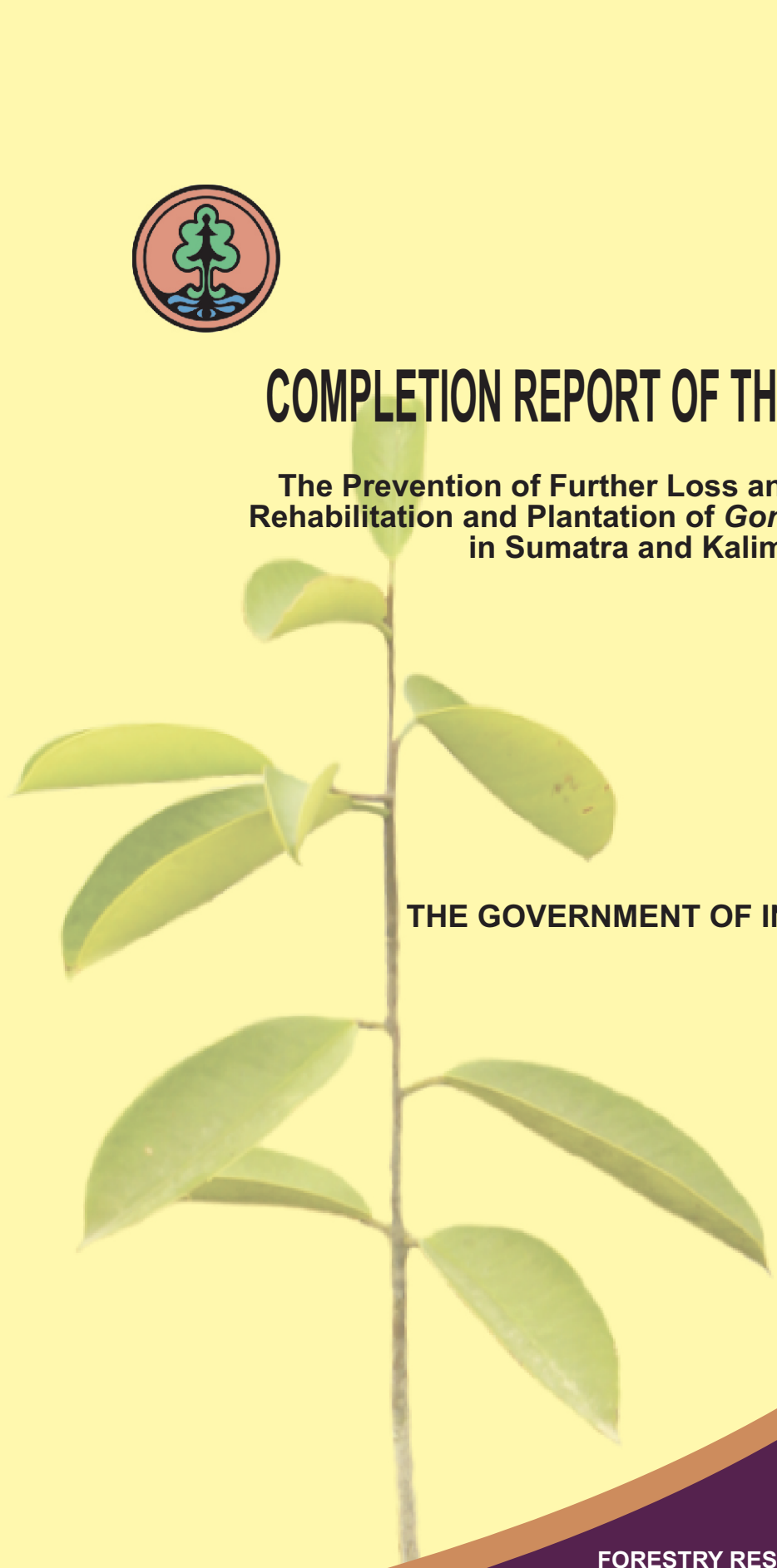
COMPLETION REPORT OF THE ITTO PROJECT

The Prevention of Further Loss and the Promotion of Rehabilitation and Plantation of *Gonystylus* spp. (Ramin) in Sumatra and Kalimantan



THE GOVERNMENT OF INDONESIA

FORESTRY RESEARCH AND DEVELOPMENT AGENCY
CENTER FOR FOREST CONSERVATION AND REHABILITATION RESEARCH AND DEVELOPMENT

BOGOR – INDONESIA

2012

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2012

- **Project number** : ITTO PD 426/06 Rev. 1 (F)
- **Starting date of the project** : January 29th, 2007
- **Duration of the project** : - Original : 36 months
  - First Extension : 23 months
  - Second Extension : 8 months
- **Project cost** : USD 682,542 (ITTO = USD 507,903 (USD 127,443 retained by ITTO and USD 380,460 transferred to project) and GoI (in kind) = USD 174,639)
- **The ordinal number and type of the Report** : Project Completion Report
- **Project technical and scientific staff** :
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    2. Project Secretary/Finance : Ms. Siti Nurjanah
    3. Project Assistance : Mrs. Dian Tita Rosita, Ms. Evalin S.S. Sumbayak
  - International and National Experts/Consultans
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       - Dr. Titiek Setyawati
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       - Ms. Yelnititis
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       - Mr. Rusmana
       - Mr. Riswan Ariyani
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    Chairman : Director General of Forestry Research and Development Agency (FORDA)
    Secretary : Head of International Technical Affairs, Center for International Cooperation
    Member :
    1. Director of Center for Conservation and Rehabilitation Research and Development (CCRR&D former CFNCRD).
    2. Director of Center for Forest Productivity Research and Development (CFPRD)
    3. Secretary of Forestry Research and Development Agency (FORDA)
    4. Director of Center for International Cooperation
    5. Director of Forest Plantation Development
    6. Director of Biodiversity Conservation
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- **The place and date the report was issued :** Bogor, September 26th, 2012

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EXECUTIVE SUMMARY

Project context, origin and main problem to be addressed;

Gonystylus bancanus (Ramin) is one of the most valuable timber species in Indonesia. The growing stock of this species has drastically decreased in last several years and its habitat rehabilitation and field plantation are progressing slowly. The causes vary leading to lost of population and habitats. They are the unsustainable methods of harvesting, over exploitation by both legal and illegal logging activities, repeated fires in the habitats of ramin (peat swamp forest), conversion of ramin habitats (PSF) to other uses, such as to industrial forest plantation and oil palm plantation.

Natural and artificial regeneration is also insignificant, primarily due to lack of seed sources, high quality planting materials (seedlings), propagation-plantation technology and incentive scheme for plantation. Weak law enforcement, lack of awareness and capacity both institution and human resources have also contributed to this condition.

***Project Objectives and indicates the (adjusted, if any) implementation strategy*;**

The project, therefore, is aimed to contribute to the sustainable management of ramin forest by conducting several activities directed to prevent the further loss of ramin and to promote rehabilitation of its habitat and population and field plantation. Specific objectives of the project are (1). To improve silvicultural techniques to ensure its conservation and plantation and (2). To enhance institutional and human resource capacity to implement rules and regulation, including CITES requirement. The outputs are (1). Propagation of high quality planting materials, (2). The development of field plantation technique, (3). Improved institutional and human resources capacity on CITES implementation, (4). Improved existing rules and regulation for ramin conservation and plantation including harvest protocols.

***Critical differences between planned and realized Project implementation*;**

There is only a slight difference between planned and realized project implementation. In the plan, there were two activities: (1) that was related to the trial on seedling treatment and (2) that was related to the development of plantation technology not fully executed. These two activites were amended/modified to enhance the other activities and to enhance condition to achieve overall project objective.

Situation prevailing after Project completion compared to the Pre-project situation including the situation of the target beneficiaries, and post- Project sustainability;

There are some situations at which project has contributed to the achievement of overall objective of the project: sustainable management of ramin through the improvement of rules and regulation and the enhancement of rehabilitation and plantation. The project has facilitated the review on the existing policy on ramin, such as ramin logging moratorium which has been imposed since 2001, currently applied silvicultural system on ramin, which was applied since 1980 and new prescription of silvicultural system which reduces the diameter cutting limit. Review on the CITES implementation has provided valuable information for effective implementation of CITES. These reviews are expected to be used

in the decision making process and the formulation of policy, programs and operational activities, which in turn, will contribute to the sustainable management of ramin. In addition, several manuals/guidelines and technologies have been developed, such as vegetative propagation and plantation techniques. Vegetative propagation technique and its manual has given significant contribution, since at this time, ramin seeds are hardly found and the only source of planting materials is from vegetative propagation.

The most relevant outcome of the analysis of the Project implementation;

Some relevant outcomes of the project are: there will be better planning and management, especially those related to the logging activity, CITES implementation and rehabilitation-plantation activities. The plantation activities could be initiated and conducted since the provision of planting materials has been possible and plantation technology has been available. The raised awareness of community and improved capacity of institution and human resources on the issue and problem on ramin will also contribute to the enhancement of sustainable management of ramin and PSF.

Lessons learned;

The project design which addressed two aspects at the same time: law enforcement and rehabilitation-plantation, are already adequate to contribute to the solution of the primary problems on ramin.

The involvement of relevant agencies and committed personnel is critical factors influencing the sustainability of the project. This would be achieved by the effective collaboration with relevant institutions and correct selection of individual to be involved in the activities since the beginning of the project.

Project findings in various formats were disseminated in various means, in a series of workshop, training and other capacity buildings, meeting and exposes. Some of the publications were uploaded into websites. However, the placement of publications in websites was inpractical in some cases, since most of the documents use large memory, and therefore, slightly difficult to be downloaded.

Fruiting and flowering season was the external factor which was not strongly anticipated in the design of the project. This has influenced the execution of several activities related to the plantation trial. The flexibility to extend the project period has contributed to the achievement of provision of planting materials and stockplants which were valuable for future propagation of planting material and plantation.

In addition to the activities which have been designed and described in the project documents, there were several issues raised and need to be tackled during the project period. The issues were the issuance of new regulation on silvicultural system on ramin which contains regulation to reduce diameter cutting limit, the possibility of lifting logging moratorium policy, flowering stimulation trial and the establishment of stockplant. The issuance of new silvicultural system has received wide attention from forestry community. Project has facilitated a series of discussions to reponse this issue in conjuction with the development of harvest protocol on ramin.

Recommendations

To ensure the achievement of sustainable management and rehabilitation-plantation of ramin, its is recomended that all problems related to the provision of planting materials need to be consistently solved.

Since the target species is very slow growing and requires specific site to grow, it is recommended that the design of project should be phased project or there should be strong commitment of support both financial and institutional for post project completion.

Project Steering Committee (PSC) Meetings and field visit

1. PROJECT IDENTIFICATION

1.1. Context

1.1.1. Social aspects

Ramin habitat is located in peat swamp forest which is least accessible compared to dryland forests. However, some sources of income are obtained from peat swamp forest, such as fuelwood, fish and other small scale agricultural crops. Community living in surrounding forest area mostly involve in logging activities, enrichment planting and other restoration activities. Recently, opportunity for living is more available in PSF since various agricultural activities are introduced. The community prosperity could be improved through the involvement in wood industry, such as sawmill and other mills to produce some other finished products (moulding, dowels, joints etc), logging activities and maintenance. The reduction in wood industries beginning with the lack of logging activities have caused reduction in community prosperity. Poverty has contributed to the illegal activity in peat swamp forests, such as illegal logging, canalization and conversion to other uses, mostly to agriculture. This project has provided positive impact to local community by direct involvement in the project during operational activities, such as field survey on seed sources identification, raising seedling in nurseries and field plantation trials. Long term impact to local community will be in the form of employment opportunities after the recovery of ramin production in logging activities, sawmills and other ramin wood industries, rehabilitation of PSF and plantation activities.

1.1.2. Economic aspects

Ramin is one of the highly valuable timber in Indonesia which grows naturally in peat swamp forest in Sumatra and Kalimantan. The timber is used for various furniture products and other wood based products such as dowels, moulding, picture frame etc. Ramin timbers from Indonesia are exported mostly through Singapore and Malaysia and then re-exported to other Asian countries, America and Europe. The trade of this wood has provided contribution to the country economic growth directly through tax income and indirectly through the establishment of various industry and employment opportunity. The recovery of standing stock will promote the recovery of economic potential.

According to trade statistics (as cited by Traffic SEA, 2005), since 1970 until 1990s, Indonesia regularly exported ramin timbers more than 500,000 cu m per year. The export dropped substantially to 23,000 cu m in 1998 and less than 8,000 cu m in 2002. The reduction of ramin log production has caused the closed down of some ramin industries and loss of job opportunities. By the promotion of ramin habitat recovery and population establishment, the economic value of ramin will recover and the community prosperity will improve. Similar to the social impact, the project will have positive impact to local communities in the form of employment opportunities during the project implementation. Economic impact will also be realized after the recovery of ramin production (ramin forest) that will enable wood industries to resume and provide job opportunities that in turn will promote community prosperity.

1.1.3. Environmental aspects

This project has provided substantial contribution to the environment. The recovery of peat swamp forests will contribute to the reduction of fires in peat swamp forests during the dry season. Smoke or haze resulted from forest fires have suffered some neighboring countries like Malaysia and Singapore. The rehabilitation of habitats through artificial plantation will provide enormous contribution to the recovery of vegetation in peat swamp forest, especially those of non-drought resistant species. The de-canalization, blocking of water canals will contribute to the ascending of existing ground water surface. The higher ground water surface will reduce the chance of under ground forest fires which is the most difficult to be extinguished in peat swamp forests. WWFI, Sebangau Conservation project and Wetland International have initiated the establishment of canal blocking in Kalimantan.

