INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT DOCUMENT

TITLE	DEMONSTRATION PLANTATION OF *XANTOXYLLUM RHETSA, MANILKARA KAUKI, ALSTONIA SCHOLARIS,* AND *WRIGHTIA PUBESCENS* TO PROMOTE SUSTAINABLE BALI NATURAL FOREST
SERIAL NUMBER	PD 137/02 Rev.2 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF INDONESIA
ORIGINAL LANGUAGE	ENGLISH

SUMMARY

The development objective of the project is to promote plantations of indigenous trees for the establishment of sustainable plantation forests. The specific objectives are to establish participatory *Xantoxyllum Rhetsa, Manilkara Kauki, Alstonia Scholaris*, and *Wrightia Pubescen* plantation areas and to develop tested technology for supporting the success of *Xantoxyllum Rhetsa, Manilkara Kauki, Alstonia Scholaris, and Wrightia Pubescens* plantations.

EXECUTING AGENCY	BALI PROVINCIAL FORESTRY SERVICE (Provincial Local Government) and REGIONAL TREE SEED CENTER (The Ministry of Forestry)		
COOPERATING GOVERNMENTS	---		
DURATION	24 MONTHS		
APPROXIMATE STARTING DATE	TO BE DETERMINED		
BUDGET AND PROPOSED SOURCES OF FINANCE	Source	Contribution in US $	Local currency Equipment
	ITTO	**261,438**	
	Gov't of Indonesia	30,860	
	TOTAL	**292,298**	

TABLE OF CONTENT

PART I. CONTEXT

1. Origin.

Bali Island has total area of 5,633 square km with 127,271 hectares of forest or 22.59 % of the total area. Bali is the first tourist destination area of Indonesia. The tourism industry has become the main source of income and has promoted other economy sector including handicraft production such as silver and statue production. Several of the raw materials for wood carving are *Xantoxyllum rhetsa* (Panggal Buaya), *Manilkara kauki* (Sawo Kecik), *Alstonia scholaris* (Pulai), *and Wrightia pubescens,* (Bentawas) wood which has unique texture and produce high market value statues .

Production forest in Bali with area of about 7.000 hectares is located in the west part of the island where *Xantoxyllum rhetsa, Manilkara kauki,, Alstonia scholaris, and Wrightia pubescens* was largely found. The excessive utilization of indigenous wood species for statue production has eliminated the extent of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris,* and *Wrightia pubescens* plantation.

The Regional Tree Seed Center (RTSC) and Bali Provincial Forestry Service (BPFS) have initiated their effort to rehabilitate the production forest and to study the possibility for the development of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* plantation. This efforts is limited due to unavailability of financial resources for seed quality test and preparation of demonstration plantation areas. Comprehensive study on seed characteristics and integrated efforts to establish *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* plantation is urgently needed including allocation of permanent areas for plantation development and involving local government and communities.

The project location, see Annex C

2. Forest Sector Policies

The Government of Indonesia has embarked decentralization in forest management. Based on Law no 22/1999 and Law no 25/1999. This policy will be implemented by promoting local involvement in managing and utilizing forest resources and empowering local institutions. To ensure security of forest resources, people oriented approach for the development of sustainable plantation forest will be promoted.

Based on Biological Diversity Law no 5/1990 conservation and sustainable management of biological resources is included in national priority actions plan. The effort to conserve and establish idigenuous trees should be promoted in line with this biodiversity law.

Development of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* plantation will promote the sustainability of the indigenous species and will maintain the extent of natural forest in Bali.

2. Programs and Operational Activities

The Ministry of Forestry has launched 5 priority programs for promoting sustainable forest management i.e.: curbing illegal logging, restructuring wood industry, controlling forest fire, decentralization and development of plantation forest. The development of plantation forest has been conducted through: allocation of plantation areas, development of seed center, research and applied study on seedling and plantation technology and promotion of local involvement in managing and utilizing forest resources.

Provincial spatial plan will be revised by accommodating other sector development needs without neglecting the roles of forest functions in maintaining sound environment. The revision of land use plan particularly for enhancing plantation forest will be undertaken through participatory boundary definition and democratic adoption process. The project is in line with priority program and its implementation will follow these operational guidelines for establishment of plantation forest.

PART II. THE PROJECT

1. Project Objectives

1.1. Development Project

The development objective of the project is to enhance plantation of indigenous trees for establishing sustainable plantation forest.

1.2. Specific Objectives

The project has the following specific objectives :

Specific objective 1 :

The first specific objective is to establish *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* plantation together with local communities in selected district

Specific objective 2 :

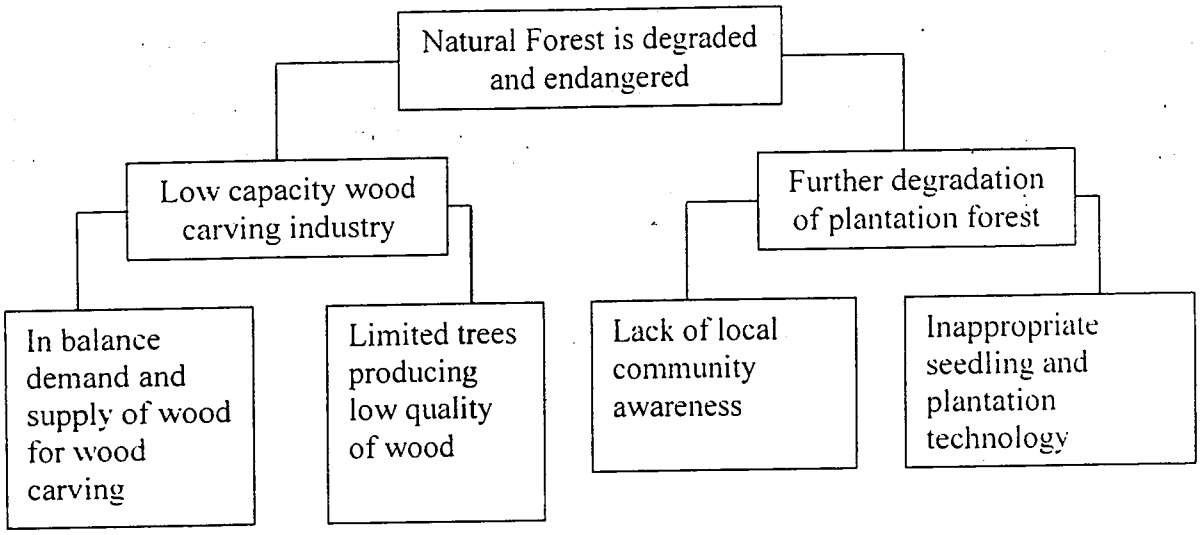
The second specific objective is to develop and test technology of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* plantation.

