

INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT DOCUMENT

TITLE	IMPROVING FOREST FUNCTIONS IN BENGKULU PROVINCE THROUGH COMMUNITY PARTICIPATION IN REHABILITATION OF DEGRADED FOREST BY USING LOCAL PROSPECTIVE COMMODITIES
SERIAL NUMBER	PD 477/07Rev.4 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF INDONESIA
ORIGINAL LANGUAGE	ENGLISH

SUMMARY

Large portion of forest area, especially in production forest in the Province of Bengkulu has been severely degraded. The degradation area has been reaching approximately 139.702,86 ha or about 62.07% from its region. This environmental damage has caused poverty and at the same time could produce potential disaster to the lowland area in the province. This high degradation rate is caused by illegal logging, lack of land rehabilitation and protection, poverty in and around forest, economic pressure, lack of social awareness on forest function and poor law enforcement.

The proposed project is, therefore, intended to improve the forest ecosystem and economic function and community prosperity through rehabilitation and forest plantation using local prospective commodities. This rehabilitation and plantation will be carried out by involving local community in most activities of the proposed project. The Development Objective of this proposed project is to contribute to sustainable forest management in Bengkulu provincial forest through rehabilitation and community prosperity improvement by planting local prospective commodities. The specific objectives of the project are (1) To implement suitable technology for production of high quality planting materials of locally adapted and prospective commodities for plantation (2) To improve stakeholder involvement and community prosperity through successful rehabilitation and plantation of local prospective commodities.

The expected outputs of the project are: (1) Seed sources of selected species identified and their suitable technology developed. (2) Technical guidelines for plantation technology of the selected species developed and disseminated, (3) High quality planting materials produced and distributed and (4) Community forestry plantation model developed.

EXECUTING AGENCY FORESTRY SERVICE OF BENGKULU PROVINCE

COOPERATING AGENCY UNIVERSITY OF RATUSAMBAN

DURATION 36 MONTHS

APPROXIMATE STARTING DATE TO BE DETERMINED

BUDGET AND PROPOSED SOURCES OF FINANCE	Source	Contribution in US\$
	ITTO	338,256
	Gov't of Indoensia	92,168 (in-kind)
	TOTAL	430,424

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PART I. CONTEXT

1. Origin

Forest area in the province of Bengkulu (Figure 1) is approximately 920.964 ha or approximately 46.54% out of province's total area. The specific characteristics of forest area in Bengkulu province is its typical distribution forming a narrow strip from the North to the South East of Sumatra. The vast portion of this area is located in the mountainous area with relatively higher elevation. By this characteristic, this forest area is highly important and its ecosystem function as source of water for the lower landscape is very critical. Likewise, the forest is also very critical to stabilize a whole ecosystem in the catchments area and function to protect from flooding, land sliding etc which are related to the rainfall.

Ironically, most of this forest area has been converted to other uses (approximately 43.15%) such as for coffee, rubber tree, palm oil plantation, paddy and other agricultural uses and the remaining forest areas, approximately 523.429 ha or 56.85% has also been severely degraded of over 62% from that area (Land Coverage Map of Bengkulu Province, 2003). Its forest degradation rate (deforestation), especially in production forest area, is recorded much higher than the rate of forest rehabilitation, which is only 3.15% within the last 3 years.

The major causes of forest degradation in this province are slightly similar to that of other provinces in Sumatra, such as overexploitation including illegal logging and conversion to other uses. Over exploitation, illegal logging and conversion are mostly due to poor law enforcement in the implementation of sustainable forest management, forest protection and conservation, lack of awareness on forest function and economic pressure (poverty and the lack of sustainable source of income). This situation, directly or indirectly, contributes to slow progressing in forest and land rehabilitation, poor forest protection and insignificant nature conservation efforts.

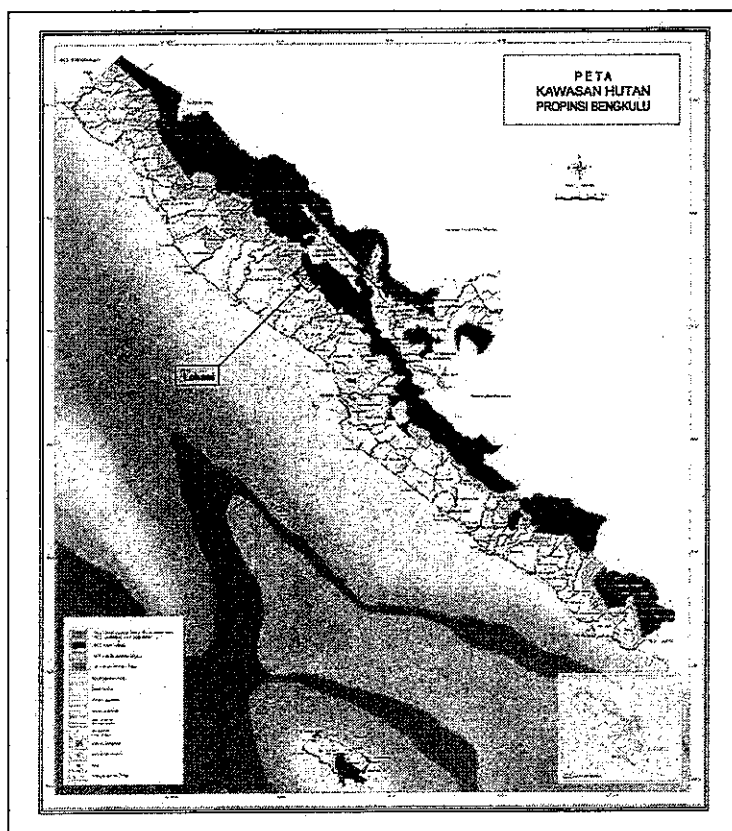


Figure 1. Map of Bengkulu Forest Area

For National level, Ministry of Forestry, has set out national level programs to restore forest resources and improve forest ecosystem, through (1) Eliminating illegal logging from state forest including its trade of illegal timbers, (2) The revitalization of forest sector, especially forest industry; (3) Rehabilitation and conservation of forest resources; (4) Empowering of social economic in and around forest area; (5) The establishment of forest region.

In order to restore the forest ecosystem as a whole and conserving the remaining forests at provincial level, Bengkulu Provincial Forest Service has put priorities in accordance with local specific problems, as described in the programs of Provincial Forest Service for the period of five year, until 2012. Intervention by ITTO Project is critically important to the acceleration of the achievement of the program objectives. This has not been specifically elaborated in the program. The newly proposed project could become the most important part in the provision of appropriate technology to enhance the improvement of propagation and plantation technology for most locally adapted species, the improvement of community forest and cooperation, community involvement (participation) and alternative sources of income, which in turn, will also improve community prosperity.

Several meetings and small workshops have been carried out since 2004 in Bengkulu, Jakarta and Bogor to discuss the all means to enhance rehabilitation success in Bengkulu provincial forests, including the possibility of proposing funding assistance. Results of the meetings and workshop, among others, are summarized below:

- 1). It is urgent to enhance the rehabilitation success of forest and land in Bengkulu.
- 2). The choice of species should be locally adapted species and having high economic potential, especially to local communities.
- 3). The project intervention is necessary and should focus on the development of propagation technology and its application in field plantation.
- 4). The project should involve local communities around the forest areas.

The four points above have been incorporated in this newly proposed project. The potential success of this proposed project is very high, especially due to the presence of several high economic value species which have been locally adapted and traditionally planted by local community. The technology for these timber species has not been developed so far. Even though these species posses potential economic value. Some of those species are kayu bawang or bambang lanang (*Michelia spp*), *Mangifera spp*, *Durio spp*, *Parkia spp* and many others including a non-timber forest product, such as rattan (*Calamus manan*).

2. Sectoral Policy

This proposed project is highly relevant to several International conventions, in which Indonesia has ratified, such as UNCBD and UNFCC. This proposal is relevant to the conservation and promotion of locally adapted species. For UNFCC, Indonesia actively participates to reduce gas emission and promote carbon sequestration through various types of reforestation. Those efforts have been translated into various national programs in rehabilitation and plantation activities, such as National Movement for Forest and Land Rehabilitation, the national movement for planting of million trees, the national movement for go planting at child and harvesting at old and other small-scale plantation program in forest areas and community lands. In addition to that, Ministry of Forestry has also launched a plan to establish Forest Community Plantation located in surrounding state forest area. The above mentioned movements are directed to improve forest ecosystem function and other economic function for community prosperity and national level agenda, such as for the production of timber for national economic growth and other sources of income for community prosperity which will, in turn, contribute to the sustainable management of forest resources.

The Province of Bengkulu, which has relatively small forest area but the higher percentage of degraded forest has also adopted and initiated several field activities related to National program on forest and land rehabilitation involving local community participation. Those activities (programs) have been accommodated in the Planning Strategy for Forest Management in Bengkulu Province for the period of 2006-2010. In this Planning Strategy some priorities have been included such as Speeding up forest and land rehabilitation, forest utilization for social welfare, conservation of natural resources, developing local prospective commodities and developing community forests. Provincial forest service provides various support program at provincial level such as forest and land inventory to produce site map, rough baseline information etc. However, the provincial forestry office has some limitation to facilitate all field needs, such as propagation and plantation technology for specific species which are specific to this province. The newly proposed project, therefore, is expected to contribute to the enhancement of the rehabilitation through the provision of appropriate and applicable technologies for these species involving local community participation.

3. Program and Operational Activities

Ministry of Forestry has launched several priority programs to achieve sustainable management of entire state and community forests. Two of the priority programs as have been mentioned earlier are (1) Rehabilitation and conservation of forest resources; (2) Empowering of social economic in and around forest area. The two priority programs have been implemented through various operational activities ever since with the target area of over 3 millions ha of rehabilitated areas of forest and land by the year 2012. The priority programs have also been decentralized into provincial level. Bengkulu provincial forest service has set out a plan to rehabilitate at least 280.000 ha degraded forest area and other community land surrounding provincial forest land.

To ensure the success of the rehabilitation programs, Provincial Forest Services coordinates the field implementation in assisting in the provision of high quality planting materials for plantation, developing technologies by collaborating with other agencies, empowering community and improving local community participation in forestry program and coordinating with other relevant stakeholders.