1.1.4. Project locations

The administrative work of project was managed in Executing Agency office in Bogor, West Java as project secretariat. Field activities were directed to the target geographical areas, which was the natural habitat of ramin in Peat swamp forest in Sumatra (Riau, Jambi dan South Sumatra) and Kalimantan (West and Central Kalimantan) (Figure 1). Capacity building such as workshop, training workshops, discussion meeting and other scientific meeting were conducted in Bogor-Jakarta Area, Sumatra and Kalimantan. Field plantations were conducted in OKI, South Sumatra and Tumbangnusa, Central Kalimantan.

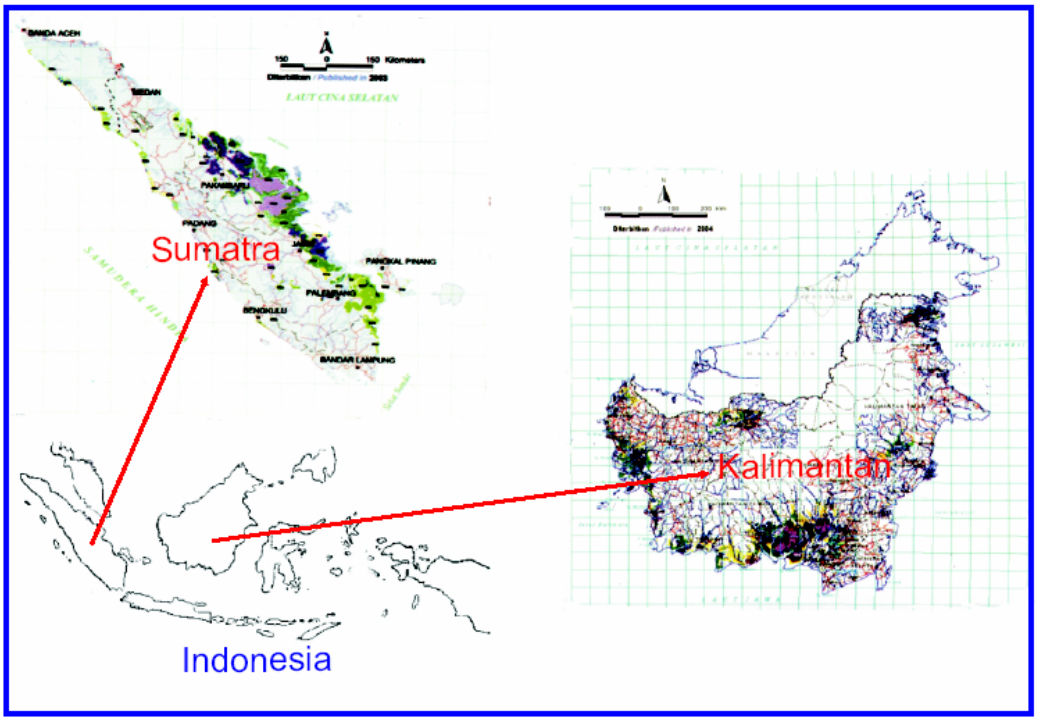


Figure 1. The distribution of *Gonystylus* species in Sumatra, Java, Kalimantan, Sulawesi and Irian Jaya (West Papua). *G. bancanus* is currently found in Riau, Jambi and South Sumatra for Sumatra distribution and West and Central Kalimantan for Kalimantan distribution.

1.1.5. Sectoral policies

There are several sectoral policies relevant to this project. The first policy is related to logging moratorium of this species throughout the country issued since 2001. This was a response to severe degradation of ramin habitats and the reduction in growing stocks and illegal trade of ramin. This policy is directed to prevent further extraction of ramin from the remaining forest and to enable the population and habitats to recover. As regulated under the moratorium policy, only certified forest concessionaire is allowed to harvest ramin in approximately 8.8 million hectares (recalculated from data provided by Agency of Forestry Planning, Ministry of Forestry, 2002).

The second policy is the inclusion of ramin into CITES Appendix 3 in 2001 and up-listed into Appendix 3 in 2004. The inclusion of ramin into CITES Appendix has made consequences in ramin logging activities and trade regulations. The implementation of CITES on ramin, as well as other listed species, still bears some barriers. Some of the barriers are lack of institutional and human resource capacity, especially in the implementation of logging and trade regulation, such as permits, certificate of origin, etc.

The high rate of deforestation in the existing natural forestss, including in peat swamp forest has also led to the issuance of priority programs of the Ministry of Forestry (MoF), such as rehabilitation-plantation programs. Later, the issuance of new silvicultural system on ramin which is also relevant to this project.

1.1.6. Programs and operational activities

Three of priority programs of MoF relevant to this project are combating illegal logging and revitalization of forest industry, rehabilitation/plantation and conservation. Those priority programs are aimed to ensure the sustainable forest management, community welfare and environments. These could only be achieved through the recovery of forest habitat and sustainable supply of timbers. In this context revitalization of forest industry, rehabilitation/plantation could also mean to enhance the recovery of growing stock for which ramin is definitely a valuable timber species to be selected for that purpose.

The priority programs have also been translated into the wide range of programs and activities. One of them is the National Movement for Land and Forest Rehabilitation (Gerakan Nasional Rehabilitasi Hutan dan Lahan-GNRHL) which is directed to the promotion of forest/land rehabilitation and conservation. The target of the movement is three million hectares forest and land rehabilitated within the period of five years or approximately 600,000 hectares of forest and land rehabilitated per year. This movement is one of the commitments toward the sustainable tropical forest management in Indonesia and to fulfill the obligatory requirement for community prosperity and other global concern.

1.2. Origin and Problem

1.2.1. The origin

This project is a follow up actions of findings of the pre-project: “Identification of *Gonystylus* spp. (Ramin) Potency, Distribution, Conservation and Plantation Barriers” (ITTO PPD87/03 Rev.2 (F) which was conducted in 2005. This follow up project is crucial to be taken in order to ensure conservation of this species from further loss either its population or habitats. In addition, this project plays very important role in the initiation of

retoration/recovery of its habitats and population to their previous condition. From this project, it is expected that the recovery of ramin is enhanced and the role of ramin as an important timber species to the national economy and community welfare also recovers.

Stakeholders consultation and National Workshop on ramin held in Bogor, 28 September 2005 and 22 February 2006 concluded that in order to promote the success of rehabilitation and plantation of ramin, substantial efforts need to be taken beginning with the establishment of land use planning for ramin, identification of seed sources and technology development for plant propagation to ensure sufficient supply of ramin planting materials. CITES implementation is also urged to be implemented as a mean to reduce illegal logging and illegal trade. Decision 2(XXXVII): 'enhanced cooperation between ITTO and CITES for ramin and mahagony' has also supported CITES implementation on ramin which includes aspects of ramin forest management, silviculture and capacity building.

This project is aimed at achieving two main objectives: (1) to promote the conservation of ramin through plantation and institutional capacity building and (2) to prevent further loss and degradation of ramin habitat and population through effective implementation of rules and regulation, especially through improving capacity of institutions and human resources.

1.2.2. Problems to be addressed

Several problems on ramin have been identified during the pre-project. Below are some of them elaborated in this project.

Ramin growing stock and timber supply is decreasing significantly in last 20 years causing closed down some ramin wood industries in Indonesia. The constant decrease of ramin timbers is due to substantial lost of habitat and degradation of existing population. The current standing stock is estimated only 6.8% from previous prediction in 1983 or approximately 14 millions cubic meters in 2005 (Bismark *et al* (2005). The reduction in ramin growing stock is caused mostly by over exploitation compared to the growth rate of ramin forest, poor implementation of rules and regulation, insufficient natural regeneration, and lack of successful artificial plantation.

Over exploitation in ramin forest is caused by illegal logging, poor implementation of harvest quota, rules and regulation including CITES requirement. Illegal logging has caused great reduction in ramin growing stock (including regeneration potentials) in Sumatra and Kalimantan not only in production forests but also in conservation areas, such as National Parks and Nature Reserves (i.e. Berbak National Park of Sumatra and Tanjung Putting and Sebangau National Park of Kalimantan).

The illegal logging is directly and indirectly related to weak law enforcement toward sustainable forest management, including cutting and trade regulation. The implementation of rules and regulation is still facing several problems, especially due to weak human resources capacity. For CITES, some institutions such as provincial forest services, customs, Ministry of Trade and Industry have some difficulties to implement CITES, such as wood specimen identification.

The decrease in ramin growing stock is also caused by the slow growing of ramin species, lack of regeneration potential and lack of successful artificial regeneration. The seed sources of ramin have not been well documented their location, production capacity and status. Furthermore, the flowering-fruiting of ramin does not occur yearly. Ramin produces flowers/fruits in 4-5 years interval and the seeds are recalcitrant which have short longevity. The viability of ramin seeds greatly reduces for several days and the viability is

zero after one week. The seed characteristic has caused some difficulties in providing ramin planting materials, especially from nursery grown seedlings. Wildlings could be collected on the forest floor surrounding mother trees, but the number is also insufficient. The propagation and plantation technology have been developed but still limited in application.

Some ramin habitats have also been severely degraded due to land conversion and forest fires. Conversion includes conversion for Industrial Plantation Forest (HTI) and other uses. Peat swamp forest fire mostly occur during the dry season ignited by both human related activities and natural disaster. Land clearing for shifting cultivation and oil palm plantation contributes to peat swamp forest fire that occurs during the dry season.

Inappropriate silvicultural practice has also contributed to the decrease of ramin growing stock and population. According to the existing silvicultural prescription, the residual stands should be maintained within the period of 5 - 6 years after logging operation. The maintenance includes enrichment planting, refining etc. In fact, within a year after logging operation all access facilities in the ex-logging compartment have been deteriorated or removed and therefore the location is no longer accessible for maintaining residual stands.

Plantation technologies for ramin have not been readily applicable. Vegetative propagation, including tissue culture has not been available to be applied for large scale purpose. High quality genetic materials, such as plus tree clone which shows faster growing trait has not been identified and collected. This slow progress in developing technology for ramin plantation is also caused by the lack of incentive scheme to plant.

Plantation trial in Kedaton - Ogan Komering Ilir (OKI) District, South Sumatra

Plantation trial in Tumbang Nusa Research Forest, Central Kalimantan

Ramin seed sources identification in Sumatra and Kalimantan

2. PROJECT OBJECTIVES AND IMPLEMENTATION STRATEGY

2.1. Project Objectives

2.1.1. Project Rationale

One of the forest ecosystems in Indonesia is peat swamp forest (PSF) where some valuable timber species are found. *Gonystylus* spp is one of those valuable species, which is widely known as ramin. The genus consists of 30 species. *Gonystylus bancanus* is one of the dominant species within this genus, grown naturally in approximately 8.8 millions ha of PSF in Sumatra and Kalimantan.

This species was first harvested in early 1980 and continued to be harvested until now. The intensity of harvest (logging) and trade decreases since 2001 due to the significant decline in its potential. Its products have been exported to various countries in Asia, Europe and America. Some of the products are furniture, baby crips, toys, picture frame, blinds, etc.

Ramin potential stock, population and habitat have sharply decreased due to various disturbances, as described earlier, which have threatened the existence of this species. PSF fires occur almost every year since 1990 and the worst fire occured in the period of 1997/1998 in Sumatra and Kalimantan. Ramin population and habitat have severely affected by this fire. On the other hand, rehabilitation and plantation are progressing slowly and insignificant.

In order to prevent further degradation, deforestatation and potential loss of this species, Government has issued several policies as also described earlier, however, those policies were still insufficient to solve the main problem including to restore and to recover ramin population and habitats. Substantial intervention, including by ITTO project, has been critically important.

2.1.2. Development Objective and Specific Objective

The project is aimed to contribute to the sustainable management of ramin by conducting several activities directed to prevent the further loss of ramin and to promote rehabilitation of its habitat and population and field plantation. There are two specific objectives of the project: The first specific objective is to improve silvicultural techniques to ensure sustainable management, conservation and plantation. The second specific objective is to improve (enhance) institutional capacity to effectively implement rules and regulation, including CITES requirement. Each specific objective is achieved through the achievement of two associated outputs. The outputs for the first specific objective are (1) Sufficient propagation of high quality planting materials, (2). The development of field plantation technique. The outputs for the second specific objective are: (1). Institutions and human resources capacity to effectively implement rules and regulation including CITES, and (2). Improved existing rules and regulation to ensure conservation and plantation including harvest protocols.

2.1.3. Adjustment made during the implementation

Two activities were amended, modified during implementation phase and some activities were added in the extension period. Activities 1.1.2 and 1.2.1 were amended due to scarcity of materials to be used for the implementation of the activity. The unspent fund of each activity was used to form some extended/amended activities. The activities were mostly combined/modified to enhance the execution of individual/several activities to achieve the specified outputs and objectives, such as to promote the provision of ramin planting materials from vegetative propagation, to review several policies and to ensure wider dissemination of project findings and publications.

The project period was also extended to 23 months, and another extension of 7 months, until August 2012. During this extended period several activities were carried out as described below:

The first amended/extended activities (February 2010-December 2011): 23 months

Activity 1.1. To collect and plant naturally regenerated seedlings (wildling) into the coppice garden (Hedge Orchard). This activity is to enhance the establishment of stock plants, as source of shoot/stem cuttings.

Activity 1.2. To expand the provision of planting materials from vegetative propagation using fogging nursery system. This activity is aimed to enhance the provision of planting materials for plantation (collection).

