INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT PROPOSAL

TITLE	PROMOTING CONSERVATION OF SELECTED TREE SPECIES CURRENTLY THREATENED BY HABITAT DISTURBANCE AND POPULATION DEPLETION
SERIAL NUMBER	PD 539/09 Rev.1 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF INDONESIA
ORIGINAL LANGUAGE	ENGLISH

SUMMARY

Indonesia is rich with biological diversity including forest tree species. Due to human related activities which intensified lately, some of forest tree species have been facing a great pressure to extinction due to various disturbance and habitat encroachment in their natural range distribution. Workshop held by World Conservation Monitoring Center (WCMC)-UNEP, in Kuala Lumpur, 2007, has confirmed that some of those species are currently threatened and on the other side they have received less protection and conservation efforts. Some of those species to be the concern of this proposed project are some Diospyros celebica (ebony), Eusideroxylon zwageri (Borneo ironwood), Michelia velutida, Michelia champaca and Michelia spp.

The overall objective of this project is to contribute to the conservation of threatened species through the promotion of up-dating ecological and biological data and the conservation efforts as part of Target 2010 of Global Biodiversity Challenge. The specific objective is to up-date data and information on vulnerability status and to enhance protection and conservation activities of selected threatened forest tree species through the establsihement of conservation gardens. The expected outputs area (1). Data and information on conservation and protection status of tree species up-dated and reviewed, (2). Information on the level of genetic diversity and vulnerability of threatened species obtained and (3). The establishment of plant genetic conservation garden (gene pool) as to ensure the conservation of target species initiated and local stakeholder capacity improved.

EXECUTING AGENCY	Center for Forest and Nature Conservation Research and Development - FORDA
COOPERATING GOVERNMENTS	
DURATION	24 MONTHS
APPROXIMATE STARTING DATE	

BUDGET AND PROPOSED SOURCES OF FINANCE

Source	Contribution in US$	Local Currency Equivalent
ITTO	**149,710**	
Government of Indonesia (in kind)	40,233	
TOTAL	**189,943**	

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PART 1. PROJECT CONTEXT

1.1. Origin

This newly proposed project is originally from the recommendations of previous national and international meetings related to the concern on the status of biodiversity conservation, especially on tropical timber species. Several national workshops related to this issue in Indonesia have been held by Ministry of Forestry, National Institute of Science (LIPI) and Agency for Planning and Development Board (BAPPENAS). Within Ministry of Forestry, FORDA and Directorate of Biodiversity Conservation have also held several nationals discussion meetings, since the year 2000 and several follow-up meeting afterward. One of the recent discussion meetings was held in Bogor, 2005 and 2006, with specific to ramin, which is an example of timber species facing various threats. Later, a technical workshop by Directorate of Biodiversity Conservation in 2007, focused on the prioritization of species for immediate protection and conservation. At wider level, which is relevant to this proposed project is a regional workshop held in Kuala Lumpur 2007, organized by UNEP-WCMC. At this workshop, a detail desk study of each tropical tree species by UNEP-WCMCs, especially those currently threatened by International trade was reviewed and intensively discussed.

From both national and international workshops as mentioned above, general conclusions could be summarized as below:

a. Large number of both plant and animal species has been harvested lately for various economic reasons, and they are traded in domestic and international market.
b. Many of those harvested species have been excessively harvested legally and illegally which may have resulted in serious threat and or potential threat to extinction due to population depletion and habitat fragmentation.
c. Many of those species, especially traded timber species remain unknown their conservation status
d. Efforts toward the protection and conservation of those threatened species remain insignificant.

By observing the above facts and condition, it is an urgent need to take immediate action to reduce the pressure on the remaining population of species and to enhance the achievement of protection and conservation efforts by putting priority for currently threatened species, based on the existing knowledge, data and information. In addition, field conservation efforts to secure plant genetic materials become the top urgent need. The establishment of plant genetic resource conservation gardens is one alternative solution.

1.2. Relevance

(a). Relevance to ITTO and other global issue

Relevance to ITTA 1994 and ITTA 2006 Objectives

The proposed project is consistent with the ITTO objectives as stipulated in ITTA 1994 and 2006, especially to the following objectives:

- Promote and support research and development with a view to improving forest management and efficiency of wood utilization as well as increasing the capacity to conserve and enhance other forest values in timber producing tropical forests. Promotion of research and development in forest management is also part of this project which complies with ITTA objective.
- Encourage members to develop national policies aimed at sustainable utilization and conservation of timber producing forests and their genetic resources and maintaining the ecological balance in the regions concerned, in the context of tropical timber trade. This project also supports the ITTA objective by identification of current status of timber species subject to domestic and international trade, and its necessary to maintain high plant genetic resources found for future use.

Relevance to ITTO Action Plan 2002-2006

This project conforms with the ITTO Action Plan in the following aspect:

- National forest inventory, particularly on sustainable availability of a particular timber species. Strategy towards the sustainable management of tropical forests and trade in tropical timber products. This proposed project is aimed to support the identification of current status of timber species which have been logged for domestic and international trade and currently predicted under serious threat as a result of habitat fragmentation and population depletion. The information on their current status, especially their ecology and biology and genetic diversity of selected species is critical important to be used to formulate strategy and to take immediate action for conservation.

Relevance to ITTO Guidelines 1993 and 2005 (rev) on biodiversity conservation.

The proposed project is highly relevant to ITTO Guideline for the Conservation of Biological Diversity in Production Forests (ITTO Policy Development Series No.5, 1993) and its revision (Review and Update the ITTO Guidelines for the Conservation and Sustainable Use of Biodiversity in Tropical Timber Production Forests, 2005).

Objectives of this project are relevant at least to two Principles of the ITTO Guidelines (2005): Principle 8. Forest Ecosystem functions and habitat heterogenity and Principle 9. Management planning and biodiversity. In the earlier version (ITTO Guidelines 1993), it was recommended that a locally adapted system for biodiversity monitoring need to be further investigated and developed. This system should contain specific, rapid, cost-effective and efficient biodiversity survey and monitoring.

Relevance to other global issues

This proposed project is also relevant to the United Nation Millenium Development Goal (MDG), CBD Target 2010 and CITES. UN MDG (No. 7) "to ensure environmental sustainability by integrating the principles of sustainable development into country policies and programs and reverse the loss of environmental resources". CBD 2010 Target is "to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level" and CITES Strategic Plan, which state that "No species of wild flora subject to unsustainable exploitation because of international trade".

(b). Relevance to the Country

The proposed project is highly relevant to the country priorities to achieve sustainable development, conservation of biological diversity and UN Millenium Development Goal (MDG). Commitment to support the achievement of these three agendas have been legally mandated by constitution and further supported by the adoption of UNCBD and CITES into National legislation.

The legal commitments have been further elaborated by National Board for Planning and Development (BAPPENAS) and Ministry of Forestry. BAPPENAS has issued strategic plan for the management of biological diversity, including all timber species in Indonesia ("*Biodiversity Action Plan for Indonesia (BAPI-1998)*" and newly revised *Indonesian Biodiversity and Strategic Action Plan* (IBSAP) for the period of 2003-2007.

This strategic plan is to accommodate the mandate from the Constitution to manage natural forests in Indonesia, including all valuable resources managed for community prosperity. This article has been translated into Forestry Law No. 41/1999, which defines that the ultimate goal of forest resource utilization is to be the maximum of community welfare through the sustainable way of utilization.

Ministry of Forestry has set out short, medium and long term priority programs to support the sustainable development, especially in forestry to promote conservation and sustainable utilization of timber and other wildlife species. The program is divided into three different subject area of conservation: (1) improving management of existing National Parks and Nature reserves, (2)

Developing technology for conservation of wild fauna and (3) the promoting conservation biology and technology for wild flora.

Logging operation in Indonesia tropical forests has affected the change in forest structure, the productivity and the existence of timber species diversity. To reduce the potential loss and destructive effect of logging to habitat, regular monitoring/observation need to be carried out and this include the conservation of plant genetic resources of species which have been weakly carried out. This includes the observation of genetic diversity and the establishment of plant genetic resources (gene pool) to ensure the provision of genetic material for future use and conservation. This plant genetic resources conservation could be collected (pooled) outside its natural habitat as *ex-situ* conservation.

