contains 9 steps:

1. Identifying the needs and interests of peasants in the context of project goals;
2. Planning PST outputs/interventions;
3. Determining material inputs (procurement plan) and personnel needed to achieve the outputs/interventions, and preparing a financial budget;
4. Planning the activities to achieve the outputs and assigning responsibilities for these activities;
5. Scheduling monthly activities and outputs;
6. Measuring outputs/interventions which have been achieved.
7. Calculating the impact (outcome or result), e.g. have the outputs brought about increases in peasant income and an achievement of the soil objectives of PST?
8. Questioning peasants to get "feedback" on the PST activities;
9. Evaluating the PST program---and then repeating the cycle. Thus, in the second year, the planning process would benefit from the results of the first year's cycle of activities, including the evaluation of the work performed in the first year.

The planning system provides that each PVO will attach to its annual plan a standardized table listing outputs for each season and for the agricultural year, e.g. the number of linear meters of Leucaena hedgerows. A standard form was utilized so that each PVO would be using the same definition of an output and it would therefore be possible to add together the planned outputs of the four PVOs so that one could present meaningful totals for the planned outputs of Proje Sove Te. The four PVOs are also requested to use these same categories when reporting results for any period.

Although the planning system described in considerable detail the steps which should be used in the planning process, i.e. the planning document was 8 pages long, the PVOs were given considerable latitude on how to present their final programs.

Prior to the beginning of the second season, any PVO wishing to make modifications is to submit a revision of its plan for the second season. In practice, however, the original annual plans have not been officially modified during the course of the agricultural year.

The planning document suggested that a number of items be prepared and used by PST:

- activity check lists for all major activities to be undertaken by PST, e.g. for a nursery check list there would be a detailed list of actions which need to be taken to establish a nursery, the dates when the actions need to be undertaken, and the person responsible for taking each action;

- monthly activity/output forms, i.e. a monthly list of the outputs a staff member hopes to achieve and/or a listing of the activities a staff member plans to undertake. ARD prepared a "Monthly Activity/Output Form" which the PVOs could adapt to their needs. ARD also distributed a sample calendar form for adaptation by the PVOs;

- a form which could be used to register all peasants participating in Proje Sove Te and to list the outputs of the peasant. The form prepared for this purpose was entitled: "Pwoje Sove Te--Fiche Anregistman Pezan/Moso Te". The PVOs agreed to prepare and use a system of registering the outputs of each participating farmer. However, the PVOs felt it would be too difficult to collect all the information requested by the form for all farmers, e.g. information on land tenure, information as to whether the farmer's soil is "blan", "bren", etc. After discussion, it was generally agreed that the information requested by the registration form should be collected by sampling a relatively small number of farmers rather than collecting

the information from all farmers. No formal sampling survey was carried out although the field work for the sondeo covered a number of these points. Several of the issues, e.g. questions on land tenure, were later incorporated into the workplan carried out by AGRICORP for USAID/Haiti.

-various fiches, i.e. forms, for different purposes. Thus, the following sample fiches were prepared by ARD for adaptation by the PVOs:

- "Fiche Suivi Arbres Forestiers";
- "Fiche Suivi Arbres Fruitiers";
- "Fiche Suivi Parcelles Cultures Vivrieres";
- "Fiche de Suivi des Structures Antierosives";
- "Fiche Utilisation des Citernes";
- "Fiche Suivi Boutiques Agricoles";
- "Fiche de Suivi des Essais de Legumes"; and
- "Fiche Enregistrement Pluviometrie".

Monitoring--Measuring Impact--Evaluation--Audit System

Monitoring

PST's monitoring system begins with a requirement that each field-level worker use a system for recording the achievements with each farmer. After reviewing the forms discussed immediately above, each PVO designed a system for recording the results of field work. There are variations between the systems of different PVOs. Thus, UNICORS' field workers keep records in a bound notebook. ORE and DCCH use individual forms for each farmer participating in the program, and IRD uses a different form for each activity, i.e. a field worker has one form for listing hedgerow activity, another form for listing vegetable garden activity, etc.

The "direction" of each project then has the responsibility for totaling the results for each activity and comparing the actual results with the target figure included in the planning document. Thus, it is always possible to trace back a total figure to the results on the fields of specific farmers.

Following discussions between AID and ARD, it was decided that a contract should be signed between AID and AGRICORP to have an independent check made on the results

reported by the PVOs. AGRICORP concluded that the data on hedgerows were not always accurate. This issue is now under study.

Measuring Impact

ARD's approach to measuring the impact of the project involves two basic steps:

- comparing the increased production and/or revenue of the new intervention per hectare, or per animal, and comparing this production/revenue with the returns obtained from the traditional production method.

- estimating the amount of hectares, or number of animals, where farmers are carrying out the improved practices.

With these two pieces of information, calculations can be made of the direct benefits of project activity. In order to track whether there is a significant spread effect, i.e. a farmer adopting a practice because he sees it on his neighbor's land rather than adopting it as a formal participant in the PST, the PVOs are encouraged to make estimates of the number of farmers not participating formally in the project who are practicing PST technologies, and the number of hectares on the average devoted to the new technology. This information can then be used to calculate the benefits obtained by farmers who do not formally participate in Proje Sove Te.

Evaluation

Proje Sove Te has three different types of evaluations:

- internal evaluations which involve discussions between the "direction" of the project, the staff of the project, and (normally) farmers who are participating in the project;

- outside participatory evaluations which are performed by a Haitian agronome with experience in rural development projects;

- external evaluations carried out primarily by expatriate personnel.

The internal evaluations are carried out by the PVOs themselves. These evaluations give the "direction" of the project an opportunity to have a full interchange of views with technical staff. Normally, arrangements are made to obtain the views of selected peasants. As indicated in point 9 of the Planning System described above, these evaluations serve as one of the important bases for preparing the program activities for the next year.

Agronome Philippe Mathieu is undertaking the participatory evaluation for UNICORS and DCCH and Agronome Carl Monde is undertaking similar evaluations for IRD and ORE. Under the participatory evaluation concept, a Haitian agronome is chosen who has the confidence of the PVO in question. This agronome is then made responsible for preparing a finished report which will be prepared only after talking at length with key staff members of the PVO and a sample of farmers in the area who are participating in the project as well as with some farmers who are not participating. The tentative conclusions of the agronomist are then discussed with the PVO and the farmers before the final written evaluation is issued.

AID hired an external evaluation team to evaluate AID's hillside strategy. This evaluation includes a special section on the Targeted Watershed Management Project, of which Proje Sove Te is the major activity.

Audit

The original Project Paper had envisioned an audit during the latter phases of the five-year project. AID now has adopted the policy that financial audits of the PVOs should be performed each year.

AID arranged for a firm to audit the work of ORE on both Proje Sove Te and an earlier project carried out with AID financing. ARD, in close collaboration with AID, has made arrangements for an audit of the other three PVOs.

ARD's Role in the Planning Process

Coordination of PVO Plans

One major planning task of ARD has been to assure that the final plans of the four PVOs are consistent with the overall PST plan as outlined in the Project Paper and summarized in ARD's Proposal. This process involves several steps during the course of the year:

- on-going discussions of PVO activities;
- ARD review and comment on the Progress Reports of the PVOs. (ARD prepared detailed comments on the PVO reports for February-July 1989. Because of the preparations for the outside evaluation team and the subsequent medical leave of the ARD Chief of Party, these comments were not prepared on the PVO Annual reports for the period February 1989-January 1990;)
- on occasion, discussions of key issues immediately prior to the time the PVO prepare its draft written annual plan proposal;

-review and discussion of the draft plan in meetings between the PVO staff and ARD staff, and preparation by the PVO of a revised final plan;

-submission of a final plan by the PVO to ARD for transmittal to AID. ARD submits the final plan to AID with its recommendations. Since the final document incorporates the discussions with ARD, ARD normally recommends that AID approve the document. However, the ARD memo highlights any issues which AID might wish to examine more closely, e.g. the impact that the incentive program of one PVO might have on the program of a neighboring PVO. (When the plan is formally approved by AID, the PVO Plan Document is incorporated by reference into the Cooperative Agreement amendment signed by AID and the PVO.)

During the course of the year, the technical staff of ARD holds meetings with their counterparts in the PVOs and the ARD Chief of Party discusses policy issues with the PVO Directors. Thus, many key issues of the planning document are discussed and agreed upon before the PVO begins to draft the actual plan document. On some occasions, a special meeting is held to discuss the PVO plan just prior to the time when it is to be prepared.

Once the document is prepared in draft, it is submitted to ARD for review. ARD staff reviews the document and prepares a list of items for discussion. If the issues are purely technical they are discussed at the technical level, but usually the discussion includes both ARD and PVO technical staff and the PVO Director and the ARD Chief of Party. As an example of the type of issues discussed, ARD raised questions one year as to whether the UNICORS field worker--known by the acronym TAP--could effectively work with 80 peasants who would be grouped into 10 squads of 8 people each. Following this discussion, UNICORS decided that for the next season the new TAPs would work with only 45 farmers.

Based on early experience, these planning meetings with the PVOs were expanded to include AID's Project Coordinator who is stationed in Les Cayes. In this way, the Project Coordinator is able to report to AID on the major issues in each plan and he is able to alert the PVO to issues which would need to be resolved before AID can formally approve the plan.

ARD Plan for the Activities of ARD staff

Based on their conversations with PVO technical staff and observations on field trips, each ARD technical staff member prepares a six-month work plan at the beginning of each agricultural season. Each ARD technical staff member fills out a standard form which provides a place to indicate the activity, the priority of the activity on a 1-2-3 rating scale, the month of the planned activity, other ARD staff members who are involved and the end result which is expected, e.g. a trip report. Activities are grouped under 13 different categories, e.g. "Delimitation of Priority Work Areas", "Selection of Technical Interventions", etc.

The ARD staff then meets together to go over the various individual work plans. These meetings provide an effective means of coordinating the work of the technical team and providing all staff member with a clear picture of their responsibilities for the up-coming season.

The ARD Chief of Party then combines the various activities of all ARD team members into an Overall ARD Work Plan for the Six-Month Period. The document is translated into French and distributed to the PVOs and to USAID. The utility of the system for the PVOs depends primarily upon the contact between the ARD technical staff and the technical staff of the PVOs since the period in question is often well advanced before the final document in French is ready for distribution.

PVO Regular Reports

The proposed reporting schedule for the PVOs includes a short quarterly report, which can consist primarily of data on project outputs. This report and all other PVO reports are due six weeks after the end of the reporting period. At the end of the next three months, the PVOs prepare a semi-annual report on their six months' activities for the first season of the agricultural year. A third report (a quarterly report) is prepared at the end of 9 months. At the end of the year the PVO prepares an annual report which now includes data on outputs for each of the agricultural seasons, totals for the year, and a cumulative total of outputs since the beginning of Proje Sove Te.

The quarterly reports are intended to give the PVO, ARD, and AID a basis for determining whether the plan for the next period is realistic in light of experience to date. The data on outputs for a given year, for example, are to be submitted by March 15, while the plan for the next year is to be submitted by January 15 -- several months before the data on the previous year are available. Thus, in the absence of quarterly reports, the proposed outputs for a new year have to be evaluated on the basis of published data for

only the first six months of the previous year. If quarterly reports are prepared, data are available for nine months of experience in a year as a basis for judging the realism of the projected outputs for the next year. Quarterly reports have generally been submitted during the first part of the project, although one PVO found that it was not practicable, given time constraints, to prepare the quarterly reports.

ARD Reports

ARD's basic reporting pattern is as follows:

- tabular summary of the work of the ARD staff (issued every six months);
- a semi-annual report which covers the achievements of the four PVOs working with farmers and the work by ARD staff;
- reports by consultants hired by ARD;
- special reports by ARD staff, e.g. sondeo report, soils reports, various reports by the ARD Forage/Livestock Specialist and the ARD Agronomist

The tabular summary of the work of ARD staff lists all tasks which had been listed in the Work Plan for the period, plus any activities undertaken in the period which had not been listed in the work plan. There is a separate column for indicating the results of the task and another column for listing comments. If a task were scheduled but not carried out, the results would be "task not completed" and the comments section would explain briefly why the task was not completed. If the activity were completed, the results would be listed, e.g. a report written.

The ARD semi-annual report in expanded form consists of two basic sections: a discussion of ARD activities and a discussion of the achievements of the four PVOs working with the farmers in the PST area. The material on ARD's work normally follows very closely the tabular "Summary of Progress" discussed above. The material on the work of the four PVOs is taken from their Progress Reports. The first two reporting periods, which included the start-up phase of ARD but involved limited work in the field by the PVOs, were combined into the first expanded report entitled "Projet Sove Te: First Report on Project Activities, 1 September, 1987-31 August 1988. The second expanded report is "Proje Sove Te: Second Report on Project Activities, 1 August, 1988-31 January, 1989". (The overlap with the first reporting period reflects the decision to change the planning and reporting period of PST as discussed above.) The third expanded report is entitled "Proje Sove Te: Third

Progress Report on PST Project Activities, 1 February, 1989-31 July, 1989. The Progress Report for the period 1 August 1989 -31 January 1990 consists of the tabular presentation of ARD's work entitled "Summary of Progress--Report on Work of ARD/PST Project, 1 August, 1989-31 January, 1990" plus the table on PVO outputs entitled "Summary of ONG/PST Outputs--Year 2: 1 February 1989-31 January 1990". (Each PVO issued its own report on its activities during this reporting period.) The Six Month Report for the period 1 February, 1990-31 July, 1990 consists of the individual progress reports of the ARD technical staff plus the discussion in this Midterm Report of the PVO activities. (Again, each PVO has prepared its own report on its activities for the February-July 1990 agricultural season.)

ARD's Technical Assistance Role

Finance and Administration

From the beginning, AID emphasized the importance of developing the administrative and financial capabilities of the PVOs. In its Proposal, (page 86) ARD stated that it would analyze the PVOs' administrative and accounting systems and undertake a profile of the administrative system and compare to requirements.

AID stated that it would not advance funds to the PVOs until ARD had certified that they were capable of properly handling the financial accounting for funds. Before providing this certification, the ARD Administrative Specialist reviewed the financial accounting systems for all PVOs. He found the system of ORE to be satisfactory but concluded that the systems of the other PVOs required improvements. He set up a training program to correct a number of deficiencies which existed. The Administrative Specialist provided training directly to several PVOs and ARD brought a special financial training advisor, Yann Derriennic, to assist the PVOs.

There have been a number of problems in the vouchering process, i.e. the replenishment by AID of funds advanced to the PVOs. The vouchers have been prepared by the PVOs and forwarded to ARD for review. Being near the PVOs, ARD had the task of reviewing the voucher and requesting the PVO to make any changes which were required. ARD was also to provide training to overcome any persistent problems. Following this review, ARD has forwarded the voucher to USAID/Haiti for payment. Following USAID approval, the U.S. Disbursing Office in Mexico City is asked to send a check to USAID Haiti for forwarding directly to the PVO.

Given the large number of groups involved, there are many possibilities for delays -- and delays did occur. On at least one occasion, a PVO had to shut down its field

operations because of a lack of funds. On several other occasions, a PVO was able to continue only because it was able to borrow funds from its parent organization or from ARD.

In view of the continuing problems, ARD arranged for a series of consultations by Kevin Creyts. During his visits, the consultant helped the PVOs to improve their financial systems and to bring their books up to date and to put them in proper order so that they would be "auditable". He also prepared a system for tracking the vouchering process. This tracking system resulted in a definite improvement in the vouchering process, but recent cut-backs in AID staff have affected the usefulness of the system. At one point, ARD also decided to send a new ARD Administrative Specialist to the project who has had extensive training and experience with financial matters.

Personnel Oversight

As part of its administrative responsibilities, ARD reviews the personnel which the PVOs intend to hire and the proposed salaries. At the beginning of the project, two PVOs did not yet have their Cooperative Agreements signed and there was a danger that the technical directors proposed by these two organizations would have to take other employment. ARD hired the two individuals on a temporary basis to perform project work. Subsequently, the two individuals were hired by the PVOs to be Technical Directors.

Procurement

Starting up a new project required each PVO to purchase new equipment and supplies. ARD hired a local procurement specialist and made available the services of its home office in Burlington, Vermont as a purchasing agent. A system for procurement was established and ARD made a number of purchases for DCCH and IRD. ARD also obtained some price quotations for UNICORS. The actual purchases for UNICORS were made by Food for the Poor. ORE made its own purchases.

Consultants

ARD-Hired Consultants

ARD's Proposal provided that ARD would recruit a number of consultants and the AID-ARD contract provided that the ARD Chief of Party would establish a schedule for the use of short-term technical assistance, prepare terms of reference for individual consultants, and obtain AID approval.

ARD arranged for Ted Wittenberger to undertake a study of postharvest questions in May/June, 1989, particularly postharvest storage at the farm level. The study described various storage systems in use in the PST area, discussed on-farm losses, and dealt with the storage programs of the PVOs. There were a number of attachments to the report, including a postharvest document in Creole.

ARD also arranged for a Haitian agronome, Frantz Michel Lohier, to undertake a study in August, 1989 of the different technical interventions which were being carried out/tested in the PST project area. His report described the various technical interventions which were undertaken in 1988 and the technical interventions being tested/used in 1989. Tables attached to the report gave details on these questions. Agronome Lohier also made several recommendations, e.g. specific objectives should be written for each planned test/experiment, more and better reports should be written on the experiments being undertaken, more meteorological data should be collected, etc.

