EVALUATION
OF
REFORESTATION AND WATERSHED
MANAGEMENT
(PROJECT NO. 838 - 0055)

Prepared for

United States Agency for International Development

Colombo, Sri Lanka.

by

000178

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ABBREVIATIONS

ACF	-	Assistant Conservator of Forests
ADB	-	Asian Development Bank
BFO	-	Beat Forest Officer
CFP	-	Community Forest Project (ADB)
DCF	-	Deputy Conservator of Forests
DFO	-	Division Forest Officer
FINNIDA	-	Finland's Department for International Cooperation - Ministry of Foreign Affairs
FRDP	-	Forest Resources Development Project (World Bank)
GSL	-	Government of Sri Lanka
IBRD	-	International Bank for Reconstruction and Development, Washington, D.C.
MLLD	-	Ministry of Lands and Land Development
RFO	-	Range Forest Officer
RWMP	-	Reforestation and Watershed Management Project
UNDP	-	United Nations Development Program
USAID	-	U.S. Agency for International Development
UMC	-	Upper Mahaweli Catchment Area

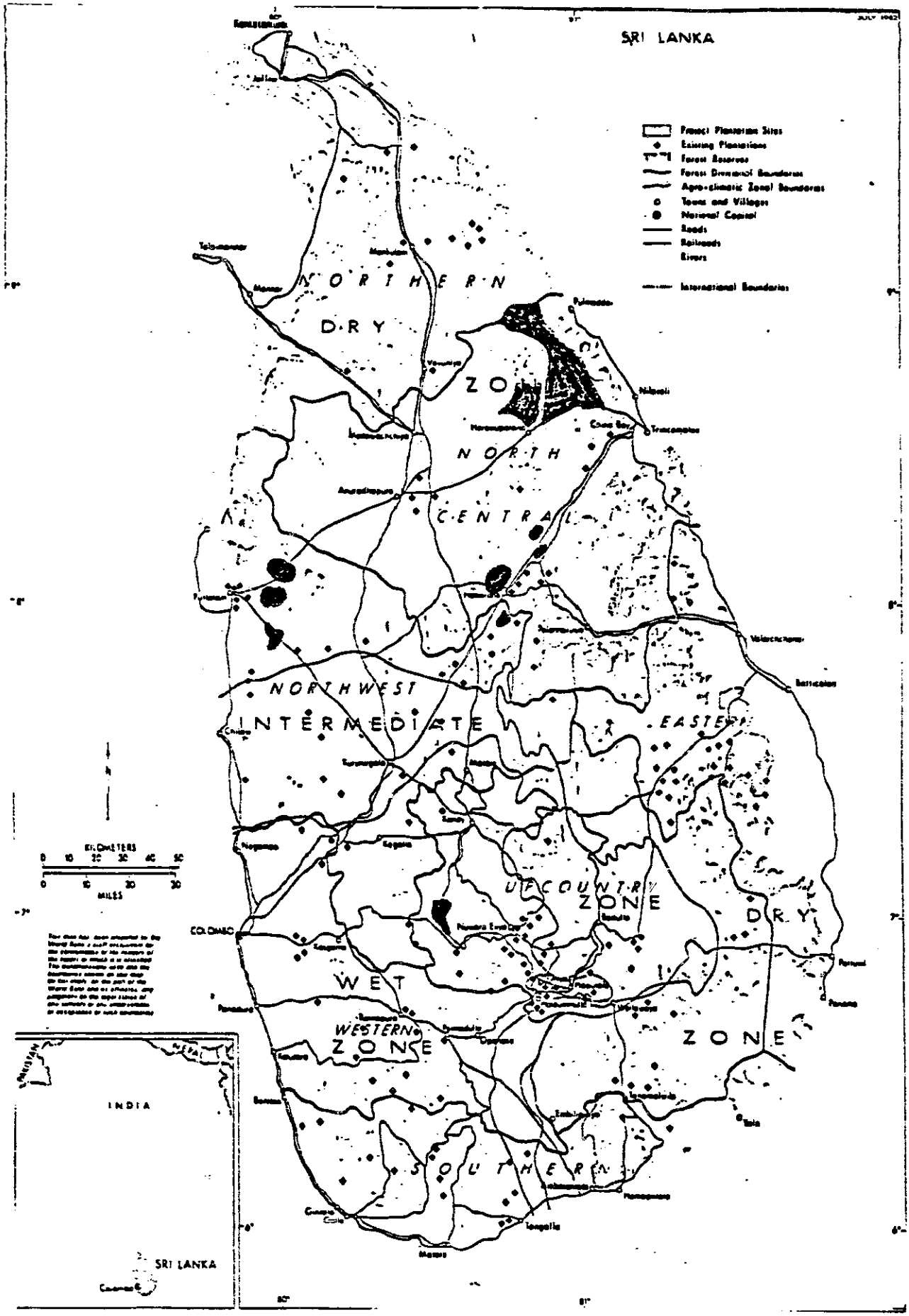
CONVERSION RATE

US$ 1 = Rs. 25
Rs. 1 = US$.04

WEIGHTS AND MATERIALS

1 kilometer (km)	=	0.62 miles
1 meter (m)	=	1.09 yards
1 hectare (ha)	=	10,000 M^2 (0.01 km^2)
		= 2.471 acres
1 cubic meter (m^3)	=	35,315 cu ft.
1 kilogram (kg)	=	2.2pounds
1 metric ton (ft)	=	1,000 kg=2,205 pounds

December 15, 1984


SRI LANKA
Project Plantation Sites
Existing Plantations
Forest Reserves
Forest Divisional Boundaries
Agro-climatic Zonal Boundaries
Towns and Villages
National Capital
Roads
Railroads
Rivers
International Boundaries
NORTHERN
DRY
ZONE
NORTH
CENTRAL
NORTHWEST
INTERMEDIATE
EASTERN
UPCOUNTRY
ZONE
DRY
ZONE
WET
WESTERN
ZONE
SOUTHERN
COLOMBO
KILOMETERS
MILES
INDIA
SRI LANKA

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EXECUTIVE SUMMARY

1. PROBLEM AND OVERVIEW

During the last three decades, Sri Lanka's forest land has been reduced by approximately fifty percent. In recognition of environmental problems and domestic energy requirements which have resulted from this deforestation, the Government of Sri Lanka (GSL) gave high priority to replenishing and protecting its forests in the 1979-1983 Public Investment Plan. Program targets focused on the reforestation of watersheds, development of commercial and rural fuelwood plantations and the establishment of village woodlots. Responsibility for implementing many of these Investment Plan Programs was assigned to the Forest Department.

USAID was the first foreign donor to provide major assistance to the GSL in the forestry sector. However, during the past four years, the United Nations Development Program (UNDP/FAO) the World Bank (IBRD) and the Asian Development Bank (ADB) have all initiated major assistance programs in the forestry sector.

2. U.S. ASSISTANCE

USAID/COLOMBO approved a five-year Reforestation and Watershed Management project in March 1980. This project constituted the Mission's initial effort at addressing Sri Lanka's physical environment and natural resources needs. The purpose of the project was to conserve and to stabilize watershed areas in the highland regions and to enhance the natural renewable energy and commercial resource base of Sri Lanka.

The project was designed to improve the institutional capability of the Forest Department to continue each of the project activities beyond the life of the project. The project was originally budget for $14,680,000. USAID's contribution was $4,350,000. In July 1983, the project was amended to increase the total life of the project budget to $16,150,000 and to extend the Project Assistance Completion Data (PACD) two-years to July 8, 1987. USAID's contribution was increased to $1,450,000 grant funds and to $9,000,000 loan funds while the GSL's contribution was reduced to $5,700,000.

3. PURPOSE OF EVALUATION

This mid-term evaluation is the first evaluation of the Reforestation and Watershed Management Project (383-0055). The objective of the evaluation is to review the progress made toward attaining the Project purpose and to recommend changes in Project Implementation if appropriate.

4. FINDINGS

A. In terms of institutional development, the project is succeeding: the Forest Department has gained the technical

knowledge and managerial capacity to mount a large-scale planting project; key staff have been trained and have returned to positions of authority; a national Forestry Extension Plan has been developed and presented to the Ministry; the forest research capability has grown and the National Forest College has expanded its curricula to train Forest Officers for the first time.

B. Targets set for the number of acres planted, the number of staff to receive short-term training, the amount of construction completed will not be met. Target shortfalls, however, will not have a significant effect on the overall institutional development aim of the project.

C. When the project was amended in 1983, the targets for the plantations, staff training and construction were increased with only a limited analysis of the Forest Department's staff levels or GSL budget restrictions. As a result, targets established were over-ambitious.

D. The project requires a full time Chief-of-Party with managerial as well as technical experience who divides his time between the Colombo and field offices. Short-term consultants have provided the required technical assistance, but their visits were too brief. Half of the consultants were in country for only two to four weeks.

E. USAID needs to document changes in procedures for reimbursement practices. In 1984 the Forest Department altered its spacing system in the fuelwood plantations on verbal discussion with the Ministry and USAID. These arrangements will have to be formalized if the GSL is to be reimbursed for the planting.

5. PROJECT DESIGN IMPLICATION

The main lesson learned is that a full analysis of GSL staffing and budgetary requirements must be made during the design of the project. A review of the actual number of staff needed to accomplish the project activities and an analysis of the budgetary restrictions faced by the GSL in 1983 would have enabled project designers to establish more realistic project targets and cost components when the project was amended.

6. RECOMMENDATIONS

The project should continue. Project documentation should be revised to state that institutional development is the primary purpose of the project and to reflect the target and budgetary reduction in forest acreage to be planted, the number of staff to be trained and the number of buildings to be constructed. The reduction in targets will reduce the total project funds by approximately $2,000,000. Therefore, USAID Sri Lanka should not obligate the $ 2 million loan funds presently planned for FY 1985 obligation.

BASIC PROJECT IDENTIFICATION DATA

1. Country: Sri Lanka
2. Project Title: Reforestation & Watershed Management
3. Project Number: 383-0055 (Grant & Loan)
4. Project Dates:
   a. First Project Agreement: July 8, 1980
   b. Final Obligation: FY 1985 (Planned)
   c. Project Activity Completion Date (PACD): July 8, 1987
5. Project Funding:
   a. AID Bilateral Funding (Grant & Loan) $ 10.45 million
   b. Other Major Donors: None
   c. Host Country Counterpart Funds $ 5.7 million

   TOTAL $ 16,150,000
6. Mode of Implementation: Host Country contract between the Government of Sri Lanka (GSL) and the South-East Consortium for International Development, Inc. (SECID)
7. Project Design: The Government of Sri Lanka
   USAID/Colombo
   International Science and Technology Institute (ISTI)
8. Responsible Mission Officials:
   a. Mission Directors - S.J. Littlefield, 1979-1984
      F.D. Correl, 1984-present
   b. Project Officer - J.W. Bonner, 1979-1985
9. Previous Evaluation: None
10. Cost of Present Evaluation:
    a. Direct Hire: Regional forest Advisor, Deanna Donovan (USAID/ Jakarta funds) $ 1,930
    b. USAID/New Delhi Forest Officer, Charles Hatch (USAID/Colombo funds) 2,800
    c. Contract: None
    d. Other: Secretarial and printing 540

    TOTAL $ 5,270

INTRODUCTION

General

USAID/Colombo approved a five-year Reforestation and Watershed Management Project in March 1980. This Project constituted the Mission's initial effort at addressing Sri Lanka's physical environment and natural resources' needs. The purpose of the project was to conserve and to stabilize watershed areas in the highland regions and to enhance the natural renewable energy and commercial resource base of Sri Lanka.