In this province and nearby areas, several studies have been carried out to support the rehabilitation program, especially on the choices of species through species trials, propagation and rehabilitation technologies and community empowerment model. Lessons for improving local community involvement could be taken from some existing ITTO projects, which are nearly similar to their background problems, such as PD210/03 Rev.3 (F): Participatory Establishment of collaborative sustainable forest management in Dusun Aro Jambi; PD271/04 Rev.2 (F): Rehabilitation of degraded forest land involving local communities in West Java; PD386/05 Rev.1 (F): Technological development for the production of planting materials to support sustainable plantation of Bali indigenous species through community participation.

In this proposed project, process of diagnostic, designing and delivery methods will be followed. At the diagnostic stage: the project will hold a workshop by inviting relevant stakeholder and local communities for sharing information, experience and the discussion of previous lessons learned. This will be carried out, especially, to support the formulation and implementation of model community-forestry development (Output 2.2.).

PART II: THE PROJECT

1 Project Objectives

1.1 Development Objective

To contribute to the sustainable forest management in Bengkulu provincial forest through rehabilitation and community prosperity improvement by planting local prospective commodities.

1.2 Specific Objective

The specific objectives of the project are as follows:

1. To implement suitable technology for production of high quality planting materials of locally adapted and prospective commodities for plantation
2. To improve stakeholder involvement and community prosperity through successful rehabilitation and plantation of local prospective commodities

2 Justification

2.1. Problems to be addressed

Provincial forest area in Bengkulu is approximately 920.964 ha or approximately 46.54% out of province's total area. The specific characteristic of forest area in Bengkulu Province is its distribution which forms a narrow strip from the North to the South East of Sumatra. The largest portion of this area is located in the mountainous area, spread along the higher elevation. The characteristics have made this forest area highly important, not only its function as source of water for the lower landscape, but also its function to stabilize a whole ecosystem in the lowland areas, especially to protect from flooding, land sliding and other types of erosion which related to the rainfall. Current management of this forest landscape seems to be unsustainable. Most of the area have been converted into other uses, approximately 43.15%, such as for traditional coffee plantation, rubber tree plantation, palm oil plantation and shifting cultivation. The remaining forest areas, approximately 523.429 ha (56.85% from total forest area) has also been degraded (Land Coverage Map of Bengkulu Province, 2003) with the rate of deforestation (especially in production forest area), much higher than the rate of forest rehabilitation activities (only 3.15% per year for the last 3 years).

The unsustainable forest management in Bengkulu Province is primarily caused by (a) unsustainable methods of harvest, illegal logging, encroachment and conversion to other uses, (b) lack of successful rehabilitation and plantation program, which is also related to (c) lack of stakeholders and community participation in the program management. The above three main causes are related to community poverty caused by limited sources of income and poor law enforcement, accumulatively, contribute to the rapid forest degradation and lost.

This proposed project addresses a problem related to poor rehabilitation and reforestation success in relation to the poor involvement of local stakeholders and community. This problem occurs due to (a) Lack or insufficient supply of planting materials for prospective species, which can contribute to the improvement of local stakeholders and communities prosperity and (b) poor involvement of local stakeholders and community in many forest related activities caused by insufficient direct contribution to the prosperity of local community and stakeholders. Several major causes for insufficient rehabilitation and forest plantation success have been identified,

such as still limited information on seed sources and supply for selected species, lack or undeveloped propagation and plantation technology. On the other hand poor involvement of local stakeholders and community due to the inappropriateness of the choices of species, poor knowledge and skill in propagation and plantation techniques and lack of awareness on the ecosystem functions (Figure 2. Problem Tree).

Lack or undeveloped propagation and plantation technology contribute to the unsuccessful implementation of plantation program. This is caused by the insufficient provision of high quality planting materials, especially for selected and prospective species for community sources of income. This has been a major cause in the poor performance of results in the National Movement for Forest and Land Rehabilitation in this area as well as other area. Insufficient provision of planting materials for selected species is caused by lack of information regarding the seed sources and undeveloped propagation technology. Furthermore, poor performance in the rehabilitation is also caused by lack of technical guidelines for specific species.

Poor involvement of stakeholders and community resulted in the inefficiency and ineffective uses of resources allocated for the rehabilitation program. Current involvement of stakeholders and community are limited only in planting and other field operational activities, such as land preparation, planting and maintenance. This proposed project, is therefore, aimed to enable wider community involvement not only in the plantation of provincial state forest but also plantation forestry in community lands. This is possible when the selection of species is based on the meeting between the community interest and rehabilitation purposes. The community will be interested in taking part in the plantation activity, when they receive direct benefits and contribute to the improvement of prosperity, such as the alternative sources of income. Local community in Bengkulu province and its surrounding areas, has been traditionally planting some prospective species, such as *M velutida*, *Durio spp*, *Parkia spp* and some other species. However, the plantation is very scattered, extremely limited in number and not well managed. This condition is caused by limited supply of planting materials, knowledge, skill and technology in plantation of those species as described above.

In order to restore the forest ecosystem as a whole and conserving the remaining forests and improve the achievement of program in rehabilitation and plantation, project intervention is critically important. The Provincial Government, through the assistance of the Ministry of Forestry, has carried out the national level programs (five priorities) to restore forest resources and protect remaining forest ecosystem. This also includes the National Movement for forest and land rehabilitation. The proposed ITTO project could contribute to the successful rehabilitation and plantation program through the improvement in the involvement (participation) of stakeholders and local community in identification of problems and community needs, identification of prospective commodities (species) to be planted, identification of seed source, developing technology for propagation and plantation in forest and community lands by using those prospective species.

