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UNIVERSITY OF MAINE AT ORONO
AGROFORESTRY OUTREACH RESEARCH PROJECT
SEMI-ANNUAL REPORT
FOR THE PERIOD ENDING JUNE 30, 1986
BY
MARSHALL D. ASHLEY
TEAM LEADER
AND
AFORP STAFF

USAID Project NO. 521-0122

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SEMI-ANNUAL REPORT FOR
THE
AGROFORESTRY OUTREACH RESEARCH PROJECT (AFORP)
For the Period Ending June 30, 1986

OVERVIEW

Much of the AFORP research program scheduled under the original 18 month contract was completed over the first half of 1986. A synopsis of the results of this is given here along with a discussion of the problems encountered and future plans for each component. Reports were prepared by Ashley on traditional agroforestry systems, Balzano on socioeconomic aspects of agroforestry in rural Haiti, Conway on the decision making process for farmers planting trees in the AOF, Ehrlich on biomass production of some tree species outplanted in the AOF, Grosenick on an economic evaluation of the AOF and McGowan on the potential marketability of charcoal, poles and planks produced from AOF trees. Each has a detailed discussion of the research done and gives recommendations which could improve the future AOF.

Several of the researchers shared data, their professional viewpoints, and critically reviewed the work of their fellow staff members. While each report reflects the individual author's expertise and work, there is an evident commonality and some degree of integration throughout these reports. This

collaboration is part of the AFORF staff's attempt to present the results of their work and contribute to the overall AFORF goal of making USAID's agroforestry efforts in Haiti more effective.

Late this spring the AFORF, along with the AOP grantees, participated in the AOP's evaluation. I feel the overall evaluation and its presently available draft report were very good. Several very positive recommendations were made for changes in the research agenda and for a technical assistance program to more directly serve the needs of the grantees. This represents a departure from the original research agenda contracted for by the AID Mission, but one that is very much needed to continue and improve the already successful AOP.

The degree of success to date along with the depth of some problems inherent in the AOP are reflected in Grosenick's economic evaluation. The benefit to cost ratio for CARE and PADF averages 1.54 and their average internal rate of return is 14.6 percent. As Grosenick notes these are much better than envisioned in original project design. However, the mortality of trees was much higher than projected.

Many of the AFORF recommendations are directed at improving survival rates. The completion of work already underway by AFORF researcher Roland Dupuis on container/mix and selected nursery management techniques should also lead to better survival after outplanting. Dupuis also spent considerable time with AOP consultant Dr. Roger Webb, who was contracted this spring to suggest an improved technical program for nurseries and outplanting.

A SYNOPSIS OF RECOMMENDATIONS

The following is a synopsis of the recommendations from the final reports mentioned above. They will be listed under the following major topic headings: Ecology and technical forestry; AOP management-implementation, economics and marketing; and sociological. The order in which they are given isn't meant to imply any priority for their consideration, and it will be apparent that many of the recommendations overlap more than one topic.

Ecology and Technical Forestry:

1. nursery seedlings should be grown on a longer growth schedule,
2. farmers should be better advised on which AOP species will grow best under their farm ecological conditions,
3. a study to better understand the magnitude and causes of mortality is needed.
4. a study to quantify the benefits and detriments from using AOP trees as part of a farmer's cropping scheme is needed (eg, the benefits of shade for moisture retention), and
5. the condition between (ownership of native woodlands, and) ownership and in survival needs to be studied.

AOP Management and Implementation:

1. alternative spacings of trees should be recommended to farmers, in line with what the farmer's goals are,
2. the number of trees distributed to each farmer needs to be more flexible,
3. the use of trees for soil improvement through erosion control, moisture retention and fertilizer production needs to be explained better to farmers,
4. the uses and limitations of AOP trees for forest products needs to be better explained by AOP extension agents.
5. the use of trees to produce cut and carry fodder needs to be put in the program of AOP extension agents.
6. AOP extension agents need to better understand farmer management strategies and explain planting options to the farmer

based upon these, rather than advising farmers using the traditional geometric patterns; eg., rows, border, alley cropping, etc.,

7. extension agents should explain the use of seed, natural seedlings and cuttings from the AOP trees they are now growing as a means of increasing readily the sources of trees available to them.