The Project was designed to improve the institutional capability of the Forest Department to continue each of the Project activities beyond the life of the Project.

The Project was originally budgeted for $14,680,000. USAID's contribution was $950,000 in grant funds and $3,400,000 in loan funds for a total of $4,350,000. The Government of Sri Lanka (GSL) assumed costs totalling $10,330,000.

In July 1983, the Project was amended mainly to increase the plantation acreage and the construction component. The Project Assistance Completion Date (PACD) was extended two years to July 8, 1987. The amendment was essentially a shift from the use of GSL funds to the use of USAID funds. USAID's contribution was increased to $1,450,000 grant funds and $9,000,000 loan funds while the GSL's contribution was reduced to $5,700,000. Total cost of the amended Project was $16,150,000. A detailed comparison of the original Project and the amended Project is shown in Appendix I.

Evaluation Methodology

This mid-term evaluation is the first evaluation of the Reforestation and Watershed Management Project (383-0055). The objective of the evaluation is to review the progress made toward attaining the Project purpose and to recommend changes in Project implementation if appropriate.

The evaluation was conducted by the USAID Asia Regional Forestry Advisor, Deanna Donovan, USAID/New Delhi Forest Advisor, Charles Hatch, and USAID/Colombo Evaluation Officer, Anne Dammarell, in close collaboration with GSL Forest Department Project Director, K. Vivekanandan, SECID Contractor Acting Chief-of-Party, Joseph Sanders and USAID Project Manager, James Bonner. Orginally, Dr. Vivekanandan and Mr. Sanders were to be team members during visits to the plantation sites and to the Forest College near Trincomalee. But due to a sudden surge of terrorist activity throughout the northern and eastern sections of the country, the Forest

College was closed and travel restrictions were imposed on Forest Department personnel. The team cancelled all field trips except for a one-and a half-day trip to the Upper Mahaweli Catchment area.

Team findings are based on a review of Project documents and interviews with those directly involved with the Project. Four of the five District Forest Officers from the fuelwood plantations and the Acting Director of the Forest College came to Colombo and were interviewed as well as officials from the Ministry of Lands and Land Development and the Forest Department.

Appendix VI contains the names and positions of those interviewed. The team discussed their findings and recommendations with USAID and GSL officials.

The evaluation was conducted from November 26 to December 18, 1984.

I. SUMMARY OF MAJOR RECOMMENDATIONS

Our recommendations are listed in detail in Section III Project Evaluation. In summary we recommend:

A. That the Project continue but that targets for plantation acreage training and construction components be reduced to enable completion of activities by the present PACD of July 1987.

B. That the Mission send a letter to the Forest Department requesting a revised Implementation Plan for the life of the Project which will include a time schedule and revised budget for the following:

1. Acreage to be planted in the Upper Mahaweli Catchment and fuelwood areas;

2. Training of staff;

3. Type and use of remaining short-term technical assistance;

4. Construction to be undertaken including justification for site location and information on planned staff.

C. That the Mission not obligate the final $2 million loan funds in FY 1985 as presently scheduled.

D. That the GSL will ensure that all project components described in this revised Implementation Plan will be fully funded in the Forest Department budget for FY 1986 and FY 1987.

E. That the Mission inform the Forest Department in writing the extent to which USAID can reimburse the GSL for the Forest College hostels.

F. That the Mission issue a Project Implementation Letter (PIL) to state that institutional development is the primary purpose of the Project and to reflect the reduction in the forest area to be planted, the number of staff to be trained and the number of buildings to be consutructed.

G. That USAID issue a Project Implementation Letter (PIL) describing the method of reimbursement for fuelwood plantation work initiated in 1984.

H. That the Forest Department appoint a new Project Director for the Reforestation and Watershed Management project to allow the Chief Reseach Officer (who is also currently the Project Director) to assume full research responsibilities and to continue the research work initiated by the SECID consultants.

I. That the Forest Department delay the construction of field offices until the Ministry approves the National Forestry Extension Service Implementation Plan and until the Chief Research Officer has developed an internal plan for site locations.

J. That SECID provide a Chief-of-Party for the remainder of the Project and schedule future short-term consultants for approximately two months per visit.

II. BACKGROUND

A. PRE-PROJECT CONDITIONS

During the last three decades, Sri Lanka's forest land has been reduced by approximately fifty percent. In recognition of environmental problems and domestic energy requirements which have resulted from this deforestation, the GSL gave high priority to replenishing and protecting its forests in the 1979-1983 Public Investment Plan. Program targets focused on the reforestation of watersheds, development of commercial and rural fuelwood plantations and the establishment of village woodlots. Responsibility for implementing many of these Investment Plan programs was assigned to the Forest Department.

B. FOREIGN DONOR ACTIVITY

USAID was the first foreign donor to provide major assistance to the GSL in the forestry sector. However, during the past four years, the United Nations Development Program (UNDP/FAO), the World Bank (IBRD) and the Asian Development Bank (ADB) have all initiated major assistance programs in the forestry sector. The IBRD and UNDP are working on the national level to develop a comprehensive survey of forest species and a master plan for forest activities. The ADB is doing community forestry in one section of the country - Badulla. In addition, the Norwegians, Swedish and Dutch development agencies have initiated small, discrete projects in the forestry sector.

In all cases, activities are designed to complement each other without any apparent duplication. However, this increase in support by the foreign donor community has severely stretched Forest Department resources.

C. GSL SITUATION

1. FINANCIAL CONDITIONS:

Changes in Sri Lanka's economic environment during the 1980's forced the GSL to reduce its budget for capital expenditures and to impose construction and personnel hiring freezes. These factors have had a direct bearing on the rate at which the GSL could staff and implement project activities. The construction and hiring freeze restrictions have recently been lifted, and the 1985 GSL budget for the Forest Department has been increased.

2. POLITICAL CONDITIONS:

The civil disturbances of July 1983 have had a major impact on the Project. In 1983, four of the six Deputy Conservators of the Forest Department (DFC) were of Tamil

ethnic origin. During the disturbances, one officer left the Department and the remaining three officers were not able to work effectively for a period of about four months. Although field work continued at a reduced level, management decisions were difficult to obtain. The long-range impact of the disturbances is hard to evaluate; however, the technical assistance and training components were delayed due to the unavailability of GSL personnel. The technical assistance component has been rescheduled. Training however, especially short-term, has been delayed significantly. It is questionable at this time whether the Department will be able to utilize all of the training planned under the project.

Also, as a result of the ethnic tension in 1984, planting locations in the North and East are being re-assessed. Posible shifts in the location of fuelwood plantations may result in further delays.

3. DEVELOPMENT STRATEGY:

Given the limited resources available to the Forest Department, it is crucial that the Department define a long-term development strategy and proceed with its implementation in a planned and structured fashion. The Forest Department, in conjunction with the Ministry, is presently working on such a strategy. However, the present lack of such a strategy has had an adverse impact on the Project.

III. PROJECT EVALUATION

The basis for the Project Evaluation is the Logical Framework incorporated in the Project Paper (PP) and the PP Amendment. The scope of work (SOW) for the evaluation is in Appendix V. A Logical Framework included in the PP Amendment is presented in Appendix II.

The format adhered to in the following section of the evaluation is to review the OVERALL PROJECT PURPOSE and the Evaluation Team's major findings and PROJECT COMPONENTS: National Forestry Training, Research, Extension, Plantations and Fire Control.

Each project component is examined in terms of its objective and planned outputs; planned inputs (Technical Assist., training, construction, commodities); accomplishments to date, and the Evaluation Team's findings and recommendations.

A. OVERALL PROJECT PURPOSE

1. PROJECT PURPOSE:

a. Conserve and stabilize watershed areas in the highland regions of Sri Lanka ;

b. Provide a natural renewable energy and commercial resource for Sri Lanka.

The above stated purposes are misleading. The inputs and expected outputs are really geared to strengthening the institutional capacity of the Forest Department to implement its mandate. The fact that the Forest Department is expected to accomplish the above two activities indicates that the operational capability of the Forest Department is to be improved, and this point is reinforced in the end-of-project status shown in the Project Paper.

2. REVISED END-OF-PROJECT STATUS:

As shown in the PP Amendment this section reads as follows, "upon completion, the Project will have strengthened the institutional capacity of the Forest Department and assisted in the tree planting activities so that the Department will be able to reforest, by 1987, 24,000 acres which amounts to a 20% increase in the stabilized ground cover (forests) in the Upper Mahaweli Catchment Area and to increase the total area under permanent forest from approximately 265,000 acres in 1980 to 335,000 acres in 1990".

B. PROJECT COMPONENTS

1. NATIONAL FORESTRY TRAINING:

The National Forest Training component contains two sections, one dealing with the Forest College at China Bay and its programs and one dealing with general participant training.

Forest College Section: The Forest Department's College at China Bay is located seven miles from Trincomalee and is used to train both Beat Forest Officers and Range Forest Officers. In the past the Range Officers were trained at forest colleges in India. Limited access to Indian institutions in recent years, however, has resulted in a backlog of untrained Forest Officers. The GSL, therefore, decided to expand the facilities and curricula at China Bay to train all their Forest Officers in-country. During the project period the number of instructors increased from three to six and in 1985 the Forest Department will add six non-instructional staff positions to the College.

a. Outputs:

(1) Jointly develop, with the Forest Department's Forest College at China Bay, a program to increase the capacity and to strengthen the syllabus at the College. Emphasis is to be on tropical forest biology.

(2) By 1987, develop and implement a short-term in-country refresher course on forest management, protection and utilization for 45 forestry personnel per year.

b. Inputs:

(1) Technical Assistance:

TARGETS AND ACCOMPLISHMENTS

Subject	Original Total PM	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished	Revised 1985-1987 Schedule*
Forest Ed.	9	6.7	7.8	116%	-
Comm. Ed.	1	-	-	-	-

* SECID Project Implementation Plan (June 1984)

SECID consultants in collaboration with the Forest Department are to:

-- Broaden the scope of the one-year course for Beat Officers,

-- Develop a two-year course for Range Forest Officers,

-- Develop a short-term course for village headmen,

-- Develop a short-term annual refresher course in forestry management, protection and utilization for forest officers.

FINDINGS

(a) A SECID Consultant visited the Forest College four times for a total of six months during 1982 and 1983. He revised the one-year curriculum for the Beat Forest Officers and developed a two-year curriculum for the Range Forest Officers. The first class of 25 Beat Officers completed their training in 1983 and the second class is nearing completion. The first class of 13 Rangers will complete their training at the end of December 1984.

The Evaluation Team feels that SECID provided the necessary consultancy to develop a new curricula. No additional short-term assistance is needed.

The new curricula, based on U.S. models, meet the traditional needs of the Forest Department but must be expanded to meet the Department's recent involvement in agroforestry, community forestry, extension and the intensive management of short-rotation tree species. Extension methodologies and techniques involving the public also need to be stressed.

(b) The two short-term courses, the course for village headmen and the refresher course, are scheduled to be developed by Forest College staff in 1986. The Project Director, Forest Department, and the Evaluation Team concur that the local teaching staff at the Forest College, who have recently been trained overseas in teaching methodologies, are capable of making the necessary changes in the educational program. Although not essential, the Forest College could benefit from on-site long-term technical assistance. If the new AID/W-funded Forestry Support Program could provide a U.S. forestry education specialist or Ph.D. student at the College for up to nine to twelve months, the implementation of the curricula and the associated teaching methodologies could be fine-tuned.

