

TECHNICAL COOPERATION FOR  
THE TRIAL PLANTATION PROJECT (ATA-186)  
IN BENAKAT, SOUTH SUMATERA

The Record of Discussions for The Trial  
Plantation Project (ATA-186) in Benakat, South Sumatera  
and  
The Operation Plans for The Trial Plantation Project  
(ATA-186) in Benakat, South Sumatera

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IN BENAKAT, SOUTH SUMATERA

The Record of Discussions for The Trial  
Plantation Project (ATA-186) in Benakat, South Sumatera  
and  
The Operation Plans for The Trial Plantation Project  
(ATA-186) in Benakat, South Sumatera

a.

October, 1987

JAPAN INTERNATIONAL COOPERATION AGENCY ( J I C A )

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THE RECORD OF DISCUSSION BETWEEN THE JAPANESE  
IMPLEMENTATION SURVEY TEAM AND THE  
AUTHORITIES CONCERNED OF THE GOVERNMENT OF  
THE REPUBLIC OF INDONESIA  
ON THE TECHNICAL COOPERATION FOR THE TRIAL  
PLANTATION PROJECT IN BENAKAT, SOUTH SUMATERA  
( ATA - 186 )

The Japanese Implementation Survey Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as JICA) and headed by Mr. Kenji Hori, Director of Forestry Development Cooperation Department, JICA, visited the Republic of Indonesia from April 2 to April 17 1979 for the purpose of working out the details of the technical cooperation program concerning the trial plantation project in Benakat, South Sumatera, in the Republic of Indonesia.

During its stay in the Republic of Indonesia, the Team exchanged views and had a series of discussions with the Indonesian authorities concerned in respect of the desirable measures to be taken by both Governments for the successful implementation of the above-mentioned Project.

As a result of the discussions, the Team and the Indonesian authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Jakarta, April 12 1979

Kenji Hori

Kenji Hori  
Head of the Japanese  
Implementation Survey Team.



Ir. Moeh. Harris Soeranggadjiwa  
Director of Forestry Planning  
The Directorate General of  
Forestry.

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN THE GOVERNMENT OF JAPAN AND THE GOVERNMENT OF THE REPUBLIC OF INDONESIA FOR THE TRIAL PLANTATION PROJECT IN BENAKAT, SOUTH SUMATERA

1. The Government of Japan and the Government of the Republic of Indonesia will cooperate with each other in implementing the Technical Cooperation for the Trial Plantation Project in Benakat, South Sumatera (hereinafter referred as "the Project") for the purpose of establishing afforestation techniques so as to contribute to successful afforestation in the grassland in South Sumatera.

2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

II. DISPATCH OF JAPANESE EXPERTS

1. In accordance with the laws and regulations in force in Japan the Government of Japan will take necessary measures through JICA to provide at its own expense services of the Japanese experts as listed in Annex II through normal procedures under the Colombo Plan Technical Cooperation Scheme.

2. The Japanese experts referred to in 1 above and their families will be granted in the Republic of Indonesia the privileges, exemptions and benefits no less favourable than those accorded to experts of third countries working in the Republic of Indonesia under the Colombo Plan Technical Cooperation Scheme, and will include the following :

- (1) Exemption from income tax and charges of any kind imposed on or in connection with the living allowances remitted from abroad;
- (2) Exemption from import and export duties and any other charges imposed in respect of personal and household effects which may be brought into from abroad or taken out of the Republic of Indonesia;
- (3) Exemption from import tax, import sales tax, sales tax, and other taxes and charges of any kind imposed on or in connection with the purchase in the Republic of Indonesia by the Experts of one motor vehicle per each expert;
- (4) Free local medical services and facilities to the Japanese Experts and their families.

#### III. PROVISION OF MACHINERY AND EQUIPMENT.

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide at its own expense such machinery, equipment and other materials necessary for the implementation of the Project as listed in annex III, through the normal procedures under the Colombo Plan Technical Cooperation Scheme.
2. The articles referred to in 1 above will become the property of the Government of the Republic of Indonesia upon being delivered c.i.f. to the Indonesian authorities concerned at the ports and/or the airports of disembarkation, and will be utilized exclusively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.

#### IV. TRAINING OF INDOONESIAN PERSONNEL IN JAPAN.

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to receive at its own expense the Indonesian personnel connected with the Project for technical training in Japan through the normal procedures under the Colombo Plan Technical Cooperation Scheme.
2. The Government of the Republic of Indonesia will take necessary measures to ensure that the knowledge and experience acquired by the Indonesian personnel from technical training in Japan will be utilized effectively for the implementation of the Project.

V. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE REPUBLIC OF INDONESIA

1. In accordance with the laws and regulations in force in the Republic of Indonesia, the Government of the Republic of Indonesia will take necessary measures to provide at its own expense :

- (1) Services of the Indonesian counterpart personnel and administrative personnel as listed in Annex IV;
- (2) Land, buildings and facilities as listed in Annex V;
- (3) Supply of replacement of machinery, equipment, instrument, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than those provided through JICA under III above;
- (4) Transportation facilities and travel allowance for the Japanese experts for the official travel within the Republic of Indonesia;
- (5) Existing suitably furnished accommodations for the Japanese experts and their families.

2. In accordance with the laws and regulations in force in the Republic of Indonesia, the Government of the Republic of Indonesia will take necessary measures to meet :

- (1) Expenses necessary for the transportation within the Republic of Indonesia of the articles referred to in III above as well as for instalation, operation and maintenance thereof;
- (2) Customs duties, internal taxes and any other charges, imposed in the Republic of Indonesia on the articles referred to in III above;
- (3) All running expenses necessary for the implementation of the Project.
- (4) The safety of the Project in general and the Forest fire in particular.



## ADMINISTRATION OF THE PROJECT

1. The Directorate General of Forestry will be responsible for the administrative matters for the implementation of the Project and the Japanese experts will provide technical advice and guidance for the implementation of the Project.
2. In order to secure smooth operation of the Project, a Joint-Steering Group will be established. The group will meet regularly at least once a year and its main task will be to formulate annual operational work plan and evaluate the progress of the Project, and to deal with the specific problems. The composition of the Group is specified in Annex VI.
3. The Project will be implemented with close cooperation extended by the Forest Research Institute, Forest Product Research Institute and the Provincial Forest Office of the Republic of Indonesia. The Project Organization is specified in Annex VII.

## VII. CLAIMS AGAINST JAPANESE EXPERTS.

The Government of the Republic of Indonesia undertakes to bear claims, if any arises, against the Japanese experts engaged in the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Republic of Indonesia except for those arising from the wilful misconduct or gross negligence of the Japanese experts.

## VIII. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues from, or in connection with this attached document.

## IX. TERM OF COOPERATION.

The duration of the technical cooperation for the Project under this Attached Document will be five years from the date of signature of the Record of Discussion.

I.

IMPLEMENTATION PLAN.

1. A Project Office will be established at Bogor and Project Implementation Centre will be established at Benakat area in South Sumatra.

Note : Existing Forestry Office at Palembang will be used for communication.

2. The Project Office will conduct the administration and supervision of the Project. It will run the joint - Steering Group referred to in article VI.

3. The Project Implementation Centre consists of an administrative office related facilities, trial plantation forest and nurseries. Development and improvement of planting techniques and on-the-job training will be performed in the Project Implementation Centre.

4. Trial plantation forests will be established at three different areas, each of which is around 700 ha based on the afforestation model for trial plantation forests as the result of the studies carried out in the previous scope of work signed on September 1st. 1977.

5. Items of development and improvement

- (1) Species trial
- (2) Nursery techniques
- ✓(3) Planting techniques
- ✓(4) Techniques for counter-measures against fire, insect, disease and meteorological damage
- Techniques for designing and managing forest roads and soil-conservation work
- (6) Techniques for the application of machine power
- (7) Test and investigation on the environmental implication of afforestation
- (8) Tests and studies on the social implications of afforestation
- (9) Planning and evaluation technique of afforestation project
- (10) Other necessary techniques

Annex II. Japanese Experts

Category	Field	
1. Chief Advisor		1
2. Experts	Silviculture and Nursery	2
	Forest Ecology	1
	Forest Protection	1
	Forest Engineering	1
3. Liaison Officer		

- Note :
1. The Chief advisor will be attached to the Project Office at Bogor
  2. A team leader will be nominated by JICA from among the Experts.
  3. Short-term experts in the fields mentioned above and other fields may be dispatched when necessity arises.

Annex III. Articles to be provided by the Japanese Authorities concerned

1. Machinery, equipment, spare parts and materials for nursery work
2. Machinery, equipment, spare parts and materials for planting work
3. Machinery, equipment, spare parts and materials for tending work
4. Machinery, equipment, spare parts and materials for forest roads, fire break, and soil conservation works
5. Machinery, equipment, spare parts and materials for fire control
6. Equipment, implements, instruments, spare parts and materials for research and training
7. Vehicles and their spare parts,
8. Equipment, tools, spare parts and materials for repair work
9. Equipment, spare parts and materials for public utilities including radio communication system
10. Other necessary equipment, tools and materials to be mutually agreed upon

Annex IV. Indonesian Counterparts and Other Personnel

Category	Field	
1. Project Manager(Senior Officer)		1
2. Field Manager		1
3. Counterparts	Silviculture and Nursery	2
	Forest Ecology	1
	Forest Protection	2
	Forest Engineering and Soil Coservation	2
4. Clerical and Service Employees		
5. Laborers		

Note : Number and period of service of the above mentioned officials and other personel will be adjusted according to the necessity from time to time

Annex V. Land Buildings

1. Land

- (1) Land for nurseries
- (2) Land for trial plantation forests
- (3) Land for administration office and related facilities

2. Buildings

- (1) A Project office at Bogor
- (2) Administration office and related facilities in Senakat area
  - 1. administration office
  - 2. laboratories and lecture rooms
  - 3. sheds for machinery and equipment
  - 4. storehouse for forestry materials
  - 5. workshop and garage
  - 6. generator and pump house
  - 7. field accommodation for Japanese experts and Indonesian counterparts
  - 8. guest house
  - 9. others

Annex VI. Composition of the Joint-Steering Group

1. Chairman Director of Forestry Planning Directorate General  
of Forestry

2. Members

(1) Indonesian side

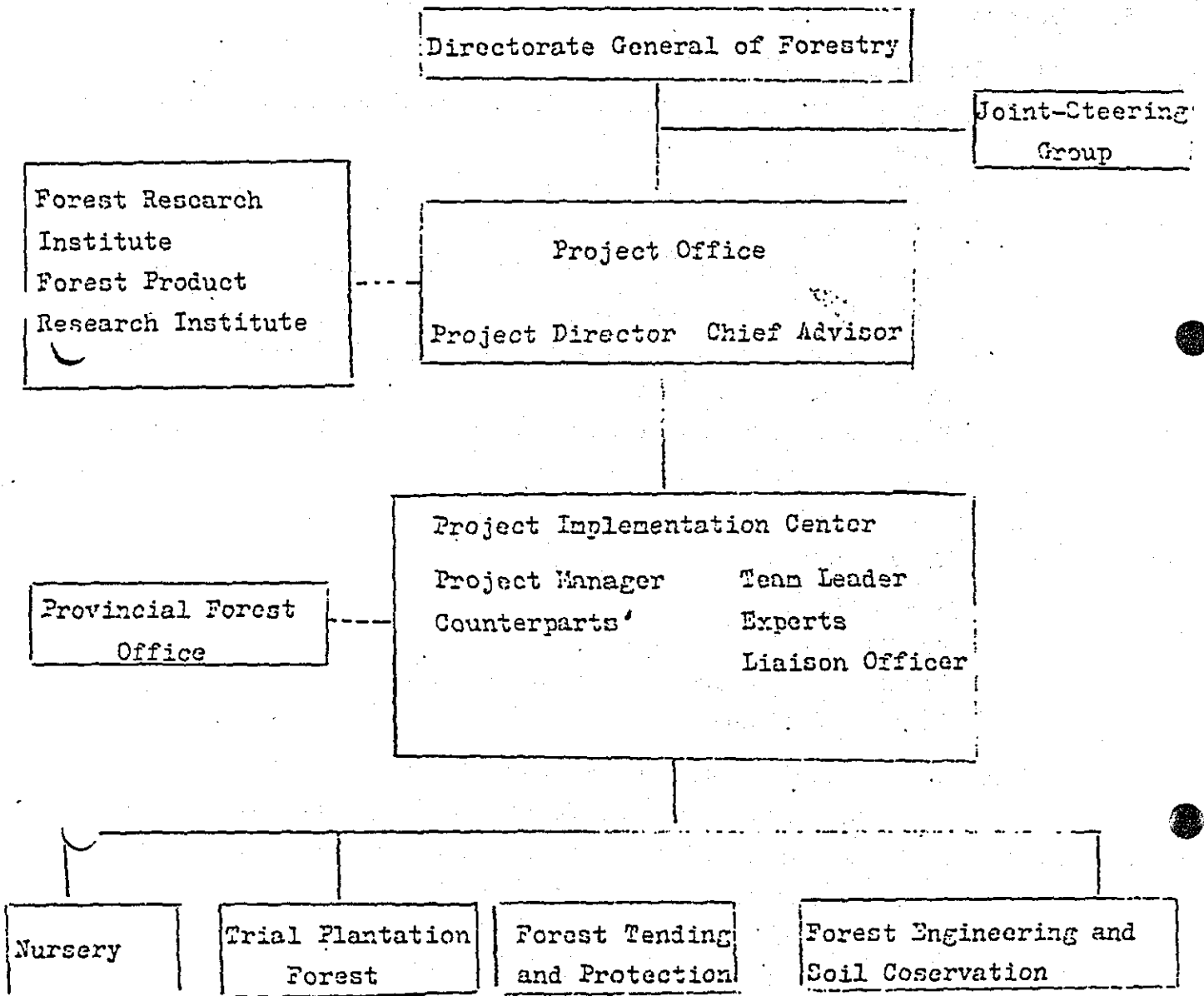
- Representative of Bureau Planning, Department of Agriculture
- Representative of the Directorate of Forestry Planning, Directorate General of Forestry
- Representative of the Directorate of Reforestation and Rehabilitation, Directorate General of Forestry
- Representative of the Forest Research Institute and Forest Product Research Institute
- Representative of the South Sumatra Provincial Forest Office
- Project Manager and Field Manager

(2) Japanese side

- Chief Advisor
- Team Leader
- Representative of JICA
- Expert(s) designated by Chief Advisor
- Liaison Officer

- Note : 1. Officials of the Embassy of Japan may attend the meeting of the Joint-Steering Group as observers
2. Officials of the Government of the Republic of Indonesia assigned by the Director General, Directorate General of Forestry may attend the meeting of the Joint-Steering Group as observers

Organization Chart



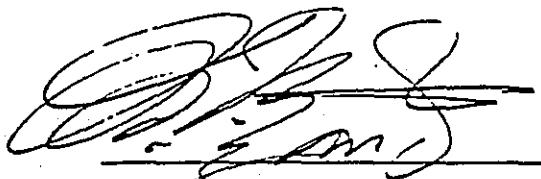


THE RECORD OF DISCUSSIONS  
ON THE TECHNICAL COOPERATION FOR THE TRIAL  
PLANTATION PROJECT IN BENAKAT, SOUTH SUMATERA (ATA-186)

Mr. Moriya MIYAMOTO, Resident Representative of the Japan International Cooperation Agency in Indonesia has a series of talks with the authorities concerned of the Government of the Republic of Indonesia on the Provision of Special Measures by the Government of Japan in the Technical Cooperation for the Trial Plantation Project in Benakat, South Sumatera.