8. extension agents should emphasize where appropriate the use of AOP trees for uses similar to those for which native trees are now used in traditional systems, particularly pastoral ones,

9. future research and extension should recognize differing regional, social and environmental conditions, and

10. the AOP should continue to introduce fruit trees, etc. which have a marketing potential beyond those for charcoal, poles and planks.

Economics and Marketing:

1. an economic analysis is needed to find if it is more profitable to grow trees than other crops.

2. the AOP should be continued because the economic benefits to Haitian peasants are beyond those expected.

3. there should be an increased awareness of the non cash benefits from the AOP (eg., the potential for autoconsumption in house construction) and these should be recognized as very important benefits to the peasant farmers,

4. the "Grosenick" economic model should be used in predicting the cost/benefits of the new technical package being considered in the AOP's redesign,

5. the present AOP policy of not charging farmers for non-fruit trees should be continued because of the limits of capital available to farmers,

6. Farmers and intermediaries should be better informed as to how the marketing system functions and what their options are within it,

7. taxes on forest products need to be administered in a uniform, just manner. They now aren't and this increases prices and/or lessens profits to the peasant farmer and other market intermediaries, and

8. the resources available to a farmer (eg., cash in amount of land) should be one of the factors used by extension agents in recommending the number of methods of planting trees.

Sociological:

1. The emphasis on having farmers plant only on land having certain land tenure should be discontinued;

2. the land poor are motivated highly to plant trees and the AOP should give more emphasis to working with them,

3. women play an important role in the decision making process and this needs more consideration, and

4. the reasons for farmers continuing or not continuing with the AOP after their first harvest needs to be studied to better understand how the AOP can maximize benefits to them.

The background behind and basis for each of these recommendations is contained in the individual reports. Following is a citation for these and other AFORP technical reports produced over the first half of this year.

TECHNICAL REPORTS PRODUCED BY THE AFORP IN THE FIRST HALF OF 1986

Ashley, M.D. 1986. A study of Traditional Agroforestry systems in Haiti and Implications for the USAID/HAITI. UMO/AFORP. USAID/HAITI.

Balzano, A. 1986. Socioeconomic Aspects of Agroforestry in Rural Haiti. UMO/AFORP. USAID/HAITI.

Conway, F. 1986. The Decision Making Framework for Tree Planting in the Agroforestry Outreach Project. UMO/AFORP. USAID/HAITI.

Ehrlich, M. 1986. Fuelwood and Biomass Yield Tables for LEUCAENA LEUCOCEPHALA, CASSIA SIAMEA, AZADIRACHTA INDICA, COLUBRINA ARBORESCENS, EUCALYPTUS CAMALDULENSIS, PROSOPIS JULIFLORA. UMO/AFORP. USAID/HAITI.

Ehrlich, M. 1986. Establishment of Coppicing Trials Involving Leucaena leucocephala and Cassia siamea Near Cap Haitian (Haiti). UMO/AFORP. USAID/HAITI.

Grosenick, G. 1986. Economic Evaluation of the Agroforestry Project. Working Paper Series, Working Paper No. 6. UMO/AFORP. USAID/HAITI.

McGowan, L. 1986. Potential Marketability of Charcoal, Poles, and Planks Produced by Participants in the Agroforestry Outreach Project. UMO/AFORP. USAID/HAITI.

Semi-Annual Reports by Research Components

The semi-annual report for each component is given in the appendices of this report. These describe briefly the work accomplished over the period and where applicable discuss plans for future work.

APPENDIX A
SEMI ANNUAL REPORT
FOR
TRADITIONAL AGROFORESTRY SYSTEMS RESEARCH
FOR THE PERIOD ENDING JUNE 30, 1986
BY
MARSHALL D. ASHLEY, TEAM LEADER

Initial Phase Completed

The work for this component under the original contract was completed in the first quarter and the final report has been submitted.

