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**MINISTRY OF FORESTRY
FORESTRY RESEARCH AND DEVELOPMENT AGENCY**

**IN COOPERATION WITH
INTERNATIONAL TROPICAL TIMBER ORGANIZATION**



Bogor – Indonesia
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**Technical Report No. 01
of Activity 1.1.1 ITTO PROJECT PD 426/06 Rev. 1 (F)**

**THE PREVENTION OF FURTHER LOSS AND THE PROMOTION OF REHABILITATION
AND PLANTATION OF *GONYSTYLUS SPP* (RAMIN) IN SUMATRA AND KALIMANTAN**

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Photo by Study Team

FOREWORD

Data and informations on ramin seed sources are very important to develop ramin plantation. Data and informations were collected in two provinces, West Kalimantan and Central Kalimantan. This report contains result of exploration of ramin seed sources in these two provinces. Several institutions were visited such as Forest Research Institution, Provincial and District Forest Service, University, NGO and Sebangau National Park. Additional data and informations were also collected through literature search.

Several findings are summerized below:

1. Ramin population is widely distributed in West and Central Kalimantan. However, the existing population is seriously under threat due to over exploitation. Moreover, most of the existing natural distributions are located in non secure forest area or in what the so called "convertible forest land for other uses" (Areal hutan untuk Penggunaan Lain-APL). Therefore, it is recommended that the suitable site for seed sources of ramin should be immediately bordered and designated.
2. The Air Be(r)guruh in Tanjung Pura village, District of Ketapang is the most suitable and potential site for ramin seed source. Population density is high with abundant of seedlings and saplings. This site could be source of vegetative materials for vegetative propagation. It is recommended that this site is immediately designated for seed source of ramin in West Kalimantan.
3. In Central Kalimantan, the certified seed source of ramin is in Lahei, Kecamatan Mentangai, District of Kapuas. This site is the best seed source for ramin in Central Kalimantan. In order to secure this site, it is recommended that maintenance and protection from other potential disturbance be intensified.
4. The support from local stakeholders to conserve ramin habitat and plantation activity should be considered as an opportunity to promote rehabilitation and conservation of ramin. Local government should actively participate in the management of peat swamp forest, as sources of timber and the sources of biodiversity by maintaining the peat swamp forest from conversion to other uses.

It is expected the above findings are useful in order to promote ramin plantation and rehabilitation.

The project would like to thank to those who have given their valuable contribution to this report.

Project Coordinator

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Authors

SUMMARY

This technical report is based on the exploration conducted in two provinces, West and Central Kalimantan, in April and June 2007. Data and information were collected from related institutions and field visits. Results indicated that, ramin distributes widely in peat swamp forest area in these two provinces. However, due to over exploitation in the past, the current population of this species has been seriously decline. During this exploration, ramin population is found only in fragmented areas in several districts. There is no record on ramin population in South Kalimantan province. In West Kalimantan, relatively good ramin population is found in Air Beguruh of Tanjung Pura village, District of Ketapang. This population is the most suitable and favorable for seed source of ramin. In Central Kalimantan, relatively large ramin population is found in Lahei, Kecamatan Mentangai, District of Kapuas and this area is the best source of ramin seed and seedlings. In other locations, ramin population is relatively small and spread out to remote areas. In order to secure seed source of ramin in the future, more seed sources should be explored and the existing seed sources should be well protected and maintained from illegal cutting or conversion to other uses.

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ABBREVIATIONS

APL	Areal Hutan untuk Penggunaan lain (Convertible Forest Land)
BKSDA	Natural Resources Conservation Center
BPK	Balai Penelitian Kehutanan (Forestry Research Center)
BPKH	Balai Pemantapan Kawasan Hutan (Center for Forest Area Management)
BPTH	Balai Perbenihan Tanaman Hutan (Forest Tree Seed Center)
CCA	Community Conservation Area
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
FORDA	Forestry Research and Development Agency
Hcb	Clear bole height
HTI	Forest Industrial Timber Plantation
Htot	Total Height
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature and Natural Resources (The World Conservation Union)
KHDTK	Kawasan Hutan dengan Tujuan Khusus (Forest Area for Special Purpose)
PSP	Permanent Sample Plot
SSI	Sanitra Sebangau Indah
TNS	Taman Nasional Sebangau (Sebangau National Park)
TSP	Temporary Sample Plots
WFF	World Wildlife Fund

I. INTRODUCTION

1.1. Background

It is estimated of about 4.000 tree species found in Indonesia which are potentially useful for timbers. From the total number of the tree species, only about 400 species are economically important, including 260 species are classified as commercial timbers (Soerianegara & Lemmens, 1993). Due to over extraction, many of those tree species were abundant in the past and become rare and endangered in the present time. One of those species is ramin [*Gonystylus bancanus* (Miq.) Kurz], member of the family of Thymelaeaceae. Species under this genus *Gonystylus* have been listed into the appendix III of CITES since 2001 and up listed into Appendix II in 2004 (Bismark *et al.*, 2005; Sidiyasa, 2005). Some other economically important tree species, like *Aquilaria malaccensis* Lamk. (Thymelaeaceae), *Podocarpus neriifolius* D. Don var. *neriifolius* (Podocarpaceae), *Magnolia candollei* (Blume) Noot. var. *obovata* (Korth.) Noot. (Magnoliaceae) have also been listed into CITES appendix (Soehartono dan Mardiasuti, 2003). Ironically, even though they have been considered as rare and have been protected by laws, exploitation is still taking place. On the contrary, the effort to develop them in large scale has not been sufficient. Forest companies do not allocate sufficient efforts to carry out rehabilitation programs and to

develop ramin as forest industrial timber plantation (HTI). These are certainly related to the technical and non-technical knowledge of the companies and stakeholders to improve the rehabilitation programs. In the other hand, provision of high quality planting materials for ramin is still a critical problem for most case, beginning with the lack of information on seed sources.

1.2. Objective

The main objective of this exploration is to obtain current status of seed sources of ramin, especially in these two provinces. At the present time ramin seeds are collected from designated and certified seed sources, seed stands, seed production areas and wild population, both in production forests and conservation areas. In the future, some of potential seed sources identified in this activity will be further identified and inventoried for its capacity to produce ramin seeds for rehabilitation and or conservation purposes. The technical report containing the current status of the seed sources will be submitted to Directorate of Seed and Nurseries, Ministry of Forestry for reference and future use. For the project, this information will be used to collect seeds and seedlings as well as vegetative materials for plantation trials, vegetative propagation trials and tissue culture development.

II. METHODOLOGY

2.1. Collection of secondary data

In order to obtain data and information on the distribution of ramin (*Gonystylus bancanus*) in West and Central Kalimantan, several institutions were contacted and visited. Those important institutions visited are Balai Perbenihan Tanaman Hutan-BPTH (Forest Tree Seed Center), Banjarbaru, Dinas Kehutanan Provinsi and Kabupaten (Provincial and District Forest Service), Faculty of Forestry of Tanjung Pura University in Pontianak, (Balai Konservasi Sumber Daya Alam-BKSDA (Regional Nature Conservation Center) of West and Central Kalimantan, Balai Pemantapan Kawasan Hutan-BPKH (Center for Forest Area Management), Regional III Pontianak and Regional IV Banjarbaru, WWF Pontianak and WWF Sebangau and Sebangau National Park. These data and information were collected and further examined. Some of the locations were field visited and their potential source of seed was inventoried. The potential seed sources were drawn to produce map of seed source distribution using coordinate points. These coordinate points were obtained primarily from BPKH, Regional III Pontianak and WWF Sebangau.

2.2. Field Visit and Inventory

Collected data and information on ramin distribution were further examined to determine the possible and potential sites to be visited in each forest areas regardless the administrative boundary. Some of the areas

visited were ramin habitat in Tanjung Pura village, the district of Ketapang, West Kalimantan; one area of Lahei village in upper stream of Mengkutup river, Kecamatan Mentangai, the district of Kapuas, KHDTK Tumbang Nusa of Pulang Pisau district and Sebangau National Park in Central Kalimantan. The decision to choose those areas are mostly based on the potency of ramin as mother trees, such as height of the trees, the accessibility to reach the main stem, crown size etc. Three locations were visited, Tanjung Pura village of West Kalimantan, Pakilat, Air Be(r)guruh and Sungai Latak. In Central Kalimantan, two sites were visited: Sebangau National Park and Cagar Alam Nyaru Menteng as well as Lahei. Ramin Seed Source of Lahei, located approximately 2 km from Ex-Sanitra Sebangau Indah (PT SSI) forest concession, the proximate area in Sebangau National Park and Cagar Alam Nyaru Menteng. The Nyaru Menteng site was also visited to confirm the absence or presence of ramin trees in this area.

Detail data were collected for some potential sites for seed sources by inventorying existing tree species through the establishment of sample plots. A single observation trail was established for every location, each 798.24 m long for the Pakilat site, 211.40 m for the Air Be(r)guruh, 536.62 m for the Sungai Latak, 350 m for the Lahei, and 370 m for the Sebangau National Park. The width of the observation area along the trail was 20 m (10 m to the left and 10 m to the right

from the axis). The total sample plot for each site was 1.596 ha for the Pakilat, 0.423 ha for the Air Be(r)guruh, 1.073 ha for the Sungai Latak, 0.7 ha for the Lahei and 0.74 ha for the Sebangau National Park.

Ramin trees were observed along the trails by inventorying and recording the total height of the trees, clear bole height, stem

diameter, and size (diameter) and quality of the crown. The recorded trees were marked and numbered by using a yellow paint. Seedlings and saplings were also recorded in detail and inventoried only for the area which has a good natural regeneration, which is indicated by the abundant of seedling and sapling. This potential source was found in Air Be(r)guruh.

III. POPULATION DISTRIBUTION

3.1. West Kalimantan

In this province, data and information on ramin distribution, population and seed sources were collected mainly from BPKH, Regional III Pontianak. The distribution of ramin, potency and some other aspects related to ramin population and seed sources in West Kalimantan are as follows.