Figure 2. Problem Tree

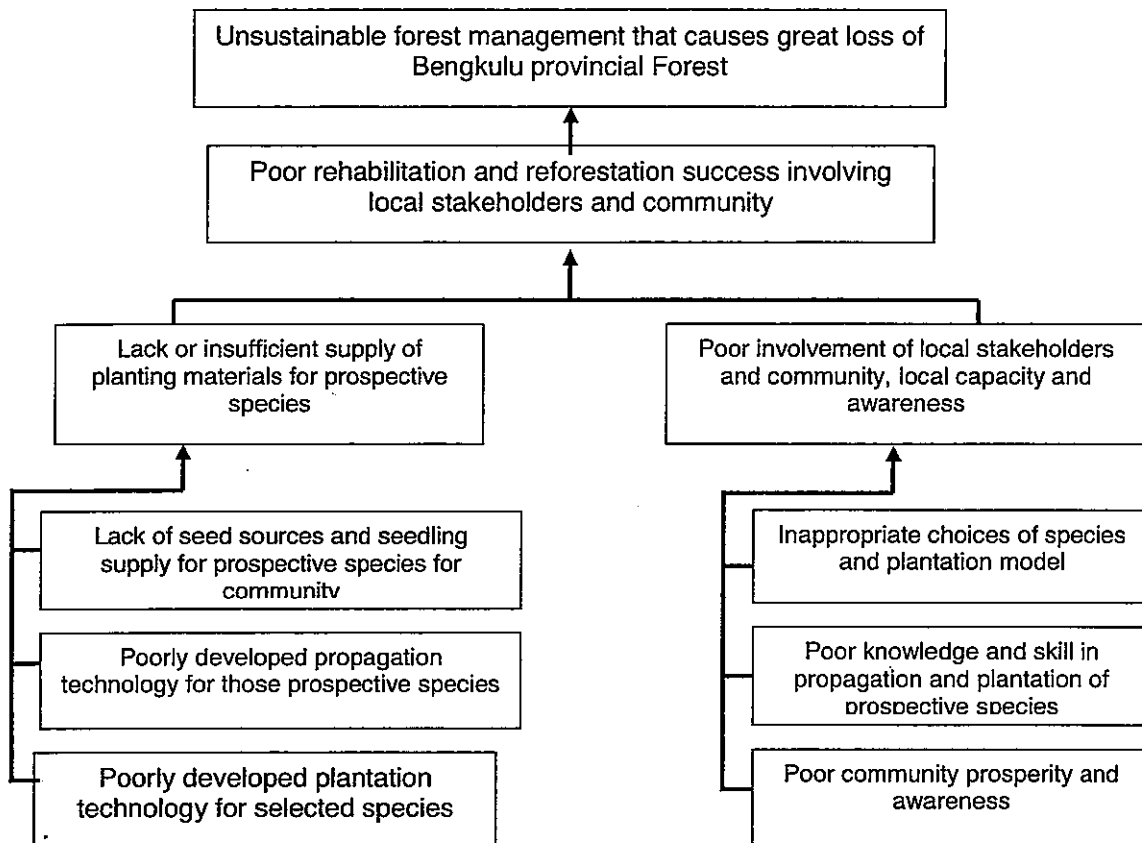


Figure 3. Objective Tree

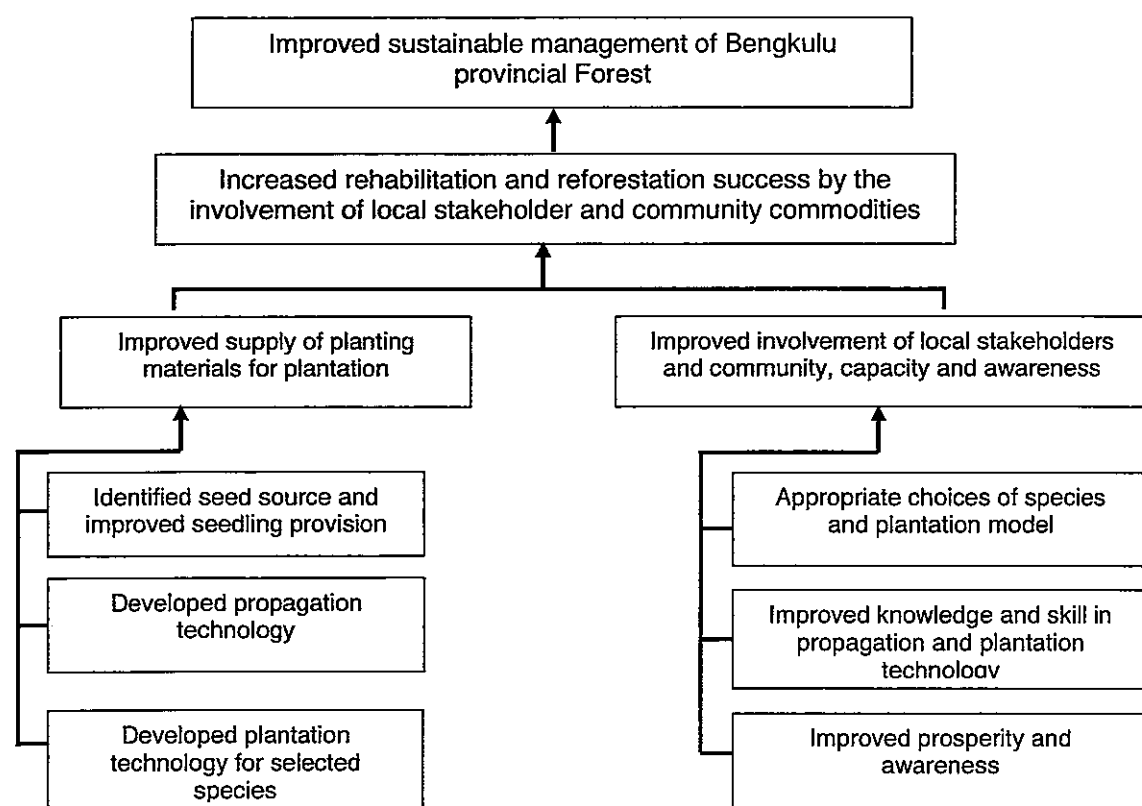


Table 1. Stakeholder Analyses

Institutions	Characteristic	Problem /needs/potential	Involvement
Local communities	Highly dependent on agricultural activities, low education, poverty and poor awareness	Lack of knowledge and skill in plantation of local prospective commodities, lack of alternative sources of income	Provide information on traditional plantation techniques, propagation technique, and preference species for the sources of income. <u>Local communities will directly involve In Activities 1.2.2;2.1.2 and 2.2.2 from the beginning of the process such as workshop or consultation meeting until the establishment of plantation in 3 different districts. Limited number of communities will also involve in other activities. This participation will improve their awareness and prosperity.</u>
Directorate General of Land Rehabilitation and Social Forestry, Ministry of Forestry	Key element in the implementation of land rehabilitation and social forestry throughout the country	Weak coordination and communication with provincial and district government in land rehabilitation	Formulation stage: Provide overall guidelines and concepts for rehabilitation and plantation program and facilitate communication
Provincial and District Forest Service	Key element in the planning / management of state forest	Lack of institution, human resource capacity, technology, law enforcement	Formulation stage: provide necessary information, map and detail of forest conditions and local community. Facilitate consultation meetings and discussion, Implementation stage: Facilitate the planning, the execution of project activities and future maintenance of project results
Universities of Ratu Samban/ Research Institutions	Prominent institution in the development of communities	Lack of facilitation, media, development / implementation of findings	Formulation Stage: Provide scientific data and information regarding the species, its propagation technique and social economic status of community. Actively involve in the

			project formulation and discussion meetings Implementation Stage: . Involve in the implementation of project and operational activities and distribution of project findings and outcome.
Local NGO	Play on important role in the community, development, extension	Lack of facilities , access to the community	Providing necessary information and share ideas and experience in community development and model

2.2. Intended Situation after Project Completion

Intended situation after project completions is the improved sustainable forest management indicated through the improvement of forest ecosystem, community/stakeholder participation in forest management and community prosperity.

Improved Forest Ecosystem

This proposed project is intended to improve forest ecosystem through the promotion of rehabilitation and plantation forestry in Bengkulu provincial forest and community forest. The success of rehabilitation and plantation could be achieved through the improvement of propagation technology to produce large number of high quality planting materials, especially for locally adapted species. The propagation technology includes the provision of high quality seeds of locally adapted, indigenous and local prospective commodities. This also includes the identification of potential seed sources in production forest, community forests and other sources of materials.

The rehabilitation success will be enhanced through the establishment of various plantation models previously carried out in Bengkulu and or adopted from other models that have similar in their characteristics and problems using local prospective commodities by involving local communities. Some of the proposed species, as mentioned earlier, have been widely distributed in these areas. By the involvement of local community in this program, the pressure to over and unsustainable harvest of natural resources will decline and in turn will improve forest ecosystem function.

Improved community participation, capacity and prosperity

This proposed project will involve community participation beginning with the problem analyses related o the community in relation to whole forestry management, planning process for rehabilitation and other field activities. By the involvement of community and related stakeholders, the awareness and sense of responsibility to forest ecosystem management will improve. These will be accelerated by the provision of alternative sources of income from the rehabilitation or plantation activities. The involvement of community is expected to enhance the awareness of local community on the ecosystem and economic function of forests, capacity and prosperity during and after the project period.

Improved Forest Plantation

Several models for community forest plantation will be established by utilizing locally adapted and adopted prospective commodities (species) by local communities. This model is expected

to be expanded to other areas through the provision of large quantity and high quality planting materials of those species, appropriate plantation techniques and better management for both direct and indirect sources of income for livings. By promoting indigenous and locally adapted species (both forest tree species and agricultural crops) will improve plantation success in Bengkulu.

2.3 Project Strategy

The overall objectives of this proposed project is to contribute to the sustainable management of Bengkulu natural and artificial forests through the implementation of suitable technology for propagation and plantation, establishment of plantation model involving local community and relevant stakeholders and improve awareness to whole management of forest ecosystem.

The project will mobilize local community in the implementation of project to achieve overall outputs. Wider participation of stakeholders and communities will be made to achieve Output 2.2 in three different stages: diagnostic, designing and delivery stage. Diagnostic stage involves several activities such as secondary and primary data collection, especially for the three target districts, participatory observation, household survey, key or community leader's interviews and workshops or consultation meetings. Selected members of the community will be hired for, during seed source identification, collection of planting materials (seeds), seeds and seedling handlings and nursery growing. The involvement of communities in later stages will be determined based on the outcome of the diagnostic stage.

To achieve the objectives the following strategies will be chosen:

In the first phase of the project, the following will be carried out :

1. Re-identify the existing sources of seeds of those pre-identified potential and locally adapted species for production of seed and seedlings
2. Hold a stakeholder consultation or participatory discussion with local communities and relevant stakeholder in the choices of species and demonstration sites for the establishment of plantation model. Three districts with high accessibility will be chosen for the sites for the plantation model and in each district two-three demonstration sites will be established. The potential districts are Muko-muko, Bengkulu Utara and Seluma.
3. Develop propagation and plantation technology carried out in cooperation with other relevant institutions. Compile all existing and relevant technologies and analyze their appropriateness to the pre-identified species. Several competent institutions, such as Department of Forestry (the University of Bengkulu), South Sumatra Regional Research Center (Forestry Research and Development Agency-FORDA) and other relevant institution will carry these out.
4. Carry out training workshop or forest extension to improve institutional capacity, community awareness and coordination for whole forest management in the province. This capacity building workshop is expected to be participated, not only by Forestry related institutions but also other relevant institutions, such as Regional Office for Ministry of Agriculture, Ministry of Environment, Provincial Planning and Development Board and Universities.

The next phase of the project the following will be anticipated:

1. Produce the large quantity of high quality planting materials for larger scale plantation to the rest of the degraded areas and other nearby province which are similar in geographical and soil condition.
2. Further improve capacity of institutional and human resources, including local community in

forest ecosystem management.

3. Expand of the successful plantation model to other districts within the province.

2.4 Target Beneficiaries

Major beneficiary of the proposed project are:

- a. The Central Government
- b. The Government of Bengkulu
- c. Provincial Forestry Services
- d. District Forest Services
- e. Regional Ministry of Agriculture (MoA)
- f. Regional Ministry of Environment (MoE)
- g. Research institution
- h. Universities
- i. Local community

Some of the immediate results (benefits) of the project, which is expected to be realized in the first phase are: (1) the identified seed sources of indigenous, locally adapted species which are highly potential to be developed and planted widely in this province; (2) the technology for propagation of high quality planting materials for those selected species and plantation technology; (3) the opportunity to take part in technology development process; (4) The establishment of demonstration plot (model) will also provide vast benefits to provincial government and local communities; (5) the establishment of plot that will improve the involvement and awareness of local communities to the management of forest ecosystems and to local communities and the establishment of the potential additional income. The success of this project will significantly contribute to the national priority program for forest and land rehabilitation throughout the province.

The benefits are delivered directly and indirectly to the targets of beneficiaries through publication dissemination, training workshop, extension, stakeholder consultation, local government regular meeting, exhibition, including direct involvement in the operational activities.

2.5 Scientific and Technical Aspects

Forest in Bengkulu Province, which is part of whole dry lowland forest of Sumatra, is rich of indigenous and valuable forest tree species (Soerianegara and Lemmens 1992: Timber Trees: major commercial species, Prosea). These species have been traditionally utilized by local community to build house and making furniture . Recently due to the high demand of timber not only for local use but also for outside province, the exploitation of the forest resource has been intensified. In Bengkulu Province, the existing number of forest concession is few due to their topographical and geographical condition. Forest exploitation, therefore, is mostly carried out illegally by local communities and in unsustainable manner. The exploitation has caused substantial reduction in forest potential for timber production. Because of this condition, the Government of Bengkulu Province is working hard to rehabilitate the forestland, not only in state (provincial) forest but also in community forest and land. To support the program, several studies have been carried out from species identification, introduction (plantation) trial not only in Bengkulu Province but also in the neighboring provinces such as South Sumatra, Jambi and Lampung. Even though several studies have been carried out in other provinces, the geographical and environmental condition is relatively similar and therefore could be applied in the soil of Bengkulu. Other study related to the development of propagation technique has also been done for several prospective species by using shoot cutting (Subiakto and Sakai 2005: the development of shoot cutting for some forestry species using fogging system, FORDA).

Method of rehabilitation, involving community participation has been explored from similar ITTO project carried out in Ciamis, West Java (ITTO PD 271/04 Rev.2 (F), Dusun Aro-Jambi (PD210/03 Rev.3 (F) and Bali (PD386/05 Rev.1 (F)) (Progress Report of ITTOPD210/03 Rev.3 (F): Participatory establishment of Collaborative Sustainable Forest Management in Dusun Aro-Jambi). Three D processes: Diagnostic, Design and Delivery process will be followed for some activities. Diagnostics process is basically to obtain current data and information regarding current conditions of the target area. Local community with certain level of capacity will involve in this process. Design process is the utilization of the data and information, such as findings, outcome, models and methods to be used in accordance with local bio-physical, socio-economic conditions of the area, to formulate the most appropriate methods or design for best fit with local conditions to achieve the objectives. Delivery process is the implementation process of the designed method or technics etc. This three D-approach will also be used in the selection of species, sites, model plantation and methods. Basic criteria for the choices of species are the economic value (type of product, product quality, demand and market price), the easiness and cost of the execution process and adaptability and the positive impact to the environmental, and the interest of local community (ITTO Guideline on SFM). Planting methods used will be either plantation in monoculture of selected species or intercropping consisting of forest tree species as a core and agricultural species as an additional source of income. This is one of the common Agro-forestry model plantation in Indonesia. Traditional plantation by local communities in Bengkulu is intercropping between forest tree species and agricultural species. Forest tree species, such as *Melaleuca*, *Parkia*, *Paraserianthes* and even, *Michelia* Spp have been traditionally planted as shade trees, especially in coffee plantation. Model plantation will be developed based on the outcome of three-D process as above. In the process, several aspects such as tenurial system, farmers grouping, site selection etc will be considered. Lessons learned from Bali Indigenous species plantation (ITTO project PD386/05 Rev.1(F)) will be utilized as reference sample in the development of plantation model involving local community.