The report presents the results of research done by the author with contributions from several other AFORF team members on traditional agroforestry systems in Haiti. A traditional system is defined as any farming system incorporating trees within gardens, where the trees originated from other than an AOF type project: (eg., natural seeding or transplanting of native seedlings from one location to another). Farmer practices and garden productivity within gardens may or may not differ after the farmer becomes an AOF participant and his gardens are no longer traditional in the sense of the definition above. However, the system is called non-traditional because there is an implied potential for differences as the result of an outside project intervening in the farm's management.

In this report, as in most studies, the agroforestry systems are characterized using biological/physical/environmental and social/economic/management characteristics of farmers' lands. Examples of these characteristics are: biological, planting times or tree species; physical, elevation or parent soil type;

environmental, rainfall; social, land tenure or type of labor used for cultivation; economic, average price per sack of charcoal sold or average farm income; and management, planting pattern or presence/absence of grazing animals within gardens.

As per the UMO contract, this report also discusses the technical and policy implications of this work for the overall USAID Agroforestry Outreach Project (AOP). These implications are formulated into recommendations which should improve the performance of the AOP in the future.

The work reported is the result of data collected by AFORP staff and the AOP Grantees, CARE and Pan American Foundation (PAF). Some data was also obtained from the study of farms on which AOP trees had been planted. This was needed to provide linkages for the policy implications.

Several areas of investigation were undertaken including a survey of crop species, crop calendars, crop/tree competition, the effect of tree shading on crops, fencing and boundary marking, animal grazing and tree use. The collection of the data was based on sampling within Buffum/Campbell Environmental Zones. These zones are defined by elevation, rainfall and parent soil type differences.

In this study, some forty agroforestry systems on different farm plots were intensively surveyed over fifteen Buffum/Campbell zones representing more than 60 percent of Haiti's land area. Some 120 other farms were studied to obtain a subset of crop and tree information. The data from these farms was used to verify the representativeness of the intensive surveys and to expand the tree and crop data base to some zones not picked up in the

intensive surveys. Combining these survey types, there were some 180 farms studied for crop and tree data over 21 Buffum/Campbell zones representing nearly 88% of Haiti.

These systems were usually agro-silvo-pastoral. Such systems grow food crops, tree crops and provide grazing for livestock, all over the same time cycle between consecutive plantings of food crops.

More than 80 crop associations were observed on the areas studied. These generally consisted of shade intolerant (sun loving) species planted in an interspaced pattern. However, only minor problems are envisioned in the conversion of traditional gardens into those with AOP trees.

Also, tree shade was sometimes found beneficial for increasing moisture availability for food crops and an economic analysis is suggested to find the negative impact, if any, of lost food crop production from excessive shading due to high density AOP tree plantings within the garden versus the positive influence of increased moisture. This analysis should provide one of the bases for advising farmers of the impacts, positive or otherwise, of growing AOP trees.

Farmers with traditional systems often had trees for boundary plantings, employed cut and carry feeding of grasses or other vegetation for feeding livestock, and had several uses for their trees ranging from lumber to voodoo drum production. AOP plantings should be able to meet and even expand upon tree use for all of these purposes. However, if they are expected to gain the maximum benefits from them, the AOP participants will need a thorough explanation of the AOP trees' potential products and

uses, as well as their limitations.

Recommendations for the ADF

The following definitive recommendations for the ADF were made as a result of this study on traditional systems;

1. Where farmers want to continue growing their present, shade intolerant species, ADF trees should be planted at wide spacings within gardens, pruned to reduce shade, planted on garden borders or as living contours and consist of species which don't give excessive shade, except where the moisture conservation is of primary concern;

2. the number of trees distributed to individual farmers should be flexible within some maximum and minimum limits. To minimize logistical problems, a slightly modified distribution system is suggested.

3. an economic analysis should be done to find if growing tree crops is more profitable than raising other crops. If so, it is recommended that CARE and FADF develop materials and demonstrations on maximizing wood production for various species under a range of spacing, thinning, and pruning regimes;

4. nursery production should begin one or two months earlier than done now to assure acceptable seedlings when the seasonal rain, come;

5. explanations and demonstrations of the use of ADF trees for cut and carry, controlled grazing, including trimmings from hedges grown for boundary or living contour plantings, should be put into the CARE and FADF outreach programs; and,

6. Forestry Support Program and USAID Science and Technology Staff should be requested to provide a summary of potential uses, including utilisation methods, for the exotic species being introduced by the ADF and that this be put in as non-technical form as possible so that CARE and FADF can adopt it in their outreach programs.