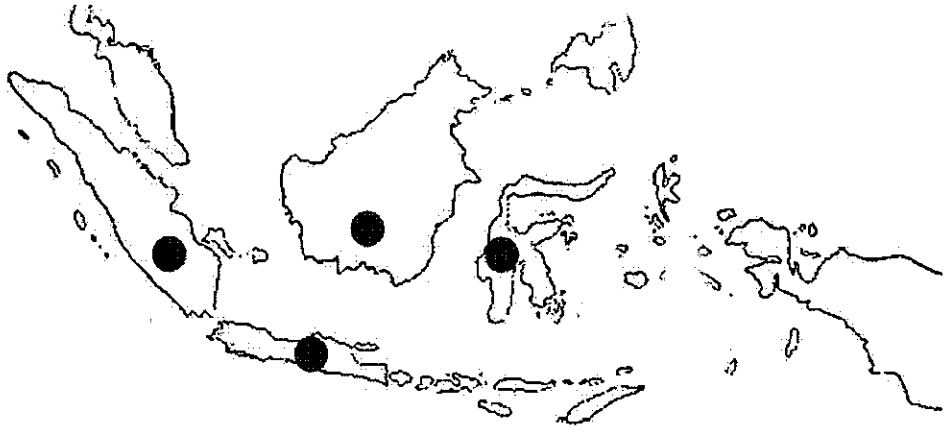
1.3. Target Areas and Species

1.3.1. Target Areas

This proposed project contain three elements, which are (1) review and up-dating data and information of species, especially those currently under serious threat, (2) the observation of the level of genetic diversity of selected threatened species and (3) the initiation of the establishment of gene pool (plant genetic resources) of the selected timber species in each representative sites.

The target geographical area for the first and the second element will be throughout Indonesia which are the natural distribution of the pre-selected target species currently under threat. For the third element, the initiation and the promotion of the establishment of gene resource conservation gardens (gene pool) will be in some representative and suitable sites in Sumatra, Java, Kalimantan and Celebes (Sulawesi). Detail location will be further determined based on the results of the first and the second elements from which information on the level of vulnerability (survival) of the species under adverse environmental condition will be obtained.

Figure 1. Target area of project activity. The blue circles represent natural habitat of selected threatened species in Sumatra, Java, Kalimantan and Sulawesi and the candidate location for gene pool establishment.



1.3.2. Target Species and brief reference

Scientific (Com.) name-uses	Conservation concerns	Priority Activities
Sci. name: *Diospyros spp* - *D. celebica* - *D. rumpii* - *D. microphylla* **Com.name**: Ebony, blackwood; used for fancy furniture-	Limited distribution in Sulawesi, slow growing and heavily harvested for commercial purposes; limited regeneration due to seed problem and weak plantation efforts (Technical Notes: *Ebony*, Annonymous	Biological-ecological studies (review), identification of genetic diversity and the establishment of conservation gardens to secure gene resources

apparatus and handycrafts	1994)	
Sci. name: *Eusideroxylon zwagery* **Com. name**: Borneo ironwood, bulian, onglen; used for railway sleeper and heavy construction (extreme durable) Com.: commercial	Heavily harvested (whole stem incl. root-stump), mostly illegal, causing population decline, depletion; very slow growing and lack of plantation activities. It is a strong tendency that heavy exploitation of Borneo ironwood in Sumatra and Kalimantan will go to population depletion-extinction (Research status on *E zwagery*, RRC-Kalimantan, 2004)	Identification of genetic diversity and establishment of conservation garden to secure gene resources across the geographical ranges both in Sumatra and Kalimantan
Sci. name: *Michelia* spp - *M. velutida* - *M. champaca* - *Michelia spp.* **Com. name**: manglid, kayu bawang, bambang; used for construction, furniture	Scattered distribution in Southern parts of Sumatra (*M. velutida, M. champaca*) and in Java (*M champaca, Michelia. spp*). Heavily harvested, unclear ecological, biological, population and conservation status	Assessment on eco-biological, population and conservation status, identification of genetic diversity and the establishment of conservation garden to secure gene resources for Southern parts of Sumatra and Java.
Other selected threatened forest tree species (IUCN red listed species)	Out of dated status of ecological distribution, population and conservation status	Review and up-date data and information on ecological, biological distribution and conservation status

1.4. Outcome at Project Completion and Impact

At project completion, several aspects below are expected to be achieved:

Immediate effects and benefits:

(1). Current status of biological, ecological aspects of forest tree species including their conservation and protection status will be well observed and up-dated. More intensive studies will be carried out for some selected species. Those are some *Diospyros* spp, *Eusideroxylon zwageri and several Michelia* species.

(2). Information on the level of genetic diversity and vulnerability of selected threatened species obtained.

(3). The establishment of plant genetic conservation garden (gene pool) for selected species initiated including awareness raising in related issue.

Updated information on the status of forest tree species is critical important after more than two decades of no monitoring, review and intensives studies, especially the population status. The information includes genetic diversity and vulnerability, which is important for long term survival of the species, especially in adverse environment. This information will be observed by employing existing molecular marker (biotechnology) and field assessment.

After project completion, the establishment of plant genetic resource conservation garden (gene pool) to conserve the selected species could be initiated and enhanced in several representative locations along natural range of distribution as a concrete action to ensure the survival (conservation) of the species. *In situ* conservation areas have been established for the maintenance of the intact natural population in national parks, nature reserve and other protected areas. However, those areas are not fully secure from illegal logging, encroachment and other disturbance. Other alternative to conserve genetic resources is the establishment of genetic conservation garden (gene pool) in relatively manageable size.

The beneficiaries:

By obtaining data and information on biological and ecological status, as well as the level of genetic diversity, conservation and protection strategy, including immediate action, for the selected species could be drawn by relevant stakeholders, such as Ministry of Forestry, Ministry of Environment and BAPPENAS. Local institutions and a number of communities could also take benefits from some activities such as in the establishment of plant genetic resources garden (gene pool) in each representative areas.

This proposed project will also give socio economic and cultural impact to local community and others whose life is much dependent on forest resources and forest related activities, as main source of income. By continued provision of forest ecosystem services, its contribution to community prosperity and livelihood will also be expected to be sustainable. This is in line with the global agenda, especially Target 2010 of Global Biodiversity Challenge to ensure the contribution of biological diversity to community prosperity and livelihood. However, it is understood that this type of project may not directly and instantly improve community prosperity.

Dissemination of benefits:

The benefits will be delivered through various seminars, and other scientific meeting, national and regional workshops and publication which will be carried out and produced as part of the project operational activities and through websites.

PART 2. PROJECT RATIONALE AND OBJECTIVE

2.1. Stakeholders Analysis

Main stakeholders in this proposed project are Ministry of Forestry, Ministry of Environment, BAPPENAS and National Institute of Science (LIPI), Provincial and District Forest Services, Universities, Association and local NGO. Within Ministry of Forestry, the main stakeholders are FORDA and its Regional Research Centers, Directorate of Biodiversity Conservation and Directorate of Natural Forest Management. These stakeholders have involved in various events (workshops and related meetings) organized by those institutions as described in earlier section and have given their views on the concerned of progress in conservation and management of biological diversity as whole and floristic diversity with specific to the pre-identified threatened species mentioned in this propose proposal.