(c) At present, experienced Forest Officers and new recruits attend the same courses. The Evaluation Team feels that the more experienced officers do not require the same amount of training as the new recruits. Therefore, the lengthy training of experienced officers should be re-assessed. In fact, these men are already absent from class between one-third to one-half of the time because of previous job commitments. (Many need to appear in job related court cases which were set prior to their training.) Shorter training would reduce absenteeism and increase morale. This could be accomplished in several ways. One alternative would be to offer short segments of refresher-type training three to six times over an 18 month period and provide fire arms, first aid and wildlife training at selected local DFO headquarters during that same period. Although the Project Director, Forest Department, does not believe that a new curricula should be designed for experienced officers, he believes that the Range Forest Officer course could be shortened by six to twelve months.

RECOMMENDATIONS

The Forest College needs to strengthen its curricula in agro-forestry, community forestry, extension and fuelwood plantation management. This could possibly be accomplished without making the course any longer by reducing the amount of time spent on surveying, mapping and engineering.

(2) Training:

TARGETS AND ACCOMPLISHMENTS

Subject	Original Total PM	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished	Revised 1985-87 Schedule
Long-Term	-	-	-	-	-
Short-Term-US	6	1	-	-	5
Short-Term-TC	4	-	-	-	4

FINDINGS

Although none of the Forest College Staff were scheduled for training, one participant who received long-term training in extension in the U.S. has been assigned as Director of the Forest College. In addition one of the instructors has received short-term training in the Philippines. A third participant, who was funded under the Project, joined the staff after being trained.

RECOMMENDATIONS

Forest College needs to schedule the instructors who have not received short-term training for training during the final two and one-half years of the Project. This is possible now because of the current staffing level. New faculty should receive short-term training before they are assigned to the College.

(3) Construction:

TARGETS AND ACCOMPLISHMENTS

Item	Total Planned	1980-1984 Built	Cost
Hostels	2	2	$ 160,000
Library	1	1	15,000
Teaching Lab	1	1	15,000
Staff Quarters	5	5	110,000
Wood Processing Unit	1	-	10,000

FINDINGS

(a) The facilities at China Bay are to be enlarged in anticipation of the Forest College's increased in-country training responsibilities. The facilities need to be large enough to house 25 Beat Forest Officers and 15 Range Forest Officers annually. In addition, other facilities are required for up to 25 officers for four to six week intervals for in-service training programs.

(b) The 1983 project amendment increased the construction component at the Forest College from one to

ten buildings. Only the wood processing unit has not been built.

(c) Two hostels are complete or near completion. The GSL has also completed construction of the library, teaching laboratory and five staff quarters. The GSL has asked that the two hostels be funded under the project but has not sought reimbursement for the other buildings. In addition to the above, the Forest Department has built a new water system for the Campus.

(d) The Forest College construction component has not run smoothly or in a timely fashion. The original project called for the construction of one building -- a hostel at the Forest College. The Project Agreement (Annex 1,B.4) states that "the Cooperative Country rules concerning bidding and contracting will be used". In November, 1982, the Forest Department informed USAID that a hostel had been constructed with the assistance of the Building Department and that USAID approval had not been sought "due to the urgency to complete the work". The Forest Department requested reimbusement for the building under the loan agreement. After a site inspection, USAID informed the Forest Department that they would reimburse for the hostel only after the building's deficiencies were corrected.

(e) In November 1983, the Forest Department contracted with A.L. John Singho and Company to build the second hostel. The conditions for USAID reimbursement were clearly outlined in Project Implementation Letter #7 (11/30/83). The hostel was not finished on November 7, 1984, when USAID last inspected the site. However, the second hostel constructed by a private contractor, appears to be of a higher quality than the first hostel. The minor deficiencies (see Appendix III) mentioned by the USAID Engineer are the result of lack of supervision by a qualified engineer. The Forest Department has proposed hiring an engineer under contract for one year to oversee the construction component of this project.

(f) The wood processing laboratory at Forest College was not planned to be constructed until 1986. Since it is not a critical component in implementing the new curriculum or the College's refresher training program, the Evaluation Team feels that these funds ($10,000) should be redirected to purchase teaching equipment. The Forest Department maintains a wood utilization laboratory in Colombo which can be used for training if necessary.

RECOMMENDATIONS

(a) USAID Project Management accompanied by the senior USAID Engineer should visit the Forest College

to inspect the status of the two hostels and inform the Forest Department in writing the extent to which USAID can reimburse for the first hostel and any problems, including lack of supervision, perceived in connection with the second hostel.

(b) USAID Project Manager and the Project Director, Forest Department, should review the entire construction portfolio for the College to determine who will assume financial responsibility for which buildings. It is noted that the World Bank also had budgeted $124,000 for construction at the College.

(c) The Forest Department should continue its practice of contracting with private firms for future construction and should contract a qualified engineer, as Construction Supervisor, to oversee the construction component of the Project.

(4) Commodities:

TARGETS AND ACCOMPLISHMENTS

Item	Total Planned	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished
Lab.Equip.	$ 42,750	$ 4,275	$ 6,422	150.2%
A.V.Equip.	7,500	7,500	7,500	100.00
Library	20,000	5,000	-	-
Office Req.	2,000	700	-	-
Jeep (1)	14,000	14,250	14,250	100.00
Buses (2)	60,000	30,000	-	-

FINDINGS

(a) One bus and the remaining teaching equipment are budgeted to be procured in 1985 and are expected in-country by the start of 1986. The second bus is planned to be ordered in 1986.

(b) The only commodities presently behind schedule are the library acquisitions and office requisites. The first 25% of the books were planned for but not ordered in 1984. $3,000 worth of books is in the 1985 GSL budget. Almost three times that will have to be

budgeted in 1986 and 1987 to use the remaining $16,400. The Project Manager, Forest Department, believes that the Treasury will approve the book budget and that the entire book allowance will be used.

(c) Field tours and field laboratory exercises have had to be cancelled because of lack of buses. The lack of equipment and materials has also discouraged implementation of the new curricula. The reason for the one-year delay in ordering the vehicles was due to GSL budgetary restrictions in 1984 and the difficulty in developing procedures for selection of a Procurement Services Agent (PSA). Since the signing of the PSA contract with Chemonics, 1984,no further procurement problems are expected.

RECOMMENDATIONS

None.

Participant Training Section:

a. Outputs:

(1) Improve the institutional capacity of the Forest Department by providing training in reforestation and management to Forest Department staff involved with the implementation of the Project.

(2) Institute a two-month study-tour program for outstanding Rangers and Forest Beat Officers in foreign countries.

(3) Provide a program of international seminars and workshops for 20 staff.

b. Inputs:

A total of 110 participants were targeted to receive training at the estimated cost of $2,150,000. Almost a third of these participants (1/3) were to attend seminars or specially arranged study-tours. The remaining 67 participants were to receive long or short-term training in the U.S. or a third country (TC). SECID COP in conjunction with the home office arranges both U.S. and third country training.

Participant Totals

		PP Plan Through 1987	Actual Through 1984
Long-term	US	8	5
Short-term	US	38	7
Short-term	TC	21	1
Study-Tour	- SL/TC	23	=
Seminars	- US/TC	20	15

FINDINGS

(1) The long-term training program was initiated in a timely manner at the start of the project. Of the three remaining participants to earn a Masters, two are scheduled to depart Sri Lanka in May 1985. These two participants are new employees who do not meet GSL's eligibility requirement for long-term training, i.e. they have less than three years of service. A waiver has been filed with the Ministry requesting an exception to the regulation. The Project Manager expects them to be cleared by August, 1985, so they can return by the fall of 1987.

(2) To date, all five long-term participants attended the University of Georgia, the SECID lead university. Although understandable, the excessive use of the lead university is disappointing. SECID has a wide range of schools with excellent academic programs in forestry. Had several different institutions been used, the students would have benefited from a variety of experiences and viewpoints.

(3) The recently published "Profiles of U.S.A. Forestry Schools and Consortium" by the Forestry Support Program should be consulted for guidance regarding institutional capability. Institutions in the SECID consortium noted for their forestry programs are Auburn University, Duke University, Mississippi State University, University of Florida, University of Georgia, Virginia Polytechnic Institute and State University of Kentucky, Clemson University, Louisiana State University, North Carolina State University and the University of Tennessee.

(4) The short-term training scheduled has not been met, due to the shortage of staff. The absence of five officers on long-term training during the same period was a critical factor in not meeting short-term training schedules. The Department has not been able to release more than nine individuals to go for short-term

training. Over the next two and one-half years the Project Director, Forest Department, plans to send staff to one-to three-months training program rather than the scheduled six-month programs.

(5) The SECID COP has developed the Sri Lanka/Third World Study-Tour. The first group is to start in the Spring of 1985. The Forest Department has increased the Study Tour enrollment to 40 to expose more staff to extension techniques. The target for short-term participant training may not be met. It appears likely that one-fourth to one-half of the short-term training budget will not be utilized due to limitations on the number of staff that can be scheduled for training at any one time. In addition, if waivers are not obtained for the two long-term participants, there will not be time to identify and schedule other individuals.

RECOMMENDATIONS

SECID should focus the study-tour on specific approaches to forestry extension and limit the size of the groups to four to six individuals. Because of the logistical support and communication difficulties associated with this type of tour, the optimal size is approximately five. Personnel directly involved in the management and implementation of extension activities should participate. The Project Director, Forest Department, should submit an annual short-term training schedule to the SECID COP by January each year. Emphasis should be on training participants to meet Forest Department needs and not on obtaining training target numbers.

2. RESEARCH:

The research function within the Forest Department required the employment of two research officers at the inception of the Project. There are now four research officers' and six assistants' positions. The Chief Research Officer is also the Project Manager for the Reforestation and Watershed Management Project.

a. Outputs:

(1) Develop long and short-term research objectives and priorities with specific focus on tropical forestry.

(2) Conduct a full review and analysis of native forest species to develop more efficient planting and species recommendations.

(3) Develop an in-country reseach capability in Colombo and at two field sites.

b. Inputs:

(1) Technical Assistance:

TARGETS AND RECOMMENDATIONS

Subject	Original Total PM	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished	Revised 1985-1987 Schedule*
Silviculture	6	6	6.4	107%	-
Wood Technology	4	3	1.3	43	2.7

FINDINGS

(a) The Implementation Plan developed by SECID for the COP defines the long-term research program and short-term studies to be undertaken during this project. Annual work plans prepared by SECID and approved by the Forest Department are being used to annually program technical assistance and training resources. This procedure should be continued.

* SECID Project Implementation Plan (June 1984)

(b) SECID, in collaboration with the Forest Department, developed long-term forest research program objectives and identified 13 short-term research projects that complemented the long-term objectives. Twelve of the 13 short-term projects were initiated by 1982. One project was deleted because alternative funding sources were identified. Five of the studies have been completed and the results have been incorporated into Forest Department reforestation management practices.

(c) The short-term research studies initiated under this project have been carried out predominantly by the SECID consultants.

(d) The Forest Department's most productive research staff person has been assigned project administrative activities which have directly limited the Forest Department's involvement in the short-term research studies.

(e) The thrust of this program is on bio-mass production. Wood utilization research is not an integral component of the Reforestation and Watershed Management Project.

(f) The short-term research studies should have included a survey of existing research plots established during the past century. Where appropriate, data from these studies could have been analyzed in collaboration with the Forest Department. The results of the analyses could be immediately incorporated into operational procedures.

(g) Because Sri Lankan universites were contracted to do specific data analyses, both the Forest Department and SECID made more efficient use of their research staff and resources.