As a result of the talks, both sides agreed to recommend to their respective Governments to add the matters referred to in the document attached hereto to the Record of Discussions on the Technical Cooperation for the Trial Plantation Project in Benakat, South Sumatera which was signed on April 12th, 1979 between the Japanese Implementation Survey Team organized by the Japan International Cooperation Agency and the authorities concerned of the Government of the Republic of Indonesia.

Jakarta, March 21, 1980.



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Moriya MIYAMOTO  
Resident Representative  
Japan International  
Cooperation Agency



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Ir. Moch. Harris Soerenggadjiwa  
Director of Forestry Planning  
The Directorate General  
of Forestry

X. PROVISION OF SPECIAL MEASURES

For fostering the smooth promotion of the Project, in accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to supplement a portion of the local cost expenditures for the execution of the physical infrastructure such as construction work of nursery, forest road and so on when necessity arises.

TECHNICAL COOPERATION FOR  
THE TRIAL PLANTATION PROJECT  
BENAKAT, SOUTH SUMATERA.

FIVE YEAR PLAN ( 1979 - 1984 ).

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DIRECTORATE GENERAL OF FORESTRY  
DIRECTORATE REFORESTATION AND  
LAND REHABILITATION  
JULY , 1981. .

## I. LEGAL CONTEXT

This project document (here in after referred to as plan of operation) is an instrument specifying the technical implementation of Project ATA-186. With this plan of operation it is hoped that single minded action will be taken by the Field Manager, Expert and Counterparts in carrying out this project.

## II. DEVELOPMENT OBJECTIVES

The record of discussion signed in April 1979, states that the purpose of the project is to develop and improve the following items ;

1. Species trial
2. Nursery techniques
3. Planting techniques
4. Techniques for counter-measures againts fire, insect and disease
5. Techniques of designing and managing forest roads and soil conservation work
6. Techniques for application of machine power
7. Test and investigation on the environmental implication of afforestation.
8. Test and studies of the social implication of afforestation (Agroforestry)
9. Planning and evaluation techniques of afforestation
10. Other necessary techniques.

The output of the project will be take the from of reports, manuals working paper/publication, and trained personnel in the field of plantation establishment as follows;

### A. Relative to Objective 1(species trial)

To test the initial growth and suitability of number of species on grass land (REPORTS)

3. Relative to Objective 2 (Nursery techniques)

1. To develop an adequate nursery and facilities to produce at least 1,5 million plants (REPORTS)
2. To test and develop suitable and economical plant production for different species (MANUALS)
3. To prepare a cost benefit study of plant production for different species (REPORTS)
4. To provide adequate training in all aspect of nursery development and plant production for 10 - 25 selected personal through out of the period of the project (TRAINING COURSE)

4. Relative to Objective 3 (Planting techniques).

1. To investiagte and compare a variety of techniques of planting by hand, mechanical and agri-silvicultureal method (MANUAL)
2. To investigate and to develop suitable techniques of plant transportation and planting method (MANUAL)
3. To investigate and compare a variety of techniques of tending including hand, mechanical, chemical, fertilizer, and nurse plant treatments (MANUAL).

5. Relative to Objective 4 (Protection againts fire, insect and disease).

1. To investigate and determine suitable measure for prevention and control of fire (REPORTS)
2. To develop a suitable training programme and conduct training course in fire protection for selected personal (TRAINING COURSE).

6. Relative to Objective 5 (Road construction).

1. To develop suitable method of plantation road construction (REPORTS).

Relative to Objective 6 (Application of machine power).

1. To develop the organization of machines and equipment in mechanized afforestation project (REPORTS).
2. To implement an on-job training course in machine and equipment (Training course).
3. To prepare recommendation for selection of suitable machine and equipment (REPORTS).

6. Relative to Objective 7 (Environmental implication).

1. To determine the effects of different tree species and planting distance in alang - alang (Imperata cylindrica) (REPORTS).

Relative to Objective 8 (Social implication)

1. Social pattern and requirements of an integrated afforestation project (REPORTS).
2. Suitability of a modified tumpangsari system (REPORTS).

Relative to Objective 9 (Planning and evaluation techniques).

1. To develop and implement a suitable cost recording system (REPORTS)
2. Cost benefit analysis identification of the recommended afforestation techniques (REPORT)
3. Outline a management for large scale industrial plantation on grassland (REPORT).

Relative to Objective 10 (Others).

1. Any other activities identified during the course of the project relevant to conduct of the project.
2. The technical data and information resulting from the project will be published in the interest of reforestation activities in Indonesia (Working paper/Publication).

TECHNICAL COOPERATION FOR  
THE TRIAL PLANTATION PROJECT  
BENAKAT, SOUTH SUMATERA  
(ATA-186)

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THE RECORD OF DISCUSSIONS ON EXTENSION  
OF THE PERIOD OF THE TECHNICAL COOPERATION FOR  
THE TRIAL PLANTATION PROJECT  
IN BENAKAT, SOUTH SUMATERA  
(ATA-186)

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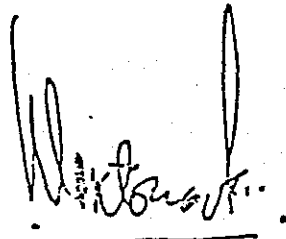
MINISTRY OF FORESTRY  
DIRECTORATE GENERAL OF REFORESTATION AND LAND REHABILITATION  
DIRECTORATE OF REFORESTATION  
MARCH 24, 1984.

THE RECORD OF DISCUSSIONS  
ON EXTENSION OF  
THE PERIOD OF THE TECHNICAL COOPERATION  
FOR THE TRIAL PLANTATION PROJECT  
IN BENAKAT, SOUTH SUMATERA (ATA-186)

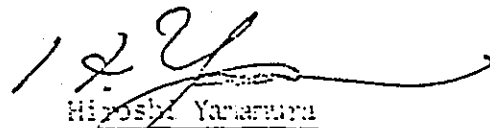
Japan International Cooperation Agency (hereinafter referred to as "JICA"), with regard to the recommendation made by the Indonesian and Japanese Joint Evaluation Team which conducted the evaluation survey from August 30 to September 14, 1983, had a series of discussions, through its Jakarta office represented by Mr. Hiroshi Yamamura, with the authorities concerned of the Government of the Republic of Indonesia on the extension of the period of the Technical Cooperation for the Trial Plantation Project in Benakat, South Sumatera (hereinafter referred to as "the Project"), based on the Record of Discussion which was signed in Jakarta on April 12, 1979, and will be terminated on April 11, 1984 (hereinafter referred to as "the R/D").

As a result of the discussions, both sides agreed to recommend to their respective Governments to extend the period of the Technical Cooperation based on the R/D until April 11, 1986 in order to achieve the anticipated objectives of the Project and to make necessary amendments in the Attached Document of the R/D as attached hereto.

Jakarta, March 24, 1984



Ir. Wartono Kadri  
Director General of  
Reforestation and  
Land Rehabilitation  
Ministry of Forestry



Hiroshi Yamamura  
Resident Representative  
Japan International  
Cooperation Agency.



Attachment

A M E N D M E N T

- To amend wording as follows through the attached Document of the R/D except Annex VI :

"The Directorate General of Forestry", "The Forest Research Institute" and "The Forest Product Research Institute" and "The Project Office at Bogor", should read "The Ministry of Forestry", "Forest Research and Development Centre", and "The Project Office in Jakarta" respectively.

- I. To amend Annex VI as follows :

Annex VI                      Composition of the Joint-Steering Group.

- 1). Chairman

Director General of Reforestation and Land Rehabilitation

- 2). M e m b e r s :

- (1) Indonesian Side:

- Director of Reforestation, Directorate General of Reforestation and Land Rehabilitation.
- Chief of Sub Directorate of Forest Rehabilitation.
- Secretary of Directorate General of Reforestation and Land Rehabilitation.
- Director, Bureau of Planning, Ministry of Forestry.
- Director, Forest Research and Development Centre, Agency for Forestry Research and Development.
- Director, Forest Education and Training Centre.
- Director of Programming, Directorate General of Reforestation and Land Rehabilitation.
- Director of Regreening and Arable Land Control.

- Director of Land Conservation, Directorate General of Reforestation and Rehabilitation.
- Director, South Sumatra Regional Forest Office, Ministry of Forestry.
- Head, South Sumatra Provincial Forest Office.
- Project Leader of P3FP - DAS Musi Palembang.
- Field Manager of ATA-186.

(2) Japanese Side :

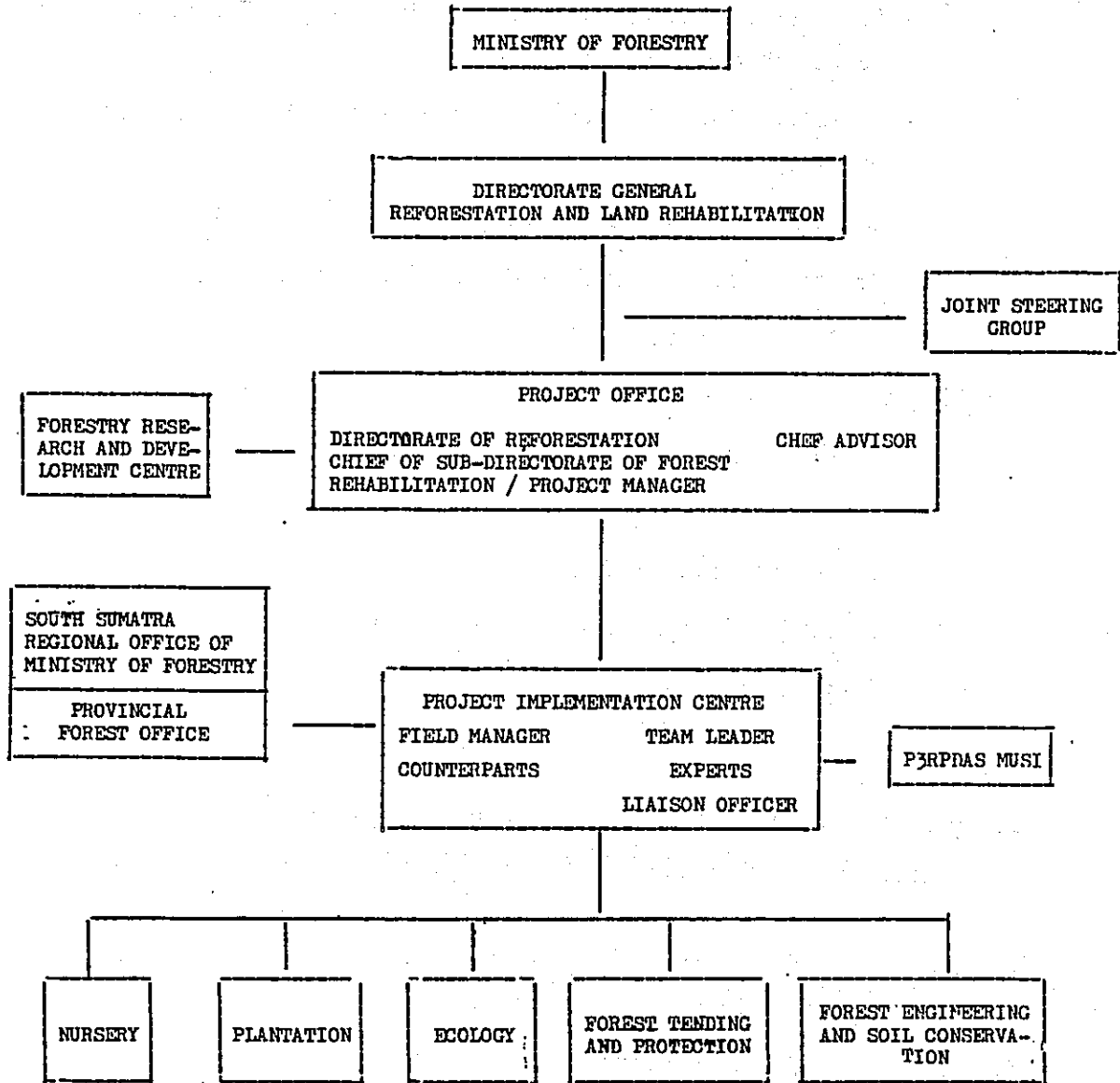
- Chief Advisor.
- Team Leader.
- Representative of JICA.
- Expert(s) designated by Chief Advisor.
- Liaison Officer.