Past Constraints and the Future Extension

Generally, this component has met all of its objectives. The civil disorders have resulted in field work not being completed in a few ecological zones. They also led to a later

than expected completion time of the final report. However, better than 95 percent of all planned work was completed.

Some new areas of research have been identified. Work is needed on the causes of the mortality of trees planted in gardens, particularly those planted within the AOF project. More work on shade is also recommended. Further, the crop species, associations and calendar surveys should be completed for some zones. Where possible, these will be addressed in the extension of the AFORP contract through the end of this year.

The extension will also be used to develop a pictorial guide to Haitian agroforestry systems. This will be published as a supplement to the final report.

APPENDIX B

A SEMI-ANNUAL REPORT

FOR PERIOD ENDING JUNE, 30 1986

BY

ROLAND DUFUIS, PROJECT RESEARCH FORESTER

During this quarter, the following people were shown various University of Maine field research sites.

James Talbot/REMS	Cabaret	- Direct Seeding Trial
		- Top Pruning Trial
	Bon Repos	- Container/Mix Trial
Richard Fellek/ADD	Ganthier	- ODH plantations
		- Container/Mix Trial
	Cabaret	- Direct Seeding Trial
		- Top Pruning Trial
T. Zimmerman/Helvetas	Cabaret	- Direct Seeding Trial
G. Weigel/Helvetas		- Top Pruning Trial
Peter Welle/ODH	Cabaret	- Direct Seeding Trial
		- Top Pruning Trial

The on-site discussions with these people were both interesting and enlightening. More of this kind of information exchange, though time consuming, would be of great value to project personnel.

I will continue with the format of describing each of the five subcomponents within the agroforestry sector of the project for which I am responsible.

Container/mix Subcomponent

Nadal (Bon Repos)

Survival was recorded monthly since the planting of the trial in October 1985 in order to focus more attention on the potential causes of early mortality. Height at six months was

recorded to the nearest centimeter using a metric carpenters rule.

The trial was weeded and the surrounding vegetation cut in April just before the rainy season began. This enabled the trees to take full advantage of the early rains and allowed their vegetation to rise above that of the surrounding weeds. This was especially important for Azadirachta which initially is slow growing. Prosopis and Leucaena were little effected by weeds, except occasionally Prosopis would become covered with grass. Prosopis and Acacia regrowth was very prolific and caused some shading of experimental trees.

Presently, the trial has very high survival and from field observations, there is most likely a significant height difference between species.

Survival will continue to be recorded on a monthly basis until August at which time the data will be entered and analyzed for the writing of the final report. In addition, height at ten months will be recorded in August. A major portion of the container/mix final report has already been written, though several more sections will need to be added after the final analysis.

Ganthier

The last measurement of this trial was at 22 months on August 19, 1985. During the quarter the trial was checked twice because of reports that the fences were being torn down and trees were being cut by local farmers. The fence was indeed taken down, but there was no cutting of trees.

In August 1986, 34 month height, dbh and survival will be measured. The writing of the final report will follow in September.

Growth Schedule Subcomponent

Monthly survival and height at six months were recorded on this trial during the quarter. The trial was weeded and the surrounding regrowth vegetation was cut in early April just before the beginning of rainy season.

Presently, the trial is growing well and from field observations there appears to be significant height differences between species.

Survival will continue to be recorded on a monthly basis until August and height at ten months will be measured at that time. The writing of the final report will be in August and September, though some sections have already been written.

Top Pruning Subcomponent

Cabaret (formerly Duvalierville) and Saut d'Eau

Survival was recorded at ten (April) and twelve months (June) for these trials. Height was measured at ten months (April), which corresponded with the end of dry season. The trials were weeded and the surrounding vegetation was cut early in April. At Cabaret, Frosopis regrowth was very prolific and caused some shading of experimental trees.

During the next quarter, survival and height will be recorded at 14 months (August) for both trials. The writing of the final report will commence in July.