Table 1. The involvement of various stakeholders in the project implementation

Stakeholders	Roles	Implementation Activities	Monitoring
1. Ministry of Forestry/FORDA-National Institute of Science (LIPI)	- Emphasize on the importance of resource base data and information update - Provide scientific basis for conservation and SFM	- Coordinate the implementation of project activities - Participate in data and information update - Participate in developing assessment method - Involve in the design for long term strategic plan in conservation	-Involve in monitoring the project impact on the protection and conservation of timber species subject domestic and international trade
2. Regional Research Centers	- Carry out R&D on timber tree species for both commercial and non-commercial purposes -Provided data and information necessary for setting policy and regulation for conservation and sustainable use of species	- Involve in field data collection on the status of timber tree species in each area	-Involve in monitoring and conservation of existing biodiversity in each area
3. Directorate of Biodiversity conservation	- Promote and facilitate strategies to long term conservation and sustainable utilization of species not protected under the existing law	- Involve in information dissemination and setting the priority species to be conserved	-Involve in monitoring and up-dating data and information necessary to promote the efforts
4.Provincial/District Forest Service	-Ensure the legality status of the forests based on the allocation	-Facilitate field data collection and up-dating	-Involve in field data collection
5.Universities and NGO	-Facilitate and enhance communication, especially with local community	- Provide information on lessons learnt and facilitation in the dissemination of outcome	- Involve in the operational activities as experts/technician
6. Ministry of Environment/BAPPENAS	-Coordinate and facilitate the formulation of national strategy for long term conservation plan for biodiversity and environment	- Provide guidance and direction on the national policy	- involve in monitoring the progress in biodiversity conservation

2.2. Problem Analysis

Many tropical timber species are currently under serious threat. This is primarily due to the presence of adverse environmental condition and on the other side, due to the unsuccessful conservation and protection effort.

Tropical forest in Indonesia has been extracted since late 1960 and early 1970's. The extraction, both legal and illegal, continues until now from the existing tropical forests throughout the country. The extraction method used has caused unsustainable utilization of potential and commercial tree species for both domestic and international trade. This has been enhanced by lack of awareness on the importance of sustainable management of those timber species and its contribution to community prosperity and national economy. This extraction has resulted in fragmented and scattered small population and as well as created severe or adverse environmental condition for the survival of many species. Over 38.000 flowering plants recorded, some may have been endangered caused by the disturbance. For tree species, from approximately 4000 species, some have been in serious threat due to population fragmentation and the disappearance of habitat. Timber tree species are currently under serious threat as a result of the above causes are some *Diospyros* spp, *Eusyderoxylon zwagery*, *Gonystylus macrophyllus*, *Michelia* spp and some *Shorea* spp. This list may be more, as predicted in the review and technical workshop carried out by UNEP-WCMC, Kuala Lumpur 2007.

The consequences of the above condition, there will be increasing the degradation rate of natural resources, the potential loss and extinction of species, especially those vulnerable with adverse environment and changing microclimate. This continued degradation, loss and extinction will, in turn, reduce the benefit contribution of natural resources, biodiversity and other ecosystem function to the living and prosperity of humankind.

The causes of the above problem range from the weak implementation of rules and regulation which has led to excessive and illegal logging, habitat encroachment and inappropriate conversion. These events have caused pressure to the remaining population of the harvested species and threatening the long term survival of those species. These conditions have also been enhanced by the lack of monitoring and up-dating of data and information on forest resources including threatened forest tree species as well as poor successful protection and conservation of those species both inside and outside their natural habitat (Figure 2. Problem Tree).

Lack of monitoring and up-dating data and information on forest resources include regular monitoring and management of particular species, especially those have been recorded as threatened due to various biological and ecological constraints and disturbance. Data and information on biological and ecological aspect of most tree species have been old and the last review and intensive studies were conducted early 1980s. The national forest inventory was also conducted in that period, which was not focused on particular species. Scattered literature review and surveys have been conducted by Botany division of the Center for Forest and Nature Conservation Research and Development and Botany Division of the Center of Biology Research of National Institute of Science (LIPI). However, these reviews and surveys did not cover most aspects related to the protection and conservation, including vulnerability status of timber species, including the level of genetic diversity, especially those threatened by the above practices. Issues on these problems have been raised in the recent both national and regional technical workshops as mentioned and described in the previous section (PART1. Section 1. Origin).

Information of both vulnerability status and the level of genetic diversity is critical important for the long term survival of particular species in extreme environment, as well as, in the changing habitat. These types of information have not been explored and studied of most forest tree species, especially those currently threatened by various disturbances as above.

In order to ensure the protection and conservation of plant genetic resources (germ plasm) in natural forest, including all forest tree species, Government has allocated portion of forest resources into conservation forest (forest areas) which distributes in most geographical ranges and in most islands in Indonesia. In addition to existing conservation forest area, Ministry of Forestry has also issued a policy to allocate a certain portion of forest area in production forest to be for plant genetic resource conservation area which functions as habitats of various wild fauna and flora living in that area. However, due to the weak implementation of rules and regulation (especially law enforcement), both

conservation forest areas and plant genetic conservation areas are not immune from the practice of illegal logging and encroachment. As a result, the degradation of the habitat and the lost of plant genetic resources are also taking place in those area. These plant genetic resources (germ plasm) are critical important for future use and the balance of living organism. An alternative solution to this trend is the establishment of plant genetic resources (gene pool) in its representative, secure and manageable sites.

Figure 2. Problem Tree

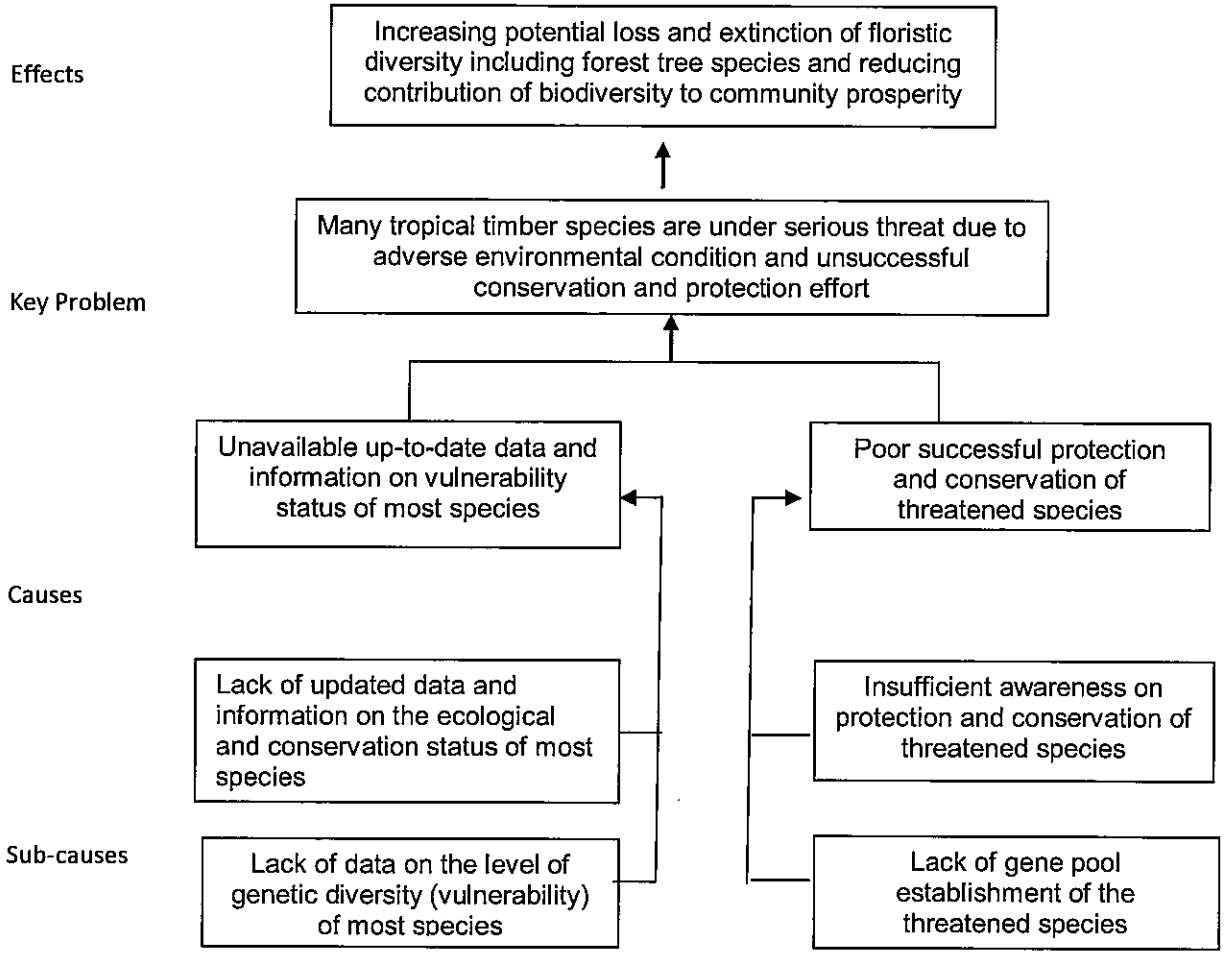
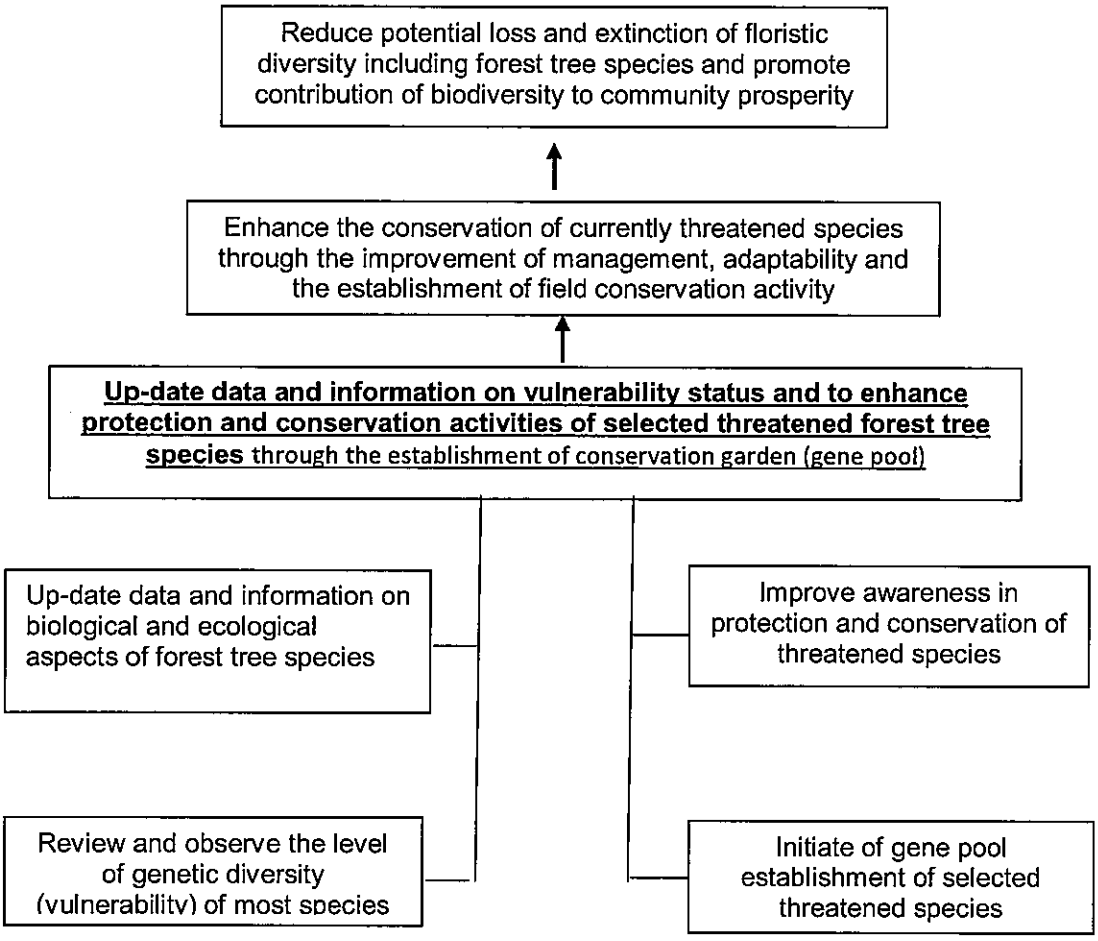