Note :

1. Director of Reforestation, Directorate General of Reforestation and Land Rehabilitation may be designated as Acting Chairman by the Chairman.
2. Officials of the Embassy of Japan may attend the meeting of the Joint Steering Group as observers.
3. Officials of the Government of the Republic of Indonesia assigned by the Chairman may attend the meeting of the Joint Steering Group as observers.

III. To attend Annex VII as shown in attached paper; Organization Chart.

ORGANIZATION CHART



NOTE :

———— INSTRUCTION  
———— CONSULTATION LINE

TECHNICAL COOPERATION FOR  
THE TRIAL PLANTATION PROJECT  
IN BENAKAT, SOUTH SUMATERA  
( ATA - 186 )

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THE MINUTES OF UNDERSTANDING CONCERNING  
THE TECHNICAL COOPERATION  
FOR  
TRIAL PLANTATION PROJECT IN BENAKAT  
SOUTH SUMATERA (ATA - 186)

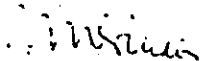
THE MINUTES OF UNDERSTANDING  
CONCERNING  
THE TECHNICAL COOPERATION  
F O R  
TRIAL PLANTATION PROJECT IN BENAKAT  
SOUTH SUMATERA (ATA - 186)

The Japanese Project Consultation Team ( hereinafter referred to as "the Team", organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Ryosuke Kato, Forestry and Forest Products Research Institute, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries, visited Indonesia from May 16 to May 29, 1984, for the purpose of working out the tentative implementation plan (April 1984 - March 1986) concerning the Trial Plantation Project in Benakat, South Sumatera in the Republic of Indonesia (hereinafter referred to as "the Project").

During its stay in the Republic of Indonesia, the Team exchanged views and had a series of discussions with the Indonesian authorities concerned with regard to the above-mentioned plan and the desirable measures to be taken by the Government of Japan and the Government of the Republic of Indonesia for further successful implementation of the Project.

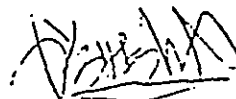
As a result of the discussions at the Joint Meeting held on May 28, 1984, the Joint Steering Group and the Japanese Consultation Team agreed to approve the minutes of understanding attached hereto as an Annex, which was formulated within the framework of the Record of Discussion signed on April 12, 1979 and the Record of Discussion of Extension signed on March 26, 1984.

Jakarta, May 28, 1984



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Mr. Victor M. Sinaga  
On behalf of Director General  
of Reforestation and Land  
Rehabilitation  
Ministry of Forestry.



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Mr. Ryosuke Kato  
Japanese Consultation Team  
Leader,  
Japan International  
Cooperation Agency.

ANNEX

I. Tentative Schedule of Implementation.

Item	Year	1984/1985	1985/1986
1. Species trial			
2. Nursery technics			
3. Planting technics			
4. Technics for counter-measures against fire, insect, disease and meteorological damage			
5. Technics for designing and managing forest roads and soil conservation work			
6. Technics for the application of machine power			
7. Tests and investigation on the environmental implication of afforestation			
8. Tests and studies on the social implication of afforestation			
9. Planning and evaluation technics of afforestation project			
10. Other necessary technics			

## II. Technical Cooperation Programme.

Item	Year	1984/1985	1985/1986
<b>A. Japanese side.</b>			
<b>1. Long-term experts.</b>			
(1). Chief Advisor	1		
(2). Forest Protection	1		
(3). Silviculture	1		
(4). Nursery	1		
(5). Forest Ecology	1		
(6). Forest Engineering	1		
(7). Liaison Officer	1		
<b>2. Short-term experts</b>			
Short term experts in the fields mentioned above and other fields may be dispatched when necessity arises.		Several months in necessary fields.	
<b>3. Provision of equipments and material by the Japanese Government.</b>			
<b>4. Counterpart training in Japan</b>			
		Several personnel every year.	
<b>B. Indonesian side.</b>			
<b>1. Counterparts</b>			
(1). Project Manager	1		
(2). Field Manager	1		
(3). Silviculture	1		
(4). Nursery	1		
(5). Forest Protection	2		
(6). Forest Ecology	1		
(7). Forest Engineering and Soil Conservation	2		
<b>2. Administrative personal</b>			
(1). Clerical and Service Employee		Necessary number of personnel	
(2). Laborer			
<b>3. Local cost</b>			

Note : Team Leader will be nominated by JICA from among the above-mentioned (3) to (6) experts.

### III. RESEARCH AND DEVELOPMENT PROGRAMME

#### A. Legal Context.

The Operational Plan for the extension period is a continuation and a further development of several activities being conducted during the 5 years period, as mentioned in the 5 years Plan of Operation (1979/1980 until 1983/1984).

The Operational Plan is used by Field Manager, Experts and Counterparts as a guide in implementing the programme, so that it will run smoothly and successfully.

#### B. The Objectives.

With regard to the recommendation proposed by the Joint Evaluation Team on September 13, 1983, activities which need to be continued and developed during the extension period are as follows :

1. Fire Protection System.
2. Agroforestry Scheme.
3. Transfer of Technology.
4. Further Study and Development.

#### C. The Output.

The Project is designated to become a model of reforestation programme in grassland area and will be able to produce data and information concerning technical and management aspects of reforestation, by means of reports, manuals, publications and qualified personnel as well.

The study and development of the above-mentioned activities are dealing with the following works :

1. Fire Protection System.
  - 1.1. To examine and determine appropriate methods and techniques of establishing firebreaks.
  - 1.2. To select suitable and adaptable fire control equipments.
  - 1.3. To develop a forest fire control system and its working procedures suitable for reforestation in grassland.
  - 1.4. To conduct a calculation of expense for forest fire control.



- 1.5. To train the members of forest fire team.
  - 1.6. To carry out an extension programme for the local communities concerning forest fire control.
2. Agroforestry Scheme.
    - 2.1. To examine and select a suitable combination between agricultural patterns and silvicultural technics.
    - 2.2. To examine and select a suitable combination between cash crops and forest tree species.
    - 2.3. To examine and select a diversification of activities in agroforestry.
    - 2.4. To conduct a socio-economic survey of the participants.
    - 2.5. To develop a management framework of agroforestry scheme suitable to South Sumatera.
3. Transfer of Technology.
    - 3.1. To conduct seminar, discussion and other training activities concerning technical and management aspects of reforestation for the counterparts and other forestry staff.
    - 3.2. To conduct on-the-job training and demonstration in the field, workshop and laboratory for the counterparts and other forestry staff as well.
    - 3.3. To study possible modification of equipments and to develop simple tools suitable for the existing condition.
4. Further Study and Development.
    - 4.1. To continue observation of species trials.
    - 4.2. Nursery.
      - 4.2.a. To conduct a study on cost for raising seedling of selected species.
      - 4.2.b. To work out a standard cost, a standard of activities and a technical guidance of nursery activities for selected species.
      - 4.2.c. To examine a suitable tools and equipments for seed sowing, pricking-out, watering, seed packing and seed storage.
      - 4.2.d. To introduce technics of raising seedling in consideration of tree breeding.

#### 4.3. Plantation.

- 4.3.a. To examine a suitable technique of soil cultivation for selected species in an operational scale.
- 4.3.b. To examine effective weeding intensity for selected species.
- 4.3.c. To work out a standard cost, standard of activities and technical guidance of land preparation, planting and tending.
- 4.3.d. To initiate a trial of two stories stand of fast growing and slow growing species.

#### 4.4. Machinery Operation.

- 4.4.a. To conduct a training course in order to raise the ability of machinery operators and drivers.
- 4.4.b. To recommend suitable machines and equipments for reforestation programme in grassland area in South Sumatera.

#### 5. Others Technics.

- 5.1. To conduct an ecological study on alang-alang and other vegetation growth as well as the way to suppress them.
- 5.2. To suggest a management framework of large scale industrial plantation on grass-land.
- 5.3. To suggest a system of data recording and storage in order to support the national reforestation programme.
- 5.4. To conduct a training for planning and designing forest road network.
- 5.5. To conduct a training for measuring planting area and forest road network.

### IV. OPERATIONAL PROGRAMME.

With regard to the above items of Research and Development Programme, the Project will select a suitable grassland area for establishing plantation of forest tree and implementing the experiments. The annual target of planting shall be confirmed to the condition of the Project.

REPORT OF THE SEVENTH JOINT STEERING GROUP  
MEETING FOR TRIAL PLANTATION PROJECT AT  
BENAKAT, SOUTH SUMATERA (ATA-186)

1. The Seventh Joint Steering Group Meeting was held on April 23<sup>rd</sup> 1984. The meeting commenced at 10.00 A.M., and was attended by members of the Joint Steering Group. The list of attendance is on Annex No. I.

The 7<sup>th</sup> meeting is important because it is finished with the termination of the 5 years cooperation period which expire in March 1984, the objectives are to evaluate project activities in 1983/1984, and to prepare the 2 years plan of operation and annual plan of operation 1984/1985 for the extension of the technical cooperation of the 2 years period.

2. Opening remark

The meeting was declared open by the Chairman Mr. Wartono Kadri, Director General of Reforestation and Land Rehabilitation, and take over next program to the Acting Chairman Mr. Victor M. Sinaga, Director of Reforestation.

After expressing his welcome to the participants of the Meeting, the Chairman introduced the participants of the Meeting from Indonesia side and especially the newly-assigned expert for the Project i.e. Mr. Hiroji Okabe as Chief Advisor.

The Chairman offered a provisional agenda without any alteration (It appears on Annex No. II).

3. Review of the sixth Meeting.

The Chairman reviewed the conclusions of the Meeting which were brought up discussed at the last (6<sup>th</sup>) Meeting, and its implementation during the fiscal year of 1984/1985 (Annex III).

4. Note of Director General of Reforestation and Land Rehabilitation for extension period of the Project.

a. The development of Benakat Project.

In the future Benakat project will be developed as Balai Teknologi Reboisasi (Reforestation Development Centre). The Balai is aimed to be a center of reforestation techniques. It is hoped that all kinds of techniques of reforestation should be tested as well, in order to get a reasonable data of the best techniques of reforestation especially in grassland areas.

b. Wild pig problem.

In accordance to the plan of Directorate General of Forest Protection and Natural Conservation to designate 130 units of hunting area, so it is hoped that one of them may be located in South Sumatera. It is suggested that the Project will propose and arrange all preparation regarding the hunting game.

c. Alang-alang problem.

It is suggested to introduce a new reforestation technique, i.e. chemical method in the project. The project will be hoped to conduct a comparative study regarding the chemical system and mechanized system in order to know what is the best among others.

d. Agroforestry.

It is suggested to undergo system of Agroforestry by using Inpres Budget.

e. Forest fire control.

Besides it conducted 5 (five) methods of fire control in Project, it is suggested to control fire by using 3 methods are as follows :

- Naturally control
- Establishment at forest line.
- Establishment of fire line.

f. Nursery.

It is recommended that the introduce a new technology of raising up the seedlings. Besides it also stated that Benakat Project and Finland Project in South Kalimantan will be designated as the Seedling Center.

5. Progres Report

The report was represented by reading the main points of the report previously prepared in writing which appears on Annex No. IV.

The brief report materials as follow :

- a. In the fiscal year of 1985/1984, that budget has been allocated to the project which amounted to Rp 579.219, 000.-
- The budget come from two sources, first through Inpres 1985/1984 which amounted to Rp 183,723,000.- and second through DIP 1985/1984 at a total amount of Rp 105,941,000.-

- b. The financial progress of the fiscal year of 1983/1984, up to March 1984 has reached a total of amount of Rp 143,216.- or 75 %.
- c. The progress of the Project Activity in the fiscal year 1983/1984 through Inpres No. 6/1982, up to March 1984 are as follows: Nursery activities 99 %, Plantation 85,6%, Road construction 56 %, Construction of labour house 10 %, working house 10 %.

#### 6. Technical Report

This technical report is meant to give a short review on the achievement of the project activities up to now, among others are trials on land preparation and planting techniques, agro-forestry and nursery. The report appears on Annex No. V.

#### 7. Conclusions of the Seventh Joint Steering Group Meeting April 23<sup>rd</sup>, 1983.

Five years Operational (1979 - 1984).

- a. The Acting chairman informed the meeting that concerning to the Project implementation schedule which has been finished on March 1984, but there are some activities such as construction of labour house, ware house are only 60 % completed. Moreover, there are still remain 150 ha of plantation area which hasn't completed yet. Based on the above subject, Mr. Acting Chairman asked the Field Manager, whether the remain activities will be able to finish this year especially plantation, if not what is the problem. Field Manager explained

that planting worked for fiscal year 1983/1984 have postponed because Impres budget has just disbursed on November 1984, but planting season (rainy season) this year remain just 1 month (until Mei 1984). According to nursery works in 1983/1984, Mrs. Retno Sekarsari reported to the meeting that all seedlings target has already finished 100 %.