When the PVOs reviewed the time spent with consultants and the benefits they received, they suggested that primary emphasis be placed by ARD on recruiting experts requested by the PVOs. On 11 September, 1989 the PVOs compiled a list of subjects they wished to have studied and provided a list of recommended consultants. A list of these subjects and the action taken on each item is given below:

-Proposal: an internal, i.e. participatory, evaluation of the programs of three of the PVOs

Action taken: a contract has been signed with Agronome Philippe Mathieu to evaluate the programs of UNICORS and DCCH. A contract was also signed for Agronome Philippe Mathieu to prepare an analysis of the extension programs of UNICORS, DCCH, and ORE. A second contract has been signed with Agronome Carl Monde for a participatory evaluation of the work of IRD and ORE.

-Proposal: a study to determine a cost-effective means of building small water cisterns

Action taken: ARD procured a copy of the proceedings of a conference on constructing cisterns and sent the proceedings to the Technical Director of IRD.

-Proposal: a study of selected plants "tubercules" and the processing of agricultural products.

Action taken: No action was taken. (The person proposed for this study is an employee of the Ministry of Agriculture and is not therefore available as a consultant.)

-Proposal: a study of the regional, national, and international market for various crops which can be grown in the PST area.

Action taken: The person proposed as a consultant took a permanent job and was not available to do the study. Through the good offices of the USAID Private Enterprise office, ARD contacted APA which was undertaking a study with AID financing of agricultural export crops. The study has been completed and the results are on a computer diskette. ARD will attempt to obtain information from this study. An agronome living in Port-au-Prince agreed to serve as a consultant to compile basic information on 10 crops which in his opinion would be promising export crops for PST. He was to prepare a scope of work for this activity but the scope of work has not been completed.

-Proposal: training in growing selected vegetables and spices.

Action taken: Victor and Jane Wynn of Kenscoff were asked if they were interested in providing the requested training. They indicated an interest in this activity but decided that their responsibilities for their on-going agro-forestry operations would not permit them to come at the requested time.

-Proposal: preparation of an inventory of appropriate technologies for the transformation/processing of agricultural commodities.

Action taken: No comprehensive list has been prepared. ARD/Haiti did request and receive from ARD/Burlington an article on preparing avocado oil.

-Proposal: a training program for raising cattle and pigs and a program for storing large amounts of seeds.

Action taken: No special courses were arranged. However, much of the work of IRD's veterinarian and ARD's Livestock/Forage Specialist relates to the proposal.

As discussed above, Yann Derriennic and Kevin Creyts, financial consultants, spent considerable time working with the PVOs. Carl Heller also came as an automotive consultant. Most of his time was spent working with ARD on its vehicles, but he also spent some time with DCCH. His reports, containing recommendations for vehicle maintenance, were made available to the PVOs. ARD also arranged for a computer consultant who provided help to ARD and ORE.

PVO-Hired Consultants

In addition to ARD arranging for the above consultants, several of the PVOs have used funds given to them by AID to finance consulting services. ORE has had a number of consultants, including two professors from the University of Florida for its tissue culture lab. DCCH has hired a local veterinarian to assist in its animal health program.

Baseline Studies

The Project Paper and the AID-ARD contract placed a great deal of stress on baseline studies. The Project Paper states (beginning page 39) that the expatriate organization should do studies on the following subjects (roughly equivalent wording was included in the AID-ARD contract for most of these items):

-Land tenure: determine the nature of land tenure on all plots worked by farmers living within a five kilometer radius of PST demonstration sites,

-Agricultural production and practices: describe yields, labor inputs, tools, other inputs, animal husbandry cropping systems and rotations, cultural practices, soil conservation measures, surface, number of plots,

-socio-economic study: establish key evaluation criteria by which to judge the project's impact. Determine returns to land and labor and determine approximate measures of farmer income and cost of living.

(Note: ARD's proposal had stated --section 5.2.3 -- that a production systems survey would be conducted that would include basic socio-economic stratification qualifiers and information on cropping patterns, crop mix, technological

level and land tenure that would be as detailed as possible. This survey was to provide the baseline for periodic assessments--years 2,3 and 4-- of PST progress.)

Anyone who has had to demonstrate that a project has made a difference in the lives of people will appreciate the desire of the project planners to have a clear baseline against which to measure progress.

The ARD Chief of Party discussed this question at length with the person who would be responsible for collecting this information: the ARD sociologist/Farming Systems Specialist. Based primarily on his two and one-half years of experience in Rwanda as agricultural economist for an agricultural survey, the Chief of Party concluded that it would be impossible to undertake meaningful surveys as proposed and that there is a better way to achieve the purposes which the drafters of the Project Paper presumably had in mind.

One basic issue is conceptual. Baseline data for a project of this type are meaningful if one assumes that the economy is relatively stable. Then, one can measure the relatively stable situation in the base period and compare it with the new, hopefully better, situation at the end of the project. One issue is the year-to-year variations in agricultural production which always take place because of natural causes, e.g. differences in rainfall, hurricanes, disease, and insect damage, etc.

However, the more fundamental problem is that hillside agricultural is not in a stable situation. Because of erosion, production for any given piece of hill land is generally deteriorating from year to year. Thus, one can not assume that in the absence of a project the production would remain relatively stable: production will undoubtedly decrease. Thus, the only way to get a "baseline" would be to carry out one study several years before a project starts and another study in the year before the field activity begins. These two studies would give one some type of basis for determining the rate of deterioration and one could then have some basis for comparing results at the end of the project with the results which would have existed without the project. (Even with two reference points, however, one would still need to make some heroic assumptions as to whether production is falling at a constant rate or whether the rate of decrease is accelerating.) Thus, since no surveys were undertaken several years prior to the start of the project, it would not have been possible, even on a theoretical basis, to calculate a proper baseline.

Another difficulty involved staff: in Rwanda, it took three years of work and the expenditure of over \$3 million to obtain data. Even then, one knew that from a statistical point of view there was an important margin of error which had to be calculated for each production figure. Neither the time nor money nor the staff was available for this kind of effort in Proje Sove Te.

As mentioned above, one basic thrust of the PST project is to identify specific technical interventions which will increase the production/income of peasants and save their soil. ARD, therefore, has adopted the policy of measuring the impact of the project in a two-step process. First, to compare the results of using new technologies with the results of continuing to use the existing technologies. Second, to measure the extent to which the new technologies are being used, e.g. the number of hectares of land planted with an improved bean seed, the number of goats which are being properly fed by a farmer with grass from hedgerows, etc. With these two pieces of information, it would be possible to measure the direct effects of the new technologies. It also should be possible to undertake some studies of the spread of the new technologies to persons not enrolled in the project. This ARD position was outlined in writing to the PST Project Manager.

Although the policy is clear, it has been difficult in practice to obtain the necessary measurements. Much still remains to be done to establish large numbers of trials in which production from new technologies and new seeds are compared with "control" fields where the existing technologies and seeds are being used.

As an alternative to spending time on the task of obtaining detailed data on the production of various crops, the areas devoted to the production of specific crops, etc. the ARD sociologist focused attention on collecting agricultural price data and on farming system questions which related more directly to the work of ARD and the PVOs. As discussed below, the results of a rapid reconnaissance survey were published as well as several reports on price movements in important local markets.

ARD's sociologist also cooperated closely with personnel from the Wisconsin Land Tenure Center who undertook for AID a study of land tenure in several locations in the project area and who presented the information in a stimulating seminar for PST personnel. The ARD sociologist also worked closely with AGRICORP during the period it was preparing proposals to AID for carrying out studies related to the interrelationship between land tenure issues and the Targeted Watershed Management project. (See discussion of AGRICORP's work below.)

Socio-Political Climate At Time PST Started Operations

The socio-political climate in Southern Haiti--and in other parts of Haiti--was extremely unsettled when operations began under Proje Sove Te in 1988. There was distrust of outsiders. There was a general sense of frustration that practically nothing was being done to help the population in the area and anger over the sabotage of the Presidential election in November 1987. When peasants heard that a \$15 million dollar project was coming to the area, there was general rejoicing that thousands of good-paying jobs would be coming -- and then anger and frustration as PVOs explained that Proje Sove Te had come with a technical assistance program and limited amounts of seeds and new planting materials. The PVOs have had a difficult task in patiently explaining the purposes of Proje Sove Te and persuading peasants that their future lies in actions which they themselves undertake to increase their income and to save and rehabilitate their soil.

Delimitation of Priority Work Areas

ARD's Proposal envisioned a close collaborative relationship between PVO and ARD staff in selecting the areas where the PVOs would operate. However, because of the socio-political climate described above, it was clear that the arrival of large numbers of ARD staff to help prospect areas for activities would have created very serious problems for the PVOs in terms of unrealistic expectations of the job benefits which the foreigners ("blan") would bring. For this reason, ARD played a very limited role in the PVOs' selection of sites for their operations.

DCCH had informed AID that it wished to work in the Ravine Du Sud watershed since this river is the source of water for the Avezac irrigation system. DCCH had worked long and hard with a group of farmers to rehabilitate this system and to form a Water Users Association. DCCH wanted to try to protect this system from damage from hillside erosion. Following a field study by the DCCH Technical Director, DCCH chose to establish its two centers at Pereny, near Camp Perrin, and at Bellevue, across the river from Camp Perrin. DCCH had worked earlier with some farmers at Bellevue, and presumably at Pereny.

IRD also had informed AID before the start of negotiations on Proje Sove Te that it wished to work in the Cavaillon watershed since it had been working on irrigation activities in the lower part of this watershed. The two IRD centers of Dory and Tricon were chosen after field trips by the IRD Technical Director. Emphasis was placed on choosing areas where the farmers were less influenced by the thinking that a project worthy of the name should provide jobs.

ORE had already established demonstration plots at Saut Mathurin and Formond prior to the signing of its Cooperative Agreement with AID, so ORE chose to work in these two areas plus areas close to its home office near Camp Perrin.

UNICORS consists of a number of member coffee cooperatives and the choice of specific sites was greatly influenced by the composition of membership in the coffee cooperatives and the home base of the individuals who were nominated by the Cooperatives to be the field workers (TAPS) of the project.

Aerial Photography/Video Reconnaissance

In section 5.2.2 of its Proposal, ARD had recommended that an airplane trip be made over the project area and that various still photos and video photos be taken. A number of problems arose in trying to carry out this effort and it was finally dropped. The AID administrative specialist contacted various pilots but it was not possible to find a time when the pilots were free and when there was minimum cloud cover in the area. There were also some unanswered questions as to whether ARD life insurance policies on the ARD staff and private life insurance policies of staff members would cover a fatal accident on a non-scheduled plane. At one point, ARD assumed that a photographer who had been nominated as a consultant would be able to take the pictures. Since the photographer was related to an ARD Burlington staff member, AID asked that ARD demonstrate that the photographer in question had been selected as the best from a broad group of candidates. Given these various complications, and the fact that the sites had already been chosen during this period, the decision was taken to drop the planned photos from the air. (The ARD Chief of Party and ARD's Livestock/Forage Advisor had flown earlier over the PST project area.)

Soil Studies

ARD had proposed in section 5.2.4 of its proposal that a program of soil sampling be started (500 samples per year) and that a system be installed to measure erosion.

Given the need by the PVOs for information concerning the soils in the areas where they worked, ARD had its Soils Specialist (Curtis Paskett) undertake a series of inventories of the soils in the various areas which would answer three questions:

-what is the actual soil situation?

-what crops seem most appropriate for the various soils?

-what has to be done to protect the soils?

This soils inventory work was carried out by ARD's soils scientist in:

-the area between the Port-a-Piment and Coteaux rivers;

-the area between the following rivers: Cavaillon, Acul, and Grande Ravine du Sud;

-the middle-basin area of the Cavaillon river;

-the area between the Anglais and Port-a-Piment rivers.

A number of subjects were included in the reports in order to increase their usefulness. A typical report included the following points:

-a conclusions and recommendation section which outlines the basic elements of a plan of action to conserve the soil in the area;

-an identification and description of the major soil categories in the area (a map indicates the location of the various soil categories;

-a discussion for each soil category of the soil conservation measures which are needed to control erosion;

-a listing of various crops and an indication as to how well each crop would do on a relative basis in the various regions at low altitudes and high altitudes and under various growing conditions.

These soil reports underline the gravity of the erosion problem in the PST area and the need to undertake soil conservation measures on an urgent basis, e.g. the desertification process has already claimed 10% of the formerly arable land in one project area. (Desertification exists when the soil loss from erosion is so great that the land has lost nearly 100% of its value as an agricultural resource--even when adequate rainfall exists in the area.)

The ARD soils specialist did soils analysis as part of the reconnaissance surveys described above and he also sent selected soils samples to a laboratory in Florida for detailed analyses. The results of the analyses were forwarded to the concerned PVOs.

Measuring Erosion

ARD originally proposed that erosion be measured by means of stakes driven into the ground, with string tied between the stakes. Measurements would be taken from the string every 50 centimeters to find the distance between the earth and the string. Thus, it would be possible to measure erosion. This method turned out not to be practicable under field conditions and the ARD soils scientist tested a system of putting marked metal stakes into the ground and measuring the distance between the top of the stake and the ground level. By comparing these distances over time, it was hoped to be able to calculate the amount of erosion. Field testing demonstrated, however, that with the system of hand-hoeing, the farmer would either pile up dirt next to the stake or pull dirt away from the stake. The result was that the measurements at the stake were not a true measure of erosion. The ARD specialist then designed a soils run-off plot system in order to have a scientific method of measuring erosion. However, he resigned from the project before the plots could be installed. At the same time, AID was reviewing the need for better information on soil losses from erosion. The Haitian Government and AID have made funds available for IRD and ORE to install soil run-off plots.

Sondeo: Rapid Reconnaissance Survey

ARD proposed (section 5.2.3) that a rapid reconnaissance survey--also known as a sondeo-- be undertaken before areas for PST work were definitely chosen. As explained above, this timing was not possible. Nevertheless, ARD felt the sondeo should be undertaken as a means of increasing the effectiveness of the PVO programs. The entire ARD team collaborated in preparing a list of questions which would be used in the sondeo. Originally, the entire technical staff intended to work together in the field work of the sondeo, but because of the sensitive nature of visits of a team of foreigners, it was not possible, as explained above, for the full team to do field work.

Dr. JoAnn Jaffe, ARD's Farming System Specialist, did field work with her Haitian assistant in Cavalier, Despa, Kols and Saut Mathurine" and wrote the sondeo entitled "Sondeo Report 1: Land Use, Soil Degradation and Farmer Decision Making". The report explains the farming systems orientation of Proje Sove Te and discusses the findings on issues such as land tenure and soil erosion, burning and fallow, and livestock. The sondeo discusses at length the factors which go into farmer decisions on what crops to plant:

-what consumption needs does the family have?

-what investment possibilities does the family have?

-what is the farmer's land portfolio? What can be grown on which plot?

-are there agronomic problems connected to a particular crop that would make it uninteresting to grow?

-does a crop under consideration have any particular market problems connected to it? Is there a sufficient market for this crop?

-do farmers have enough experience with this crop or can they find someone locally who does?

-can the farmer find all of the inputs necessary to grow these crops?

The report and its annexes include descriptions of each zone and a detailed crop calendar for each zone. For those interested in undertaking sondeos, the annexes include a copy of the question list in Creole. The sondeo includes a list of specific recommendations under 13 headings, including:

-testing castor beans as a cash crop and possible hedgerow plant; (ARD is currently running some tests on castor beans.)

-combining pigeon pea and the direct seeding of forestry trees as well as intercrops of peanuts and "bayahon" (prosopis). The concept is that when a food crop and a tree crop are mixed together, neighbors will respect the food crop by not pasturing their animals on the field. Thus, the trees will have a good start without premature grazing by animals which often invade areas planted only in trees;

-verify that "maroka" in yams and bananas are indeed nematodes and, if so, perform trials of crotolaria-- a natural nematicide and green manure--interplanted with yams and bananas;

-target those cultural practices for improvement that contribute significantly to soil erosion, e.g. introduce a tool for harvesting beans rather than pulling them out by the roots.

On-Going Survey of Prices

In the early summer of 1988, ARD began to collect price data in several important markets in Southern Haiti, e.g. Les Cayes and Ducis. ARD's Farming Systems Specialist analyzed the data and published information on price changes during the first year. The publication on the Les Cayes market is entitled "Results of Weekly Surveys of Prices in the Les Cayes, Haiti, Market June, 1988 - June, 1989" by Dr. JoAnn Jaffe. This report describes the methodology and discusses the major factors influencing food prices in general and the particular factors explaining prices for grains, starchy vegetables, other vegetables, and meats. There are tables at the end giving prices for selected commodities throughout the year and graphs which present a visual picture of price fluctuations for a wide variety of foods.

Incentives Assessment

The Project Paper recommended that selected incentives be used in Proje Sove Te to persuade farmers to test various project activities, particularly soil conservation measures. ARD stated (section 5.9.2) that an incentives assessment would be carried out.

ARD's Farming System Specialist carried out a study of this issue and prepared a memorandum entitled "Document a Discuter: Plantules a Distribuer Comme Primes". The document discusses the basic policy issues which are involved and suggests 4 basic criteria for deciding what plants should be distributed as incentives ("primes"). In view of the importance of this issue, AID's Project Manager for PST held a discussion of this issue with the PVOs and ARD. The ARD paper was used as a basis for the discussion.