3.1.1. Inventory reports of BPKH Regional III Pontianak.

BPKH, Regional III, Pontianak was the only local institution that provided relatively

more data for the distribution of ramin in West Kalimantan. This institution has carried out an inventory in 2006. Results of the inventory, carried out in several permanent sample plots (PSP) and temporary sample plots (TSP) at several locations and sites in several districts (Kabupaten) are presented in Table 1. These data are extracted from documented papers (report).

Table 1. Distribution and potency of ramin in West Kalimantan (2006 inventory reports)

Location (Site)	Population density of ramin (per ha)			
	Seedling	Sapling	Pole	Tree
1. District of Pontianak:				
a. Desa Sungai Jawi	278.6	9.9	12.7	0.8
b. Desa Permata	-	9.9	14.3	-
c. Desa Betuah	79.6	29.8	4.7	0.2
d. Desa Gunung Tamang	-	-	9.5	1.4
e. Desa Tanjung Harapan	-	-	12.7	1.0
2. District of Sanggau:				
a. Desa Malenggang	199.0	99.5	30.2	14.0
3. District of Landak:				
a. Desa Kumpang Tengah	597.1	159.2	6.3	0.2
4. District of Ketapang:				
a. Desa Dusun Kecil	398.0	39.8	15.9	3.0
b. Desa Kamboja	-	-	23.8	3.0

Note: Description of each location (site) is shown in Appendix 1

3.1.2. Information from other institutions and local communities

Some information on the distribution of ramin were also collected from non-documented papers and interview of local communities, head of institutions and communication through e-mails. Based on this information, seed of ramin could be collected from several locations as follows:

a. District of Sintang

The site of ramin in District of Sintang is located in Desa Sebetu, Kecamatan Nanga Merakai. As reported by Albertus Tjiu (WWF Pontianak/Putussibau), the potency of ramin in this area is quite high. Within the area of about 15-20 ha, it is predicted more than 200 trees of ramin with stem diameter above ≥ 30 cm are found. However, under current management status as convertible forest areas, these sources of ramin are not safe from cutting or logging including the habitats. WWF and IUCN, in connection with the Community Conservation Area (CCA) program, have recently proposed to the Head of District Forest Service of Sintang to retain this areas as ramin forest (habitat) and therefore not to be converted to other uses. If the status of this area remains the same, convertible forest areas, ramin population will be under threat for becoming palm oil or rubber wood plantation.

To reach the site the possible route is: from Pontianak to Sintang (approximately 7 hours by bus), then from Sintang to Merakai (2 hours by speed boat). From Merakai to Sebetu (1.5 hours by speed boat) and from Sebetu toward the field site for approximately 30 minutes by walk. Information of this route was obtained from Faculty of Forestry, Tanjung Pura University, Provincial Forest Service of West Kalimantan and the Head of BPKH Regional III, Pontianak.

b. District of Ketapang

There are two areas of ramin seed sources that have been visited during the exploration in District of Ketapang. Both areas are located in the area of Gunung Palung National Park. The information was directly obtained from the staffs of the National Park, as follows:

- 1). Cabang Panti area, located in Sungai Bayan. The density of ramin tree in this area is 3 trees/ha.
- 2). Matan area, located in Sungai Sawa. There was no detailed information about potency of ramin collected from this area.

Hadisuparto (2005) noted of many other areas of ramin population in West Kalimantan which have not been described. Some of them are Sambas Hilir, Pempawah-Pinyuh, Air Hitam, Sungai Mandor, Sukalanting, Kubu, Sungai Mendawak, Teluk Batang, and so on. Unfortunately, at the present time, to find the ramin trees at these areas might be difficult; in some places only very few seedlings or saplings are still available for collection.

Specific to ramin source in Sungai Mendawak, this area has been officially bordered using permanent poles by BPKH Regional III Pontianak and has been overhanded to Tanjung Pura University. Recently, it is reported that this area has been seriously disturbed. All of the ramin trees which were formerly used as seed sources of ramin had been logged by illegal logger. According to Dr. Abdurrani Muin, the Dean of Faculty of Forestry of Tanjung Pura University, this forest was also used as representative research site for the Faculty of Forestry students of the University.

Figure 1. shows the distribution of ramin in West Kalimantan, including the locations which were visited during the exploration.

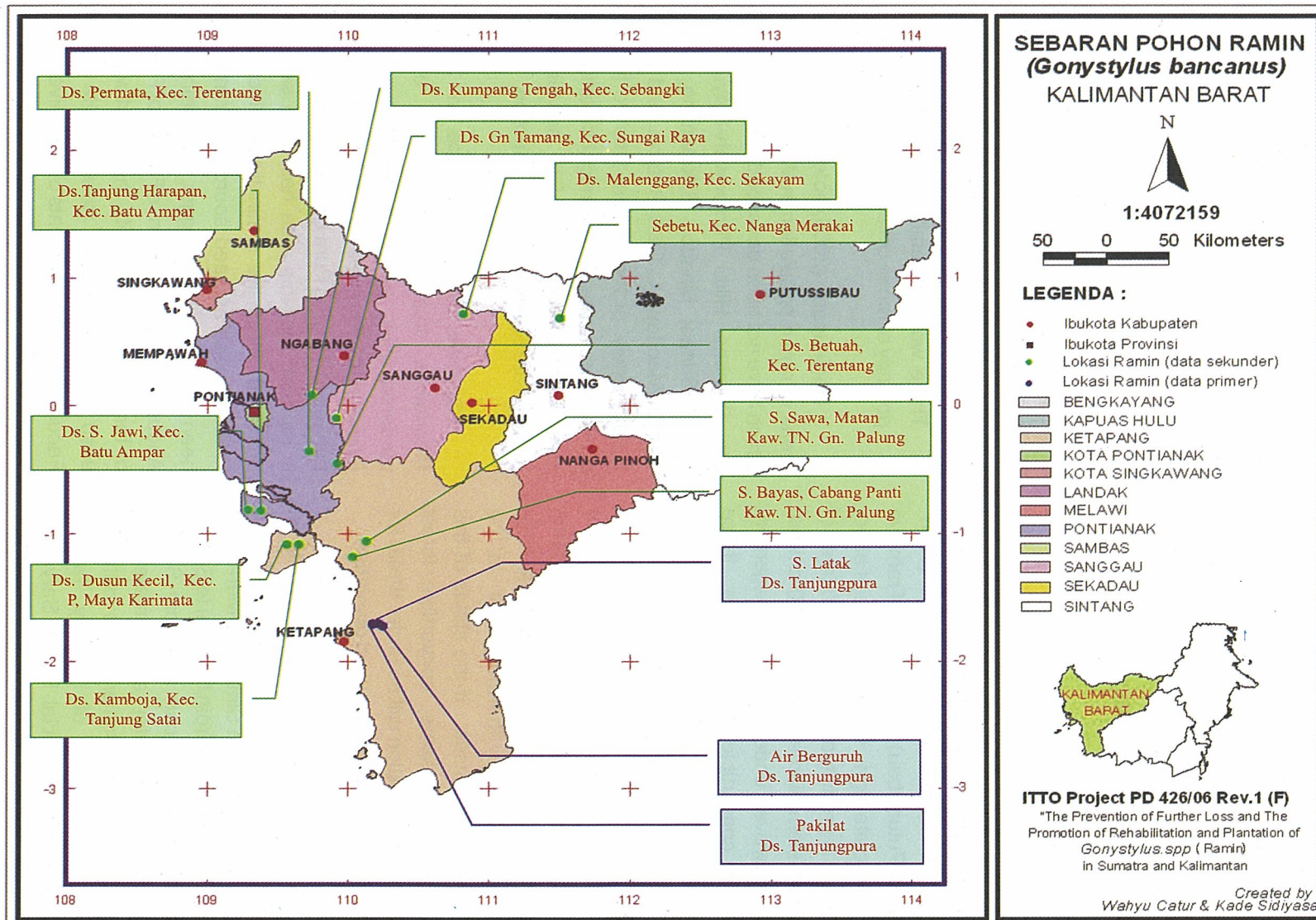


Figure 1. The distribution map of ramin in West Kalimantan; blue dots indicate the visited sites.

3.2. Central Kalimantan

Seed source information from Central Kalimantan, mainly collected from WWF for Sebangau Project, BPKH Regional IV Banjarbaru, Community leader of Kereng Bangkirai village, Palangka Raya (Mr. Dimbee), BPTH Banjarbaru and BPK Banjarbaru. The distribution and potency of ramin in Central Kalimantan are described as follows:

3.2.1. KHDTK Tumbang Nusa

Location	: Desa Tumbang Nusa, Kecamatan Jabiran Raya, District of Pulang Pisau
Coordinate point	: 02°20'35"S and 114°04'47"E
Status of the area:	Forest area for research (KHDTK) Tumbang Nusa
Management authority	: BPK Banjarbaru
Vegetation	: Logged over forest
Topography	: 0-10 % (flat)
Accessibility	: from Palangka Raya is approximately 40 minutes drive using main road to Banjarmasin.

The density of ramin

- Seedling	: na.
- Sapling	: na.
- Pole	: na.
- Tree	: 6.8 tree/ha

[34 trees were recorded in 5 ha sample plot. (Source: Balai Penelitian dan Pengembangan Hutan Tanaman Indonesia Bagian Timur, 2006)]

Note: The KHDTK was established based on the Ministry of Forestry decree No. SK.76/Menhut-II/2005, 31 of March 2005.

3.2.2. Sebangau National Park and the Surroundings

The Sebangau National Park is located in three districts, Districts of Katingan, Pulang Pisau and Kota Palangka Raya. There are two main entrances to reach the Park:

- From Palangka Raya to Kereng Bangkirai, about 20 minutes from the airport, as the main entrance by boat using Sebangau River.
- From Palangka Raya to Kasongan, 90 minutes from the airport, as the second entrance by boat using Katingan River.

Based on the data collected by WWF of Sebangau (Table 2), ramin in this area is widely distributed from west part of the area to the east, and from north to the south.