Activity 1.3 To induce flowering, seed and seedling production. This activity is to enhance the production of seeds through flower/fruit stimulation using chemical substance.

Activity 2.1 To continue establishing plantation trials in Sumatra and Kalimantan. This activity is to add up the existing ramin plantation in the previously selected site.

The second amended/extended activities(January-August 2012): 8 months

Activity 1.1. To facilitate further discussion with relevant stakeholders on the use and implementation of previously developed ramin harvest protocol. This activity is aimed to enhance the wide acceptance of previously developed harvest protocol on ramin by various stakeholders.

Activity 1.2. To facilitate small workshops on the development of future sustainability of project including decree for the use of previously developed manuals and guidelines, and policy briefs. This activity is aimed to ensure that the issues of ramin and project initiated activities will be further elaborated and extended by relevant stakeholders.

Activity 1.3 To finalize the provision of planting materials, maintenance of field plantation activities. This is activity is to maintain the provision of ramin planting materials and to ensure maintenance of the previously planted ramin in the plantation site.

Activity 1.4. To prepare video and poster presentation for dissemination. This activity is aimed to ensure wider use and application of project findings as in addition to the printed materials (hardcopies) and soft copy (electronic files) which have been widely disseminated in various events.

2.2. Project Implementation Strategy

The plantation problem of ramin could be overcome through the promotion of propagation and plantation technology. This should begin with the identification of seed sources (site, area, number of stem, potential seed production etc), phenology, seed handling method (collection and storage) and germination. This would be followed by the promotion of vegetative propagation technology, from stem-shoot cutting and in vitro propagation (tissue culture). Wildlings (seedling from natural regeneration) were also collected and pooled as sources of cuttings.

On the other hand, improvement on the implementation of rules and regulation to ensure conservation and sustainable management of ramin and its habitat would be carried out simultaneously. Institutions and human resource capacity to effectively implement the existing rules and regulation on sustainable forest management and conservation including CITES requirement are needed to be reviewed and improved. This is the focus of the first phase, which is this project, toward the achievement of sustainable ramin management. The second phase focuses on the scaling up of the previously initiated activites, such as propagation, plantation, law enforcement (See diagram below).

The immediate solution to the weak and poor implementation on the rules and regulation including capacity of institutions and human resources are through workshop and training. To ensure the real needs of training, the training needs identification was carried out, followed by the execution of workshop and training.

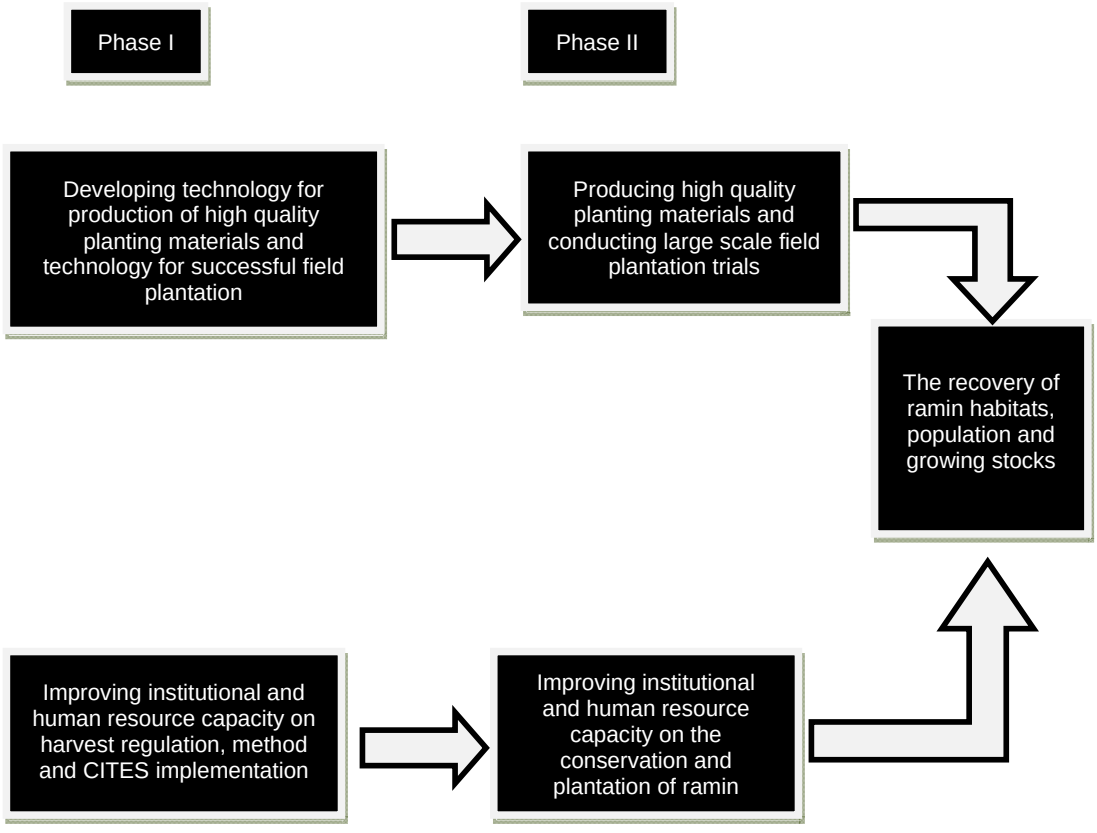


Figure 2. Diagram of project strategy to achieve the sustainable management of ramin

2.3. Assumptions and Risks in the Implementation of the Projects

2.3.1. Assumption

The project objective and outputs, as well as the execution of individual activity was achieved and succesfully implemented if there is continuous support from primary/relevant stakeholders and other parties associated with ramin. Related institutions, especially primary partners within MoF, private companies, associations, research institution and universities participated. All stakeholders, except DG Forest Production Management, have fully and actively involved in most activities relevant to them. Several activities such as developing harvest protocol, reviewing policies on logging moratorium and silvicultural system are highly relevant to DG Forest Production Management (as regulator). Due to some reason, their involvement and participation were limited.

As also described in the original project document, the materials and supplies required to execute some project activites, primarily seeds and planting materials. This assumption applied. Seeds and planting materials were not available as expected and as a result two activities were not fully executed and or only partially executed.

Environmental condition was addressed in the assumption. PSF fires is also still a primary threat to field plantation. The selection of the most accessible site and cooperation with fire fighters were taken as approach.

2.3.2. Risks

The main risk of this project is the unavailability of seeds and planting materials and forest fires. During the extended period, project collected and planted as many as possible the available wildlings from its natural habitats. These wildlings and other plants were pooled to be used as source of stem/shoot cuttings for vegetative propagation.

Until the end of the project, there was no other risk that seriously affected the implementation of this project. Related institutions also committed to keep on the initiated activities, especially field plantation.

To reduce risk of fires in the field plantation trials, several approaches have been taken:

(1). Identifying and selecting the most accessible sites. There are two selected sites: Kedaton, Kayu Agung Ogan Komering Ilir, South Sumatra joint cooperation with RRC South Sumatra, District Forest Service of OKI and Tumbangnusa Research Forest in Central Kalimantan, managed by Regional Research Center of Kalimantan. Other sites were not chosen, as mentioned in the original document, such as Research Forest of University Tanjung Pura, Central Kalimantan, and PT. Inhutani II (Pontianak, West Kalimantan) due to unclear status of the sites.

(2). Established co-operation with local community and District Forest Services of OKI on fire prevention.

(3). Maintained high water level along the trial site by establishing closed-end canal and several wells spread out the trial site as source of water.

3. PROJECT PERFORMANCE (PROJECT ELEMENTS PLANNED AND IMPLEMENTED)

3.1. The Realized Perfomance vs the Planned Performance

3.1.1. Specific objectives

The overall objective of this project is to contribute to the sustainable management of *Gonystylus* spp. (ramin) in Indonesia. In order to achieve the overall objective, there are two specific objectives set out and addressed during the implementation of the project period. The specific objectives are (1) is to improve silvicultural techniques for conservation and plantation and the specific objective (2) is to enhance institutional and human resource capacity to implement rules and regulation, including CITES requirement.

The breakdown of the outputs to achieve each specific objectives are: (1) How the project could enhance and stimulate propagation of high quality planting materials, (2) How the project could promote the plantation success through the development of field plantation technology. On the other hand the project could also ensure the conservation of the species and its habitats through (3) improving institutional and human resources capacity on implementation of existing rules and regulation with specific to CITES and (4) Improving existing rules and regulation which could enhance conservation, including developing appropriate harvest protocol. The overall specific objectives have been achieved.

3.1.2. Outputs and activities

Several activities have been identified in the project design and most of the activities have been implemented except two activities which were amended as mentioned earlier. The complete list of the activities is presented in the Table 1. This table shows the completion of all activities.

Activities 1.1.3 and 1.2.1 were amended during the implementation. This is because the seed to be used to execute the activities were not available. The last peak flowering/fruiting of ramin was 2005, afterward, it produced small quantity of flower/fruits and its fruits-seeds were mostly attacked by predators, such as squeerel and birds.

The scarcity of seeds also affected the execution of Activity 1.2.3 and 1.2.4. However, these two activities were still able to be carried out by down sizing and using wildlings and vegetatively propagated planting materials. These activities were carried out slightly behind the schedule. The availability of suitable site for plantation, which was legally and formally available after a half period of project execution, also influenced the execution of these activities. These activities were amended and or modified into several activities under amended/extended activities. These amended/extended activities have been successfully executed.

Table 1. The realized and planned activities, including amended/extended activities

Output/ Activities	Involved Parties	Remark
1.1.1. To identify ramin seed sources	CCRR&D	Completed
1.1.2. To identify ramin genetic variation using molecular marker	CBTI-Yogyakarta	Completed
1.1.3. To identify seedling propagation technique	CCRR&D	Amended
1.1.4. To identify vegetative propagation technique	CCRR&D/CBTI_Yogyakarta	Completed
1.2.1. To identify appropriate seedling treatments	CCRR&D-RRC Sumatra-Kalimantan	Amended
1.2.2. To identify site requirement for growing	CCRR&D/University of TP	Completed
1.2.3. To identify appropriate plantation technique	CCRR&D/RRC-Sumatra-Kalimantan	Partially executed
1.2.4. To apply site manipulation using fertilizers, micro-organism etc.	CCRR&D-RRC Sumatra-Kalimantan	Partially achieved
2.1.1. To carry out a workshop to evaluate CITES implementation	CCRR&D	Completed
2.1.2. To identify training needs for CITES implementation on ramin	NE/Staff	Completed
2.1.3. To develop manual and guideline for CITES implementation	CCRR&D/Project staff	Completed
2.1.4. To carry out training for ramin wood identification	CCRR&D + other agencies	Completed
2.2.1. To collect existing rules and regulation on ramin conservation and plantation	NE/CCRR&D	Completed
2.2.2.To formulate required policy on ramin conservation and regulation	NE/CCRR&D/CSPRD	Completed
2.2.3. To carry out a workshop to develop ramin harvest protocol	CCRR&D+ other agencies	Completed

Table 2. First Extended/Amended Activities (Until December 2011)

Output/Activities	Involved parties (Contract)	Remarks
Activity 1.1. To collect and plant naturally regenerated seedlings (wildling) into the coppice garden (Hedge Orchard)	RRC-South Kalimantan	Fully executed
Activity 1.2. To expand the provision of planting materials from vegetative propagation using fogging nursery system	Project and RRC South Sumatra and Kalimantan	Fully executed
Activity 1.3 To induce flowering, seed and seedling production	University of Unlam, South Kalimantan	Fully executed
Activity 2.1 To continue establishing plantation trials in Sumatra and Kalimantan.	RRC South Sumatra, RRC South Kalimantan	Fully Executed

Table 3. Second Extended/Amended activities (until August 2012)

Output/Activities	Reponsible parties	Remarks
Activity 1.1. To facilitate further discussion with relevant stakeholders on the use and implementation of previously developed ramin harvest protocol.	Project, Center for Conservation and Rehabilitation (puskonser)	Final submission to FORDA and relevant DG within MoF
Activity 1.2. To facilitate small workshops on the development future sustainablity of project including DG decree for the use of previously developed manuals and guidelines, and policy briefs.	Project, RRC –South Sumatra and South Kalimantan	Project and Center for Conservation and Rehabilitation
Activity 1.3 To finalize the provision of planting materials, maintenance of field plantation activities.	Project,	Provision of vegetative planting materials
Activity 1.4. To prepare video and poster presentation for dissemination.	Project and Center for Conservation and Rehabilitation	Completed

Output 1.1. Propagation of high quality planting materials

Activity 1.1.1. To identify ramin seed sources in Sumatra and Kalimantan

Ramin seed sources in both Sumatra and Kalimantan have been identified. There are two technical reports under this activity which was prepared one for each island: Sumatra and Kalimantan.