There is agreement among the PVOs that some type of incentive is needed and that great care must be used to assure that the incentives do not undercut the basic PST philosophy that participation must be voluntary, i.e. the peasants should not consider the incentive ("prime") as a payment for participating in the project. There is also basic agreement that it is highly desirable to have as uniform a system of incentives as possible.

All four PVOs are prepared to provide participating farmers with planting materials for soil conservation, if the PVO has the material available. Thus, the PVOs provide leguminous tree seeds to participating farmers for planting hedgerows and PVOs provide many farmers with grass cuttings for planting grass hedgerows. The distribution of trees by the PVOs is either limited to participating farmers or, as a

minimum, priority is given in tree distribution to farmers who are participating in PST activities.

ORE has had a policy of providing high-quality bean and corn seeds to its farmers on a credit basis, with farmers agreeing to repay the cost of the seeds after the harvest. Since the seeds are sold on credit at a price which is below the relatively high planting-season price, this approach involves a certain incentive for the farmer to participate. At one point, DCCH distributed corn and bean seeds as an incentive without requiring repayment. Realising that this approach created difficulties for ORE's work, DCCH has agreed to make corn and bean seeds available on a credit basis. UNICORS, which is relatively distant from most of the operations of DCCH and ORE, has continued its traditional policy of granting approximately \$10 of seeds to "new farmers" who participate in Projet Sove Te by planting hedgerows. IRD has generally limited its incentives to providing materials for planting hedgerows and establishing boutiques which sell selected agricultural supplies at slightly below the current market price.

Credit Programs/PST "Boutiques"

After a long internal debate, the team drafting the Project Paper concluded that PST funds should not be used for cash loans to participating farmers. ARD suggested (Section 5.9.2), that PST study the credit program at the Madian-Salagnac project. (The AID-ARD contract also provides that the Farming System Specialist will "describe uses of traditional credit and patterns of indebtedness among hillside peasants". The sondeo field work included questions on credit and the sondeo report touches on the subject, e.g. page 23.)

ARD arranged a seminar for PST personnel at Madian-Salagnac to study ways in which PST personnel could interact with farmers. At this seminar, several PVOs became interested in the Madian-Salignac program of establishing small stores which sell items needed by farmers. The PVOs arranged to have a training session with Madian-Salignac personnel on how to establish and operate these small stores known in Haiti as "boutiques".

The original question of how to meet the larger investment needs of a farming community still remains. Thus, DCCH has identified a desire on the part of farmers in the Bellevue area to set up a small operation to grind corn into corn meal. At the moment, the only option the PVOs have is to serve as a broker between the local community groups with an investment need and the credit institutions which provide rural credit. The UNICORS' program of PST has one potential source of funds which is not available to the other PVOs: a Canadian group, CECI, provides assistance to

UNICORS which includes both technical assistance and a small loan fund.

PVO Methods of Working with Farmers

Working with Individuals and Working with Groups

The four PVOs have given considerable attention to the question of how best to work with farmers. One basic question is whether to work with farmers as individuals or to work with them as members of a group. There have been some interesting developments as the project has progressed. UNICORS has had a policy of forming squads ("skwads") which consist of 8 farmers, one of whom is selected by the other farmers to be the leader. These UNICORS squads are modeled very purposefully on the traditional system whereby several farmers join together to form a working group. These traditional groups practice a system of working on a rotating basis on their own fields, i.e. the first day everyone works on a field of member A, the second day everyone works on the field of member B, etc. As a variation, the group may hire themselves out as a unit to other farmers and then divide the earnings among themselves. This institution is very well developed in the PST area: some traditional squads have worked together for several decades and at least in the Camp Perrin area the traditional squads do some work on credit, only collecting their full pay after the harvest. UNICORS feels this approach has been very effective and there have been no basic changes in this approach since UNICORS began its PST activities.

IRD started its work with the philosophy of having farmers join together for project purposes in "groupements". This approach was expected to provide a rational and efficient way of working with farmers. However, in its work with farmers, IRD found that earlier experiences with groupements in the area had been disappointing to the farmers who had been members. All too often, the head of the groupement had misused his authority at the expense of the members. Except for special purposes, e.g. work on vegetable gardens, IRD has been working primarily with individual farmers. However, the first Technical Director has resigned and the Director of IRD plans to review with the new Technical Director whether there are steps IRD can take to utilize groupements effectively.

As for ORE, when the project started, ORE planned to focus its efforts primarily on working with individual farmers. With experience in working with farmers on soil conservation, ORE found that it was effective to have farmers form themselves into groups based on the traditional work patterns of Haitian farmers. Thus, at the present time, ORE's policy is to have farmers form themselves into "combites", one of the traditional forms of Haitian rural

cooperation. There is an average of 12 farmers in a "combite".

DCCH has had a policy of encouraging farmers to form themselves into structured "groupements". DCCH believes it is extremely important for farmers to take their destiny in their own hands by learning to work together in groups. These groups are expected to develop into organizations which will permit farmers to take control of their lives. Thus, the DCCH model foresees the groupements as having not only an interest in agricultural but also in other aspects of local life--health, education, etc. Even though the main focus is on working with groups, DCCH finds as a practical matter that when they start a training activity, there are often persons there who are not groupement members. Thus, DCCH has ended up working not only with groupement members but also with individual farmers. In many cases, these individual farmers become members of new groupements which are formed.

Working with the "Poorest of the Poor" and Working with Other Farmers

A number of AID projects in the past have had an explicit policy of working only, or at least primarily, with the "poorest of the poor". This policy has not been applied to this project by AID nor by ARD. Each PVO is at liberty to propose its own policy in this matter. None of the PVOs to date have announced a conscious effort to work only with the poor, although the choice of a relatively poor area by IRD means that as a practical matter a high percentage of its participants are relatively poor in comparison with the average participant in the other areas.

Here again, the thinking has been that in the early period of the project, the goal of finding farmers who can and will experiment with innovative measures to conserve soil and increase income should take priority. Once the system has been developed and proven, it will be possible to apply more direct concepts of social justice in a sensible manner, i.e. to be assured that the recommendations and help given to the very poor will actually have the intended result. Dr. Jaffe notes in her sondeo on page 11 that in her Ph.D. research she found that the two groups of farmers most implicated in soil degradation are the poorest because of lack of alternatives, and the richest because their land use/labor access strategy often includes sharecropping. The farmers doing the best job of land conserving were the somewhat well-off farmers whose amounts of land ownership closely coincide with their ability to work it under direct supervision.

Recruiting Local Farmers as PVO Staff and Using Persons Who Have Been Given Formal Agricultural Training as PVO Staff

UNICORS, IRD and ORE have recruited both persons trained in formal agricultural schools and local farmers who were given some agricultural training and then hired to work for the project. UNICORS' original organizational arrangement is typical of this approach. In addition to the Director and an accountant, UNICORS recruited an agronome to serve as Technical Director and also recruited four technicians who had been given formal agricultural training at the agricultural technician school of the Ministry of Agriculture. Each of these formally-trained agricultural technicians is given responsibility for supervising the field level staff, the "Technicien Agricole Polyvalent" (TAP). Persons who become TAPs are local farmers who have proved their effectiveness in working with other farmers and in trying new agricultural methods. They are nominated by the local coffee cooperative, with the "direction" of UNICORS making the final selection. These local farmers are then given the necessary training and are hired as contract employees. UNICORS reserves the right not to renew their contracts if their services are unsatisfactory.

DCCH's approach has been different. Because it wishes to avoid creating a split among farm communities by choosing one person to be a paid employee, DCCH has focused on hiring personnel who have received formal training. These personnel then provide training courses in subjects of interest to farmers in groupements. Thus, the ideal is to have a groupement which sends one person to be trained in nursery work, another to be trained in livestock, another to be trained in hedgerows, etc. As a result of this approach, DCCH's paid staff tends to consist of persons who have not lived permanently in DCCH's project area.

Emphasizing Quality Rather than Quantity

As discussed above, PST is emphasizing:

- the search for a series of technical packages which are attractive to farmers;
- an extension methodology, i.e. an outreach approach to farmers, which will be effective. (In this extension approach, as well as in all contacts with farmers, PST is using a farming system approach).

Thus, the emphasis of Proje Sove Te is on quality work. In order to assure a high quality program, DCCH, IRD, and ORE have been building their programs on a step-by-step basis. Only UNICORS, which had many years of experience in working with its coffee cooperative members, pushed at an early date for reaching a large number of farmers.

Training

Short and Long-Term Training

The ARD Proposal outlined in some detail an approach to providing the PVO staff with needed training. The Project Paper on page 37 also explains how the project will ensure its survival through a program of short and long-term training of Haitian managers and technicians. AID emphasized the importance it gives to this question by earmarking for training \$100,000 of the funds it gave each PVO.

As explained in their various reports, the PVOs have carried out in-service training for their staffs and the farmers they work with. Among the most useful types of training for farmers have been trips of farmers to see soil conservation efforts in other parts of Haiti. PVOs have also arranged visits of farmers from one part of a PVO's area to another part and visits to other PVOs. The PVOs have arranged training abroad, e.g. in the Dominican Republic, and at various training institutions in Haiti, e.g. the FAO-founded Limbe Training Center in the North of Haiti, the Madigan-Salignac Training Center, etc. Much of the animal health program has involved training of veterinarian assistants by IRD's veterinarian. ORE has been particularly active in training farmers and PVO staff in nursery work and grafting.

Several PVO project personnel have gone to the United States for short-term training. Although no PVO personnel have gone to the U.S. from PST for long-term training, the project has financed long-term training as a means of increasing Haiti's capacity to attack the soil conservation problem. (The Technical Directors for the PVOs were recruited especially for the project, and long-term training would have effectively removed them from the first phase of the project.)

ARD has:

- arranged the basic schedule for a trip in 1989 of key PST agronomes to study soil conservation in Nigeria, Kenya, and Rwanda;

- arranged a trip to Central and South America (November 1990) for key agronomes and agricultural technicians to study soil conservation and agronomic developments.

- assisted a broad AID program to support Integrated Pest Management. The first ARD agronomist, Leslie Linn, devoted considerable time to this effort, including training for nursery personnel;

-assisted UNICORS to carry-out a training program for women interested in planting vegetable gardens;. (A booklet in Creole was prepared for this training program.)

-arranged a training program for PVO technicians at Madignan-Salignac on how to use a farming system's approach in working with, and learning from, farmers;

-arranged the (first) training program for field-level workers and agricultural technicians at the Limbe Training Center;

-backstopped the veterinary technician training program.

(As discussed above, ARD consultants, the ARD Administrative Specialist, and the ARD accountant have provided in-service training in financial and administrative matters.)

Training Materials

ARD's proposal describes on page 91 a program to produce training materials in PST, with a focus on audio-visual.

Considerable work has been done in this area. ORE prepared a draft version of a video training film on the visit of the PVOs to Africa. ORE has also distributed to the PVOs a video film on grafting and mini-setting of yams. ORE has prepared a manual in Creole for the minisetting of yams. ORE is currently in the editing process of a video film on pest and disease problems on fruit trees.

DCCH has also prepared several manuals, including a discussion of how farmers can organize and administer a "Groupement". IRD and UNICORS have also prepared training materials.

ARD's major training publication is a manual in French (with illustrations) and English (without illustrations) on how to establish and manage a hedgerow. ARD's first Agronomic/Horticulturist Advisor spent a considerable amount of time in preparing this publication which also benefited from extensive editing by ARD/Burlington's senior forestry advisor. Other training materials include:

-one page leaflets on how to plant a particular seed/plant when the seeds in question were distributed to the PVOs;

-a Creole publication on planting vegetables;

- "Intevensyon Teknik pou Komanse Proje Sove Te";
(Technical Interventions for Initiating Proje Sove Te);

- "Sigjesyon pou Plantasyon Zeb Elefon oubyen Zeb Napye"
(Suggestions for Planting Elephant Grass or Napier Grass);

- "Fiche pou Etabli Barye Vivan" (Form for Establishing
a Living Barrier).

Radio Broadcasts and Posters

Originally, it was planned to give a major emphasis to radio broadcasts. However, it soon became apparent that there were groups in the area who wanted to politicize the PST program. Thus, when a group of farmers in Marcelline at the turn-off to Saut Mathurine were able to get their charges against Proje Sove Te aired on a Les Cayes radio station, it was decided in a discussion among all the PVOs, ARD, and AID that no effort would be made to use the radio for publicity/information on Proje Sove Te. As an alternative, it was decided to work quietly in the hillsides and to demonstrate to farmers the effectiveness of the program without offering its detractors a chance to continue the public debate on the program. (The farmers' group attacked Proje Sove Te for not providing jobs to the farmers in the area.) For the same reason, no effort has been made by PST to prepare posters for wide distribution in the project area.

Recommendations (Interventions) with Broad Applicability

The Project Paper and ARD's Proposal both emphasized the major problem which agricultural projects face in working with Haitian hillside farmers: there are relatively few proven new agricultural technologies or new planting materials which are clearly superior to the technologies and plant materials the farmers are now using. (Documents referring to Proje Sove Te have usually referred to new agricultural technologies as new agricultural interventions.)

The Project Paper and ARD's Proposal stressed the need to find superior new technologies and planting materials which could be effective in relatively broad areas, i.e. areas involving many square kilometers since it would obviously be unrealistic to try to prepare a special program for each plot of land. This concept of broad applicability was tied to the term "site specific interventions". Since the term "site specific" is also used to refer to an intervention which is appropriate only for a single plot of land, it may be more appropriate to use the term "domain specific" to refer to this idea of broad applicability. The term domain has been used often in the farming systems literature to refer to "recommendation domains", i.e. an

area where the ecological conditions and socio-economic conditions in different parts of the area are so similar that a recommendation which is valid for one part of the area (domain) will also be generally useful for all other parts of the area. In one example used by USAID, a relatively uniform ecological area with relatively uniform growing conditions, might be considered two domains because of socio-economic factors: one domain would consist of land where farmers control their own land and are interested in long-term investments such as hedgerows, while the other domain for this same geographical area would consist of land where farmers don't control their land and where recommendations would only be made for short-term methods of controlling erosion, e.g. Rampe Paille.

As a means of discovering useful new technical interventions, and as a means of calculating how much better certain promising new interventions are than existing interventions, ARD proposed a system of:

- Project-Managed Research (PMR), to be followed by
- Farmer-Managed Experimentation (FME)

Project-Managed Research (PMR)

Project-Managed Research is to be used to test out new ideas which looked promising, either from a search of the literature or from the experience of other projects who seem to be working in areas with roughly the same conditions as exist in an important part of the PST area. This Project-Managed Research is to be a type of applied research, i.e. it was never envisioned that PST would try to duplicate the precision and methods of a formal research station. The various references in the Project Paper and the ARD Proposal to this type of work were often somewhat ambiguous as to precisely which organizational group(s) would administer the day-to-day work on these research activities. At the beginning, the concept was maintained that the PVOs would administer all Project-Managed Research and that ARD would limit its role to providing advice.

Faced with the enormous tasks of initiating a field program, the PVOs had difficulties in setting up and preparing reports on applied research work, which required clearly defined protocols, control plots to permit a comparison of the results of the new interventions with the results of using existing farmer interventions, etc. It was finally decided that it would help to achieve the PST goals if ARD itself took on direct administrative responsibilities for a small part of the Project-Managed Research. For the last few seasons, ARD has operated two applied research sites--including one made available by ORE. (ARD has also rented a plot which is available for extended testing of the

difference in biomass production between hedgerows planted only in grass and hedgerows which consist of grasses underplanted with perennial herbaceous legumes.) As a means of strengthening ties among all PST personnel with responsibilities for applied research, ARD has requested and received the collaboration of the PVO Technical Directors in designing the Project-Managed Research which is being performed on ARD-administered research plots. The PVOs have continued their own efforts in applied research. The results of this work by ARD and the PVOs are now beginning to be published.

Farmer-Managed Experimentation (FME)

Once a promising intervention has been identified, the next step is to get a broad group of farmers to test out the intervention in a variety of different ecological and socio-economic conditions. In line with farming system concepts, this approach is designed to determine whether the new technology/planting material really works when used by a farmer who has no appreciation of the niceties of an applied research protocol. By studying the real-world results of the new technology, and hopefully in many cases being able to compare the results with the farmer's existing method of growing the same crop, Proje Sove Te will be able to evaluate the usefulness of new technologies under many different conditions. This step is obviously necessary for identifying new technologies which should be supported by the extension program and for delineating recommendation domains on the map, i.e. identifying relatively homogeneous ecological/socio-economic areas where the new technology will be effective. Proje Sove Te has not met the targets for Farmer-Managed Experimentation outlined on page 74 of ARD's Proposal.

The ARD Proposal also discussed on page 75 the concept of having demonstration modules, e.g. home gardens which would be watered from cisterns fed from roof catchment systems on peasant houses. IRD has been the most active in promoting kitchen gardens tied to the use of water from cisterns and several cisterns have been built through IRD's efforts. DCCH has also considered helping peasants to build cisterns as part of its program.

Demonstrations

The term "demonstration" has had an important place in the history of extension activities. At one time when research was done primarily on formal "research stations", the term farm "demonstration" was for a field developed by agricultural extension officials to demonstrate the effectiveness of a new variety or a new technology which had been proven effective on the research station. With the farming system approach which is used by PST, the

distinction between the various terms has been blurred since the Farmer-Managed Experimentation is carried out by the farmer on a field which is both an experiment and a demonstration. ORE also uses the term "demonstration" site for several sites where Project-Managed Research is being carried out.