2. Justification

2.1. Problems to be addressed

- Critical land in Bali has reached 32,413 hectares, consisting of 8,953 hectares of forest area and 23,460 hectares of non-forest area. Forest resources in Bali need to be conserved and promoted.
- Local community has lack awareness in managing sustainable forest plantation.
- Seedling and plantation technology need to be improved particularly for indigenous species plantation.
- Demand of good quality of wood for woodcarving is much higher than potential supply.
- Remaining trees species in the plantation forest has been very limited to produce good quality of wood.

The problem tree could be presented into following flow chart:



2.2. Intended situation after Project completion

After project completion the intended situation are as follows:

- 150 hectaress forest plantation is established as demonstration plantation area.
- 20 hectaress seed orchard is established, improved techniques in seedling and planting is adopted.
- Local community participation and agroforestry practices are promoted in the management of indigenous species plantation areas.
- Guideline for sustainable plantation forest management is formulated.
- Supply of high quality of wood for wood carving is maintained and gradually increased.

2.3. Project Strategy

The strategy to achieve the project objective could be summarized as follows:

- Updating of land use plan involving local communities and related institution to ensure the security of planting forest.
- Established of seed orchard and improvement of seed quality test, seed vegetative test, generative test, and tissue culture test are directed to produce high quality of seed in sufficient number.
- Demonstration area for the indigenous tree species is expected to be enlarged by establishment of plantation forest in larger scale.
- To maintain the success of the plantation and to provide communities income, and to promote agroforestry techniques.
- Training and formulation of guidelines will ensure the success of the project in sustaining plantation forest in Bali island.

2.4. Target Beneficiaries

The main beneficiaries of this project are:

- Provincial, district and sub district local government
  Capability of local government in managing forest plantation and maintaining natural forest will be improved. This development is relevant to the empowerment of local government and local community in the decentralization process.

- Local community
  Active participation in the establishment of the plantation forest with agroforestry techniques will provide more income to the local community.

- Private and home industries using high quality and sufficient amount of wood for statue production, handicraft and wood carving industries.

- Researchers, professionals and technical forestry officers engaged in the project activities.

2.5. Technical and scientific aspects

The project will promote technology development including seedling techniques, and plantation management models. Capability of researchers in seed quality test will promote the availability of good quality seeds in sufficient number.

While development of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* have already been known in simple technique, those three species have been planted, although it was not observed yet scientifically. Several technical requirements needed to be developed for those forest plantations, which are as follow:

a. ***Xantoxyllum rhetsa***
   Naturally this species can be found in the D-F (Scale Schmidt and Ferguson) climate area, in 0 – 100 m above sea level elevation and in brown Mediterranean and brown latosol soil. The plantation of this species can be done by generative technique. In the early 1970's, this species has been planted in Sumber Klampok village (about 10 km from project site planned). Although it has not been researched scientifically yet.

b. ***Wrightia pubescens***
   This species grows in the same climate and soil requirement with *Xantoxyllum rhetsa*. This species also has been planted in same location and time with *Xantoxyllum rhetsa.*

c. *Alstonia scholaris*

In Bali this species can be found spread out naturally in low land area up to elevation of ± 500 m above sea level, in C-E (scale Schmidt and Ferguson) climate area and in latosol and regusol soil. The plantation of this species can be done by generative and vegetative techniques. Man made plantation has not been done yet in Bali but from the references, this species has been planted in the other province in Indonesia in small scale.

d. *Manilkara kauki*

Naturally this species can be found in the north of Bali Barat. Spreading out in low land area until elevation 0 - 300 m above sea level, in D (scale Schmidt and Ferguson) climate area and in mediterranean soil. The plantation of this species can be done by generative technique. This species has been planted around Sumber Klampok and the other parts in Bali.

The demonstration plantation and seed orchard activities will be done in Pejarakan village, Buleleng district (around 10 km from Sumber Klampok and around 147 km from Denpasar), the elevation is 0-100 m above sea level, in D (scale Schmidt and Ferguson) climate area and in latosol and Mediterranean soil. The area is suitable and can fulfill silvicultural requirement for these species.

The land status of project area is in national forest with production forest function. The area is closely located nearby Bali Barat National Park.

Participatory management and utilization of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* plantation will be enhanced during implementation of the project. **Experience and knowledge of planting techniques will support development of those species in wide scale in Bali, especially in the area that can fulfill the silviculture requirements. Similar opportunity can also be obtained by researchers to implement seed quality test, so in the future the good quality of seed will be produced in sufficient number.**

Guidelines on plantation management and techniques, seed improvement, and reproduction will be produced and distributed to related users. Transfer of technology will be conducted trough training for local community and local officers. The success of the plantation will increase productivity of production forest and increase soil fertility.

2.6. Social and Economic aspect

The communities surrounding the area are farmers whose ownership of land are limited and have low prosperity. **Farming system of the community depends on the climate (dry land farming) while in average, education levels of the communities are low (elementary school/ Junior high school). The forest existence is very important aspect of local communities and their lives depend on the forest.**

Consider in that matter the implementing of the project will be done by agroforestry system. In this system, the community is permitted to plant the seasonal crops among the main trees, until the leaf of the tree cover the land (± 5 year). The community will be actively involved on the whole plantation activities until the forest can produces (seed, services and the other forest products). In the future, the community will get a part of forest product, the part value for each side (government and community) will be discussed on the early plantation activities. As comparison in Java with the same plantation system, the community can get 15 % of total production value.

The maintenance and protection of plantation activities will be done together by government and community. Government will provide the equipments (including forest fire equipments), training, and guidance and community development). While the community will provide man power and establish the local regulation to avoid and control the forest destruction. In the project term, maintenance activities are: replanting, grass cutting, land hoeing and avoiding the pest and diesis, and forest fire protection.