Table 2. Distribution and potency of ramin in Sebangau National Park

No	Site (location)	Coordinate point	Potency (no. of /ha)			
			Seedlings	Sapling	Pole	Tree
1	S. Jahanjang 1	02.31498208° S 113.45939063° E	-	-	-	1
2	S. Jahanjang 2	02.32933322° S 113.45128289° E	-	-	-	3
3	S. Bulan	02.5653305° S 113.45931896° E	-	-	-	1
4	S. Musang	02.67111565° S 113.43691223° E	-	89	11.11	5
5	S. Penggulas 1	02.38483954° S 113.46804569° E	-	44	11	5
6	S. Penggulas 2	02.38764094° S 113.4635458° E	278	311	11	7
7	S. Penggulas 3	02.38843856° S 113.44946452° E	5455	73	-	11.29
8	S. Sebangau	02.94352155° S 113.60171266° E	-	2	2	1
9	PT. Sumintra Sebangau Indah (SSI) Km 8	02.59383568 S 113.97040308° E	-	-	7.08	13.75
10	PT. SSI Km 10	02.5899570 S 113.94595264° E	-	-	1.7	1.7
11	PT. SSI Km 20	02.58188333° S 113.88322474 E	-	5	5	3.33
12	Parit Isur A	02.20813042° S 113.75576290° E	-	6.25	7.5	5
13	Parit Isur C	02.20837584° S 113.75387010° E	-	-	2.14	9.28
14	Parit Yapta A	02.28234136° S 113.72961489° E	-	0.8	4.16	5.83
15	Parit Yapta B	02.28226508° S 113.72780238° E	-	-	2	7
16	Habaring Hurung A	02.04228943° S 113.66955386° E	-	-	-	1.11
17	Habaring Hurung B	02.04177369° S 113.66890694° E	1.35	3.38	27	2.02
18	Habaring Hurung C	02.04816431° S 113.66169574° E	1.67	1.67	0.83	-
19	Habaring Hurung D	02.0470231° S 113.66097313° E	-	-	0.83	25

Source: WWF Sebangau, the data were collected in February 2007.

3.2.3. Lamandau Game Reserve

This area covers approximately 55,879 ha, consists of coastal area, mangrove, swamp (including peat-swamp) and non swamp lowland forests. This area is located between the Lamandau river and Jelai river, between 02°35'00" – 02°55'00" S and 111°12'00" – 111°30'00" E, and in Kecamatan, Kecamatan

Arut Selatan in District of Kotawaringin Barat and Kecamatan Sukamara in District of Sukamara.

To reach this area from Palangka Raya it takes 12 hours drive, or 45 minutes by plane to Pangkalan Bun (the main town in the District of Kota Waringin Barat). From Pangkalan Bun to the site is about 60 minutes by speed boat.

Based on a written report published by BPKH Regional V Banjarbaru (2006), the potency of ramin in this area is 2.71 trees/ha, 48.12 poles/ha, 168.54 saplings/ha and 944.12 seedlings/ha.

3.2.4. Seed Source of Ramin in Lahei

The total area of this seed source is about 200 ha. The area was designated by the Bupati of District of Kapuas under the SK (Surat Keputusan) No. 705/2003 as Conservation Area for Ramin Forest (Kawasan Konservasi Hutan Ramin) (Appendix 7). This conservation area was proposed by M. Dimbee, a local community leader dated of 6 June 2002. Later, by the Head of BPTH Banjarbaru, South Kalimantan, the area was designated as Certified Seed Source of Ramin under the registration No. 62.01.008,

certificate No. 021/V-BPTH.KAL-2/STFK/2004, 5 January 2004 (Appendix 8). Although the forest has already been logged by PT. Gempita Kalteng, in general the condition of forest in the area and surrounding is still quite good. This area belongs to Lahei village, Kecamatan Mentangai, District of Kapuas.

This area can be reached easily from Palangka Raya through the main road to Buntok off at km 41, which needed about 90 minutes drive, then walk for about 4 km.

Potency of ramin in the area based on an original data collected in 2002 by M. Dimbee is high. In the sample plot (transects) of 6,000 m long and 25 m wide, total area of 15 ha, was recorded of 374 trees for diameter above 30 cm (Table 3). Therefore, the density of ramin in the area is 24,93 trees/ha.

Table 3. The density of ramin on each transect in Seed Source of Ramin in Lahei (total sample plot is 15 ha).

Transect	Diameter (cm)						Total
	30-<35	35-<40	40-<45	45-<50	50-<55	>55	
Transect I (2000 m)	32	38	24	18	11	3	126
Transect II (1000 m)	10	24	6	2	1	-	43
Transect III (2000 m)	28	36	33	29	5	11	142
Transect IV (1000 m)	19	16	16	8	4	-	63
Total	89	114	79	57	21	14	374

3.2.5. Tuanan

Tuanan is a Kampung which belongs to Katunjung, a village in Kecamatan Mentangai, District of Kapuas. Some parts of this forest area are relatively in good condition. It is especially for the Tuanan forest which had already been protected for the orangutan conservation in Central Kalimantan. To reach this area, it takes 4 hours by speed boat to

reach the area from Kuala Kapuas, then followed by 30 minutes walk.

According to Sidiyasa & Arbainsyah (2007), the potency of ramin in Tuanan forest is 8.42 trees/ha. These data were recorded and calculated from several transects with the total area as the sample plot of 2.02 ha. The trees are mostly small, less than 20 cm in diameter.

Beside the above information, direct information were also collected which indicate that ramin may also be still found in the National Park of Tanjung Puting in Districts of Kota Waringin Barat and Seruyan and in the surrounding area of Danau Payang in District of Pulang Pisau. According to the head of Siki village, the ramin are still abundant in Danau

Payang. Local communities no longer log ramin in this area since the moratorium policy for ramin in 2001, which makes ramin timber is no longer easy to be sold.

Figure 2 shows the distribution of ramin in Central Kalimantan, including the visited sites during this exploration.

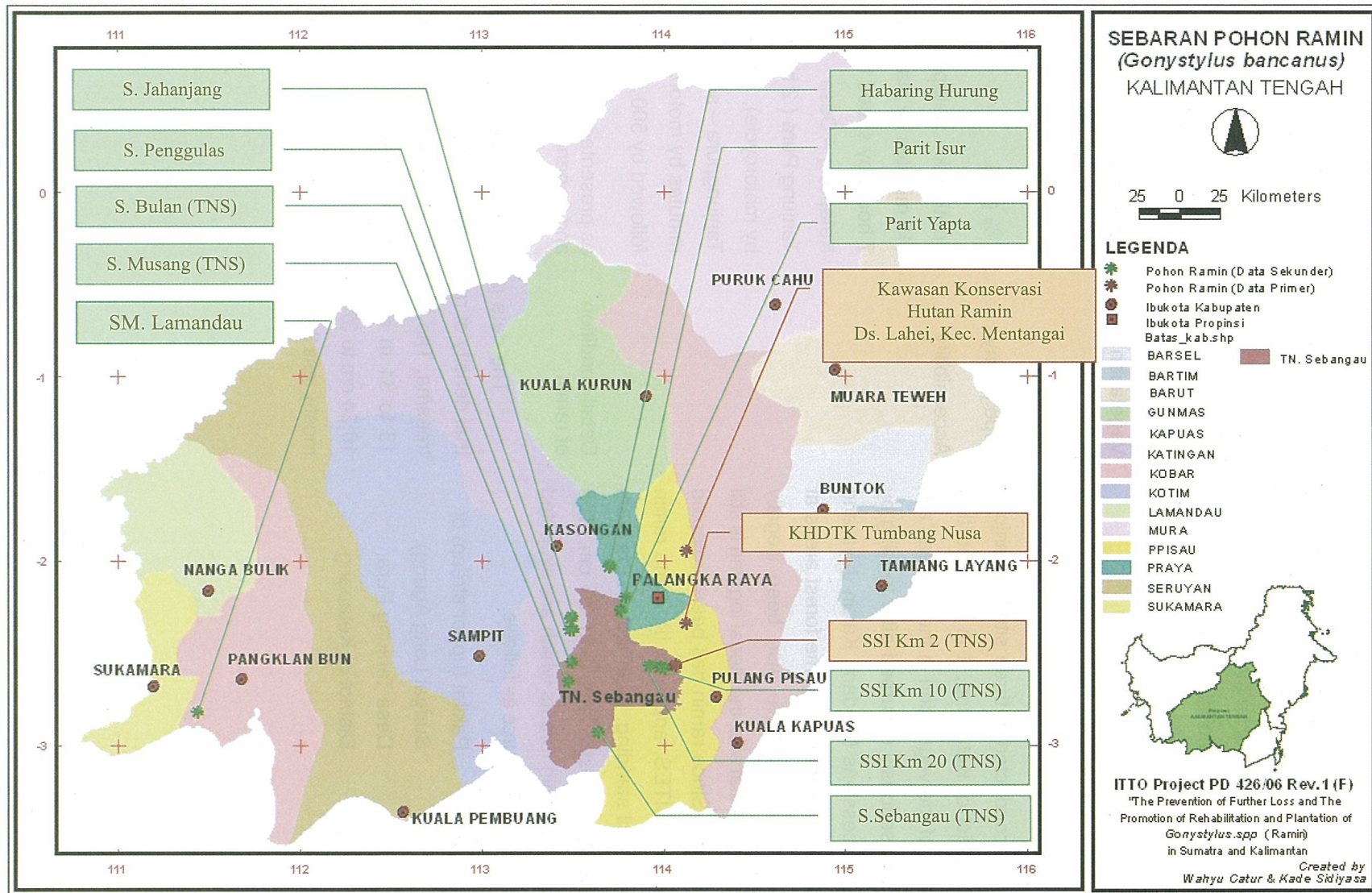


Figure 2. The distribution map of ramin in Central Kalimantan; red stars indicate the visited sites.

IV. POTENTIAL SEED SOURCES OF RAMIN

Some seed sources of ramin were directly visited during this exploration. These areas are expected to be the representative of seed sources to support the collection of seeds and seedlings in West and Central Kalimantan.