- b. The Acting chairman concluded there is no problem on raising up the seedling technically in Nursery and Plantation, but the problem is procedure of disbursement of the budget. Besides it, in order to solve the delay of the land preparation, it is agreed to postpone the planting of 100 Ha remain area up to next rainy season.

The road construction have been finished and labour house will be finished within 3 months.

- c. The meeting noted a question of Mr. Acting Chairman to the Field Manager and Japanese experts about the output of the 5 (five) years implementation project, such as technical report by experts and counterparts. In order to make Final Project Report, Mr. Triogo Sukanto and Mr. Zulkifly Mulsani answered that Final Report of 5 years Project implementation will be prepared by Project Manager, it is based on experts and counterparts reports. The Acting Chairman hope, it will be finished on June as scheduled.

Plan of Operation (2 years and annual).

- d. The meeting noted a comment by Mr. Hendromono regarding the pattern of research activities. In this context, Mr. Sagala

explained concerning the background of the project. The project is aimed to find out a suitable species in South Sumatera, techniques of planting and management of large scale industrial plantation. Mr. Acting Chairman commented that the Forest Research and Development Centre always involved in giving guidance above the pattern of research within the extension of the Project.

- e. The meeting noted a suggestion by Mr. Suharyanto the Project to recommend a suitable machineries and equipment for the tropical country, for this suggestion Mr. Zulkifly Mulsani as former Field Manager explained that it was already conducted last time, and some equipment of plantation can be recommended.
  - f. The Meeting noted argument of Mr. Acting Chairman and Mr. Yoshimoto about plan of operation for fiscal year 1984/1985 it was already cover with Inpres Budget for that year. Mr. Zulkifly explained some research and training activities are not included in the budget yet, but it can possibly to revised the budget and some budget can get from remaining budget of Fiscal year 1982/1985 (SIAP). In this case Mr. Acting Chairman explained that some budget especially for training programme in the Project could come from Private Company, because some private company staffs can follow training programme in reforestation techniques which can be held in Project.
- Besides, Mr. Acting Chairman recommend that IWPL Budget possibly can be used for facilities and to pay some training activities and in connecting to the IWPL Budget, Mr. Acting Chairman instructed to the Project Manager to consult that matter to Directorate General of Forest Utilization.



- g. The Meeting noted Mr. Yoshimoto anxious that budget for the Project come from 2 (two) sources i.e. INPRES Budget and DIP Budget, and especially INPRES budget have a disbursement problem, so many activities almost in the last 3 (three) years implementation Project always to be postponed. According to delay budget disbursement, Mr. Acting Chairman hoped this fiscal year 1984/1985 make effort how to do more smoothly the disbursement procedure, so it will be realized on July and August 1984.
- h. The meeting noted suggestion by Mr. Acting Chairman that the Project for this fiscal year is to implement trial Two Stories Stand Plantation, combination between fast growing species with slow growing species. In this connection Mr. Okabe agreed but Indonesian side it must take any effort to prepare about financing. Mr. Sumarsono inform the meeting, it is possible that this activity will be realized with budget for it, arranged by Sumatera Selatan Regional Forest.
- i. Mr. Acting Chairman and Mr. Tadao Ohara agree Project can implement Species Trial included some species from some region. Mr. Zulkifli inform the meeting, it is difficult to get ready seeds for some species, so it must be concerned in related to choose any species for Species Trial.
- j. Mr. Acting Chairman ask to Directorate Regreening and Arable Land to participate in Agroforestry activities. Mr. Dibe Sarsono explained, but he suggested to make Agroforestry in some different site condition.
- Mr. Acting Chairman inform the meeting that for next 2 years,

Agroforestry programme to be involved to Directorate  
Regreening and Arable Land.

- k. The Meeting noted information by Mr. Yamamura that some equipment for project will be bought in Indonesia as many as possible if it is available.
  - l. The Meeting noted information by Mr. Yoshimoto that JICA Programming Team for extension project will come to Indonesia on May 15, 1984, and suggest to the Project Manager to arrange the schedule.
-

TECHNICAL COOPERATION FOR  
THE TRIAL PLANTATION PROJECT  
BENAKAT, SOUTH SUMATERA  
(ATA-186)

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2 YEAR PLAN OF OPERATION  
OF TRIAL PLANTATION  
BENAKAT, SOUTH SUMATERA  
(EXTENSION)

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MINISTRY OF FORESTRY  
DIRECTORATE GENERAL OF REFORESTATION AND LAND REHABILITATION  
DIRECTORATE OF REFORESTATION  
APRIL, 1934.

TECHNICAL COOPERATION  
THE TRIAL PLANTATION PROJECT ( ATA-186 )  
BENAKAT SOUTH SUMATRA

Project Title : The Trial Plantation Project in  
Benakat South Sumatra (Extension).

Record of Discussion : April 12, 1979

Addendum Record of Discussion : March, 24, 1984

Location : Benakat, South Sumatra

Period of extension : 2(two) years, beginning on  
April 1, 1984.

Institution : Directorate General of Reforestation  
and Land Rehabilitation, Directorate  
of Reforestation.

Working Plan : Mechanized Plantation : 340 has  
Agoforestry Scheme : 60 has  

---

400 has

Budget for Operational Works : Rp. 796.549.200,00

Budget for Equipments : ¥ 120.000.000,--

Jakarta, April ,1984

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## A N N E X

- I. TENTATIVE SCHEDULE OF IMPLEMENTATION
- II. TECHNICAL COOPERATION PROGRAMME
  1. Japanese side.
  2. Indonesian side.

## I . RESEARCH AND DEVELOPMENT PROGRAMME.

### A. LEGAL CONTENT.

The Operational Plan for extension period is a continuation and a further development of several activities being conducted during the 5 years period, as mentioned in the 5 years Plan of Operation (1979/1980 until 1983/1984)..

The Operational Plan is used by Field Manager, Expert and Counterparts as a guide in implementing the programme, so that it will run smoothly and successfully.

### B. THE OBJECTIVES.

With regard to the recommendation proposed by the Joint Evaluation Team on September 13, 1983, activities which need to be continued and developed during the extension period are as follows :

1. Fire Protection System.
2. Agroforestry Scheme.
3. Transfer of Technology.
4. Further Study and Development.

### C. THE OUTPUT.

The Project is designated to become a model of reforestation programme in grassland area and will be able to produce data and information concerning technical and management aspects of reforestation, by means of reports, manuals, publications and qualified personnel as well.

The study and development of the above mentioned activities are dealing with the following works :

1. Fire Protection System.
  - 1.1. To examine and determine appropriate methods and techniques of establishing fire breaks.
  - 1.2. To select suitable and adaptable fire control equipment.
  - 1.3. To develop a forest fire control system and its working procedures suitable for reforestation in grassland.

- 1.4. To conduct a calculation of expense for forest fire control.
- 1.5. To train the members of forest fire team.
- 1.6. To carried out an extension programme for the local communities concerning forest fire control.
2. Agroforestry Scheme.
  - 2.1. To examine and select a suitable combination between agricultural patterns and silvicultural technics.
  - 2.2. To examine and select a suitable combination between cash crops and forest tree species.
  - 2.3. To examine and select a diversification of activities in agroforestry.
  - 2.4. To conduct a socio - economic survey of the participants.
  - 2.5. To develop a management framework of agroforestry scheme suitable to South Sumatra.
3. Transfer of Technology.
  - 3.1. To conduct seminar, discussion and other training activities concerning technical and management aspects of reforestation for the counterparts and other forestry staff.
  - 3.2. To conduct on-the-job training and demonstration in the field, workshop and laboratory for the counterparts and other forestry staff as well.
  - 3.3. To study possible modification of equipments and develop simple tools suitable for the existing condition.
4. Further Study and Development.
  - 4.1. To continue observation of species trials.
  - 4.2. Nursery :
    - 4.2.a. To conduct a study on cost for raising seedling of selected species.
    - 4.2.b. To work-out a standard cost, a standard of activities and a technical guidance of nursery activities for selected species.

- 4.2.c. To examine a suitable tools equipments for seed sowing, pricking-out, watering, seed packing and storage.
- 4.2.d. To introduce technics of raising seedling in consideration of tree breeding.
- 4.3. Plantation.
  - 4.3.a. To examine a suitable technics of soil cultivation for selected species in an operational scale.
  - 4.3.b. To examine effective weeding intensity for selected species.
  - 4.3.c. To work-out a standard cost, standard of activities and technical guidance of land preparation, planting and tending.
  - 4.3.d. To initiate a trial of two stories stand of fast growing and slow growing species.
- 4.4. Machinery Operation.
  - 4.4.a. To conduct a training course in order to raise the ability of machinery operators and drivers.
  - 4.4.b. To recommend suitable machines and equipments for reforestation programme in grassland area in South Sumatra.
- 5. Others Technics.
  - 5.1. To conduct ecological study on alang-alang and other vegetation growth as well as the way to suppress them.
  - 5.2. To suggest a management framework of large scale industrial plantation on grass-land.
  - 5.3. To suggest a system of data recording and storage in order to support the national reforestation programme.
  - 5.4. To conduct a training for planning and designing forest road network.
  - 5.5. To conduct a training course for measuring planting area and forest road network.

## II. OPERATIONAL PROGRAMME.

Operational activities during 1984/1985 till 1985/1986 are summarized as follows :



## A. Financed by Indonesia Budget.

## 1. Nursery.

- Planning : 3 has            1.200.000 seedlings  
 Species : 10 species, among others are :  
 a. Eucalyptus sp.  
 b. Switenia macrohylla  
 c. Schima bancana  
 d. Acacia mangium  
 e. Others species (for study).

## 2. Plantation.

- Planning : 400 has, divided into :  
 - Mechanized plantation : 340 has  
 - Agroforestry scheme : 60 has

## 3. Tending.

- Planning : 2.500 has.

## 4. Fire belt.

- Planning : 10 km, consisting 3 types :  
 - yellow fire belt  
 - green fire belt  
 - combination.

## 5. Forest road.

- Planning : 12 km

## 6. Working House.

- Planning : 2 units (96 m2)

## 7. Budget.

For the 2 years period the budget is estimated to reach some Rp.796.549.200,00 consisting of :

Nursery	Rp. 26.793.800,00
Plantation	Rp. 117.568.000,00
Tending	Rp. 104.768.800,00
Fire belt and Tending	Rp. 1.185.800,00
Forest road and Working house	Rp. 44.480.600,00
Study, development of technics and administration	Rp. 501.754.200,00
	-----
	Rp. 796.549.200,00

## B. To be financed by Japanese Budget (estimated ¥ 120 million).

## 1. Machinery and Equipment.

## a. Fire protection Equipment.

a.1. Knapsack fire extinguiser/jet shooter	50 units
a.2. Water pump	5 units
a.3. Tank lorry	2 units
a.4. Fire control truck	2 units
a.5. Chemical fire extinguiser	12 units
a.6. Equipments for fire fighters	28 units
a.7. Cargo truck	2 units
a.8. Radio Communication apparatus	24 units
a.9. Spare parts	8 units

## b. Agroforestry.

b.1. Tractor	4 units
b.2. Truck	3 units
b.3. Pick-up	2 units

## c. Nursery.

c.1. Straw cutter	1 unit
c.2. Soil shredder	5 units
c.3. Water pump	2 units
c.4. Loupe	3 units

## d. Plantation.

d.1. Abney level	1 unit
d.2. Planimeter	1 unit
d.3. Measuring tape 100 m	10 units
d.4. Disc plow	2 units
d.5. Disc harrow	2 units
d.6. Plastic container	200 units
d.7. Reservoir	3 units
d.8. Tractor John Deere	2 units
d.9. Hammer knife mover	10 units
d.10. Trailer	1 unit

## e.

e.	General use.	
e.1.	Computer for data processing	2 units
e.2.	Vechicle (diesel engine)	2 units
e.3.	Radio receiver	2 units
e.4.	Over head proyector	1 unit
e.5.	Motor cycle	5 units
e.6.	Photocopy machine	2 units
e.7.	SSB Radio Telephone	10 sets
e.8.	Generator	2 units
e.9.	Others	

---

### III. EXPERTS, COUNTERPARTS TRAINING.

#### A. Japanese Experts.

The number of long term experts during the next 2 (two) years 1984-1986 are 7 (seven) persons as follows :

Category	Field	Number
1. Chief adviser	Forest Management	1
2. Experts	Silviculture	1
	Nursery	1
	Forest protection	1
	Forest Ecology	1
	Forest Engineering	1
3. Liaison Officer	Forest Administrative	1
Total amount		7

Short term experts are also needed in the field of :

1. Nursery
2. Plantation
3. Forest Ecology
4. Forest Engineering
5. Agroforestry

#### B. Counterparts and other personnels.

Indonesian Government for 2-years extension period appointed 6 (six) counterparts and administrative staff for the Project  
i.e.

Category	Field	Number
a. Field Manager		1
b. Counterpart	- Nursery	1
	- Silviculture	1
	- Forest Ecology	1
	- Forest Protection	2
	- Forest Engineering	2
	- Agroforestry	1
c. Treasurer		1
Total amount		8

### C. Training.

In period 1984/1985 and 1985/1986 the project propose 10 (ten) persons to attend training course in Japan.