The plantation also requires maintenance and continued evaluation of performance beyond the project duration. Some maintenance activities required are replanting, grass cutting, thinning activities and choosing on the main trees for seed production, forest protection (from pest and diesis, forest fire, and illegal logging) and pruning.

Participatory plantation development of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* will create additional revenue for local government and income for local communities due to high market value of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* woods. Local industry particularly handicraft and statue production will also be promoted.

Since the plantation area of the indigenous tree species is located nearby Bali Barat National Park, the area will be included as tourist area destination of Bali. Production of statue and handicraft will support tourism industry. Small wood carving industries using wood from the plantation forest will also contribute additional income for the local communities.

The tendency of forest encroachment by local community could be avoided therefore appreciation to the law will be enhanced. Sustainable management of plantation forest **using agroforestry system** introduced by the project will maintain social asset of productive land in Bali Island. It is believed that by involving them in plantation activity will give benefit for both sides. One hand, plantation project will be well done and the other hand the society prosperity will arise.

2.7. Environmental aspect

Degraded production forest will be rehabilitated trough development of sustainable *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* plantation. Erosion and flood will be reduced and soil fertility will be enriched by introduction of the plantation. Having prospective plantation, local community will not

disturb conservation and protection forests. Development of seedling techniques will conserve indigenous species including *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* as important biological diversity asset of Bali.

2.8. Risk

The implementation of the project will involve all related stakeholders, it is therefore anticipated risks will be avoided. Allocation of plantation areas in land use plan will be decided in consultative meeting attended by all related parties. Established local community groups which manage the plantation will maintain the sustainability of project outputs. Participation of expert in seedling techniques will support the success of the plantation activities.

3. Outputs

3.1. Specific objective 1 :
To establish participatory *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris,* and *Wrightia pubescens* plantation areas in selected Districts

Output 1.1 : Updated forest land use indicating plantation forest areas
Output 1.2 : Established Demonstration plantation areas of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens*
Output 1.3 : Developed local community group for management of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris,* and *Wrightia pubescens* plantation

3.2. Specific objective 2 :
To develop seed tested technology for *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris,* and *Wrightia pubescens* plantation

Output 2.1 : Established seed orchard of *Xantoxyllum rhetsa* and *Manilkara kauki, Alstonia scholaris,* and *Wrightia pubescens*
Output 2.2 : Developed seedling techniques
Output 2.3 : Formulated guidelines for seedling techniques, planting and harvesting

4. Activities

4.1. Specific objective 1: To establish participatory *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris,* and *Wrightia pubescens* plantation areas in selected Districts

Output 1.1 : Updated Land use indicating plantation forest areas
Activity 1.1.1 : Physical survey
Activity 1.1.2 : Social Economic survey
Activity 1.1.3 : Development of Land use map
Activity 1.1.4 : Adoption workshop

Output 1.2 : Established Demonstration plantation areas of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris,* and *Wrightia pubescens*

Activity 1.2.1 : Survey location for selecting demonstration areas
Activity 1.2.2 : Demonstration areas designing
Activity 1.2.3 : Plantation development in demonstration areas and **maintenance of forest plantation**

Output 1.3 : Developed local community group for management of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris,* and *Wrightia pubescens* plantation
Activity 1.3.1 : Awareness raising seminar
Activity 1.3.2 : Training and Study tour
Activity 1.3.3 : Local community meeting

4.2. Specific objective 2: To Develop tested technology for *Xanthoxyllum rhetsa* and *Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* plantation

Output 2.1 : Established seed orchard of *Xanthoxyllum rhetsa* and *Manilkara kauki, Alstonia scholaris, and Wrightia pubescens*
Activity 2.1.1 : Seed collection
Activity 2.1.2 : Seed orchard area designing
Activity 2.1.3 : Seed orchard planting and **maintenance of seed orchard**

Output 2.2 : Developed seedling techniques
Activity 2.2.1 : Seed quality test
Activity 2.2.2 : Seed vegetative test
Activity 2.2.3 : Seed generative test
Activity 2.2.4 : Tissue culture test

Output 2.3 : Formulated guidelines for seedling and planting techniques
Activity 2.3.1 : Guidelines on seed improvement and reproduction
Activity 2.3.2 : Guidelines on plantation and management of *Xanthoxyllum rhetsa* and *Manilkara kauki, Alstonia scholaris, and Wrightia pubescens.*
Activity 2.3.3 : Reproduction and distribution of guidelines

5. Logical Framework

PROJECT ELEMENTS	INDICATOR	MEANS OF VERIFICATION	ASSUMPTION
DEVELOPMENT OBJECTIVE: To maintain Bali Natural Forest through development of economically productive *Xantoxyllum rhetsa, Manilkara kauki, Altonia Sp,* and *Wrightia pubescens* plantation	• Stability of protection and conservation forest • Production forest cover	• Land use map • Monitoring data • Progress reports	Commitment to the adopted land use plan is maintained
Specific objective 1. To establish participatory *Xantoxyllum rhetsa, Manilkara kauki, Altonia Sp,* and *Wrightia pubescens* plantation areas in selected district.	• Extent of plantation area in west Bali • Existence of three groups of local community	• Area of plantation • Number of trees • Number of local community group	Participation of all related stakeholders
Output 1.1 : Updated forest land use indicating plantation forest areas	Adopted revised land use plan	Land use map and statistic of forest land use	Adoption process involving all related sectors and parties.
Output 1.2 : Established demonstration plantation areas of *Xantoxyllum rhetsa, Manilkara kauki, Altonia Sp,* and *Wrightia pubescens*	The 150 hectares of demonstration plantation areas has be planted	• Demonstration plantation area map • Plantation and **maintenance** monitoring data	**Maintenance plantation of demonstration** areas is well conducted
Output 1.3 : Developed local community group for management of *Xantoxyllum rhetsa, Manilkara kauki, Altonia Sp,* and *Wrightia pubescens*	• Organization chart and list of activities • 60 persons of trained local people	• Report of group meeting • Report of group activities • Report of training • Report of awareness seminar	Active participation of group members
Specific objective 2. To develop tested technology for *Xantoxyllum rhetsa, Manilkara kauki, Altonia Sp,* and *Wrightia pubescens* plantation	• Number of good quality seed • Number of seedling produced	• Growth monitoring data • Plantation report	Planting period is at correct time