Selecting Technical Interventions

On page 64 of its Proposal, ARD discussed the use of a constraint's matrix as a method of selecting technical interventions. (This matrix was to list biophysical constraints on one axis and socioeconomic criteria on the other axis. To be considered for further testing, a new crop would need to fall in one of the "squares" of this matrix.) The ARD soils scientist used a matrix to present his conclusions on the relative suitability of various crops under different ecological conditions (See annex B "Criteres d'Evaluation--Occupation de la Terre" in his report on the soils of the Port-a-Piment and Coteaux rivers.) Generally speaking, however, ARD and PVO technical staff have used the matrix concepts in selecting interventions without preparing formal matrices.

In view of the importance of applied research, ARD commissioned a study of PST research efforts by Agronome Frantz Lohier. (See comments above on his report.) Although progress has been made in both Project-Managed Research and Farmer-Managed Experimentation, much remains to be done in Proje Sove Te to obtain the full benefits from this system of applied research by PST personnel and field-testing by farmers.

Technologies and Plant Materials Which are Proving to be Effective and/or Promising

Improved Plant Materials Grown in Traditional Ways

Proje Sove Te has had several successes in increasing peasant production via providing better plant materials:

-Tapato Sweet Potato Cuttings: the Tapato Sweet Potato introduced by ORE from the Mayaguez research station in Puerto Rico has significantly outproduced the local varieties in a broad range of different ecological conditions. In one comparison made by ORE, the tapato sweet potato outproduced the best local varieties by 47%. ORE plans to carry out applied research on some new varieties of sweet potatoes which the Mayaguez research station has promised to make available.

-beans: UNICORS, as well as several other PVOs, has reported that farmers have had better production from beans supplied by ORE than from beans purchased on the local

market. (ORE estimates that the ORE beans give 20-30% more production than beans purchased in the market.) The major factor in the improved production appears to be ORE's process of seed selection, treatment against diseases, and proper storage. ORE is undertaking a program of genetic improvement of local bean seeds.

-Yams: ORE's method of the rapid reproduction of yams through the process of "minisetting" has proved to be very popular with farmers and according to ORE increases production by roughly 20%. This technical intervention breaks the production bottleneck of a limited supply of the yam planting material. Ten local clones were multiplied in the field to be available for minisetting in December 1990, for subsequent distribution to farmers and PVOs.

-fruit trees: ORE has placed a major emphasis on growing high-quality fruit trees in nurseries and helping to do grafting of trees on farmers' lands. The other PVOs have also grown/distributed fruit trees and have distributed fruit trees produced by ORE.

Construction of Furrows/Berms Along the Contour and "Tying" the Furrows/Berms to Prevent Lateral Flow of Water

PST recommends to farmers that they construct furrows/berms on the contour at approximately five meter intervals and that they "tie" the furrow/berm by building little barriers every three or four meters to stop the lateral flow of water. The tying of furrows/berms would not be done, of course, if the purpose of the furrow/berm is to lead water off the field. These furrows/berms are then to be planted in hedgerows. (The standard recommendation of constructing furrow/berms every five meters is for an "average" slope. When recommendations are tailor-made for a farmer, the agronomes/technicians use some variant of the "line-of-sight" method which assures that the vertical distance between furrows/berms is approximately one and one-half meters.)

The PVOs explain to farmers that hedgerows should be installed approximately every five meters. Often, however, farmers want to try out hedgerows in fields they control but they do not wish to take enough land out of annual production to put hedgerows every five meters. Instead, they compromise by putting hedgerows every ten or even every fifteen meters. PST has added to its extension message an idea used effectively by PADF in Southern Haiti. Under this approach, when farmers indicate their wish to install hedgerows on their entire field every ten meters, the extension agent recommends that they divide their fields in half vertically and place hedgerows on one side every five meters. The farmers now obtain the much greater benefits which come from placing the hedgerows at the proper

distance, and they have unconsciously created a Farmer-Managed Experiment. The farmer and neighbors can now compare the differences between a field planted in hedgerows and a "control" field left in its traditional state.

In many cases, farmers have been extremely pleased with the results they have obtained in the first season from "planting hedgerows". Much of the improvement noticed by the farmer undoubtedly is coming from the improved water retention brought about by the water being trapped in the furrow and soaking slowly into the ground.

Proje Sove Te is giving major attention to the physical aspects of constructing furrows/berms because:

-farmers need to be warned that furrows/berms become less and less effective as the slope of a hill increases. At very steep levels a furrow/berm, particularly if it does not have tied ridges, may actually increase erosion. On steep slopes, the PVO technician needs to explain to farmers that the furrow/berm is not going to solve the erosion problem and that the farmer needs to consider permanent cover for the field, e.g. "jardin zeb" discussed below, or tree crops with proper groundcover to protect the soil.

-farmers need to understand the importance of keeping the furrows/berms on the contour. Particularly if the ridges are not tied, any furrows built on an angle can concentrate water in a low spot and start minor ravines. (Farmers are urged to carry over the concept of working on the contour in their construction of traditional furrows/berms for planting sweet potatoes.)

Planting Hedgerows

A large number of farmers in Proje Sove Te have accepted the recommendation that they plant hedgerows. Most farmers have planted grass hedgerows, primarily because they see the advantage of being able to cut the grass as feed for their animals. Another contributing factor has been the shortage of seeds of appropriate leguminous trees which are needed for the direct seeding of leguminous tree hedgerows. Only Leucaena seeds are relatively plentiful from trees growing in Haiti and Leucaena does not do well on acid soils or at high elevations, e.g. elevations above 500 meters. Imported seeds for other appropriate leguminous trees, e.g. Calliandra, are impossibly expensive for direct seeding purposes. As discussed above, ARD is recommending the underplanting of perennial herbaceous legumes for both grass and tree hedgerows.

Measuring Hedgerow Activity

Each of the PVOs has established a system for registering the number of linear meters of hedgerows installed by farmers who are enrolled in PVO programs. AID signed a contract with a local group, AGRICORP, to study several issues, including the interrelationship between land tenure issues and the work of PST. AGRICORP was also asked to monitor the output data of the PVOs, particularly as concerns hedgerows. AGRICORP concluded that the figures of some PVOs were not accurate. AGRICORP felt that one PVO was probably underreporting its results and that another PVO was unintentionally double-counting some of its hedgerow activity. The latter PVO states that its data are accurate and that there has not been double-counting. This question of monitoring the results of hedgerow activity and other work will be carefully reviewed.

PST is currently examining what method should be used to measure the quality of the hedgerows. One basic need is to visit hedgerows on a sample basis after a period of six months or a year to determine whether hedgerows planted earlier are still in place, i.e. a survival figure for hedgerows corresponding to the survival data which are collected on trees that have been distributed. (PST's quality control will undoubtedly include some form of record keeping from these visits to determine the hedgerow survival rate, e.g. there are plants along a certain percentage of the hedgerow line.)

IRD has carried out such a survival study which indicated that a significant portion of the hedgerows, particularly at Tricon, had been effectively lost for various reasons, e.g. farmers tying animals next to the hedgerows rather than using a cut and carry system. With this type of information, IRD is able to redesign its extension method for farmers in order to stress the need for proper maintenance of hedgerows.

"Traditional" Rampe Paille and Improved Rampe Paille

For a number of years, projects in Haiti have encouraged the installation of rampe paille, i.e., pounding small stakes into the ground on the contour and placing vegetative matter such as corn and sorghum stalks on the uphill side of these stakes. Rampe Paille can not prevent rain from carrying soil in suspension down the hill and the structures have a very limited life span, normally one season. Nevertheless, they do slow down the water and soil does collect on the uphill side of the Rampe Paille. Farmers who rent or sharecrop their land may be interested in installing Rampe Paille whereas they would not want to make

the investment of their time in developing a hedgerow. Also, farmers who are skeptical that they are capable of doing anything to stop erosion are often persuaded by the beneficial effects of Rampe Paille that they should make a major investment of their time to install hedgerows the next season.

The technical staff of PST, and staff of other projects such as AID's Save the Children project in Maissade and the Vallée de Jacmel project, have developed a number of improvements on the rampe paille method. The simplest variation, used for example in the PST area by ORE, is to place corn and sorghum stalks immediately above hedgerows, i.e. the hedgerows take the place of the stakes used in the traditional Rampe paille system. (This approach further concentrates the organic matter immediately above the hedgerow and some farmers will prefer to place the stalks in the middle and upper areas of the alley between the hedgerows in order to increase the fertility of these areas.)

The traditional Rampe paille system can be combined with the furrow/berm system: after farmers install a traditional rampe paille, they start hoeing above the rampe paille and form a furrow/berm by taking dirt and pulling it downhill so the dirt is placed over the corn and sorghum stalks. Thus, the berm is now covering the stalks. This berm can then be planted as described above for regular hedgerows.

A final variation is to combine the rampe paille concept with the basic ideas of composting: shallow trenches are cut across the field and then filled with stalks or other vegetative matter. The trench is then filled over with dirt.

As can be seen, there are a wide variety of useful permutations which can be made with the basic technologies of furrow/berms, hedgerows, and rampe paille. ARD has set a goal of encouraging a wide range of experiments in this area, measuring the results, and writing-up the results so that the most useful approaches will be widely practiced in Haiti.

Increasing Soil Fertility

Composting

All of the PVOs have emphasized composting in their programs. By recycling plant material to fields and gardens, farmers are able to increase the fertility and water-retention capacity of their fields, and thereby increase their production and their income.

Application of Hedgerow Clippings to Alleys as a Mulch

All PVOs are explaining to farmers that the clippings from leguminous tree hedgerows can be placed in the areas between hedgerows, i.e. in the alleys, and that the leaves and small twigs will form a rich mulch which increases soil fertility and crop production. Although most farmers use cuttings of grasses from hedgerows as forage, the PST message also points out that this grass can be permitted to decay on the field and thereby contribute organic matter.

Using Herbaceous Legumes to Increase Soil Fertility

The PVOs and ARD are testing out a wide variety of methods for using legumes, particularly herbaceous legumes, to increase soil fertility. Among the systems being tested are:

- Using Legumes for an Improved Fallow

PST is recommending that farmers plant legumes on land which will be put into fallow for one or more seasons. The legumes will result in the soil increasing its fertility much more rapidly than if it is left purely to nature. Thus, by planting legumes such as velvet beans, lablab beans, Jack beans and Crotalaria juncea, the farmer will be able to increase his income once he puts the fallow land back into production.

- Using Legumes as an Intercrop or Short-Term Cover Crop

ARD, ORE, and other PVOs are experimenting with various approaches to using legumes as an intercrop or a cover crop. Thus, after beans are harvested in a corn/bean field, the corn can be underplanted with another legume which will grow and which can be turned under before the next crop, e.g. a sorghum crop, is planted. As a variation, a legume can be planted simultaneously with sorghum, and the legume can again be turned under before the next season as a means of increasing soil fertility. UNICORS, with assistance from ARD, has underplanted coffee trees with a herbaceous legume. The legume enriches the soil, thereby increasing coffee production, and the legume smothers weeds, thus greatly reducing the heavy expense modern coffee growers have of weeding under their coffee trees. The legume also provides a grazing resource to further increase revenue from livestock production.

- Alternating Strips on Contour of Legumes and Annual Crops

ARD's Livestock/Forage Specialist has introduced a system of alternating strips of herbaceous legumes such as Siratro and Teramnus with an annual field crop such as corn or or sorghum. The legumes are planted along the contours

in very shallow furrows at one meter intervals. The space between the legume strips are then planted in the annual crop. This approach not only enriches the soil but also produces an effective barrier and provides significant ground cover during much of the cropping season. Weeds are reduced considerably, although not entirely eliminated. Further details on this method and a number of other approaches being tested by ARD are found in ARD's publication: "Pwoje Sove Te--Livestock Working Documents Series No. 15: Current Recommendations for Forage and Other Selected Hedgerow Species Suitable for High Elevation Sites in Haiti" by B. Dean Treadwell, ARD Livestock/Forage Specialist.

- Using Rhizobium Inoculant

Much of the above discussion focuses on using leguminous plants because of their ability to fix nitrogen in the soil. This ability depends, of course, on the plants having access to the appropriate strains of Rhizobium bacteria to initiate the symbiosis. Given the degraded nature of the soil in much of the PST area and the introduction of a number of exotic plant species, it is not always clear that the necessary rhizobium inoculants are present in the desired amounts. Currently, ARD is inoculating most herbaceous forage legumes at the time they are being planted under ARD supervision. Additional studies may be needed to determine both the necessity and the benefits of this practice. (Haiti is now a member of an international consortium of PVOs which has a grant to conduct applied research and extension programs for this technology. NIFTAL has established a Rhizobium production laboratory in Haiti.)

- Using Chemical Fertilizers to Improve Soil Fertility

The ARD proposal referred to undertaking some experiments with chemical fertilizers. Generally speaking, however, PST has followed the approach described above of trying to improve soil fertility through the planting and use of various legumes, particularly leguminous trees and herbaceous legumes.

The down-playing of chemical fertilizers reflects several considerations, including:

-the poor production results reported by many projects in using chemical fertilizers on degraded soils;

-the studies by the Farming System Specialist which reinforced the conventional wisdom that poor peasants are very reluctant to use their limited cash for the purchase of

fertilizer or any other input. (As discussed above, the project has no credit program to help peasants finance the cost of inputs such as fertilizers.)

-the dangers to the environment from the use of fertilizers.

There have been a few exceptions to this general rule. UNICORS is planning to fertilize coffee trees to provide some trace elements. The women who grow vegetables in their gardens have used compost and it is possible that at least a few have used small amounts of fertilizer on these same gardens.

No-till Agriculture ("Zero Labour")

Rafael A. Veloz and Terry J. Logan reported on soil erosion studies undertaken in the Dominican Republic: "Erosion Research on Steep Lands in the Dominican Republic". They reported on a field with 30% slope, a loamy mixed isohyperthermic type Troporthent soil with a depth of 20 centimeters. For a 13 month period, there was a soil loss of 133 metric tons per hectare with a protection of grass strips, 127 tons with hillside ditches, 81 tons with a combination of hillside ditches and grass strips, but only losses of 3 tons with a full covering of Guinea grass and 2 tons with no-till agriculture.

Based on results such as these, ORE has pushed a major program of testing the results of no-till agriculture. While conclusive data are not yet available, the production has been encouraging and there seems to be very little erosion. ARD also plans to test no-till cropping practices in 1991. Thus, efforts will continue to test this option which permits farmers to grow annual crops without losing any significant part of their soil.

"Wynn Digue Canals"/Deep Contour Canals/Water Traps

One method of effectively stopping erosion on steep hillside is to build a series of World-War-I-type trenches on the contour. Victor Wynn of Kenskoff has scientifically designed a system based on this principle which has been termed the "Wynn Digue Canal." ORE installed these Wynn Digue canals on a very steep field as part of its Demonstration/Experimentation work at Saut Mathurine. The results were excellent: erosion was effectively stopped and there was space available for annual crops. Installing the system requires a major expenditure of labor, but ORE reports that some farmers have found the advantages to be great enough to warrant the investment.

DCCH has persuaded some farmers in its area to dig some contour canals (which might have a depth of approximately half a meter). IRD on at least one of its experimental sites has built a series of deep pits to catch run-off water before it can cause serious erosion damage.

Alternatives to Annual Crops

Many farmers in the PST area are growing annual crops such as corn, beans, sorghum, sweet potatoes, etc. on very steep lands which are subject to extreme erosion. Some fields have a slope of over 100%, i.e. they are steeper than a 45 degree incline. Hedgerows, furrows/berms, and other soil conservation measures can slow-down the erosion, but the erosion can not normally be reduced to acceptable levels except by heroic measures such as the construction of Wynn Digue Canals. The history of most of these sites is that farmers use them until the production is so low it is not worth planting a crop, and then they let the field go to weeds and use it as scrub pasture. Often, the soil becomes so infertile that the grass in the pasture doesn't protect the soil and the field becomes a veritable wasteland. The only way of assuring that these very steep lands, or very erodable soils on moderately steeped land, can continue to produce is to convert them to economic activities which do not result in severe erosion, i.e. no-till agriculture, wood lots with proper groundcover to protect the soil, permanent improved pasture, etc. Since PST is trying to find methods of saving fields which are still productive, PST has done relatively little work in trying to recuperate fields that have practically no productivity. IRD has done a small amount of work on this question, however, because of the very poor nature of the soils in the IRD area.

There are sites with acceptable levels of productivity where the erosion hazard is so great that immediate efforts should be made to convert the field to perennial crops. ARD is doing some work in this area. In one example, ARD is testing an intercrop of perennial varieties of pigeon peas, a food crop which would help to feed a family, and castor bean, a perennial crop which can produce a cash income for the farmer.

"Jarden Zeb" (Field of Grasses)

Another area of ARD activity concerns permanent improved pasture. ARD is currently working with farmers in 2 areas to test the concept of "jarden zeb" on steep hillsides. This would be a field planted entirely in grasses and herbaceous legumes. One way of looking at the proposal is to consider it a traditional field with contour hedgerows of grasses, but instead of planting the alleys in an annual crop the farmer plants grasses and perennial herbaceous legumes on the contour at appropriate (relatively

close) intervals in the alley. This planting combination should reduce erosion to very low levels and farmers will have a nutritious mixture of grasses and legumes to feed to their animals and thus increase their revenue.