They are consisting of :

#### a. Year 1984/1985 :

a.1. Senior staff (1 month) : 2 (two) persons

a.2. Counterpart (3 months) : 1 (one) person

a.3. Other (Group Training) (3 months) 2 (two) persons

#### b. Year 1985/1986.

b.1. Senior staff (1 month) : 2 (two) persons

b.2. Counterpart (3 months) : 1 (one) person

b.3. Other (Group Training) (3 months) : 2 (two) persons

ANNEX I

TENTATIVE SCHEDULE OF IMPLEMENTATION

No.	I t e m	Schedule	
		1984/1985	1985/1986
1.	Species trial	-----	-----
2.	Nursery technics	-----	-----
3.	Planting technics	-----	-----
4.	Technics for counter-measures againts fire insect, disease and meteorological damage	-----	-----
5.	Technics for designing and managing forest roads and soil conservation work	-----	-----
6.	Technics for the application of machine power	-----	-----
7.	Tests and investigation on the environmental implication of afforestation	-----	-----
8.	Tests and studies on the social implication of afforestation	-----	-----
9.	Planning and evaluation technics of afforestation project	-----	-----
10.	Other necessary technics	-----	-----

## ANNEX II

## TECHNICAL COOPERATION PROGRAMME.

No.	I t e m	Schedule	
		1984/1985	1985/1986
1.	<u>Japanese side</u>		
	a. Long term experts		
	(1) Chief Adviser (1)	-----	
	(2) Forest Protection (1)	-----	
	(3) Silviculture (1)	-----	
	(4) Nursery (1)	-----	
	(5) Forest ecology (1)	-----	
	(6) Forest engineering (1)	-----	
	(7) Liaison officer (1)	-----	
	b. Short term experts.		Several months in
	Short term experts in the field		every field
	mentioned above and other field		
	may be dispatched when necessity		
	arises		
	c. Dispatch of equipment and supply	-----	
	material by the Japanese side		
	d. Counterpart training in Japan		Several personnel
			every year
2.	<u>Indonesian side</u>		
	a. Counterparts staff.		
	(1) Project Manager (1)	-----	
	(2) Field manager (1)	-----	
	(3) Silviculture (1)	-----	
	(4) Nursery (1)	-----	
	(5) Forest protection (2)	-----	
	(6) Forest ecology (1)	-----	
	(7) Forest engineering and		
	Soil Conservation (2)	-----	

No. I t e m	Schedule	
	1984/1985	1985/1986
b. Administration personnel	-----	
(1) Clerical and service employee	necessary number of	
(2) Labourers	personnel	
c. Local cost	-----	
	sufficient	

=====

Note : Team Leader will be nominated by JICA from among the above mentioned (2) to (6) experts.



TECHNICAL COOPERATION  
THE TRIAL PLANTATION PROJECT  
IN BENAKAT, SOUTH SUMATERA  
( ATA - 186 )

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THE RECORD OF DISCUSSIONS  
ON THE EXTENSION OF  
PERIOD OF THE TECHNICAL COOPERATION  
FOR THE TRIAL PLANTATION PROJECT  
IN BENAKAT, SOUTH SUMATERA (ATA-186)

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MINISTRY OF FORESTRY  
DIRECTORATE GENERAL OF REFORESTATION AND LAND REHABILITATION  
DIRECTORATE OF REFORESTATION

SPEECH DELIVERED BY THE DIRECTOR GENERAL  
FOR REFORESTATION AND LAND REHABILITATION ON  
THE OCCASION OF THE SIGNING RECORD OF DISCUSSION  
ON THE FOLLOW-UP OF THE TRIAL PLANTATION PROJECT  
ATA - 186, SOUTH SUMATRA

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Your Excellency the First Secretary Embassy of Japan.

Resident Representative JICA.

Ladies and Gentlemen,

First of all, let us thank for the blessing of the God Almighty that we all are able to attend to this special occasion.

Secondly, I would like to extend a warm welcome to all of you in pursuing the closer cooperation between the Republic of Indonesia and the representative Government of Japan in the forestry sector particularly on the Trial Plantation Project ATA-186 in South Sumatra.

Ladies and Gentlemen,

On behalf of the Government of the Republic of Indonesia, I would like to thank the Government of Japan for the signing of the Record of Discussion in the follow-up of the Trial Plantation Project for the period of 1 April 1986 - 31 March 1988.

Ladies and Gentlemen,

As you are all fully aware that the implementation of the project has made a tremendous progress and greatly made a significant contribution for the success of Reforestation programmes in Indonesia. This is mainly because the project has generated various new techniques on reforestation aspects that can be implemented.

Having signed this Record of Discussion (in a few minutes), I hope that Plan of Operation of this project can be formulated as soon as possible so the project implementation can be run as it is scheduled.

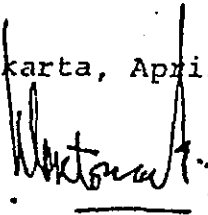
Therefore, I strongly request to the Director of Reforestation and Director of Programming Directorate General for Reforestation and Land Rehabilitation cooperated with JICA Representative to make the Plan of Operation. In order to strengthen the next cooperation concerning the project I also recommend that the Record of Discussion can be improved to be a Project Agreement.

I do hope that the follow-up of the project would strengthen our cooperation particularly in the programmes that could positively contribute to National Forestry Development.

Ladies and Gentlemen,

Finally on my last occasion, may I again thank to all of you and wishing that the implementation of the project could run smoothly.

Jakarta, April 2, 1986.



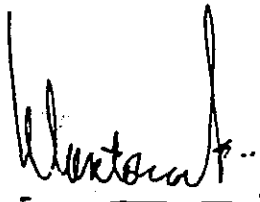
Wartono Kadri  
Director General for  
Reforestation and Land  
Rehabilitation.

THE RECORD OF DISCUSSIONS  
ON THE EXTENSION OF  
PERIOD OF THE TECHNICAL COOPERATION  
FOR THE TRIAL PLANTATION PROJECT  
IN BENAKAT, SOUTH SUMATERA (ATA-186)

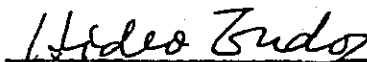
Japan International Cooperation Agency (hereinafter referred to as "JICA"), with regard to the recommendation made by the Indonesian and Japanese Joint Consultation Team which conducted the review survey from October 21, to 30, 1985, had a series of discussions, through its Jakarta Office represented by Mr. Hiroshi Yamamura, with the authorities concerned of the Government of the Republic of Indonesia on the extension of the period of the Technical Cooperation for the Trial Plantation Project in Benakat, South Sumatera (hereinafter referred to as "the Project") based on the Record of Discussions which was signed in Jakarta on March 24, 1984, and will be terminated on April 11, 1986.

As a result of the discussions, both sides agreed to recommend to their respective Governments to extend the period of the Technical Cooperation for the Project on a reduced scale as a follow-up until March 31, 1988, in order to achieve the initial objectives of the Project, based upon the Implementation Programme as attached hereto.

Jakarta, April 2nd, 1986



Wartono Kadri  
Director General of  
Reforestation and  
Land Rehabilitation,  
Ministry of Forestry.



Hideo Endo  
Resident Representative  
Japan International  
Cooperation Agency.

Attachment

Implementation Programme of  
the "Follow-Up Cooperation" of the Project

A. Activities

Item \ Year	1986/87	1987/88
1. Techniques for counter-measures against fire, insect, disease and meteorological damage		
2. Studies on the social and environmental implication of afforestation		
3. Planning, management and evaluation techniques of afforestation projects		
4. Other necessary techniques		

B. Measures to be taken by the Japanese Side

Item \ Year	1986/87	1987/88
1. Dispatch of Experts		
(1) Long Term Experts		
Chief Advisor/Forest Protection		
Silviculture		
Agroforestry		
(2) Short Term Experts		
2. Acceptance of Trainees		
3. Provision of Equipment		

C. Measures to be taken by the Indonesian Side

<div style="text-align: center;">Year</div> <div style="text-align: left;">Item</div>	1986/87	1987/88
1. Counterparts		
(1) Project Manager		
(2) Field Manager		
(3) Silviculture		
(4) Nursery		
(5) Forest Protection		
(6) Forest Ecology		
(7) Forest Engineering and Soil Conservation		
(8) Agroforestry		
2. Administrative		
(1) Clerical and Service Employees		
(2) Labourers		
3. Local Cost		



TECHNICAL COOPERATION  
THE TRIAL PLANTATION PROJECT  
IN BENAKAT, SOUTH SUMATERA  
( ATA - 186 )

---

PLAN OF OPERATION  
O F  
THE FOLLOW UP PERIOD ( 1986 - 1988 )

---

MINISTRY OF FORESTRY  
DIRECTORATE GENERAL OF REFORESTATION AND LAND REHABILITATION  
DIRECTORATE OF REFORESTATION

TECHNICAL COOPERATION  
THE TRIAL PLANTATION PROJECT ( ATA - 186 )  
BENAKAT SOUTH SUMATRA

Project Title : The Trial Plantation Project in  
Benakat South Sumatra ( Follow up ).

Record of Discussion : April, 12 1979

Addendum Record of Discussion : 1. March, 24 1984  
2. April, 2 1986.

Location : Benakat - South Sumatra.

Period of Follow up : 2 ( two ) years, begining on April, 12  
1986 untuil March, 31 1988.

Institution : Directorate General of Reforestation and  
Land Rehabilitation, Directorate of  
Reforestation.

Budget for Operasional Works : Rp 300.000.000,-

Budget fo Spare Parts : ¥ 30.000.000,-

Jakarta, April 1986.

## I. RESEARCH AND DEVELOPMENT PROGRAMME

### A. Legal Context.

The Operational plan of follow up period is a continuation and further development of several activities being conducted during 5 years and 2 years, as mentioned in the 5 years plan of operation 1987/1988 until 1983/1984 and the 2 years plan of operation 1984/1985 until 1986/1987.

The Operational Plan is used by Field Manager, Experts and Counterparts as a guide in implementing the programme, so that it will run smoothly and successfully.

### B. The Objectives.

With regard to the recommendation proposed by the joint consultation team on October 21 to 30, 1985, activities which needed to be continued and developed during the follow up period are as follows :

1. Techniques for counter - measures against fire, insect, disease and meteorological damage.
2. Studies on Social and environmental implication of afforestation.
3. Planning, management and evaluation techniques of afforestation projects.
4. Other necessary techniques.

### C. The Out Put.

The project is designated to become a model of reforestation programme in grass land area and will be able to produce data and information concerning and management aspects of reforestation by means of reports, manuals, publications and qualified personnel as well.

The study and development of the above mentioned activities are dealing with the following works :

1. Techniques for countermeasures against fire, insect, disease and meteorological damage.
  - 1.1. Trial on several techniques for establishment of fire protection belt.
  - 1.2. Study on cost analysis of forest fire control.
  - 1.3. Investigation and identification techniques of pest and disease in nursery and plantation site.
  - 1.4. To examine and determine suitable method on pest and disease.
2. Studies on social and environmental implication of afforestation.
  - 2.1. Study social and economical benefit of the participation farmer in agroforestry.
  - 2.2. To examine and improve soil condition for agricultural crops in agroforestry.
  - 2.3. Trial on bee keeping in agroforestry.

- 2.4. Trial on coffee trees planting under shade trees in agroforestry.
  - 2.5. Trial on the protection techniques of pests and diseases in agroforestry.
3. Planning, management and evaluation techniques of afforestation project.
    - 3.1. To examine of tree growth on different cultivation site.
    - 3.2. Trial on the application of rootone hormone for forest plantation.
    - 3.3. Cost analysis of the operational of tractors for soil cultivation in plantation.
    - 3.4. To examine and determine suitable method on tending forestry stand.
4. Other necessary techniques.
    - 4.1. To examine of composition of topsoil, sand and compost in nursery.
    - 4.2. Observation of regeneration of Shorea sp in South Sumatra.
    - 4.3. Trial on the application of fertilizer in nursery to 7 (seven) species of industrial plantation forest.
    - 4.4. To examine of seedling production of Shorea sp and Peronema canescens by steck, hormone ABA & Rootone.
    - 4.5. Study of natural succession.

## II. OPERATIONAL PROGRAMME

Operational activities during 1986/1987 until 1987/1988 are summarized as follows :

### A. Financed by Indonesian budget ;

1. Administration cost	Rp. 144.880.000,-
2. Technological Development	Rp. 155.120.000,-
<b>T o t a l</b>	<b>Rp. 300.000.000,-</b>

### B. Financed by JICA budget ;

Spare parts	¥ 30.000.000,-
-------------	----------------

## III. EXPERTS, COUNTERPARTS AND TRAINING.

### A. Japanese Experts.

The number of longterm experts during the next 2 (two) years 1986 - 1987 are three (3) persons as follows ;

Category	Field	Number
1. Chief Adviser	Forest Protection	1
2. Experts	Silviculture	1
	Agroforestry	1
<b>T o t a l</b>		<b>3</b>

Shortterm experts are also needed in the field of ;

1. Agroforestry.
2. Forest Machinery.
3. Forest Diseases.
4. Forest Insect.

B. Counterparts and other personnels.

Indonesian government for 2 years follow up period  
appointed 10 (ten) counterparts and administrative staff for  
the project. 1.1. ;

Category	Field	Number
a. Field Manager		1
b. Counterparts	Nursery	1
	Silviculture *	2
	Forest Ecology	1
	Forest Protection	1
	Forest Engineering	1
	Agroforestry *	2
c. Treasurer		1
T o t a l		10

C. Training.

In period 1986/1987 and 1987/1988 the Project purpose some counterparts to attend training course in Japan at least 1 person every year.

A n n e x 1 ;

TENTATIVE SCHEDULE OF IMPLEMENTATION.

No.	I T E M	SCHEDULE	
		1986/1987	1987/1988
1.	Techniques for counter-measures against fire, insect, disease and meteorological damage.	.....	.....
2.	Studies on the social and environmental implication of afforestation	.....	.....
3.	Planning, management and evaluation techniques of afforestation projects	.....	.....
4.	Other necessary techniques	.....	.....