Figure 3. The Objective Tree of the proposed project



2.3. Objectives

2.3.1. Development Objectives and impact indicators

Development Objective:

To contribute to the conservation of threatened species through the promotion of up-dating ecological and biological data and the conservation efforts as part of Target 2010 of Global Biodiversity Challenge.

Impact Indicators

Long term impact of this proposed project is the knowledge and awareness on the current status of forest tree species. This type of information will be useful for the relevant authorities to set up immediate action and long term plan for management and conservation of forest tree species, especially those currently threatened by adverse environmental condition. By this achievement, the

potential loss and or extinction of forest tree species will decrease.

2.3.2. Specific Objectives and outcome indicators

Specific Objective:

to up-date data and information on vulnerability status and to enhance protection and conservation activities of selected threatened forest tree species through the establishment of conservation gardens (gene pool).

Outcome Indicators

From the project several outcomes could be derived from the following:

- A reviewed list of species that may been currently threatened. In this review, most timber species, especially those have been logged will be covered. The result will be discussed in the national workshop carried out in the project activity.
- Provision of information on genetic diversity of selected species, especially those currently threatened based on the review result and the workshop. The number of species to be assessed will be in accordance with the proposed and existing budget.
- Reviewed management status of *in situ* and *ex-situ* conservation of particular species. The review will focus on the pre-identified species above.
- Initiation of concrete establishment of plant genetic conservation garden (gene pool) for currently threatened species.
- Improve awareness of relevant authorities and local stakeholders on the concern of biodiversity loss and the importance of conservation and protection, especially on threatened species through awareness raising and technical workshop.

PART 3. DESCRIPTION OF PROJECT INTERVENTION

Project Intervention

According to earlier records, there are over 38.000 flowering plants and over 4000 timber species recorded in Indonesia and most of them are distributed in major islands. Only some of timber species have been well studied their population and ecological distribution, genetic diversity and conservation status including vulnerability status. Some of them, especially the least commercial species, are unknown their conservation status and effort, and it is predicted that some of them are under serious threat and may have gone to extinction. Various discussion and policy formation have been made, but still insufficient and ineffective to ensure sustainable management, protection and conservation of those species. This is primarily due to the insufficient reliable and up-dated data and information, particularly on excessively harvested species.

Project intervention is needed to prevent further threat to extinction through (1) the up-dating data and information on the population distribution, size and habitats which will be useful for taking immediate action for protection and conservation, (2) identification of level of genetic diversity (variation) and vulnerability which is very crucial for the survival of species in adverse environmental condition, (3) formulation of policy option and or immediate action for conservation and (4) the establishment of gene pool for each species, as an alternative measure for plant genetic resource conservation as well as for future genetic improvement.

The proposed project could contribute to (1) The provision of up-dated data and information on the status of population and conservation of species, particularly timber trees, (2) The development of strategy and immediate action plan to conserve the selected species, (3) The establishment of plant genetic conservation garden (gene pools) for selected forest tree species which are currently under serious threat.

3.1. Outputs

The expected outputs area:

Output 1.1. Data and information on conservation and protection status of tree species up-dated and reviewed.
Output 1.2. Information on the level of genetic diversity and vulnerability of threatened species obtained
Output 1.3. The establishment of plant genetic conservation garden (gene pool) as to ensure the conservation of target species initiated and local stakeholder capacity improved.

Output 1.1. Data and information on conservation and protection status of tree species up-dated and reviewed.

Efforts related to protection, conservation of individual species, other than pooling those species in conservation areas, will be updated and reviewed. This will be achieved through the observation of existing documents related to biological and ecological distribution, conservation, existing rules and regulation. Field application and implementation of the conservation efforts will also be identified and further developed. The priority species to be reviewed are those threatened by various disturbances, especially by excessive harvest. Some pre-identified species as mentioned above will be more intensively studied.

Output 1.2. Information on the level of genetic diversity and vulnerability of threatened species obtained

The information on the level of genetic diversity and vulnerability of physically threatened species is critical importance for long term survival of the species in adverse environment. The pre-selected species as described above have been excessively exploited and has caused significant reduction in

their population and limit their natural distribution. The reduction of population size and the change in population distribution could cause several detrimental effects to the population genetic diversity and resistances to the various adverse environments. In some species, this change could cause the reduction in reproductive capacity that will, in turn, cause species extinction. Field assessment and molecular markers will be employed to assess the level of genetic diversity and vulnerability of each species and subsequent measures will be formulated

Output 1.3. The establishment of plant genetic conservation garden (gene pool) as to ensure the conservation of target species initiated and local stakeholder capacity improved.