RECOMMENDATIONS

The Forest Department research staff needs to assume full responsibility for the monitoring, measuring and analyzing of data associated with the short-term research studies initiated under this project. This can be accomplished by:

-- releasing the Chief Research Officer from project administration duties, thus allowing him to concentrate on the Department's research program.

-- rapidly recruiting research staff when research positions become vacant.

-- by focusing the Forest Department on the priority programs associated with this project and

redirecting the technical assistance currently allocated to wood utilization toward silviculture, fire and extension activities.

(2) Training:

TARGETS AND ACCOMPLISHMENTS

Type	Number of Participants	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished	1985-87 Proposed
Long-term					
Silviculture	1	1	1	100%	-
Wood Tech.	1	-	-	-	1
Forest Res.	1	-	-	-	2
Short-term-U.S.					
Tissue Cult.	2	2	1	50	1
Soil/Plant	2	-	-	-	-
Silviculture	2	2	2	100	2
Biometrics	3	-	-	-	3
Mature Trees Trans.	2	-	-	-	2
Genetics	2	-	-	-	2
Wood Utiliz.	3	1	1	100	2
Lab. Tech.	5	2	1	50	3
Short-term-T.C.-		-	-	-	-

FINDINGS

(a) The training was well planned. Both long and short-term training of research staff are concentrated in the last three years of the program. Research data gathered during the earlier phase of the project will be ready for analysis when the participants with their newly acquired data analysis techniques return.

(b) The number of individuals proposed for short-term training currently exceeds research staffing levels of the Forest Department. Therefore, it is unlikely that the number of individuals proposed for short-term training in research will be possible.

(c) The three long-term participants must begin their training in 1985 if they are to complete their post-graduate degree programs by the PACD. Two are new employees and must acquire GSL waivers since they have less than three years of service. One employee has been approved for training and is scheduled to depart in May 1985.

(d) As extension activities increase in the Department, research will have to address extension research needs. Recognition given to non-physical and non-biological aspects of forest management will need to be complemented with socio-economic research. Socio-economic information will be a critical component in the development of a people-oriented community forestry program. Socio-economic research will provide a clear identification of the client group by socio-economic status, gender, education and other characteristics. These studies will help focus extension activities and insure a more efficient and effective use of staff time and resources. The Forest Department will need to provide a researcher with socio-economic training within the next five years.

(e) Forest Research could effectively use two additional research officers in 1986. Training resources should be used to provide them specialized skills in forest hydrology and fuelwood plantation management.

RECOMMENDATIONS

Since the Forest Department has limited research manpower, training should be focused on the priority programs associated with the project. Long-and short-term training in wood utilization should be redirected toward silviculture.

(3) Construction:

TARGETS AND ACCOMPLISHMENTS

Item	Total Planned	1980-1984 Built	Estimated Cost
Field Research Lab.	2	-	$ 110,000
Staff Quarters	10	-	120,000

FINDINGS

(a) Two national research laboratories are proposed for reforestation field experimentation, one in the dry zone near China Bay, or Amparai District, and one in the wet zone near Nuwara Eliya, or Kandy District.

(b) The Department's plan for the development of research field stations needs to be reviewed and evaluated in light of expected staffing levels, current and future research and operational activities and the type of work environment needed for effective research and retention of research staff.

(c) Funding to initiate construction of a field research lab is in the GSL 1985 budget.

RECOMMENDATIONS

The Forest Department should not initiate construction of a research lab until it reviews the research facility needs in light of staffing levels, research and operational goals, and research work environment.

The Chief Research Officer, Forest Department needs to prepare a written document describing the proposed development of research laboratories and field stations over the next ten years. For the initial establishment of a research lab, the preferable staffing pattern would include two full-time research officers and four field assistants per field office. Since forestry research is generally a long-term activity, the Department's long-term goals for research should receive greatest weight during the development of its research laboratory plan. Research labs on or near university campuses benefit from a community of scientists, research facilities and graduate students.

(4) Commodities:

TARGETS AND ACCOMPLISHMENTS

Item	Total Planned	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished
Field Equipment	$28,600	$ 21,450	$ 20,939	98%
Lab.Equipment	164,600	49,380	36,351	74
Chemicals	2,000	600	1,047	175
Books	10,000	-	534	-
Lab.Req.	7,000	-	-	-
Office Req.	12,000	4,200	141	3
Jeeps (3)	45,750	15,250	15,250	100
Lorries (1)	34,000	-	-	-
Tractors (1)	14,000	-	-	-

FINDINGS

(a) A second jeep, the lorry and the tractor and trailer are included in the 1985 GSL budget request.

(b) Slow procurement of vehicles has reduced the effectiveness of the research staff.

RECOMMENDATIONS

The Forest Department should redirect its resources from wood utilization equipment to silviculture and watershed field equipment.

3. EXTENSION:

Prior to this project, extension activities were not a line item in the Forest Department's budget. However, the District Forest Officers and staff have been performing extension activities in their areas. In addition, the Department has a history of distributing publications on new forest management practices to its officers. Extension is now a Department priority.

a. Outputs:

(1) By 1987 develop the objectives for and initiate the operation of a National Forest Extension Service.

(2) Provide assistance to equip and train seven mobile extension units in extension methodologies.

(3) Train Forest Officers in specialized extension skills.

(4) Provide post-graduate degree training for two Forest Department Officers in extension skills.

(5) Establish village woodlot demonstration plots.

b. Inputs:

(1) Technical Assistance:

TARGETS AND ACCOMPLISHMENTS

Subject	Original Total PM	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished	Revised 1985-87 Schedule*
Organisation	9	5.2	3.1	60%	2
Media	3	-	-	-	2
Awareness Prog.	1	1	2.0	200	0
Monotor/ Rev.	1	-	-	-	1

* SECID Project Implementation Plan (June 1984)

FINDINGS

(a) SECID, in collboration with the Forest Department, has prepared proposals on forestry extension and extension education programs for use in developing training programs and the National Forestry Extension Service Implementation Plan.

(b) A draft plan for the implementation of the National Forest Extension Service has been developed by the Forest Department and is presently under review by the Ministry.

(c) SECID consultants initiated the planting of the village woodlot demonstration plots. The Evaluation Team was not able to observe the status of the plots.

RECOMMENDATIONS

The Forestry Department needs to use the remaining TA to emphasize extension methodologies which will involve forest extension officers with the public. This can be accomplished by:

-- providing DFO's with guidance on developing school nursery programs.

-- coordinating its activities with the Agricultural Extension Program to ensure the compatibility of the information disseminated by the two groups and to avoid unnecessary duplication of facilities and staff.

-- evaluating the role for women in the National Forestry Extension Service to identify factors which limit their employment and to develop procedures which would enhance their employment opportunities. Forest extension workers must be able to deal with all segments of society. Half of a village community is comprised of women. Since, in general, women speak more openly with women than with men, female extension workers could determine village women's concerns and needs more readily than men.

(2) Training:

TARGETS AND ACCOMPLISHMENTS

Type	Number of Participants	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished	1985-1987 Proposed
Long-term Extension	2	2	2	100%	-
Short-term-U.S. Extension	3	-	-	-	3
Short-term-T.C. Extension	5	-	-	-	5
Spec.Ext.	12	-	-	-	12

FINDINGS

(a) The long-term training of extension staff started at the beginning of the program. These individuals finalize the draft plan for the implementation of the National Forest Extension Service.

(b) Since extension is a people-oriented rather than a land-oriented activity, staffing requirements should be based on the size of the population within the extension districts rather than on the size of the area. Current Forest Department districts are based on factors more closely associated with area. Thus, extension staffing levels within existing Forest Department districts may need to vary between districts.

(c) The short-term training of extension staff should coincide with the implementation of the National Forest Extension Service. This will allow the Department to tailor training to the needs of the National Forest Extension Service.

RECOMMENDATIONS

Training study tours for about five extension managers should be undertaken in South Asian countries that have five or more years of experience with organised forestry extension programs, e.g. India, Thailand, Nepal.

(3) Construction:

TARGETS AND ACCOMPLISHMENTS

Item	Total Planned	1980-1984 Built	Estimated Cost
Field Office	7	-	$ 105,000
Staff Quarters	14	-	168,000

FINDINGS

(a) A District Extension Field Office and two staff quarters are proposed for each of seven Forest Department districts.

(b) The Department's plan for the development of field extension offices needs to be in accordance with the implementation of the National Forestry Extension Service. Tha plan will help insure that construction is consistent with expected staffing levels and current and future extension activities.

RECOMMENDATIONS

Delay construction of field extension offices until the National Forestry Extension Service Implementation plan has been approved.

(4) Commodities:

TARGETS AND ACCOMPLISHMENTS

Item	Total Planned	1980-1984 Proposed	1980-1984 Actual	1980-1984 Pecent Accomplished
A.V. Equip.	$ 20,000	$ 8,000	$ 5,667	71%
Misc.Field	10,000	-	-	-
Office Req	5,000	-	-	-
Lorries (7)	210,000	-	-	-
Tractors (7)	98,000	42,000	42,000	100
Jeep/Vans(7)	98,000	28,000	28,000	100

FINDINGS

There seems to be no problems with commodities. The bulk of the commodities will be bought in 1985. Five lorries, one tractor and three vans are in the GSL 1985 budget. All extension vans should include communication equipment that is portable for use in rural villages not accessible by road.

RECOMMENDATIONS

None.

4. PLANTATIONS:

a. Outputs:

(1) To reforest with fuelwood 35,000 acres of degraded chena lands in the dry zone by 1987 and to produce eight million seedlings annually in nurseries established near the plantations.

(2) To re-establish forest cover on 24,000 acres in the upper Mahaweli Catchment area by 1987 and to produce eight million seedlings annually in nearby nurseries.

b. Inputs:

The forest plantation component of the project was focused on strengthening the management capability of the Forest Department to undertake and arrange large reforestation programs on unfavourable sites. Accomplishments to date are:

Plantation	Target	Actual	Percent of target
Fuelwood	19,500	16,611	85
UMC	15,000	13,792	92

Traditional staffing levels* of the Department for reforestation activities are shown in the first column of the following table.

Position	16,000 ac/yr 1/	2,000 ac/yr 2/	500 ac/yr 2/
DCF	1	-	-
ACF	8	1	1
Forester	9	1	-
RFO	77	9	2
BFO	86	11	3

Given this data and the staffing levels associated with the watershed reforestation activity, an annual target of approximately 2,500-3,000 acres seems appropriate. Using the same rationale, appropriate annual targets for the fuelwood plantation activity in each of the five districts are 500-750 acres.

* 1/ Based on Forest Department Project No. 3

2/ Pro-rated based on 16,000 ac/yr

(1) Technical Assistance:

TARGETS AND ACCOMPLISHMENTS

Subject	Original Total PM	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished	Revised 1985-1987 Schedule*
COP	55	36	28.9	86%	30
Fuelwood Soils	2	2	1.3	65	-
Silvicul-ture	3	-	2	67	2
UMC Soils	7	7	7.6	109	-
Silvicul-ture	3	-	3	100	1

FINDINGS

(a) Generally, technical assistance was provided as planned in appropriate subject matter areas and in a timely manner.

(b) The average length of time short-term consultants spent in Sri Lanka was one month.

(c) There have been three different Chiefs-of-Party or Acting Chiefs-of-Party during the first four years of the Project. The absence of a Chief-of-Party for nearly 20% of the Project left it without a strong, professionally trained advocate to assist, monitor, guide, advise and support the program during the implementation of this institution building process. The rationale for not having a continuous COP was financial. During the March 1983 contract negotiations, GSL and SECID mutually agreed to brake the COP tenure rather than reduce the amount of funding scheduled for short-term consultants.

