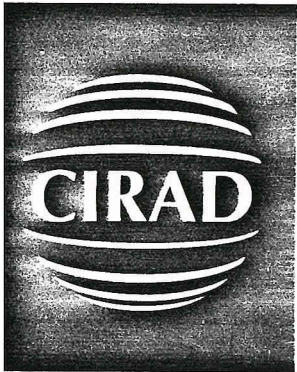


**Department of Forestry  
Lao PDR**

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entre  
e coopération  
internationale  
n recherche  
gromique  
our le  
éveloppement

**6 MONTHLY REPORT  
JULY - DECEMBER 1995**

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**CIRAD-Forêt - MIDAS - Burapha**

**Lao ADB Plantation Forestry Project - Loan No, 1295 (SF)**

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**January 1996**

## LIST OF ABBREVIATIONS & ACRONYMS

ADB	Asian Development Bank
APB	Agricultural Promotion Bank
AV	Audio visual
EBS	Environmental Baseline Survey
BME	Benefit Monitoring and Evaluation
BOL	Bank of Lao
DOF	Department of Forestry
GIS	Geographic Information System
GOL	Government of Lao
MCTPC	Ministry of Communication, Transport, Post and Construction
MAF	Ministry of Agriculture and Forestry
PAM	Project Administration Memorandum
PBP	Pilot Block Plantation
PCU	Project Co-ordination Unit
PFP	Pilot Farm Plantation
PPCU	Provincial Project Co-ordination Unit
R&D	Research and Development
STP	Socio Technical Profile
TA	Technical Assistance consultancy for institutional strengthening
TOR	Terms of Reference

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## LIST OF ABBREVIATIONS & ACRONYMS

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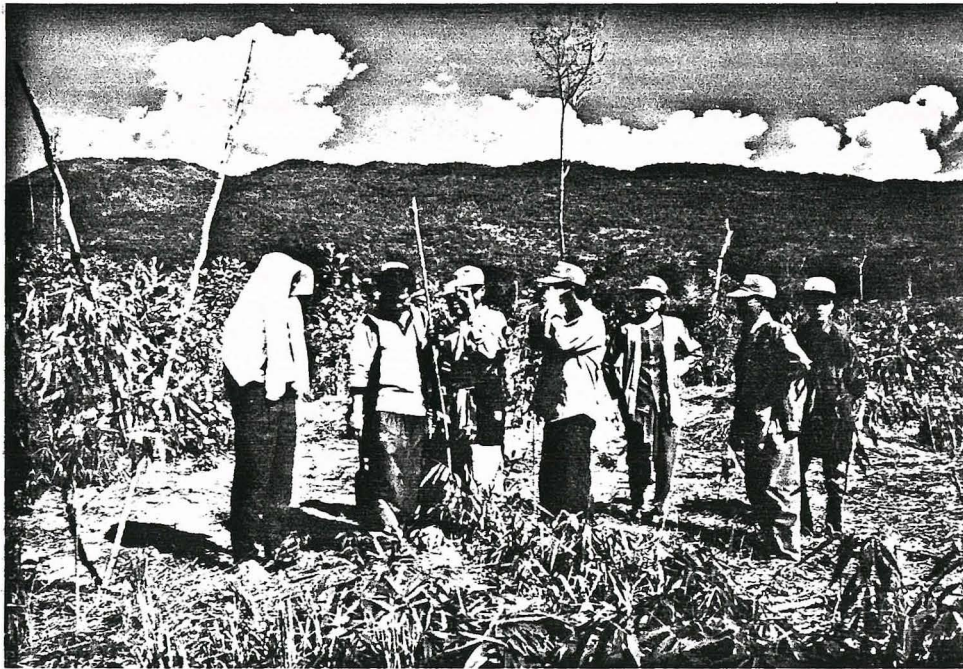
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## PHOTOGRAPHS



**Photo 1.** Plantation and extension training courses were held in 4 provinces.  
This photo is of the Vientiane Prefecture course.



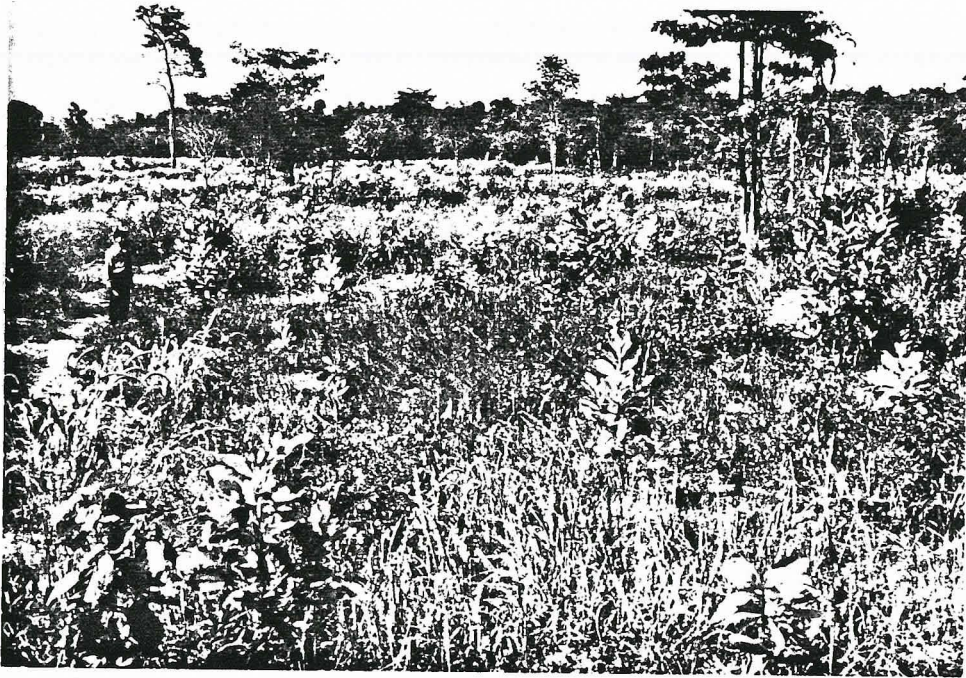
**Photo 2.** Survey and mapping courses were held the 4 provinces.  
This photo is of the Bolikhamsay Province course field exercise.