Result of the analyses of genetic diversity and the fact the population in nature continue decreasing, the establishment of gene pool for future uses become one of the measure to conserve the existence of the species. This gene pool will be revitalized from the existing one and or establish new gene pool in several representative areas as initial stage. In this activity, capacity building in conservation and the establishment of conservation will also be covered through technical workshop. Capacity building will be carried out primarily for local stakeholders in conservation and protection of species.

3.2. Activities and Inputs

Output 1.1. Data and information on conservation and protection status of tree species up-dated and reviewed.

Activity 1.1.1. Review the current status of forest tree species currently threatened by habitat disturbance

A list of threatened species has been prepared by several institutions, such as by National institute of Science, Directorate General of Forest Protection and Nature Conservation and BAPPENAS. This list is also linked with that reviewed in the meeting held by UNEP-WCMC and other meeting. These will be further reviewed at national level, especially for harvested timber species naturally.

At this point several forest tree species which have been facing serious threat, such as some *Diospyros* Spp, *Eusideroxylon zwagery and Michelia* sp,will be further observed.

Activity 1.1.2. National technical workshop to observe protection and conservation status of selected forest tree species

The species reviewed in Activity 1.1.1 will be further discussed in the national workshop to look at the the status of conservation and to determine immediate action for protection and conservation.

Output 1.2. Information on the level of genetic diversity and vulnerability of threatened species obtained

Activity 1.2.1. Observe the level of genetic diversity and vulnerability of selected species to determine the conservation strategy of the selected species

Field assessment will be carried out and sources of DNA materials from representative natural distributions will be collected to observe the existing level of genetic diversity in its natural distribution and the vulnerability status. This activity also includes the field check to obtain information on the current status of their population in natural range of distribution,

Activity 1.2.2. National Technical workshop for the result of Activity 1.2.1

The result of activities 1.2.1 will be discussed further in the technical workshop by inviting relevant stakeholders and expertise in order to formulate their conservation strategy and to prevent further loss and or extinction of these species.

Output 1.3. The establishment of plant genetic conservation garden (gene pool) as to ensure the conservation of target species initiated and local stakeholder capacity improved.

Activity 1.3.1. National workshop to review the existing plant genetic resources areas (gene pool)

The result of activity 1.2.1 and 1.2.2 will be further discussed in a National Workshop by inviting relevant stakeholder (including local stakeholders), research institutions, universities and NGO. In this workshop, the plant genetic resources areas will be further explored. The existing plant genetic resource conservation in conservation areas, production forest, botanical garden and other types of plant genetic conservation will be further observed for their effectiveness.

Activity 1.3.2. The establishment of plant genetic conservation gardens of the selected species in some representative areas and local stakeholders' capacity building through awareness raising and technical workshop.

This activity will be the operational activities and follow up of the Activity 1.3.1, Several secure and manageable sites for the establishment of gene pool will be initiated. This includes capacity building (awareness raising) on the importance of conservation and protection of natural resources, especially forest tree species.

3.3. Strategic Approach and Methods

In the operational activities of this project, a collaborative work with relevant stakeholders will be established. The key target beneficiaries, such as Ministry of Forestry, Ministry of Environment, BAPPENAS, National Institute of Science (LIPI) and some other universities and NGO, will be invited to participate, especially on the technical workshop to review and up-date data and information on forest tree species, especially those are currently under serious threat. The information also includes the level genetic diversity (variation) of particular species, which will indicate the vulnerability and adaptability of species in adverse environment, by employing existing molecular genetics. The project will also provide awareness raising (capacity building) on the concern of biodiversity loss and the importance of sustainable utilization of species, conservation and protection of species through a national workshop and technical discussion. This awareness raising will be conducted in several sites as a complimentary part of the establishment of plant genetic resources area (gene pool). Under certain activity, a small review on the effectiveness of the conservation of species in public property will also be conducted.

Conservation garden will be established by pooling all genetic materials of the species throughout its provenances. Sufficient number of genetic materials in the form of seeds and or seedlings will be collected from each representative provenance. The number of individual collected from each provenance will be determined by the analyses of genetic diversity. The total area allocated for this purposes is at least 2 ha for each site location and planting the genetic materials will be arranged for further tree improvement program and or a genetic base population. The choices of site are dependent on its accessibility and land security for long term uses/observation. The candidate sites are research stations, protection/conservation area and educational/public forests managed by provincial forest services, Research institution and or universities.

Conservation garden for *E.zwagery* will be established in Southern parts of Sumatra (Jambi and or Palembang) and in Samboja Research Station in East Kalimantan and or Banjarbaru. Whereas, *Diospyros spp* will be established/expanded somewhere in South Sulawesi and Java.

Conservation gardens for *Michelia spp* will be established in South Sumatra/Lampung (for *M. velutida*) and in West Java for other species of *Michelia* (and or *Magnolia*).

3.4. Work plan

Output/Activities	Responsible Party	Year 1				Year 2			
		1	2	3	4	1	2	3	4
Output 1.1. Data and information on conservation and protection status of tree species up-dated and reviewed.									
Activity 1.1.1. Review the current status of forest tree species currently threatened by habitat disturbance	NE of CFNCRD								
Activity 1.1.2. National technical workshop to observe protection and conservation status of selected forest tree species	PM								
Output 1.2. Information on the level of genetic diversity and vulnerability of threatened species obtained									
Activity 1.2.1. Observe the level of genetic diversity and vulnerability of selected species to determine the conservation strategy of the selected species	NE of CBTIR								
Activity 1.2.2. National Technical workshop for the result of Activity 1.2.1	PM								
Output 1.3. The establishment of plant genetic conservation garden (gene pool) as to ensure the conservation of target species initiated and local stakeholder capacity improved.									
Activity 1.3.1. National workshop to review the existing plant genetic resources areas (gene pool)	PM								
Activity 1.3.2. The establishment of plant genetic conservation gardens of the selected species in some representative areas and local stakeholders' capacity building through awareness raising and technical workshop.	NE of CBTIR and Relevant parties								

Abbreviation/Note:
NE = National Expert, as listed in ANNEX 2
PM = Project Management
CFNCRD-Center for Forest and Nature Conservation R&D
CBTIR-Center for Biotechnology and Tree Improvement Research

3.5. Budget

3.5.1.1. Master budget Table

Outputs / Activities	Description	Budget Component	Quantity		Unit Costs	Total cost	ITTO		Executing agency	
			Year 1	Year 2			Year 1	Year 2	Year 1	Year 2
Output 1.1.	**Data and information on conservation and protection status of tree species up-dated and reviewed.**									
A1.1.1	**Review the current status of forest tree species currently threatened by habitat disturbance**									
	(1). WM National Experts	11.2	6	0	1,500	9,000	9,000	-	-	-
	(2). MD Other labors	12.1	60	0	15	1,200	900	-	300	-
			20*	0						
	(3). Days-Daily Subsistence Allowance	31.2	20	0	60	1,200	1,200	-	-	-
	(4). Return tickets	33	4	0	200	800	800	-	-	-
	(5). Local transport costs for others	32.2	4	0	150	600	600	-	-	-
	(6). Consumable items	54	2	0	500	1,000	1,000	-	-	-
	(7). Miscellaneous	66	2	0	500	1,000	1,000	-	-	-
	Sub Total activity 1.1.1					**14,800**	**14,500**	**-**	**300**	**-**
A 1.1.2	**National technical workshop to observe protection and conservation status of selected forest tree species**									
	(1). Travel/transportation	32.1	1	0	1,000	1,000	1,000	-	-	-
	(2). Days-Daily subsistence Allowance	31.1	1	0	800	800	800	-	-	-
	(3). Venue and Logistic	63	1	0	1,000	1,000	1,000	-	-	-
	(4). Workshop Materials	52	1	0	750	750	750	-	-	-
	(5). Others	64	1	0	1,000	1,000	1,000	-	-	-
	Sub Total activity 1.1.2.					**4,550**	**4,550**	**-**	**-**	**-**
Output 1.2.	**Information on the level of genetic diversity and vulnerability of threatened species obtained**									
A 1.2.1	**Observe the level of genetic diversity and vulnerability of selected species to determine the conservation strategy of the selected species**									
	(1). MM. National Expert	11.2	6	0	1,500	9,000	9,000	-	-	-
	(2). MD Other labors	12.1	60	0	15	900	900	-	-	-