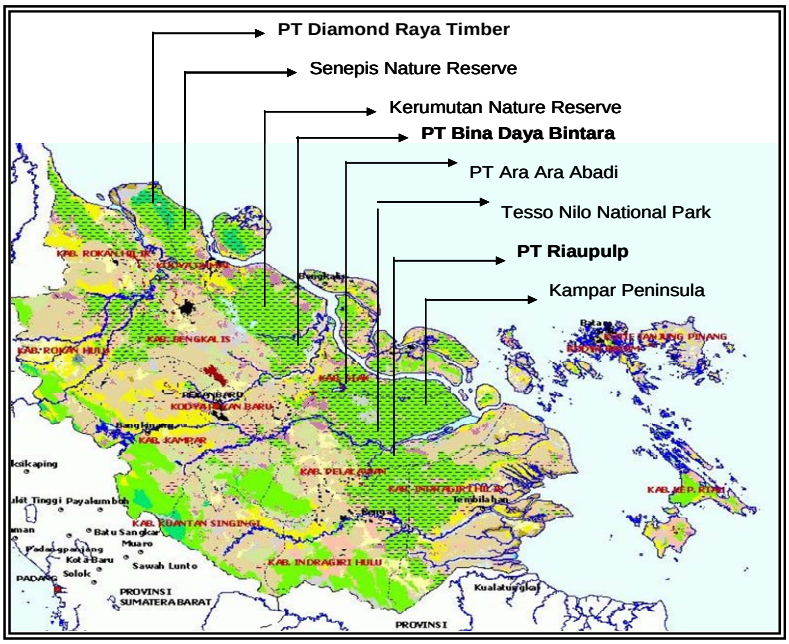


Figure 3. The distribution maps of seed sources in the provinces of Riau (Sumatra)

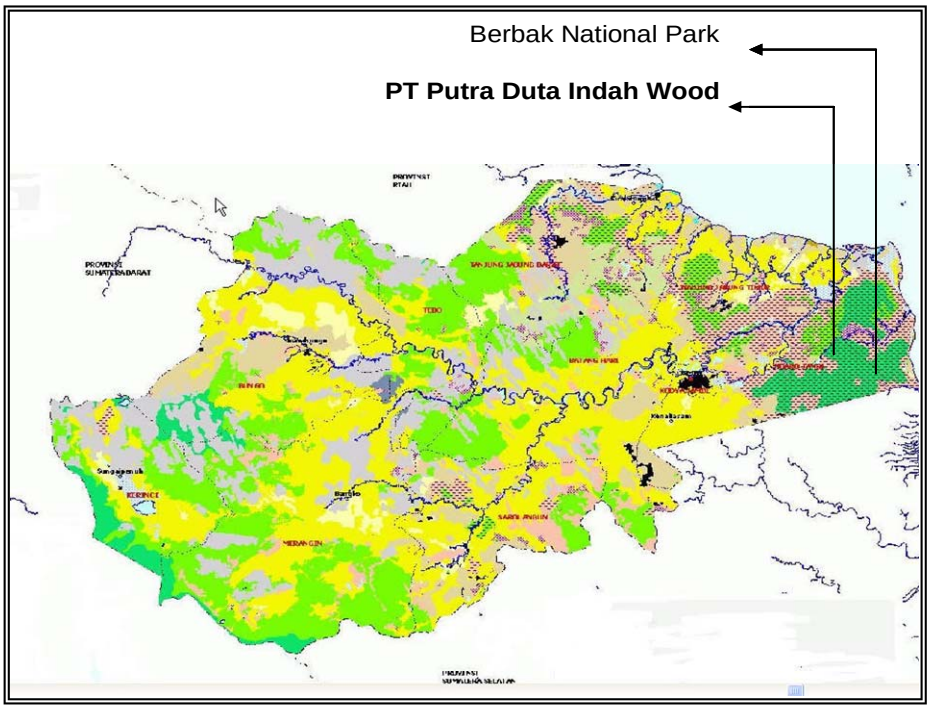


Figure 4. The distribution maps of seed sources in the provinces of Riau and Jambi (Sumatra)

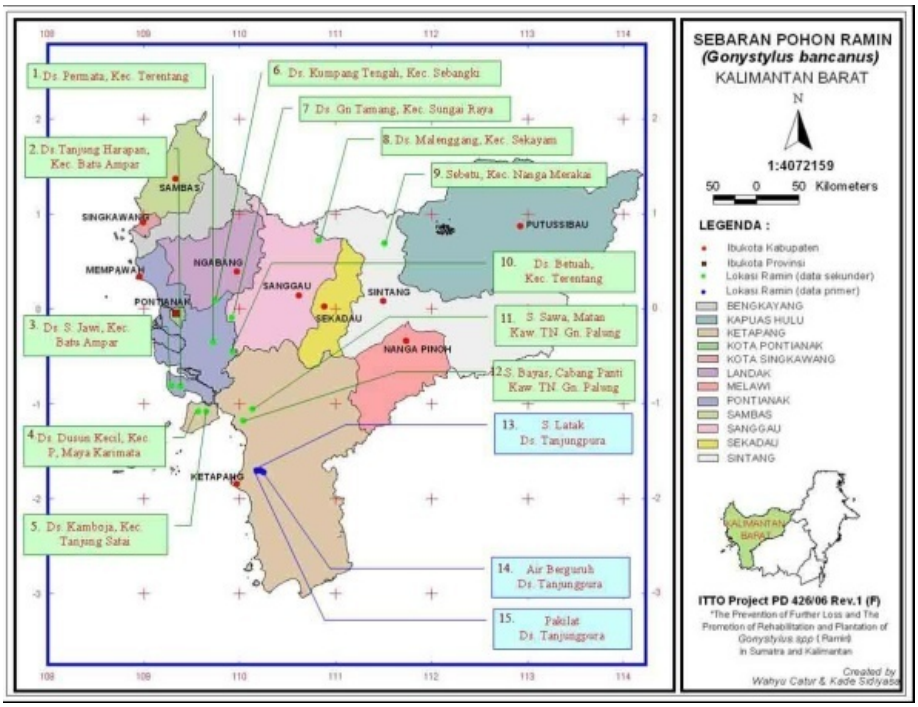


Figure 5. The distribution maps of seed sources in the provinces of West Kalimantan

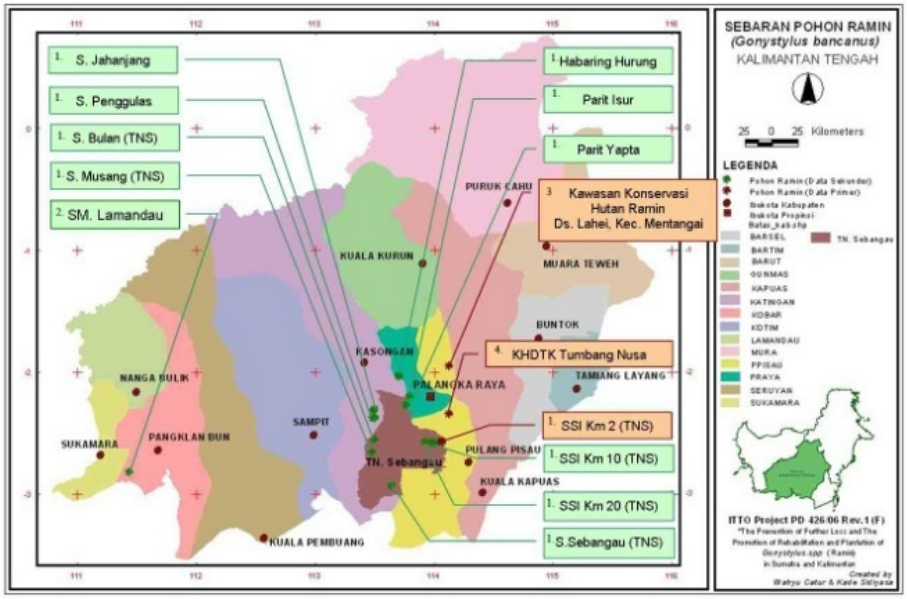


Figure 6. The distribution maps of seed sources in the provinces Central Kalimantan

Activity 1.1.2. To identify ramin genetic variation using molecular markers

Genetic diversity (variation) of ramin populations of Riau, Jambi, West and Central Kalimantan were assessed using molecular marker. Leaf materials of populations in Sumatra and populations in Kalimantan were collected. Overall result revealed that genetic diversity of ramin across population is relatively high. A technical report has been finalized and the findings have been presented in FORDA expose (17 June 2009). Project encourages the findings to be published in scientific journals.

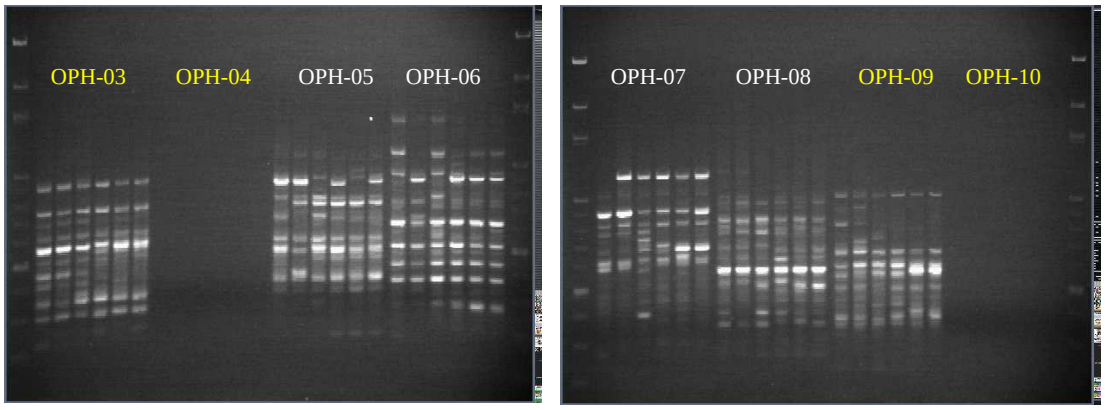


Figure 7. Profile of selected RAPD primers (white is selected primer; yellow is un-selected primer)

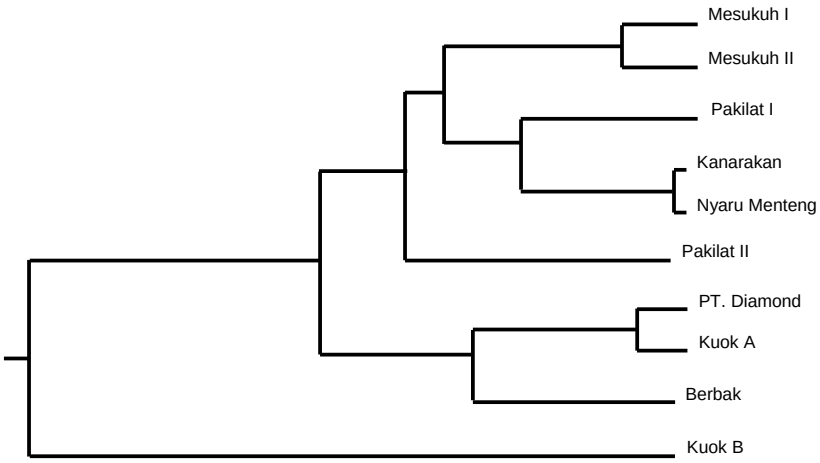


Figure 8. Dendrogram of ten populations of *G. bancanus* based on cluster analysis

Activity 1.1.3. To identify seedling propagation technique

Activity 1.1.4. To identify vegetative propagation technique

Propagation technique using stem cutting has been developed, manual/guideline has been printed, disseminated and used through a training. The tissue culture (in-vitro propagation) has also been explored in co-operation with Center for Biotechnology and Tree Improvement (CBTI)-Yogyakarta. Started in April 2008 and the result is very slow and still at the callus stage. Not promising but to be further developed by CBTI-Yogya using its own financial allocation.

Activity 1.2.1. To identify appropriate seedling treatments

Activity 1.2.2. To identify site requirement for growing

Review paper on site requirement for ramin growth was also written by Prof Dr. Abdurrani Muin from the University of Tanjungpura, Pontianak, West Kalimantan.

Activity 1.2.3. To identify appropriate plantation technique

Activity 1.2.4. To apply site manipulation using fertilizers, micro-organism etc.

Some small scale trials on site manipulation has been executed by Regional Research Center (RRC) - Palembang, South Sumatra and RRC - Banjarbaru, South Kalimantan, Banjarbaru using wildlings, instead of seedling from seeds which were not available at the time of project period.

Output 2.1. Institutional and human resources capacity building on CITES implementation

Activity 2.1.1. To carry out a workshop to evaluate CITES implementation

Workshop to evaluate CITES implementation on ramin in Indonesia has been carried out in Jakarta, 24 July 2007. Before the workshop, a preparatory meeting was carried out on 21 June 2007 involving and attended by relevant stakeholders, such as CITES MA, Forest Industry Revitalization Board (BRIK), DG BPK, Indonesia-TRAFFIC SEA, ISWA, APKINDO, BKSDA-Jakarta and FORDA. The meeting has pointed out the theme and topics to be discussed during the workshop with the title of workshop: "*Evaluation and the promotion of CITES implementation on ramin in Indonesia*".

Most relevant stakeholders attended this workshop and actively participated in the discussion. Presentation materials, discussion and recommendation made during the workshop and list of participants have been compiled in the workshop proceeding titled "*Evaluation and the promotion of CITES implementation on ramin in Indonesia*"

Activity 2.1.2. To identify training needs for CITES implementation on ramin

The identification of training needs to improve CITES implementation has been carried out. Results have also been presented in the meeting organized by the project.

Activity 2.1.3. To develop manual and guideline for CITES implementation

Several manual/guideline were developed: (1). Manual for ramin wood identification technique (Pedoman Identifikasi Kayu Ramin dan Kayu Mirip Ramin). (2). Technical guideline for ramin harvest (harvest protocol for ramin). This guideline has been prepared in conjunction with activity 2.2.3. National workshop on ramin harvest protocol. The finalization of this guideline took much longer time to enable all inputs are accomodated. (3). Technical guideline for making NDF (Non-Detrimental Finding), which was partially funded by ITTO-CITES using data and information collected under this project, (4). Technical guideline (manual) for vegetative propagation technique using stem cutting. The last two technical guidelines were developed and published with financial support from ITTO-CITES project.