The project activities are also related to the community development and empowerment in the rehabilitation of forest for their own needs for housing and source of income. Several species, which are suitable to be planted with similar geographic condition, have been identified and studied by Regional Center for Forestry Research and Development of South Sumatra and Center for Forest and Nature Conservation R&D. Several locally adopted species with high economic potential which have been identified include *M. valutida*, *Durio* Spp, *Parkia* Spp, *P. falcataria* and so on (Yafid and Komar 2005: Report on the field observation on the potential timber species in Sumatra, Center for Forest and Nature Conservation R&D). These species possess better characteristics, such as relatively fast growing, long clear bole (especially for *P. falcataria* and *M. valutida*), good quality timber and demand and price. Some species, such *Parkia* and *Durio*, also produce edible fruits with good market price which will be an alternative source of income other than timber. The sources of seeds for these species will be collected from within the province and or nearby provinces: Jambi, South Sumatra and Lampung. Seeds of some species are available mostly from community lands.

2.6. Economic aspect

Local community income is mostly from farming either agricultural activities or traditional plantation for crop species, such as coffee plantation, cacao, traditional rice production, and other species. Additional income is obtained from forestry related activities. The local community have been aware on the economic value of some forest tree species such as kayu bawang or bambang lanang (*Michelia* spp), bamboo, rattan (*Calamus manan*) etc, which have given significant contribution to community prosperity. *Michelia* Spp is fast growing species with medium to high quality wood and its price reach Rp. 1.2 million (US \$ 120) per cm. This species could reach over 30 cm high within 15 years and has been widely planted in the community forest and lands. Other species include *Paraserianthes falcataria*, *Mangifera* spp, *Durio* spp,

Parkia spp, and some other indigenous species which have been familiar with local community (Yafid and Komar, 2005: report on the field observation on the potential timber in Sumatra).

The establishment of plantation model using locally adopted and adopted species will have potential contribution to the improvement of community prosperity and therefore will also have potential success in the plantation program of Bengkulu Province.

2.7. Environmental aspect

The impact of the proposed project on environment is mostly positive through the rehabilitation of degraded forest areas both in provincial forest area and community forest and lands. This rehabilitation and plantation program will contribute to the restoration of forest ecosystem function and economic contribution to the local government and local communities. The establishment of plantation by utilizing locally adapted species, primarily economically valuable indigenous species will also contribute to the conservation of species, biodiversity in tropical rainforest. Other non-indigenous species, which have economically contributed to the prosperity of local people will also be further explored for plantation. Example of this are *Acacia mangium*, *Tectona grandis* and *Aquilaria* spp. The choices of species will be conducted carefully by considering both ecological (suitability) and economical aspects (community preference) and its trade off. The choice of species and the method of rehabilitation will also be adjusted to the existing topographical condition and model plantation, which will be further developed under this project.

The long term impact of the project to the environment is the recovery of ecosystem, as a results of the recovery of land cover; water resources availability and forests as a whole. This positive impact will be gained several years after project period through several ways. The plantations will in short time occupy larger portion of degraded sites in the provincial state forests and community lands, in other word will reduce portion of degraded and critical forest land. In the other site, the plantation will improve community prosperity and awareness, which will also contribute to the success of rehabilitation and plantation program and in turn will contribute to the reducing potential flooding and erosion (Ministry of Forestry, 2005: National Movement for Forest and Land Rehabilitation).

2.8. Social Aspects

Three districts will be chosen as sites for the model for rehabilitation (plantation) of locally adapted and high economic potential species involving local communities. The most appropriate sites within each district for the establishment of plantation model will be finalized during the stakeholder consultation and workshop involving relevant stakeholders. The proposed districts are Muko-muko, Bengkulu Utara and Seluma. These districts are located nearby production-provincial forests, which are mostly degraded. For the plantation model these districts are relatively accessible.

The majority of populations in these districts are farmers, labors of palm oil and rubber plantation and other works, such as teacher, traders, government employees with relatively small portions. The farmers mostly plant small scale plantation agricultural and estate crops such as coffee and cocoa plantations, paddy rice plantation and other agricultural products such as vegetables. The sources of lands are mostly from illegal conversion of provincial forests and from sifting cultivation. Forest encroachment that occurs in these areas are mostly for the use of coffee plantation where the price of the coffee and other agricultural products is attractive recently causing increasing pressure to the remaining forest areas to be converted.

The proposed activity is to support the establishment of demo plot plantation of indigenous species which have high economic value, therefore, is very important. The plantation will be

established in these three districts in Bengkulu and will be expanded to other areas. Plantation establishment and its associated activities would provide the employment opportunity, alternative sources of income by planting high value forest trees species and other agricultural crops during their establishment. Capacity building, improve awareness of the community, especially community leaders and imposed law enforcement could be contribute to the better management of the provincial forests.

2.9. Risks

The project is designed to complement the national program on reforestation and rehabilitation of degrade land. As this program received full commitment from the central and provincial government as well as district and therefore the risk of failure in the execution is unlikely to occur. The proposed project will have better sustainability since most of the project activities are related to the improvement of local community prosperity through direct involvement by all relevant stakeholders in this province, starting from the planning process until the execution of project activities.

Fire hazard is always a potential risk in any plantation in Indonesia. Its intensity is recorded relatively low in Bengkulu provincial forests. However, various ways have been developed to minimize the risk of forest fire. The project emphasizes on community participation and therefore the risk of fire hazard could be minimized. As a preventive measure, fire break or fire belt along the demonstration site (as also part of the model) may be planted around the plantation model.

The farmers are mostly reluctant to participate in the project at the initial stage due to lack of knowledge, awareness and immediate benefits from project activities. Therefore, it is important that a survey and stakeholder consultative meetings need to be conducted, especially those related to plant certain species for certain areas to determine the preference, the need and the condition of local people. This would minimize the risk of rejection from farmers.

The risk of poor participation by local communities and other relevant stakeholders will be overcome by

- Identifying and compiling the existing community interest on plantation of species and select the most prospective species to be used.**
- introducing potential benefit of planting the selected species.**
- prepare effective and successful stakeholder consultation by inviting the key and influential figures (local leaders) from the community.**

The risk of forest fire will be overcome by involving forest fire forces (Provincial forest service) in the selection of site and in the preventing forest fire for the site.

3. Outputs

Specific objective 1. To implement suitable technology for production of high quality planting materials of locally adapted and prospective commodities for plantation

Output 1.1. Seed sources of selected species identified and their suitable technology developed

Seed sources for prospective commodities will be identified within the provincial forest areas. Most of the selected species flower and produce fruits/seed annually and therefore will be available for their technology development. The technology to be developed for the selected species include seed handling technology, propagation and plantation technology beginning

with the compiling of the existing technique commonly used. Then the most appropriate technique of handling, propagation and plantation will be further developed.

Output 1.2. Technical guidelines for handling the selected species developed and disseminated

In order to make the technology useful, the technical guidelines will be produced using the simplest and Indonesian language. The guidelines will be developed and prepared based on the finding of the project and also other related and reliable information. The technical guideline consists of seed handling, propagation and plantation technique.

Specific objective 2. To improve stakeholder involvement and community prosperity through successful rehabilitation and plantation of local prospective commodities

Output 2.1. High quality planting materials for plantation produced and distributed

A number of high quality planting materials will be produced for the establishment of plantation model in three different districts: Muka-muko, Bengkulu Utara and Seluma. The plantation model in each District will be 5- 10 ha using major species (local prospective commodities) as described in the text and some agricultural crops. The agricultural crops will be planted inside the plot until several years, normally up to 3 years and the major tree species will be retained. High quality planting materials will be produced to support plantation activities carried out by local communities in their own land. The choice for site location will involve relevant stakeholders.

Output 2.2. Community –forestry plantation model involving relevant stakeholders developed

To achieve Output 2.2. diagnostic process will carried out, followed by designing the most acceptable model by community and choosing the most appropriate method of delivery of the model. At the diagnostic process (stage) : the project will hold a workshop by inviting relevant stakeholder and local communities for sharing information, experience and the discussion of previous lesson learned. National guideline and concepts by MoF will still be an important part and therefore will be used as reference guide. Local NGO could also involve in this stage.

Community-forestry plantation model will be established using the high quality planting materials as produced in the Output 2.1. Method of plantation will also be determined based on the recommendation of the workshop or stakeholder consultation, by considering the cost, the easiness in the execution and impact to local community prosperity and environment.

4. Activities

Output 1.1. Seed sources of selected species identified and their suitable technology developed.

Activity 1.1.1 Identification of seed sources for 2 selected indigenous species (*Michelia valutida* and *Durio spp*)

Activity 1.1.2. Development of propagation and plantation techniques for the selected species.

Output 1.2. Technical guidelines for plantation technology of selected species developed and disseminated

Activity 1.2.1. Preparation and development of technical guidelines on seed handling and planting for the species.

Activity 1.2.2. Workshop on plantation technologies of the selected species

Output 2.1. High quality planting materials produced and distributed

Activity 2.1.1. Improve nursery technology to produce and distribute planting materials

Activity 2.1.2. Distribute high quality planting materials to participating communities.

Output 2.2. Community – forestry plantation model developed

Activity 2.2.1. Review and refine the existing community forestry plantation model.

Activity 2.2.2. Develop and establish plantation model in 3 districts.

This activity is basically as a follow up to the Activity 2.2.1. In this activity, the project will carry out several workshops or consultation meetings involving stakeholders and local communities to determine model of plantation which will best fit to local community and needs, especially for the targeted three districts (Muko-Muko, Bengkulu Utara and Seluma). This also include the choice of species.