	(3). Days-Daily Subsistence Allowance	31.2	40	0	60	2,400	2,400	-	-	-
	(4). Return Tickets	33	10	0	200	2,000	2,000	-	-	-
	(5). Local transport costs for others	32.2	2	0	150	300	300	-	-	-
	(6). Materials/supplies	51	2	0	3,000	6,000	6,000	-	-	-
	(7). Fuel and Utilities	53	1	0	250	250	250	-	-	-
	(8). Other Consumable items	54	3	0	250	750	750	-	-	-
	(9). Other miscellaneous	66	3	0	250	750	750	-	-	-
	Sub Total activity 1.2.1					**22,350**	**22,350**	**-**	**-**	**-**
A 1.2.2	**National Technical workshop for the result of Activity 1.2.1**									
	(1). Travel/transportation	32.1	0.5	0.5	1,000	1,000	500	500	-	-
	(2). Days-Daily subsistence Allowance	31.1	0.5	0.5	800	800	400	400	-	-
	(3). Venue and Logistic	63	0.5	0.5	1,000	1,000	500	500	-	-
	(4). Workshop Materials	52	0.5	0.5	750	750	375	375	-	-
	(5). Others	64	0.5	0.5	1,000	1,000	500	500	-	-
	Sub Total activity 1.2.2.					**4,550**	**2,275**	**2,275**	**-**	**-**
Output 1.3.	**The establishment of plant genetic conservation garden (gene pool) as to ensure the conservation of target species initiated and local stakeholder capacity improved.**									
A.1.3.1	**National workshop to review the existing plant genetic resources areas (gene pool)**									
	(1). Travel/transportation	32.1	0	1	1,250	1,250	-	1,250	-	-
	(2). Days-Daily subsistence Allowance	31.1	0	1	1,250	1,250	-	1,250	-	-
	(3). Venue and Logistic	64	0	1	1,250	1,250	-	1,250	-	-
	(4). Workshop Materials	52	0	1	750	750	-	750	-	-
	(5). Others	64	0	1	1,000	1,000	-	1,000	-	-
	Sub Total activity 1.3.1.					**5,500**	**-**	**5,500**	**-**	**-**
A.1.3.2.	**The establishment of plant genetic conservation gardens of the selected species in some representative areas and local stakeholders' capacity building through awareness raising and technical workshop.**									
	(1). WM National Experts	11.2	0	6	1,500	9,000	-	9,000	-	-
	(2). MD Other labors	12.1	0	100	15	1,500	-	1,500	-	-

	(3). Days-Daily Subsistence Allowance	31.2	0	60	60	3,600	-	3,600	-	-
	(4). Return tickets	33	0	6	200	1,200	-	1,200	-	-
	(5). Local transport	32.2	0	4	150	600	-	600	-	-
	(6). Materials	51	0	6	500	3,000	-	3,000	-	-
	(7). Consumable items	54	0	3	500	1,500	-	1,500	-	-
	(8). Miscellaneous	66	0	3	500	1,500	-	1,500	-	-
	Sub Total activity 1.3.2					**21,900**	**-**	**21,900**	**-**	-
	Non Activity based expenses									
	(1). Project Coordinator	11.1	12	12	500	12,000	6,000	6,000	-	-
	(2). Project Secretary & finance	11.3	12	12	350	8,400	4,200	4,200	-	-
	(3). Days- Daily Subsistence Allowance	31.2	5	5	60	600	300	300	-	-
	(4). Return tickets	33	2	2	200	800	400	400	-	-
	(5). Local Transport	32.2	2	2	150	600	300	300	-	-
	(6). Office space	41	0	0	7,500	15,000	-	-	7,500	7,500
			1*	1*						
	(7). Fuel and utilities	53	1	1	250	1,000	250	250	250	250
			1*	1*						
	(8). Other Consumable items	54	1	1	250	500	250	250	-	-
	(9). Sundry	61	1	1	250	3,000	250	250	1,250	1,250
			5*	5*						
	(10). Printing report and editing	65	3	3	1,500	9,000	4,500	4,500	-	-
	(11). Other miscellaneous	66	1	1	250	3,000	250	250	1,250	1,250
			5*	5*						
	(12). Audit cost	62	1	1	1,000	2,000	1,000	1,000	-	-
	Sub total non activity based expenses					**55,900**	**17,700**	**17,700**	**10,250**	**10,250**
Total Budget						**129,550**	**61,375**	**47,375**	**10,550**	**10,250**

*** Executing agency in kind contribution**

3.5.1.2. Consolidated budget by component

Category	Description	Total	Year 1	Year 2
10	**Personnel**			
11	National Expert			
	11.1. Project Coordinator	12,000	6,000	6,000
	11.2. Expert	27,000	18,000	9,000
	11.3. Project secretary	8,400	4,200	4,200
12	Other Personnel			
	12.1. Other Labors	3,600	2,100	1,500
19	**Component Total**	**51,000**	**30,300**	**20,700**
20	**Sub Contract**			
21	Sub contract	0	0	0
22	Sub contract	0	0	0
29	**Component Total**	**0**	**0**	**0**
30	**Duty Travel**			
31	Daily Subsistence Allowance			
	31.1 Workshop (DSA package)	2,850	1,200	1,650
	31.2.Others	7,800	3,900	3,900
32	Local transport costs			
	32.1. Travel/transportation package	3,250	1,500	1,750
	32.2. Other local transport	2,100	1,200	900
33	Return ticket	4,800	3,200	1,600
39	**Component Total**	**20,800**	**11,000**	**9,800**
40	**Capital Items**			
41	Office Space	15,000	7,500	7,500
49	**Component Total**	**15,000**	**7,500**	**7,500**
50	**Consumable Items**			
51	Materials/supplies	9,000	6,000	3,000
52	Workshop Materials	2,250	1,125	1,125
53	Fuel and utilities	1,250	750	500
54	Other Consumable items	3,750	2,000	1,750
59	**Component Total**	**16,250**	**9,875**	**6,375**
60	**Miscellaneous**			
61	Sundry	3,000	1,500	1,500
62	Audit Costs	2,000	1,000	1,000
63	Venue and Logistic	3,250	1,500	1,750
64	Others for the workshop	3,000	1,500	1,500
65	Printing	9,000	4,500	4,500
66	Other miscellaneous	6,250	3,250	3,000
69	**Component Total**	**26,500**	**13,250**	**13,250**
70	**National management cost**	**19,433**		
80	**Project monitoring and administration**			
81	Monitoring and Review Costs	12,000		
82	Ex-post project evaluation	10,000		
83	Programme Support Costs	10,460		
84	Donor Monitoring costs	8,500		
89	**Component Total**	**40,960**		
90	**Refund of Pre-Project Costs**	**0**		
100	**GRAND TOTAL**	**189,943**		

3.5.1.3. ITTO Yearly budget

Category	Description	Total	Year 1	Year 2
10	**Personnel**			
11	National Expert			
	11.1. Project Coordinator	12,000	6,000	6,000
	11.2. Expert	27,000	18,000	9,000
	11.3. Project secretary	8,400	4,200	4,200
12	Other Personnel			
	12.1. Other Labors	3,300	1,800	1,500
19	**Component Total**	**50,700**	**30,000**	**20,700**
30	**Duty Travel**			
31	Daily Subsistence Allowance			
	31.1 Workshop (DSA package)	2,850	1,200	1,650
	31.2.Others	7,800	3,900	3,900
32	Local transport costs			
	32.1. Travel/transportation package	3,250	1,500	1,750
	32.2. Other local transport	2,100	1,200	900
33	Return ticket	4,800	3,200	1,600
39	**Component Total**	**20,800**	**11,000**	**9,800**
50	**Consumable Items**			
51	Materials/supplies	9,000	6,000	3,000
52	Workshop Materials	2,250	1,125	1,125
53	Fuel and utilities	750	500	250
54	Other Consumable items	3,750	2,000	1,750
59	**Component Total**	**15,750**	**9,625**	**6,125**
60	**Miscellaneous**			
61	Sundry	500	250	250
62	Audit Costs	2,000	1,000	1,000
63	Venue and Logistic	3,250	1,500	1,750
64	Others for the workshop	3,000	1,500	1,500
65	Printing	9,000	4,500	4,500
66	Other miscellaneous	3,750	2,000	1,750
69	**Component Total**	**21,500**	**10,750**	**10,750**
70	**National management cost**	**(See executing agency budget)**		
80	**Project monitoring and administration**			
81	Monitoring and Review Costs	12,000		
82	Ex-post project evaluation	10,000		
83	Programme Support Costs	10,460		
84	Donor Monitoring costs	8,500		
89	**Component Total**	**40,960**		
100	**GRAND TOTAL**	**149,710**		