Activity 2.1.4. To carry out training for ramin wood identification

A National Training Workshop on ramin wood identification has been carried out in Bogor Forestry Training Center, 21-23 January 2007. This workshop was attended by 23 participants from CITES management Authority (CITES MA), Customs and Excise office, BKSDA, Port Authority from Jakarta, Riau, Jambi, West and Central Kalimantan and Surabaya. The instructors were senior wood anatomists of Forest Product RD-FORDA (Mr. Y.Mandang, Ms Ratih Damayanti and Ms Rully), CITES MA (Dit KKH) and Indonesia TRAFFIC-SEA. The contents consisted of introduction to CITES, its rules and regulation, wood anatomy and identification technique. Participants were provided with handouts, simple apparatus and wood specimens.

Output 2.2. Improved existing rules and regulation for ramin conservation and plantation including harvest protocols.

Activity 2.2.1. To collect existing rules and regulation on ramin conservation and plantation, in conjuction with Activity 2.2.2.

To formulate required policy on ramin conservation and regulation. These two activities have been completed, some additional matters were executed until the end of project period by preparing two academic papers to review ramin logging moratorium and Government Regulation No. 11: new silvicultural system on ramin with specific to diameter cutting limit. A series of meeting has been organized by the project until final drafts are widely accepted.

Activity 2.2.3. To carry out a workshop to develop ramin harvest protocols

The final draft of harvest protocol was presented in many discussion meetings including Stakeholder consultation in Pekanbaru, Riau (9 June 2009), FORDA expose (17 June 2009) and wider stakeholder consultation in Bogor (22 July 2009) and 8 December 2009 in Jakarta. This harvest protocol was finally printed while waiting formal recognizion by DG Forest Production Management (DG BPK) as regulator.

The First Amended/Extended Activities

Below are amended activities under the extended period until December 2011, derived from Activity 1.1.3 (To identify seedling propagation technique), 1.2.1 (To identify appropriate seedling treatments), 1.2.3 (To identify appropriate plantation technique) and 1.2.4 (To apply site manipulation using fertilizers, micro-organisme etc.).

Activity 1.1. To collect and plant naturally regenerated seedlings (wildling) into the coppice garden (Hedge Orchard)- (called in defferent ways: stockplants, coppice garden or Hedge Orchard).

This activity was carried out in cooperation with RRC - Banjarbaru, South Kalimantan and RRC – Palembang, South Sumatra.

This activity is basically to support the establishment of stockplants (the source of shoot/stem cuttings) in Tumbang Nusa, Central Kalimantan and South Sumatra. In Tumbang Nusa, first collection of wildling is 5,000, which was partially funded by ITTO-CITES. Until end of 2011, approximately 11,300 wildlings have been collected and pooled in this Research Forest. This activity was also to rescue ramin wildlings in the areas of PSF to be converted to other uses, as the case in the areas surrounding Tumbang Nusa Research Forest, Central Kalimantan. In Sumatra, the wildling are scarce and collected only 200 wildlings and stored temporarily in Bogor, and then transported to Kedaton OKI. Shoot/stem cuttings could be collected in these collections, as the only alternative source for propagating ramin planting materials. The shoot/stem cuttings, at this time, are from young seedlings or wildlings, not from mature trees.

Activity 1.2. To expand the provision of planting materials from vegetative propagation using fogging nursery system.

This activity is to enhance the provision of ramin planting materials using vegetative propagation technique, which has been proven successfull with high percentage of rooting. Since the sprouting ability of ramin is extremely low, mostly only 1 orthotropic

shoot produced by individual plant and mature after 6-8 months. The provision of ramin planting materials is also restricted by the limited availability of stock plants.

At this time, the stock plants available for shoot/stem cuttings are as follows:

In 2008, there were 600 stock plants grown in Nursery of FORDA-Bogor, raised from seedlings purchased from South Sumatra, originated from Jambi. Stem-shoot cutting were harvested to produce planting materials. From these stock plants, 200-250 stem cuttings were harvested every 6-8 months. This activity was carried out since 2008 until 2010 and continued until the extended period 2011-2012. After acclimatization period, the vegetatively propagated seedlings were transplanted into the field and finally to plantation site of Kedaton, OKI, South Sumatra, in 2011 (the year of project termination).

Early 2012, the stock plants which were grown in Nursery FORDA-Bogor and other vegetatively propagated planting materials were transported and planted in plantation site of Kedaton, OKI, South Sumatra. Until mid of 2012, the total of ramin planted in the plantation site in Kedaton is approximately 2000 ramin plants, occupying a location of 4 ha out of 20 ha as allocated for ramin. In the future, these 2000 ramin plants will again be treated as stockplants for continuous production of shoot/stem cuttings for planting materials, primarily to fill up the remaining space of approximately 16 ha.

In 2009/2010, naturally regenerated seedlings (wildlings) from surrounding areas of Tumbang Nusa Research Forest (PSF areas to be converted to other uses) were collected and replanted (pooled) in Tumbang Nusa Research Forest. Until end of 2011, nearly 11,300 wildlings were collected. Only nearly 50% survived and resumed growth. Replacement with lived and new wildlings was carried out. It is expected that 2000-3000 shoot/stem cutting per year could be collected from this stock plant. Early 2012, nearly 500 shoot/stem cuttings have been collected from this stockplant to produce vegetatively propagated planting materials. This planting materials from Tumbang Nusa will be transfered into the site in Kedaton, OKI.

Portion of the activities have been carried out by FORDA and will be further executed as part of exit strategy.

Activity 1.3 To induce flowering, seed and seedling production.

Flower stimulation trial was also carried out to enhance ramin seed production. For some fruit trees, it has been claimed that certain chemical substances are successful to enhance flower/fruit production. However, for ramin, which has been reported to have interval flowering of 4-5 years, this trials is unlikely to produce immediate result. Regional Research Center of South Kalimantan and University of Lambung Mangkurat (Banjarmasin, South Kalimantan), who executed this activity, are committed to maintain regular monitoring on the effect of this treatment.

Activity 2.1 To continue establishing plantation trials in Sumatra and Kalimantan.

This activity is the transplanting of vegetatively propagated planting materials produced in Bogor and wildlings of ramin collected elsewhere to the field site, Kedaton, Ogan Komering Ilir, South Sumatra. Since the number of planting materials to be provided from vegetative cuttings is small, it will take much longer time to accumulate and fill up the space of 20 ha. Portion of the activities has been carried out and this activity will be further executed by collaborating agency as part of exit strategy.

The second extended/amended activities under the extension period until August 2012

Activity 1.1. To facilitate further discussion with relevant stakeholders on the use and implementation of previously developed ramin harvest protocol.

Activity 1.2. To facilitate small workshops on the development future sustainablity of project including decree for the use of previously developed manuals and guidelines, and policy brief.

The direction by EA is to hand the publications over to relevant stakeholders, instead of developing decrees. To identify the strategy for sustainability, project has facilitated small workshop in Banjarbaru, Central Kalimantan in cooperation with RRC – Banjarbaru, South Kalimantan and Palembang, in cooperation with RRC – Palembang, South Sumatra.

Activity 1.3 To finalize the provision of planting materials, maintenance of field plantation activities.

This activity was the continuation of the production of vegetatively propagated planting materials and its associated maintenance as described earlier.

Activity 1.4. To facilitate the compilation of ramin publication into a comprehensive paper (book) of ramin (book).

This activity is further modified to support Activity 1.3 and to prepare short video and posters presentation. Several poster presentation have been prepared, whereas, video is under progressing.

3.1.3. Schedule

The project implementation starts from February 1st, 2007 through August 31st, 2012 with two extended periods without additional funds. The original schedule is 36 months, starts from February 1st, 2007 through January 31st, 2010, first extended period is 23 months, starts from February 1st, 2010 through December 31st, 2011, and second extended period is 8 months, starts from January 1st, 2012 through August 31st, 2012

3.1.4. Expenditures and input applied

The overall cost of the project was USD 682,542, consist of ITTO contribution (USD 507,903) and GOI contribution (USD 174,639). From the ITTO Contribution of USD 507,903, at total of USD 127,443 was retained by ITTO and USD 380,460 transferred to project. From ITTO contribution transferred to project, USD 375,087.51 was spent while leaving a balance of USD 5,372.49 as reflected in the Activity Financial Statement.

The spent budget (US$. 375,087.51) including the committed budget for the remaining activities are as shown in Table 4.

Table 4. Project Financial Statement at the end of the project (ITTO Contribution)

Component	Approved Total	Up to date committed by E.A but not spent	Up to date Spent	Spent + committed period	Remaining Values
	(A)	(B)	(C)	(D)	(A) – ((B+C)
Funds managed by EA					
10. Project Personnel	214,568.18	-	213,876.91	213,876.91	691,27
20. Sub contracts	-	-	-	-	-
30. Duty Travel	91,021.54	-	87,402.54	87,402.54	3,619.00
40. Capital Items	4,621.37	-	4,621.37	4,621.37	-
50. Consumable items	28,550.11	-	28,508.23	28,508.23	41,88
60. Miscellaneous	41,968.80	-	40,678.46	40,678.46	1,020.34
70. Executing Agency Mgt. Cost	-	-	-	-	-
Sub Total	***380,460.00***	**-**	***375,087.51***	***378,087.51***	***5,372.49***
Funds Retained by ITTO					
80. ITTO Monev and Adm. Costs	60,677.00	-	-	-	-
90. Refund of Pre-project Cost	66,766.00	-	-	-	-
Sub Total	***127,443.00***	**-**	**-**	**-**	**-**
Grand Total	**507,903.00**	**-**	**375,087.51**	**375,087.51**	**5,372.49**

Note: This amount not including other revenue (expenses) total US $ 1,145.83

The Activity Financial Statement and the Activity Cash Flow Statement are presented in Annex 1 and 2.

The remaining fund of US $ 6,518.32 (including bank interest rate and gain from exchange rate) has been returned to ITTO account after deducted by closing account fee, transfer fee and correspondence charge.

Trials to stimulate flowering – fruiting ramin using paclobutrazol in Tumbang Nusa Research Forest, Central Kalimantan

Collecting ramin stem/shoot cutting from hedge orchard in Kedaton – OKI, Tumbang Nusa Research Forest, and Nursery Bogor

Collect and Plant naturally wildling into the Hedge Orchard in Tumbang Nusa Research Forest, Central Kalimantan

4. PROJECT OUTCOME, TARGET BENEFICIARIES INVOLVEMENT

4.1. The Extent to which the Project Specific Objective (s) were Achieved

The first specific objective “to improve silvicultural techniques for ramin conservation and plantation developments” were achieved, indicated by the presence of developed ropagation technology, which is useful in producing planting materials. The other indicators are the initiation of plantation activities and various supports on the rehabilitation-plantation of ramin from many relevant stakeholders.

The provision of planting materials could be expanded and intensified in the future by the availability of information on seed sources and vegetative propagation technique. The comprehensive information on seed sources in Sumatra and Kalimantan, the readily available vegetative propagation technology and the establishment of stockplant for the source of cuttings which will enable to scale up plantation activities. This is also encouraged by the availability of skill technicians on vegetative propagation and the presence of demonstration plots. RRC – Palembang, South Sumatra, District Forest Service of OKI and FORDA are committed to maintain these activitiies.

The second specific objective “to enhance institutions and human resource capacity to implement rules and regulation including CITES procedures” were also achieved. Several conditions are improved through the review of some policies, providing inputs and recommendations to improve rules and regulations, awareness raising on the issue on ramin and capacity building through training workshop on CITES implementation. Important policies which have been reviewed are logging moratorium that has been imposed since 2001 and silviculture system applying in PSF including ramin. Recent regulation on ramin was the reduction of diameter cutting limit from 40 cm to 30 cm. The project has facilitated to review this regulation by providing scientific reasons and made recommendation. From the review, it is recommended that the diameter cutting limit should be maintained above 40 cm. In addition, a newly formulated or improved harvest protocol would also contribute to the better management of ramin forest, especially during logging operation. Other than those tangible benefits, various publication, awareness raising-training events, workshop and discussion meetings which have been facilitated by the project would have provided better understanding on ramin issues.

Table 5. Logical Framework Matrix

Project Elements	Indicators of achievement	Verifiers	Remark
Specific Objective 1. To improve silvicultural techniques for ramin conservation and plantation developments	Rehabilitation in place and plantation activities initiated, planting materials from vegetative have been available	Reports on plantation activity, field trials, stakeholder meetings, Provincial forest service reports	
Output 1.1 : Propagation of high quality planting materials.	- Developed propagation technique and its manual - Information on seed sources - Information on ramin genetic variation - Initial development of tissue culture - 1,600 planting materials from vegetative *(OKI, S S)* - 400 from seedling (OKI, SS) - 1,300 wildlings for stockplant-1 (Tnusa RF)) - 10,000 wildlings for stockplant-2 (Tnusa RF))	- Reports (technical and sctientific), manual/guideline, list of seed source, survey reports, - seedling/nursery report - Field plantation site report - RRC annual report - District Forest Service of OKI report	The number of planting materials could be larger, if large number of seed were available during project period.
Output 1.2 : The development of field plantation technique	- Planting technique - Field trials up to 20 ha in OKI, South Sumatra - 2000 seedlings have been planted. - Field site in Tumbangnusa up to 10 ha. - Plantation trials in Tumbangnusa RF (apprx. 1,320 wildings)	- Trial reports (RRC – SK report) - Field plantation reports - The number of seedlings - Nursery report.	- The larger plantation trials could be conducted if the suitable site is available at the beginning of the project period. - No forest fires after field plantation trials in the site - The trials are necessary to be protected from fire.