(d) The formal mechanisms to insure the rapid dissemination of consultant research results to forest management personnel in the Department could be strengthened.

(e) Short-term technical consultants should conduct a one-to two-day training workshop/seminar for Forest Department personnel at the completion of their assignment.

* (SECID Project Implementation Plan (June 1984)

(f) In addition, the Forest Department could develop a simple in-house monthly or bi-monthly (eight weeks) newsletter to serve as a forum for the exchange of information and experiences among field operations staff, extension staff and research staff. The newsletter would discuss implementation problems, preliminary research results and consultant recommendations.

(g) During the DFO/Project Officer's monthly or bi-monthly meetings in Colombo, time should be set aside for discussing technical field implementation problems.

RECOMMENDATIONS

(a) SECID should send short-term consultants for an average of eight weeks. The remaining three months of technical assistance targeted for plantations could be provided by a single individual during one trip. A longer stay improves the sensitivity of the consultant to Sri Lankan conditions and operational environment.

(b) One Chief-of-Party should be maintained for the final 30 months of the project.

(c) Forest Department should strengthen its system of disseminating research data and consultants' recommendations to the field.

(2) Training:

TARGETS AND ACCOMPLISHMENTS

Type	Number of Participants	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accoplished	1985-1987 Proposed
Long-term	2	2	2	100%	-
Short-term-U.S.					
Fuelwood	3	2	-	-	3
UMC	3	3	2	67	1
Short-term-T.C.	-	-	-	-	-

FINDINGS

There seems to be no serious difficulty in sending four staff to short-term training within the next two and one-half years.

RECOMMENDATIONS

None.

(3) Construction:

Not applicable.

(4) Commodities:

TARGETS AND ACCOMPLISHMENTS

Item	Total Planned	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished
Fuelwood				
Field & Survey	$ 7,000	$ -	$ 9,374	125%
Seed & Nursery	15,000	6,000	-	-
Office	2,500	-	-	-
Jeeps (3)	45,750	45,750	45,750	100
Lorries (5)	170,000	170,000	34,000	20
Tractors (5)	70,000	70,000	56,000	80
UMC				
Field & Survey	7,500	-	9,374	125
Seed & Nursery	35,000	14,000	2,810	20
Office	2,500	-	-	-
Jeeps (3)	45,750	45,750	15,250	66
Lorries (2)	60,000	60,000	30,000	50
Tractors (3)	42,000	42,000	28,000	66

FINDINGS

Vehicles are critical to the timely movement of planting stock from the Nursery to the planting site. During the first part of the Project, plantation mortality increased because of delays in the movement of seedling from the nursery. Now that the vehicles are in place or on order this will no longer be a serious problem provided that vehicles are satisfactorily maintained.

RECOMMENDATIONS

The Evaluation Team supports the Project Coordinating Committee Meeting recommendation to authorize the DFO's to spend up to Rs. 5,000 for local purchase of replacement parts, equipment and supplies. Decentralization of project responsibility to DFO's has improved management practices. Fiscal responsibility should be decentralized as well.

5. FIRE CONTROL:

a. Outputs:

Develop a fire control center in the UMC and fuelwood plantation areas for the detection, monitoring, control and prevention of fire by 1987.

b. Inputs:

(1) Technical Assistance:

TARGETS AND ACCOMPLISHMENTS

Subject	Original Total PM	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished	Revised 1985-1987 Schedule*
Fire Control	3	2	1.9	95%	1.5

FINDINGS

(a) SECID, in collaboration with the Forest Department, prepared proposals for the implementation of a fire detection, suppression and prevention program in the UMC and fuelwood plantation areas.

(b) SECID consultants focused their initial attention on fire detection and fire suppression program activities.

RECOMMENDATIONS

Technical Assistance should also be provided to insure that fire prevention is included as an integral component of the Forest Extension Program.

* SECID Project Implementation Plan (June 1984)

(2) Training:

TARGETS AND ACCOMPLISHMENTS

Type	Number of Participants	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished	1985-1987 Proposed
Long-term	-	-	-	-	-
Short-term-U.S. Fire Control	4	-	-	-	4
Short-term-T.C.0		-	-	-	-

FINDINGS

Training targets and schedules are adequate.

RECOMMENDATIONS

None.

(3) Construction:

TARGETS AND ACCOMPLISHMENTS

Item	Total Planned	1980-1984 Built	Estimated Cost
Fire Lookout Tower	2	-	$ 22,000
Radio Tower	6	-	15,000

FINDINGS

(a) A fire lookout tower is proposed for the UMC and fuelwood plantation areas. A radio network is also proposed for each area.

(b) A comprehensive fire detection and suppression plan has not yet been approved for implementation in the UMC and fuelwood plantation areas. Fire detection and suppression activities must be well planned to provide effective control. Placement of towers in mountainous terrain requires detailed planning and analysis. The effective

location of a single tower in an area as vast as the fuelwood plantation area also requires detailed planning and analysis. Decisions on specific construction site locations are not possible in the absence of a plan. Radio and lookout towers are only one component of an effective fire detection and suppression system. Individual system components should not be funded until the critical components are identified and prioritized.

RECOMMENDATIONS

Construction of fire and radio towers should not proceed until the fire detection and suppression plan has been approved for implementation in the plantation areas.

(4) Commodities:

TARGETS AND ACCOMPLISHMENTS

Item	Total Planned	1980-1984 Proposed	1980-1984 Actual	1980-1984 Percent Accomplished
Fire fighting equipment	$ 57,050	$ 22,820	$ 1,690	7
Communications equipment	95,000	95,000	-	-
Jeeps (2)	30,500	-	-	-

FINDINGS

A comprehensive fire detection and suppression plan has not yet been approved for implementation in the UMC and fuelwood plantation areas.

RECOMMENDATIONS

Procurement of communications equipment items should not proceed until the fire detection and suppression plan has been approved for implementation. The plan should define in detail the specific type of communications equipment required.

C. PROJECT MANAGEMENT

1. GSL:

The operational performance of the Forest Department has been mixed. Basic sound management systems are in place and appear adequate to support the Department's needs. These systems, however, are not in general use. A constant barrage of management problems coupled with shortage of staff has forced the Department to assume a "crisis management" style of operation. Immediate problems are solved with little time left for planning and long-range management. Linkages among the research, training and extension divisions are presently based on interpersonal relationships rather than long-term objectives. A coordinated management effort will be necessary for the timely implementation of the Project. Of particular concern is the integration of the research and extension service activities which will be necessary to form cohesive extension outreach programs.

Due to budget reductions previously mentioned, the GSL has funded only about 60% of the requested budget for capital expenditures. However, recurring costs have been funded at nearly 100% of the requested level. The annual funding levels are shown in Table 6, Appendix IV. Full funding of capital expenditures at the budget request level is needed to insure the successful achievement of the Project. Decentralization of project responsibilities among five District Forest Officers in the fuelwood area greatly improved the management of plantations in the dry zone.

A serious procurement problem was solved once the Forest Department decided to contract with a U.S.Procurement Service Agent (PSA). Reconciliation of GSL and USAID contracting procedures took nearly a year and a half to accomplish resulting in a PSA contract finally signed in March 1984.

Given its present staffing levels, the Department should continue to increase its use of contractors for planting activities. The development and support of nursery contractors should be encouraged. The Department's internal operating procedures associated with services contracts need to be examined and possibly revised. For example, as a hedge against default, internal procedures might recommend the use of multiple contracts per project activity rather than a single contract.

The Forest Department needs to take a more active role in the management of the project's contractor (SECID). Program goals must be clearly articulated. Remaining technical assistance and training resources must then be used to accomplish these goals.

2. SECID:

SECID has submitted useful Annual Work Plans. The original Life of Project (LOP) Workplan has been overtaken by events. The Annual Work Plans are designed to follow the basic Implementation Plan and reflect the type of activities and level of effort to be accomplished during the year.

Coordination of the GSL and SECID budgeting processes was sporadic during the first two years of implementation. The two independent budgets were on different cycles: the GSL published its budget in December while SECID submitted its budget in January. In 1983 SECID's "due date" for the yearly work plan was changed from January to August. This has allowed the GSL time to review and incorporate the details of the work plan into the new budget. 1984 was the first year the budgets overlapped, and since then budgeting coordination has improved dramatically.

Although mutually agreed to by GSL and SECID, the decision not to maintain a continuous Chief-of-Party deterred project implementation. A strong, professional manager is necessary to monitor, guide, advise and support the Project during the institution building process. The COP has to view specific project activities as they relate to the overall program goals and objectives.

3. USAID:

USAID project management has developed an excellent rapport with the Forest Department and local SECID personnel. However, during the project design USAID overestimated the Forest Department's capacity to undertake a major donor-funded project. Since this was the first forestry project in Sri Lanka, the Forest Department's ability to absorb substantial increases in funding was not known. When the Forest Department began to have implementation difficulties, USAID could have offered greater guidance in the management of the contractor, procurement and construction, thereby easing the Department's growing pains. The learn-by-doing or trial-by-fire management style made fewer demands on USAID management resources but might have retarded project implementation. USAID needs to initiate earlier written communications documenting verbally agreed-upon changes in implementation activities. This should reduce the chance of future misunderstandings. For example, targets for the plantation acreage were changed in 1984. The planting season now is completed, but the formal documentation of this action has not yet been finalized. A second example is the reimbursement for construction mentioned in a previous section.

D. OVERALL CONCLUSIONS

1. In terms of institutional development, the Project is succeeding: the Forest Department has gained the technical knowledge and managerial capacity to mount a large-scale planting effort; key staff have been trained and have returned to positions of authority; a National Forestry Extension Plan has been developed and presented to the Ministry; forest research capability has been strengthened and the National Forest College has expanded its curricula for the fist time to train Range Forest Officers.

2. Targets set for the number of acres planted, the number of staff to receive short-term training, and the amount of construction to be completed will not be met. Target shortfalls, however, will not have a significant effect on the overall institutional development aim of the project. When the Project was amended in 1983, the targets for plantations, staff training and construction were increased without sufficient analysis of the Forest Department's staff levels or GSL budget restrictions. As a result, targets established were over-ambitious.

3. During the last three years, the Government fought increasing inflation by cutting the budget and by imposing temporary hiring and construction freezes. In 1983 and 1984 the country faced a rash of civil disturbances. All these factors had a negative effect on the Project.

4. Lack of a commodity procurement agent in the U.S. delayed the ordering of commodities by two years. The lack of vehicles slowed research and tree planting activities. The problem was resolved when GSL contracted with a Procurement Services Agent (Chemonics) in the U.S. in March 1984.

5. The Project requires a fulltime Chief-of-Party with managerial and technical experience who divides his time between Colombo and the field. The project did not have a full time COP. Project implementation suffered because of the lack of continuous strong management.

6. Short-term consultants provided required technical assistance, but their visits were too brief to be optimally effective. Half of the consultants were in-country for only two to four weeks. The project has 12 PM of TA left which is adequate if related to reforestation and management of plantations. Optimum length of TDY is two months.

7. USAID failed to delineate sufficiently AID requirements for reimbursement of project components. For instance, reimbursement for construction has been pending since 1982, and new reimbursement procedures for the fuelwood area have not been documented even though the actual practice changed in 1984.

IV. BENEFICIARIES

The ultimate beneficiaries as described in the Project Paper are listed below. The Project impact on this group cannot be determined by the PACD. The earliest such an impact study could be conducted would be 1995 when the trees of the fuelwood plantations would be mature enough to harvest.