4.1. West Kalimantan

Based on direct observation and inventory conducted in three sites in Tanjung Pura, district of Ketapang, it is reported that condition of the vegetation in these areas are slightly to seriously disturbed after logging by forest concessions (Medang Karan Jaya and Sumber Daya Utama). Some forest areas at the same location have also been illegally logged. In Pakilat site, the illegal logging is still taking place. Since ramin has been protected (also under CITES, appendix II), some ramin trees are still standing, even though the stem diameter are mostly less than 30 cm. The condition of ramin forests which are expected to be ramin seed source as follows.

1. Location : Pakilat (upper stream of Sungai Long Agung), Desa Tanjung Pura, District of Ketapang

Status of the area: Convertible forest land to other uses (Areal Penggunaan Lain = APL)

Management authority : Pemda Ketapang

Vegetation : Logged over area of Medang Karan Djaya, MKD)

Topography : 0 % (flat)

Accessibility : Pontianak – Ketapang (45 minutes by plane, or 7 hours by speed boat), Ketapang – Desa Tanjung Pura (2 hours by motorcycle), Desa Tanjungpura – site (15 minutes by motorcycle, followed by 500 m walk)

Detail condition of ramin : as presented in Table 4 and Appendix 2.

The data presented in Table 4 indicate that density of ramin trees in Pakilat is 11.275 trees/ha. The height of the trees ranges from 13 to 31 m and stem diameter ranges from 16.24 cm to 37.26 cm. The crown diameter is mostly less than 5 m.

Table 4. The detail condition of ramin in Pakilat (sample plot of 1.596 ha)

No. of tree	Coordinat (UTM zone 49 m)	Diameter (cm)	Height (m)*		Remark
			Htot	Hcb	
1	0408631 mE 9811140 mS	25.47	30	24	Crown diameter 4 m
2	0408540 mE 9811234 mS	33.76	30	25	Crown diameter 5.5 m, 2 seedlings
3	0408531 mE 9811236 mS	26.75	30	24	Crown diameter 4.5 m
4	0408427 mE 9811326 mS	26.27	20	15	Crown diameter 4 m
5	0408408 mE 9811334 mS	25.47	15	12	Crown diameter 2.5 m, 1 seedling
6	0408435 mE 9811418 mS	24.20	26	17	Crown diameter 3 m
7	0408441 mE 9811430 mS	32.48	22	18	Crown diameter 6 m, 3 seedlings
8	0408425 mE 9811452 mS	16.24	15	12	Crown diameter 4 m
9	0408426 mE 9811450 mS	21.34	13	9	Crown diameter 4 m
10	0408426 mE 9811449 mS	20.70	16	13	Crown diameter 3 m
11	0408427 mE 9811448 mS	28.66	25	20	Crown diameter 4 m, 3 seedlings, 3 saplings
12	0408399 mE 9811458 mS	25.16	18	13	Crown diameter 3.5 m, stem uneven, 1 sapling
13	0408360 mE 9811430 mS	16.56	15	12	Crown diameter 3 m
14	0408300 mE 9811458 mS	24.52	30	25	Crown diameter 4 m, 2 seedlings
15	0408355 mE 9811472 mS	37.26	28	21	Crown diameter 6.5 m
16	0408324 mE 9811512 mS	26.11	21	17	Crown diameter 4 m
17	0408265 mE 9811554 mS	28.66	25	20	Crown diameter 4.5 m
18	0408242 mE 9811540 mS	26.11	31	24	Crown diameter 4.5 m

*Remark: Htot = total height; Hcb = clear bole height.

2. Location	: Air Be(r)guruh, Desa Tanjungpura, District of Ketapang	Topography	: 0 % (flat)
Status of the area	: Convertible forest land (APL)	Accessibility	: From Pontianak to Ketapang, it takes 45 minutes by plane, or 7 hours by speed boat), From Ketapang to Desa Tanjung Pura (2 hours by motorcycle),
Management authority	: Pemda Ketapang		
Vegetation	: Logged over forest (ex of Medang Karan Djaya forest concession)		

From Desa Tanjung Pura to field site (1 hour by ordinary boat, and then 30 minutes by canoe, then 700 m walk)

Detail condition : as presented in Table 5 of ramin and Appendix 3.

Table 5 indicates that the density of ramin trees in Air Be(r)guruh is 21.277 trees/ha. The total height of the trees ranges from 20 to 27 m and the stem diameter ranges from 15.92 cm to 28.66 cm. The crown diameter is from 5 to 8 m.

Table 5. The detail condition of ramin in Air Be(r)guruh (sample plot size : 0.423 ha)

No. of tree	Coordinate (UTM zone 49 m)	Diameter (cm)	Height (m)*		Remark
			Htot	Hcb	
1	0416259 mE 9809600 mS	22.93	27	20	Crown diameter 7 m
2	0416250 mE 9809610 mS	23.88	24	18	Crown diameter 7 m
3	0416259 mE 9809634 mS	28.66	25	20	Crown diameter 5 m
4	0416252 mE 9809662 mS	28.66	22	16	Crown diameter 8 m
5	0416254 mE 9809660 mS	21.34	21	5	Crown diameter 7 m
6	0416256 mE 9809656 mS	17.51	22	18	Crown diameter 7 m
7	0416250 mE 9809550 mS	22.93	20	16	Crown diameter 7 m
8	0416241 mE 9809550 mS	15.92	23	18	Crown diameter 7 m
9	0416190 mE 9810340 mS	22.29	21	17	Crown diameter 7 m

*Remark: Htot = total height; Hcb = clear bole height.

The potency of seedlings and saplings in this area is high. To obtain more detail information, a non permanent transect of 2 m x 40 m was established. All seedlings and saplings in the transect were recorded. By using this method the result indicate that there were 2000 seedlings of ramin per ha and 2500 saplings per ha. This number is certainly high, and therefore these stands can be recommended to be maintained as ramin seed stands for seed sources in the future. For the mean time, the abundance of seedlings and saplings could be collected for the provision of materials for vegetative or cutting propagation.

3. Location : Sungai Latak, Desa Tanjungpura, District of Ketapang

Status of the area : convertible forest land (APL)

Management authority : Pemda Ketapang

Vegetation : Logged over forest (ex-HPH of Sumber Daya Utama forest concession)

Topography : 0 % (flat)

Accessibility : From Pontianak to Ketapang it takes 45 minutes by plane, or 7 hours by speed boat), from Ketapang to Desa Tanjung Pura, 2 hours by motorcycle). From Desa Tanjung Pura to the field site, it takes 0.5 hour by normal boat, and then by canoe and it takes about 40 minutes, 800 m walk.

Detail condition : as presented in Table 6 of ramin and Appendix 4.

Table 6. The detail condition of ramin in Sungai Latak (sample plot of 1.073 ha)

No. of tree	Coordinate (UTM zone 49 m)	Diameter (cm)	Height (m)*		Remark
			Htot	Hcb	
1	0412434 mE 9811960 mS	24.52	27	20	Crown diameter 4 m, 1 sapling
2	0412431 mE 9811954 mS	21.66	21	16	Crown diameter 4 m, 2 seedlings
3	0412103 mE 9811810 mS	25.47	24	18	Crown diameter 5.5 m
4	0412126 mE 9811844 mS	24.20	27	22	Crown diameter 4.5 m
5	0412134 mE 9811852 mS	31.21	26	18	Crown diameter 6 m

*Remark: Htot = total height; Hcb = clear bole height.

Table 6 indicates that the density of ramin trees in Sungai Latak is 4.658 trees/ha. The tree height ranges from 21 to 27 m and the stem diameter ranges from 21.66 cm to 31.21 cm. Crown diameter is mostly less than 5 m.

Based on the secondary and primary data collection during the exploration, it indicates that ramin is widely distributed in West Kalimantan, mainly in lowland peat swamp forests. Unfortunately, most of this forest area has been logged intensively, and recently this area is allocated for convertible forest land for other uses (APL). It means that this forest land will be likely to be converted to other uses, such as agricultural lands, palm oil plantation areas, community resettlement, fish

pond and so on. There is only few forest area of ramin habitats has been conserved. Due to this condition, ramin populations are seriously threatened. On the other hand, efforts to develop ramin plantation in a larger scales is still insufficient. Governments and many other stakeholders are not fully aware on the importance of peat swamp forest function to absorb rain water and erosion materials before flowing to the rivers. Figure 1 illustrates several areas where ramin trees are still found. The ramin trees could be used as mother trees for providing seeds or sources of seedlings which might be abundant after flowering and fruiting seasons, as well as for providing vegetative materials for cutting or vegetative propagation.

In case of ramin habitats in Tanjung Pura, Ketapang which was visited during the exploration, the Air Be(r)guruh site is the best and the most representative site for seed source of ramin. Even though based on the diameter size of stems and quality of the crown, it is still far from the standard quality of a good seed source. The density of ramin trees in this site is 21.277 trees/ha (Table 5), followed by the Pakilat site (11.275 trees/ha) (Table 4) and Sungai Latak (4.659 trees/ha) (Table 6). The presence of abundant seedlings and saplings in Air Be(r)guruh makes this site more favorable than the other two.

4.2. Central Kalimantan

As mentioned earlier, the visited areas for ramin seed source in Central Kalimantan during the exploration are Sebangau National

Park (an area in km 2 of ex-PT SSI) and a certified area for Ramin Seed Source in Lahei, District of Kapuas. The detail results of the field visit are as described below.

4.2.1. Sebangau National Park

This area is located in the east part of the Park, about 2 km away from the WWF Base Camp (ex-PT SSI at km 2). Most of the forests surrounding this area have previously been logged, and then followed by the illegal logging with more intensity, especially along the artificial canal for about 1 to 2 km long. This forest condition has been worsened by frequent peat forest fire. In these forests, ramin trees were still found during the exploration. Table 7 and Appendix 5 illustrate the potency of ramin in the area.