Planting Trees Grown in Nurseries

General Comments

Nearly all of the tree hedgerows in Proje Sove Te are "direct seeded", i.e. seeds are placed directly in the ground in order that they may sprout and create a hedgerow. In addition, all of the PVOs have developed nurseries for producing trees which are planted by farmers. There are three major categories of trees: forest trees, fruit trees, and coffee trees. Details on the numbers of trees are provided in a later section on the work of the PVOs in this area of activity and in a table in an annex.

Central Nurseries Operated by PVO Personnel and Decentralized Nurseries Operated by Farmers

Two of the PVOs (ORE and UNICORS) rely primarily on central nurseries, i.e. nurseries which are operated by paid staff of the project.

The other two PVOs (DCCH and IRD) do not now have central nurseries but as an alternative they help their farmers to establish their own nurseries which are operated by the farmers themselves. DCCH signs a contract with participating farmers which provides a standard price for growing trees, whether they be fruit trees, forestry trees, or coffee trees. IRD makes no payments to its farmers and provides them only with plastic sacks.

Tree Distribution Policy

The decentralized approach used by DCCH and IRD basically guarantees that all, or nearly all, of the trees grown in their nurseries will be used by PST farmers.

UNICORS has the policy of giving priority in the distribution of its trees to farmers who are participating in other parts of the PST program, e.g. planting hedgerows. However, there is some distribution of trees to farmers who are not active in other parts of the Program. (Thus, a coffee farmer who is not participating in the hedgerow program but who is a member of UNICORS--which was founded basically as a coffee cooperative--might plant only coffee trees.)

ORE also has the policy of giving priority in the distribution of its trees to farmers who are registered for

other PST activities, e.g. installing hedgerows. Excess trees not needed to meet the needs of PST farmers are distributed to other farmers in the area who are interested in tree planting. During the first few seasons of the project, ORE grew all types of trees which were transferred to the other PVOs in Proje Sove Te for distribution by these other organizations. The other PVOs are now trying to grow in their own nurseries all the forest trees and coffee trees--as well as some fruit trees--which they require. Thus, ORE's production of trees for DCCH and UNICORS is now limited primarily to fruit trees.

Tree Survival

Each of the PVOs has established a program to determine tree survival rates. These results are being published by the PVOs as they become available.

Sources for Seeds and Plant Materials

A major program to help farmers plant hedgerows must develop sources for seeds and planting material. In the past, PST farmers have not had access to adequate supplies of leguminous tree seeds and PST is emphasizing the importance of planting trees which can provide the necessary trees or setting up a source of supply in other parts of the country where seed-producing leguminous trees exist. Although *Leucaena leucocephala* seeds are available in Haiti, there are only very limited supplies of *Calliandra* seeds, a leguminous tree species which has proved to be well adapted to many sites in the PST area where *Leucaena* does not grow well. With seeds largely supplied by ARD, ORE has been able to grow a large number of *Calliandra* trees which are being permitted to mature as a source of seeds.

As described elsewhere, ARD has also played an important role in helping the PVOs to obtain grasses for testing and for hedgerow planting.

The PVOs are working to overcome the shortage of some planting materials so that PST farmers will have adequate supplies of seeds, grass cuttings, etc.

Controlling Tiny Ravines

Ravine control is often included as a part of a job-creation program. Although PST participants are unpaid, PST has had some success in persuading farmers to put in control measures on tiny ravines. DCCH, in particular, reports that farmers are working together on ravine control projects. DCCH reports that during the season February-July 1990 a total of over 8,000 linear meters of ravines were treated by nearly 200 farmers. Although ravine control involves a major expenditure of effort, the results are fairly

immediate and dramatic: soon after the control measures are installed, enough earth is collected on the uphill side of the ravine-control structure to permit planting bananas and similar crops.

Integrated Pest Management

As designed by AID and supported by the AID Project Manager, PST encourages farmers to adopt an integrated pest management approach: fighting pests with natural control measures and not using chemical pesticides. ARD staff attended a seminar sponsored by CARE on the use of ground-up neem seeds as a natural insecticide and information on the seminar has been passed on to the PVOs. The ARD Livestock/Forage Specialist's publication No.15 discusses how *Gliricidia* leaves can reportedly be used as an effective rat poison.

Chemical pesticides are used in nursery operations. ARD has supported ORE's efforts to assure that all nursery workers are aware of the potential dangers and have received the necessary training in the use of protective equipment. AID arranged for ORE to prepare a manual in Creole on the use of pesticides and ARD helped to review this manual.

Under PST policy, farmers are discouraged from using pesticides indiscriminately and without supervision in the PST area. Since the project does not make pesticides available to individual farmers, it is unlikely that *Proje Sove Te* has resulted in any insecticide damage to the environment. ARD's first Agronomist/Horticultural Specialist devoted a significant part of her time to working on these issues of integrated pest management.

Tool Development and Manufacture

ARD proposed that special tools be developed and manufactured as part of *Proje Sove Te*.

As described earlier, ARD's Farming Systems Specialist noted the steady drain of valuable nutrients from hillside fields as farmers each year pulled out the bean plants and carried them to their homes where the beans were removed from the pods. The bean stalks were seldom if ever returned to the hillside field. She proposed that a test be made of cutting the bean stalks in the field so that at least a part of the organic matter/nodules would remain for the next season. This idea was tested by UNICORS, but farmers found that the knife pulled the bean stalk out of the ground before the stem was cut.

Relations with Other Projects

Proje Sove Te has always been conscious of the importance of maintaining close professional relations with other projects in similar fields in Haiti. The basic structure of the project helps to insure these professional relationships. Thus, the Directors of the four PVOs have devoted a significant part of their professional lives to development issues. The Technical Directors of the four PVOs are Haitian agronomes who have had many years of experience with Haitian agriculture and they have a network of friends who are agronomes working in other development projects.

ARD recruited a team with strong experience in Haiti. The Chief of Party had served for four years in USAID Haiti during the 1970s when AID began stressing the agricultural sector. The Farming Systems Specialist had done her Ph.D. research in Southern Haiti. The Soils Specialist had worked with the Ministry of Agriculture for several years on soil conservation issues, and the Livestock/Forage Specialist had worked for AID for several years on soil conservation and livestock projects. In order to reinforce this experience, ARD personnel visited a number of projects to discuss questions of mutual concern:

- La Vallee de Jacmel
- Madian-Salagnac
- CARE's part of AID's Agro-Forestry project
- PADF's part of AID's Agro-Forestry project
- SECID research work
- Save the Children's AID-financed project at Maissade
- the Limbe Training Center.

ARD's Livestock/Forage Specialist has made invited presentations to the Biological Nitrogen Fixing Workshop, a PADF Technical Workshop and the Health and Agriculture Fellowship Conference. He has hosted visiting groups interested in the use of forage plants from PADF, CARE, the Mennonite Central Committee, Save the Children, and the "Projet Haitiano-Allemand".

Improvements of Household Infrastructure

On page 94 of its proposal, ARD stated that ARD and PVO counterparts "will, as part of the baseline survey, assess the conditions of the homes and yards of surveyed farmers and ascertain the existence, quality and frequency of such

constraints as lack of water, absence of space for processing and storing produce, and vagabond animals".

ARD's actions with permanent staff in Haiti on this point consisted primarily of the field work of the Farming Systems Specialist plus the observations and work of ARD's Livestock/Forage Specialist as concerns vagabond animals. As discussed above, ARD also brought Ted Wittenberger to the Project area to study after-harvest questions, particularly issues of on-farm storage. The PVOs have been interested in these same issues, particularly small cisterns fed from the rainfall run-off from the roofs of farmers homes. The water is intended in most cases for use on nearby vegetable gardens. To a lesser extent, the PVOs have been interested in "glacis", i.e. cement drying areas which are built next to homes in Haiti.

Through July 31, 1990, IRD had built 5 cisterns totaling 95 cubic meters, with another 14 cisterns under construction with a planned capacity of 162 cubic meters.

As for vagabond animals, ARD's Livestock/Forage Specialist has constructed a model stock pen and feeding area for animals as part of a program to upgrade animal care at peasants' households.

Transformation and Marketing of Farmer Produce

ARD proposed that work be done in this area. Since the avocados of ORE are proving to be very popular and successful, ARD has been exploring various methods of transforming them. In response to an ARD/Haiti request, ARD/Burlington has sent an article on methods of pressing the avocados to obtain avocado oil.

Role of Women

Development experts have long recognized the important role that women can play in agricultural development, both in their role as farmers and as staff members of development organizations. DCCH, in particular, has stressed having a program which attracts women. Thus, each center has a woman as a full-time employee to work with women of the community on agricultural matters. Of the 40 new DCCH groupements created during the last reporting period, 13, or 33%, were groupements consisting primarily of women. Out of the 443 new members recruited by DCCH during this period, 135, or 31%, were women. (Since the work of building furrows/berms is considered to be a "man's work" in traditional Haitian society, most PVOs find that a large majority of their active participants are men).

Proje Sove Te has been particularly fortunate in the large number of highly qualified women who have served with

distinction at senior levels. Until her recent transfer, Ms. Catherine "Cat" McIntyre served as PST Project Manager for AID. Ms. Monique Finnigan has been in charge of ORE's work in accounting planning and personnel. Ms. Lucie Chavannes-Jeune has been in charge of financial affairs for IRD and Agronome Edele Thebaud has recently been nominated as Technical Director by IRD. Ms. Michèle Oriol, working with AGRICORP under contract with AID, has also taken an active part in PST project work. In the past, ARD has had two women working as members of its professional team: Ms. Leslie Linn, Agronomist/Horticulturalist and Dr. JoAnn Jaffe, Farming Systems Specialist. Women have also worked as agricultural technicians for ARD and for PVOs. By having these qualified women at senior levels, PST has helped to assure that the Haitian women in the PST project area will be able to participate in this pioneering program and that the entire program will improve the life of Haitian farmers.

Access Development

ARD proposed on page 97 that PL 480 funds be used to build and/or improve access roads. The PVOs quickly identified poor roads as a major bottleneck for the project. Thus, it was often difficult to get PVO staff and necessary inputs such as planting materials to the farmer. AID worked with the Government of Haiti to make PL 480 funds available to the PVOs to upgrade a number of existing roads. The ARD Soils Specialist helped this process by making a basic design for improving the road to Formond. This design was used as a basis for the funding request for this road. (UNICORS was also able to obtain a major grant of U.N. funds to build a road in its project area.)

Technical Publications Library

With help from the home office, ARD has been able to collect a broad variety of technical publications which relate to the work of Proje Sove Te. These publications are available on a reference basis for PVOs, USAID, and other interested persons. ARD has also published and distributed two bibliographies of material relating to PST objectives.

Administrative Matters

Physical Location of ARD Office

Originally, it was expected that ARD would have its office in Les Cayes. The final decision, however, was to place the office in Camp Perrin, an area which is more typical of the project area since Camp Perrin is a jumping off place from the Les Cayes plain to the hill areas. Although it is considered a town in the Haitian context, one can walk away from the road for two minutes in either direction and be in rural Haiti in a hillside setting.

Road Communications to Port-au-Prince

It is approximately a one-hour drive over a bad, but normally passable dirt road, from Camp Perrin to Les Cayes. Most drivers take about three and one-half hours to travel from Les Cayes to the downtown AID office over a paved road which has been kept in reasonably good shape.

Communications

When the project opened, there was no telephone or radio communication to Port-au-Prince from Camp-Perrin. A radio was installed to try to reach Port-au-Prince but it was not effective and was returned. A radio was installed at the ARD office which could reach the AID Project Coordinator in Les Cayes. The Oblate Fathers also arranged for a loan of a radio from the coffee cooperative movement to ARD. With this radio, ARD has kept in touch with the Director of UNICORS at Rendel and ARD has had the capacity via this radio to reach the Oblate headquarters in Port-au-Prince. A telephone line was installed between Les Cayes and Camp Perrin and ARD was finally able to get a telephone with an international line installed in the Administrative Specialist's house. (The telephone company informed ARD that it was not technically possible to have a telephone line go to Bananier, a "suburb" of Camp Perrin.) ARD purchased a fax machine so that both verbal and written (FAX) communications are possible between Camp Perrin and the PST Project Coordinator in Les Cayes, the PST Project Manager in Port-au-Prince, and the ARD home office in Burlington. ORE, IRD, and the Director of DCCH have telephones. It has not been possible, however, for ARD to contact AID/the Embassy by radio. AID plans to finance an upgrading of the radio communication capability of ARD.

ARD's Haitian Personnel

In order to staff the ARD office, it has been necessary to recruit several key staff members from outside Camp Perrin--normally from Port-au-Prince. Despite the reluctance of most Haitian professionals to leave the capital, ARD has been able to recruit people with the necessary skills. Many of the achievements of ARD are due to the excellent work of the Haitian staff.

ARD Staffing Pattern for Expatriates

The Project Paper (pg. 50) outlined the planned staffing by the expatriate organization:

- Chief of Party
- farming systems agricultural economist to run the monitoring and evaluation system,
- an animal husbandry/forage/extension specialist
- agronomist in ARD office, with either tropical horticultural experience or with soils experience,
- agronomist in the Southwest coast (UNICORS) area, who would have the second set of skills listed immediately above for the agronomist,
- Natural Resource Economist, to be stationed with STAB at the Ministry of Agriculture in Port-au-Prince.

With the break of United States direct economic assistance to the Haitian government, the Natural Resource Economist position with STAB was replaced by an administrative specialist with responsibilities for administration and finance. All ARD staff were placed in one office in order to facilitate the coordination among team members. Lists of ARD expatriate and Haitian staff are attached as annexes.

ARD proposed a list of team members before the serious political disturbances of 1987. When the actual job offers were made, the proposed Chief of Party and the proposed agronomist did not accept the offer of positions. The agronomist position was filled immediately with ARD's backup candidate, and the Chief of Party position was filled in April, 1988.

SECTION II: SUMMARY OF PROJE SOVE TE ACTIVITIES BY
DCCH, IRD, ORE, and UNICORS

Overall View of PVO Activities (Outputs) Since PST Started

Hedgerows

As listed in the attached table, the farmers working with the PVOs in Proje Sove Te have installed 2 million linear meters of contour conservation measures. If placed at 5 meter intervals, these measures would greatly reduce erosion on 1,000 hectares of land. (Note: All cumulative to date figures in this report include activities reported through 31 July, 1990. UNICORS began field activities during the second rainy season of 1988. However, much of the work was destroyed by hurricane Gilbert. Full field activities of all four PVOs began in February, 1989--the first season of agricultural year 1989. Thus, PST's field activities, and this report, basically cover the work of three agricultural seasons, i.e. one and one-half years of field work.)

By far the greatest part of these conservation measures consists of grass hedgerows--75%. If one considers only vegetative hedgerows, i.e. excludes rampe paille, etc., then grass hedgerows constitute 87% of the hedgerows planted in the PST area and tree hedgerows only 11%. (Mixed tree/grass hedgerows account for the other 2%) The preponderance of grass hedgerows reflects several factors:

- the strong interest of farmers in getting a quick return (grass as forage for animals) from the hedgerows;

- the unsuitability of the most common leguminous hedgerow tree (*Leucaena leucocephala*) for many areas in the PST area: areas with acid soils and areas over 500 meters in altitude;

- the limited supplies of leguminous tree seeds, particularly the seed of choice for many areas: *Calliandra*.

Temporary contour conservation structures--basically rampe paille and furrow/berm--accounted for 11% of the grand total. Stone walls, primarily put in place by DCCH, constituted just under 2% of the grand total.

PST is exploring the best method to monitor the quality of work on hedgerows and to report on the quality factor. IRD has made a start on the problem by doing a sample of the basic survival rate of hedgerows. (See discussion below.)

PVO Tree Production and Distribution--Other than Hedgerows

A total of nearly 1.7 million trees have been produced to date by the PVOs in their own nurseries or by farmers who are participating in the PST program. There have been slightly over 1.4 million trees distributed to farmers. (Most of the difference is accounted for by trees in inventory in PVO nurseries.) Of the total trees produced, 51% were forest trees, 31% were coffee trees, and were fruit trees. During the early phases of the project, ORE supplied major amounts of trees to the other three PVOs. Now, these other PVOs are expanding their production so that they can meet most of their tree requirements. ORE continues to supply to the other three PVOs a few varieties of fruit trees, particularly citrus, mango, and avocado.

When ORE produces a tree and transfers it to another PVO for distribution to the farmer, the tree is included in the attached table as a tree distributed by the other PVO, not ORE. Thus, both DCCH and IRD have distributed more trees than they have produced.

Although all of the PVOs have programs underway to determine the survival rate for trees, based on a sampling method, only partial results are currently available. Thus, in its second annual report, ORE reported a survival rate after six months of 69% for fruit trees and 76% for coffee trees.

In addition to the planting of trees grown in nurseries, all of the PVOs are undertaking programs of on-site grafting of fruit trees. Cumulative data for on-site grafting have not yet been compiled on the work of the four PVOs.

Number of Participating Farmers

Several PVOs keep lists of farmers who participate in different activities, but it is not yet possible for them to eliminate the double counting that is involved in this approach for any one period nor to determine whether one farmer has participated in a program for only the most recent period or for several periods. Thus, it is not possible to provide an exact total on the number of different farmers who have worked with Proje Sove Te since the project began field operations.