PROJECT ELEMENTS	INDICATOR	MEANS OF VERIFICATION	ASSUMPTION
Output 2.1: Establish seed orchard of *Xantoxyllum rhetsa, Manilkara kauki, Altonia Sp,* and *Wrightia pubescens*	• 20 hectares of seed orchard area • Number of collected different seeds	• Seed orchard area map and design • Plantation and maintenance data • Report of seed collection and its origin	Maintenance of seed orchard as well conduct Seed collection is completely done
Output 2.2 : Developed seedling techniques	• Number of seed tested in the laboratory • Number of different laboratory test	Report of seed quality, vegetative, generative and tissue culture test	Available laboratory analyst as required
Output 2.3 : Formulated guidelines for seedling and planting	Number of guideline and number of copies	• Guideline publication • List of distribution	

6. Work Plan

Output/ Activities	Responsible Party	Year 1												Year 2											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Output 1.1																									
A.1.1.1	BFS																								
A.1.1.2	BFS																								
A.1.1.3	BFS																								
A.1.1.4	BFS																								
Output 1.2																									
A.1.2.1	BFS/RTSC																								
A.1.2.2	BFS																								
A.1.2.3	BFS/RTSC																								
Output 1.3																									
A.1.3.1	BFS/RTSC																								
A.1.3.2	BFS/RTSC																								
A.1.3.3	BFS																								
Output 2.1																									
A2.1.1	RTSC/BFS																								
A2.1.2	RTSC/BFS																								
A2.1.3	RTSC/BFS																								
Output 2.2																									
A.2.2.1	RTSC																								
A.2.2.2	RTSC																								
A.2.2.3	RTSC																								
A.2.2.4	RTSC																								
Output 2.3																									
A.2.3.1	RTSC																								
	RTSC/BFS																								
A.2.3.3	RTSC/BFS																								

7. Budget

71. Overall Project Budget by Activity

Output	Activities	10. Projec Personal	20. Sub-contract	30. Duty Travel	40. Capital Items	50. Consum-able Item	60. Miscella-neous	Quarter Year	Grand Total
Output 1.1	Updated forest landuse plantation forest area								
Activity 1.1.1	Phisical survey	4,000	0	6,280	1,500	200	0	(Q1-Q2).Y1	11,980
Activity 1.1.2	Social economic survey	4,000	0	6,280	1,000	300	0	(Q1-Q2).Y1	11,580
Activity 1.1.3	Development of land use map	2,400	1,000	0	0	2,000	0	(Q1-Q2)Y2	5,400
Activity 1.1.4	Adoption workshop	0	0	2,900	0	1,100	350	Q2.Y1	4,350
Output 1.2	Establishment demontration plantation areas of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris* , and *Wrightia pubescens*								
Activity 1.2.1	Survey location for selecting demonstration areas	0	0	1,630	500	100	0	Q2.Y1	2,230
Activity 1.2.2	Demonstration area designing	1,250	0	0	500	100	0	Q2.Y1	1,850
Activity 1.2.3	Plantation development in demonstration areas and maintenance of plantation	650	40,000	35,400	4,500	52,500	3,800	(Q3-Q4)Y1;Q1.Y2	136,850
Output 1.3	Developed local community group for management of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris* , and *Wrightia pubescens*								
Activity 1.3.1	Awareness raising seminar	0	0	1,500	0	1,100	650	Q1.Y2	3,250
Activity 1.3.2	Training and study tour	1,300	0	1,300	0	100	650	Q2.Y1	3,350
Activity 1.3.3	Local community meeting	0	0	600	0	0	900	Q2.Y1	1,500
Output 2.1	Established seed orchad of *Xantoxyllum rhetsa* , *Manilkara kauki, Alstonia scholaris,* and *Wrightia pubescens*								
Activity 2.1.1	Seed collection	0	0	6,150	780	200	0	(Q2-Q3)Y1	7,130
Activity 2.1.2	Seed orchard area designing	1,200	0	0	0	0	0	Q2.Y1	1,200
Activity 2.1.3	Seed orchard planting and maintenance of seed orchard	100	0	2,430	0	16,500	1,300	(Q3-Q4)Y1	20,330
Output 2.2	Developed seedling techniques								
Activity 2.2.1	Seed quality test	5,000	0	0	100	1,000	0	(Q3-Q4)Y1	6,100
Activity 2.2.2	seed vegetative test	12,700	0	0	2,000	800	0	Q3.Y1;Q3.Y2	15,500
Activity 2.2.3	Seed generative test	2,000	0	0	1,000	1,000	0	(Q3-Q4)Y1	4,000
Activity 2.2.4	Tissue culture test	3,200	0	0	4,500	5,000	0	Q3.Y1;Q3.Y2	12,700

Output	Activities	10. Projec Personal	20. Sub-contract	30. Duty Travel	40. Capital Items	50. Consum-able Item	60. Miscella-neous	Quarter Year	Grand Total
Output 2.3	Formulated guidelines for seedling and planting techniques								
Activity 2.3.1	Guidelines on seed improvement and reproduction	1,300	1,000	0	0	600	0	Q1.Y2	2,900
Activity 2.3.2	Guidelines on plantation and management of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris* , and *Wrightia pubescens*	1,300	1,000	0	0	600	0	Q4.Y2	2,900
Activity 2.3.3	Reproduction and distribution of guidelines	1,200	1,000	0	0	500	200	Q4.Y2	2,900
NON ACTIVITY-BASED EXPENSES									
- Office maintenance		0	0	0	0	0	2,000	Y1-Y2	2,000
- Reporting activities		0	0	0	0	1,000	1,500	Q1.Y1; Q4.Y2	2,500
ITTO review and administration cost									
- Monitoring		0	0	0	0	0	10,000	Q4.Y1; Q4.Y2	10,000
- Join Evaluation		0	0	0	0	0	5,000	Q4.Y2	5,000
- Project Support Cost		0	0	0	0	0	14,798	Y1-Y2	14,798
GRAND TOTAL		**41,600**	**44,000**	**64,470**	**16,380**	**84,700**	**41,148**		**292,298**