Table 7. Detail condition of ramin in SSI km 2 of Sebangau National Park (sample plot of 0.74 ha)

No	Coordinate point UTM zone 50 M	Stem diameter (cm)	Height (m)*		Remark
			Htot	Hcb	
1	0169709 ; 9714409	27	24	18	Crown diameter 5 m
2	0169741 ; 9714511	24	24	19	Crown diameter 5 m, 1 seedling, 2 saplings
3	0169743 ; 9714517	19	19	15	Crown diameter 4 m
4	0169734 ; 9714531	34	25	20	Crown diameter 6 m
5	0169753 ; 9714558	36	25	19	Crown diameter 8 m
6	0169769 ; 9714544	21	22	16	Crown diameter 4 m
7	0169815 ; 9714573	22	24	20	Crown diameter 4 m, 2 saplings
8	0169795 ; 9714570	23	18	14	Crown diameter 4 m
9	0169908 ; 9714639	21	19	13	Crown diameter 3,5 m, 1 saplings
10	0169715 ; 9714553	42	24	19	Crown diameter 7 m, 1 seedling, 2 saplings

*Remark: Htot = total height; Hcb = clear bole height.

Table 7 indicates that the density of ramin trees in km² of ex-PT SSI is 13.513 trees/ha. The tree height ranges from 18 to 25 m, the stem diameter ranges 19 cm to 42 cm and very few natural regeneration. The crown diameter is mostly less than 6 m.

4.2.2. Seed Source of Ramin in Lahei

From the transect of 350 m long and 20 m wide (= 0.7 ha), 11 trees of ramin were recorded (Table 8 and Appendix 6). It means that the density of ramin in the area is 15.714 trees/ha. Table 8 shows the stem diameter, tree height and crown diameter for each individual tree.

Table 8. Detail condition of ramin in Lahei Seed Source (sample plot of 0.7 ha)

No	Coordinate UTM zone 50 M	Stem diameter (cm)	Height (m)*		Remark
			Htot	Hcb	
1	0176172 ; 9783130	60	30	22	Crown diameter 15 m, 9 seedlings, 1 sapling
2	0176163 ; 9783115	52	28	24	Crown diameter 10 m, 12 seedlings
3	0176161 ; 9783100	50	31	25	Crown diameter 16 m
4	0176179 ; 9783106	41	26	21	Crown diameter 9 m
5	0176162 ; 9783087	29	21	16	Crown diameter 7 m
6	0176171 ; 9783076	27	20	17	Crown diameter 7 m
7	0176171 ; 9783053	46	31	23	Crown diameter 18 m, 19 seedlings
8	0176137 ; 9783006	30	24	19	Crown diameter 10 m
9	0176169 ; 9782895	37	25	17	Crown diameter 14 m, 8 seedlings
10	0176145 ; 9782859	45	28	21	Crown diameter 13 m, 1 seedling
11	0176106 ; 9782863	39	25	20	Crown diameter 8 m

It is important to note that ramin stem and crown diameter in this area are much larger than those recorded in Sebangau National Park, or even larger than those in any areas in Kalimantan.

4.2.3. KHDTK Tumbang Nusa

The purpose of field visit to this area was to confirm the suitability of this area for the establishment of field trials (as a demplot) in Central Kalimantan. From many aspects, this location is suitable, such as high accessibility. This area is located along the main road from

Palangkaraya to Banjarmasin. This area is also a natural habitat of ramin. Information regarding this area is relatively sufficient and therefore no observation transect made to observe ramin trees at this time. During the field visit, ramin trees with stem diameter less than 30 cm are found not far from the main trail toward the location.

4.2.4. Arboretum of Nyaru Menteng

Nyaru Menteng is has been designated as an Arboretum with the total area of approximately 65.2 ha. This area has been

seriously disturbed due to the existence of the orangutan rehabilitation project. Most of the small trees and shrubs were fell down, broken and died. There was no more ramin tree found along the board made-trail. The Arboretum is located in km 28 along the main road from Palangka Raya to Sampit, City of Kota Waringin Timur District.

The Arboretum was established in 1988 with the specific purpose to conserve species diversity of plants and ecosystems. The management authority of the area is BKSDA of Central Kalimantan. According to previous studies, including by Sidiyasa (2000), there were several ramin trees located just behind the orangutan main cage.

From the observation results, especially for the Central Kalimantan area, the distribution of ramin is approximately similar or slightly wider to those distributed in West Kalimantan.

This is because Central Kalimantan has more peat swamp habitat than that of in West Kalimantan. **Figure 2** illustrates the existing distribution of ramin in Central Kalimantan.

In term of conservation area, there have been more conservation areas in Central Kalimantan than that of West Kalimantan. In Central Kalimantan, the two large conservation areas are Sebangau National Park and Lamandau Game Reserve. Most of the areas in the conservation areas are peat swamp forests. Although the forests have been previously logged, but in general their conditions are still quite good. In some places they have a sufficient natural regeneration and therefore if illegal logging is no longer taking place, it is expected that ramin timbers will still be available for the future.

The artificial canals that built for log transportation in the past have caused severe drought to the peat swamp forests and have caused frequent forest fire. Many of plant species (including ramin) along the canal and surroundings died because of this drought and fire, especially during the dry season. Currently, WWF-Sebangau Project is building canal blocking in some parts of Sebangau National Park to raise water table and to restore vegetation along the canal.

V. SUPPORT FROM STAKEHOLDERS

The purpose of this seed source exploration is to ensure the availability of planting materials for ramin plantation. The planting materials are produced from seeds and wilding as well as vegetative propagation at small scale. Operational level production is still underway of their technology development. In relation to this development, especially in the provision of planting materials for plantation, there are a great positive response from stakeholders. During field exploration, local communities and institutions in West and Central Kalimantan show their support to ramin seed sources identification and plantation trials. They expect that the project could be able to solve the problem in the provision of planting materials and technology for field plantation of ramin in its natural habitat.

In West Kalimantan, the most responsive institutions are the Faculty of Forestry of the University of Tanjung Pura and the WWF of Pontianak. Personnel in these institutions expected to be involved as local partners in the provision of seedlings, both wildlings and cutting, for developing propagation and plantation techniques.

In Central Kalimantan the most responsive institutions and expected to be

involved in the field plantation activities are WWF-Sebangau Project and BPK-Banjarbaru. These two institutions will provide area for the ramin plantation trials (demo plot). They also have large sites for trials and sufficient facilities to be used during the establishment of trial. KHDTK Tumbang Nusa (under the BPK Banjarbaru) is the most suitable site to be chosen for plantation trials. The site is located in the main road from Palangkaraya to Banjarmasin and it takes about 30 minutes from the Palangka Raya airport.

Response from local communities who live surrounding the ramin habitats, local community who grows the seedlings in the nurseries is positive. They expect to get job opportunities from the field plantation activities, such as as seed collectors, nursery growers, field workers in the planting preparation and plantation activities. Most of these local community members are reliance on the forest related activities for their daily lives as field workers in the forestry and agricultural activities. The labors are available, however, in order to have successful plantation activities they still need adequate supervision and more information on propagation and plantation technique.

VI. RECOMMENDATION

1. Ramin population is widely distributed in West and Central Kalimantan. However, the existing population is seriously under threat due to over exploitation. Moreover, most of the existing natural distribution are located in non secure forest area or in what the so called "convertible forest land for other uses" (Areal hutan untuk Penggunaan Lain-APL). Therefore, it is recommended that the suitable site for seed sources of ramin should be immediately bordered and designated.
2. The Air Be(r)guruh in Tanjung Pura village, District of Ketapang is the most suitable and potential site for ramin seed source. Population density is high with abundant of seedlings and saplings. This site could be source of vegetative materials for vegetative propagation. It is recommended that this site is immediately designated for seed source of ramin in West Kalimantan.
3. In Central Kalimantan, the certified seed source of ramin is in Lahei, Kecamatan Mentangai, District of Kapuas). This site is the best seed source for ramin in Central Kalimantan. In order to secure this site, it is recommended that maintenance and protection from other potential disturbance be intensified.
4. The support from local stakeholders to conserve ramin habitat and plantation activity should be considered as an opportunity to promote rehabilitation and conservation of ramin. Local government should actively participate in the management of peat swamp forest, as sources of timber and the sources of biodiversity by maintaining the peat swamp forest from conversion to other uses.

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APPENDICES

Appendix 1. The detail characteristic of location (sites) of ramin habitats in West Kalimantan.

1. District of Pontianak

- a). Location : Desa Sungai Jawi, Kecamatan Batu Ampar
Coordinate point : 309962 mE and 9909960 mN
Status of the area : Protection forest of Kelompok Hutan Pulau Padang Tikar
Management authority : Dinas Kehutanan and Perkebunan Kabupaten Pontianak
Vegetation : Logged over forest
Topography : 0-10 % (flat to low undulated)
Accessibility : From Pontianak to Mempawah, 1.5 hours by bus; from Mempawah to Rasau Jaya, 3 hours by car; from Rasau Jaya to Padang Tikar, 2 hours by speed boat; from Padang Tikar to Sungai Jawi, 1.5 hours by speed boat; from Sungai Jawi to the field site, 2 hours by long boat and walk for about 2.5 km).
- b). Location : Desa Permata, Kecamatan Terentang
Coordinate point : 357667 mE and 9960898 mN
Status of the area : Protection forest
Management authority : Dinas Kehutanan and Perkebunan Kabupaten Pontianak
Vegetation : Logged over forest
Topography : 0-8 % (flat)
Accessibility : From Pontianak to Mempawah, 1.5 hours by bus; from Mempawah to Sungai Durian, 2 hours by car; from Sungai Durian to Kecamatan Terentang, 4 hours by speed boat; from Kecamatan Terentang to Desa Permata, 0.5 hour by motorcycle; from Desa Permata to the field site (3 hours by long boat and walk)
- c). Location : Desa Betuah, Kecamatan Terentang
Coordinate point : 379979 mE and 9950000 mN
Status of area : Production forest
Management authority : Dinas Kehutanan and Perkebunan Kabupaten Pontianak
Vegetation : Logged over forest
Topography : 0% (flat)
Accessibility : From Pontianak to Kecamatan Terentang, 5 hours by long boat; from Kecamatan Terentang to Desa Betuah, 4 hours by long boat; from Desa Betuah to the field site, 5 hours by long boat, continued by walk for about 3.5 km.