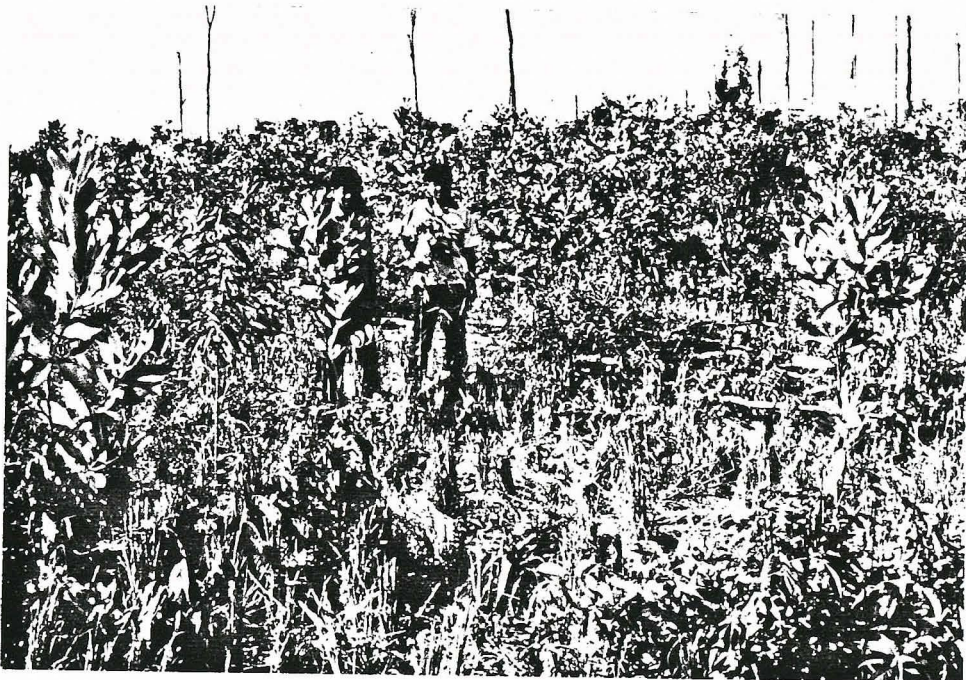
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**Photo 4.** Mixed planting of *Acacia* and *Eucalyptus* at PBP Phon Tong, Vientiane Province. The rice stubble left after a successful harvest of dry land rice is seen covering the ground.



**Photo 5.** PBP Na Kaha in Vientiane prefecture showing the *Acacia* in foreground and *Eucalyptus* in the background.



**Photo 6.** PBP Phon Savan in Bolikhamsay Province, showing block planting of *Acacia*.



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Photo 8. PBP Phon Kham in Vientiane province showing *Acacia* planting at left and back with *Eucalyptus* in the front right.



# 1. ສັງລວມໂດຍຫຼັງ

ວັດຖຸປະສົງ ຂອງ ບົດລາຍງານ ຄວາມຄືບໜ້າ ລາຍ ທົກ ເດືອນນີ້ ແມ່ນ ເພື່ອ ສັງລວມ ຄວາມກ້າວໜ້າ ຂອງ ໂຄງການ ປູກໄມ້ ໄຫຍ່ໄວ ລາວ-ເອດີປີ ແລະ ການຈັດຕັ້ງປະຕິບັດ ວຽກງານ ໃຫ້ ປະກົດຜົນ ເປັນຈິງ ໂດຍ ບັນດາຊ່ຽວຊານ ທີ່ເຮັດ ການຈັດຕັ້ງປະຕິບັດ ໂຄງການ ຂອງ ບໍລິສັດ ທີ່ປຶກສາ ຊີແລດ ໄຟແລ - ໂມດາດ - ບົວລະພາ ຊຶ່ງ ກຳລັງ ຊ່ອຍເຫຼືອ ກົມ ປ່າໄມ້ ຂອງ ສປປ. ລາວ.

ບົດລາຍງານ ຄວາມຄືບໜ້າ ລາຍທົກເດືອນ ທຳອິດ ຂອງ ການຈັດຕັ້ງປະຕິບັດ ວຽກງານ ຂອງ ໂຄງການ ໃຫ້ ປະກົດຜົນ ເປັນຈິງນີ້ ຄອບຄຸມ ຊ່ວງໄລຍະເວລາ ແຕ່ ວັນທີ່ 4 ກໍລະກົດ 1995 ສຳລັບ ໜ້າວຽກ ຂອງ ຊ່ຽວຊານ ດ້ານ ການຈັດຕັ້ງປະຕິບັດ ໂຄງການ, ແລະ ແຕ່ ວັນທີ່ 20 ພຶດສະພາ 1995 ສຳລັບ ໜ້າວຽກ ຂອງ ຊ່ຽວຊານ ດ້ານ ການຈັດຕັ້ງປະຕິບັດ ສວນປູກໄມ້, ຮອດ ທ້າຍເດືອນ ທັນວາ 1995. ບົດລາຍງານນີ້ ເວົ້າເຖິງ ເລື່ອງ :

- ຄວາມຄືບໜ້າ ແລະ ສະພາບການ ຂອງ ການຈັດຕັ້ງປະຕິບັດ ໂຄງການ ໃຫ້ປະກົດຜົນ ເປັນຈິງ ຮອດ ວັນທີ່ 31 ທັນວາ 1995.
- ບັນດາໜ້າວຽກ ຂອງ ຊ່ຽວຊານ ແລະ ວັດຖຸ ທີ່ສະໜອງໃຫ້ ໃນຊ່ວງໄລຍະ ຂອງ ການລາຍງານ ເທື່ອທຳອິດນີ້.
- ການໃຊ້ຈ່າຍ ຂອງ ທີ່ປຶກສາ ສຳລັບ ຊ່ວງໄລຍະເວລານີ້ ຈົນຮອດ ວັນທີ່ 31 ທັນວາ 1995.
- ບັນດາວຽກງານ ຂອງ ຊ່ຽວຊານ ສຳລັບ 6 ເດືອນ ຕໍ່ໄປ.

ບົດລາຍງານນີ້ ຊີ້ໃຫ້ເຫັນ ການເຊື່ອມຕໍ່ ລະຫວ່າງ ແຜນການ ຂອງ ການຈັດຕັ້ງປະຕິບັດ ໃຫ້ປະກົດຜົນ ເປັນຈິງ ກໍຄື ຄວາມຄືບໜ້າ ໃນປະຈຸບັນ ແລະ ຄວາມຕ້ອງການ ຂອງ ວັດຖຸ ທີ່ຈະຕ້ອງ ສະໜອງໃຫ້ ສຳລັບ ທົກ ເດືອນ ຕໍ່ໄປ.

ໃນ ຊ່ວງໄລຍະເວລາ ຂອງ ການລາຍງານ ເທື່ອທຳອິດນີ້ ການຈັດຕັ້ງປະຕິບັດ ໄດ້ປະສົບ ຜົນສຳເຫຼັດ ບັນດາ ວຽກງານ ດັ່ງນີ້ :

- ໄດ້ບູລະນະຮັກສາ ສວນປູກໄມ້ ທິດລອງ ທີ່ມີຢູ່ແລ້ວ ໂດຍ ການເສຽ ຫຍ້າ ຂ້າ ຮຸ່ນ ແລະ ໄສ່ ປຸ່ຍ ແລະ ປ້ອງກັນ ງົວ ຄວາຍ ແລະ ໄຟໂຫມ້.
- ຊອກຫາ ສວນປູກໄມ້ ທິດລອງ ແລະ ໄດ້ເພີ່ມຕື່ມ 4 ສວນປູກໄມ້ ທິດລອງ ໂຫມ້ ແລະ 90 ສວນປູກໄມ້ ຕົວແບບ ຂອງ ປະຊາຊົນ ຢູ່ ທ້ອງຖິ່ນ ໂດຍ ຜ່ານ ຂະບວນການ ຂອງ STP ໃນ ການນຳໃຊ້ ດິນ.
- ໄດ້ຮັບ ການຮັບຮູ້ ຈາກ ອຳນາດການປົກຄອງ ເມືອງ ແລະ ແຂວງ ຕາມ ທີ່ຕ້ອງການ ສຳລັບ ດັ່ງກ່າວ ເທິງນັ້ນ.
- ໄດ້ຈັດຕັ້ງປະຕິບັດ ສຳເຫຼັດ ການສຳຫຼວດ ແລະ ອອກແບບ ທາງຊອຍ ເຂົ້າຫາ ບັນດາສວນປູກໄມ້ ທິດລອງ.
- ສຳຫຼວດ, ກຳໜົດ ຂອບເຂດ ແລະ ສ້າງແຜນທີ່ ເມື່ອທີ່ ຂອງ ສວນປູກໄມ້ ສຳລັບ ລະດູ ການປູກໄມ້ ຂອງ 1996.