72. Yearly Budget by Source

(a) ITTO

Annual disbursemet / Budget Component	Total	Year 1	Year 2
10. Project Personal	39,900	23,175	16,725
20. Sub Contract	44,000	41,000	3,000
30. Duty travel	54,140	33,500	20,640
40. Capital Items	2,600	700	1,900
50. Consumable Items	83,200	60,200	23,000
60. Miscellaneaous	5,300	3,300	2,000
Sub Total A	229,140	161,875	67,265
70. Excecuting Agency Management Cost			
- Office Maintenance	0	0	0
- Reporting Activities	2,500	1,250	1,250
ITTO Review and Administration Cost			
- Monitoring	10,000	5,000	5,000
- Join Evaluation	5,000	0	5,000
Sub Total B	17,500	6,250	11,250
- Project Support Cost (6%)	14,798	7,399	7,399
ITTO Total	261,438	175,524	85,914

(b) GOI

Annual disbursemet / Budget Component	Total	Year 1	Year 2
10. Project Personal	1,700	925	775
20. Sub Contract	0	0	0
30. Duty travel	10,330	6,500	3,830
40. Capital Items	13,780	10,780	3,000
50. Consumable Items	500	300	200
60. Miscellaneaous	2,550	1,250	1,300
Sub Total A	28,860	19,755	9,105
70. Excecuting Agency Management Cost			
- Office Maintenance	2,000	1,500	500
- Reporting Activities	0	0	0
ITTO Review and Administration Cost			
- Monitoring	0	0	0
- Join Evaluation	0	0	0
Sub Total B	2,000	1,500	500
GOI Total	30,860	21,255	9,605
GRAND TOTAL ITTO + GOI	292,298	196,779	95,519

7.3 Consolidation Yearly Project Budget

	Budget Components	Total	Year 1		Year 2	
			GOI	ITTO	GOI	ITTO
10	Project Personal					
	11. International Expert	11,300	0	6,000	0	5,300
	12 National Expert	11,200	0	6,000	0	5,200
	13. Technical staff	19,100	925	11,175	775	6,225
	19. Component Total	**41,600**	**925**	**23,175**	**775**	**16,725**
20	Sub-contract					
	21. Printing map	1,000	0	1,000	0	0
	22. Seedling	40,000	0	40,000	0	0
	23. Printing guidelines	3,000	0	0	0	3,000
	29. Component Total	**44,000**	**0**	**41,000**	**0**	**3,000**
30	Duty Travel	0				
	31. Duty travel and DSA	64,470	6,500	33,500	3,830	20,640
	39. Component Total	64,470	**6,500**	**33,500**	**3,830**	**20,640**
40	Capital Items	0				
	41. Computer	2,500	2,500	0	0	0
	42. Survey instruments	3,000	3,000	0	0	0
	43. Seed collection equipment	780	780	0	0	0
	44. Laboratory equipment	5,500	2,900	700	0	1,900
	45. Planting equipment	1,100	1,100	0	0	0
	46. Maintenance equipment	3,500	500	0	3,000	0
	49. Component Total	**16,380**	**10,780**	**700**	**3,000**	**1,900**
50	Consumable Items	0				
	51. Office suplies	7,100	300	3,700	200	2,900
	52. Map	2,000	0	2,000	0	0
	53. Material plantation and maintenance	69,600	0	52,500	0	17,100
	support	0				
	54. Laboratory material	5,000	0	2,000	0	3,000
	59. Component Total	**83,700**	**300**	**60,200**	**200**	**23,000**
60	Miscelaneous	7,850	1,250	3,300	1,300	2,000
	69. Component Total	**7,850**	**1,250**	**3,300**	**1,300**	**2,000**
	Sub Total A	**258,000**	**19,755**	**161,875**	**9,105**	**67,265**
70	Excecuting Agency Management	0				
	71. Office mainteannce	2,000	1,500	0	500	0
	72. Reporting activity	2,500	0	1,250	0	1,250
	79. Component Total	**4,500**	**1,500**	**1,250**	**500**	**1,250**
80	ITTO Monitoring, Evaluation and	0				
	Administration	0				
	81. Monitoring	10,000	0	5,000	0	5,000
	82. Join Evaluation	5,000	0	0	0	5,000
	89. Component Total	**15,000**	**0**	**5,000**	**0**	**10,000**
100	**Projevt Support Cost (6%)**	**14,798**	**0**	**7,399**	**0**	**7,399**
	Sub Total B	**34,298**	**1,500**	**13,649**	**500**	**18,649**
	GRAND TOTAL	**292,298**	**21,255**	**175,524**	**9,605**	**85,914**