Direct Seeding Subcomponent

Ganthier

Eleven month survival and height were measured in late March before the beginning of the rainy season.

Presently the trial is doing very poor because of the lack of rain during the dry season and because of goat and sheep problems since the fence was destroyed some time in February. In addition, the raingauge was destroyed, but it was replaced immediately and no rain fell during that period.

Sixteen month survival and height will be measured in August. At this time, any remaining fencing materials will be salvaged from the site. The final report will be written in September, though several sections have already been completed.

Cabaret

Survival and height at ten and twelve months were measured for the seedlings which were direct seeded and outplanted. The trial was weeded and the surrounding vegetation was cut in early April before the beginning of rainy season. Prosopis and Acacia regrowth was very prolific and shaded several experimental trees. The water catchment basins were repaired just before and after the rainy season in early April and mid June respectively.

Presently, the trial is growing extremely well and the effects of the water catchment basins on tree growth and survival are quite impressive. The data for this trial has been entered, though the analysis has not been performed. The final report is in progress, though there are still several sections that require more data.

At the end of the dry season in August (14 months), survival

and height will be measured for all trees in the trial. . The catchment basins will again be repaired in August for the upcoming rainy season in September/October.

Saut d'Eau

Ten and twelve month survival and ten month height were measured during this quarter. The trial was weeded at ten and twelve months, which roughly corresponded to the beginning and end of rainy season.

Presently the trial is growing quite well, though the seedlings are not putting on the height one would expect from such a wet site.

During the next quarter, fifteen month survival and height will be measured in August. The writing of the final report will be in September, though sections of the report have already been written.

Species Trial Subcomponent

Eight species trials in the Cayes, Cap-Haitien and Cazeau areas were evaluated during this quarter. All of the data on the evaluated species trials has been summated by survival and height. The interim species trial report is currently being written.

During the next quarter, if the political climate is favorable, the four species trials near Bombardopolis and one each in Ganthier and Cabaret will be measured.

APPENDIX C

A SEMI-ANNUAL REPORT ON SILVICULTURAL RESEARCH ACTIVITIES FOR THE PERIOD ENDING JUNE 30, 1986

BY

MARSHALL D. ASHLEY

TEAM LEADER

The final report for this component was submitted late in the first quarter. The results of a biomass study for five species commonly planted on the AOP, are given in that report. Dry weight biomass equations and tables for Leucaena leucocephala, Azadirachta indica (Neem), Eucalyptus camaldulensis, Prosopis juliflora (Bayahonde), Cassia siamea, and Colubrina arborescens (kapab) are presented.

A description of the establishment of Cassia and Leucaena coppicing experiment near Cap Haitian is also given in this report. The first application of treatments and remeasurement was done approximately six months after establishment in early March, 1986. The treatments in two replications were coppice to one stem, coppice to three stems and allowing all stem sprouts to grow. Where thinning to one or three coppice stems per stump was done, the more dominant sprouts based on initial height growth were selected for retention.

Some problems were encountered. A few stumps that were to be coppiced to three stems, only had two to begin with. Also a few of the leucaena coppices remaining after treatment were accidentally snapped off when removing vines from around them. A

report summarizing the initial treatment will be written next quarter.

The final report recommended several areas of further silvicultural research. These included further biomass studies of the same and new species over a range of environmental conditions. Also suggested is research on the productivity of various agroforestry systems such as alley cropping of fruit trees with leucaena.

APPENDIX D

A SEMI-ANNUAL REPORT
FOR THE PERIOD ENDING JUNE 30, 1986

BY

GEROLD GROSENICK

TEAM ECONOMIST

This first quarter was spent preparing the economic analysis for the project evaluation. The final version was submitted to the evaluation team on March 31. This report is also considered an interim report for the UMD Cost-Benefit Study.

This initial evaluation shows that the small farmer programs run by FADF and CARE have internal rates of return of 12.8% and 19.1%, respectively, as a combined IRR of 14.6%. These rates compare very favorably with the rates foreseen by the Project Paper: 9.1% for FADF and 8.6% for CARE.