- ວິເຄາະ ເນື້ອທີ່ ຂອງ ສວນປູກໄມ້ ທິດລອງ ແລະ ສວນປູກໄມ້ ຕົວແບບ ແລະ ຈາກນັ້ນ ໄດ້ ວາງແຜນ ສ້າງ ສວນປູກໄມ້ ໂດຍ ການນຳໃຊ້ ພັນໄມ້ ທີ່ເໝາະສົມ ແລະ ວິທີການ ປະຕິບັດ ການປົກປັກຮັກສາ ປ່າໄມ້ ເພື່ອ ເປັນ ການຖອດຖອນ ບົດຮຽນ ຢູ່ ທ້ອງຖິ່ນນັ້ນ ແລະ ພູມິພາກ ອື່ນໆ ທີ່ຄ້າຍຄື ກັບ ລາວ ແລະ ສ້າງແບບແຜນ ແນວ ຄວາມຄິດ ແລະ ຕົວແບບ ໂຫມ່.
- ໄດ້ສ້າງ ຕາຕະລາງ ການຈັດຕັ້ງປະຕິບັດ ການປົກປັກຮັກສາ ປ່າໄມ້ ທີ່ເໝາະສົມ ຕາມ ຄວາມຮຽກຮ້ອງ ຕ້ອງການ ຂອງ ແຜນການ ປູກໄມ້ ຢູ່ສວນປູກໄມ້ ທິດລອງ ແລະ ສວນປູກໄມ້ ຕົວແບບ ຂອງ ຊາວກະສິກອນ.
- ບົບປຸງ ແລະ ພັດທະນາ ຄວາມສາມາດ ໃນ ການສົ່ງເສີມ ຂອງ ໜ່ວຍ ປະສານງານ ໂຄງການ ຂັ້ນ ແຂວງ ເພື່ອ ຂະຫຍາຍ ສະມາຊິກ ແລະ ບໍລິການ ຊາວກະສິກອນ ກໍຄື ຊຸມຊົນ.
- ໄດ້ກວດກາ ແລະ ຮ່າງ ບົດຄວາມ ກ່ຽວກັບ ສວນປູກໄມ້ ແລະ ສວນກ້າເບ້ຽ ແລະ ສັນຍາ ຄົນໂຫມ່ ຕາມ ທີ່ ຕ້ອງການ.
- ໄດ້ທຳ ການ ຝຶກອົບຮົມ ກ່ຽວກັບ ເນື້ອໃນ ທາງ ດ້ານເສດຖະກິດ ສຳລັບ ການປູກໄມ້ ໃຫ້ເປັນ ສິນຄ້າ. ຫຼັກສູດ ການຝຶກອົບຮົມ ກ່ຽວກັບ ວິທີການ ສ້າງ ສວນປູກໄມ້ ແລະ ວິທີການ ສົ່ງເສີມ ຢູ່ໃນ ສີ່ ແຂວງ ແລະ ໄດ້ວາງແຜນ ຫຼັກສູດ ຝຶກອົບຮົມ ສວນກ້າເບ້ຽໄມ້.
- ໄດ້ສ້າງແຜນການ ຜລິດ ຕົ້ນໄມ້ ຂອງ ປີ 1996 ແລະ ໄດ້ຄັດເລືອກເອົາແລ້ວ ບັນດາສວນກ້າເບ້ຽໄມ້ ສຳລັບ ສົ່ງດັ່ງກ່າວ.
- ໄດ້ທຳ ການຝຶກອົບຮົມ ກ່ຽວກັບ ວິທີການ ບໍລິຫານ ຄຸ້ມຄອງ ອັນເໝາະສົມ ໃນ ຂົງເຂດ ການປູກໄມ້ ເພື່ອ ເປັນ ສິນຄ້າ. ເວົ້າສະເພາະ ຢູ່ໃນ ເນື້ອທີ່ ທີ່ມີ ສັນຍາ ພູກພັນ ຮ່ວມກັນແລ້ວ, ການຄຸ້ມຄອງ ບໍລິຫານ, ການເບີກຈ່າຍ ແລະ ການຄວບຄຸມກວດກາ.
- ກຳລັງ ສ້າງແຜນການ ການສຳຫຼວດ ຂັ້ນພື້ນຖານ ກ່ຽວກັບ ສິ່ງແວດລ້ອມ ສຳລັບ ປີ ທຳອິດ.

ໃນຊ່ວງໄລຍະເວລາ ຂອງ ການລາຍງານນີ້ ຄວາມຄືບໜ້າ ທາງດ້ານ ການປະຕິບັດ ວຽກງານ ໄດ້ໄປ ຕາມ ແຜນການ ຂອງ ບົດລາຍງານ ຂອງ ການຈັດຕັ້ງປະຕິບັດ ໃຫ້ປະກົດຜົນ ເປັນຈິງ. ບໍ່ມີ ການຫັນປ່ຽນ ອັນໂຫຍ່ຫຼວງ ໃດໜຶ່ງ.

ໄດ້ ນຳສະເໜີຜ່ານ ທຸກ ຂໍ້ມູນ ໃຫ້ ນັກວິຊາການ ຂອງ PCU, PPCU, ບັນດາຊ່ຽວຊານ ແລະ ພະນັກງານ ຊ່ອຍວຽກ.

ມີ ບົດລາຍງານ ກ່ຽວກັບ ການໃຊ້ຈ່າຍ ຢູ່ ພາຍໃນ ແລະ ຕ່າງ ປະເທດ ຂອງ ບັນດາຊ່ຽວຊານ ດ້ານການປຶກສາ.

ໄດ້ສ້າງ ຕາຕະລາງ ການຈັດຕັ້ງປະຕິບັດ ວຽກງານ ຂອງ ຊ່ຽວຊານ ແຕ່ລະ ຄົນ ໂດຍລະອຽດ ສຳລັບ ຊ່ວງໄລຍະເວລາ, ວັນທີ່ 1 ມັງກອນ ຫາ 30 ເມສາ, ຂອງ ການລາຍງານ ຫົກ ເດືອນ ຕໍ່ໄປ.