- d). Location : Desa Gunung Tamang, Kecamatan Sungai Raya
 Coordinate point : 379942 mE and 9989960 mN
 Status of the area : Allowable converted production forest (Hutan produksi yang dapat dikonversi = HPK)
 Management authority : Dinas Kehutanan and Perkebunan Kabupaten Pontianak
 Vegetation : Logged over forest
 Topography : 0-8 % (flat)
 Accessibility : From Pontianak to Mempawah, 1.5 hours by bus; from Mempawah to Sungai Raya, 3 hours by car; from Sungai Raya to Desa Gunung Tamang, 5 hours by speed boat; from Desa Gunung Tamang to the field site, 3 hours by long boat and walk for about 3 km).
- e). Location : Desa Tanjung Harapan, Kecamatan Batu Ampar
 Coordinate point : 319950 mE and 9909890 mN
 Status of the area : Protection forest of Kelompok Hutan Pulau Padang Tikar
 Management authority : Dinas Kehutanan and Perkebunan Kabupaten Pontianak
 Vegetation : Logged over forest
 Topography : 0-10 % (flat and low undulated)
 Accessibility : From Pontianak to Mempawah, 1,5 hours by bus; from Mempawah to Rasau Jaya, 3 hours by car; from Rasau Jaya to Padang Tikar, 2 hours by speed boat); from Padang Tikar to Desa Tanjung Harapan, 2 hours by speed boat, from Desa Tanjung Harapan to the field site, 2 hours by long boat, continued by walk for about 6 km.

2. District of Sanggau

- a). Location : Desa Malenggang, Kecamatan Sekayam
 Coordinate point : 480012 mE and 10080020 mN
 Status of the area : Production forest
 Management authority : Dinas Kehutanan and Perkebunan Kabupaten Sanggau
 Vegetation : Primary forest
 Topography : 0-15 % (flat to low undulated)
 Accessibility : From Pontianak to Sanggau, 7 hours by car; from Sanggau to Balai Karangan, 4 hours by car); from Balai Karangan to Desa Malenggang, 3 hours by car; from Deda Malenggang to Dusun Stapang Sebuluh, 0.5 hour by motorcycle; from Dusun Stapang Sebuluh to the field site, 1 hour by motorcycle and walk for about 5 km.

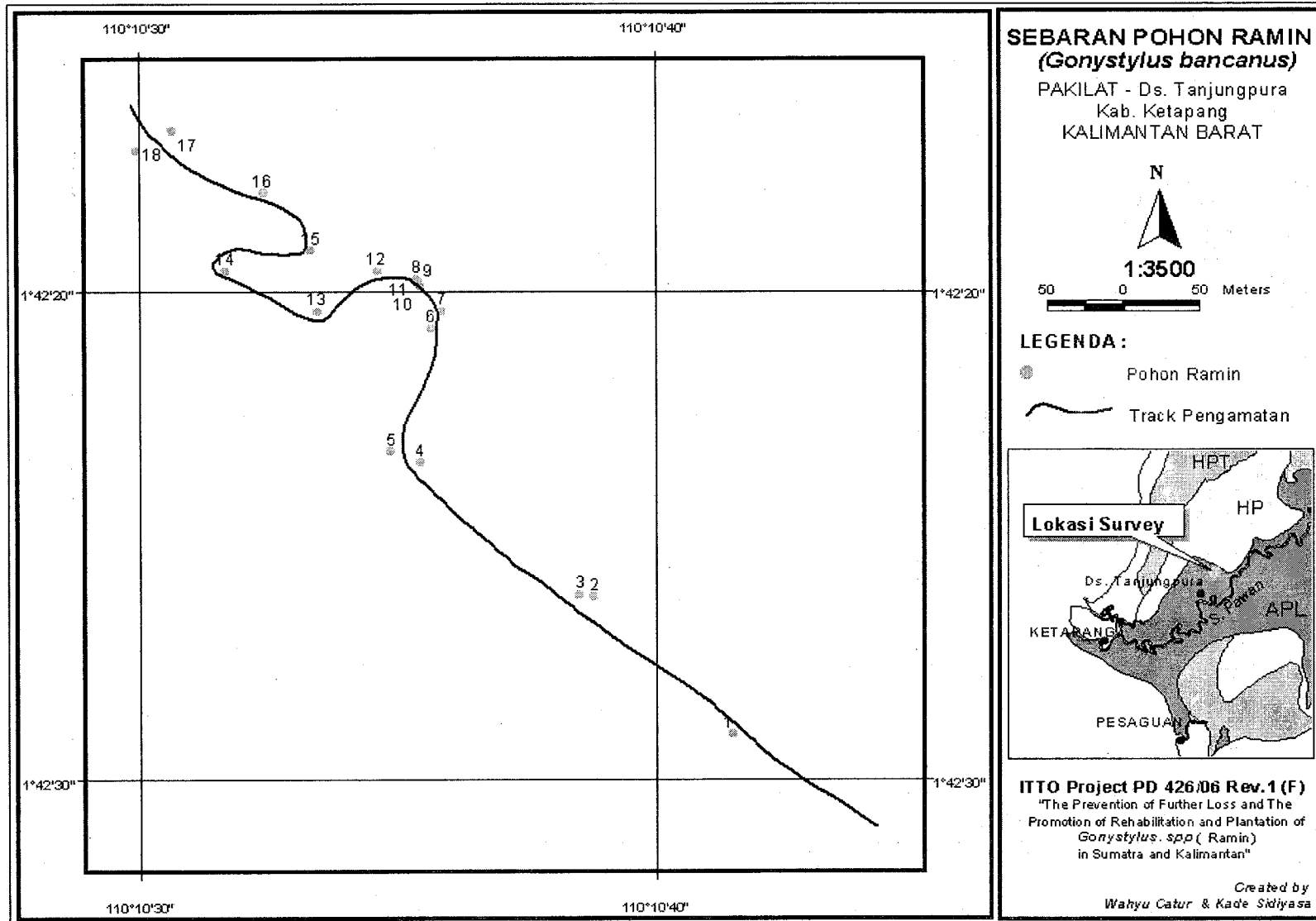
3. District of Landak

- a). Location : Desa Kumpang Tengah, Kecamatan Sebangki
Coordinate point : 00360035 mE and 0010008 mN
Status of the area : Production forest
Management authority : Dinas Kehutanan and Perkebunan Kabupaten Landak
Vegetation : Logged over forest
Topography : 0-8 % (flat and low undulated)
Accessibility : From Pontianak to Ngabang, 4 hours by bus; from Ngabang to Kecamatan Sebangki, 3 hours by car; from Kecamatan Sebangki to Desa Kumpang Tengah, 1.5 hours by motorcycle; from Desa Kumpang Tengah to site, 4 hours by speed boat.