5. Logical Framework Worksheets

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Development Objective: To contribute to sustainable forest management in Bengkulu provincial forest through rehabilitation and community prosperity improvement by utilizing local prospective commodities.	<ul style="list-style-type: none">Planting program in the Province continues taking place involving local community<u>Local community prosperity continues improving from plantation of forestry species , especially in three district.</u>	<ul style="list-style-type: none">Annual Report of the Provincial Forestry Service of BengkuluForestry statistic of Bengkulu	Central and provincial government continue supporting rehabilitation and plantation establishment
Specific objective 1. To implement suitable technology for production of high quality planting materials for valuable indigenous species with community participation. Specific objective 2. To improve community development for successful reforestation and rehabilitation program.	<ul style="list-style-type: none"><u>Seed sources for six indigenous species identified for continues production of seeds and seedlings</u>Technology for production of planting materials developedLocal community in 3 districts involves in plantation programPlantation model trials in 3 districts established	<ul style="list-style-type: none">ReportsReport on Plantation models in three different districtsAnnual report of Provincial and district forest Service	Provincial Government continues providing support to the rehabilitation program
Output 1.1. Seed sources of selected species identified and their suitable technology developed	<ul style="list-style-type: none"><u>3-4 seed sources of indigenous species identified</u>Propagation technique of 2-3 selected species developed.<u>Plantation technique of 3-4 indigenous species</u>	<ul style="list-style-type: none">ReportsTechnical guideline for propagation techniquesField trial reports	Locations for seed collection still exist and accessible

	improved.		
Output 1.2. Technical guidelines for plantation of selected species developed and disseminated	<ul style="list-style-type: none"> 30-40 participants take part in the workshop <u>3 Technical guidelines for plantation of indigenous species developed</u> Guideline for propagation technique formulated 	<ul style="list-style-type: none"> <u>3 Technical guidelines for 3-6 species</u> Technical Reports 	Data and information are accessible
Output 2.1. High quality planting materials produced and distributed	<ul style="list-style-type: none"> Nursery facilities up-graded 10.000 planting materials are available to be distributed to local communities in 3 districts 	<ul style="list-style-type: none"> Report of seed collection, seedling production and their distribution <u>List of recipient of planting materials for plantation of selected indigenous species</u> 	A large number of seeds are available for collection
Output 2.2. Community-forestry plantation model developed	<ul style="list-style-type: none"> 3-4 community villages for each district involve in the activity Workshop on Community forestry model organized. 1 Community-forestry model adopted in 3 districts Increased community awareness and participation in tree planting program 	<ul style="list-style-type: none"> Workshop Report Plantation model Plantation report Provincial Forest Service Report 	Relevant stakeholders are willing to participate and high proportion of planted seedlings grow in the site

6. Workplan

Output and Activities	YEAR 1				YEAR 2				YEAR 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1.1. Seed sources of selected species identified and their suitable technology developed												
Activity 1.1.1. Identification seed sources for 2 selected indigenous species (<i>Michelia valutida</i> and <i>Durio spp</i>).												
Activity 1.1.2. Development of propagation and plantation techniques for the selected species												
Output 1.2. Technical guidelines for handling the selected species developed and disseminated												
Activity 1.2.1. Preparation and development of technical guidelines on seed handling and planting for the species												
Activity 1.2.2. Workshop on plantation technologies of the selected species												
Output 2.1. High Quality planting materials produced and distributed												
Activity 2.1.1. Improve nursery technology to produce and distribute planting materials.												
Activity 2.1.2. Distribute high quality planting materials to participating communities												
Output 2.2. Community – forestry plantation model developed												
Activity 2.2.1 Review and refine the existing community forestry plantation model												
Activity 2.2.2. Develop and establish plantation model in 3 districts												
Non activity based expenses												

7. Budget

7.1. Worksheet and Budget Components

Output and Activities	Inputs			Unit Cost	Quarter Year	Budget Component	Total	
	Units and quality	No					ITTO	(GOI)
		ITTO	GOI					
Output 1.1. Seed sources of selected species identified and their suitable technology developed								
Activity 1.1.1. Identification seed sources for 2 selected indigenous species (Michelia valutida and Durio spp).	1). MM National Expert 2). Technicians 3). Other labors 4). DSA 5). Return ticket 6). Local transport 7). Fuel and utilities 8). Office Supplies 9). Consumable Items 10). Miscellaneous	2 24 100 100 8 24 36 1 1 1	0 8 0 0 0 0 4 0 0 0	1,000 150 15 50 150 100 150 500 2000 2000	Q1 -Q3, Y1	11 12 16 31 32 33 52 51 53 61	2,000 3,600 1,500 5,000 1,200 2,400 5,400 500 2,000 2,000	- 1,200 - - - - 2,000 - - -
Sub total Activity 1.1.1							25,600	3,200
Activity 1.1.2. Development of propagation and plantation techniques for the selected species.	1). MM National Expert 2). Technicians 3). Other labors 4). Return Ticket 5). DSA 6). Local transport 7). Capital Equipment 8). Fuel and Utilities 9). Office Supplies 10). Consumable Items 11). Miscellaneous	4 24 100 6 20 8 1 12 0.5 1 1	0 6 0 0 0 0 0 12 0 0 0	1,000 150 15 150 50 100 2000 150 500 2000 2000	Q1 - Q2, Y1	11 12 16 32 31 33 41 52 51 53 61	4,000 3,600 1,500 900 1,000 800 2,000 1,800 250 2,000 2,000	- 900 - - - - - 6,000 - - -
Sub total Activity 1.1.2.							19,850	6,900
Sub Total Output 1.1.							45,450	10,100
Output 1.2. Technical guidelines for plantation technology of selected species developed and disseminated								
Activity 1.2.1.Preparation and development of technical guidelines on seed handling and planting for the species	1). MM National Expert 2). Technicians 3). Return Ticket 4). DSA 5). Local transport 6). Consumable items 7). Miscellaneous	2 4 6 10 1 1 1	0 0 0 0 0 0 0	1,000 150 150 50 100 500 500	Q2-Q4, Y1	11 12 32 31 33 53 61	2,000 600 900 500 100 500 500	- - - - - - -
Sub total Activity 1.1.2.							5,100	

Activity 1.2.2. Workshop on plantation technologies of selected species	1). MM National Expert	1	0	1,000	Q1-Q2, Y2	11	1,000	-
	2). Technicians	0	1	100		12	-	100
	3). Return ticket for participants	10	0	200		32	2,000	-
	4). Local Transport	40	0	100		33	4,000	-
	5). DSA for participant and resource person	40	0	50		31	2,000	-
	6). Notebook computer	1	0	1,500		42	1,500	-
	7). Consumable Items	3	0	500		53	1,500	-
	8). Miscellaneous	3	0	500		61	1,500	-
Sub total Activity 1.2.2.							13,500	100
SubTotal Output 1.2							18,600	100
Output 2.1. High quality planting materials produced and distributed								
Activity 2.1.1. Improve nursery technology to produce and distribute planting materials <u>(This activity includes the establishment of nursery and research trials for selected species)</u>	1). MM National Expert	2	0	1,000	Q3-Q4Y1	11	2,000	-
	2). Technicians	36	0	150		12	5,400	-
	3). Other labors	180	0	15		16	2,700	-
	4). Local transport	12	0	100		33	1,2400	-
	5). Consumable Item	4	0	2,000		53	8,000	-
	6). Miscellaneous	2	0	2,000		61	4,000	-
Sub total Activity 2.1.1.							24,500	-
Activity 2.1.2. Distribute high quality planting materials to participating communities.	1). Technicians	24	0	150	Q1-Q4Y2, Q1-Q2,Y3	12	3,600	-
	2). Other Labors	120	0	15		16	1,800	-
	3). DSA	20	0	50		31	1,000	-
	4). Local transport	24	0	100		45	2,400	-
	5). Consumable items	2	0	1000		53	2,000	-
	6). Miscellaneous	2	0	1000		52	2,000	-
Sub total Activity 2.1.2							12,800	-
Sub Total Output 2.1.							37,300	-
Output 2.2. Community - forestry plantation model developed								
Activity 2.2.1. Review and refine the existing community forestry plantation model	1). MM National Expert	4	0	1,000	Q1-Q4 Y1	11	4,000	-
	2). Technicians	4	0	100		12	400	-
	3). DSA	20	0	50		31	1,000	-
	4). Return Ticket	2	0	200		32	400	-
	5). Local Transport	2	0	100		33	200	-
	6). Consumable Items	1	0	1000		53	1,000	-
	7). Miscellaneous	1	0	1000		61	1,000	-
Sub total Activity 2.2.1.							8,000	-

Activity 2.2.2. Develop and establish plantation model in 3 districts	1). MM National Expert	6	0	1,000	Q1 - Q3,Y3	11	6,000	-
	2). Technicians	2	0	100		12	200	-
	3). Other labors	180	0	15		16	2,700	-
	3). DSA	120	0	50		31	6,000	-
	4). Return Ticket	9	0	150		32	1,350	-
	5). Fuel and Utilities	24	1	150		52	3,600	150
	6). Consumable Items	4	0	2000		53	8,000	-
	7). Miscellaneous	4	0	2000		61	8,000	-
Sub total Activity 2.2.2.							35,850	150
Sub Total Output 2.2.							43,850	150
Non activity based expenses	1). MM Project Manager	36	0	1,750	Q1-Q4,Y1, Q1-Q4,Y2, Q1-Q4,Y3	13	63,000	-
	2). Project Secretary	36	0	400		14	14,400	-
	3). Extension Officer	24	0	500		15	12,000	-
	4). International Travel	1	0	5,000		35	5,000	-
	5). Return Ticket	6		200		32	1,200	-
	6). Local transport	12	0	100		33	1,200	-
	7). DSA	30	0	50		31	1,500	-
	8). Desktop computer	1	3	1,000		42	1,000	3,000
	9). Notebook computer	1	0	1,500		42	1,500	-
	10). Office Space	0	1	25,000		43	-	25,000
	11). Vehicle (small light truck)	1	0	15,000		44	15,000	-
	12). Office Supplies	1	1	500		51	500	500
	13). Fuels and Utilities	12	0	100		52	1,200	-
	14). Auditing	3	0	1,500		62	4,500	-
	15). Printing & Photocopy	1	1	4,000		54	4,000	4,000
	16). Other Consumable Items	1	2	2,000		53	2,000	4,000
	17). Miscellaneous	1	1.5	2,000		61	2,000	3,000
Sub Total Non activity based expenses							130,000	39,500
Total Budget by activity							275,200	44,250
Executing Agency Management Cost(15% from total overall project budget)								47,918
ITTO Monitoring, Evaluation and Administration								
	81). Monitoring and Review cost						18,000	-
	82). Ex-Post and mid term evaluation cost						20,000	-
	83). Programme Support Cost (8% from total)						25,056	-
Refund budget							-	-
Total Budget							338,256	92,168