In reality, there are two groups of beneficiaries associated with this Project, the ultimate beneficiaries and the immediate beneficiaries.

A. ULTIMATE BENEFICIARIES

1. Farmers downstream in the catchment area will benefit from better water supplies;

2. Users of commercial fuelwood -- industrial and urban consumers-- will benefit from its increased availability.

3. Local consumers of fuelwood will benefit from the increased availability of woody residue;

4. Forest Department staff will be strengthened by the education, research and extension programs; and

5. Logging contractors and laborers will benefit from increased harvesting activity.

B. IMMEDIATE BENEFICIARIES

1. Rural people have been hired for the planting programs. These are generally farmers and landless individuals. The data reveal that women perform about three-quarters of the nursery planting, maintenance and replanting but only about one-tenth of the site preparation. Women, therefore, represent about half of the casual labor for this project. During the period 1979-1984, this activity generated 2.6 million person months of employment. Based on an average daily wage of Rs. 33, the Project generated a total of Rs. 86.3 million ($3.28 m) in additional rural income Tables 7 and 8, Appendix IV, summarize the person-months of employment and payroll for each year.

2. Twenty-nine GSL officials have been trained to date in Sri Lanka and abroad.

3. Over 70 employees participated in carrying out the Department's increased reforestation targets. About 50 new Forestry Extension Service employees will be needed within the next two years. Women should be expected to fill many of these new positions which will be primarily for extension services.

C. POTENTIAL INCREASE IN BENEFICIARIES

The beneficiary levels could be increased through:

1. Increased silvicultural treatment, especially weeding, thinning, and firebreaks.

2. Expanded cooperative planting programs such as taungya inter-cropping, silva-pasture of improved grasses, herbal cultivation and resin collection in pine forests.

3. Establishment of private nurseries. Local people could be given instruction in nursery techniques as part of the extension program.

4. Involvement of schools in seedling production programs.

5. A requirement that visiting consultants give seminars at selected universities in Colombo, the Forest College and the Forest Department.

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COMPARISON OF JULY 1980 PROJECT AGREEMENT WITH THE JULY 1983 PROJECT AMENDMENTS

Original Project Agreement (7/80) PACD 7/85

A. EOPS

1. Forest College
   a. Improved Syllabus
   b. Staff received long term and short term training
2. Forest Department Research

   Strengthened to carry out research on plant selection, propagation harvest techniques.
3. Forest Department Extension
   a. Extension brought to village level
   b. 50 village fuelplots established
4. Plantation
   a. Fuelwood
      1. 35,000 acres planted in dry land area
      2. 6 nurseries established
      3. 10 million seeds produced annually
   b. Upper Mahaweli Catchment
      1. 15,000 acres planted for conservation to soil
      2. 3 nurseries established
      3. 3 million seeds produced annually
5. Charcoal - 24 portable kilns set-up
6. Base line map produced by satellite

B. INPUT

1. Technical assistance — $ 950,000
   a. COP - 55 P.M.
   b. Short term advisors - 69 PM
2. Training — $1,490,000
   a. Forest Department
      1. 5 long-term
      2. 76 short-term
   b. State Timber Corporation
      1. 1 long-term
      2. 4 short-term
3. Construction — $ 175,000
   a. Forest College - Hostel

Project Amendment (7/83) PACD 7/87

A. EOPS

1. Forest College
   a. Improved Syllabus
   b. Staff received appropriate training
2. Forest Department Research

   Expanded to prepare long and short term research to analyze native plants and to recommend appropriate species.
3. Forest Department Extension
   a. Extension brought to village level
   b. 15 Village fuelplots established
4. Plantation
   a. Fuelwood
      1. 35,000 acres planted in dry land area
      2. Sufficient nurseries established
      3. 8 million seeds produced annually
      4. Fire control programme established
   b. Upper Mahaweli Catchment
      1. 24,000 acres planted for conservation of soil.
      2. 3 nurseries established
      3. 8 million seeds established annually
      4. 2 fire control centers established.
5. Charcoal - delete
6. Base line map - delete

B. INPUT

1. Technical assistance — $ 1,450,000
   a. COP - 55 PM
   b. Short term advisors - 52 PM
2. Training — $ 2,150,000
   a. Forest Department
      1. 8 long-term
      2. 102 short-term
      3. 20 seminars
   b. State Timber Corporation - delete
3. Construction — $ 1,100,000
   a. Forest College - 2 Hostels
      1 Library
      1 Lab

		1 Work unit 5 Staff quarters b. Research 2 Field Stations 10 Staff Quarters c. Extension 7 Field Stations 14 Staff Quarters d. 2 Fire/6 Radio towers	
4. Commodities a. Vehicles b. Equipment c. Supplies	$. 1,315,000	4. Commodities a. Vehicles b. Equipment c. Supplies d. Library books	$ 2,000,000
5. Planting	-	5. Planting	$ 3,750,000
TOTAL	$. 4,350,000	TOTAL	$10,450,000

REVISED LOGICAL FRAMEWORK

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
(GOAL)			
-- Improve and conserve the physical environment and natural resources.	- The physical degradation of the land checked by establishment of forest lands in the Project area by 1990.	- Joint GSL/USAID land surveys. - Aerial photography. - Satellite imagery.	- Continued GSL Commitment to protect and improve the natural resources. - Environmental parameters within norms.
(PURPOSE)			
-- Conserve and stabilize watershed areas in the highland regions of Sri Lanka.	- 20% increase in stabilized ground cover (forests) in designated Upper Mahaweli Catchment Area by 1987.	- GSL Forest Dept. Census & Statistics, Central Bank and Dept. of Agriculture inspecting reports and statistics.	- Price of alternative energy sources remain reasonable (i.e. do not become exorbitant relative to fuelwood).
-- Provide a natural renewable energy and commercial resource for Sri Lanka.	- Increase the lands under permanent forests increased from 265,000 (1979 est.) to 355,000 acres by 1990.	- USAID site inspections. - Aerial photography.	- Land use patterns remain consistent. - Fuelwood forests used for designated purposes.
(OUTPUTS)			
-- Establish in-country training capability.	- Construction of 2 student hostels, a library, teaching laboratory and 5 staff quarters with the capacity to train 45 students annually by 1987.	- Joint GSL/USAID field inspections and evaluations. - Forest Department Annual Reports and performance records.	- Capable Project management. - Efficient and effective use of Project resources. - Labor availability. - No epiphytotic or natural disasters.
-- Develop and implement a National Forest Extension Service.	- Service established and 7 fully staffed divisional headquarters with mobile facilities with trained FD personnel by 1987.		
-- Establish National research capability.	- 2 field research laboratories constructed and equipped by 1987.		
-- Reforestation of degraded chena lands in the dryzone for fuelwood plantations.	- 35,000 acres of fuelwood plantations planted in the Lower Mahaweli areas by 1987, and 70,000 acres of fuelwood and commercial forests planted by 1990.		

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
-- Reforestation of denuded Watershed of the Upper Mahaweli Catchment Area.	- 24,000 acres of the Upper Mahaweli Catchment Area reforested by 1987.		
-- Establish village-run agroforestry plots on a pilot basis.	- 15 villages participating in this National Forest Extension Service undertaking by 1987.		
-- Establish a Fire Control Program in the Upper and Lower Mahaweli Project Areas.	- Two fire control centers and radio network established by 1987.		

(INPUTS)

GSL	Inputs	($'000) USAID	($'000) GSL
- Personnel	- Tech. Assist.	1,450	-
- Commodities	- Training	2,150	-
- Local Operational Costs	- Commodities	2,000	-
	- Construction	1,100	1,150
	- Planting Cost	3,750	3,650
	- Personnel/Operat.	-	900
		10,450	5,700

- GSL & USAID financial reports and records.
- Beginning of Project Status.

USAID

- Technical Assistance
- Training
- Commodities
- Construction
- Planting Cost Support

UNITED STATES GOVERNMENT

memorandum

DATE: November 16, 1984

REPLY TO ATTN OF: Nimal N. Jayaratne, Engineer/MWRD

SUBJECT: Site Inspection Report, November 7, 1984
Forest Ranger Hostel No. 1 and 2, Forest College China Bay.
Reforestation and Watershed Management Project, 383-0055.

TO: Mr. L. Purifoy, Chief/MWRD

A. Background

1. Officials participated in inspection

The buildings were inspected with Mr. Attanayake, Senior Instructor of the Forest College who is in charge of the construction supervision of the hostel buildings.

2. Purpose of site inspection

Purpose of this visit was to examine whether the construction defects of the already completed Forest Ranger Hostel No. 1 have been attended to the satisfaction of USAID and to review the progress and quality of the Hostel No. 2 which is under construction. The last inspection was made on May 8, 1984.

(a) Forest Ranger Hostel No. 1

The forest department constructed Forest Ranger Hostel No. 1 with the assistance of Buildings Department with its own funds in December 1982, and requested reimbursement of construction cost from USAID under the loan agreement. However, after a preliminary site inspection by USAID, the forest department was requested to attend the various defects of the buildings prior to reimbursement. However, the efforts made by Forest Department to get the deficiencies rectified to the satisfaction of USAID through the buildings department were not successful. The purpose of the subject site inspection was to examine whether any attempts have been made to correct the deficiencies reported.

(b) Forest Ranger Hostel No. 2

Due to the poor performance of the Buildings Department in the construction of Hostel No. 1, Forest Department offered the construction of Hostel No. 2 to a private contractor. The construction cost will be

reimbursed by USAID upon satisfactory completion of the building. Although the work commenced in October 1983 with a high rate of progress, it rapidly slowed down in April 1984. After the temporary stoppage of work for Sinhala New Year in April 1984, apparently no work has been done until early November 1984. This site inspection was made to review the progress and quality of the on-going construction and to examine whether satisfactory arrangements have been made for construction supervision.

B. Summary and Conclusion

(a) Forest Ranger Hostel No. 1

None of the deficiencies reported in the previous inspection have been corrected. It was understood that Forest Dept. has requested time till December 1984 for repairs, as the Buildings Dept. is short of funds.

(b) Forest Ranger Hostel No. 2

With the failure of getting proper assistance from Land Commissioner officials to supervise the building construction as arranged with the concurrence of USAID, the Forest Dept. has requested Buildings Dept. to supervise the construction works. This too has failed and the Forest College officials have now been assigned to supervise the building construction. This arrangement appears to be satisfactory if a technically competent person can visit the site regularly and advise them. The building has reached the roof level and the roof has to be put up as soon as possible to prevent prolong exposure of walls and door frames to the weather. Regular progress reports should be maintained to monitor the quality and the quantity of the work done.

C. Inspection Details

(a) Forest Ranger Hostel No. 1

None of the deficiencies reported in the last inspection have been attended. Neat colour washing on smoothened walls and repainting of wood work were the major recommendations made in the previous report.

(b) Forest Ranger Hostel No. 2

Work has commenced on 4th November 1984, three days before the date of inspection, after a period of inactivity of about 4 months, but it appears that there had been no useful work done after the last inspection in May 1984.

It was revealed during the discussions that due to the poor assistance for construction supervision from the Superintendent of Development Works of the Land Commissioner, the Forest Department has requested the Buildings Dept. Engineer to take over the supervision. This arrangement has not worked out and the construction work has been stopped for sometime for not having an authorized supervisor. Forest Dept. has then arranged its own officials of the Forest College to supervise the work. This arrangement is satisfactory if they have

a background knowledge in building construction and if a technically competent person can advise them regularly. However the construction supervision through an outside Government Agency may not be helpful due to their lack of interest. The construction work is scheduled to complete at the end of 1984 according to Forest College officials. Following are general observations made during the inspection:

1. The cement/sand mix proportions for brickwork has got improved after the recent commencement of work.

2. Some of the door frames are warped on prolong exposure to the sun. These are to be removed and replaced.

3. Some of the shuttering props of the sunshade have been removed. These should not be removed until the roof is completed. This removal has already resulted in a fine crack at the sunshade level of the inside wall.