The actual cost per surviving tree also compares very favorably with those of the Project Paper. The costs estimated in the PP were \$2.88 and \$3.49 per tree for CARE and FADF, respectively. The actual costs, through 1985 are in the range of 65-75 cents per tree for both programs.

The evaluation of the industrial forest plantation component run by ODH was not encouraging. The IRR is 3.7% for the most productive of the ten plantations. If administrative costs are included, the IRR decreases to 1.1%.

April was devoted to report writing and review, I prepared drafts of four reports. One on price trends for wood products in Haiti, a second on estimates of wood use based on transport

permits issued by MARNDR, a third was a review of published estimates of the demand for wood products in Haiti; and the fourth was a summary of information from page 3 of the PADP/CARE 1985 Case Studies. In addition I reviewed reports prepared by fellow team members.

During the first week in May, we conducted a third, week-long survey of wood products entering Port-au-Prince. Another three weeks were spent summarizing data and preparing draft report on all three surveys. The third survey showed that 51,600 sacks of charcoal; 200 cubic meters of firewood; 7,200 poles; and 3,200 boards entered Port-au-Prince during the first week in May. These figures are slightly higher than those recorded in July 1985 for charcoal but slightly lower for all other products. They were significantly higher than those recorded in January 1986, a period of civil unrest and reduced commercial activity.

In May I spent one week with Elis Franklin, Tim McManus, and Gregor Wolf, all of CARE, visiting the Bombardopolis region.

On June 5th I became a father for the second time.

APPENDIX E

SEMI-ANNUAL REPORT FOR PERIOD

ENDING JUNE 30, 1986

BY LISA A. MC GOWAN, RESEARCH ECONOMIST

On April 14, 1986, my original one-year contract with AID was completed. The final report was handed in on that day, and sent to AID some weeks later.

The two-and-a-half months prior to April 14 were mostly spent writing the final report. Field trips to Les Cayes and Limonade were also conducted during that time to collect data on AOP tree harvests.

Though there was no formal contract signed (because of unforeseen delays in the extension approval process) work on the wood marketing subcomponent continued after April 14. The last two weeks of April were spent preparing for the third repetition of the 7-day, 24-hours-a-day wood product supply study conducted in Port-au-Prince. The study itself ran from 8:00 AM, May 3, until 8:00 AM, May 10. Data was then coded and entered into the computer, analyzed, and put into report form during the rest of May and the first week of June. Grosenick is co-author on this report, which will be available in August.

Market studies planned for Les Cayes were cancelled due to flooding and unrest in the country.

During the last three weeks in June a final report was written summarizing the preliminary results of several surveys conducted outside of those stipulated by UMO's contract. These studies, originally conducted to give the researcher information

on various important aspects of the market, have been put into a report so that anyone doing follow on research would have the information available to them.

A fair amount of time was spent during this quarter trying to straighten out a contractual relationship for the work being performed. The lack of a messenger at the UMO office for part of the month of May and all of June also meant that I had to take care of many errands and messages that are normally done by the messenger. Another problem encountered (which was more or less ongoing for most of the year) was a lack of adequate space and quiet in which to work. Cramped quarters and inadequate furniture caused inefficiencies and frustration. My time would have been much better spent had these situations, which are understandable in the short-run, had not been allowed to linger to the point where they interfered with my work.

Work done under the extension ended on June 30, 1986.

APPENDIX F

SEMI-ANNUAL REPORT

FOR PERIOD ENDING JUNE 30, 1986

SUBMITTED BY

FRED J. CONWAY

SENIOR ANTHROPOLOGIST CONSULTANT

Planter Decision Study

During the first quarter, field research was completed on my study of why planters decide to plant trees in the manners they do and a draft final report was submitted. Return visits were made to five of the study sites: Calbasse, Duplessis, Trouin, Desforges and Savanne Mole. The research schedule was changed and the most important return visits were completed just before the change in government in early February.

Following this, I decided to make return visits to more intensively sample the study sites. This proved to be a fruitful strategy. Interviewees were more relaxed and open than during the initial visits. They were willing to discuss their landholdings and agricultural strategies in greater detail. There was so much to see on each farm visit that the follow-up visits helped to focus questions and clarify several points of detail. They also provided an indication of regional variation. At least one planter was added to the sample in each of the sites. Two planters proved to be unreliable and were dropped from the sample.