PART III. OPERATIONAL ARRENGEMENTS

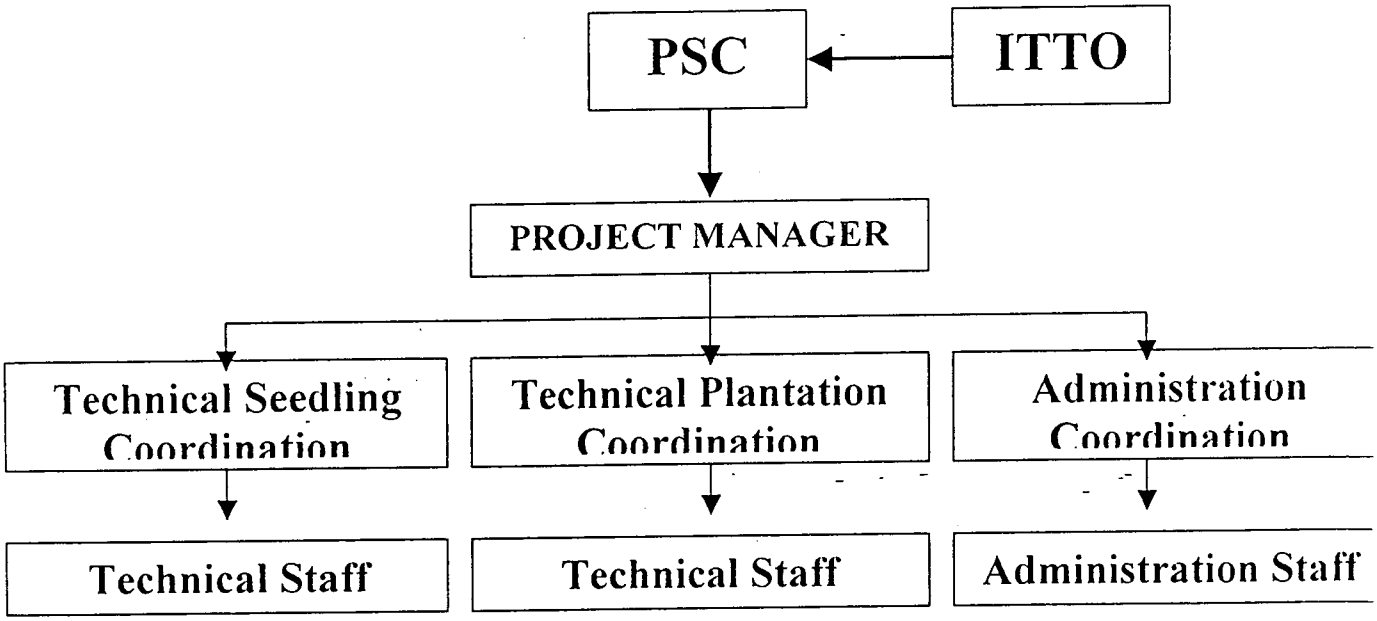
1. Management Structure

Project will be implemented by a Management Unit under supervision Bali Province Forest Service (BFS) and The Regional Tree Seed Centre (RTSC).

To monitor the project, a Project Steering Committee (PSC) will be established and will meet once a year. Members of the committee are:

- Director General Land Rehabilitation and Social Forestry
- Head of Bureau of International Cooperation (Biro KLN)
- Head of The Management Unit
- Representative of ITTO
- Head of Bali Province Forest Service
- Head of Regional Tree Seed Centre
- Representative of donors

The organization structure of the project is as follows:



2. Monitoring, Reporting and Evaluation

2.1. Monitoring

The project will be subject to annual monitoring by the representative of ITTO. Monitoring of the project will also be conducted by the PSC trough its biannual meeting

2.2. Reporting

The Project Executing Team shall prepare progress report semi-annually and submit them to the Project Steering Committee for approval before being submitted to ITTO and the Government of Indonesia. The first progress report will be submitted 6 months after the project start-up, provided some achievement of the project outputs have been obtained. Otherwise, project report will be submitted as required by ITTO, 2 months before Council Session.

2.3. Evaluation

An evaluation mission is planned to take place four month before project completion, that is 32 months after the project starting date. The composition of the evaluation missions will be determined by the steering committee in agreement with ITTO.

3. Future Operation and Maintenance

The Bali Province Forest Service and The Regional Tree Seed Centre will carry out future Operation and Maintenance. Bali Provincial Government will allocate yearly maintenance budget after project terminated.

PART IV. THE TROPICAL TIMBER FRAMEWORK

1. Compliance with ITTA 1994 objectives

The proposed project complies with the ITTA Objectives laid out in Article 1 of 1994 International Timber Trade Agreement (ITTA) and will contribute to the advancement of the Agreement of the following objectives:

c. To contribute to the process of sustainable development.

d. To enhance the capacity of members to implement a strategy for achieving export of tropical timber products from sustainable managed sources by the year 2000.

l. To encourage members to support develop industrial tropical timber reforestation and forest management activities of local communities dependent on forest resources.

2. Compliance with ITTO Action Plan

This proposed project complies with ITTO Action Plan particularly with the committee of Reforestation and Forest Management

Goal 1: Support Activities to Secure Tropical Timber Resource Base.

Actions:

1. Promote the conservation, rehabilitation and sustainable management of threatened forest ecosystem, *inter alia* mangroves, in collaboration with relevant organizations.
1. Encourage Members and assist, where appropriate, to:
   - Secure the forest resource base through the implementation of forest policy, legislation and associated strategies, revised and updated where appropriate, which address:
     - ~ Land use planning which defines forests appropriates for production and provides sufficient representation through protected, reserved, and conservation areas to ensure bio-diversity conservation and watershed protection;
     - ~ National guideline and regulations for forest utilization, which ensure local stakeholder rights and secure conservation and environmental services.

Goal 2: Promote Sustainable Management of Tropical Forest Resources.

Actions:

10. Encourage Members and assist, where appropriate, to:

- Improve the productive capacity of natural forest, where appropriate, though intensified silvicultural practices, better utilization or lesser-used species, promotion of non-timber forest products, guided natural regeneration, enrichment planting and reforestation;

- Implement research and development activities in the management of secondary tropical forest restoration and degraded tropical forests and rehabilitation of degraded forest land, taking into consideration ITTO guidelines;

ANNEX A
PROFILE OF THE EXECUTING AGENCY

I. BALI FOREST SERVICE

1. Official : 311 persons
   a. Forester : 18 person
   b. Economy : 6 person
   c. Agriculture : 10 person
   d. Forestry Senior High School : 13 person
   e. Senior High School : 264 person
2. Facility :
   a. Permanent seedling : 10 Hectare

II. REGIONAL TREE SEED CENTER DENPASAR

1. Official : 46 persons
   a. Forester : 5 person
   b. Agriculture : 2 person
   c. Soil Conservation : 1 person
   d. Economy : 2 person
   e. Forestry Senior High School : 4 person
   f. Senior High School : 32 person
2. Facility :
   a. Laboratory seed testing
   b. Demo room Tree seed
   c. Green house
   d. Cutting garden
   e. Seed source Xanthoxyllum rethsa and *Manilkara kauki*
   f. Data base seed source
   g. Demo plot Xanthoxyllum rethsa and *Manilkara kauki*

ANNEX B
CURRICULUM VITAE OF KEY PERSON

1.	Name	: I Made Subadia
	Date of birt	: July 14, 1952
	Place of birt	: Tabanan, Bali
	Nationality	: Indonesia
	Education and Qualification	: Dept of Siviculture, Faculty of Forestry, Gadjah Mada University, 1977.
	Personal Experience	
	1983 -1985	: Head of Forest Development of Bali Provincial Forestry Service.
	1985 – 1991	: Head of Program affair of Bali Provincial Forestry Service.
	1991 – 1994	: Head of Forest Development of Central Sulawesi Provincial Forestry Service.
	1994 – 1999	: Head of National Resource Concervation of South Sulawesi Forestry regionasl service
	1999 – 2001	: Head of Bali Forestry regionasl service
	July 2001 to date	: Head of Baii Provincial Forestry Service.