7.2. Overall Project Budget by Activity

Output and Activities	Budget Components														
	10. Project Personnels		20. Sub Contract		30 Duty Travel		40. Capital Items		50. Consumable Items		60. Miscellaneous		Quarter Year	Grand Total	
	ITTO	GOI	ITTO	GOI	ITTO	GOI	ITTO	GOI	ITTO	GOI	ITTO	GOI		ITTO	GOI
Output 1.1. Seed sources of selected species identified and their suitable technology developed.															
Activity 1.1.1. Identification of seed sources for 2 selected indigenous species. (Michelia valutida and Calamus manna)	7,100	1,200	-	-	8,600	-	-	-	7,900	600	2,000	-	Q1-Q3,Y1	25,600	1,800
Activity 1.1.2. Development of propagation and plantation techniques for the selected species.	9,100	900	-	-	2,700	-	2,000	-	4,050	1,800	2,000	-	Q1-Q2,Y1	19,850	2,700
Sub Total 1.1.	16,200	2,100	-	-	11,300	-	2,000	-	11,950	2,400	4,000	-	-	45,450	4,500
Output 1.2. Technical guidelines for plantation technology of selected species developed and disseminated															
Activity 1.2.1.Preparation and development of technical guidelines on seed handling and planting for the species	2,600	-	-	-	1,500	-	-	-	500	-	500	-	Q2-Q4,Y1	5,100	-
Activity 1.2.2.Workshop on plantation technologies of selected species	1,000	100	-	-	8,000	-	1,500	-	1,500	-	1,500	-	Q1-Q2,Y2	13,500	100
Sub total 1.2.	3,600	100	-	-	9,500	-	1,500	-	2,000	-	2,000	-	-	18,600	100
Output 2.1. High quality planting materials produced and distributed															
Activity 2.1.1. Improve nursery technology to produce and distribute planting materials	10,100	-	-	-	2,400	-	-	-	8,000	-	4,000	-	Q3-Q4,Y1	24,500	-
Activity 2.1.2. Distribute high quality planting materials to participating communities.	5,400	-	-	-	3,400	-	-	-	2,000	-	2,000	-	Q1-Q4,Y2, Q1-Q2,Y3	12,800	-
Sub total 2.1.	15,500	-	-	-	5,800	-	-	-	10,000	-	6,000	-	-	37,300	-

Output 2.2. Community - forestry plantation model developed															
Activity 2.2.1. Review and refine the existing community forestry plantation model	4,400	-	-	-	1,600	-	-	-	1,000	-	1,000	-	Q3-Q4,Y2	8,000	-
Activity 2.2.2. Develop and establish plantation model in 3 districts	8,900	-	-	-	7,350	-	-	-	11,600	150	8,000	-	Q4Y2 ,Q1Y3	35,850	150
Sub total 2.2.	13,300	-	-	-	8,950	-	-	-	12,600	150	9,000	-		43,850	150
NON-ACTIVITY BASED EXPENSES															
Activity Coordination	89,400	-	-	-	8,900	-	17,500	28,000	7,700	8,500	6,500	3,000	Y1 - Y3	130,000	39,500
Sub Total NON Activity Based Expenses	89,400	-	-	-	8,900	-	17,500	28,000	7,700	8,500	6,500	3,000		130,000	39,500
GRAND TOTAL	138,000	2,200	-	-	44,450	-	21,000	28,000	44,250	11,050	27,500	3,000	-	275,200	44,250

7.3.1. Yearly Project Budget by Source – ITTO

Annual Disbursement Budget Components	Total	Year		
		1	2	3
10. Project Personnel	138,000.00	65,800.00	33,500.00	38,700.00
20. Sub-contract	-	-	-	-
30. Duty travel	44,450.00	24,800.00	11,000.00	8,650.00
40. Capital Item	21,000.00	19,500.00	1,500.00	-
50. Consumable Item	44,250.00	26,045.00	4,895.00	13,310.00
60. Miscellaneous	27,500.00	13,000.00	4,600.00	9,900.00
Sub Total 1	275,200.00	149,145.00	55,495.00	70,560.00
80. ITTO Monitor, Eva, and Administration Cost				
81. Monitoring and Review	18,000.00			
82. <u>Ex-post and mid term evaluation</u>	<u>20,000.00</u>			
Sub Total 2	313,200.00			
83. Program Support Cost (8% of subtotal 2)	<u>25,056.00</u>			
90. Refund of Pre-Project Costs	-			
ITTO TOTAL	338,256.00			

7.3.2. Yearly Project Budget by Source - GOI

Annual Disbursement Budget Components	Total	YEAR		
		1	2	3
10. Project Personnel	2,200.00	2,100.00	100.00	-
20. Sub-contract	-	-	-	-
30. Duty travel	-	-	-	-
40. Capital Item	28,000.00	28,000.00	-	-
50. Consumable Item	11,050.00	6,575.00	2,575.00	1,900.00
60. Miscellaneous	3,000.00	1,500.00	900.00	600.00
Sub Total 1	44,250.00	38,175.00	3,575.00	2,500.00
70. Executing Agency Management Costs (15% of Total of Overall Project Budget by Activity)	47,918.00	19,167.00	19,167.00	9,584.00
EXECUTING AGENCY/HOST GOVT. TOTAL	92,168.00	57,342.00	22,742.00	12,084.00

7.4.1. Consolidated Project Budget (ITTO)

Budget Components			ITTO	ITTO Annual Disbursement		
				YEAR 1	YEAR 2	YEAR 3
10	Project Personnel					
	11	National Expert	21,000	14,000	1,000	6,000
	12	Technicians	17,400	15,400	1,800	200
	13	Project Manager	63,000	21,000	21,000	21,000
	14	Project Secretary	14,400	4,800	4,800	4,800
	15	Extension Officer	12,000	4,000	4,000	4,000
	16	Other labors	10,200	6,600	900	2,700
	19	Component Total	138,000	65,800	33,500	38,700
20	Sub Contract					
	21	Sub contract	0	0	0	0
	22	Sub contract	0	0	0	0
	29	Component Total	0	0	0	0
30	Duty Travel					
	31	Daily Subsistence Allowance	18,000	8,500	3,000	6,500
	32	Return Ticket	7,950	3,800	2,400	1,750
	33	Local Transport	13,500	7,500	5,600	400
	34	International travel	5,000	5,000	0	0
	39	Component Total	44,450	24,800	11,000	8,650
40	Capital Items					
	41	Capital Equipment	2,000	2,000	0	0
	42	Computer	4,000	2,500	1,500	0
	43	Office Space	0	0	0	0
	44	Vehicle (small light truck)	15,000	15,000	0	0
	49	Component Total	21,000	19,500	1,500	0
50	Consumable Items					
	51	Office Supplies	1,250	925	175	150
	52	Fuel and Utilities	12,000	7,620	420	3,960
	53	Consumable Items	27,000	15,500	3,100	8,400
	54	Printing	4,000	2,000	1,200	800
	59	Component Total	44,250	26,045	4,895	13,310
60	Miscellaneous					
	61	Other miscellaneous	23,000	11,500	3,100	8,400
	62	Auditing	4,500	1,500	1,500	1,500
	69	Component Total	27,500	13,000	4,600	9,900
70	Executing Agency Management Cost					
	79	Component Total	0	0	0	0
80	ITTO Monitoring, Evaluation and Administration					
	81	Monitoring and Review Costs	18,000			
	82	<u>Ex-post and mid term evaluation</u>	<u>20,000</u>			
	83	Programme Support Cost	<u>25,056</u>			
	89	Component Total	63,056			
90	Refund from Pre-project		0			
100	GRAND TOTAL		338,256			

7.4.2. Consolidated Project Budget (GOI)

Budget Components			GOI	GOI Annual disbursement		
				YEAR 1	YEAR 2	YEAR 3
10	Project Personnel					
	11	National Expert	0	0	0	0
	12	Technicians	2,200	2,100	100	0
	13	Project Manager	0	0	0	0
	14	Project Secretary	0	0	0	0
	15	Extension Officer	0	0	0	0
	16	Other labors	0	0	0	0
	19	Component Total	2,200	2,100	100	0
20	Sub Contract					
	21	Sub contract	0	0	0	0
	22	Sub contract	0	0	0	0
	29	Component Total	0	0	0	0
30	Duty Travel					
	31	Daily Subsistence Allowance	0	0	0	0
	32	Return Ticket	0	0	0	0
	33	Local Transport	0	0	0	0
	34	International travel	0	0	0	0
	39	Component Total	0	0	0	0
40	Capital Items					
	41	Capital Equipment	0	0	0	0
	42	Computer	3,000	3,000	0	0
	43	Office Space	25,000	25,000	0	0
	44	Vehicle (small light truck)	0	0	0	0
	49	Component Total	28,000	28,000	0	0
50	Consumable Items					
	51	Office Supplies	500	175	175	150
	52	Fuel and Utilities	2,550	2,400	0	150
	53	Consumable Items	4,000	2,000	1,200	800
	54	Printing	4,000	2,000	1,200	800
	59	Component Total	11,050	6,575	2,575	1,900
60	Miscellaneous					
	61	Other miscellaneous	3,000	1,500	900	600
	62	Auditing	0	0	0	0
	69	Component Total	3,000	1,500	900	600
70	Executing Agency Management Cost					
	79	Component Total	47,918	19,167	19,167	9,584
80	ITTO Monitoring, Evaluation and Administration					
	81	Monitoring and Review Costs	0			
	82	Ex-post project evaluation	0			
	83	Programme Support Cost	0			
	89	Component Total	0			
90	Refund from Pre-project		0			
100	GRAND TOTAL		92,168			