## 1. EXECUTIVE SUMMARY

The purpose of this 6 Monthly Progress Report is to provide a summary of implementation activity and progress of the LAO-ADB Industrial Tree Plantation Project by the Project Inception Specialists of the CIRAD-MIDAS-BURAPHA consulting association who are assisting the Department of Forestry of Lao PDR.

This first 6 Month Report of the project implementation covers the period from 4 July 1995 for the activities of the implementation specialists generally, and from 20 May 1995 for the plantation operations specialist only, through to the end of December 1995. This report contains information on the;

- Progress and status of the project implementation to 31 December 1995.
- Specialists activities and inputs provided over the first reporting period.
- Consultants expenditure for the period to 31 December 1995.
- Specialists activities planned for the following 6 months.

This report provides the links between the Implementation Report plans, the actual progress and the inputs required for the next 6 months.

Over this first reporting period the implementation has achieved these principle operational activities;

- Maintained existing PBPs by weeding and fertilising and protected them from cattle and fire.
- Searched for and confirmed 4 required new PBP and 90 PFP sites with local people by STP process for rational land use.
- Obtained approval from district and provincial authorities as required for above.
- Implemented access roading survey and designs in PBPs.
- Surveyed, demarcated and mapped planting areas for the 1996 planting season.
- Analysed PBP and PFP sites and then planned their establishment using the appropriate species and silviculture practices that have proven effective locally and in other regions similar to the Lao site types and formulated plantation concept and design.
- Provided appropriate silviculture schedules for the requirements of the PBP and PFP planting plans.
- Strengthened and developed the extension ability of PPCU to recruit and service farmers and rural community.
- Reviewed and redrafted nursery and plantation prescriptions and contracts as required.
- Provided training on economic principles for commercial plantations. Training courses for plantation establishment methods and extension methods in 4 provinces and planned the nursery training courses.
- Planned production of 1996 trees and selected nurseries for this.

- Provided training in appropriate management methods used in the commercial plantation sector. Particularly in the area of contract formulation, management, payments and control.
- Planning of the first annual Environmental Baseline Survey.

During this reporting period operational progress has followed the plan of the Implementation Report. There have been no significant deviations.

Data is presented on the staffing numbers in PCU, PPCU, specialists and local support staffs.

There is a report on local and international expenditure by the consultancy specialists.

Detailed implementation work sheets are made for each specialist for the next 6 month reporting period 1 January to 30 June 1996.

## 2. INTRODUCTION

### 2.1 Project Scope

The project is located in the eight of the thirty four districts which comprise Vientiane Prefecture, and the provinces of Vientiane, Bolikhamsay and Savannakhet. Its scope is comprised of four parts ;

- Part A : Provision of a credit facility for smallholder farmers and private enterprises to finance the establishment of industrial tree plantations on about 9,000 ha of unstocked and degraded forest land;
- Part B : Establishment of pilot block and pilot farmer plantations on 560 ha;
- Part C : Improvement of about 60 km of plantation access roads; and
- Part D : Project management support including nursery improvement, public awareness programs, incremental staffing and logistical support.

The project must be implemented in the next five and one half years as implementation started in July 1995 and is scheduled to finish in early 2001. It is planned to allow two years for establishment of pilot plantations and the improvement of plantation access roads and five years for the establishment of plantations by the private sector, including farmers.

DOF and APB are the executing agencies of this project.

- APB will be responsible for Implementing Part A .
- DOF is responsible for implementing Parts B, C and D of the project and also for project co-ordination and management through the PCU.

### 2.2 Background

Referring to the Contract for Consultants Services between the Government of Lao PDR and CIRAD-Forêt in association with MIDAS Agronomics Co. Ltd. and Burapha Development Consultants Ltd. which is dated 17 April 1995. The Implementation Consultants assistance is funded under the terms of ADB Loan No. 1295 - Lao (SF) : Industrial Tree Plantation Project.

Under the terms of this contract the implementation specialists of the consultant have prepared this 6 monthly report.

The implementation team began their work and was mobilised on the following dates;

- Plantation Operations Specialist was mobilised on 8 May 1995.
- Team Leader was able to spend 9 days orientation starting 7 June 1995 and was fully mobilised on 4 July 1995.
- Road Specialist mobilised on 1 July 1995.
- Nursery Operations Specialist mobilised on 24 July 1995.
- Environmental Specialist mobilised on 4 December 1995.

This first 6 Month Report of the project implementation covers the period from 4 July 1995 for the activities of the implementation specialists generally, and from 20 May

1995 for the plantation operations specialist only, through to the end of December 1995. This report contains information on the;

- Progress and status of the project implementation to 31 December 1995.
- Specialists activities and inputs provided over the first reporting period.
- Consultants expenditure for the period to 31 December 1995.
- Specialists activities planned for the following 6 months.

### 3. PROJECT IMPLEMENTATION STATUS

#### 3.1 Development of Project Implementation and Status

Initially the project started with the TA developing the institutional aspects that are required to support and sustain this project. Briefly these were to;

- Prepare a national plantation strategy.
- Review and propose measures on legal framework for plantations.
- Design and organise the extension capability to support farmers and enterprises to plant trees.
- Design training programmes to support these tree plantation activities.
- Prepare and establish the STP land survey process.
- Prepare a BME system.

Then prior to the beginning of this first work period by the implementation consultants the following implementation status had been carried out;

- Establishment of PCU and PPCU including staffing arrangements and training program for operational staff.
- PBP sites were selected and plantings established in 1995 on 5 of these averaging 8 to 10 ha each with a combined area of 49 ha planted.
- Seedlings were produced for the 1995 PBPs including tree production training.

Now over this initial reporting period the implementation has achieved these following operational activities;

- Maintained existing PBPs and protect them from cattle and fire.
- Searched for and confirmed 4 required new PBP and 90 PFP sites with local people by STP process for rational land use.
- Obtained approval from district and provincial authorities as required for above.
- Implemented access roading survey and design in PBPs.
- Surveyed, demarcated and mapped planting areas for the 1996 planting season.
- Analysed PBP and PFP sites and then put to immediate use the appropriate species and silviculture practices that have proven effective locally and in other regions similar to the Lao site types and formulated plantation concept and design.
- Provided appropriate silviculture schedules for the requirements of the PBP and PFP planting plans.
- Strengthened and developed the extension ability of PPCU to recruit and service farmers and rural community.
- Reviewed and redrafted nursery and plantation prescriptions and contracts as required.

- Provided training on economic principles for commercial plantations. Training courses for plantation establishment methods.
- Planned production of 1996 trees and selected nurseries for this.
- Provided training in appropriate management methods used in the commercial plantation sector. Particularly in the area of contract formulation, management, payments and control.
- Planning of the first annual Environmental Baseline Survey.

During this reporting period operational progress has followed the plan of the Implementation Report. There have been no significant deviations.

Major items of implementation operations that must be completed during future periods are;

- Location and approval of one more PBP and 230 PFPs.
- Tree production and planting of remaining PBPs and PFPs and maintenance of all plantings.
- Road access construction and maintenance.
- Continue extension and promotion programme.
- APB loans assistance.
- Environmental monitoring and awareness.
- Benefit monitoring and evaluation.
- Continue training and strengthening of staff.