The remainder of the quarter was spent drafting a final report. The report discusses ecological variation by comparing two contrasting sites and then discusses tree-planting decisions and changes in agricultural and soil conservation practices.

The report also discusses tree planting and land tenure strategies. It concludes with a number of recommendations for project policy and for the work which will be continued under the AFORF extension. The report was drafted in less than tranquil conditions and was submitted a week later than expected, early in the second quarter.

APPENDIX G
A SEMI-ANNUAL REPORT
FOR THE PERIOD ENDING JUNE 30, 1986
BY
ANTHONY BALZANO
RESEARCH ANTHROPOLOGIST

Progress To-Date

During this quarter my one-year contract ended (May 6) and the Final Report for research conducted under that contract was completed and submitted to AID/RDO. This final report presents and analyses data collected at two village study sites. The major issues addressed in the Final Report are the socio-economic status of AOF participants and non-participants, the role of traditional agroforestry systems in Haitian peasant households and the circumstances surrounding the decisions to plant AOF trees.

A four-month extension of the original contract was ultimately signed by all parties on June 2nd. Research proposed for this period will explore the interactions between AOF tree-planting and existing sharecropping patterns.

The eight weeks of fieldwork scheduled for this research is 80% complete. Data analysis, literature review and write-up for the final report for research conducted under the four-month extension are 20% complete. Thus, approximately 50% of the total work load for the research anthropologist is complete at this time.

Data on the charcoal economy from my study areas was

collected and shared with AFORP Economist McGowan. Also, because of a shared professional interest in peasant animal husbandry practices, I have field tested a survey on existing animal husbandry practices in Fond-des-Blancs for Animal Specialist Dean Treadwell of RDO.

Completion of Research and Report Completion

Scheduled field research for the four-month extension is nearly complete. Remaining field research will take place during July and August. Literature review and write-up of the Draft Final for the four-month extension will take place in July. The Draft Final will be submitted to RDO for internal review during the week of August 3rd.

Contractual/Financial difficulties

The period of uncertainty between the termination of my original contract and the final approval of the four-month extension led to considerable anxiety over my financial situation. There was always the possibility during this period that I would not be paid for research performed after May 6th.

Future Research Needs

Research is needed that will build upon the data base now available for the two village study sites. More in-depth research focusing on the farming system and its integrated components is now ready to be done. For example, the role of the local charcoal economy in the management of existing agroforestry systems; the role of livestock and livestock improvement and

repopulation efforts in the context of agroforestry. Research-to-date has provided a socioeconomic and sociocultural analysis of the study sites. It is now time to build upon this and expand our knowledge of the integrated nature of Haitian agriculture.

Locally appropriate technical improvements can be implemented and, at the same time, have their outcome studied in detail at the village study sites given the data base that now exists for them. Livestock, field crops, wood technology and forage are some areas within existing agroforestry systems where improvements might be introduced and monitored closely by the anthropologist who will work in close association with the appropriate AID experts.

APPENDIX H

A SEMI-ANNUAL REPORT ON COMPUTER OPERATIONS

FOR THE PERIOD ENDING JUNE 30, 1986

BY

DOUGLAS GILL

COMPUTING SPECIALIST

This report covers the progress from the beginning of the current contract period (June 1).

During the month, a work plan for the upcoming contract period, was outlined detailing the goals and time estimates for accomplishing these goals. The major responsibilities of this position include providing computer support services to the project's researchers and to provide support to the other cooperating agroforestry projects should they request assistance.

The accounting system has been automated to allow for readily accessible financial information. The automated system will eliminate some of the tedious bookkeeping chores previously done manually. The change should improve the efficiency and effectiveness of the project's accounting procedures.

Data analysis of species trials is continuing with all analysis excepted to be completed shortly. Analysis of other forestry experiments is also in progress. The majority of which is to be completed by late-August.

No major problems have been encountered during the past month, and all system users seem sufficiently familiar with the computers and the software used to meet their specific needs.