Project Elements	Indicators of achievement	Verifiers	Remark
	- Stockplants from wildlings planted in up to 5 ha (1,300 and 10.000 wildlings) planted in Tumbangnusa. In original document, the proposed trial sites were 2 in Sumatra and 2 in Kalimantan.		- RRC – Palembang, South Sumatra and District Forest Service of OKI committed to maintain the trial activitiies in this site. - RRC - Banjarbaru, South Kalimantan committed to maintain ramin activity in Tumbangnusa.
Specific Objective 2. To enhance institutional capacity to implement CITES rules and procedures	- Awareness on the issue on ramin increases - Several policies on ramin and PSF will improve - implementation of rules and regulation improved.	Publication, awareness raising-training report, workshop proceeding, discussion meeting, review of some policies on ramin.	Two key policies were reviewed and expected to provide significant contribution to management of ramin: silviculture system and logging moratorium
Output 2.1. Institutional capacity building on CITES implementation	Officers in customs and excise, forest check points, seaports etc are trained in ramin wood specimen idnetification. Institutional and Human resources capacity improved through training workshop, scientific meetings and publication	Reports, Guideline, manuals, list of participants, harvest protocol, Academic draft to review two policies	Two key policies have been proposed to be reviewed and submitted to relevant institutions
Output 2.2 : Improved existing rules and regulation for ramin conservation and plantation including harvest protocols	- CITES implementation evaluated and reviewed, - Existing rules and regulation improved (policies) and revised. - A newly formulated or improved harvest protocol readily available	Review reports, workshop proceeding, list of participant, academic drafts to improved two policies on ramin.	Other than rules and regulation, the two reviews on ramin have been reviewed.

4.2. The Situation Existing at Project Completion as Compared to the Pre-Project Situation

At project completion, there are several enabling conditions formed. Those related to plantation, there are seedling propagation technology, guideline/manual for vegetative propagation, which is useful in producing planting materials, plantation technology, the availability of stockplants for the sources of shoot-stem cuttings and the presence of plantation demonstration plot for ramin. In addition, the data and information on seed sources have been available. By the presence of data and information and relevant technologies including the manual/guideline, the plantation of ramin could be initiated in many places and expanded to larger scale as wide as possible. Now, some skilled technicians on vegetative propagation and plantation have also been available. Stockplants (as source of vegetative cuttings) have been available to be used for expansion.

On the other hand, several reviews on government policies, inputs and recommendations to improve rules and regulations, awareness raising and improved capacity of institution and human resources. Review on some policies with scientific reasons and recommendation including the presence of a newly formulated or improved harvest protocol would contribute to the better management of ramin forest. In addition, various publications, awareness raising-training events, workshop and discussion meetings have provided better understanding on ramin problems.

By the presence of the above enabling conditions, the ramin rehabilitation-plantation could be started or resumed, that in turn, sustainable management and conservation could be achieved and enhanced by the improvement of policies and regulation. All data and information regarding the existing condition and overall goal on ramin management have been accomodated in a roadmap toward the sustainable management and conservation of ramin.

4.3. Participation of Target Beneficiaries in the Implementation of the Project

Primary stakeholders: research institutions within FORDA, such as RRC – Palembang, South Sumatra and Banjarbaru, South Kalimantan, Center for Conservation and Rehabilitation R&D, Center for Biotechnology and Tree Improvement - Yogyakarta, LIPI (National Institute of Science), universities and some NGO involved directly in the preparation, discussion and various workshops and meetings for policy reviews; the development of propagation technology, selection of sites for field plantation and monitoring of seed production and other matters. They involved based on their competency and interest. District of Forest Service of OKI involved directly in the selection of site and preparation of legal process for plantation site in Kedaton, OKI, South Sumatra. Some of these institutions also committed to maintain the project initiated activities and their sustainability after project completion.

A private company, PT. Diamond Raya Timber provided field facilities during seed source exploration, identification and wildling collection and conservation of ramin in its original sites. PT. Inhutani II, West Kalimantan, PT. Yos Raya Timber, PT. Putra Duta Indah wood which were mentioned in the origincal documents, these companies did not involve in the implementation of activities. These companies were not operating during the project implementation. DG Forest Production Management (BUK) and DG Forest Protection and

Conservation (PHKA) and DG Land Rehabilitation and Social Forestry (Forest and Land Rehabilitation) involved in the discussion meeting and workshops.

Eventhough, the involvement may be limited, most of project results have been being used by the stakeholders and expected to influence them in the decision making process, as below. Some of the benefits are: (1). The latest data and information on the seed sources throughout the country. (2). The latest information on the seedling and vegetative propagation techniques on ramin, (3). The latest information on plantation technology, especially silvicultural treatment and site manipulation, (4). The increased institutional and human resources capacity on ramin harvest, trade and regulation and plantation, (5) The increased institutional and human resources capacity on CITES implementation. (6). Current status of plantation activity on ramin. The benefits from this project are disseminated through various types of publications, seminar, workshops and other types of communication, such as a serial meeting between interested individuals, short videos and posters.

4.4. An Expectation of Project Sustainability after Project Completion

To ensure the achievement of the overall objective of this project and the sustainability of project initiated activities several approaches have been taken:

(1). All project publications were disseminated by the end of August 2012, including all documents to be sent to ITTO secretariat. Final audited financial report and Project Completion reports be submitted by the end of September 2012.

(2). Disposal of all capital items purchased by the project by the end of October 2012.

(3). Critical activities initiated/implemented by the project were identified for continuation.

(4). All technical reports/proceeding of workshop and guideline related to CITES implementation and capacity buildings were distributed to the concerned stakeholders.

(5). Some of the publications (electronic files) were up loaded into FORDA and MoF websites.

(6). Activities related to the plantation trial and productions of planting materials be maintained under the collaboration with Regional Research Center – Palembang, South Sumatra and Regional Research Center – Banjarbaru, South Kalimantan. These initiated activities will be further executed by these institutions as part of their regular activities in the development of plantation trial for forest tree species.

(7). The allocation of 20 ha for ramin plantation site in Kedaton, Ogan Komering Ilir (OKI), will be maintained and further executed under the cooperation between Center for Conservation and Rehabilitation, RRC – Palembang, South Sumatra and District Forest Service of OKI (fire prevention). These three institutions will have different roles and responsibilities. District Forest Service of OKI will allocate financial support for fire prevention. CCR-FORDA and RRC – Palembang, South Sumatra will allocate budget for supervision, provision of planting materials and overall maintenance of the site.

(8). The initial establishment of stock plants (Hedge Orchard) and plantation trial in Tumbang Nusa Research Forest will be further maintained under the cooperation with RRC – Banjarbaru, South Kalimantan.

(9). The stockplants (hedge orchard) which has been established using naturally regenerated seedlings (wildlings) will be maintained under the cooperation with RRC – Banjarbaru, South Kalimantan. RRC – Banjarbaru, South Kalimantan will continue producing vegetatively propagated planting materials for plantation trials and provide internal budget for this activity beginning 2013.

(10). The stimulation of flowering/fruiting for seed production in Tumbang Nusa Research Forest has been conducted in collaboration with Regional Research Center – Banjarbaru, South Kalimantan and University of Lambung Mangkurat. This stimulation trial will be continued in the effort to enhance seed production of ramin.

(11). The initiation of *in-vitro* propagation (tissue culture) of ramin with Center for Bio-technology and Tree Improvement (FORDA – Yogyakarta) is expected to be continued by this institution as part of its research activities.

(12). During the implementation of field activities as described above, committed personnel from these institutions have been hired and involved in these activities. They are researchers and technicians who work daily in that field. By this assignment, it is expected that sense of belonging and sense of responsibility will grow naturally. These personnels will be kept in contact.

(13). In general, consistent financial support is required to maintain the continuation of the initiated activities. Strong commitment from related institutions to keep on the activities is critical importance, since ramin is very slow growing species, it requires long term effort and long term financial support with potential threat of fire. International support is still required to ensure the sustainability.

5. ASSESSMENT AND ANALYSIS

5.1. Project Rationale and the Project Identification Process

The identification of the project has been adequate, describing the primary problem and their related causes of the problems, even though some of the problems were described differently. An example, the poor law enforcement is not only specific to CITES implementation but also the other existing rules and regulation related to the overall management of peat swamp forest is also important to be reviewed. The target group for improving human resource capacity in CITES implementation should be larger than that as in the planned activities. Improving capacity requires several stage and longer period. This is because, the successful implementation of rules and regulation including CITES requires sufficient knowledge, skills and administrative excellence. Therefore capacity buildings need to be carried out more intensively, especially for CITES and its associated requirements.

5.2. Problems to be Tackled, the Project Objectives, the Choice of the Implementation Strategy; *(make reference to section 2)* etc.

5.2.1. Problems to be addressed

The problems to be addressed as described above is unsustainable management of ramin and peat swamp forest (PSF) as indicated by continued decreasing of growing stock, population and habitats in Sumatra and Kalimantan. The primary causes are poor implementation of law and regulation (especially CITES implementation) which lead to over exploitation, illegal logging, converstion and forest fires and on the other hand is lack of successful rehabilitation and artificial plantation.

The poor CITES implementation is primarily due to weak institutional and human resource capacity and ineffective implementation of the existing rules and regulation on sustainable forest management. Lack of conservation and artificial plantation of ramin are primarily due to lack of planting material, plantation technology and incentive scheme in plantation and rehabilitation of PSF.

Those problems are well described and in accordance with the current forest condition in Sumatra and Kalimantan. The problems were properly addressed in the project elements.

5.2.2. Project objectives

In order to solve the primary problems there are two areas have been addressed, (1) improving capacity of institution and human resources on the implementation of rules and regulation, including CITES and (2) promoting conservation, rehabilitation-plantation through the promotion of the provision of planting materials. These two objectives are properly described and could answer the identified problems on ramin.

Referring to the description of the project outputs on Part 4. (project Outcome and Target beneficieris involvement), it can be inferred that the project objectives have been achieved

through four project outputs achievement. Even though some activities are not fully executed during the project period.

5.2.3. Project implementation strategy

One of the means toward the solutions of ramin problems as identified in the previous section is an integrated approach between the promotion of plantation, conservation and improvement of implementation of rules and regulation. Since the solution of the problems will take long term period, the strategy to achieve the recovery of ramin is devided into several phases. The specific objective in first phase of the project focuses on providing the solution on the plantation problems and institutional and human resource capacity on CITES implementation. The second phase focuses on the implementation of larger field plantation (the application of technologies to produce larger number of high quality planting materials for rehabilitation) and the prevention of further loss of ramin habitat and remaining population through more effective ramin conservation. During the first phase of project, various workshops, capacity building (training workshops) and community awareness raising including wide dissemination of project findings were carried out. This also includes the development of technology which will be required for large scale production of planting materials and plantation of ramin in the future. These strategies have been implemented throughout the project period.

5.3. Critical Difference between Planned and Actual Project Implementation

There was no critical differences between planned and actual implementation of project objectives and outputs. Several activities were not fully executed due to some constraints in the provision of materials, especially planting materials (seeds and seedlings) for Activities 1.1.2 and 1.2.1. These two activities were amended/modified to enhance other activities related to the propagation of planting materials. All resources, as far as possible, are allocated to ensure the availability of planting materials of ramin.

In the preparation of project document, the scarcity of seeds was not fully addressed and anticipated, since based on the previous experience (before the project starts) ramin produced flowers and fruits annually with the interval of peak flowering season. The last peak flowering season in some places in Sumatra and Kalimantan was 2004-2005 and no peak flowering season until 2012.

As a consequence of the scarcity of planting materials,plantation trial has not been fully executed in larger scale as planned. Plantation technology has not been fully explored and exercised during the project period. However, strong commitment from relevant stakeholders could ensure the continuation in the plantation of ramin in the future. All other activities were executed based on planned quantity and quality with variable results. As an example, propagation tehcnique using in vitro propagation (tissue culture) has made very slow progress until the end of the project period. In addition, there were some additional activities which were executed to enhance the achievement of project objectives and outputs.

5.4. Adequacy of Time and Project Inputs

Ramin is one of the species which is slow growing, unless there is correct intervention which could promote the growth. All activities related to the growth of ramin will take much longer time than the project period of originally 3 years and extended to another two

years. This extended period remain insufficient to monitor the growth of ramin in its field plantation. The continuation of the initiated activities and the commitment from stakeholders are becoming the critical one to maintain the activity and to achieve long term goal.

Some other project activities were executed in accordance with time schedule and have contributed to the project outputs in accordance with time schedule. Those related to capacity building (institution and human esources) take some time to achieve the higher skill level. This is the case for training of ramin wood specimen identification by seaport officers, custom and excesie officers and other forest product checkpoint staffs. This such training requires relatively longer time and repetition in order to obtain certain level of operational skill.

The project inputs have been sufficient to run all operational activities. The project fund allocated and spent in this project was approximately USD 380,460 has been sufficient to execute the planned activities. The maintenance cost is expected from relevant agencies.

5.5. Anticipation and Reality of External Influences

As already described in the logical framework matrix, several conditions are necessary in order to execute the project activities. As decribed in previous section, the scarcity of seeds and planting material are criitical in the execution of seedling treatments and plantation trials. This problem did not receive much attention and anticipation in the pre-project.

Other influential factors related to the implementation of the project is the EA. FORDA, as EA, is very helpful in the execution of most activities, primarily those related to the development of technologies, research and various reviews. The active support from the members of Project Steering Committee were very influential and very important, especially for the preparation of strategy after project completion.