A n n e x 2 ;

TECHNICAL COOPERATION PROGRAMME

I T E M

SCHEDULE  
1986/1987 1987/1988

I. Japanese Side.

A. Long term experts

1. Chief adviser /forest protection (1) .....
2. Silviculture (1) .....
3. Agroforestry (1) .....

B. Short term experts

Several months in  
every field.

Short term expert in the field  
mentioned above and other field  
may be dispatched when necessity cases.

C. Dispatch of spare part

.....

D. Counterparts training in Japan

Several personal  
every year.

II. Indonesian Side.

A. Counterparts staff

1. Project manager (1) .....
2. Field manager (1) .....

- 3. Silviculture (2) .....
- 4. Agroforestry (2) .....
- 5. Forest Protection (1) .....
- 6. Nursery (1) .....
- 7. Forest engineering (1) .....

B. Administration personels

- 1. Clerical and service employe Necessary number of  
personel
- 2. Labourers

C. Local cost

.....

Sufficient.

TECHNICAL COOPERATION  
THE TRIAL PLANTATION PROJECT  
IN BENAKAT, SOUTH SUMATERA  
( ATA - 186 )

---

OPERATIONAL PROGRAM

1986 / 1987

---

MINISTRY OF FORESTRY  
DIRECTORATE GENERAL OF REFORESTATION AND LAND REHABILITATION  
DIRECTORATE OF REFORESTATION

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## I. INTRODUCTION

1985/1986 fiscal year is the last fiscal year on extension of the period of the technical cooperation for the Trial Plantation project, and will be terminated on April 11, 1986.

The progress achievement during the extension period has been evaluated by the Indonesia - Japan Evaluation Team and judged that the Project have executed smoothly and satisfactory. Yet, for further development, the Team agreed to continue the Project for another 2 years in the form of follow-up period with for major activities namely techniques for countermeasure against fire, insects and diseases, and meteorological damages, studies on social and environmental implication of afforestation, planning management and evaluation techniques of afforestation project and others.

Because of government monetary policy, no remaining budget at the end of fiscal year, so that all activities should be finished before the end of March. Consequently, budget disbursement should be on time both budget through DIP and INPRES.

If budget disbursement delay, some activities especially on operational program will be postponed. It is mean annual target can not finished completely on time.

## II. OPERATIONAL PROGRAM.

### 1. NURSERY.

- Target : 390,825 pots ( 0,98 unit ).

- Species :

a. There is 4 main species will be planted at plantation site and agroforestry schemen, i.e.

1. Acacia mangium.
2. Eucalyptus deglupta.
3. Swietenia macrophylla.
4. Schima wallichii var bancana.

b. For introduction species many kind of species will be raised up. Some of them are.

1. Peronema canescens.
2. Pinus oocarpa.
3. Shorea spp.
4. Koompassia malacensis.
5. Macadamia hildebrandii.
6. Hopea mangarawan.
7. O t h e r s .

Time schedule for nursery activities attach in appendix 2 and 3.

### 2. PLANTATION.

Site preparation for plantation activity used mechanical equipments, such as bulldozer and tractor. Degree of site preparation varies depend on species and site, on be describes as follows.

Target : 200 ha, consist of

- 55 ha : species : Acacia mangium.  
 site preparation : Land Clearing, 1 time ploughing.  
 ( strip tillage ).  
 spacing : 4 x 2 m.
- 106 ha : species : Eucalyptus deglupta, Swietenia macrophylla,  
 and Schima wallichii.  
 site preparation : Land Clearing, 2 times ploughing.  
 ( strip tillage ).  
 spacing : 4 x 2 m.
- 9 ha : green fire belt ( 6,5 ha ) and yellow fire belt (2,5 ha).  
 species : Acacia mangium.  
 site preparation : Land Clearing, 2 times ploughing  
 and 1 time harrowing.  
 ( total tillage ).  
 spacing : 2 x 2 m.
- 30 ha ,: Agroforestry.  
 species : Acacia mangium and Eucalyptus deglupta.  
 site preparation : Land Clearing, 2 times ploughing  
 and 1 time harrowing.  
 ( total tillage ).  
 spacing : 4 x 2 m.

Time schedule for planting activities shown in appendix 4 and 5.

### 3. TENDING.

Because some tending activities still remain approximately 50 %, so that the budget ( 1985/1986 fiscal year ) for tending will be carry over to 1986/1987 fiscal year. Target for tending can be describes as follow.



- 1<sup>st</sup> year tending.

target : 380 ha, consist of 210 ha ( 1986/1987 fiscal year )  
and 170 ha ( carry over ).

- 2<sup>nd</sup> year tending.

target : 1,035 ha, consist of 235 ha ( 1986/1987 fiscal year )  
and 800 ha ( carry over ).

Time schedule for tending activities attach in appendix 6.

4. GREEN FIRE BELT.

Green fire belt planted along yellow fire belt, both left and right side except along public road inside plantation site only.

Target of fire belt : 9 ha. Time schedule for this activities attach in appendix. 4.

III. TRIAL AND OBSERVATION PROGRAM.

A. CONTINUE PROGRAMMING ( 1985/1986 FISCAL YEAR ).

1. Plantation.

1.1. Observation on the influence of soil Cultivation to the growth of A. mangium, E. deglupta, S. macrophylla and S. wallichii.

1.2. Trial on weeding, pruning and climber cutting techniques to the growth of A. mangium, E. deglupta, S. macrophylla and S. wallichii.

1.3. Trial on two storied atand, A. mangium and Calamus sp.

1.4. Observation on planting and tending techniques for A. mangium, E. deglupta, S. macrophylla and S. wallichii.

1.5. Trial on tending activity by using herbicide for A. mangium, E. deglupta, S. macrophylla and S. wallichii.

## 2. Ecology.

- 2.1. Effect of crown shading of A. mangium and S. macrophylla to the development of alang-alang.

## 3. Agroforestry.

- 3.1. Trial on Tumpangsari system.
- 3.2. Trial on cattle and bee-keeping to support agroforestry scheme.
- 3.3. Study on daily activities of participants of agroforestry.

## 8. 1986/1987 FISCAL YEAR PROGRAMMING.

### 1. Nursery.

- 1.1. Trial on composition of pot media ( top soil, sand and compost) for raising up seedling of A. mangium, E. deglupta, S. macrophylla and S. wallichii.

### 2. Plantation.

- 2.1. Trial on two storied stand, A. falcataria and S. macrophylla.

### 3. Forest Protection.

- 3.1. Observation on some green fire belt planting techniques by using A. mangium and G. arborea.
- 3.2. Observation on insect and diseases on nursery and plantation and its control for A. mangium, E. deglupta, S. macrophylla and S. bancana.

4. Agroforestry.

4.1. Trial on usage of dolomite in agroforestry activities

5. Ecology.5.1. Observation on wild seedling of Shorea Spp in South Sumatera.

## IV. FINANCIAL PLANNING.

For 1986/1987 fiscal year, budget allocated for the project is about Rp. 289.092.000,-. This amount is come form two sources, forst through DIP budget Rp. 167.643.000,- and second through Inpres Rp. 121.449.000,-

DIP budget will be used for some activities in accordance with trial and observation and administration works while Inpres budget to support operational program.

Total budget is comprising of :

1. Nursery	: Rp. 6.895.000,-
2. Plantation	: Rp. 50.208.000,-
3. Tending	: Rp. 62.243.000,-
4. Working house construction	: Rp. 2.112.000,-
5. Technology development and administration works	: Rp. 167.643.000,-
	<hr/>
T O T A L	: Rp. 289.092.000,- =====

V. EXPERTS, COUNTERPARTS, TRAINING AND COMPARATIVE STUDY.

1. Japanese Experts.

The number of Longterm experts are 3 ( Three ) persons as follow :

Category	Field	Number
a. Chief Advisor	Forest Protection	1
b. Experts	Silviculture	1
	Agroforestry	1
Total		3

Determination of Japanese Shortterm Experts will be discussed later on the proposal for the time being are :

Foretry Machinery	1
Ecology	1
Nursery	1

2. Counterparts and Other personnel.

Indonesia Government appointed 7 (seven) Counterparts for the Project i.e.

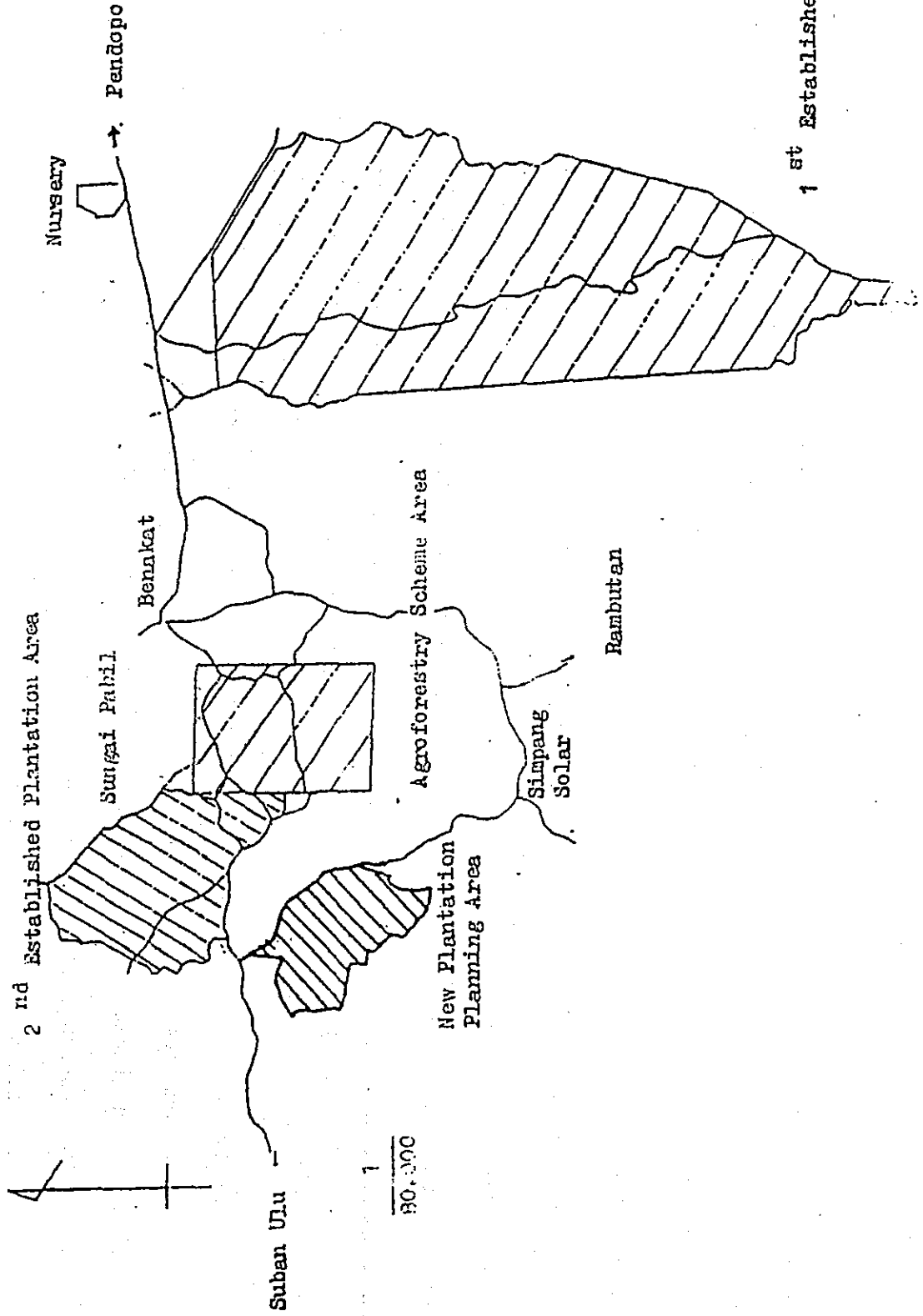
Category	Filed	Number
a. Field Manager		1
b. Counterparts	Nursery	1
	Silviculture	1
	Forest Ecology	1
	Forest Protection	1
	Forest Engineering	1
	Agroforestry	1
Amount		7

### 3. Training and Fellowship.

In Fiscal year 1986/1987 the Project proposed 2 persons to attend training course in Japan. The training are Counterparts ( 3 months ) for 2 persons.

Tentative schedule of experts dispatched, delivery of equipments, receiving training in Japan are given in appendix. 11.

Appendix 1. Total areas of the Project



1<sup>st</sup> Established Plantation Area

Appendix. 2. TIME SCHEDULE FOR SOWING.

No.	S P E C I E S	J u n e			J u l y			A u g u s t			S e p t.			T O T A L
		E	M	L	E	M	L	E	M	L	E	M	L	
1.	Acacia mangium	-	-	-	339	-	92	195	92	195	195	195	916	2,219
2.	Eucalyptus deglupta	-	43	-	7	14	7	14	14	14	67	-	-	180
3.	Swietenia macrophylla	-	-	-	-	-	-	-	-	96.000	-	-	-	96.000
4.	Schima wallichii	-	-	24,7	24,7	49,4	24,7	49,4	49,4	246,9	-	-	-	493,9
T o t a l		-	43	24,7	395,4	38,7	148,4	258,4	155,4	96.455,9	262	195	916	98.892,9

Remark : number of seed / kg germination rate ( % ).

A. mangium	120,000	70
E. deglupta	1,400,000	50
S. macrophylla	1,000	70
S. wallichii	359,000	40

Appendix. 3.

TIME SCHEDULE FOR PRICKING UP.