In the first agricultural season of 1990 which ended on July 31, 1990, a total of slightly over 4,000 farmers took part in contour soil conservation activities--normally the installation of hedgerows. Since UNICORS has already "graduated" nearly 1,300 farmers, and since there are farmers who participate in PST activities other than hedgerows, it seems reasonable to assume that at least 6,000

farmers have participated in some PST activities during the three full seasons of field work, i.e. an average of 2,000 different farmers per season. AID had projected that Proje Sove Te should cover 20,000 farmers during its scheduled five-year life, i.e. 20,000 over 10 agricultural seasons, or 2,000 new farmers per season. On a purely arithmetical basis, Proje Sove Te is on target (2,000 new farmers per season of field work). However, given the desire of PST to push the quality aspects of its work, and to pay more attention to Project Managed Research and Farmer Managed Experimentation, it is quite possible that PST will not reach the goal of 20,000 farmers within a five year period. However, a definitive judgment on this question should wait for the results of several more seasons of field work and an attempt to resolve the question of how to set up a record-keeping system which gives the number of new participants for any season.

Summary of PST Activities (Outputs) During the First
Agricultural Season of 1990
1 February, 1990--31 July, 1990

The attached table lists outputs for each PVO for each agricultural season since the project started. During the most recent season (February-July, 1990) the number of linear meters of contour soil conservation increased by a modest 8%, while the increase in the previous period had been 59%. UNICORS farmers reduced their installation of contour conservation measures. Thus, UNICORS farmers put in place 90,000 less linear meters than in the previous season. (Figures in this part of the report--Section II--are normally rounded, usually to the nearest thousand.) ORE's production increased moderately while both DCCH and IRD greatly expanded their contour conservation work. (They both started, however, from a modest base level in the previous season.)

Production of trees (forestry, coffee, and fruit) declined from nearly 400,000 to slightly more than 360,000 during the first season of 1990. This decline, which continues an earlier trend, is basically due to a deliberate policy choice. Both ORE and UNICORS were carrying out very active tree distribution programs before Proje Sove Te started operations. Now, these two organizations are working to get farmers to look beyond a tree planting program to a broader program which does include planting nursery trees but also stresses contour soil conservation measures and expanded activities to increase income.

During this last six-month period, DCCH had a dramatic increase in the number of farmers who participated in project activities. Thus, the number of farmers working with contour soil conservation jumped to 1,400, the second largest number. (UNICORS continued to have the largest

number of farmers working in hedgerows--a total of 1,735 new farmers during the reporting period.)

DCCH Activities: Cumulative and First Season 1990

DCCH's Development Philosophy and Previous Development Experience

DCCH (Developpement Communautaire Chretien d'Haiti) is a part of the CARITAS organization, the socio-economic arm of the Catholic Church in Haiti. Although membership in DCCH activities is open to all persons regardless of their religion, DCCH is very explicit in having a development program based on the Christian concept of the worth of an individual. DCCH believes persons must become aware of their self-worth and should work with their neighbors to improve the quality of life. Thus, DCCH's commitment to work with groupements is based on both practical and philosophical considerations. (A rough analogy of DCCH's organizational approach might be the "consciousness raising" activities of women's groups in the United States and around the world.)

As discussed above, DCCH wishes to avoid creating a sense of hierarchy among local farmers. As a result, DCCH has not picked out leading farmers and placed them on its payroll as "animators". Instead, each group is requested to select different persons to become the groupement expert in a particular subject matter. Thus, a groupement will send one member to be trained in nursery work, another person to be made the hedgerow expert, etc.

DCCH (Laborde) began its work with farmers in the area over 15 years ago. These efforts included not only agriculture but also other areas of importance to farmers, e.g. health and education. Although direct PST support to the DCCH Groupements is limited to the PST agro-forestry-livestock program, DCCH encourages members of its groupements to form sub-committees to deal with other areas of interest to members, e.g. health. DCCH financed its early work through traditional Catholic financing channels. DCCH did join the PADF program at one point, but it is no longer participating in the PADF effort. The DCCH/PST program is currently aimed at specific geographic areas, e.g. Bellevue and Pereny. However, DCCH continues non-PST development activities in other areas, including hillside areas. With help from a German Catholic assistance organization, DCCH undertook a major program to renovate the Avezac irrigation system and to create a Users Group for the irrigation system.

Farmer Demands on DCCH for Jobs

Farmers in the area where DCCH is working had received in the past jobs from the Ministry of Agriculture to install soil conservation structures--usually stone walls. DCCH faced stiff demands from the farmers in its area--now formed into groupements which could present their grievances-- to provide them with jobs. DCCH undertook an active program of explaining the PST philosophy of voluntary participation. The DCCH/PST approach has generally been accepted by most farmers in the areas where DCCH is working.

DCCH's Contour Soil Conservation Measures

Partly for the reasons discussed above, DCCH's work with contour conservation structures got off to a slow start: during each of the first two seasons, farmers installed approximately 14,000 linear meters of contour soil conservation measures. There was a dramatic five-fold increase during the most recent agricultural season to 82,000 linear meters. DCCH's cumulative total of 110,000 linear meters represents 5% of the PST total.

DCCH farmers in the Bellevue area are plagued with a large number of stones in their fields and DCCH has had considerable success in persuading these farmers to construct stone walls on the contour. During the most recent season, nearly one-third of DCCH's soil contour conservation structures consisted of stone walls.

DCCH's Tree Production and Distribution--Other Than Hedgerows

DCCH has produced a cumulative total of 111,000 trees and distributed a cumulative total of 125,000.

When PST operations began, DCCH distributed only trees grown in ORE nurseries. Very quickly, however, DCCH established its own "central" nurseries, i.e. nurseries which were operated by permanent DCCH staff. The decision to start-up central nurseries was taken in part as a means of supplying a minimum of paid employment in DCCH's project area. DCCH decided, however, that its development philosophy would be carried out more effectively if it moved to a system of signing contracts with local groupements to grow trees which are then planted primarily by the groupements members. When this new system was used for the first season of 1990, there was a modest increase in the number of forest trees grown to a total of 35,000. For fruit trees, however, there was a dramatic increase from 2,000 trees in the previous season to 15,000. For the second season of 1990, DCCH is reducing the price paid to groupement farmers per tree under its contract system.

DCCH's Membership: Latest Season and Cumulative; Non-Members Who Participate in PST Activities

During the first 1990 season, DCCH enrolled 443 new members in 40 new groupements, nearly doubling the number of enrolled members which now stands at 930. (Although there are roughly equal number of farmers enrolled in the two original extension centers at Bellevue and Pereny, the farmers at Bellevue installed more than twice as many linear meters of contour conservation measures in the first season of 1990 as the farmers at Pereny. This difference presumably reflects the difference in farmer attitudes: the farmers at Pereny have been more imbued than farmers at Bellevue with the idea that any project must supply jobs.)

Although encouraging farmers to join groupements, DCCH also works with persons who are not members. Thus, during the last season, 60% of the farmers who installed contour soil conservation measures were non-members and 40% were members. (Women constituted 23% of the farmers installing conservation measures.)

IRD Activities: Cumulative and First Season 1990

IRD Development Philosophy and Previous Development Experience

The Evangelical Baptist Missions of Southern Haiti (MEBSH) has been active in the PST area for about 30 years, concentrating its assistance on developing educational and health-care infrastructure (various schools and the Bonne Fin hospital. In 1977, MEBSH and World Concern (a religious PVO based in the United States) began IRD (Integrated Rural Development) with the objective of improving the quality of life in the area through an integrated approach (education, health, agriculture, etc.) In addition to its work on Proje Sove Te, IRD continues to be active in a number of different geographic areas.

Special Problems:

-Relatively Poor Agricultural Conditions in Several Parts of the IRD Area

IRD is working out of two agricultural extension centers: Dory and Tricon, which are both in the Cavaillon watershed. Dory is slightly to the east of Tricon. The land in the lower hill areas of both Dory and Tricon is severely degraded and crop production can also be severely limited by inadequate rainfall.

IRD was very conscious of the problems which could arise if it worked in areas that had benefitted from the Ministry of Agriculture's program of paying farmers for installing stone walls and deliberately avoided choosing areas which had participated in these programs. However, IRD finds that the choice of certain areas with extremely poor soil conditions and with sporadic and low rainfall has created special problems. Thus, a relatively high percentage of farmers have not adequately maintained the hedgerows and trees which they have planted. The problem has been most severe in Tricon.

In response to this problem, IRD has opened new areas in the higher elevations near Dory where rainfall conditions are considerably better. IRD finds that it is much easier to make progress in this area than at lower altitudes where rainfall is a serious problem. At the lower altitudes, IRD is exploring the possibilities of special programs, e.g. a program which might reduce the erosion from the production of vetiver in the Tricon area.

-Working with Individual Farmers Versus Working Via Groupements

IRD started its work in its two areas by stressing the use of groupements as a means of working effectively with farmers. The former IRD Technical Director, who has recently resigned, found that there had been bad experiences on the part of many farmers in the groupements they had participated in earlier. Thus, a number of groupement leaders under earlier, non-PST programs, had abused the power of their positions. Accordingly, much of the IRD work was carried on with individual farmers. With the nomination of a new Technical Director, IRD plans to review this issue to determine if another effort shouldn't be made to work with groupements. (If groupements can be used effectively, it may be possible for IRD to significantly increase the number of peasants it reaches through the PST program.) IRD also plans to further strengthen its training program for farmers.

IRD's Contour Soil Conservation Measures

IRD also had a dramatic increase during the first season of 1990 in total contour soil conservation measures--nearly all of which consisted of hedgerows of trees, grasses, or combined trees/grasses. The total increased three fold from the previous season to 79,000 linear meters in the first season of 1990. In percentage terms, IRD places more emphasis on trees than any other PVO: 70% of the contour measures consist of just *Leucaena leucocephala* and another 19% consist of a tree/grass mixture.

In April and May 1990, IRD visited a sample of the hedgerows which had been planted between August, 1989 and the date of the survey. In Dory, 30% of the hedgerows had disappeared and in Tricon the figure of destroyed or disappeared hedgerows was 60%. In most cases, the hedgerows had been destroyed by animals, often the animals of the person who had installed the hedgerow. IRD is reviewing what actions it can take to reduce the loss of hedgerows. The particularly heavy losses in Tricon are assumed to be a reflection of the poor economic/ecological conditions in that area.

IRD's cumulative record of 130,000 linear meters represents 6% of the PST cumulative total. During the first season of 1990, a total of 428 farmers participated in contour soil conservation measures.

IRD Tree Production and Distribution--Other than Hedgerows

IRD has had a relatively modest tree program. Cumulative production has been 9,000 trees and distribution has been 36,000. During the first season of 1990, IRD distributed 14,000 trees, of which 22% were forestry trees and 78% were fruit trees. In the future, IRD plans to shift the distribution of trees more heavily toward forest trees since these trees seem to be in the greatest demand by the farmers. In addition to obtaining trees from ORE, IRD works with local farmer groups which raise trees for themselves in their own nurseries. IRD supplies the necessary plastic bags to the farmers, but it makes no cash payments.

Veterinary Activities

With help from "World Concern", IRD has recruited Dr. Mike Storer, a veterinarian, as part of its PST-financed staff. The veterinarian services are made available not only to farmers in the IRD area but also to the other three PVOs. Dr. Storer has trained animal health assistants for several of the PVOs. These animal health assistants provide services which are paid directly by the farmers. A standard fee schedule has been developed for use throughout the PST area. During the first season of 1990, the veterinarian trained 50 health assistants and held 38 clinics throughout the PST area. Nine of these clinics were held in the IRD area, providing help to 200 farmers and a total of 356 animals. In the future, the IRD veterinarian will stress upgrading the skills of the animal health assistants by working with them at animal health clinics where farmers bring their animals for services such as vaccinations.

ORE's Activities: Cumulative and First Season 1990

ORE's Development Philosophy and Previous Development Experience

ORE started its operations in 1983 with a nursery in Levy, near Camp Perrin. In line with its philosophy of helping farmers to increase their incomes, ORE placed a special emphasis on fruit tree production in the nursery, and on-site grafting, since fruit tree production offers an excellent means for farmers to increase their incomes. ORE is involved in other development work besides Proje Sove Te, e.g. ORE is operating an AID-financed project to increase the number of high-quality mango trees.

Farmer Demands in the Saut Mathurine Area

Although farmer demands on ORE were not as intense as demands placed on DCCH in its areas, ORE has nevertheless been forced to pay special attention to the problem of community relations, particularly in Saut Mathurine. Thus, this area has required the close attention of senior ORE staff. Now that the situation is closer to "normal", senior staff will be able to provide more balanced attention to the various areas where ORE is working: Saut Mathurine, Formond, and the Delinois area across the river from Camp Perrin.

ORE--University of Florida Coordination in Formond

Both ORE and the University of Florida work in the hard-to-reach, high-altitude area of Formond at the top of the Acul watershed. Some of the incentives offered farmers by the University of Florida have been more generous than the incentives available from ORE. These differences have created some problems for ORE's work. ORE and the University of Florida have established a more formal system of coordination to eliminate/reduce these differences in incentives and to cooperate more effectively on other matters of common interest.

ORE's Contour Soil Conservation Measures

There has been a steady increase in the contour soil conservation measures of ORE. The number of linear meters more than doubled from 65,000 linear meters in the first season to 133,000 in the second season. In the third and most recent season from February through July 1990, the number of meters of conservation measures increased by 24,000, or 18%. In terms of percentages, the most recent agricultural season reflects a much greater emphasis on grass hedgerows, and to a lesser extent tree hedgerows, and a reduction in both absolute and percentage terms of rampe paille/furrows-berms. ORE's cumulative total for contour

soil conservation measures is 356,000 linear meters, or 17% of the PST cumulative total.

ORE's Tree Production/Distribution--Other Than Hedgerows

As part of the overall PST plan, ORE has converted itself from an organization which specialized primarily in tree production and distribution to a multi-faceted organization which is also involved in a major program to extend PST activities to farmers and a major program to produce high-quality planting materials other than trees. ORE also has a number of research activities underway.

As a result of this conversion process, ORE reduced its tree production from 164,000 in the first season of 1989 to 123,000 in the second season of 1989. Because it was able to satisfy much of the demand for trees in the first season of 1990 from its stocks of trees in its nurseries, ORE's production in the most recent season was 36,000. ORE distributed, however, a total of 97,000 trees to farmers working directly with ORE. (An additional 15,000 trees were sent by ORE to other PVOs). On a cumulative basis, ORE has produced 36% of the total PST output of trees.

ORE's "Leading Role" in Tree Production Techniques

Because of its long-involvement in tree production, ORE has taken a leading role in training in this area. Thus, ORE has produced training materials and has provided training in both nursery work and in on-site grafting. The on-site grafting work of ORE has proved to be very popular with PST farmers. ORE has also taken the lead in planting Calliandra trees for seed production purposes. Calliandra seems to be ideally suited as a hedgerow tree for many PST areas, but there is a severe shortage of Calliandra seeds.

ORE's Work In Producing and Storing Beans and Corn

PST has the fundamental goal of increasing the production and/or income of farmers. ORE has been working for several years with a program of producing and distributing high-yielding bean and corn seeds. Although breeding work is being done, the major part of the increased yield seems to be due to ORE's system of harvesting, drying, and storing the seeds.

The most important item has been black beans. In farmer plantings, there have been yield increases which are estimated at 20-30%. The second most important item is corn. Here, there have been yield increases of 33% in ORE's selection trials. ORE is also involved in working with sorghum.

ORE's Work With Sweet Potatoes and Yams

ORE has been very active in producing and distributing planting materials for sweet potatoes and yams. Thus, in the first season of 1990, ORE produced over 10,000 seed yams and 96,000 sweet potato cuttings.

ORE's Tissue Culture Activities

In its tissue culture lab, ORE has installed a new shaker which has 10 times the capacity of the old shaker. A second sterilisation unit has also been acquired. Thus, ORE's tissue culture lab is going into a full production phase. The principal plants currently being produced are pineapples, bananas, mangoes, and yams. The first "nematode-free" yam tubers have been planted out in plastic bags and will soon be ready for planting as seed yams for minisetting.

ORE's Work with Cover Crops and Zero Tillage ("zero labour")

As discussed in the first section, ORE is playing a major role in PST's work with cover crops and zero tillage, i.e. minimum till. Data on this work will become available in later reports.

ORE Membership

During the first season of 1990, 455 farmers participated in contour conservation measures. Additional farmers took part in other activities. Thus, a total of 777 farmers participated in ORE training programs on how to use the A-frame to lay out conservation measures on the contour. Looking toward future expansion, ORE has registered a total of 1,247 farmers, 60% of them in the Saut Mathurine area.

As explained in the first section, farmers working with ORE are grouped together in "combites". ORE has also been active in holding field days.

UNICORS Activities: Cumulative and First Season 1990

UNICORS' Development Philosophy and Previous Development Experience

UNICORS (Union des Coopératives de la Région du Sud d'Haiti) is technically under Haitian law a cooperative rather than a Private Voluntary Organization. However, in terms of this report, it is being included under the category of PVOs. UNICORS began its work in the southwest over 20 years ago when it was founded by the Oblate Fathers of the Catholic Diocese of Les Cayes. The cooperatives which

make up UNICORS are coffee cooperatives which in the past played a major role in coffee marketing as well as in other facets of the coffee sector.