5.6. Participation of Project Beneficiaries

The participation and involvement of relevant stakeholders were adequate in the execution of all activities. The involvement of primary stakeholders, such as regulators (DG Forest Production Management) and the users (forest companies and community), Forest Industry Revitalization Boards (BRIK), forest association and forest certification bodies, National Institute of Science (LIPI), universities and other research institutions have been valuable.

BRIK provided support in the training workshop on identification of ramin and ramin like wood species. BRIK was the only institution reponsible to verify legality of exported timbers. Therefore, this such training workshop was also helpful in improving skill for field timber inspection.

In conducting field plantation trials, the project has established collaboration with several institutions: RRC – Palembang (South Sumatra), RRC – Banjarbaru (South Kalimantan) and PT Diamond Raya Timber (Riau). These institutions are having working areas in PSF, which is the natural habitats of ramin. They have also working experience with ramin conservation, plantation and propagation. These institutions have taken part in the identification of ramin population (stands) in each respective area, seed sources, seed collection, seedling and vegetative propagation, technology development for producing

high quality planting materials and field plantation in the specific and secure sites. PT. Inhutani II (West Kalimantan), University of Tanjung Pura (West Kalimantan) and WWF-Indonesia Sebangau Conservation Project, Central Kalimantan have given their contribution by providing various necessary data and information.

5.7. Project Sustainability after Completion

There were several aspects considered to ensure the sustainability after project completion, such as the selection of committed personnels, the correct institution and clear definition of roles and involvement in the project activity. These aspects are important and have been effective to build awareness on the issues on ramin, sense of belonging and sense of responsibility.

To provide long term and wider impact of project, various publications, technical reports, proceeding, pamplet, booklet, poster presentations were prepared. This type of publication could be used as references, not only for decision making process, but also for other communities, such as research group, university students and conservationists and others who have common concern on the issues on ramin.

Several specific institutions, RRC - Palembang, South Sumatra and RRC - Banjarbaru, South Kalimantan, who have involved in the development of propagation technology and field plantation trials will keep on going on the project initiated activities as part of their research program and priority. Similarly, Center for Biotechnology and Tree Improvement of Yogyakarta, who have involved in the genetic study and in-vitro propagation will also maintain these activities to be part of their research program.

Other institutions, such as provincial and district forest services have showed their interest in the provision of field sites, in the plantation-rehabilitation program. However, planting material are not available at this time.

5.8. Understanding and Appropriateness of the Roles and Responsibilities of the involved Institutions

The involvement of institutions has been clearly described on the role and responsibilities. This project established cooperation within FORDA institution, such as RRC – Palembang, South Sumatra and RRC – Banjarbaru, South Kalimantan. The cooperation is on the field research activities (propagation, plantation trials and production of planting materials). This cooperation has been appropriate, clearly defined and beneficial to both institutions. Similar cooperation was also with University of Lambung Mangkurat on the trial on flower/fruit stimulation. The involvement of District Forest Service of OKI is crucial and very important for Sumatra. This was because, the most appropriate site for plantation trial is located in the district of Forest Service.

5.9. Synthesis of the Analyses

(a). Specific objectives (s) achievement	Realized
(b). Outputs	Realized
(c). Schedule	Realized
(d). Actual Expenditures	Below planned
(e). Potential Replication	Potential
(f). Potential Scaling up	Potential

6. LESSONS LEARNED

6.1. Project Identification, Design and Implementation

6.1.1. Project identification and design

This project was constructed from pre-project findings. The pre-project has successfully identified the general problem and the causes of unsustainable management of ramin including its natural habitats in Sumatra and Kalimantan.

The only unpredicted aspects is ramin seed productions. In the pre-project, flowering and fruiting of ramin was not specifically addressed. However, in order to support rehabilitation and large planting activities, all potential seed sources have been assessed. At that time, plantation barrier was identified and one of the most critical barriers is the limited information on seed production. This is why, in the first year of the project period, the assessment of all potential seed sources in Sumatra and Kalimantan were carried out. At this point, the project elements are properly developed and the information obtained from the pre project is adequate to develop project objective, output and activities.

In the beginning of the project identification, a state owned company (PT Inhutani) operating in Kalimantan has provided strong support on the development of this project. Later this state owned company faces internal problem which lead to down size their field operational activities, including management of natural peat swamp- and other natural forest in Kalimantan. The involvement of this company in the project was only in discussion and scientific meeting and or sharing experiences of ramin overall management. Field plantation trial activity which was the main interest of PT Inhutani but was not executed.

World Wild Fund (WWF) Kalimantan projects also provided support during the project identification and provided commitment to involve in field operational activities. The change of personnel and orientation within the WWF Kalimantan project also caused contribution and participation in the project was also insignificant.

Other stakeholders which were critical in the success and the failure in the achievement of long term project objectives are RRC - Palembang, South Sumatra and and RRC - Banjarbaru, South Kalimantan. These two institutions have participated in field execution of project activities, especially field plantation trial, the establishment of ramin collection (stockplants) and maintenance after project completion.

6.1.2. Stakeholder identification and participation

The involvement of research institutions under the coordination of Executing Agency (FORDA), such as RRC - Palembang, South Sumatra and and RRC - Banjarbaru, South Kalimantan is very valuable, especially for the continuation and sustainability of project after project completion. The selection of these institutions is appropriate and internal arrangement is relatively simple and feasible to be carried out and maintained. External institutions, outside FORDA and outside MoF requires special arrangement and in most case their commitment is difficult to be maintained.

In the future, the activities that require direct involvement from other institution need to be designed from the beginning. This is the case for the development of harvest protocol and policy review.

6.1.3. Additional arrangements that could improve cooperation between the relevant parties interested in the project

As described in section 6.1.2., additional arrangement could improve the application of project findings or results, such as guideline, harvest protocol and manual by the primary users. The execution of field activities, especially propagation and plantation activities, the development of *in-vitro* propagation require additional arrangement. In this project, all involved institutions as mentioned above are committed to maintain the continuation of the project initiated activities. Financial allocation to support these initiated activities needs to be prepared at least a year before project completion to avoid unnecessary gap period.

6.1.4. Aspects of project design, including implementation strategy, which most contributed to success or failure in achieving the specific objective contributing to the development objective

The project design which addressed two aspects at the same time, law enforcement and rehabilitation-plantation are already adequate to contribute to the solution of the primary problems. These two aspects are equally important and necessary to be tackled at the same time, which is one to another is interlinked to achieve conservation and the recovery of ramin forest, population and habitat. Other aspect which is critical important, as mentioned in other sections, is the involvement of institutions within FORDA, whose working areas are closed to the field sites. Eventhough, at this time the quantity of field activities are relatively small, this is still valuable for future maintenance and continuation of project initiated activities by those institutions.

6.1.5. Actions to be taken to avoid variations between planned and actual implementation (schedule, costs, etc); quality of project planning

The variation between planned and actual implementation is only on the aspect of field plantation trials. The necessary action taken during the project period was searching alternative materials, technology and approachs to support long term large scale plantation, by reallocating existing resources. The duration in the execution of some activities was extended to achieve optimal results. In addition, the project has organized several workshops to identify strategy and action plans to ensure financial availability one year before project completion. These workshops are valuable and useful and the involved institutions have made preparation on financial support after project termination.

6.1.6. Factors which will most likely affect project sustainability after completion including dissemination strategy, post project strategy, and involvement stakeholders

The involvement of relevant agencies and committed personnel is critical factors influencing the sustainability of the project. Awareness on the importance of ramin and its associated problems are also other factor influencing project sustainability. This is achieved by the correct selection of individual, the involvement of institution from the

beginning of the project, and identification of strategy and action plan after project termination.

6.1.7. Other matters

Other matters which also play importance role in the success and the failure in the achievement of project objectives are the support from the executing agency. The choice of FORDA as Executing Agency is also highly appropriate and important to mobilize resources from regional research centers. Directors General of FORDA (Mr. Wahjudi Wardojo, Dr. Tachrir Fathoni and Dr. Iman Santoso) have played very important role in the implementation of the project from the beginning until the last year of the project period. They have made influential direction and clear standing position on the issue of ramin. The strong supports also come from Director of Center for Forest and Nature Conservation (later becoming Center for Conservation and Rehabilitation R&D) as implementing agency of the project.

6.2. Operational Matters

6.2.1. Project organization and management

Project was implemented based on the agreement signed in 2006 and started operational activities in February 2007. In the operation of the project, a small management structure was formed consisting of a project coordinator, a secretary with also conducting financial matters and an project assistance. In the implementation of each individual activity, the project formed team works and or hired national expert (s). The project management supervised all activities including expenses to ensure they comply with the existing rules and regulation (ITTO standard procedures and national auditing system). This arrangement is appropriate and sufficient in managing this size of project.

The hiring of national experts were based on their capabilities and work experiences. As main forestry research agency, FORDA has strategic position in the project since it has wide networks accross research institutions and universities. Therefore, it has resource persons to be hired in each specific activity. Most of the experts and resource persons involved in this project were those involved in the pre-project. This type of condition is very useful and make more efficient in the execution of project activities.

6.2.2. Flow of funds

The fund was managed by the project management unit and disbursed based on the approved plan and budget for each individual activity. The transfer of fund was based on individual activity, its progress and financial report. The fund has been managed quite effeciently based on its actual expenses and allocation. The unspent fund has been allocated to support other relevant activities as described above.

6.2.3. Definition of the roles and responsibilities of the institutions involved in the project implementation

The selection of institutions involved in the implementation of the activities are important. Not only their commitment but clear description of their roles and responsibilities. In this

project, the roles and responsibilities of involved institution have been adequately defined in the separate occasions. In most cases, they are delivered and described in the beginning of project.

In Project Steering Committe, all relevant stakeholders have their representative and have involved in accordance with their institutional mandate and function. This is very helpful, eventhough, the personnel attended the meeting was mostly different person. The meeting of PSC which was held at leat once a year, has been appropriate and useful to evaluate and provide direction of the project.

6.2.4. Project documentation

Project findings in various formats were disseminated in various means, in a series of workshop, training and other capacity buildings, meeting and exposes. Posters and video presentations have been very valuable and useful to disseminate findings. Some hardcopies were also displayed in both national and international workshop/meetings. Some of the publications were uploaded into websites. However, the placement of publications in websites was inpractical in some cases, since the size of the documents is mostly large and therefore hard to be downloaded. Poster displays and video presentation have been valuable for dissemination.

6.2.5. Monitoring and evaluation

The overall project monitoring and evaluation were conducted through evaluation meetings, at which the progress of the project was presented. This is in addition to the regular PSC meeting and field visit. Field visit by Executing Agency, auditors, representative of ITTO and other relevant agencies have been also facilitated and valuable. This field visit is important to observe and determine the progress of the field activity and provide solution of the barrier. At this time, only two sites were mostly visited. They are plantation site in Kedaton, OKI, South Sumatra and Tumbang Nusa Research Forest, Central Kalimantan.

6.2.6. External factors that influenced the project implementation and that could have been foreseen and that could not have been foreseen

Fruiting and flowering seasons were the external factors which was not strongly anticipated in the design of the project. This has influenced the execution of two activities related to the plantation trial. The flexibility to extend the project period has contributed to achieve the overall goal, including the provision of planting materials and stockplants which were valuable for future propagation of planting material and plantation.

6.2.7. Other matters

In addition to the activities which have been designed and described in the project documents, there were several activities tackled during the project period. That were the issuance of new regulation on silvicultural system on ramin which contains regulation to reduce diameter cutting limit, the possibility of lifting logging moratorium policy, flowering stimulation and the establishment of stockplant (Hedge Orchard). The issuance of new

silvicultural system has received wide attention from forestry community. Project has facilitated a series of discussion on this issue in conjuction with the development of harvest protocol on ramin. Academic papers on these issues were prepared and further discussion will be facilitated by FORDA.

Ramin hedge orchard in Tumbang Nusa Research Forest, Central Kalimantan and Kedaton - OKI District, South Sumatra


Continuing ramin plantation trial in OKI District, South Sumatra


Maintenance of ramin seedling by giving shading net and fertilizer application.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1. Conclusions

7.1.1. Identification

(1). Identification of problems to be addressed have been translated properly into project elements. However, an avoided barrier (scarcity of seeds and planting materials) has not been well anticipated causing slight delay in the implementation of some activities and associated target was only slightly achieved.

7.1.2. Project Design

(2). The design of the project is appropriate and has answered the issues on ramin. There could be appropriate if the project duration is slightly longer and or the arrangement into the second phase could help in the achievement of several output and activities, especially in field plantation.

7.1.3. Implementation

(3). Implementation of the project is appropriate and properly planned, eventhough there was a time extended due to some unavoided conditions.

7.1.4. Organization

(4). The project has been well and efficiently organized, which consisted of a secretariat located in Bogor and main collaborators whose working areas represent the main habitats of ramin in Sumatra and Kalimantan.

7.1.5. Management

(5). The management of the project has been effective, this is primarily because there is strong and consistent support from the Executing Agency and other relevant parties who pay interest on the issues of ramin. Regular PSC meeting has been helpful in the solving of some problems and to make alternative solutions.

(6). Some initiated activities have been well managed and its associated strategy and action plans to ensure sustainability have been well documented and arranged with involved institutions.

(7). The choice of FORDA to be executing agency was appropriate since the nature of the project is mostly related to the technology development (propagation and plantation), review on the policies and management practices.

7.2. Recommendations

7.2.1. Identification

(1). To ensure the achievement of the sustainable management and rehabilitation-plantation of ramin, its is recomended that the continued production of planting materials be carried out and financial support be provided.