No.	SPECIES	JULY			August			Sept.			Oct.			TOTAL	
		E	M	L	E	M	L	E	M	L	E	M	L		
1.	Acacia mangium	-	28,506	-	7,699	15,397	15,397	15,397	15,397	15,397	15,397	76,988	-	-	182,483
					7,699			15,398							
2.	Eucalyptus deglupta	-	29,981	-	4,717	9,434	9,434	9,434	9,434	9,434	9,434	47,171	-	-	124,322
					4,717			9,434							
3.	Swietenia macrophylla	-	-	-	-	-	-	67,158	-	-	-	-	-	-	67,158
4.	Schima wallichii var. bancana.	3,546	7,092	3,546	7,092	7,092	35,461	-	-	-	-	-	-	-	70,921
		3,546	7,092	3,546	7,092	7,092	35,461	-	-	-	-	-	-	-	70,921
T o t a l		3,546	65,581	3,546	19,508	31,923	127,450	24,832	24,831	24,831	124,159	-	-	-	444,884

Remark : Estimate of pot seedlings survival

Acacia mangium : 85,5 %

Eucalyptus deglupta : 81,3 %

Swietenia macrophylla : 78,1 %

Schima wallichii

var. bancana. : 93,2 %







Appendix- 6.

TIME SCHEDULE FOR TENDING ACTIVITIES.

No.	ACTIVITIES	Month															
		Apr	May	Jun	Jul	Augt	Sept	Qct	Nov	Dec	Jan	Febr	March				
1.	1 <sup>st</sup> year tending - Carry over ( 170 ha ) - 1986/1987 ( 210 ha )	S	S		S		T										
2.	2 <sup>nd</sup> year tending - Carry over a. 300 ha b. 500 ha - 1986/1987 ( 235 ha )		S	S													

Remark : T : Total weeding

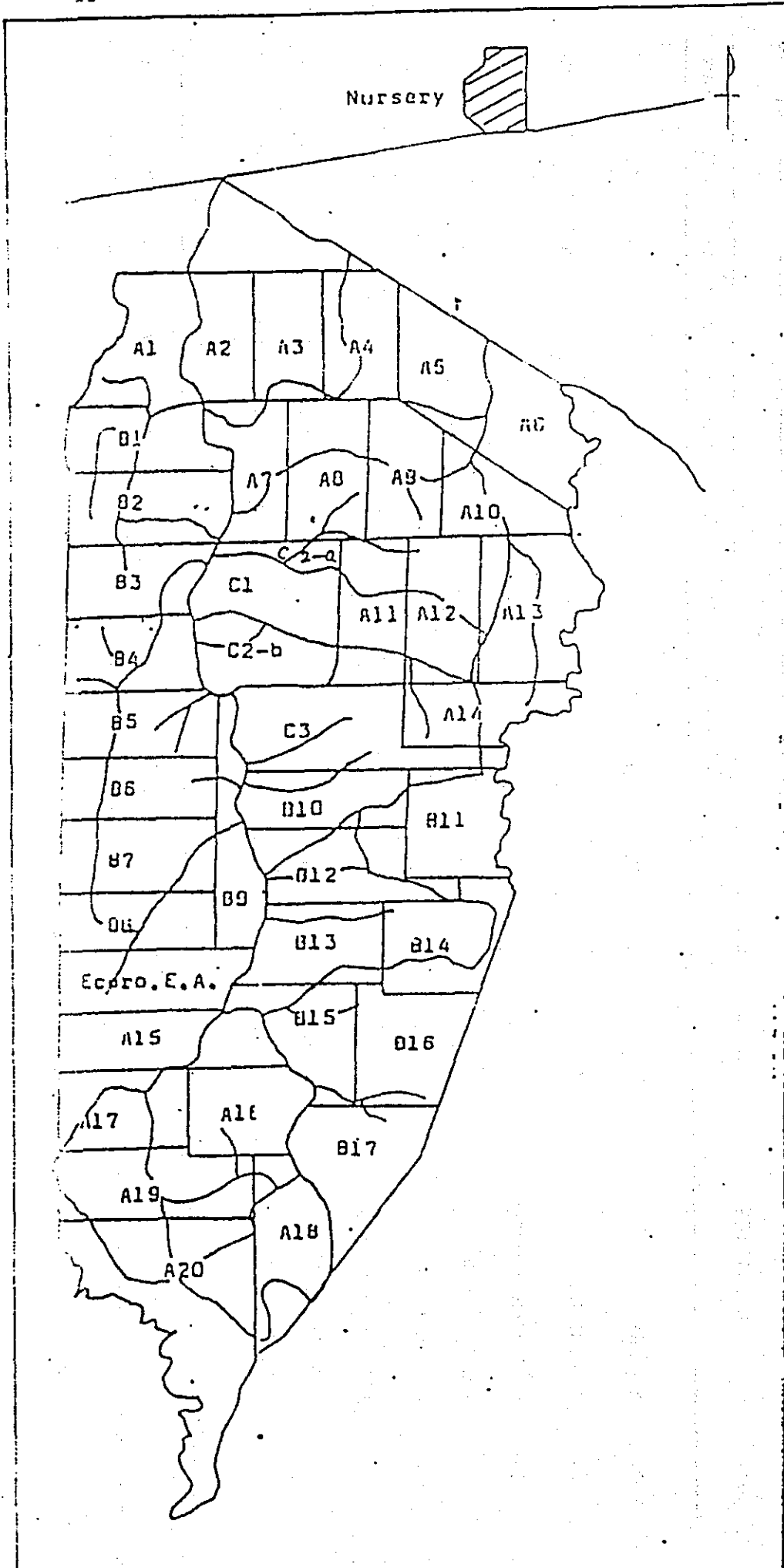
S : Strip weeding

DAILY MAN POWER NEEDED FOR OPERATIONAL ACTIVITIES.

Unit : man days.

No.	ACTIVITIES	M O N T H											
		Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
1.	NURSERY	-	-	25	25	25	25	35	10	10	10	10	-
2.	PLANTATION	-	-	-	-	-	30	30	24	24	44	44	20
3.	1 <sup>st</sup> YEAR TENDING	40	40	-	40	40	-	-	-	-	20	-	-
	- CARRY OVER	-	20	20	-	20	40	40	40	40	40	20	20
4.	2 <sup>nd</sup> YEAR TENDING	60	60	60	60	40	40	60	60	60	20	20	20
	- CARRY OVER	-	-	-	-	-	20	20	40	40	40	30	30
	- 1986 / 1987	100	120	105	125	125	135	185	194	174	174	124	90
	T O T A L												

Remark : \* Including agroforestry.



80/81 ( 200 ha )

- A 1 *A.falcata*
- 2 *S.macrophylla*
- 3 *E.deglupta*
- 4 *P.merkusii*

81/82 ( 400 ha )

- A 5 *A.cadamba*
- 6 *S.bacana*
- 7 *P.canescens*
- 8 *A.auriculiformis*
- B 1 *E.deglupta*
- 2 *A.falcata*
- 3 *P.merkusii*
- C 1 8 species

82/83 ( 770 ha )

- A 9 *D.latifolia*
- 10 *P.indicus*
- 11 *A.mangium*
- 12 *S.sasan*
- 13 *P.merkusii*
- 14 *E.deglupta*
- B 4 *S.macrophylla*
- 5 *S.bacana*
- 6 *A.auriculiformis*
- 7 *A.mangium*
- 8 *D.latifolia*
- 9 *P.merkusii*
- C 2 10 species

83/84 ( 770 ha )

- A 15 *E.deglupta*
- 16 *E.alba*
- 17 *A.mangium*
- 18 *S.macrophylla*
- 19 *A.falcata*
- 20 *L.leuccephala*
- B 10 *S.macrophylla*
- 11 *A.mangium*
- 12 *A.mangium*
- 13 *S.macrophylla*
- 14 *E.deglupta*
- 15 *S.sasan*
- 16 *P.canescens*
- 17 *A.falcata*
- 18 *E.alba*
- C 3 10 species

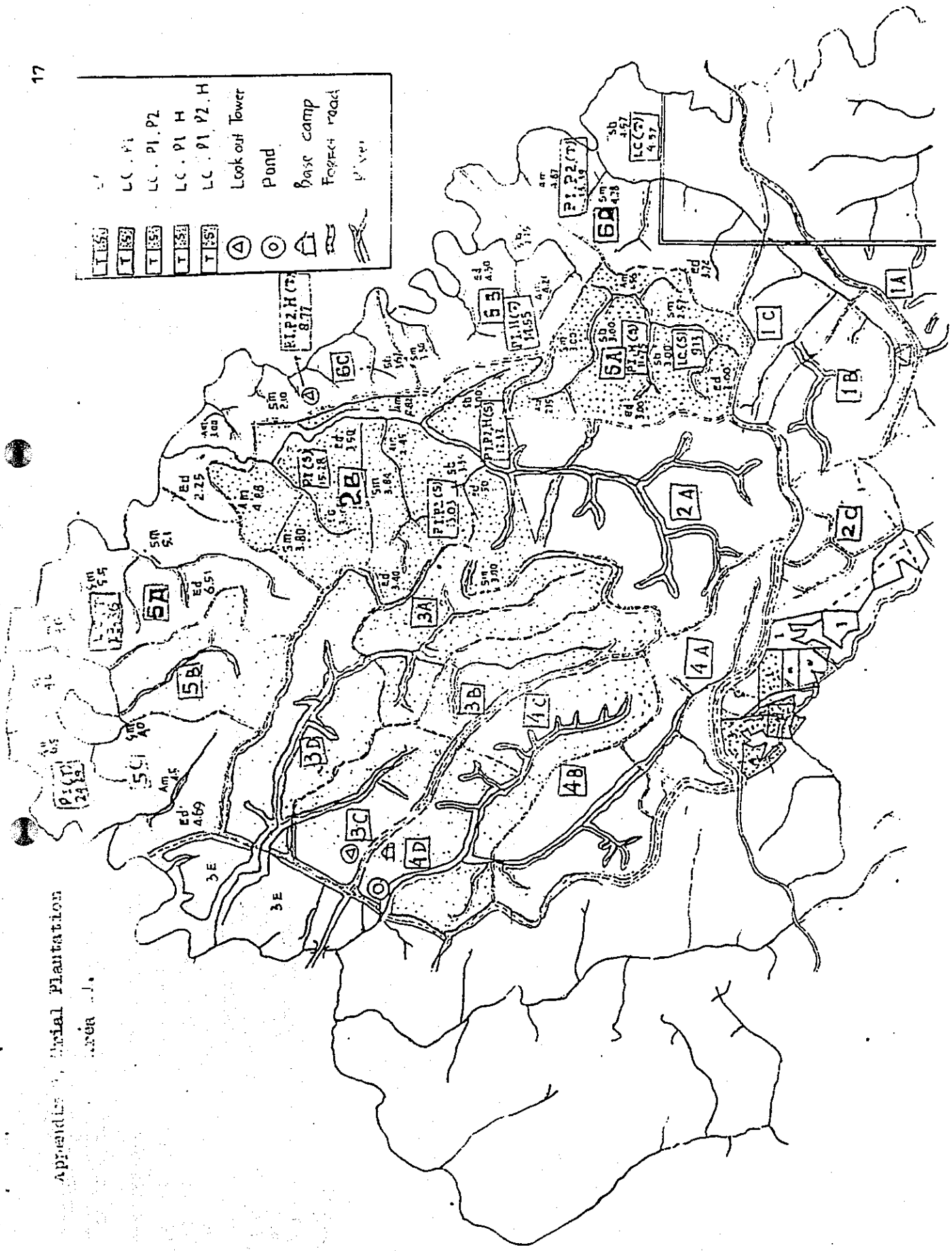
Note  
 A : Manual method  
 B : Mechanical method  
 C : Species introduction

Appendix 2, Aerial Plantation

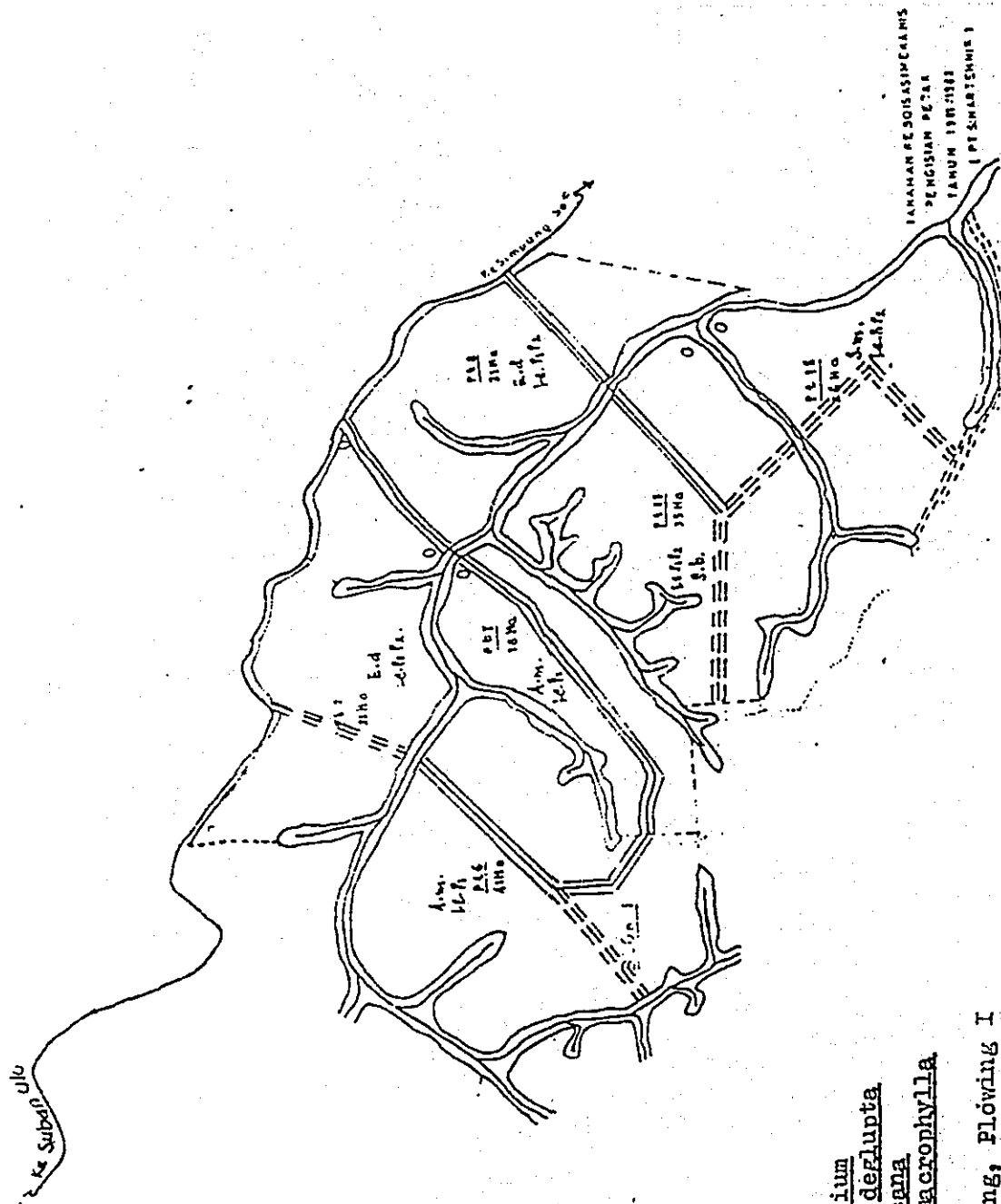
Area 1.