In addition to working with farmers on coffee matters, UNICORS has worked for many years with CECI, a Canadian development organization. This program with Canada has stressed training farmers and carrying out a small-scale loan program. UNICORS has also been active in various other matters, including the distribution of relief foods, the construction of a road into the interior, etc.

At least one cooperative and farmers belonging to UNICORS hold title to land which is within the boundary drawn for the Pic Macaya Park. Discussions are underway on means of resolving this problem.

Farmer Attitudes Towards Proje Sove Te

Farmers in the UNICORS area have had a positive attitude towards Proje Sove Te and UNICORS has not had to contend with widespread farmer demands for paid work such as has occurred in the areas served by some other PVOs. This favorable social climate is probably due to the fact that PST farmers are member of UNICORS and have absorbed over the years certain basic ideas of self-help development and the fact that UNICORS makes available an incentive to farmers which consists of approximately \$10 of seed, often bean seeds, for participating in PST work. These incentive payments are stopped once a farmer "graduates" and is no longer an active "new member".

UNICORS' Contour Soil Conservation Measures

Farmers working with UNICORS have installed 71% of the total PST contour conservation measures. UNICORS was the first PVO in the field since it launched its first soil conservation efforts in the second season of 1988. During the first season(s), farmers sometimes put in only furrows/berms because of the lack of planting material. These furrow/berms were then planted in later seasons--normally with grasses. In fact, ninety-six percent of UNICORS contour soil conservation measures consist of grasses. In part, this high percentage reflect the wishes of the farmer, but it also reflects the fact that UNICORS has not yet established an adequate program for obtaining appropriate amounts of suitable tree seeds.

UNICORS had set extremely ambitious goals for hedgerow production in the first season of 1990. Actual results fell far short of these goals and production was less during the first season of 1990 than it had been in the previous season. UNICORS farmers still established over two and one half times as many linear meters of contour soil

conservation measures as any other single PVO in Proje Sove Te.

UNICORS' Tree Production and Distribution--Other than Hedgerows

UNICORS has produced more trees than any of the other PVOs--57% of all PST trees have been produced by UNICORS nurseries. As might be expected of a coffee cooperative, 39% of the trees produced by UNICORS have been coffee trees.

UNICORS Membership

The other PVOs have not adopted a policy of limiting the time period during which members can actively participate in the PVO's program. Thus, a member of another PVO can continue to work as a member of an organized group or an organized program. UNICORS, on the other hand, has a definite policy of "graduating" its members and then having its staff take on new members under UNICORS "squad" system as discussed in the first section. UNICORS' graduates are encouraged to continue their PST work and UNICORS staff members provide them with advice, but the major attention of the staff is given to new members who are eligible for training and incentives. UNICORS is currently working with a new group of 1,720 members.

One of the points which will be interesting to evaluate is the relative effectiveness of the different systems of the various PVOs. The UNICORS approach brings PST into contact with more farmers, while the system of the other PVOs provides the opportunity for a longer-lasting, more intensive relationship.

Other UNICORS Activities; Difficult Transportation Conditions

As a means of performing Project Managed Research, UNICORS requires that its field level workers, known by the acronym of TAPs, carry out research on a plot of their land. UNICORS, with heavy input from ARD, is also participating in a world-wide provenance trial of *Gliricidia* to identify the most productive seeds for this species.

Starting with hurricane Gilbert in the fall of 1988 through the heavy fall rains of 1990, UNICORS has been beset with very difficult weather conditions. Thus, the road to Rendel has been cut on a number of occasions and transportation in the area has been extremely difficult.

Attachments:

"PST: Summary of ONG Outputs" (Table prepared by ARD on the basis of reports from the four PVOs participating in Proje Sove Te)

List of ARD's American staff

"List of ARD's Haitian staff

"Principal (non-Livestock/Forage) Reports and Documents of PST/ARD"

"List of Reports" by ARD's Livestock/Forage Specialist

"PST Monthly Work Plan/Evaluation Form"

"ARD Progress Report Form"

JOHNRN13.DOC on MT disk

PROJ SOVK TR
PST-SUMMARY OF PYO OUTPUTS

67.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|-----------------|----------------|----------------|----------------|----------------|----------------------------|----------------------------|--------------------------|---|--------------------------------|
| OUTPUT | UNIT OF MEASURE | 8/1/88-1/31/89 | 2/1/89-7/31/89 | 8/1/89-1/31/90 | 2/1/90-7/31/90 | CUMULATIVE TOTAL 8/88-7/90 | 6 MO TARGET 2/1/90-7/31/90 | 6 MO OUTPUTS AS % TARGET | ONG 6 MO OUTPUTS as % Total (2/90-7/90) | ONG CUM OUTPUTS AS % CUM TOTAL |
| TOTAL CONTOUR CONSERVATION - LINEAR METERS | | | | | | | | | | |
| DCCN | | 0 | 14,021 | 14,395 | 81,757 | 110,173 | 54,500 | 150% | | 5% |
| IRD | | 0 | 25,244 | 26,334 | 78,596 | 130,174 | 30,000 | 262% | | 6% |
| ORK | | 0 | 65,270 | 133,320 | 157,569 | 356,159 | 590,000 | 27% | | 17% |
| UNICORS | | 177,295 | 336,392 | 526,931 | 437,048 | 1,477,666 | 1,232,000 | 35% | | 71% |
| TOTAL PST | | 177,295 | 440,927 | 700,980 | 754,970 | 2,074,172 | 1,906,500 | 48% | | 100% |
| Tree Hedgerows - Linear Meters | | | | | | | | | | |
| DCCN | | 0 | 300 | 2,112 | 6,388 | 8,800 | 20,000 | 32% | | 4% |
| IRD | | 0 | 15,470 | 16,918 | 54,793 | 87,181 | 20,000 | 274% | | 44% |
| ORK | | 0 | 16,584 | 6,060 | 21,312 | 43,956 | 124,000 | 17% | | 22% |
| UNICORS | | 1,792 | 0 | 0 | 55,103 | 56,895 | 88,000 | 63% | | 29% |
| TOTAL PST | | 1,792 | 32,354 | 25,090 | 137,596 | 196,832 | 252,000 | 55% | | 100% |
| Tree Hedgerows as a percentage of total contour conservation | | | | | | | | | | |
| 8% | | | | | | | | | | |
| Grass Hedgerows - Linear Meters | | | | | | | | | | |
| DCCN | | 0 | 7,626 | 6,130 | 13,452 | 27,208 | 31,000 | 43% | | 2% |
| IRD | | 0 | 1,748 | 3,018 | 7,581 | 12,347 | 10,000 | 76% | | 1% |
| ORK | | 0 | 23,658 | 9,294 | 57,337 | 90,289 | 186,500 | 31% | | 6% |
| UNICORS | | 175,503 | 336,392 | 526,931 | 381,945 | 1,420,771 | 1,056,000 | 36% | | 92% |
| TOTAL PST | | 175,503 | 369,424 | 545,373 | 460,315 | 1,550,615 | 1,283,500 | 36% | | 100% |
| Grass hedgerows as a percentage of total contour conservation | | | | | | | | | | |
| 75% | | | | | | | | | | |
| RAMP PAILLE/FURROW-BERN - Linear Meters | | | | | | | | | | |
| DCCN | | 0 | 0 | 633 | 17,922 | 18,555 | 1,000 | 1792% | | 8% |
| IRD | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | | 0% |
| ORK | | 0 | 23,897 | 117,711 | 77,782 | 219,390 | 248,500 | 31% | | 92% |
| UNICORS | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | | 0% |
| TOTAL PST | | 0 | 23,897 | 118,344 | 95,704 | 237,945 | 249,500 | 38% | | 100% |
| Ramp Paille-Furrow/Bern as a percentage of total contour conservation | | | | | | | | | | |
| 11% | | | | | | | | | | |
| MIXED GRASS TREE HEDGEROWS - Linear Meters | | | | | | | | | | |
| DCCN | | 0 | 4,612 | 2,314 | 7,171 | 14,097 | 0 | | 32% | 33% |
| IRD | | 0 | 7,207 | 5,963 | 15,202 | 28,372 | 0 | | 68% | 67% |
| ORK | | 0 | 0 | 0 | 0 | 0 | 0 | | 0% | 0% |
| UNICORS | | 0 | 0 | 0 | 0 | 0 | 0 | | 0% | 0% |
| PST TOTAL | | 0 | 11,819 | 8,277 | 22,373 | 42,469 | 0 | | 100% | 100% |
| Mixed grass/tree hedgerow as a percentage of total contour conservation | | | | | | | | | | |
| 2% | | | | | | | | | | |
| Digue Canals ("Trenches") - Linear Meters | | | | | | | | | | |
| DCCN | | 0 | 467 | 1,491 | 1,061 | 3,019 | 2,500 | 42% | | 54% |
| IRD | | 0 | 0 | 0 | 0 | 0 | 0 | | 0% | 0% |
| ORK | | 0 | 1,131 | 255 | 1,138 | 2,524 | 31,000 | 4% | | 46% |
| UNICORS | | 0 | 0 | 0 | 0 | 0 | 88,000 | 0% | | 0% |
| TOTAL PST | | 0 | 1,598 | 1,746 | 2,199 | 5,543 | 121,500 | 2% | | 100% |
| Canals as a percentage of total contour conservation (less than 0.5%) | | | | | | | | | | |
| 0% | | | | | | | | | | |
| Stone walls + Other - Linear Meters | | | | | | | | | | |
| DCCN | | 0 | 1,016 | 1,715 | 35,763 | 38,494 | 0 | | 97% | 94% |
| IRD | | 0 | 819 | 435 | 1,020 | 2,274 | 0 | | 3% | 6% |
| ORK | | 0 | 0 | 0 | 0 | 0 | 0 | | 0% | 0% |
| UNICORS | | 0 | 0 | 0 | 0 | 0 | 0 | | 0% | 0% |
| TOTAL PST | | 0 | 1,835 | 2,150 | 36,783 | 40,768 | 0 | | 100% | 100% |
| Stone walls as a percentage of total contour conservation | | | | | | | | | | |
| 2% | | | | | | | | | | |

PROJ# SOVK YK
PST:SUMMARY OF PVO OUTPUTS

| 1 OUTPUT | 2 UNIT OF MEASURE | 3 8/1/88-1/31/89 | 4 2/1/89-7/31/89 | 5 8/1/89-1/31/90 | 6 2/1/90-7/31/90 | 7 CUMULATIVE TOTAL 8/88-7/90 | 8 6 MO TARGET 2/1/90-7/31/90 | 9 6 MO OUTPUTS AS % TARGET | 10 ONG 6 MO OUTPUTS as % Total (2/90-7/90) | 11 ONG CUM OUTPUTS AS % CUM TOTAL |
|--|-------------------------|---------------------|---------------------|---------------------|---------------------|--|------------------------------------|----------------------------------|---|---|
| TOTAL PRODUCTION TREES | | # TREES | | | | | | | | |
| DCCN | | 0 | 32,476 | 28,421 | 50,513 | 111,410 | 50,900 | 101% | 14% | 7% |
| IRD | | 0 | 0 | 0 | 9,347 | 9,347 | 6,000 | 156% | 3% | 1% |
| ORK | | 286,769 | 164,472 | 122,937 | 36,125 | 610,303 | 73,500 | 49% | 10% | 36% |
| UNICORS | | 177,408 | 262,473 | 247,387 | 266,467 | 953,735 | 655,000 | 41% | 74% | 57% |
| PSY TOTAL | | 464,177 | 459,421 | 398,745 | 362,452 | 1,684,795 | 784,500 | 46% | 100% | 100% |
| TOTAL DISTRIBUTION TREES | | # TREES | | | | | | | | |
| DCCN | | 0 | 13,753 | 60,129 | 51,350 | 125,232 | 51,500 | 100% | 16% | 9% |
| IRD | | 0 | 11,157 | 11,159 | 13,521 | 35,837 | 6,000 | 225% | 4% | 3% |
| ORK | | 41,902 | 220,212 | 34,418 | 97,151 | 393,683 | 60,250 | 161% | 31% | 28% |
| UNICORS | | 340,000 | 262,473 | 110,506 | 155,037 | 868,016 | 345,000 | 45% | 49% | 61% |
| PSY TOTAL | | 381,902 | 507,595 | 216,212 | 317,059 | 1,422,768 | 462,750 | 69% | 100% | 100% |
| Note: Trees produced by ORK & sent to PVO are listed as distributed by other PVO. ORK Distribution target for #9 = 1/2 ORK's est. yr. production | | | | | | | | | | |
| Production of Forest Trees | | # Trees | | | | | | | | |
| DCCN | | 0 | 25,986 | 25,986 | 35,358 | 87,330 | 30,000 | 118% | 16% | 10% |
| IRD | | 0 | 0 | 0 | 3,035 | 3,035 | 0 | | 1% | 0% |
| ORK | | 64,273 | 111,143 | 79,449 | 44,333 | 299,198 | 37,500 | 118% | 20% | 35% |
| UNICORS | | 81,177 | 118,569 | 131,087 | 140,392 | 471,225 | 330,000 | 43% | 63% | 55% |
| PSY TOTAL | | 145,450 | 255,698 | 236,522 | 223,118 | 860,788 | 397,500 | 56% | 100% | 100% |
| IRD's cumulative production of forest trees is less than 0.5% of PSY Total & thus registers as zero per cent. | | | | | | Forest trees as a percentage of total production | | | | |
| Final Distribution of Forest Trees to Farmers | | #Trees | | | | | | | | |
| DCCN | | 0 | 1,269 | 51,204 | 34,250 | 86,723 | 30,000 | 114% | 17% | 11% |
| IRD | | 0 | 8,298 | 8,299 | 3,035 | 19,632 | 0 | | 2% | 2% |
| ORK | | 7,858 | 75,112 | 25,026 | 69,435 | 177,431 | 37,500 | 185% | 35% | 22% |
| UNICORS | | 210,000 | 118,569 | 110,506 | 90,863 | 529,938 | 263,500 | 34% | 46% | 65% |
| PSY TOTAL | | 217,858 | 203,248 | 195,035 | 197,583 | 813,724 | 331,000 | 60% | 100% | 100% |
| | | | | | | Forest trees as a percentage of total distribution | | | | |
| Production of Coffee Trees | | # Trees | | | | | | | | |
| DCCN | | 0 | 0 | 0 | 0 | 0 | 0 | | 0% | 0% |
| IRD | | 0 | 0 | 0 | 0 | 0 | 0 | | 0% | 0% |
| ORK | | 109,288 | 5,441 | 47,891 | (7,372) | 155,248 | 17,500 | | -8% | 29% |
| UNICORS | | 82,680 | 120,000 | 76,300 | 95,300 | 374,280 | 250,000 | 38% | 108% | 71% |
| PSY TOTAL | | 191,968 | 125,441 | 124,191 | 87,928 | 529,528 | 267,500 | 33% | 100% | 100% |
| ORK attrition exceeded production by 7,372 in period 2/90-7/90 | | | | | | Coffee trees as a percentage of total production | | | | |
| Distribution Coffee Tree to Farmer | | # Trees | | | | | | | | |
| DCCN | | 0 | 9,631 | 0 | 0 | 9,631 | 0 | | 0% | 2% |
| IRD | | 0 | 0 | 0 | 0 | 0 | 0 | | 0% | 0% |
| ORK | | 2 | 193,361 | 0 | 22,684 | 126,047 | 17,500 | 130% | 29% | 31% |
| UNICORS | | 100,000 | 120,000 | 0 | 55,501 | 275,501 | 46,500 | 119% | 71% | 67% |
| PSY TOTAL | | 100,002 | 232,992 | 0 | 78,185 | 411,179 | 64,000 | 122% | 100% | 100% |
| | | | | | | Coffee trees as a percentage of total distribution | | | | |

108

PROJ SOVK YK
 PST:SUMMARY OF PVO OUTPUTS

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|-----------------|----------------|----------------|----------------|----------------|----------------------------|----------------------------|---|---|--------------------------------|
| OUTPUT | UNIT OF MEASURE | 8/1/88-1/31/89 | 2/1/89-7/31/89 | 8/1/89-1/31/90 | 2/1/90-7/31/90 | CUMULATIVE TOTAL 8/88-7/90 | 6 MO TARGET 2/1/90-7/31/90 | 6 MO OUTPUTS AS % TARGET | ONG 6 MO OUTPUTS as % Total (2/90-7/90) | ONG CUM OUTPUTS AS % CUM TOTAL |
| Production Fruit Trees in Nursery - | \$Trees | | | | | | | | | |
| DCCN | | 0 | 6,490 | 2,435 | 15,155 | 24,080 | 20,000 | 76% | 29% | 8% |
| IRD | | 0 | 0 | 0 | 6,312 | 6,312 | 6,000 | 105% | 12% | 2% |
| ORK | | 113,208 | 47,888 | (4,403) | (836) | 155,857 | 18,500 | -5% | -2% | 53% |
| UNICORS | | 13,551 | 23,904 | 40,000 | 30,775 | 108,230 | 75,000 | 41% | 60% | 37% |
| PST TOTAL | | 126,759 | 78,282 | 38,032 | 51,406 | 294,479 | 119,500 | 43% | 100% | 100% |
| ORK attrition exceeded production in 8/89 - 1/90 and in 2/90 - 7/90 | | | | | | | | Fruit trees as a percentage of total production | | 17% |
| Distribution Fruit Trees -- all types to farmers | \$ Trees | | | | | | | | | |
| DCCN | | 0 | 2,853 | 8,925 | 17,100 | 28,878 | 21,500 | 80% | 41% | 15% |
| IRD | | 0 | 2,859 | 2,860 | 10,486 | 16,205 | 6,000 | 175% | 25% | 8% |
| ORK | | 34,042 | 41,739 | 9,392 | 5,032 | 90,205 | 5,250 | 96% | 12% | 46% |
| UNICORS | | 30,008 | 23,904 | 0 | 8,673 | 62,577 | 35,000 | 25% | 21% | 32% |
| PST TOTAL | | 64,042 | 71,355 | 21,177 | 41,291 | 197,665 | 67,750 | 61% | 100% | 100% |
| | | | | | | | | Fruit trees as a percentage of total distribution | | 14% |

