

SECOND JOINT STEERING COMMITTEE MEETING
INDONESIA-JICA FOREST TREE IMPROVEMENT PROJECT

6 th December 1994 (09.00-12.00)

AGENDA

Opening Ceremony :

- 09.00-09.10 Opening Adress Mr. Soedjadi Hartono
Director General of AFRD
- 09.10-09.20 JICA Resident Representative Greeting Mr. Okazaki Koichiro
- 09.20-09.30 Report Form Project Manager Dr. Hendi Suhaendi

Project Activities Report :

- Chairman : Mr. Soedjadi Hartono
Rapporteur : Dr. Anto Rimbawanto
- 09.30-10.00 Reporting of Project Activities in 1993/1994
Speakers : Dr. Hendi Suhaendi
Mr. Hashimoto
Mr. Seido
Goal : Approving
- 10.00-10.20 Coffee Break
- 10.20-10.50 Progress of Project Activities in 1994/1995
Speakers : Dr. Takanobu Furukoshi
and JICA Experts
Goal : Approving
- 10.50-11.15 FTIRDI Research and Development Strategies in the Future
Speaker : Dr. Hendi Suhaendi
- 11.15-11.30 Indonesian Project on Forest Tree Improvement
Speaker : Dr. Takanobu Furokoshi
- 11.30-11.45 Proposed Agenda for 3rd Joint Steering Committee Meeting
Speaker : Dr. Hendi Suhaendi
- 11.45-12.00 General Comments
Speaker : Director General of AFRD

FOREST TREE IMPROVEMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY
AND
AGENCY FOR FORESTRY RESEARCH AND DEVELOPMENT
MINISTRY OF FORESTRY OF INDONESIA

EXECUTIVE SUMMARY

Presented at the 2nd Joint Steering Committee Meeting
Jakarta, 6 December 1994

The activities of the project has been implemented in accordance with the tentative schedule of implementation on the development of seed sources and seed production of genetically superior seeds of major fast growing species. Four major activities has been identified as the core activity of the project namely: i). development of seed sources; ii). development of plant propagation; iii). dissemination of materials and information; and iv). advice to promote tree improvement activities.

The implementation of each activity during 1993/1994 is summarised in the following section.

1. Development of seed sources

Seeds of known and superior provenances have been procured both locally through seed collection expedition and purchased from overseas mainly from Australian Tree Seed Centre CSIRO Division of Forestry in Canberra. A total of 811 individual seedlots from 84 provenances consisted of *Acacia aulacocarpa*, *A. auriculiformis*, *A. crassicarpa*, *A. mangium*, *Eucalyptus urophylla*, *E. pellita*, *Paraserianthes falcataria*, and *Pinus merkusii* are currently in store. Some of the seedlots have been used for seed orchards establishment.

Seedling seed orchards of *A. mangium*, *E. urophylla*, and *E. pellita* have been established. The breakdown of these orchards are as follows: 6 orchards of *A. mangium* (4 in south Sumatra, and 2 in south Kalimantan), 1 orchard of *E. urophylla*, and 1 orchard of *E. pellita*; both are in south Kalimantan. Plan to establish similar orchard in central Java had to be delayed until 1994/1995 due to administrative problems.

Isosyme analysis of *P. falcataria* and *E. urophylla* was carried out. The objective was to identify genetic variation in plantation and natural forest and to detect gene markers respectively.

2. Development of plant propagation

There are two activities in this sub-project, i.e vegetative propagation and flowering stimulation study. Various trials have been carried out to develop suitable techniques of micropropagation and macropropagation for the species mentioned above. Trials to stimulate early flowering are currently in progress.

3. Dissemination of materials and information

The project have published a total of two annual reports, ~~eight~~ ^{ten} technical reports, ~~six~~ ^{four} manuals and ~~four~~ ^{eight} information

leaflets. These publication have been distributed widely to various institutions.

4. Advice to promote tree improvement activities

This was achieved through organising a seminar and collaborative works with private sectors.

One of the significant events during this second year of the project was the change in the organisation of the project. As of 7 February 1994 the project responsibility have been transferred to the Agency for Forestry Research and Development. This is the result of the establishment of Balai Penelitian dan Pengembangan Pemuliaan Benih Tanaman Hutan which was to take over the operation of the Forest Tree Improvement Project.