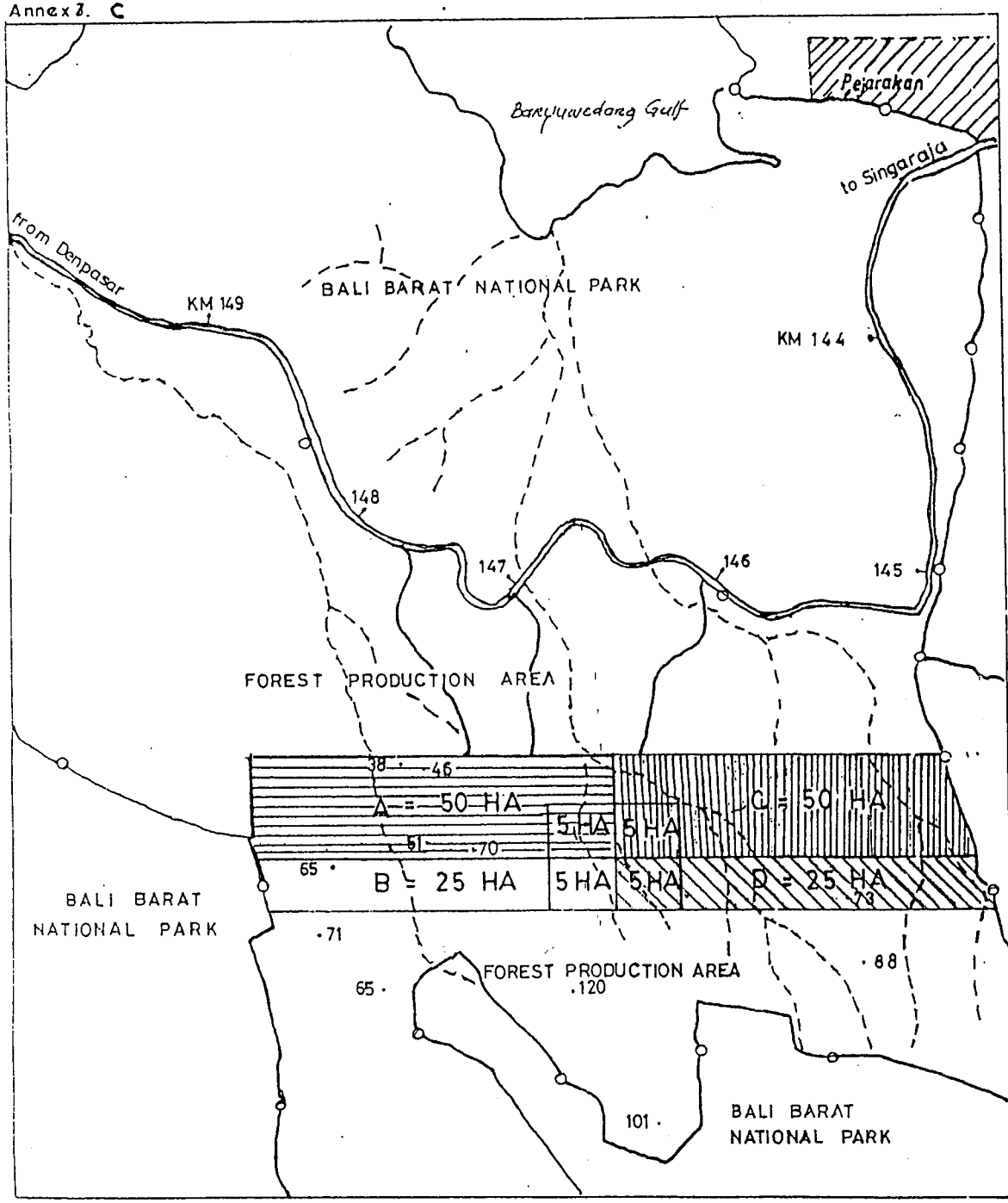
2	Name	: I Made Gunaja
	Date of birt	: Juni 20, 1964
	Place of birt	: Tabanan, Bali
	Nationality	: Indonesia
	Education and Qualification	: Dept of Conservation, Faculty of Forestry, Gadjah Mada University, 1989.
	Personal Experience	
	1993 -1995	: Section Head of Forestry Monitoring, Irian Jaya Provincial Forestry Service.
	1995 – 2000	: Section Head of Program afair Irian Jaya Provincial Forestry Service.
	2000 – 2001	: Section Head of Forest Product Utilize, Bali Forestry regionasl service
	July 2001 to date	: Section Head of Development Plan of Bali Provincial Forestry Service.

3. Name : Arief Mahmud
Date of birth : November 30, 1967
Place of birth : Surakarta, Central Java
Nationality : Indonesia
Education and Qualification :
: Dept of Forest Resource Conservation, Faculty of Forestry, Bogor Agriculture University, 1991

Professional experience :

1997-1999	: Section Head of Reforestation, East Timor Forestry Province Office
1999-2001	: Section Head of Evaluation and Report, Bali Forestry Province Office
July 2001 to date	: Counterpart on Mangrove Information Centre, Bali