#### 4. PROJECT STAFFING

##### 4.1 PCU

During the reporting period the PCU staff strength experienced no gains or losses. As of 31 December 1995 the PCU staff strength and organisations was as follows;

##### PCU Staff Strength as at 31 Dec. 1995

Section	Staff Nos. and Position
Directors	1 Project Director 1 Deputy Project Director
Monitoring & Evaluation Section:	1 Section Head 3 Section staff
Training & Extension Section:	1 Section Head / Training & Extension 1 Extension Materials
Plantation Development Section:	1 Section Head / Supervisor South Region 1 Supervisor North Section 1 Supervisor Nurseries / Seed / Road maint.
Administration Section:	1 Section Head 1 Accountant / Cashier 1 Admin. assistant (on maternity leave)
A total strength of 14 persons.	

##### 4.2 PPCU

During the reporting period the PPCU staffs experienced considerable change. As of 31 December 1995 the PPCU staff strengths were;

##### PPCU Staff Strengths as at 31 Dec. 1995

Position	Nos. in each PPCU			
	Vientiane Pref.	Vientiane	Bolikhamsay	Savannakhet
Manager	1	1	1	1
Admin	1	1	1	2
Extension	2	3	3	3 (includes deputy)
Technical	2	2	2	3
Woman Union	2	2	2	2
Lao Youth	2	2	2	2
	10	11	11	13
New staff	-	5	2	3
Departed	4	5	2	-

#### 4.3 Implementation Specialists

The project specialist Implementation Team fielded by the CIRAD - MIDAS - BURAPHA consulting association comprises of five people. Their combined consultancy is allocated a total of 79 man months over the period May 1995 to June 2000. The specialists and their work times for the project during this period have been;

##### Specialists Work Time During Reporting Period

Specialist	Work Time
• Thomas Brummer ( 36 mths.) Plantation Management Specialist / Team Leader	7 June - 31 Dec.
• Anthony Zola ( 7 mths.) Environmental Specialist	4 Dec. - 9 Dec.
• Khamsay Hongsouvanh ( 12 mths.) Road Upgrade and Maintenance Specialist	1 July - 31 Dec.
• Keu Moua ( 14 mths.) Plantation Operation Specialist	8 May - 12 Aug. 1 Nov. - 31 Dec.
• Keo Nanthasack ( 10 mths.) Nursery Operation Specialist	24 July - 31 July

#### 4.4 Local Support Staff

The following local support staff are employed with the consultancy to assist the project;

##### Local Support Staff Employed During Reporting Period

Position	No. persons	Employment Commenced
Secretary	1	1 June
Accountant	1	1 November
Driver	1	1 June

## 5. PRINCIPAL WORK ACCOMPLISHED

### 5.1 Plantation Management

#### 5.1.1 Consultant's Administration and Planning

Earlier during this reporting period the team leader was involved with the administrative requirements involved in beginning the implementation consultancy. These included; budgeting, establishing the consultant's claim format and procedures, organising the administrative and reporting requirements of the consultants association CIRAD-MIDAS-BURAPHA, opening bank accounts, organising funds transfer, establishing a cash accounting system, customs clearance and organising immigration requirements.

With aid of PCU contact was made with relevant departments and organisations required; an office and furniture was organised in the PCU offices; local support staff organised and an introduction made to the project area and PPCUs.

#### 5.1.2 Technical Planning and Management

Preparation planning and in work training was carried out by PCU Plantation Development Section and team leader. Work completed was; review of species and provenances for project areas, PBP environmental assessment, vegetation and topography survey, boundary survey, area measurement and mapping.

The team leader also assisted with input during the review of prescriptions, contracts, PPCU supervision requirements, PPCU reporting requirements, extension technique and materials preparation, plantation protection, PBP roading plans and annual training preparations.

Also provided were short papers giving explanation and "how to" instruction on;

- Plantation Records,
- Species and Provenances for Commercial Planting,
- Instructions for PBP Supervision by PPCU,
- Seed Control System,
- Management Plans for Plantations

Planning for the establishment of the PBPs for 1996 was completed and included; site survey, plan of species and provenance, area, number of trees, spacing, planting options to be followed and field trials to be included. The following PBPs have been planned for planting in the 1996 season;

**PBPs Planned for 1996 Planting**

Province	District	PBP Village	Area (ha)
Vientiane Prefecture	Naxaithong	Na Kaha *	15.1
Vientiane Province	Thoulakhom	Phon Kham ^	-
	Phohong	Phon Tong *	43.5
Bolikhamsay	Thaphabat	Phon Savan ^	-
		Song Khon Mai	21.0
		Pha Bath	12.0
Savannakhet	Khanthaburi	Phon Sim *	20.0
		Bueang Bouthong	32.0

- \* Expansion of area planted 1995.
- ^ PBP planted 1995, not to be expanded.

A plantation record system was designed and implemented by Plantation Development Section with assistance of team leader. This record is maintained in English by the section and in Lao by each PPCU.

### 5.1.3 1995 Plantation Maintenance

The Plantation Development Section with assistance of team leader has followed up, instructed and directed the PPCUs in the 1995 planted PBP maintenance operations of weeding, fertilising, fence checking and fire protection. During August and September the most severe floods since 1966 in the provenances along the Mekong River disrupted transport of fertiliser and delayed weeding and fertilising field operations.

Following the Inception Report the PBP management plan preparation has been planned for early 1996 so as not to delay the planning, training and preparations required for the 1996 planting operations. The permanent sample plots to monitor tree growth will be established at the end of the raining season after the trees are one year old, this is the normal practice in plantation mensuration work.

### 5.1.4 Site Selection and Survey

A large number of potential PBP sites have been surveyed by PCU with PPCU, villagers and team leader. Of these 4 have been accepted, the sites passed through the STP process and will be planted in 1996. The areas have also been surveyed measured and mapped. Land which is both suitable and available for fast growing plantations has been found to be surprisingly, very scarce. Much of the suitable land is already claimed by someone and thus unavailable to the project it is expected that private individuals and enterprises will not experience this scarcity when coming to establish plantations under the APB loan scheme. New areas that were acquired for PBPs during this period are;

**New Areas Acquired for PBPs**

Province	District	PBP Village	Area (ha)
Vientiane Prefecture	Naxaithong	*	*
	Xaithany	*	*
Vientiane Province	Thoulakhom	*	*
	Phohong	Phon Tong	22
Bolikhamsay	Thaphabat	Pha Bath	12
	Paksan	Song Khon Mai	21
Savannakhet	Xaibury	Bueang Bouthong	32

\* PBP site looked for but not found, or not passed STP survey.

If the sites received a favourable STP result the PBP areas were finalised after a large number of discussions with the villagers, the district and provincial officials and after each of these gave approval according to relevant regulations and procedures.

### 5.1.5 Training and Extension

Relevant PCU sections aided by Training and Extension Section and the implementation specialists have co-ordinated, advised on, taught and provided AV materials for the formal training courses for; plantation and extension techniques, STP

and BME held in December and assisted in preparations for the nursery course to be held in January. These are reported on in some detail in other sections of this report.