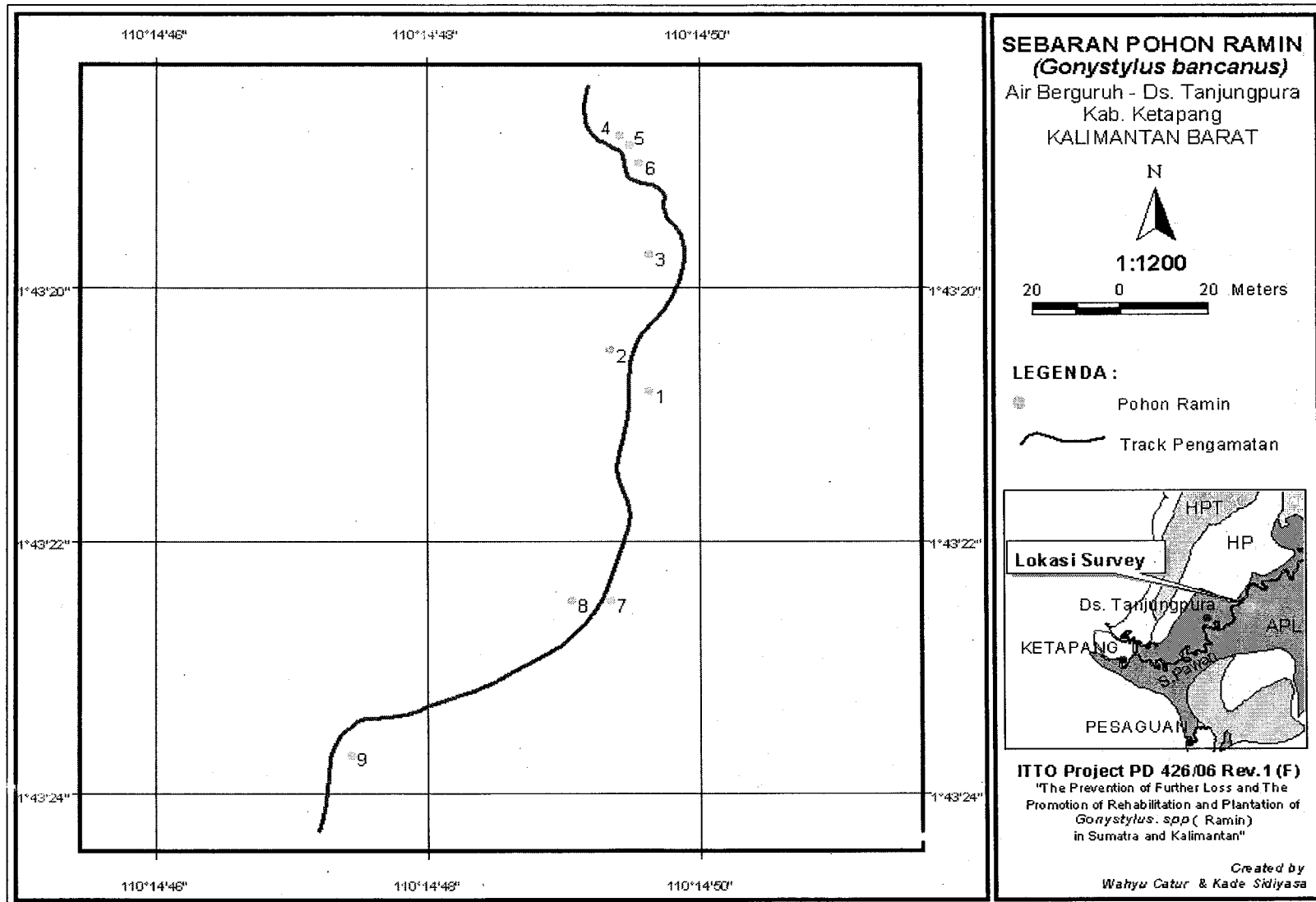
4. District of Ketapang

- a). Location : Desa Dusun Kecil, Kecamatan Pulau Maya Karimata
Coordinate point : 0341002 mE and 9880026 mS
Status of the area : Production forest
Management authority : Dinas Kehutanan Kabupaten Ketapang
Vegetation : Logged over forest
Topography : 0% (flat)
Accessibility : From Pontianak to Ketapang, 45 minutes by plane, or 7 hours by high speed boat; from Ketapang to Teluk Batang, 4 hours by car; from Teluk Batang to Kecamatan Pulau Maya Karimata, 2 hours by long boat, from Kecamatan Pulau Maya Karimata to Desa Dusun Kecil, 4 hours by "kelotok"; from Desa Dusun Kecil to the field site, 5 hours by kelotok and walk for about 3 km.
- b). Location : Desa Kamboja, Kecamatan Tanjung Satai
Coordinate point : 350431 mE and 9880223 mS
Status of the area : Protection forest
Management authority : Dinas Kehutanan Kabupaten Ketapang
Vegetation : Logged over forest
Topography : 0-10 % (flat, low undulated)
Accessibility : From Pontianak to Ketapang, 45 minutes by plane, or 7 hours by speed boat, from Ketapang to Teluk Batang, 4 hours by car; from Teluk Batang to Kecamatan Tanjung Satai, 2 hours by speed boat; from Kecamatan Tanjung Satai to Desa Kamboja, 1 hour by long boat, from Desa Kamboja to the field site, 2 hours by long boat.

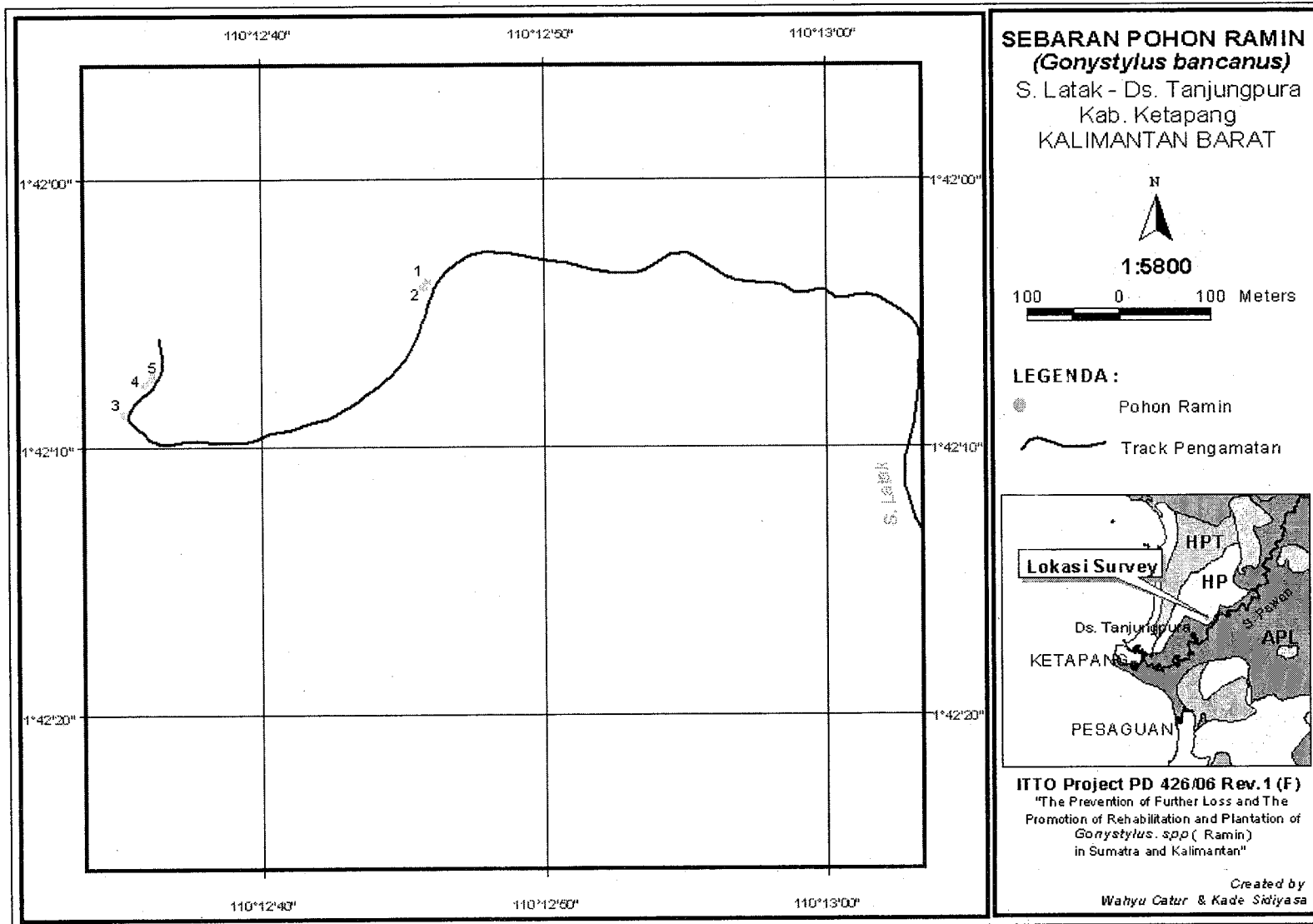
Appendix 2. Distribution of ramin in Pakilat, Tanjungpura, Kabupaten Ketapang, West Kalimantan



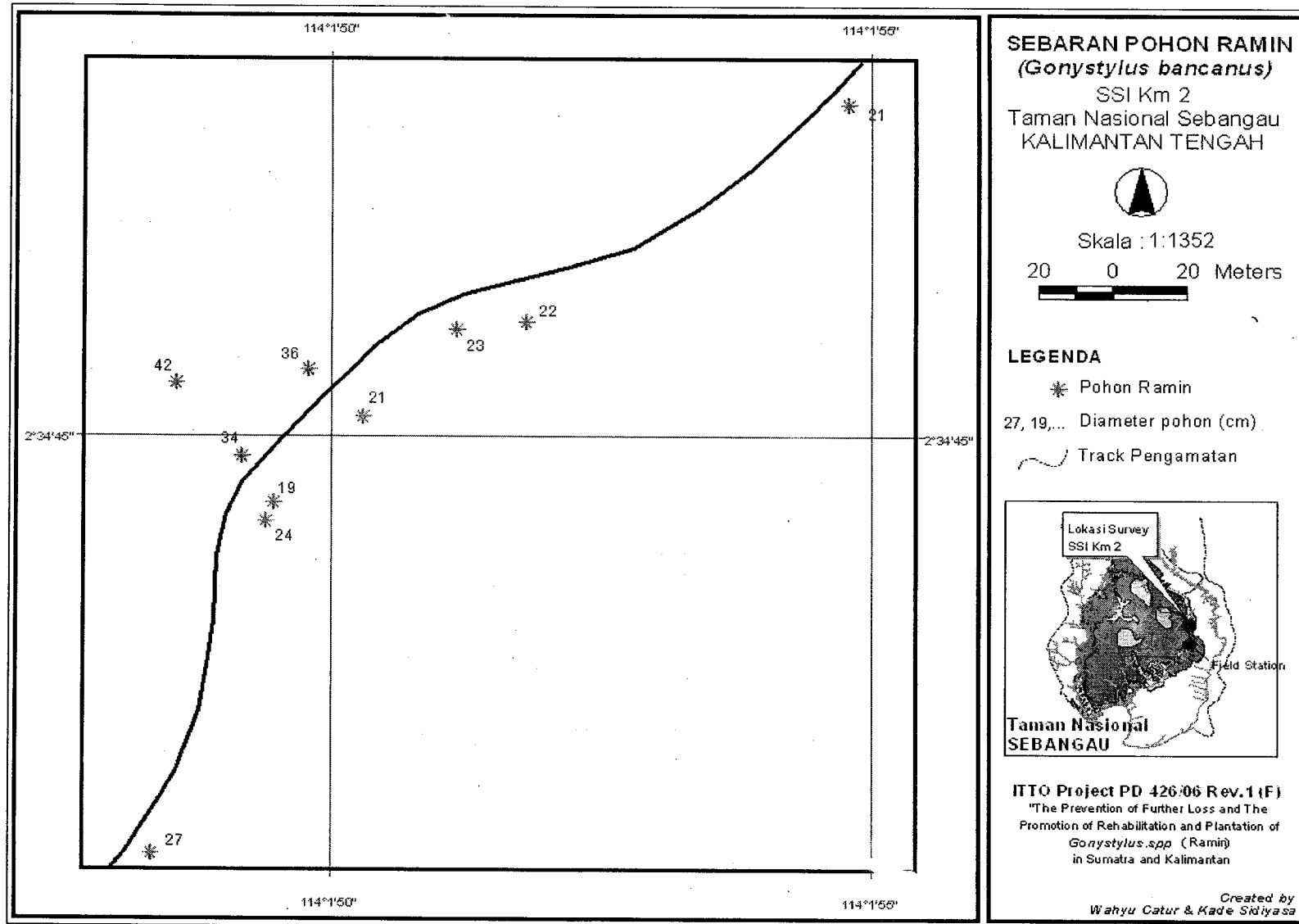
Appendix 3. Distribution of ramin in Air Be(r)guruh, Tanjungpura, Kabupaten Ketapang, West Kalimantan