3.5.1.4. Executing Agency Yearly budget (GOI in kind contribution)

Category	Description	Total	Year 1	Year 2
10	**Personnel**			
12	Other Personnel			
	12.1. Other Labors	300	300	0
19	**Component Total**	**300**	**300**	**0**
40	**Capital Items**			
41	Office Space	15,000	7,500	7,500
49	**Component Total**	**15,000**	**7,500**	**7,500**
50	**Consumable Items**			
53	Fuel and utilities	500	250	250
59	**Component Total**	**500**	**250**	**250**
60	**Miscellaneous**			
61	Sundry	2,500	1,250	1,250
66	Other miscellaneous	2,500	1,250	1,250
69	**Component Total**	**5,000**	**2,500**	**2,500**
70	**National management cost**	**19,433**		
100	**GRAND TOTAL**	**40,233**		

PART 4. IMPLEMENTATION ARRANGEMENT

4.1. Executing Agency and Organization Structure

The proposed project will be executed by Center for Forest and Nature Conservation Research and Development (CFNCRD). In the operational activities, the project will establish cooperation with other relevant organizations, such as Center for Biotechnology and Tree Improvement Research (CBTIR), LIPI and Regional Research Center. These Centers are under Forestry Research and Development Agency (FORDA, Ministry of Forestry (MOF), whose main duties are conducting research and development on forestry related issues and providing scientific basis for the formulation of policy in Forestry. These institutions have long experience and expertise in the execution of national and international level projects and have been facilitated with experienced and qualified personnel, modern and complete biotechnology laboratories and research stations and other supporting facilities.

These institutions have established R&D cooperation with ITTO, ACIAR, JICA, TOPENBOS, and other related organizations.

CFNCRD will be responsible for management and operational activities of the project and Expert and some personnel from the collaborating organizations will execute certain activities related to its expertise and available facilities.

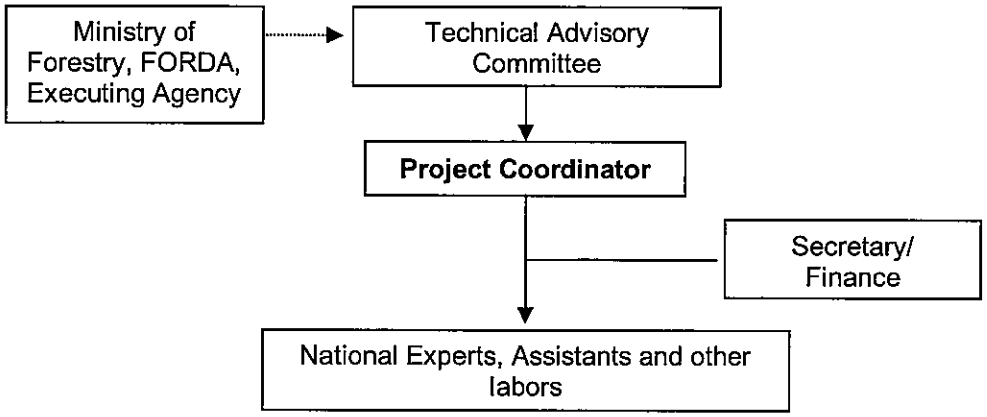
Regional Research Center (RRC) and other agencies located In field site will be collaborating agencies of this project at field level in Sumatra, Kalimantan and Sulawesi based on the concerned species.

4.2. Project Management

All project operational activities will be under the direction of a Technical Advisory Committee (TAC) which will be officially formed by Executing Agency. TAC will consist of Forestry Research and Development Agency (FORDA), Directorate Biodiversity Conservation (DG PHKA), Center for International Cooperation and Division of Research Cooperation within FORDA. These institutions are under Ministry of Forestry.

Day to day management will be carried out by a Project Management which consists of a Project Coordinator, Project Secretary (finance) and assistance and other qualified personnel required by project (Figure 4). The pre-determined Project Coordinator will be officially assigned by FORDA and the name is listed in the Appendix. Project Secretary (and finance), assistants (if any) and National Expert will be officially contracted by Project Coordinator from the pre-determined personnel (project key personnel) as listed in ANNEX 2 with the approval from ITTO. Only in certain circumstance, the National Experts appear in ANNEX 2 may be replaced with other staffs. Detail Profile of Executing Agency (FORDA) and CV's of key personnel are presented in ANNEX 1 and 2.

Figure 4. Organization Structure of Project



4.3. Monitoring and Reporting

a. Inception Report

Inception report containing immediate plan for operational activities and amendment, if any, will be submitted soon after MOU between ITTO and Executing Agency signed.

b. Project Progress Reports

An Overall Project Progress Report will be prepared and submitted bi-annually to ITTO, February and August in each year of project implementation. The Project Progress Report encompasses all activities of the projects. Project Coordinator is responsible for the preparation of the Overall Project Progress Report and submission to ITTO.

c. Project Completion Report

Project Completion Report will be prepared upon the completion of the project, or in any case within three months after the project completion. A Project Completion Report will be prepared and submitted to ITTO along with other necessary Reports.

d. Project Technical Reports

Project Technical Reports will be prepared for each activity as the verification of outputs. The Technical Report is submitted case by case or at least within three months after the project completion.

e. Technical Advisory Committee, Monitoring and Review

A Technical Advisory Committee (TAC) of the project will be formed by CFNCRD-FORDA. Members of the TAC will be determined and assigned by CFNCRD-FORDA as described in the Management Structure. TAC will be responsible for the direction and interim evaluation of the project, monitor and review the project progress on a regular basis, at least once every 12 months.

f. Evaluation

Project evaluation will be carried out if monitoring results has made strong recommendation to do so.

ANNEX 1. Profile of the Executing/Implementing Agency

Center for Forest and Nature Conservation Research and Development (CFNCRD) is under Forestry Research and Development Agency (FORDA), located in Jalan Gunung Batu, No. 5 Bogor (West Java). CFNCRD is a subsidiary body of the Ministry of Forestry and holder of scientific authority on forestry, and therefore responsible for the availability of scientific information and technologies for decision making as well as for practical uses. CFNCRD was first established in late 1950s and re-established in 1983 under FORDA.

Some of CFNCRD missions are to conduct research and development on all aspects related to the conservation of forest and nature including the conservation of plant genetic resources, in-situ and ex-situ. This mission is directed to contribute the achievement of SFM through the provision of scientific information.

CFNCRD is supported with laboratory facilities, nurseries and research sites distributed in a wide range of ecological distribution in Sumatra, Kalimantan and other major islands. CFNCRD employs nearly 100 staffs and more than 60 research scientists with PhDs, Master degree and Bachelors with high level of expertise and experience in related fields. In operational activities, CFNCRD establishs research collaboration with Regional Research Centers and other relevant local organizations.

CFNCRD receives annual budget up to Rp. 8 000 000 000 (Sixteen billions rupiah) equivalent to US$ 8 000 000 (Sixteen millions US Dollars). Both CFNCRD has long experience in managing collaborative works with local and international institutions, such as JICA, DFID, European Union, ACIAR and ITTO Projects.