On job training has continued throughout the reporting period, and has been conducted in all aspects of the work being carried out by each specialist including roading and environmental. The main method being used is an instruction session followed by setting of participatory work to the PCU staff involved and finally discussion of the resulting work output. Results have been very gratifying.

There have been some staff changes in PPCU and it would be better if it is possible to minimise these. There have been no permanent personnel losses to PCU during this period.

#### **5.1.6 BME**

Input has been provided by team leader to Monitoring and Evaluation Section for BME regarding evaluation of plantation establishment and maintenance operations and tree growth. Also he has participated in the various aspects of the STP process relevant to plantation technique and economic aspects of tree plantation including some on job training.

Monitoring and Evaluation Section with the assistance of Training and Extension section have done annual the STP and BME training in December for 3 of the 4 provinces, the remaining training course will be held in February.

Monitoring and Evaluation Section have updated their records for the end of year and concluded two STPs on large areas for private enterprise.

#### **5.1.7 Demonstration Trials**

The requirement for trial work in the PBPs has been examined and discussed by PCU and team leader with Nam Song Research Station and PPCU. It has been determined that the project has the capabilities to establish and analyse the trials in the PBPs and therefore the staff of Nam Song Research Station will provide comment, advice and input but not be involved in establishment and analysis. The following demonstration trials have been planned for incorporation into the 1996 plantings;

- Chemical fertiliser trial
- Farmers' alternative fertiliser trial
- Spacing trial
- Cultivation trial
- Species demonstrations
- Provenance trials
- Economic comparisons of various techniques
- Yield comparisons of various techniques
- Agro-forestry crops
- Grazing-forestry
- Seed stands

Trial work plans will be completed in early 1996.

### 5.1.8 Plantation Assessment

During the reporting period the team leader has regularly visited PBPs to assess their management and maintenance, reports including recommended remedial action has been made to PCU.

As initially predicted the *Acacia mangium* has been observed to out perform *Eucalyptus* on all but one of 1995 planted PBPs. This is basically as a result of insufficient soil cultivation at the land preparation phase of plantation establishment which *Eucalyptus* is less able to tolerate than *Acacia*. This problem has occurred because the sites were examples for farmer planting on typical broken topography most commonly found in the project area. In such conditions *Acacia* should be able to outperform *Eucalyptus* if it can survive the dry season it would be ideal. Also its establishment and maintenance is much better suited to the requirements and situation of the poor farmers. But there is no market yet for the species. The problem will be approached by adaptation of the technical, silvicultural and species to suit the site where possible.

## 5.2 Environmental Monitoring

### 5.2.1 Preparation

During the environmental specialist's first visit in December he has completed orientation to the project and review of project documents.

Discussions were completed with the project director regarding project inputs and outputs related to the environmental system.

There were discussions with DOF regarding environmental monitoring indicators.

A review of site selection process for tree plantations and detailed identification of sites on maps has been completed.

### 5.2.2 Program

The following activities were achieved by the Monitoring and Evaluation Section of PCU assisted by the specialist.

- The preparation of a detailed work plan for environmental monitoring activities.
- A detailed schedule organisation and management of the BES.
- Design of the environmental monitoring system.
- Installation of the environmental monitoring system.
- Draft report on "Considerations for Development of an Environmental Monitoring System for Industrial Tree Plantations in Lao PDR" was prepared for preliminary discussion.

Follow up visits by the specialist in the next reporting period are planned for February - March and May 1996.

## 5.3 Plantation Operations

### 5.3.1 Establishment and Field Operations

In the planting season of 1995 a total of 48.6 ha in 5 PBPs were established by PCU with technical assistance from TA. The plantation operations specialist of the implementation consultants was requested by PCU to support the field operations starting in May to August 1995. The resulting PBPs were planted as follows;

**PBPs Planted 1995**

Province	District	PBP	Planted ha
Vientiane Prefecture	Naxaithong	Na Kaha	14.9
Vientiane Province	Thoulakhom	Phon Kham	8.2
	Phohong	Phon Tong	8.5
Bolikhamstay	Thaphabat	Phon Savan	6.9
Savannakhet	Khanthaburi	Phon Sim	10.1

These PBPs received weeding operations and one fertilisation of 120 g of NPK 15-15-15. In 3 of the PBPs weeding was completed behind requirement because of difficulties experienced in the need for daily labour payments and because some villages had poor motivation towards the contract and continually increased their demands even though they had signed a contract to provide this service at an agreed rate. The fertilising was completed in September some 2 months after scheduled application. This was because of late delivery of the fertiliser which was then further delayed by the extensive flooding disturbing communications which was experienced in the provinces along the Mekong River during the raining season.

The project policy, very correctly, has given preference to local village farmers forming a co-operative to provide contracting services for the establishment and maintenance of PBPs. This policy encourages co-operation and acceptance of the project and assists in provision of land for PBPs and provides the farmers some share in the project benefits in form of much needed cash. It is also assisting as an informal skills training and information dispersion venue for the villagers. However a cash stock held by PCU would be a valuable asset in the managing of the contracts of these village co-operatives because of their real need to be paid daily in order to support their families while they are not hunting, fishing, farming or food gathering.

**5.3.2 Technical Support**

Plantation establishment procedures were reviewed and a complete set of prescriptions, contracts and work schedules was produced for use in the 1996 season.

As the PPCUs will be required to supervise PBP contracts and operations in their areas the following were produced for their guidance;

- A detailed description of supervision required for plantation establishment and maintenance, including schedule.
- A detailed description of contract negotiation and signing, contract administration procedures and payments approval methods.
- A detailed description of operation reporting requirements and format including forms to use for reporting of PBP operations.
- A schedule for the annual round of plantation operations was produced.

**5.3.3 Protection**

Fire protection measures for 1995 planted PBPs have been implemented by PPCUs on plantations in November and December. These consisted of; construction of a fire break, cutting of all weeds in plantation to decrease flammability, education of surrounding villagers to protect the plantings and employing a watchman to oversee local fire protection measures by the villagers.

The watchman also looks out for cattle or buffalo that have broken the fence and has responsibility to remove them. PPCU have completed fencing checks.

#### 5.3.4 Training

The annual plantation and extension training course material was produced, the courses planned and held in December in the four provinces for PCU and PPCU. The number of participants involved were;

**Plantation and Extension Training Course**

Province	No. Participants	Course Duration (days)
PCU	7	3
Vientiane Pref. PPCU	6	3
Vientiane Prov. PPCU	6	3
Bolikhamsay	7	3
Savannakhet	7	3
Total training mandays	99	

The course was designed, conducted and planned by PCU with assistance of specialist. Course topics consisted of;

- Contract negotiation, signing, administration.
- Supervision method for plantations including; visit schedule and items of inspection required for each plantation operation.
- Outline, format and instructions of all PPCU reports required through the year including printed forms to use.
- Operations methods and specifications for all plantation operations.
- Biological information for fast growing trees.
- Plantation boundary survey, marking and mapping. Full practical exercise and instruction.
- Practical economic aspects of plantations, relationship between factors of plantations and their effect on profit.
- Field day to learn how to evaluate PBPs and the effectiveness of various operations.
- Extension methods and PFP techniques, including process for selecting from rural target groups for PFP recruitment.