7.4.3. Consolidated Project Budget (Total)

Budget Components			Total	Annual disbursement		
				YEAR 1	YEAR 2	YEAR 3
10	Project Personnel					
	11	National Expert	21,000	14,000	1,000	6,000
	12	Technicians	19,600	17,500	1,900	200
	14	Project Manager	63,000	21,000	21,000	21,000
	15	Project Secretary	14,400	4,800	4,800	4,800
	16	Extension Officer	12,000	4,000	4,000	4,000
	17	Other labors	10,200	6,600	900	2,700
	19	Component Total	140,200	67,900	33,600	38,700
20	Sub Contract					
	21	Sub contract	0	0	0	0
	22	Sub contract	0	0	0	0
	29	Component Total	0	0	0	0
30	Duty Travel					
	31	Daily Subsistence Allowance	18,000	8,500	3,000	6,500
	32	Return Ticket	7,950	3,800	2,400	1,750
	33	Local Transport	13,500	7,500	5,600	400
	34	International travel	5,000	5,000	0	0
	39	Component Total	44,450	24,800	11,000	8,650
40	Capital Items					
	41	Capital Equipment	2,000	2,000	0	0
	42	Computer	7,000	5,500	1,500	0
	43	Office Space	25,000	25,000	0	0
	44	Vehicle (small light truck)	15,000	15,000	0	0
	49	Component Total	49,000	47,500	1,500	0
50	Consumable Items					
	51	Office Supplies	1,750	1,100	350	300
	52	Fuel and Utilities	14,550	10,020	420	4,110
	53	Consumable Items	31,000	17,500	4,300	9,200
	54	Printing	8,000	4,000	2,400	1,600
	59	Component Total	55,300	32,620	7,470	15,210
60	Miscellaneous					
	61	Other miscellaneous	26,000	13,000	4,000	9,000
	62	Auditing	4,500	1,500	1,500	1,500
	69	Component Total	30,500	14,500	5,500	10,500
70	Executing Agency Management Cost					
	79	Component Total	47,918	19,167	19,167	9,584
80	ITTO Monitoring, Evaluation and Administration					
	81	Monitoring and Review Costs	18,000			
	82	<u>Ex-post and mid term evaluation</u>	<u>20,000</u>			
	83	Programme Support Cost	<u>25,056</u>			
	89	Component Total	63,056			
90	Refund from Pre-project		0			
100	GRAND TOTAL		430,424			

PART III. OPERATIONAL ARRANGEMENT

1. Management Structure

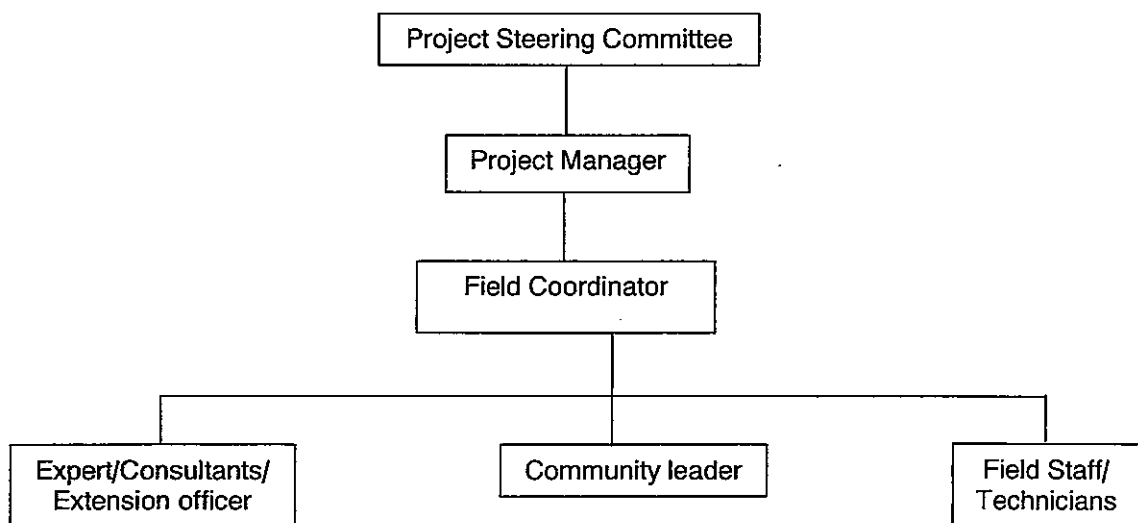
Project activities will be carried out by the Bengkulu Provincial Forestry Service (BBFS) in cooperation with Bengkulu University (the University of Bengkulu) and Universitas Ratu Samban Bengkulu Utara (CA). BBFS will be responsible for the whole management of the project, whereas the two collaborating Agencies will be responsible for the implementation of activities relate to technology development, seed sources identification. This also includes in the establishment of active communication with local community.

Executing Agency will form a Project Steering Committee (PSC), which consists of Representative of ITTO, representative of donor countries, Directorate General of RLPS, Provincial Forest Services, District Forest Services of South and North Bengkulu, Universities and other related institutions. The PSC will be chaired by the Directorate General of Reforestation and Social Forestry of the Ministry of Forestry.

Under the PSC, there will be a Project Manager, field project coordinator, project secretary and staff (Finance and administrative), National Experts, Consultant, Extension Officer and field staff. Project Manager and Secretary will be hired along the project duration, whereas Expert, consultant and field project coordinator and other staffs will be hired based on each individual activity (Activity based) who could be from Provincial Forestry Services and or other institutions.

The PSC will be responsible for (to) approve program and budgets of the project within the framework of the project, (2) conduct annual reviews and evaluations of the project implementation; (3) approve Progress Reports before submission to ITTO and GOI

Figure 3. Management Structure



2. Monitoring, Reporting and Evaluation

Project Monitoring, Review and Evaluation will be scheduled in accordance with the *Second Edition of the ITTO Manual for Project Monitoring, Review and Evaluation*.

2.1. Arrangements for reporting

- a. Progress Reports – The Executing Agency will submit to ITTO a bi-annual Project Progress Report no later than 10 weeks before Council Sessions of each calendar year for the duration of the project implementation. Such progress report shall contain all the information relevant to the financing and implementation of the project as set out in the *ITTO Manual for Project Monitoring, Review and Evaluation*.
- b. Technical Reports – This shall be provided as appropriate during the project duration related to the technical activities of the project.
- c. Completion Reports – The Executing Agency will submit to ITTO the Project Completion Report, conforming to the model and content of the ITTO Manual for Project Monitoring, Review and Evaluation within three (3) months after Project Completion.

2.2. Monitoring, Review and Steering Committee's Visit

ITTO will conduct a monitoring visit in accordance with ITTO schedule. If necessary, the project will be subjected to a Monitoring/Review mission by ITTO together with PSC members. Monitoring of the Project will also be conducted by the PSC through its biannual meeting.

2.3. Evaluation

Project evaluation will follow ITTO Manual for project monitoring, review and evaluation. Mid-term evaluation and Ex-post Evaluation will be conducted as scheduled by ITTO Secretariat.

3. Future Operation and Maintenance

To ensure the sustainability and continuation of the project results, several institutions below will take responsibility based on their institutional roles.

(1). Provincial Forest Service and respective District Forest Services will take responsibility in the maintenance and continuation of the following operational activities:

- to manage and utilize project properties and equipments purchased by the project.**
- to maintain demonstration plots in coordination with other relevant stakeholders and community**
- to maintain active communication with other relevant stakeholders and community**
- to continue providing planting materials for community plantation activities**
- to continue developing plantation models which will be more acceptable by local community.**

(2). Provincial Forest Service and other related institutions will also take responsibility in the formation a team work to monitor and to ensure the continuation of the project findings after the project completion.

(3). Provincial Forest Service and District Forest Service will allocate annual budget to support the project results as an integral part of its program in poverty alleviation and to support National Movement for Forest and Land Rehabilitation. The portion of annual budget of approximately Rp 30 billions could be sufficient to supportr the continuation of the project findings.

(4). Provincial and District Forest Service could possibly re-integrate the project findings and activities to the existing National Movement for Land and Forest Rehabilitation Program, especially on the promotion of use of selected indigenous species and the provision of planting materials for community.

Universities (esp. The University of Ratusamban) and Provincial research institutions will take responsibility to continue developing several specific project findings as listed below:

- the techniques for propagation and plantation
- the analyses for economic impact of the project to community prosperity
- an assessment of the impact of project to the environment
- Finding, manual and guideline for propagation and plantation techniques of the selected species.

PART IV: TROPICAL TIMBER FRAMEWORK

1. Compliance with ITTA 1994 Objectives

The proposed project complies with the ITTA Objectives laid out in Article 1 of the 1994 ITTA. This proposed project will contribute to the advancement of the Agreement, especially for the following objectives:

- c. To contribute to the process of sustainable development of forest management through specific activities on rehabilitation and plantation of locally adapted species. As has been adopted as the fact that tropical rain forests play a very important role in the global ecosystem and environment. The Indonesian tropical forests is the second largest tropical forest in the world after Brazil. Domestically, this tropical forest has given significant contribution to the economic development since last decade and at the present time, due to various human related activities the forest ecosystem continues degrading.

The proposed project will have significant contribution on the sustainability of tropical rain forest through the promotion on the establishment of plantation of indigenous species, and conserving the remaining plant genetic resources.
- d. To enhance the capacity of members to implement a strategy for achieving exports of tropical timber products from sustainable managed sources by the year 2000. The Indonesian Government has set out a program for rehabilitation of degraded forest and land through various national movement involving various level of community. The success of this program will depend on a number of factors and notable among those are the availability of sufficient high quantity planting materials, community participation and technical skills. The proposed project promotes the provision of the above mentioned enabling conditions for successful rehabilitation and plantation program.
- j. To encourage members to support and develop industrial tropical timber reforestation and forest management activities as well as rehabilitation of degraded forest lands, with due regard for the interest of local communities dependent on forest resources. Most of the activities in the proposed project attempt to restore the natural resources through the involvement of local communities. The development of plantation model involving local communities could contribute to the sustainable management of the state forest.

2. Compliance with ITTO Yokohama Action Plan

The proposed project complies with ITTO Action Plan particularly with the Committee on Reforestation and Forest Management.

Goal 1 : Support activities to secure the tropical timber resource base

- Action 4. Promote the conservation, rehabilitation and sustainable management of the threatened forest ecosystem, *inter alia* mangrove, in collaboration with relevant organization.

The proposed project activities will include the promotion of plantation and conservation of indigenous species, and by then will also promote the genetic conservation of existing species.

Action 7. Encourage members and assist them, where appropriate, to assess the current and potential productivity of major tropical forest types, taking into account the need to promote future growth and effective regeneration.

The proposed project will implement appropriate technology and provide high quality planting materials for plantation establishment. By using high quality planting materials, the productivity of tropical forest could increase.

Goal 2 : Promote sustainable management of tropical forest resources

Action 10. Encourage members and assist them, where appropriate, to improve the productive capacity of natural forest, where appropriate, through intensified silvicultural practice, better utilization of lesser-used species, the promotion of non timber forest product, guided natural regeneration, enrichment planting and reforestation.

The proposed project will contribute to the plantation of various indigenous tropical tree species including lesser-used species for plantation establishment. In addition, training for farmers on appropriate plantation technique, which will be provided by the proposed project, will significantly contribute to the sustainable management of tropical forests.