18

Annex to Midterm Report

PRESENT AMERICAN ARD STAFF

| | |
|--|-----------------|
| John Craig Chief of Party from 4/88 to 5/90 Medical leave and then return to Haiti from 10/8/90 to 11/90 | 4/88 to 11/90 |
| Alex C. Cunard Agronomist Chief of Party a.i. from 5/90 to present | 9/89 to present |
| David W. Holmes Administrative Specialist | 6/89 to present |
| B. Dean Treadwell Livestock/Forage Specialist | 9/87 to present |

Dean Treadwell was a member of the 1985 PID Team for TWM,
1986-87 PSC in USAID/H (Responsible for LORD I & LORD II)

FORMER AMERICAN ARD STAFF

| | |
|--|--------------|
| James Gershin Administrative Specialist | 10/87 - 9/88 |
| JoAnn Jaffe, Ph.D Farming Systems Specialist | 9/87 - 11/89 |
| Leslie Linn Tropical Agronomist/ Horticulturalist | 10/87 - 9/89 |
| Curtis Paskett Soils/Watershed Management | 12/87 - 9/89 |
| Bert Serna Administrative Specialist | 10/88 - 6/89 |

LIST OF PST/ARD HAITIAN STAFF

TECHNICAL

| NAME | POST | EMPLOYMENT |
|------------------------|-------------|---------------------|
| Edouarzin, Jean Robert | Markets | 08-19-88 to Present |
| Jean-Charles, Claudy | Livestock | 10-08-87 to Present |
| Jouissance, PR | Agriculture | 04-01-89 to Present |
| Lorcy, Marie-Resette | Agriculture | 04-01-89 to Present |
| Villefranche, PR | Agriculture | 04-01-89 to Present |

ADMINISTRATIVE SUPPORT

| | | |
|---------------------|-------------|---------------------|
| Aurelian, Antoine | GSO | 02-01-88 to Present |
| Barratteau, Chantal | Secretary | 02-10-88 to Present |
| Denesle, Regine | Secretary | 03-01-90 to Present |
| Durand, Helmongue | Cashier | 07-06-89 to Present |
| Jean-Baptiste, Alix | Bookkeeper | 01-04-89 to Present |
| Jolicoeur, Anglade | Housekeeper | 03-03-88 to Present |
| Marcelot, Louis | Mechanic | 03-03-89 to Present |
| Misere, Renel | Accountant | 04-17-89 to Present |
| Raymond, Antoine | Driver | 05-01-89 to Present |
| Remarais, Raymond | Day guard | 04-25-88 to Present |

WATCHMEN

| | | |
|----------------------|----------|---------------------|
| Andre, Raphael | Watchman | 06-14-88 to Present |
| Aurelian, Charles | Watchman | 04-08-88 to Present |
| Durand, Eval | Watchman | 06-14-88 to Present |
| Emmanuel, Sommaire | Watchman | 04-08-88 to Present |
| Louis, Sergo | Watchman | 04-08-88 to Present |
| Morin, Gracien | Watchman | 01-15-89 to Present |
| Thermidor, Antoine | Watchman | 04-08-88 to Present |
| Vitalarme, Cherestal | Watchman | 03-20-89 to Present |

dwhlist

PRINCIPAL (NON-LIVESTOCK/FORAGE) REPORTS AND DOCUMENTS
OF PST/ARD

(Livestock and forage documents are listed separately)

ARD WORK PLANS

- Draft Six Month Work Plan of ARD/PST (Associates in Rural Development) for Period 2-90 to 7-90
- ARD/PST Six-Month Work Plan.
Period: 8-1-89 to 1-31-90

ARD/PST Plan Semi-Annuel de Travail.
Période du 8-1-89 au 1-31-90
- ARD/PST Six Month Work Plan
Period 2-89 to 7-89

ARD/PST Plan Semi-Annuel
Période du 2-89 au 7-89
- Proje Sove Tè: Draft Work Plan for the Six-Month Period August 1, 1988 to January 31, 1989

Plan de Travail du Proje Sove Tè pour la Période de Six Mois du 1er aout 1988 au 31 janvier 1989

ARD/PST AND/OR PROJE SOVE TE PROGRESS REPORTS

- Draft Progress Report (tabular form) on ARD/PST Activities 1 August 1989 to 31 January, 1990
- Proje Sove Tè: Third Progress Report on PST Project Activities
1 February - 31 July 1989.

Proje Sove Tè: Troisième Rapport de Progrès sur les Activités du Projet PST.
1er février 1989 - 31 juillet 1989
- Proje Sove Tè: Second Report on Project Activities
1 August 1988 - 31 January 1989

Proje Sove Tè: Deuxième Rapport sur les Activités du Projet
1er aout 1988 - 31 janvier 1989

- Projet Sove Tè: First Report on Project Activities
1 September 1987 - 31 August 1988

Projet Sove Tè: Premier Rapport sur les Activités
du Projet
1er septembre 1987 - 31 aout 1988

PLANNING AND RELATED

- "Proje Sove Te: Proposal for a PST Planning and Evaluation System"

"Proje Sove Te: Proposition Concernant un Système de Planification et d'Evaluation du PST"

Joint effort, primarily of JoAnn Jaffe, ARD Farming Systems Advisor and John Craig, ARD Chief of Party.
- "Document à Discuter: Plantules à Distribuer comme Primes" - Policy discussion paper prepared by ARD Farming System Specialist and used by AID as the basis for a policy discussion of this issue.

SOIL RESOURCE INVENTORIES

- Les sols d'interfleuve des rivières de Port-a-Piment et des Coteaux, USAID, Port-au-Prince, 1989, 16pp, 10 tables 6 figures, 3 appendices and 1 map.
- Les sols d'interfleuve des rivières de Cavaillon, de l'Acul et de la Grande Ravine du Sud, USAID, Port-au-Prince, 1989, 13pp, 8 tables, 5 figures, 3 appendices and 2 maps.
- Les sols du mi-bassin versant de la rivière Cavaillon, USAID, Port-au-Prince, 1989, 21pp, 14 tables, 8 figures, 2 appendices and 2 maps.
- Les sols d'interfleuve des rivières des Anglais et de Port-à-Piment, USAID, Port-au-Prince, 1988: 21 pp, 12 tables, 8 figures, 2 maps and 2 appendices.

OTHER REPORTS BY SOILS SPECIALIST

- "Soil Conservation Through Improved Resource Management in Haiti" co-authored with Charles-Emile Philoctète, PST Project Coordinator

- "A Feasibility Level Study to Improve the Road to Formond, USAID, Port-au-Prince, 1989: 12pp, 3 tables, 6 figures, 2 appendices." Note: based on this report, AID arranged for funding for this proposed Formond Road improvement.
- Operational guidelines of Soils Specialist:
 - Installation et utilisation du pluviomètre: PST, Camp-Perrin, 5pp.
 - Evaluation de l'érosion: PST, Camp-Perrin, 9pp.
 - Echantillonnage et analyses des caractéristiques chimiques et physiques du sol: PST, Camp-Perrin, 5pp.

SONDEO REPORT AND RELATED

- Sondeo questionnaire - Prepared by JoAnn Jaffe in collaboration with the rest of the ARD Technical Team.
- "Sondeo Report/ Land Use, Soil Degradation and Farmer Decision-Making: Cavalier, Despa, Kols, Saut-Mathurine" By JoAnn Jaffe, Ph.D., ARD Farming Systems Specialist

HEDGEROW MANUAL AND RELATED ITEMS

- Guidelines for the Establishment and Management of Hedgerows.
 - Proje Sove Tè: Guide PST pour l'Etablissement et l'Aménagement des Haies Vives.
 - These guidelines were prepared by the PST/ARD Technical Assistance Team.
- "Haiti Targeted Watersheds Project - PST -" by Tom Catterson, Agroforestry/Alleycropping consultant.
 - "Rapport du Consultant en Agro-Sylviculture et Cultures en Couloir."
 - Par Thomas M. Catterson
 - 21 Pages Report - 19-26 aout 1988
 - (Thomas M. Catterson is ARD's Senior Associate - Forestry/Natural Resources.)

- Système de Suivi de Plantation d'Arbres et de Haies Vives de PADF

7 Page letter with 10 attachments - 18 April 1990.

Edited by John Craig, based on conversations with PADF's Mike Bannister and Gaspard Brice.

AGRONOMY DOCUMENTS

- "Farming Systems Technology Development Paper"
40 Page memorandum sent to Catherine McIntyre, PST Project Manager, by Alex Curard, PST/ARD Agronomist. March 29, 1990.
- "Interventions Techniques dans l'Aire du Proje Sove Tè"
Rapport Technique par Frantz Michel Lohier, Agr.- MS, ARD consultant - Octobre 1989
- "PST Interventions" by Leslie Linn, 21 August, 1989

NON-SONDEO ITEMS BY ARD FARMING SYSTEM SPECIALIST

- "Proje Sove Tè: Pwogram Jaden Lakou - Fiche teknik - Kilti Legim"
Jean Perez Paul - JoAnn Jaffe, Ph.D
October 1989
- "Results of Weekly Surveys of Prices in the Les Cayes, Haiti, Market June 1988 - June 1989"
JoAnn Jaffe, Ph.D
- "Results of Weekly Surveys of Prices in the Ducis, Haiti Market June 1988 - June 1989"
"Résultats des Enquetes sur le Marché de Ducis, Haiti, de juin 1988 à juin 1989"
By JoAnn Jaffe, Ph.D - Farming Systems Specialist
Spécialiste en Systèmes de Production.

FINANCIAL ITEMS

- "Financial Review and Training Provided for Proje Sove Tè - April 23 - July 31, 1989"

By Kevin B. Creyts
ARD Financial Management Consultant
- "Accounting Review for Proje Sove Tè - Haiti January 1990"

Kevin B. Creyts
ARD Financial Management Consultant
- Preparation du Budget

By David W. Holmes
ARD Specialiste en Gestion
4 décembre 1989
(Five page letter plus attached tables to be filled out).

ADMINISTRATIVE

- "Vehicle Maintenance and Evaluation Project"
Phase I, March 23, 1989
- "Vehicle Maintenance and Evaluation Project"
Phase II, March 15, 1990
Carl T. Heller, Consultant.

POST-HARVEST

- A report in English and French on the postharvest situation in the PST area. There were lengthy attachments to the report which provided practical advice (written in French and/or Creole) on a number of storage questions.

By Ted Wittenberger, ARD consultant.
(Cover letter for report is dated 12 July, 1989).

MISCELLANEOUS

On a formal and informal basis, IRD staff members prepared draft forms ("fiches") to help the ONGs set up their reporting and monitoring systems. These forms are available in a loose-leafed binder in the Agronomist's office.

LIST OF REPORTS

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15 May 1990

Reports related to livestock and forage studies and activities under Pwoje Sove Te are included in a series of Working Documents, each numbered consecutively by date. While the majority of these reports are authored or co-authored by the ARD Livestock/Forage Specialist, the series also includes relevant titles prepared by other authors. The purpose of the Working Document Series is to organize and distribute information which will hopefully be useful not only to Pwoje Sove Te participants, but other workers in Haiti, too.

This list was prepared for the USAID Hillside Strategy Evaluation. It presents a list of titles and indicates the current status of the report. It also lists pending reports. A few significant papers prepared for the project but not included in the series are also identified. Invited presentations at conferences or workshops in Haiti are also listed.

- 1 **Bibliographic References.** B.D. and W.J. Treadwell (Sept. 1988) English. 75 pp.
- 2 **Forage Plant Species - List of Initial Selections.** B.D. Treadwell (original distribution date: 1 April 1988; revised issue: 23 January 1989) English. 3 pp.
- 3 **Intevensyon Teknik pou Komanse Proje Sove Te.** B.D. Treadwell ak Leslie Linn (original distribution date: 3 May 1988) Creole. 3 pp.
- 4 **Report of Veterinary Clinics Held for UNICORS - July 25-28, 1988.** Michael D. Storer, DVM and Claudy Jea-Charles (30 Sept. 1988) English, French. 7 pp.
- 5 **Sigjesyon pou Plantasyon Zeb Elefon oubyen Zeb Napye.** B.D. Treadwell (original distribution date: Aug. 1988) Creole. 1 p.
- 6 **Fiche pou Etabli Barye Vivan.** B.D. Treadwell, L. Linn, ak J. Jaffe (Aout 1988) Creole. 2 pp.
- 7 **Elvaj Bef.** R. Frank and M. Birmingham, DVMS (Aout 1988) Creole. Not distributed.

99

- 8 **Report on Veterinary Technician Training Seminars Conducted by R.K. Frank, DVM.** (Aug. 15 - Sept. 9, 1989) English. Incomplete.
- 9 **Forage Plant Seed Sources.** W.J. and B.D. Treadwell (Feb. 1989) English. 17 pp.
- 10 **Assessment and Recommendations for Livestock Feeding Trials as an Activity for Pwoje Sove Te.** B.D. Treadwell (draft: 17 Sept. 1989) 60 pp.
- 11 **PST/ARD Seed Depot Inventory.** B.D. and W.J. Treadwell (30 April 1990) 9 pp.
- 12 **Summary of Seed Distributions from PST/ARD - July 88 to May 90.** W.J. and B.D. Treadwell (draft: 15 May 1990) English.
- (13) **Information and Training Module for the Use of Perennial Herbaceous Leguminous Plants in Vegetative Conservation Barriers.** B.D. Treadwell (in draft) English, French/Creole.
- (14) **Observations, Initial Data and Current Recommendations for the Use of Perennial Herbaceous Leguminous Plants as Permanent Contour Land Improvements for Haitian Hillside Farms.** B.D. Treadwell (in draft) English and French.

Pending Reports:

Biomass Production of *Neonotonia wightii* cv Keoghan (Glycine) from a Seed Multiplication Plot in the Cayes Plains.

Note on Seed Production from *Calliandra calothyrsus* - Yield from 20 Trees in 1989 and 1990.

Seed Depot Management Data Forms: Germination Trial Records; Seed Bank Accession Records and Distribution Tags.

Three Forms for Monitoring the Services and Technical Progress of PST Veterinary Aides.

Pwoje Sove Te Price Lists for Veterinary Services.

The Pwoje Sove Te Livestock Program: Current Status and Recommended Action Plan.

Proposed Protocol for Sampling Biomass Production from Vegetative Contour Barriers.

Report on November 1989 Perennial Herbaceous Legume Trials at the 1200 meter Gran Plenn Site, UNICORS.

Report on November 1989 Perennial Herbaceous Legume Species Outplanting Trial at 17 Sites throughout the PST Project Area: Germination under Field Conditions and Performance To Date.

Research Protocol for Determining Biomass Production from Grass, Leguminous Tree and Sugarcane Hedgerows, with and without Associated Perennial Herbaceous Legumes (The PST/ARD Booz Site).

Design and Description for a Simple Livestock Corral made of Local Materials.

"What are Internal Parasites" (A Creole Extension Note)

Seed Production from the PST/ARD Multiplication Site.

Molasses-Mineral Block Livestock Feed Supplement - Description, Use and Manufacture.

PST Veterinary Supplies - Regulations, Sources, Costs and Management.

Report on Three Vaccination Campaigns for Poultry Newcastle Disease conducted by ARD.

Gliricidia Provenance Trial at Rendel (UNICORS): Report on Trial Establishment and Status.

Distribution of Giant Grass Planting Materials by ARD (1988-1989)

Biomass Production of Ramie (*Boehmeria nivea*) on an Irrigated Plot at ORE.

Goat Breeding Record Forms.

Special Note: Technical Fact Sheets on various forage species will be prepared as adequate project area observations and data become available to complement the literature information already compiled.

Non-Working Document Report

Operation Guidelines and Definitions for PST Managed Intervention Sites. B.D. Treadwell and L. Linn. (draft: 7 June 1988) Undistributed.

91

Presentations Made at Workshops and Conferences in Haiti

Forage Grasses and Herbaceous (Non-Woody) Legumes as
"Hedgerow" Plants for Alley Cropping Systems in Haiti.
Presented at:

- PADF Pwoje Pyebwa Technical Workshop. P-au-P,
19 Jan. 1989.

- Haiti Health and Agricultural Fellowship
Conference. P-au-P, 2 March 1989.

Importance and Use of Perennial Herbaceous Leguminous
Plants in Haiti Farming Systems. Invited Speaker at the
Workshop on Biological Nitrogen Fixation. Kaliko Beach, 6-
7 March 1990.

Originally Planned Activity
or Actual Activity which was
not in Original Work Plan

RESULTS

COMMENTS

94