#### 5.3.5 Extension Materials

During the period the following extension materials activities were carried out by Training and Extension Section of PCU.

The following were produced with assistance of the TA;

- Eucalyptus Facts
- Eucalyptus Plantation Methods
- Protection & Maintenance of Eucalyptus Plantations
- Eucalyptus Harvesting



- Eucalyptus utilisation

The following are in process of production with technical assistance of operations specialists;

- Seedling Production
- PFP Techniques
- Fire Protection Techniques

#### 5.4 Nursery Operations

##### 5.4.1 Nursery Selection

Nurseries in the 4 provinces were visited and staff interviewed to define the strengths and needs of staff training, infrastructure and equipment. Transport facilities, distances and road condition to planting areas were also studied by PCU / PPCU and specialist.

A written questionnaire was designed and sent out to all nurseries to be used with the field data already gathered to objectively assess the nursery's relative qualifications, physical ability, price quotations and delivery logistics to produce trees on contract for the project plantations in 1996. The PCU and specialists then formed a committee to discuss costs, relative merits, reliability and usefulness to project objectives before it was decided to use 4 nurseries one in each province. The nurseries thus chosen were;

**Tree Production Nurseries for 1996 Plantings**

Province	Nursery	Type	For PBP /PFP	Road Distance
Vientiane Pref.	Nam Soung	DOF research.	Na Kaha	6 km
Vientiane Prov.	Phoun Savat Co.	private co.	Phon Tong	30 km
Bolikhamsay	Na Euang	DOF nursery	Song Khon Pha Bath	15 km 75 km
Savannakhet	BAF Co.	private co.	Phon Sim B. Bouthong	13 km 70 km

Tree production contracts have been signed for 3 of the contracts, the last one will be signed early in January 1996.

##### 5.4.2 Seed Procurement and Management

Seed requirements for the 1996 plantings have been calculated based on the planting plan. It has been ordered and the following species provinces and amounts have been delivered and are now held in the project stock;

**Seed Procured for 1996 Plantings**

Species	Provenance	Seed Stock kg
<i>Eucalyptus tereticornis</i>	Mitchell River	0.400
	North Kennedy River	0.400
	Holms Creek	0.500
<i>Eucalyptus camaldulensis</i>	Laura River	0.500
	Wrotham Park	0.100
	Katherine River	0.100
	Petford	2.700
<i>Acacia mangium</i>	Kapal Village, Oriomo	0.700
	Upper Aramia, Balimo	0.300

Best quality seed was procured from CSIRO in Australia that is suitable for our project conditions and soils also having in mind the objective of the provision of Lao based seed sources in the future.

A seed registration, identification and stock record system as used in private industry has been designed and implemented for the project. Registration and records have also been completed for seed used for the 1995 plantings. The system features a project seed lot number, data on the provenience name and location, genetic quality data for future tree improvement, suppliers details and seed lot reference essential future reference in tree improvement, provenance climate and soil details, purchase date and quantity.

A seed stock control system has also been designed, and implemented for the seed procured for 1996 plantings and records also completed and backdated for seed procured for 1995 plantings. The stock cards record for each seed lot; seed identity, purchased amount, use and balance in stock. Each transaction is dated.

#### **5.4.3 1996 Tree Production**

The following tree seedling production has been planned for production by the selected nurseries for the 1996 PBPs and PFPs;

### Nursery Tree Production Plan for 1996

Province & Nursery	For PBP/PFP	Species	Provenance	No. Required
Vientiane Pref. (Nam Soung)	Na Kaha	E. tereticornis	Mitchell River	28,770
		A. mangium	Kapal Village	1,600
Vientiane Prov. (Phoun Savat)	Phon Tong	E. tereticornis	Holms Creek	37,300
		E. camaldulensis	Petford	38,900
		A. mangium	Kapal Village	9,700
Bolikhamsay (Na Euang)	Song Khon	E. tereticornis	Holms Creek	10,110
		E. tereticornis	Laura River	9,330
		E. camaldulensis	Petford	9,330
		E. camaldulensis	Katherine R.	9,330
		A. mangium	Kapal Village	500
		Local sp.		500
		Pha Bath	E. tereticornis	Mitchell River
	Pha Bath	E. tereticornis	Laura River	4,670
		E. tereticornis	Kennedy River	4,670
		E. camaldulensis	Petford	5,450
		E. camaldulensis	Wrotham Pk.	4,670
		A. mangium	Up. Aramia	500
		Local sp.		500
		Savannakhet (BAF Co)	Phon Sim	E. tereticornis
A. mangium	Kapal Village			700
Local sp.				700
B. Bouthong	E. tereticornis		Kennedy River	35,770
	E. camaldulensis		Petford	37,320
	A. mangium		Kapal Village	500
	Local sp.			500

Prior to end of December four tree production contracts had been negotiated and 3 of them signed, and the remaining one will be completed in early January 1996.

#### 5.4.4 Technical Support

Nursery production methods have been analysed and a prescription has been written detailing production methods and criteria required. Contracts have been revised and improved, and contracts drafted. A tree production schedule has been established.

In the 1996 year the PPCU will increase their involvement to the day to day supervision of tree production in nurseries producing for their PBPs and PFPs and also they will be responsible for the contract signing and administration. Therefore detailed supervision requirements and procedures have been produced for their guidance. A detailed reporting format and forms have also been produced for this purpose. Also there was produced a contract administration procedure to provide guidance for administration procedures including making payments.

#### 5.4.5 Training

During December nursery training course materials, program and demonstration aids were produced by PCU with assistance of operations specialist for a course in each of the four provinces to be conducted in January 1996.

## 5.5 Roading

### 5.5.1 Reconnaissance Survey and Road Selection

Reconnaissance surveys and full description and preliminary cost estimates for the access roads conditions of all of the 9 PBP original areas was completed by early August and the remaining two in early September after they were finalised. Descriptions and cost estimates were made for;

PBP Roads Described		
PBP	District	Province
Phon Tong	Phonhong	Vientiane
Phon Kham	Thoulakhom	Vientiane
Na Kaha	Naxaithong	Vientiane Prefecture
Donsangphai	Pakngeum (Xaithany)	Vientiane Prefecture
Tha	Thaphabat	Bolikhamsay
Phon Savan	Thaphabat	Bolikhamsay
Pha Bath	Thaphabat	Bolikhamsay
Song Khon Mai	Paksan	Bolikhamsay
Kouay	Paksan	Bolikhamsay
Bueang Bouthong	Xaibury	Savannakhet
Phon Sim	Khanthabury	Savannakhet

Final discussion of objectives, existing access conditions and realistic commercial / economic requirements resulted in the selection of the following access roads for construction; Phon Sim, Phon Tong, Na Kaha and Song Khon Mai. The estimated length and description of the access roads for the full survey and design drawings that are required for construction is ;

- Phon Sim's access road starts from Ban Thatinghang, passes through Ban Phon Sim and then ends at the PBP with a length of about 7 km.
- Phon Tong's access road starts from Road 13 N at km 62 from Vientiane Prefecture and ends at the PBP with a length of 2.3 km.
- Na Kaha's access road starts from the junction about 100 m from an existing steel bridge on true left bank of Nam Souring River, includes the bridge repair and ends at the PBP with a distance of about 3.1 km.
- Song Khon Mai's access road branches off the provincial road at 12 km from Road 13 S on new proposed site of the town of Paksan and ends at the PBP a length of 1.5 km.