4. A crack on a lintol and on the wall above it was observed. The wall supporting the lintol has to be extended upto the crack position to prevent the propagation of the crack.

5. Contractor is doing some earthwork around the building at the entrance side exposing the foundation below the DPC level. This should not be done without ensuring the exact foundation depth.

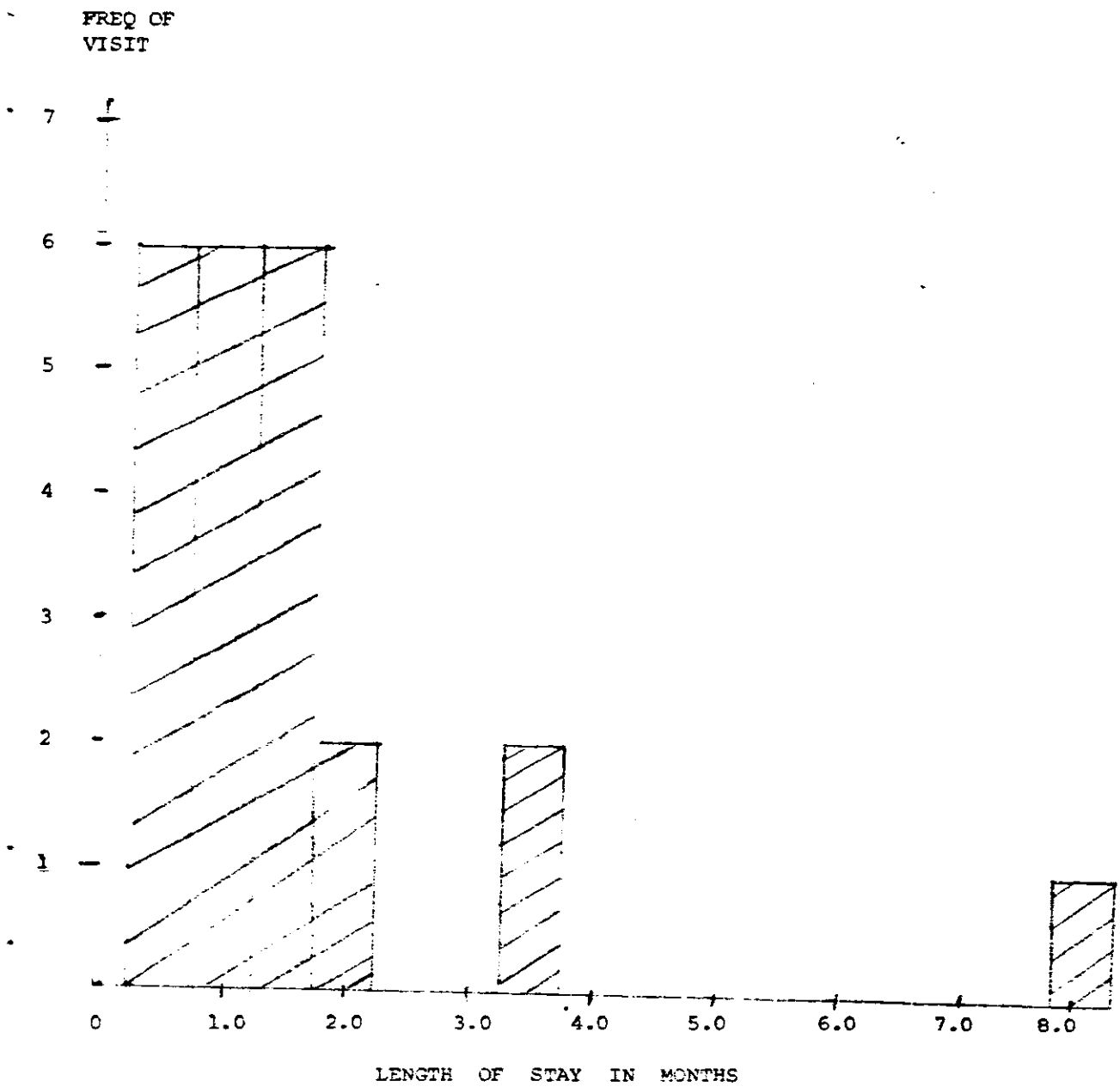
All these observations were discussed with Mr. Attanayake during the inspection.

c.c. JBonner:ARD
CSchoux:PDSP
ADarmarell:PROG
FDCorrel:DIR
WPSchoux:DD

AID:MWRD:NNJayaratne:ck

HISTOGRAM OF SHORT - TERM CONTRACTOR

LENGTH OF STAY



APPENDIX IV

Table 1

CONSULTANCY SCHEDULE

Consultant	Modified PP No. visits (PM)	1980-1984 Targeted No.visits (PM)	1980-1984 Actual No.visits/No.Ind. (PM)	1980-1984 Percent of Target	1985-87 Targeted No. visits (PM)
Chief of Party	2 (55)	1 (36)	2/2 (28.86)	80.2	1 (26.14)
National Forestry Training	6 (10)	3 (6.75)	5/2 (6.83)	101.2	3 (3.17)
Research Silviculture	2 (6)	2 (6)	8/5 (10.97)	182.8	0 (0.00)
Wood Tech	3 (4)	2 (3)	1/1 (1.30)	43.3	1 (2.70)
Extension Service	8 (14)	3 (6.25)	3/3 (4.57)	87.0	5 (9.43)
Plantations Soil Science	1 (2)	1 (2)	1/1 (1.26)	63.0	0 (0.00)
Watershed	2 (7)	2 (7)	4/2 (9.60)	137.1	0 (0.00)
Silviculture	3 (6)	0 (0)	0/0 (0.00)	100.0	3 (6.00)
Fire Control	2 (3)	1 (2)	1/1 (1.93)	96.0	1 (1.07)
TOTAL	(107)	(69)	(65.32)	94.7	(41.68)*

*Total PP Person months - Total 1980-84 Actual Person months

TRAINING SCHEDULE

Category	Modified PP No.	1980-1984 Targetd No.	1980-1984 Actual No.	1980-1984 Percent of Target	1985-1987 Targeted No.
Long-Term US					
Extension	2	2	2	100.0	0
Silviculture	1	1	1	100.0	0
For. Econ.	1	1	1	100.0	0
Hydrology	1	1	1	100.0	0
Wood Tech.	1	0	0	100.0	1
For. Resources	2	2	0	0.0	2
Sub-Total	8	7	5	71.4	3
Short-Term US					
Soils	2	2	0	0.0	2
Silviculture	4	2	2	100.0	2
Tissue Culture	2	2	1	50.0	1
Soil/Plant Culture	2	1	0	0.0	2
Biometrics	3	2	0	0.0	3
Lab. Tech.	5	2	2	100.0	3
Mature Tree Plant	2	0	0	100.0	2
Genetics	2	1	0	0.0	2
Wood Util.	3	1	1	100.0	2
Extension	3	0	0	100.0	3
Forestry	3	2	0	0.0	3
Watershed	3	3	2	66.7	1
Fire Control	4	4	0	0.0	4
Sub-Total	38	22	8	36.4	30
Short-Term TC					
Pinc. Orient	1	1	0	0.0	1
Soils	3	3	1	33.3	2
Forestry	40	20	0	0.0	40
Extn. Train	5	5	0	0.0	5
Spec. Extn. Train	12	0	0	100.0	12
Sub-Total	61	29	1	3.4	60
Seminars					
US	10	10	6	60.0	4
TC	10	10	9	90.0	1

1980-1984 Commodity Procurement

Item	Modified PP No. or Amt.	Targeted Procurement Through 1984	Actual Procurement Through 1984	Percent Target
Jeeps	12	12	9	75.0
Lorries (37)	9	5	5	100.0
Lorries (57)	6	3	2	66.7
Tractor/Trailers	16	14	9	64.3
Buses	2	2	0	0.0
Vans	7	0	0	100.0
Teaching Lab. Equipment	42,750	4,275	6,422.26	150.2
Field Equipment	53,600	40,200	39,688.60	98.7
A/V Equipment	27,500	11,000	13,167.17	119.7
Anal. Lab Equipment	164,600	49,380	36,351.08	73.6
Chemicals	2,000	600	1,047.10	174.5
Books/Per	30,000	7,500	5.34	0.0
Seed/Nursery Equipment	52,500	21,250	2,810.04	13.2
Comm. Equipment	95,000	95,000	0.00	0.0
Fire Fighting Equipment	57,050	22,820	1,690.00	7.4
Office Req.	24,000	8,400	141.17	1.7
Lab. Req.	7,000	700	0.00	0.0
Motor Spares	75,000	26,250	0.00	0.0
Fert.	25,000	10,000	0.00	0.0
Misc.	25,000	10,000	500.97	5.0

CONSTRUCTION SCHEDULE -1980 -1984

Buildings	Modified PP No.	No. Buildings Constructed	No. Buildings Constructed with USAID Concurrence
Student Hostel	2	2	1
Library	1	1	
Teach. Lab.	1	1	
Wood Prod. Serv. Unit	1		
Teach. Staff Qrts.	5	5	
Field Res. Labs	2		
Res. Staff Qrts.	10		
Div. Extn. Off.	7		
Extn. Staff Qrts.	14		
Fire Lookout Tower	2		
Radio Towers	6		

PLANTATIONS SCHEDULE

	UPPER MAHAWELI CATCHMENT			FUELWOOD		
YEAR	MODIFIED PP TARGET (AC)	ACTUAL (AC)	PERCENT OF TARGET	MODIFIED TARGET (AC)	ACTUAL (AC)	PERCENT OF TARGET
1980-82	9000	8329	92.5	13,500	8986	66.6
1983	3000	3163	105.4	3,500	5195	148.4
1984	3000	2300	76.7	2,500	2430	97.2
1985	3000			2,500		
1986	3000			2,500		
1987	3000			2,500		

Forest Department Budget - 1980 - 1985

	Recurring Costs[1/]			Capital Costs[2/]								
				Consolidated			Foreign Aid			Total		
Year	Tot. Bud. Expend.	Actual Expend.	% of Bud.	Tot. Bud. Expend.	Actual Expend.	% of Bud.	Tot. Bud. Expend.	Actual Expend.[3/]	% of Bud.	Tot. Bud. Expend.	Actual Expend.	% of Bud.
1980	623,332	396,673	63.6	6,850,000	5,538,676	80.9	7,239,720	1,288,440	17.8	14,089,720	6,827,116	48.5
1981	983,300	753,752	76.7	18,671,200	23,911,852	128.1	23,129,600	4,309,420	18.6	41,800,800	28,221,272	67.5
1982	1,022,000	1,004,665	98.3	23,999,000	16,431,197	68.5	28,119,000	4,740,360	16.9	52,118,000	21,171,557	40.6
1983	1,268,000	1,342,827	105.9	38,050,500	25,121,303	66.0	30,364,500	11,305,170	37.2	68,415,000	36,426,473	53.2
1984	1,472,000	1,377,100[4/]	93.6	43,222,500[5/]	20,100,400[4/]	46.5	33,400,000	25,262,350	75.6	76,622,500	45,362,750[4/]	59.2
1985	1,594,000			46,584,000[6/]			25,175,000			71,759,000		