FTIRDI RESEARCH AND DEVELOPMENT STRATEGY

JUSTIFICATION

The Forest Tree Improvement Research and Development Institute (FTIRDI) role is to become the leading institution in genetic improvement of forest tree species in Indonesia. One of the task of the institute, therefore is to provide genetically improved seeds at sufficient quantity for the establishment of production seed orchards. This task is to be achieved through concerted research both by conventional methods as well as biotechnological approaches.

Genetic improvement research naturally is a long term research commitment where its success depends on continuity and consistency of research activities. Therefore, policy, financial, and technical supports are of paramount importance. The establishment of FTIRDI is a clear indication of such a support from the Ministry of Forestry. For the Forest Tree Improvement Project (FTIP) it presents a new but challenging opportunity to expand its involvement in tree improvement research in Indonesia.

These development requires a review of the strategy of the project so that this Technical Cooperation between Indonesia and Japan can be maximised for the benefit of forestry development in Indonesia.

RESEARCH AND DEVELOPMENT PROGRAMS

Success of any research activity is greatly influenced by strategic planning. This is even more important in tree improvement because of its long term nature. Coherent research program is a prerequisite to obtained effective and efficient research products.

The FTIRDI research is organised into four programs, namely: 1). Hardwood plantations; 2). Softwood plantations; 3). Dipterocarps plantations; 4). Non-industrial plantations. Each program will identify relevant research projects to be investigated. Each program will identify relevant research projects in accordance with the final products of the plantation. So far five types of end uses can be identified, i.e. pulp and paper, construction timber, energy, fancy wood, and non-wood products.

The objective of hardwood plantation program (Program I) is to support the development of highly productive hardwood plantations through genetic improvement research to optimise the yield and quality of industrial wood. Some commonly known fast growing species, such as Acacia, Eucalyptus and Paraserianthes fall under this program. Initially this program will focus its research on optimising the yield and

quality of wood for pulp and paper. This is in line with the current emphasis of industrial plantations in Indonesia. Later this may include wood for other end uses.

Program II's (softwood plantations program) objective is to support the development of highly productive softwood plantations through genetic improvement research of softwood species.

Program III's (dipterocarps plantations program) objective is to support the regeneration of highly productive dipterocarps plantations through research on genetic improvement, and conservation through research on genetic diversity.

The objective of Program IV (non-industrial plantations program) is to produce genetically improved tree suitable for agroforestry and rural development programs.

Currently, the FTIRDI is in the process of writing up details of these programs.

TECHNICAL COOPERATION WITH JICA

The establishment of industrial plantations is and will continue to be the major reforestation activity in Indonesia. Fast growing species, such as *Acacia mangium*, *A. crassicarpa*, *A. auriculiformis*, *Eucalyptus deglupta*, *E. urophylla*, *E. pellita*, and *Paraserianthes falcataria* are among the most widely planted species. In this context the tentative schedule of implementation which has been adopted by the Project is very relevant to the demand of genetically improved seeds of those priority species.

However, the kind of works that the FTIP has set up to implement does not necessarily cover the overall research program of the FTIRDI. Consequently, the level of assistance by JICA is rather restricted to areas specified in the tentative schedule of implementation.

To elevate the level of assistance by JICA to the FTIRDI it is necessary to examine the tentative schedule of implementation so that other research activities can also receive assistance from JICA. Some of the activities where JICA support would be needed is DNA technology and reproductive biology.

This technology when appropriately developed would have great potential to efficiently and effectively carry out tree improvement program. It will be able to answer questions on population genetics (level of genetic diversity, breeding system), used as diagnostic tools, used as marker-aided selection for breeding programs which will

reduce selection times dramatically, and eventually used in genetic transformation of desirable traits.

It is expected that JICA will provide technical assistance for the establishment of DNA and reproductive biology research facilities.

In order to make the best use of human resources, the organisation of staff personnel for the FTIP needs to be reviewed. It is proposed that all FTIRDI research scientists will be involved in FTIP program. The grouping of scientists will follow the grouping of activities as stipulated in the Tentative Schedule of Implementation. Leader of each activity will act as counterpart to the Japanese expert.

COLLABORATIVE WORKS WITH OTHER INTERNATIONAL ORGANISATIONS.