7.2.2. Project Design

(2). Since the target species is very slow growing and requires specific site to grow, it is recommended that the design of project should be phased project or there should be clear arrangement for post project completion.

7.2.3. Implementation

(3). It is recommended that in the implementation of this type of project, there should be a room for adjustment, the possiblity to extend to the second phase project.

7.2.4. Organization

(4). Institutions in the representative areas should be identified in the project documents to enable active participation and to promote sense of responsibility to the project activities. Similarly, the target stakeholders, such as the primary user of manual/guideline should be involved from the preparation phase of the project.

7.2.5. Management

(5). The size of management unit should be maintained small. This project has been managed effectively. By this efficiecy, more resources could be allocated and transfered to the field activities. Regular PSC meeting has been helpful in the solving of some problems and to make alternative solutions, therefore, the PSC meetings should be planned in the project document, at least once a year.

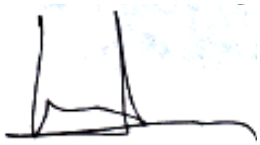
(6). To ensure sustainability of project after project completion, there should have workshop/discussion meeting prior to the termination of the project. This is to enable the involved institutions to prepare and to allocate any necessary resources.

(7). The project which mostly related to the research, technology development (propagation and plantation), review on the policies and management practices should be led by FORDA as Executing Agency to ease further arrangement with its associated research institutions.

7.3. Potential for replication and/or for scaling up

This project is highly potential to be replicated to other species and or to be scaled up, especially its propagation technique, stockplants establishment and field plantation.

Responsible for the Report



Name: Tajudin Edy Komar **Position held:** Project Coordinator
Date: 26 September 2012

Workshop on Evaluation and the Promotion of CITES Implementation on ramin in Indonesia, Jakarta, 24 July 2007

Training workshop on ramin identification in Bogor Forestry Training Center, 21-23 January 2008

Discussion meetings and workshops on ramin harvest protocol and ramin policy

ANNEX 1. PROJECT FINANCIAL STATEMENT

Project No. : PD 426/06 Rev. 1 (F) Period ending on: 31 August 2012
Project Title : The Prevention of Further Loss and the Promotion of Rehabilitation and Plantation of *Gonystylus* spp. (Ramin) in Sumatra and Kalimantan

Component	Approved Amount (A)	Expenditures To-date			Unexpended Amount (E) (A – D)
		Accrued (B)	Expended (C)	Total (D) (B+C)	
I. Funds managed by Executing Agency					
10. Project Personnel					
11. Project Coordinator	$133,800.00	$ -	$ 133,800.00	$133,800.00	$ -
12. Project Staffs					
12.1 Secretary & Finance	$ 26,900.00	$ -	$ 26,900.00	$ 26,900.00	$ -
12.2 Office Assistances	$ 10,900.00	$ -	$ 10,900.00	$ 10,900.00	$ -
13. International Experts	$ -	$ -	$ -	$ -	$ -
14. National Expert	$ 13,792.27	$ -	$ 13,342.27	$ 13,342.27	$ 450.00
15. Other Labor	$ 24,653.84	$ -	$ 24,412.57	$ 24,412.57	$ 241.27
16 Technicians	$ 4,522.07	$ -	$ 4,522.07	$ 4,522.07	$ -
19. Component Total:	**$214,568.18**	**$ -**	**$ 213,876.91**	**$213,876.91**	**$ 691.27**
20. Sub-contracts					
21. Sub-contract	$ -	$ -	$ -	$ -	$ -
22. Sub-contract	$ -	$ -	$ -	$ -	$ -
29. Component Total:	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
30. Travel					
31. Daily Subsistence Allowance	$ 43,606.08	$ -	$43,606.08	$ 43,606.08	$ -
32. International Travel	$ 4,119.80	$ -	$919.80	$ 919.80	$ 3,200.00
33 Transport cost					
331. Domestic air travel	$ 15,713.35	$ -	$15,713.35	$ 15,713.35	$ -
332. Local transport (water/ground)	$ 27,582.31	$ -	$27,163.31	$ 27,163.31	$ 419.00
39. Component Total:	**$ 91,021.54**	**$ -**	**$ 87,402.54**	**$ 87,402.54**	**$ 3,619.00**
40. Capital Items					
41. Capital Equipment	$ 4,621.37	$ -	$ 4,621.37	$ 4,621.37	$ -
49. Component Total:	**$ 4,621.37**	**$ -**	**$ 4,621.37**	**$ 4,621.37**	**$ -**
50. Consumable Items	$ 28,550.11	$ -	$ 28,508.23	$ 28,508.23	$ 41.88
59. **Component Total:**	**$ 28,550.11**	**$ -**	**$ 28,508.23**	**$ 28,508.23**	**$ 41.88**

60.	Miscellaneous	$ 41,698.80	$ -	$ 40,678.46	$ 40,678.46	$ 1,020.34
	69. Component Total:	**$ 41,698.80**	**$ -**	**$ 40,678.46**	**$ 40,678.46**	**$ 1,020.34**
70	National Management cost					
	71. Executing Agency Management cost	$ -	$ -	$ -	$ -	$ -
	72. Focal Point Monitoring	$ -	$ -	$ -	$ -	$ -
	79. Component Total	$ -	$ -	$ -	$ -	$ -
	Sub-Total I:	**$380,460.00**	**$ -**	**$ 375,087.51**	**$ 375,087.51**	**$ 5,372.49**
II.	**Funds retained by ITTO**					
80	**ITTO Monitoring, Evaluation & Administration Costs**					
	81. ITTO Monitoring and Review	$ 18,000.00				a/
	82. Ex-post Evaluation Costs	$ 10,000.00				a/
	83. ITTO Programme Support Costs	$ 32,677.00				a/
	89. Component Total	$ 60,677.00				
	90. Refund of Pre-Project Cost	$ 66,766.00				a/
	Sub Total II	**$127,443.00**				
100	**GRAND TOTAL**	**$507,903.00**				**$ 5,372.49**

Note: Budget Components are those detailed in the Project Document (Extension Project Document, YPO 6 and approval in 5th PSC Meeting).

a/ Funds retained and accounted by ITTO – details not available with Executing Agency
b/ Total expended consists of the amounts of Total Expenditures in Project Cashflow Statement for the periods ending on August 31, 2012, December 31, 2011, 2010, 2009, 2008 and December, 31, 2007
c/ Accrued expenditures: expenditures committed/accrued as at the end of reporting date but not yet settled
d/ This amount not including other revenue (expenses) total US $ 1,145.83

ANNEX 2. PROJECT CASHFLOW STATEMENT

Project No. : PD 426/06 Rev. 1 (F) Period ending on: 31 August 2012
Project Title : The Prevention of Further Loss and the Promotion of Rehabilitation and Plantation of *Gonystylus* spp. (Ramin) in Sumatra and Kalimantan

	Component	Reference	Date	Amount	
				in US$	Local Currency
A.	**Funds received from ITTO:**				
1.	First installment	G0070261233401	29-Jan-07	$ 80,000.00	Rp 730,400,000.00
2.	Second Installment	G0172990717701	29-Oct-07	$ 75,000.00	Rp 682,425,000.00
3.	Third Installment	G0182960190201	22-Oct-08	$ 65,000.00	Rp 642,200,000.00
4.	Forth Installment	G0100472968801	17-Feb-10	$ 65,000.00	Rp 603,200,000.00
5.	Fifth Installment	S0611720EEAB01	22-Jun-11	$ 50,000.00	Rp 430,000,000.00
6.	Sixth Installment	G0120530733101	22-Feb-12	$ 45,460.00	Rp 411,822,140.00
	Other Revenue	-	-	$ 1,145.83	Rp 11,804,254.07
	Gain or (losses) on exchange rate			$ -	Rp 44,304,579.13
	Total Funds Received:			**$ 381,605.83**	**Rp 3,556,155,973.20**
B.	**Expenditures by Executing Agency:**				
10	Project Personnel				
11.	Project Coordinator			$ 133,800.00	Rp 1,252,529,000.00
12.	Project Staffs				
	12.1. Secretary & Finance			$ 26,900.00	Rp 251,823,580.00
	12.2. Office Assistance			$ 10,900.00	Rp 102,466,200.00
13.	International Experts			$ -	Rp -
14.	National Experts			$ 13,342.27	Rp 127,896,300.00
15.	Other Labor			$ 24,412.57	Rp 228,761,200.00
16.	Technicians			$ 4,522.07	Rp 9,450,000.00
19.	**Component Total:**			**$ 213,876.91**	**Rp 2,002,926,280.00**
20	Sub-contracts				
21.	Sub-contract (with A)			$ -	Rp -
22.	Sub-contract (with B)			$ -	Rp -
29.	**Component Total:**			**$ -**	**Rp -**

30	Duty Travel						
	31.	Daily Subsistence Allowance			$ 43,606.08	Rp	400,909,690.00
	32.	International Travel			$ 919.80	Rp	8,269,000.00
	33	Transport cost					
		331. Domestic air travel			$ 15,713.35	Rp	146,535,950.00
		332. Local transport (water/ground)			$ 27,163.31	Rp	249,989,795.00
	39.	**Component Total:**			**$ 87,402.54**	**Rp**	**805,704,435.00**
40	Capital Items						
	41.	Capital Equipment			$ 4,621.37	Rp	42,169,000.00
	49.	**Component Total:**			**$ 4,621.37**	**Rp**	**42,169,000.00**
50	Consumable Items				$ 28,508.23	Rp	259,874,854.00
	59.	**Component Total:**			**$ 28,508.23**	**Rp**	**259,874,854.00**
60	Miscellaneous				$ 40,678.46	Rp	383,166,265.00
	69.	**Component Total:**			**$ 40,678.46**	**Rp**	**383,166,265.00**
70	National Management Costs						
	71.	Executing Agency Management Cost			$ -	Rp	-
	72	Focal Point Monitoring			$ -	Rp	-
	79	**Component total**			**$ -**	**Rp**	**-**
Total Expenditures To-date:					**$ 375,087.51**		**Rp3,493,840,834.00**
Remaining Balance of Funds (A-B):					**$ 6,518.32**	**Rp**	**62,315,139.20**

Notes:

1. Amount in US $ are converted using the rate exchange when funds were received by the executing agency
2. Total expenditure to-date should be the same as amount shown in Sub Total of column (C)of the Financial Statement
3. Remaining balance of funds:

Cash on hand as of 31 August 2012	$	-	Rp.	-
Cash at Bank Mandiri Account number 133 – 00 – 0507940 – 5 period 31 August 20120	$	6,518.32	Rp.	62,315,139,.20
Total remaining balance of funds	**$**	**6,518.32**	**Rp.**	**62,315,139,.20**

4. Other Revenues:

Bank Interest (Net)	$ 1,484.27	Rp. 14,587,528.43
Bank Administration	($ -340.00)	(Rp. 3,200,410.00)
Gain (losses) on exchange rate	$ 158.63	Rp. 1,860,200.00
Stamp duty	($ -43.67)	(Rp. 408,699.16)
Statement fee	($ -8.40)	(Rp. 79,645.20)
Transfer expenses	($ -105.00)	(Rp. 954,720.00)
Total	**$ 1,145.83**	**Rp. 11,804,254.07**

5. Covered period for total expenditure is: February 2007 - 31 August 2012

ANNEX 3. LIST OF CAPITAL ITEMS

No	Items	Qty	Value		Date of Purchased	Remarks
			Rp.	US $		
1.	Notebook Computer "Toshiba M 105"	1 unit	8,800,000.00	974.53	9 February 2007	Good
2.	Notebook Computer "Acer Aspire 3683 NWXCI" with Window XP original	1 unit	6,949,000.00	769.55	9 February 2007	Not working properly
3.	NEC Projector VT496	1 unit	6,826,000.00	755.92	9 February 2007	Good
4.	Portable Computer	1 set	3,850,000.00	424.01	4 March 2008	Good
5.	Printer Canon iP1880 with cable data and mouse	1 unit	510,000.00	56.17	8 April 2008	Not working properly
6.	Hard disk HDD Free Agent 50, 250 GB	1 unit	965,000.00	106.28	4 February 2009	Good
7.	Modem Huawei K 3520	1 unit	1,150,000.00	126,65	4 February 2009	Not working properly
8.	Bookcase	1 unit	400,000.00	44.05	7 February 2009	Good
9.	Chair	4 unit	1,000,000.00	110,13	7 February 2009	Good
10.	Notebook computer "Sony Vaio CR 410 E	1 unit	10,250,000.00	1,110.35	26 February 2009	Good
11.	Shredder V tech 8606-B and mouse pad	1 unit	320,000.00	35.24	13 March 2009	Good
12.	Modem sierra wireless at&t	1 unit	850,000.00	80,26	30 May 2009	Good
13.	Wifone ETS 2228	1 unit	299,000.00	28,23	15 June 2009	Good
Total			**42.169.000,00**	**4,621.37**		

Evaluation ramin activities by Director of CCRR&D and FORDA Secretariat in Tumbang Nusa Research Forest, Central Kalimantan

Evaluation ramin activities by Director of CCRR&D in Kedaton, OKI district, South Sumatra

Evaluation ramin activities by Dr. Hwan Ok Ma, ITTO Project Managers in Kedaton, OKI district, South Sumatra

Workshop Strategy to maintain sustainability of ramin project in Banjarbaru, South Kalimantan

Workshop Strategy to maintain sustainability of ramin project in Palembang, South Sumatra

Expose ramin project and Dissemination ramin publication

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