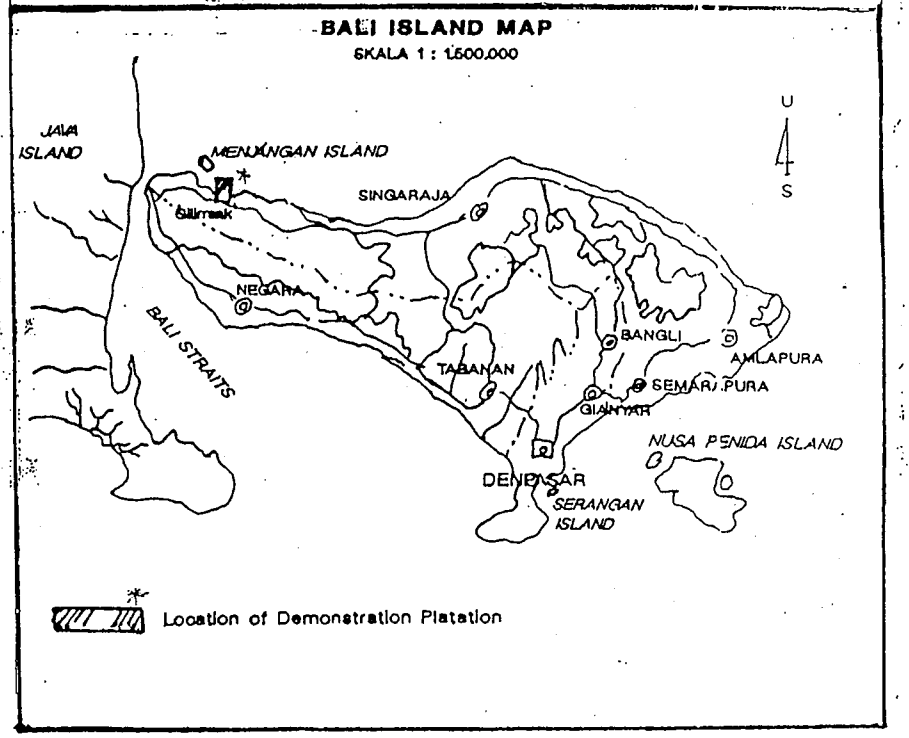
Annex 8. C



MAP OF DEMONSTRTION PLANTATION LOCATION
BULELENG DISTRICT, WEST BALI
WIDE : 170 HA
SCALE 1 : 25,000

LEGEND :

- A — Location of *Xantoxyllum rhetsa* plantation
- B — Location of *Manilkara kauki* plantation
- C — Location of *Alstonia scholaris* plantation
- D — Location of *Wrightia pubescens* plantation
- 147 — Main road and Km point
- Foot path
- Village
- Forest border



ANNEX D :

RESPONSES TO RECOMMENDATIONS OF THE TWENTY-THIRD PANEL

I. RECOMMENDATION OF THE TWENTY-THIRD PANEL

PD 137 /02 (F) **Development of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* to Promote Sustainable Bali Natural Forest plantation (Indonesia)**

Assessment by the Twenty–third Panel

A) Overall assessment

The panel understood that the proposal attempt to address the local demand of wood as raw material for wood carving in Bali. However, the panel felt that the proposal was lacking more detailed information on the four tree species selected for plantation and their silviculture, as well as details on site land use and land tenure which are needed to assess the feasibility of the plantation establishment proposal.

The panel observed that community aspects have not been elaborated and it was unclear to the panel how the local community would be involved in the plantation establishment. Agroforestry was mentioned under section " intended Situation after the Project Completion " but the panel noticed that none of the proposal project activities were related to agroforestry. The panel also felt that plantation requires maintenance and continued evaluation of performance beyond the project duration. It noted that guidelines on plantation establishment and management would be expected as an output, but it would be premature to include harvesting in such guidelines.

With regard to the Budget, the presentation of budget tables by activities and by sources appeared inconsistent.

B). Specific Recommendations

The proposal requires revision taking into account the above assessment and the specific following points :

1. Further elaborate the technical aspects by providing details about each of the four selected species and the relevant silvicultural techniques for plantation establishment;
2. Clarify the land use and land tenure system in Bali and implications for plantation establishment and the "owner ship " status of plantations. Provide maps of intended planting areas, current land use status and suitability of the sites for plantations;

3. Elaborate the socio-economic background, and community aspects, and provide details on how the local community would be involved in the plantation establishment;
4. Clarify and detail the proposed maintenance program for the plantations and seed orchard, including the role of the community and fire protection aspects for the project;
5. The project title should refer to a " demonstration plantation "
6. Rectify the budget presentation to make it consistent in all tables and increase the contribution from the Bali Forestry office to this project; and
7. Include an annex, which shows the recommendations of the panel and the respective modifications in tabular form.

C) Conclusion

The panel concluded that, with the incorporation of the amendments noted, the project proposal could be commended to the Committee for final appraisal. In the view of the panel, this project proposal is eligible for consideration for financing from the Bali partnership Fund in accordance with Decision 8 (XXV).

II. ACTION TAKEN IN THE PROPOSAL TO RESPOND THE RECOMMENDATION

Actions taken to respond the recommendation were written in bold type font style as indicated on pages mention in the following table.

Recommendation	Action taken in proposal
1. Further elaborate the technical aspects by providing details about each of the four selected species and the relevant silvicultural techniques for plantation establishment	Silvicultural techniques for each species are explained in Technical and scientific aspects (page 5-6)
2. Clarify the land use and land tenure system in Bali and implications for plantation establishment and the "ownership " status of plantations. Provide maps of intended planting areas, current land use status and suitability of the sites for plantations	▪ Land use land tenure system are discussed on page 6 ▪ Map is provided on ANNEX C ▪ Suitability of the site is discussed on page 6
3. Elaborate the socio-economic background, and community aspects, and provide details on how the local community would be involved in the plantation establishment	Socio-economic background and involving local community are discussed on page 6 and 7.
4. Clarify and detail the proposed maintenance program for the plantations and seed orchard, including the role of the community and fire protection aspects for the project	Maintenance program, including the role of the community and fire protection aspects are explained in Social and economic aspect (page 7)

Recommendation	Action taken in proposal
5. The project title should refer to a "demonstration plantation "	New title: "Demonstration plantation of *Xantoxyllum rhetsa, Manilkara kauki, Alstonia scholaris, and Wrightia pubescens* to Promote Sustainable Bali Natural Forest" (please refer to cover page)
6. Rectify the budget presentation to make it consistent in all tables and increase the contribution from the Bali Forestry office to this project	The budget presentation has made consistent in all tables (page 13-16). The Bali Forestry Service contribution is increased from S US 21,860 become $ US 30.860 (page 15)
7. Include an annex. which shows the recommendations of the panel and the respective modifications in tabular form	Annex D: Responses to Recommendations of The Twenty-third Panel (page 25-27)
8. Agroforestry was mentioned under section " intended Situation after the Project Completion " but the panel noticed that none of the proposal project activities were related to agroforestry	Agroforestry is discussed on Social and Economic aspect (page 6-7)
9. Plantation requires maintenance and continued evaluation of performance beyond the project duration	Plantation requires maintenance and continued evaluation of performance beyond the project duration are discussed on page 7 and page 14
10. Guidelines on plantation establishment and management would be expected as an output, but it would be premature to include harvesting in such guidelines	Guideline for harvesting is removed from output 2.3 (page 7-8)