The FTIRDI realises the importance of establishing links with international organisations. Such an interactions would enhance our research capacity and improve our international reputation as a research organisation.

There are a number of organisations with which we have had collaboration.

1. Asean Canada Forest Tree Seed Centre (ACFTSC).

The Institute is involved, among other things, in procurement of genetic resources from natural populations. Exchange of information is a continuing activity.

2. Centre for International Forestry Research (CIFOR).

At present there is no specific project being undertaken with CIFOR. However, we are hoping that in the near future we could be involved in research project funded by CIFOR.

3. Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia.

Our link with CSIRO Division of Forestry has been a long standing one. Seeds for the FTIP seed orchards were purchased from the Australian Tree Seed Centre (ATSC). The ATSC have also donated 100 kg seeds of *Acacia mangium* from best provenances to be used for establishing seed production areas in Indonesia. Joint expeditions on seed collection in east Indonesia have been carried out.

Currently a two year scientific exchange program (1994 - 1996) in DNA study is in progress. The first visit by an Australian scientist have been completed. This visit was

focused on the setting up of laboratory protocols, manuals, safety rules, and inventory of equipment.

4. International Centre for Research on Agro-Forestry (ICRAF).

Research priority should also be given to non-industrial species i.e. agroforestry species. In this context we will be seeking collaborative works with ICRAF.

5. UNDP/FAO

Currently FTIRDI is the national focal point of the UNDP/FAO Regional Project on Improved Productivity of Man-Made Forest through, Application of Technological Advances in Tree Breeding and Propagation or known as FORTIP (Project RAS/91/004). The goal of FORTIP is to promote development and transfer of appropriate tree breeding technologies and training. The main mission of FORTIP is to assist member countries to identify, develop, and propagate genetically superior planting materials of proven indigenous and exotic tree species for different planting programs.

FTIRDI will continue to actively involve in all FORTIP programs and make the best use of resources and assistance that FORTIP can provide.

CONCLUSION.

FTIRDI's activities are strategically planned to cover genetic improvement of many species both for industrial and non-industrial plantations. In order to develop appropriate research projects for those species, the FTIRDI research is organised in four programs which reflect commodity oriented approach.

International cooperation will remain an important element of FTIRDI's programs because it provide opportunity to be exposed at international level while gaining benefit from such a cooperation. Interaction with international institutions is also important because of our limited resources both technically as well as financially.

The current technical cooperation with JICA will remain as a major activity of the FTIRDI. Therefore, adjustment on the organisation and management of the FTIP is needed.

A PROPOSITION ON THE STATUS OF INDONESIA FOREST
TREE IMPROVEMENT PROGRAMME

- 1 ESTABLISH AND AUTHORIZATION OF NATIONAL
FOREST TREE IMPROVEMENT PROGRAMME
- 2 FTIRDI WILL BE ABLE TO PLAY THE ROLE AS
LEADING INSTITUTION IN THE PROGRAMME.
- 3 THE PROGRAMME SHOULD BE PROGRESSING WITHIN
ENTERPRICE UNION ON THE COMMERCIAL BASE.