ANNEX A: PROFILE OF THE EXECUTING/IMPLEMENTING AGENCY

Bengkulu Provincial Forest Service

The implementation of the proposed project will be jointly carried out by Bengkulu Provincial Forestry Service

1. The expertise

The Bengkulu Provincial Forest Service (BPFS) is responsible for setting up policy, regulations, monitoring the supply and demand of timber, implementing rehabilitation program, and promoting social forestry in Bengkulu in line with the policy, regulations and developmental programs of Ministry of Forestry and the Provincial Government of Bengkulu. BPFS has also conducted various project cooperation with other institutions such as Bengkulu University, Ministry of Environment and Ministry of Agriculture, Regional Forestry Research and Development of Southern parts of Sumatra, NGO and other communities.

BPFS runs annual budget for various activities of over Rp 30 billions. The funding is from the Central Government fund, Provincial and Districts Revenues and other donors.

BPFS took part in the management of Bukit Barisan Selatan National Park and Kerinci Seblat National Park and involved in the project funded by UNDP/GEF on the management of Kerinci Seblat National Park in 1990s.

2. Infrastructure and Human Resources

The Bengkulu Provincial Forest Service has 5 Sub Divisions: Administration, Planning, Land Rehabilitation, Forest Protection and Forest Products. In addition to the Provincial Forest Services located in Provincial Capital City, there is a District Forest Service in each District, research station and other types of community and public forests, such as Tahura.

Human Resources in Bengkulu Provincial forest services and District Forest Services consists of senior foresters with Academic degree of PhD (10), Master Degree (30), Bachelors (over 100) and other staffs. They hold various academic background, Forestry, Agriculture, Communication, estate crops and Public services.

University of Ratusamban, Bengkulu

1. The Expertise

The University of Ratusamban (TUR) has the main mission to provide academic and scientific achievement for the region, especially in the era of decentralization of government. This university consists of five faculties, 11 Departments, including forestry, sufficient number of Faculty members (98): Professors, Ph.D and Master holder academic staff. These members of faculty are mostly graduated from prominent and leading universities in Indonesia and abroad.

This university runs annual budget of approximately Rp 40-50 billions. The funding is from the provincial and district government (indirectly), from tuition, donation and foundations.

This university has taken part in the various provincial government, district and local community activities, such as in the management of Bukit Barisan Selatan National Park and Kerinci Seblat National Park and other national level program activities, such as in the

National Movement for Forest and Land Rehabilitation started several years before.

The University has also established work cooperation with several institutions based on the university expertise below:

- Local Government Planning Board (BAPPEDA) on the Provincial and district planning
- Provincial Oceanographic and Fisheries Services on the R&D on oceanography and fisheries
- Provincial and District Forestry and Agricultural Services on R&D on Forestry and Agriculture
- Provincial and District Trade and Industry Services on trade and industry for forest and agricultural products

2. Infrastructure and Human Resources

The University of Ratusamban has the facilities such as office and academic building, laboratories, forest research stations in both upland and low land forests.

This university has also developed an Agricultural Development Center and an unit of Research and Development and Community Services.

Human Resources in University of Ratusamban consists of senior foresters with Academic degree of PhD, Master Degree, Bachelors and other staffs. They hold various academic background, Forestry, Agriculture, Communication, estate crops and Public services.

ANNEX B: CURRICULUM VITAE OF THE KEY STAFF

1. Name : Risman Sipayung

Date and place of birth : Samosir, September 10th, 1957

Nationality : Indonesian

Field and Institution of Graduation : Agriculture, Faculty of Agricultural, Sumatera Utara University, Medan, Indonesia, 1982

Experiences

No.	Year	Position
1.	1986 – 1990	Section Head for Forestry Technique of Rejang Lebong Bengkulu
2.	1991 – 1993	Section Head for Plant disease Controlling of Agriculture Service Bengkulu Province
3.	1994 – 2001	Section Head for Programme of Agriculture Service Bengkulu Province
4.	2001 – 2002	Section Head for Seedling Distribution Agriculture Service Bengkulu Province
5.	2002 – 2004	Section Head for Forest Management of Provincial Forestry Service. Bengkulu
6.	2005 – present	Section Head for Programme of Provincial Forestry Service. Bengkulu

2. Name : Ading Fahrudin

Date and place of birth : Majalengka, April 15th, 1965

Nationality : Indonesian

Field and Institution of Graduation : Agriculture, Faculty of Agricultural, Prof. Dr. Hazairin, S.H. University, Bengkulu, Indonesia, 1997

Experiences

No.	Year	Position
1.	1986 – 1997	Staff of Forest Management Division, Forestry Department of Bengkulu Province
2.	1997 – 1999	Staff of South Bengkulu Forestry Service, Manna
3.	1999 – 2001	Staff of Forest Management Division, Forestry Department of Bengkulu Province
4.	2001 – 2003	Staff for Natural Conservation Resources of Provincial Forestry Service. Bengkulu
5.	2003 – 2007	The Head of Seeding Center Production, Bengkulu
6.	2007 – present	Section Staff for Programme of Provincial Forestry Service. Bengkulu

ANNEX C. TERM OF REFERENCE (TOR)

1. Term of Reference for National Expert (s)

Position: The National Expert (s) will be assigned in all activities to achieve the outputs 1.1, 1.2 and 2.1 and 2.2. The experts (s) must hold expertise and knowledge in related field.

Duties: The expert (s) will be responsible to carry out the assigned activities, alone and or with the agreed team to achieve the Output. Detail work description is provided based on the assignment. The expert (s) prepare one or more technical reports depending on the number of activity assigned (at least one technical report for one activity). The submission of the technical report is within the period of assignment. The technical reports and data base must be presented in the meeting held by the project or concurrently with PSC Meeting

Qualification, time and payment: Hold at least B.Sc degree and minimum 5 years experience in relevant field. Good understanding in English language. Expert will carry out relevant activity within the time as allocated by the project. Payment as allocated in Budget Sheet.

2. Term of Reference for Field Coordinator

Position: Field Coordinator will be hired to supervise each individual activity of the project.

Duties: Field coordinator will be responsible on coordinating and supervising relevant activities and ensuring that the overall objectives are achieved. He or She will work closely to all parties and personnel involved in the project, and be responsible for the effective uses of funds, time and other resource (inputs) on the field activities. He or She will report to the Project manager and provide all necessary information and data on the preparation of project reports.

Qualification, experience and payment: Field Coordinator should hold at least B.Sc Degree in forestry. He or She must have good understanding on the overall objectives, outputs to be achieved and activities to be carried out. He or She shall have high communication and language ability to communicate to local community and relevant stakeholders and good understanding of English is preferred. Payment as allocated in individual activity based on field visits (DSA, transport cost etc).

3. Term of Reference for Project Manager

Position: One Project Manager will be hired to run the project and to coordinate operational activities. The Project Manager will be determined and assigned by Executing Agency based on his or her qualification and understanding of the overall project activities.

Duties: Project Manager will executed all project related activities, coordinate and supervise all activities and ensure that the overall objectives are achieved. He or She will work closely with all parties and personnel involved in the project, and be responsible for the day to day management of the project. He or She will integrate all activities of the project, manage and be responsible of the funds applied to the project and for the preparation of all project reports.

Qualification, experience and payment: Hold at least Master Degree in forestry, good understanding on the overall objectives, outputs to be achieved and activities to be carried out; having working experience in International Organization; high communication and language ability, especially English. Salary for Project Coordinator is allocated in the Budget Sheet. He or she receives Daily Subsistence Allowance during duty travels.

4. Term of Reference for Extension Officer

Position: Extension Officer will be hired to conduct mass communication at village level, guide and facilitate local communities by day to day basis on various project activities. They will be based in the village, in the selected locations.

Duties: Extension Officer will be responsible on socializing project objectives, convincing community participation and identifying local community expectations. He or she will also required to conduct some training activities for the local communities in the specified technical aspect, as guided by the national experts. He or she will work closely to all parties and personnel involved in the project, particularly with the Project manager and the experts. He or she will be responsible on building close relationship between the Project personnel and their activities and the targeted communities. He or she will report to the Project Manager and share the responsibility on the preparation of training reports.

Qualification, experience and payment: Extension Officer should hold at least Bachelor Degree in the field of Forestry, agriculture or social science. He or she shall have high communication and language ability (the ability to communicate in local language and satisfactorily understanding of English is preferred). He or she must have sufficient experiences in the province. The salary is maximum US \$ 750 per month.

5. Term of Reference for Project Secretary

Position: One qualified person will be hired to be a Project Secretary.

Duties: assists Project Manager in all administrative works, as well as to arrange scheduled meetings and to maintain communication between Project Personnel. For this project, the secretary also assist project on the finance related activities, such as reporting the financial status of the project, the expenditure etc.

Qualification, experience and payment: Basic requirement are experience in finance and general administrative work (experience with ITTO project is preferable), high performance of MS Office (Words, Excel, Access and e-mail), available to work hard and work overtime, better/understanding of English. Payment as allocated in Budget Sheet.

6. Term of Reference for Assistances and Technicians

Position: Several qualified person will be hired to be an assistances and Technicians

Duties: to assist project management to carry out relevant activity both in the office, nursery and field plantation, compiling data, document and other records.

Qualification, experience and payment: Hold at least senior high school and minimum 2 years experiences in relevant field. Payment is in accordance with project allocation, time of service is based on contract and could be extended.

ANNEX D
37th EXPERT PANEL RECOMMENDED

No.	37th Expert Panel Recommended	Revised	Page
1.	Further improve the stakeholder analysis by specifying the involvement of local communities in main project activities	See part II, table 1. Stakeholder analysis	7
2.	Improve the risk analysis by identifying appropriate mitigation measures	See part II, section 2.9. Risk, last paragraph	13
3.	Further improve the indicators and means of verification of the logical framework by including measurable ones	See part II, section 5. Logical Framework worksheets	15 -16
4.	Provide more information on the sustainability of the project by specifying any institutional arrangements to ensure the continuation of activities initiated by the project	See part III, section 3. future Operation and Maintenance	28 - 29
5.	Include the conduct of a mid term evaluation of the project and reallocate the costs for ex-post evaluation (budget item 82) to the mid term evaluation in the budget	See part II Section 7.1, 7.3.1., 7.4.1., and 7.4.3., budget line 82	20,23,24,and 26
6.	Include an annex that shows the recommendation of the 37 th Expert Panel and the respective modification in tabular form. Modification should also be highlighted (bold and underline) in the text.	See Annex D. 37 th Expert Panel Recommended	37