1/ Projects 7, 8 and 9

2/ Projects 103, 104 and 105

3/ From USAID committed as of 12/15/84

4/ Estimated

5/ Includes Rs 13,295,000 reimbursible through foreign aid

6/ Includes Rs 6,406,000 reimbursible through foreign aid

Employment and Income Generation through Reforestation

	Project Year	Acreage Planted 1/ Establishment	Replanting	Total	Total Labor Requirement 2/ (MD '000)	Local Generated 3/ (Rs. '000)
A. Upper Mahaweli Catchment Plantations						
	1979	275	-0-	275	14	462
	1980	2,950	-0-	2,950	152	5,016
	1981	2,867	-0-	2,867	188	6,204
	1982	2,237	875	3,112	205	6,765
	1983	3,163	-0-	3,163	387	12,771
	1984	2,300	-0-	2,300	190	6,270
	Total:	13,792	875	14,667	1,136	37,488
B. Fuelwood (Dry Zone) Plantations						
	1979	-	-	-	-	-
	1980	-	-	-	-	-
	1981	4,976	-	4,976	299	9,867
	1982	4,010	2,000	6,010	399	13,167
	1983	5,195	1,600	6,795	460	15,180
	1984	1,995	2,100	4,530	321	10,593
		(Chena) 435 4/				
	Total:	16,611	5,700	22,311	1,479	48,807

Note: 1/ Estimates received from Forest Department. Assumes 8' x 8' spacing (680 plants per acre) except for the 1984 planting in the fuelwood plantations when 6' x 6' spacing (1,210 plants per acre) was used.
2/ Includes labor required in seedling production, site preparation, planting per Forest Department experience. Does not include supervising staff labor.
3/ Assumes an average daily wage of Rs. 33 for casual labor.
4/ The Chena reforestation system pays farmers Rs. 500 per acre for 80% survival on 8' x 8' spacing.

APPENDIX IV
Table 8

CASUAL LABOUR ACTIVITIES

CASUAL LABOUR ACTIVITIES	PERSON DAYS PER ACRE SPACING		PERCENTAGE OF	
	8'x8'	6'x6'	MEN	WOMEN
Nursery	15	20	30	70
Preparation	35	43	90	10
Planting	10	15	20	80
Maintenance	14	14	20	80
Replanting	14	20	20	80

REFORESTATION AND WATERSHED MANAGEMENT PROJECT 383-0055

BUDGET AND FUNDS COMMITTED AS OF 12/15/84

	CALENDAR YEAR					
	1980-84	1985	1986	1987	TOTAL	PERCENTAGE
GRAND TOTAL						
Planned					10,450,000	
Committed*					2,000,777	19%
TECHNICAL ASSISTANCE (Grant)						
AID Disbursement Schedule (7/83)	990,000	320,000	60,000	80,000	1,450,000	
Committed as of 12/15/84	860,073	-	-	-	860,073	59%
TRAINING (Loan)						
AID Disbursement Schedule (7/83)	950,000	500,000	400,000	300,000	2,150,000	
Committed as of 12/15/84	323,581	-	-	-	323,581	15%
COMMODITIES (Loan)						
AID Disbursement Schedule (7/83)	975,000	500,000	525,000	-	2,000,000	
Committed as of 12/15/84	556,506	-	-	-	556,506	28%
CONSTRUCTION						
AID Disbursement Schedule (7/83)	520,000	516,000	64,000	-	1,100,000	
Committed as of 12/15/84	-	-	-	-	-	-
PLANTING PROGRAM (Loan)						
AID Disbursement Schedule (7/83)	1,600,000	720,000	720,000	710,000	3,750,000	
Committed as of 12/15/84	260,617	-	-	-	260,617	7%

* Based on USAID Project Manager's files

FOREST DEPARTMENT MAJOR STAFF CATEGORIES

Designation	Actual 1982	Actual 1984	Proposed Budget 1985
Conservator	1	1	1
Deputy Conservator	5	5	5
Assistant Conservator	18	30	30
Chief Accountant	1	1	1
Accountant	1	2	3
Administrative Officer	1	1	1
Foresters	51	48	54
Range Forest Officer	189	207	222
Beat Forest Officer (Guards)	461	465	487
Research Officer	4	6	6
Laboratory Assistant	1	4	4
Draughtsman	10	10	4
Technical Assist. Foreman	7	7	7
Carpenter/Fitter/Electrician Woodwork/Machinist		20	20
Clerk/Secretary/Typist		143	152
Pump Operator	19	20	23
Driver		72	100
Plantation Laborer	239	239	239

Scope of Work

Purpose

The purpose of evaluation is to review the project and the progress made toward attaining its goals, purposes, and outputs as well as the appropriateness and timeliness of the inputs. The evaluation should examine the needs of forestry in Sri Lanka in view of; (1) the current and proposed future institutional capacities required to meet these needs, and (2) the current GSL commitment. The evaluation will then develop recommendations necessary to support and improve the project's implementation for the remaining duration.

Team Composition

The evaluation team will be composed of five members, one from each of the following organizations: GSL Forest Department (FD), Primary Contractor's representative,(SECID/COP) USAID/Colombo, the USAID's Asia Regional Forestry Advisor (RFA), and a forestry expert from USAID/India. All team members should have prior experience with forestry fuelwood plantations and watershed stabilization projects in the Asia region. The individual from USAID will serve a team leader and will be responsible for the coordination of the technical evaluation and progress assessment of the project, and serve as editor for the evaluation report.

Methodology and Procedures

The evaluation team will review all background materials including the Reforestation & Watershed Management Project Paper, PP Supplement No. 1, Life-of-Project Work plan and the contractor's End-of-Tour and Annual reports. The team will spend the first week in Colombo reviewing documents and related materials, developing a work plan for the team which details specific individual tasks, and meeting various project officials. The second week would be devoted to visiting various project field sites. The final week will be spent in Colombo organizing the data collected and preparing the final evaluation report. Early during the final week the team will meet with the USAID Director, or his designee(s), and appropriate GSL officials and discuss the team's findings and tentative recommendations.

The evaluation will include an assessment of the following areas:

(1) Review the planned goals and purposes of the project to determine: (a) if they are still valid, and (2) describe the measurable progress made toward achievement of stated goals and purposes.

(2) Assess the commitment of the GSL to the forestry sector. Describe past and proposed GSL actions concerning policy decision's, budget allocations, new staffing recruitment, supporting training of staff, and approving procurement of equipment or approval of new construction. When appropriate, specific recommendations should be made for required GSL actions to improve its performance under the project.

(3) Assess the institutional, impact of the project. i.e., describe the operational performance improvements of the Forest Department, and identify linkages that have occurred, such as the the development of linkages between the the research, extension, training and field operations within the Department. Describe other factors affecting the institutional building aspects of the project, as well as recommending ways to improve departmental operations.

(4) Assess the impact or potential impact of other foreign donor aided projects in the forestry sector and their influence, if any, on project implementation.

(5) Assess the beneficiary impact of the project, to the extent possible, by emperical data.

Some specific questions which need to be answered, which will aid in assessing the performance and progress of the project, are as follows:

(1) Were projected inputs (TA, training, commodities) appropriate, timely, provided, and in the necessary quantities? Are these inputs yeilding the anticipated outputs?

(2) Was the Life-of-Project work plan realistic? What was the quality of subsequent annual work plans? Were the technical experts provided and training activities implemented as described in the work plans?

(3) Have the Forest Department and Contractor coordinated budgeting procedures to ensure adequate GSL annual budget any support for the primary contractor's annual work plan?

(4) Has the project been effectively managed (at all levels)?

(5) Have the technical abilities of the consultants been fully utilized? Have their observations, suggestions and reports been pertinent and useful?

(6) Has the project facilitated the transfer of technology to improve forestry practices, such as nursery techniques, transplanting and maintenance?

(7) Has the projected to helped expand local employment as envisioned in the Project Paper?

(8) Have anomalies in factors affecting inputs, such as weather, during the project period affected the implementation schedule?

(9) Do other donor agencies and GSL activities support, compete with or conflict with the aims of the project?

(10) What is the value of in-service and new recruit training provided at the Forest College, China Bay? How is this training perceived by participants and others?

(11) How do methods of communication available to the Forest Department impact on the project?

(12) Are the financial and other project records satisfactorily maintained and available to appropriate individuals?

Reporting Requirements

The team will prepare a draft report for detailed discussions and review by the Forest Department, its line ministry (Ministry of Lands and Land Development), and USAID. The team will then prepare and submit to USAID a final report prior to the team's dissolution.

The final report will certain the following sections:

- Title Page

- Table of Contents

- P & S Facesheet

- Executive Summary

  Summarizes the current project situation, mentioning progress in selection to design, forecast the prospects of achieving the purposes and goal, major problems encountered, and summary of recommendation of the e evaluation.

- Basic Project Identification Data Facesheet

- Statement of Conclusions and Recommendations

- Body of Report which contains the text for supporting the conclusions and recommendations.
  This section should also discuss the topics of evaluation as

described in the P & S outline, items number 15 through 21.

- Appendices, as required

A detailed report format will be presented to the team upon convening.

Funding

Funds to support team member's participation in this evaluation will be provided from the Forest Department, USAID, Asia Bureau, and SECID's operating expense budgets.

AID:ARD:JWBonner:sdes
11/14/84

People Interviewed by Evaluation Team

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3.	V. Ranjayakkare	Conservator of Forests, Forest Department
4.	K.P. de Saraune	Deputy Conservator of Forests, Forest Management, Planning & Development and Special Projects
5.	K. Vivekananadan	Chief Research Officer, Forest Department and Project Director for USAID Reforestation & Watershed Management Project
6.	A. Pushparajah	Deputy Conservator of Forests Education & Extension, Working Plan and Inventory
7.	R. Rajapakse	Assistant Conservator of Forests, Upper Mahawelli Catchment
8.	L. Wijeseriya	Assistant Conservator of Forests, Puttalam Plantations (Fuelwood)
9.	A.G. Piyasena	Assistant Conservator of Forests, Trincomalee Plantations (Fuelwood)
10.	K.P. Amyeadas	Assistant Conservator of Forests, Anuradhapura Plantations (Fuelwood)
11.	K.D. Wilfred	Assistant Conservator of Forests, Kurunegala Plantations (Fuelwood)
12.	M.D. Karunaratne	Acting Director, Forest College, China Bay
13.	Joseph Sanders	Acting Chief-of-Party, South-East Consortium for International Development
14.	Edward R. Hawkins	World Bank Resident Representative

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15.	Unto Vaisanen	Jaakko Pöyry Int. Oy, Finnish Chief-of-Party for World Bank Project
16.	Stephen Mingely	Chief-of-Party, Asian Development Bank, Community Forestry Project
17.	John Doran	Seeds Consultant, Asian Development Bank, Community Forestry Project
18.	Ronald Hooper	Fire Control Consultant, Asian Development Bank, Community Forestry Project
19.	Nisk Gunawardena	United Nation Development Program/Food & Agriculture Organization
20.	James W. Bonner	Project Manager, USAID/Colombo Agriculture & Rural Development
21.	Nimal Jayaratne	Engineer, USAID/Colombo, Mahaweli Water Resources & Development
22.	Eric Loken	Environmental Engineer, USAID/Colombo, Mahaweli Water Resources & Development
23.	Vidya Fernando	Project Manager for Mahaweli Environment & Five Nation Building Projects, USAID/Colombo Project Development & Special Programs
24.	Michael J. Korin	Chief, Agriculture & Rural Development USAID/Colombo

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