T 153	Look out Tower
T 153	Pond
T 153	Base camp
T 153	Forest road
T 153	View
△	
○	
⊙	
⊞	
⊞	

LC . P1  
LC . P1 . P2  
LC . P1 H  
LC . P1 P2 . H



Appendix 10. Map of the Study Area



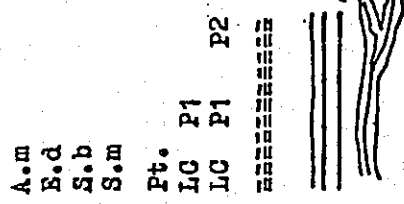
TANAH PERSEORANGAN  
 PENGISIAN PERUSAHAAN  
 TANAH 1981/1982  
 (PT. SIBIRIUM)

Remark :

- : *Acacia mangium*
- : *Eucalyptus deflupta*
- : *Schinus bancana*
- : *Syzygium macrophylla*

- : Compartment
- : Land Clearing, Flowing I
- : Land Clearing, Flowing II, Flowing III
- : Yellow Fire Belt

- : Yellow Fire Belt
- : River







## Appendix. 12.

## LIST OF COUNTERPARTS FOR THE PROJECT.

No.	Name	Category	Field
1.	Mr. M. Kardi Sabaruddin	Filed Manager	-
2.	Mr. S u t o m o	Counterpart	Silviculture
3.	Mr. Burhan Ismail	"	Agroforestry
4.	Mr. H a r i y o n o	"	Forest Protection
5.	Mr. Edi Iswahyudi	"	Nursery
6.	Mr. Bustami	"	Forest Ecology
7.	Mr. Rismulyadi	"	Forest Engineering

Total : 7 ( seven ) persons.

TECHNICAL COOPERATION  
THE TRIAL PLANTATION PROJECT  
IN BENAKAT, SOUTH SUMATERA  
( ATA - 186 )

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PLAN OF OPERATION  
1987 / 1988  
OF TRIAL PLANTATION PROJECT  
BENAKAT, SOUTH SUMATERA  
ATA - 186

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MINISTRY OF FORESTRY  
DIRECTORATE GENERAL OF REFORESTATION AND LAND REHABILITATION  
DIRECTORATE OF REFORESTATION

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## I. LEGAL CONTEXT.

In fiscal year 1987/1988 the Project is approaching the 9<sup>th</sup> year of cooperation or the 2<sup>nd</sup> year of follow up period. During the follow up period main activities namely nursery; plantation, forest road, fire line, and construction of working house are going to be conducted.

The plan of operation for 1987/1988 is continuation of plan of operation for 1986/1987. Test and Trial in the last 2 years is hoped to support 4 main objectives will emphasized the following items.

1. Techniques for counter measure against fire, insect and disease, and meteorological damages.
2. Studies on social and environmental implication of afforestation.
3. Planning, management and evaluation techniques of afforestation project.
4. Other necessary techniques.

## II. OPERATIONAL ACTIVITIES.

The main activities for 1987/1988 can be described as follow :

### 1. Nursery.

Target : 1 unit ( 440.000 seedlings )

Species : 6 species, such as :

- a. Accacia mangium.
- b. Eucalyptus deglupta.
- c. Swietenia macrophylla.
- d. Schima wallichii var bancana.
- e. Some indigenous species.

## 2. Plantation.

Target : 200 ha.

- 32,7 ha : Species : Accacia mangium.  
 Site preparation : Land Clearing, 1 time  
 Ploughing (Strip Tillage).  
 Spacing : 4 x 2 m.
- 37,4 ha : Species : Eucalyptus deglupta.  
 Site preparation : Land Clearing, 2 times  
 Ploughing (Strip Tillage).  
 Spacing : 4 x 2 m.
- 33,1 ha : Species : Swietenia macrophylla.  
 Site preparation : Land Clearing, 2 times  
 Ploughing (Strip Tillage).  
 Spacing : 4 x 2 m.
- 36 ha : Species : Schima wallichii var bancana.  
 Site preparation : Land Clearing, 2 times.  
 Ploughing (Strip Tillage).  
 Spacing : 4 x 2 m.
- 18,8 ha : Species : Introduction species.  
 Site preparation : Land Clearing, 2 times.  
 Ploughing (Strip Tillage).  
 Spacing : 4 x 2 m.
- 30 ha : Agroforestry :  
 Species : A.mangium and E.deglupta.

Site preparation : Land Clearing, 2 times.

Ploughing, 2 times harrowing  
(Total Tillage).

Spacing : 4 x 2 m.

- 12 ha : Green fire belt.

Species : A. mangium

Site preparation : Land Clearing, 2 times

Ploughing (Total Tillage).

Spacing : 2 x 2 m.

### 3. Tending

Target : 410 ha

a. First year 200 ha

b. Second year 210 ha

### 4. Forest Road.

Target : 5 km

### 5. Fire Line

Target : 6,4 km

### 6. Working House.

Target : 1 unit.

## III. TRIAL AND OBSERVATION

1. Techniques for counter measure against fire, insect and disease and meteorological damages.

- a. Study on controlling pest and disease of A. mangium, S. macrophylla, S. walichii and E. deglupta stands.
  - b. Activity and cost analysis for Forest Fire Controlling.
  - c. Trial of pruning on S. macrophylla attacked by shoot borers.
2. Studies on social and environmental implication of afforestation.
- a. Trial on development of agricultural crops in Agroforestry.
  - b. Observation on impact of mechanical reforestation to the prosperity of its around community.
3. Planning management and evaluation techniques of afforestation project.
- a. Cost analysis for nursery and plantation activities to support industrial forest plantation.
  - b. Growth observation of 35 species for industrial forest plantation according to soil cultivation, spacing and age.
  - c. Thinning trial of A. falcataria, S. macrophylla, E. deglupta and A. mangium.
4. Other necessary techniques.
- a. Trial on fertilizing for industrial forest plantation species.
  - b. Trial on raising up Shorea sp and P. canescens seedlings through vegetative regeneration.
  - c. Trial of natural succession.
  - d. Trial on Coffea plantation under E. deglupta stand.



- e. Observation of natural regeneration on gap opening effect at exploited area.
- f. Observation on sedimentasi of several mechanical soil cultivation.

#### IV. B U D G E T

1. Budget to be provided by the Government of Indonesia for 1987/1988 fiscal year, budget allocated for the project is about Rp. 327,260,000,- This amount is coming from four sources, first through DIP budget Rp. 70,000,000,- Second through IHH budget Rp. 46.925,000,- and Third through DJR budget Rp. 185,000,000,- and Fourth through INPRES budget. Rp. 24,835,000,-

DIP and IHH Budget will be used for some activities in accordance with trial and administration works while DJR and INPRES budget to support operational program.

Classification of the amount of the budget are as following :

1. N u r s e r y	: Rp.	7,100,000,-
2. Plantation	: Rp.	48,000,000,-
3. T e n d i n g	: Rp.	23,934,000,-
4. Road construction	: Rp.	28,000,000,-
5. Working house construction	: Rp.	2,113,000,-
6. Technology development and administration work.	: Rp.	218,113,000,-
<b>T O T A L :</b>		<b>Rp. 327,260,000,-</b>

2. Budget to be granted by JICA.

The Government of Japan through JICA going to grant some spare-part for technical equipment. All spare parts will be purchased in Indonesia. Total budget for 1987/1988 fiscal year is  
 ¥ 15.000.000.

V. EXPERT, COUNTERPART AND TRAINING.

1. Japanese Expert.

The number of Long term expert are 2 (two) persons as follow :

Category	Field	Number
a. Chief Advisor	Forest Protection	1
b. Experts	Silviculture	1
Total		2

The number and speciality of short term expert will be proposed are :

Entomology	1
Silviculture	1
Forest Engineering	1
Agroforestry	1

2. Counterparts and Other personnel.

Indonesia Government appointed 10 (Ten) Counterparts for the project i.e.

Category	Field	Number
a. Field Manager	-	1
b. Counterparts	Nursery	2
	Silviculture	2
	Forest Ecology	1
	Forest Protection	1
	Forest Engineering	1
	Agroforestry	2
	<b>Total</b>	<b>10</b>

### 3. Training.

In 1987/1988 fiscal year the project proposed 2 (two) persons Counterparts to attend training course in Japan, for 3 (three) months.

## TIME SCHEDULE FOR SOWING

No.	SPECIES	June			July			Augt			Sept			TOTAL
		E	M	L	E	M	L	E	M	L	E	M	L	
1.	Accacia mangium	-	-	-	600	300	126	100	87	-	-	-	-	1.213.
2.	Eucalyptus deglupta	-	60	11	20	-	-	7	-	5	5	-	-	108.
3.	Swietenia macrophylla	-	-	-	-	-	-	87.000	-	-	-	-	-	87.000.
4.	Schima wallichii	-	-	25	25	25	25	25	152	-	-	-	-	302.
5.	Species introduction	pm	pm	pm	pm	pm	-	-	pm	pm	-	pm	-	pm.

Remark :	Number of seed/kg.	Germination rate (%)
1. Accacia mangium	120.000.	70
2. Eucalyptus deglupta	1.400.000.	50
3. Swietenia macrophylla	1.000.	70
4. Schima wallichii	359.000.	40

## TIME SCHEDULE FOR PRICKING UP.

No.	SPECIES	June			July			Augt			Sept			Oct			TOTAL
		E	M	L	E	M	L	E	M	L	E	M	L	E	M	L	
1.	Accacia mangium.	-	-	-	50400	10584	7300	-	-	-	-	-	-	-	-	-	101892
					25200	8400											
2.	Eucalyptus deglupta.	-	-	42000	14000	-	4900	-	3500	3500	-	-	-	-	-	-	75600
				7700													
3.	Swietenia macrophylla.	-	-	-	-	-	60900	-	-	-	-	-	-	-	-	-	60900
4.	Schima wallichii.	-	-	3590	3590	3590	21827	-	-	-	-	-	-	-	-	-	43367
				3590	3590	3590											
5.	Species introduction.	pm	pm	pm	-	-	-	-	pm	-	-	-	-	-	-	-	-

Remark : Estimate of pot seedlings survival.

Acacia mangium	:	85,5 %
Eucalyptus deglupta	:	81,3 %
Swietenia macrophylla	:	78,1 %
Schima wallichii	:	93,2 %

Appendix. 3.

TIME SCHEDULE FOR PLANTATION AND GREEN FIRE BELT ACTIVITIES.

No.	Activities	M O N T H														
		Apr	Mei	Jun	Jul	Augt	Sept	Oct	Nov	Dec	Jan	Febr	Marc			
1.	Survey and mapping		↔													
2.	Land clearing			↔												
3.	Land cultivation				↔											
4.	Planting								↔							
5.	Tending										↔					

TIME SCHEDULE FOR AGROFORESTRY ACTIVITIES.

No.	ACTIVITIES	M O N T H														
		Apr	Mei	Jun	Jul	Augt	Sept	Oct	Nov	Dec	Jan	Febr	March			
1.	Survey and mapping		↔													
2.	Land clearing			↔												
3.	1 <sup>st</sup> Ploughing			↔												
4.	2 <sup>nd</sup> Ploughing					↔										
5.	Harrowing							↔								
6.	Agricultural cropping								↔							
7.	Tree planting									↔						
8.	Tending													↔		

TIME SCHEDULE FOR TENDING ACTIVITIES.

No.	ACTIVITIES	M O N T H											
		Apr	Mei	Jun	Jul	Augt	Sept	Oct	Nov	Dec	Jan	Feb	March
1.	1 <sup>st</sup> Year tending - 1986/1987 ( 200 ha )			S		T				S		S	
2.	2 <sup>nd</sup> Year tending - 1985/1986 ( 210 ha )				S			S				S	

Remark : T : Total Weeding.

S : Strip Weeding.





the operation plans for the trail plantation project (A/A-186) in benakat, south Sumatera