ANNEX 2. NAME, POSITION AND CV OF KEY PERSONNEL

Names and position in the project

No	Name of key staffs, National Experts	Field of Expertise/ Institutions	Position and role in the Project
1.	Hesti Lestari Tata, BSc, PhD	Ecology-Silviculture, CFNCRD	Project Coordinator
2.	Siti Nurjanah, SP, MP	Administrative/Finance, Affiliation with CFNCRD	Project Secretary/Finance (Project Formulator)
3.	Tajudin Edy Komar, Ir.M.Sc	Forest Ecology-Silviculture, CFNCRD	National Expert for Activity 1.1.1. (Project Formulator)
4.	Antonius YPBC Widiyatmoko, Ir. PhD	Molecular genetics, CBTIR	National Expert for Activity 1.2.1
5.	Moch. Charomaeni, Ir. Mr	Forest Conservation, CBTIR	National Expert for Activity 1.3.2

Curriculum Vitae of Key Personnel

1. Hesti Lestari Tata, Ir. PhD

Name : Hesti Lestari Tata, Ir, PhD.
Date and place of birth and nationality : Denpasar, May 1970, Indonesian

Field and Institution of Graduation :

Faculty of Mathematics and Sciences,
Bogor Agriculture University, Indonesia, 1993.

Field and institution of Post Graduation :

Post Graduate Programme, Faculty of Forestry
Bogor Agriculture University, Indonesia, 2001.

Department of Plant Ecology and Biodiversity,
Utrecht University, Utrecht, The Netherlands, 2008.

Experience with ITTO Projects

- Team Leader for some activities for Indonesia's Work Program for 2008 ITTO CITES Project (2009)

2. Siti Nurjanah

Name : Siti Nurjanah
Date and place of birth and nationality : Bandung, West Java, Indonesian

Field and Institution of Graduation :

Department of Socio-Economic, Faculty Agriculture
Padjadjaran University, Bandung, 1997

Field and institution of Post Graduation :

Agricultural of Economic Science
University of Padjadjaran, Bandung, 2003

Experience with ITTO Projects

- Administrative Staff of ITTO Pre - Project PPD 19/99 Rev. 1 (F) – (2000-2002)

- Project Secretary of ITTO Pre-Project PPD 87/03 Rev.1 (F): Identification on *Gonystylus* spp (Ramin) potency, distribution, conservation and plantation barrier. 2005

- Project Secretary of ITTO PD426/06 Rev.1 : The prevention of further loss and the promotion of rehabilitation and plantation of ramin (Gonystylus spp) in Sumatra and Kalimantan (2007-2009)

3. Tajudin Edy Komar, Ir., MSc.

Name : Ir. Tajudin Edy Komar, MSc.
Date and place of birth and nationality : South Sumatra, October 1958, Indonesian

Field and Institution of Graduation :
Silviculture (Forest Management), Faculty of Forestry
Bogor Agricultural University, Bogor, 1984

Field and institution of Post Graduation :
Forest Biology, Faculty of Graduate Studies, University of Victoria,
Victoria, British Columbia, Canada 1996.

Experience with ITTO Projects

- Consultant in ITTO Project PD89/00 Rev 3(F): Limitation to regeneration in Production Forest, Malinau Research Forest, East Kalimantan

- Project Formulator ITTO Pre-Project PPD 87/03 Rev.1 (F): Identification on *Gonystylus* spp (Ramin) potency, distribution, conservation and plantation barrier. Project approved and financed

- Co-Project Formulator for ITTO PD277/04 Rev.3 (I). Promoting Selected Non-Timber Forest Product Based on Community Participation Approach to Support Sustainable Forest Management in East Kalimantan. Project approved and financed.

- Project Coordinator for ITTO PD426/06 Rev.1 : The prevention of further loss and the promotion of rehabilitation and plantation of ramin (Gonystylus spp) in Sumatra and Kalimantan (2007-2009)

4. Antonius YPBC Widiyatmoko, Ir. PhD

Name : Dr. Ir. Antonius YPBC Widiyatmoko.
Date and place of birth and nationality : Indonesia, 1968, Indonesian

Field and Institution of Graduation :
Faculty of Forestry
Gajah Mada Unniversity, Yogyakarta, 1990

Field and institution of Post Graduation :
Faculty of Graduate Studies, Kyushu University,
Kyushu, Japan 2003.

Experience with ITTO Projects

- Consultant for ITTO Project PD426/06 Rev.1: The prevention of further loss and the promotion of rehabilitation and plantation of ramin in Sumatra and Kalimantan.

5. Ir. Moch Charomaini, MF

Name : Ir. Moch Charomaini, MF
Date and place of birth and nationality : Yogyakarta, October, 1951,Indonesian

Field and Institution of Graduation :
Faculty of Forestry
Gajah Mada University, Yogyakarta, 1977

Field and institution of Post Graduation and training:
Seed Technology, Massesy University, New Zealand, 1982
Forest Tree Improvement, Michigan State University, 1985
Forest Tree Improvement, North Carolina State University, USA, 1991.

Experience with ITTO Projects

- Consultant for various ITTO Project in Indonesia
- Consultant/Counter expert of JICA on forest genetics and Tree Improvement-Yogyakarta
- National Resource Person for Indonesia on Collaborative work of ITTO and Regional Center for Forest Management, Malaysia. Project title: *In-situ* and *ex-situ conservation* of tropical Asia and the Pacific Forest Species.

ANNEX 3. TERM OF REFERENCE OF PERSONNEL AND CONSULTANT FUNDED BY ITTO

1. Project Coordinator

A Project Coordinator will be hired to lead and manage the whole operational activities for this project. The Project Coordinator will be officially appointed by Center for Forest and Nature Conservation Research and Development based on his/her qualification, time availability and the recommendation (approval) of Technical Advisory Committee.

Responsibilities: lead operational activities of project, work closely with parties and personnel involved in the project operational activities and responsible to CFNCRD through TAC and prepare progress, technical and final technical reports under the direction of CFNCRD.

Name of Project Coordinator as the date of documents preparation is listed in ANNEX 2.

2. Project Secretary/Finance

A Project Secretary/Finance will be hired to assist project coordinator in the operational activities of the project, especially on the administrative and financial matters. The Project Secretary/finance will be officially hired by Project Coordinator, whose name is listed in ANNEX 2 and has been long experience working with ITTO Project. However, this assignment will be made based on her time availability.

Responsibilities: Assist in all administrative and financial matters of the project and work closely with parties and personnel involved in the project operational activities.

Name of Project Secretary/Finance as the date of document preparation is listed in ANNEX 2.

3. National Experts

National Experts (NE) as listed in ANNEX 2 will be officially assigned to execute the activity (s) concerned. The NEs have involved in the preparation of the document, posses the required expertise and experience, have been working at least 2 years in related field and sufficient knowledge on forest biologi, ecology and conservation. In addition the NEs have been working with ITTO Project.

Responsibilities: The expert (s) will be responsible to carry out activities assigned, with agreed team work and or collaborative institution. Detail work description is provided based on each activity (assignment). The expert (s) prepares one technical report in accordance with the activity concerned. The submission of the technical report, final draft of technical report is within the period of assignment based on agreement normally within 2 months. The technical report must be presented in the meeting held by the project or concurrently with other meeting

Qualification, time and payment: Hold at least Master degree and or 2-3 years experience in related field as described above, good understanding in English both oral and written. Expert will carry out activity concerned within time allocated by the project. Rate of payment is in accordance with the budget allocated as appear in Budget Sheet and the experience of the experts.

Names of National Experts ad the date of document preparation are listed in ANNEX 2.

ANNEX 4. 38th Expert Panel Recommendations

No.	38th Expert Panel Recommendations	Revised	Page
1.	Refine the presentation of the specific objective by merging two into one, taking into account the objective tree which shows one objective in order to solve the key problem identified;	- See Summary, paragraph 2 - See part 2, figure 3. The Objective Tree of the proposed project - See part 2, section 2.3.2. Specific Objective and outcome indicators	Cover page, 9, and10
2.	Specify the species to be targeted by the project including their local/commercial names with justification and provide a short reference on the selected species;	- See Summary, paragraph 1 - See part 1, section 1.3.2. Target Species and brief reference	Cover page, 3 - 4
3.	Provide more information on the establishment of plant genetic conservation gardens for the selected species; and	See part 3, section 3.3. Strategic Approach and Methods, paragraph 2 - 4	13
4.	Provide an Annex showing the recommendations of the Thirty-eighth Expert Panel and the respective modifications made in tabular form. Modifications should be highlighted **(bold and underlined)** in the text.	See Annex 4. 38th Expert Panel Recommendations	28