ORGANIZATION STRUCTURE
OF THE NATIONAL TREE IMPROVEMENT PROGRAM

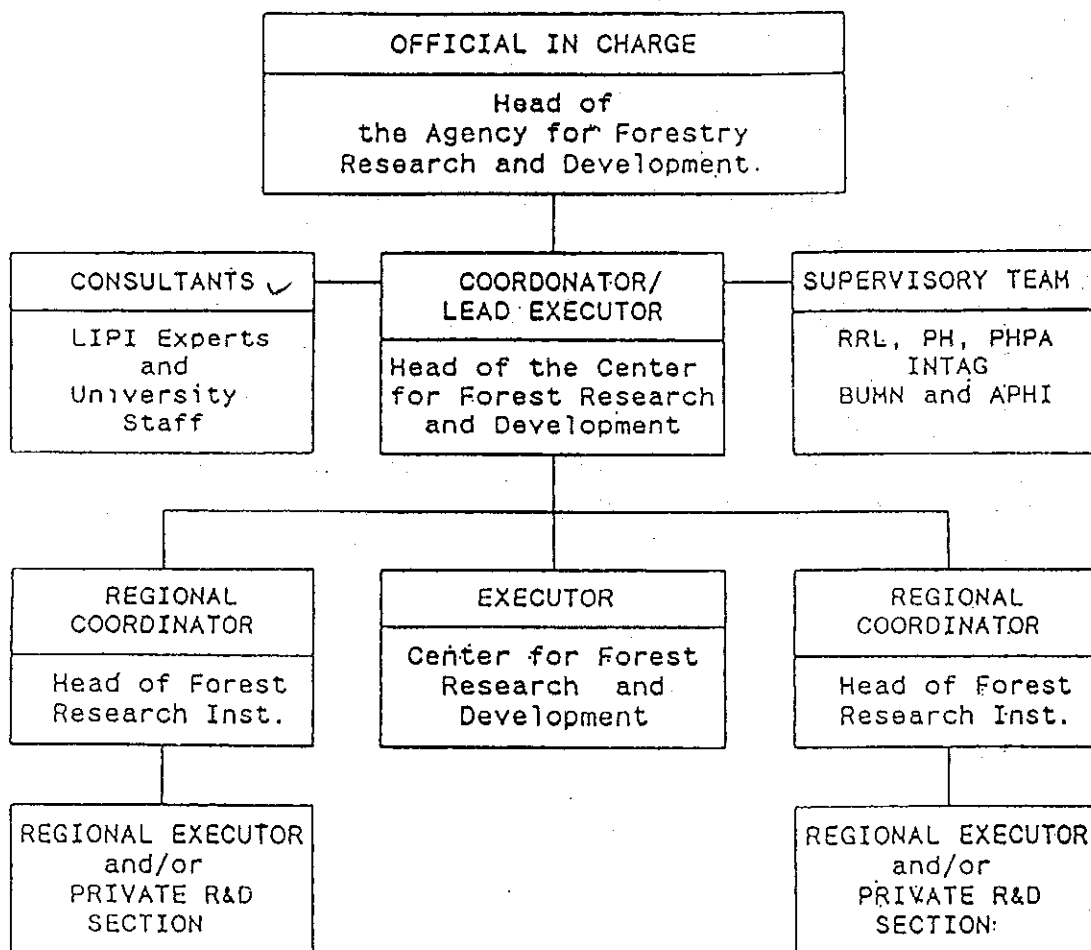


Figure 2. The proposed organizational structure of the National Tree Improvement Program 1990 (Suhaendi, 1990)

THE STATUS OF FOREST TREE IMPROVEMENT IN INDONESIA - A BASELINE STUDY

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RECOMMENDATIONS

1. A joint Committee consisting of high officials of the Ministry of Forestry, Ministry of Industries and the State Ministry of Research and Technology, should determine the zoning of the wood-based industries, their number and capacities.
2. The establishment of the industrial forest plantations (HTI) should be based on the existing and future wood-based industries.
3. Forest tree improvement activities should be guided by the needs of the industrial forest plantations.
4. There should be a law on forest tree seeds/seedlings, including seed certification, seed traffic and trade.
5. The number of forest tree improvement specialists should be increased by recruitment and the quality increased by advanced training.
6. A National Forest Tree Improvement Program should be made and inaugurated in the very near future, to be executed by a cooperative institution, established by the cooperating parties, consisting of the Ministry of Forestry (AFRD, CFRD), State-owned Forest Corporations (BUMN), Private Forest Corporations, Wood-based Industries and Universities (possessing Forestry Faculty or Department).
7. The National Forest Tree Improvement Program should be made comprehensive, with clearly defined objectives and action programs, supported by basic as well as problem oriented research programs.
8. The Cooperative Institution should establish linkages with national, regional as well as international institutions which have relevant programs in forest tree improvement.

PROPOSED AGENDA
THIRD JOINT STEERING COMMITTEE MEETING
JOGJAKARTA, MAY 1995

1. OPENING ADDRESS
2. JICA REPRESENTATIVES'S GREETING
3. REPORT FROM PROJECT MANAGER.
4. PROJECTS ACTIVITIES REPORTS :
 - 4.1. REPORTS OF PROJECT ACTIVITIES IN 1994/1995
 - 4.2. PLAN OF PROJECT ACTIVITIES IN 1995/1996
5. GENERAL COMMENTS

JICA