Estimated design and construction budgets have been prepared.

### 5.5.2 Design Standards

The technical specifications and design standards were finished in early September, approved and presented to the Department of Communications of MCTPC in early October and officially approved.

### 5.5.3 Tenders and Contracts

The survey and design contracts were split into two; SD-01, Phon Sim and SD-02, Phon tong, Na Kaha and Song Khon Mai. Potential contractors were sought, investigated and had to pass a pre qualification prior being invited to submit tenders. Service contracts, TOR, technical specifications, topographical survey sheets, drawings format and title for survey and design were issued to 4 selected contractors in mid October. Three tenders were received for SD-01 in mid October and two for SD-02 in mid November. After

selection committee approvals and contract agreements and approvals the contracts were signed and work started for SD-01 in late November and SD-02 in Mid December. By end December the engineering report, construction estimate and construction drawings for SD-01 were approved by the Department of Communications of MCTPC and submitted to PCU.

A number of accumulating time delays were experienced in the evaluation and approval of documentation thus causing an unavoidable delay of about 1 month in the road implementation activities to the end of this period.

Preparation of, RC-01, the road construction contract for Phon Sim will start in early January.

#### **5.5.4 Supervision of Works**

The Savannakhet School of Communication and Transport was awarded SD-01 and throughout their field work received full time close support and supervision from PCU and the road specialist. The supervised and assisted works consisted of topographical survey, dynamic cone penetration testing, soil investigations, reference points, bench-marking, borrow pit locations, raw data computation, drawings and laboratory tests.

PCU and the road specialist supervised the location survey and soil investigations in the field which were completed by V V Co. for SD-02 by mid December. The balance of computations and drawings will be completed by mid January 1996.

By using the Savannakhet School of Communication and Transport as contractor the PCU was able to get SD-01 done for a very reasonable price. Otherwise the cost would be extremely high because the contract was unattractive to Vientiane companies with its small volume of work and thus they submitted very expensive bids due to high mobilisation costs. The contract gave very beneficial support to the school as practical training and was an intelligent use of existing local resources.

#### **5.5.5 Training**

PCU on the job training has been done for roading. It has consisted of document and budget preparation during this reporting period. The scheduled intensive training has had to be postponed because of the large number of assistance activities required from the engineer to achieve the implementation of SD-01 and SD-02. The training activities are therefore planned to be carried out in November 1996.

## 6. EXPENDITURE

### 6.1 Local Expenses

The report for international and local expenditure by the consultancy specialists of the project is in the two tables below. These expenditure reports cover the implementation specialists expenditure only and does not include expenditure made by the consultant's home office. The expenditure summary for the first reporting period as at 31 December 1995 follows.

<b>Local out of Pocket Expenses (US\$)</b>			
Item	Total Budget	Total Spent	Budget Balance
Per Diem (field)	39,801	4,274.89	35,526.11
Per Diem (Vientiane)	10,968	0.00	10,968.00
DSA	13,306	847.32	12,458.68
Domestic air Travel	7,910	133.85	7,776.15
Transport	17,643	1,749.25	15,893.75
Communication	9,898	444.03	9,453.97
Housing	38,989	6,108.92	32,880.08
Local support staff	27,852	3,513.55	24,338.45
Office supply	<u>5,946</u>	<u>961.24</u>	<u>4,984.76</u>
	172,313	18,033.05	154,279.95

### 6.2 International Expenses

<b>International out of Pocket Expenses (US\$)</b>			
Item	Total Budget	Total Spent	Budget Balance
International Travel	38,825	6,027.37	32,797.63
Miscellaneous Travel Exp.	3,909	4,238.64	(329.00)
Per Diem out of Lao	2,798	400.00	2,398.00
Communications	5,108	0.00	5,108.00
Reproduction reports	9,835	0.00	9,835.00
Miscellaneous	<u>1,095</u>	<u>92.38</u>	<u>1,002.62</u>
	61,570	10,758.39	50,811.61

## 7. IMPLEMENTATION PLANS FOR NEXT PERIOD

The proposed work plans for the next 6 month reporting period, starting from 1 January through to 30 June 1996 for each implementation specialist is as follows;

### 7.1 Team Leader / Plantation Management Specialist

- Jan Inspect land clearing operations, check environmental aspects. Prepare 1995 annual progress report.
- Feb Assist with BME in 1995 plantings. Management plan preparation. 2 weeks leave.
- March finalise plans for trials in PBPs. Review cultivation plans in PBPs. Management plan preparation. Prepare for extension seminar. View nursery operations
- April Check fence construction. Management plan preparation. Inspect cultivation in PBPs. Assist with trial implementation. Assist with extension seminar in Savannakhet. View nursery operations
- May Assist with extension seminar in Vientiane. Review tree distribution plans, inspect readiness of PBPs and PFPs for planting. View nursery operations. BME in land preparation.
- June Inspect tree transport methods and planting operations. Assist with trial implementation.

### 7.2 Environmental Specialist

- Feb- Finalise indicators. design the Environmental Baseline Survey (EBS) form.
- March Pre-test in field, adjust or revise form, EBS of 2 sites. Training PCU to conduct EBS. Analyse data from EBS and train PCU in this. Preparation of report.
- May Analysis of data from EBS. Train PCU to analyse data from EBS survey reports.

### 7.3 Road Construction and Maintenance Engineer

- Jan Supervision of survey and design package # 2. Checking designs, reports and calculations of survey and design package # 1 and # 2. Prepare semi annual roading report.
- Feb Prepare bid documents, evaluate bids and award construction package # 1 and # 2.
- March Prepare bid documents, evaluate bids and award construction package # 3 and # 4. Rehabilitation / construction of roads of package # 1. Supervision of road construction package # 1.
- April Rehabilitation / construction of roads of package # 1. Rehabilitation / construction of roads of package # 2. Supervision of road construction package # 2. Train PCU staff in planning, design and preparation of road maintenance schedule. Prepare progress report.
- May Rehabilitation / construction of roads of package # 1. Rehabilitation / construction of roads of package # 2. Supervision of road construction package # 1 and # 2.

**7.4 Plantation Operations Specialist**

Jan Assist in contractor selection, contract signing and starting plantation contracts.  
Assist in design of extension materials.

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June Assist in tree transport and planting operations in PBPs and PFPs.

**7.5 Nursery Operations Specialist**

Jan Train PPCU and nursery staff in 4 provinces in nursery techniques.

Feb Assist nurseries to plan, upgrade and prepare.

March - May: Provide technical support and in service training for nurseries and PPCU to produce seedlings for 1996 planting requirements.