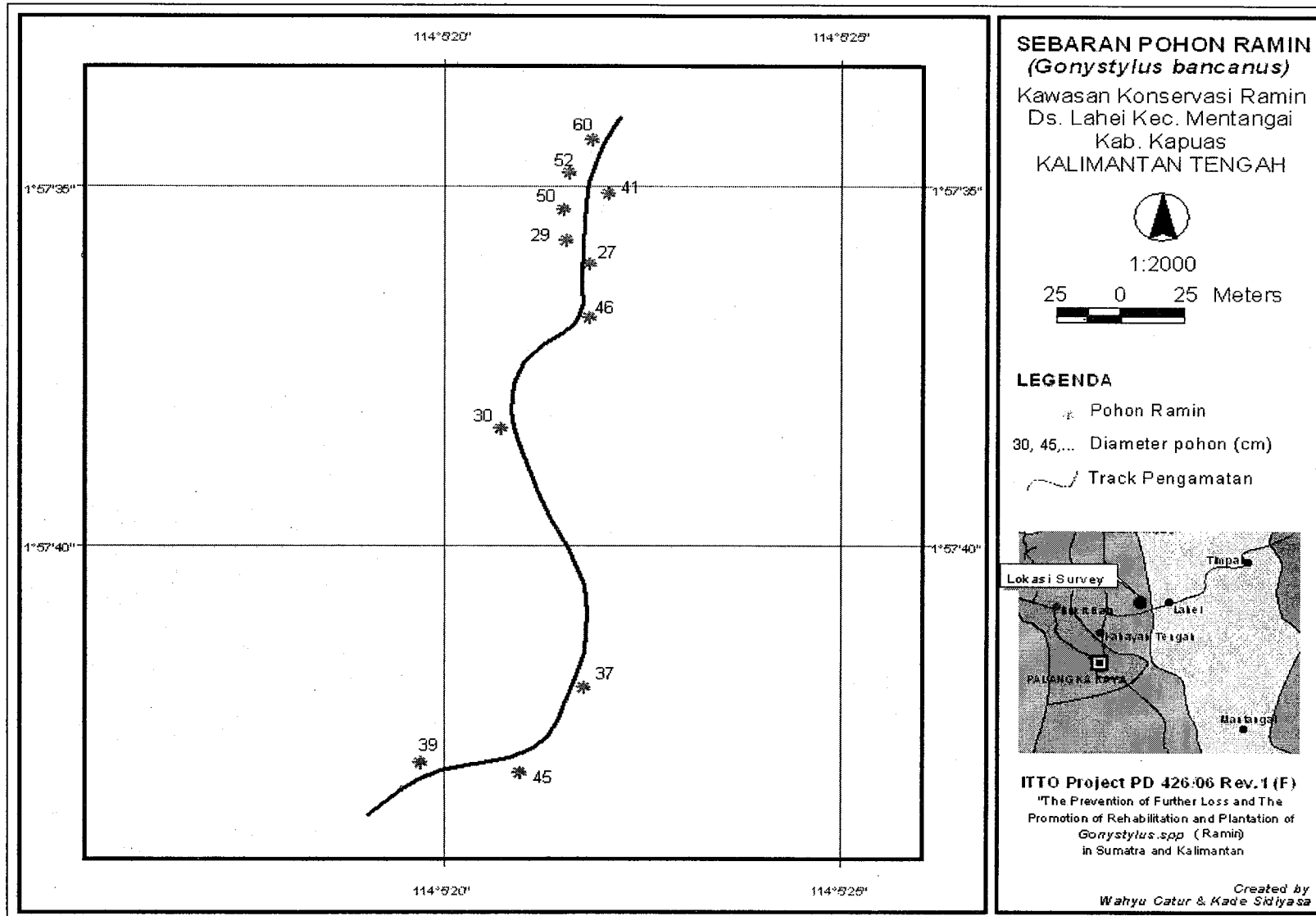
Appendix 4. Distribution of ramin in Sungai Latak, Tanjungpura, Kabupaten Ketapang, West Kalimantan



Appendix 5. Distribution of ramin in km 2 transect of SSI, Sebangau National Park, Central Kalimantan



Appendix 6. Distribution of ramin in seed source of ramin in Lahei, Kabupaten Kapuas, Central Kalimantan



Appendix 7. The "Surat Keputusan" of Bupati Kabupaten Kapuas which distinguish the Lahei forest as a conservation area for ramin



BUPATI KAPUAS

KEPUIITUSAN BUPATI KAPUAS

NOMOR : 705 TAHUN 2003

TENTANG

**PENUNJUKAN LOKASI KAWASAN KONSERVASI HUTAN RAMIN
DI WILAYAH DESA LAHEI KECAMATAN MANTANGAI**

BUPATI KAPUAS

- Menimbang : a. bahwa kawasan konservasi hutan ramin yang terdapat di wilayah Kabupaten Kapuas merupakan salah satu kawasan pelestarian alam yang mempunyai kekayaan alam yang sangat tinggi nilainya, karena itu perlu dijaga keutuhan dan kelestariannya.
- b. bahwa berdasarkan pertimbangan tersebut diatas dan sebagai pelaksanaan dari Undang-undang Nomor 5 Tahun 1990 tentang Konservasi Sumber Daya Alam Hayati dan Ekosistemnya dan Peraturan Daerah Kabupaten Kapuas Nomor 17 tahun 2000 tentang Kewenangan Kabupaten Kapuas, maka dipandang perlu untuk menetapkan Keputusan Bupati Kapuas tentang Penunjukan Lokasi Kawasan Konservasi Hutan Ramin di Wilayah Desa Lahei Kecamatan Mantangai.
- Merperhatikan : 1. Petunjuk Teknis Badan Planologi Kehutanan dan Perkebunan Nomor 82 Tahun 1999
2. Keputusan Bupati Kapuas Nomor : 54/DIPDA/II/VI/2002 tanggal 17 April 2003.
3. Proposal Kebun Ramin atas nama Sdr. M. Dimbe tanggal 6 Juni 2002
4. Hasil penilaian Tim pemeriksa lapangan berdasarkan Surat Perintah Tugas Kepala Dinas Kehutanan Nomor 522/6/DK-KPS/978/SPT/VII/2003 tanggal 1 Juli 2003, terhadap Orientasi, Tata Batas dan Inventarisasi Tegakan Ramin pada Hutan Konservasi di Wilayah Desa Lahei Kecamatan Mantangai.
- Mengingat : 1. Undang-undang Nomor 27 Tahun 1959 tentang Pembentukan Daerah Tk. II di Kalimantan (Lembaran Negara Tahun 1959 Nomor 72, Tambahan Lembaran Negara Nomor 1820);
2. Undang-undang Nomor 5 Tahun 1990 tentang Konservasi Sumber Daya Alam Hayati dan Ekosistemnya (Lembaran Negara Tahun 1990 Nomor 49, Tambahan Lembaran Negara Nomor 3419);
3. Undang-undang Nomor 24 Tahun 1992 tentang Penataan Ruang (Lembaran Negara Tahun 1992 Nomor 115, Tambahan Lembaran Negara Nomor 3501);
4. Undang-undang Nomor 22 Tahun 1999 tentang Pemerintahan Daerah (Lembaran Negara Tahun 1999 Nomor 30, Tambahan Lembaran Negara Nomor 3839);

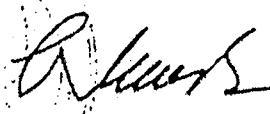
5. Undang-undang Nomor 25 Tahun 1999 tentang Perimbangan Keuangan Antara Pemerintah Pusat dan Daerah (Lembaran Negara Tahun 1999 Nomor 72, Tambahan Lembaran Negara Nomor 3848);
6. Undang-undang Nomor 28 Tahun 1999 tentang Penyelenggaraan Negara yang bersih dan bebas dari Korupsi, Kolusi dan Nepotisme (Lembaran Negara Tahun 1999 Nomor 75, Tambahan Lembaran Negara Nomor 3851);
7. Undang-undang Nomor 41 Tahun 1999 tentang Kehutanan (Lembaran Negara Tahun 1999 Nomor 167, Tambahan Lembaran Negara Nomor 3888);
8. Peraturan Pemerintah Nomor 33 Tahun 1970 tentang Perencanaan Hutan (Lembaran Negara Tahun 1999 Nomor 50, Tambahan Lembaran Negara Nomor 2945);
9. Peraturan Pemerintah Nomor 25 Tahun 2000 tentang Kewenangan Pemerintah dan Pemerintah Propinsi Sebagai Daerah Otonom.
10. Keputusan Menteri Kehutanan No. 127/Kpts-V/2001 Tentang Penghentian Sementara Kegiatan Penebangan dan Perdagangan Ramin.
11. Peraturan Daerah Kabupaten Kapuas Nomor 17 Tahun 2000 tentang Kewenangan Kabupaten Kapuas.

MEMUTUSKAN :

- Menetapkan :
- PERTAMA : Menunjuk Lokasi Kawasan Konservasi Hutan Ramin seluas 200 Hektar yang terletak di wilayah Desa Lahci Kecamatan Mantangai, Peta Lokasi terlampir dalam keputusan ini.
- KEDUA : Lokasi Kawasan Konservasi Hutan Ramin sebagai mana dimaksud pada Amar PERTAMA merupakan kawasan hutan milik Negara Cq. Pemerintah Kabupaten Kapuas yang harus dilindungi dan dijaga kelestariannya.
- KETIGA : Potensi Jenis Ramin pada Lokasi Kawasan Konservasi Hutan Ramin berdasarkan hasil inventarisasi dengan intensitas 10% sebesar 48,99 m³/ha.
- KEEMPAT : Pohon Ramin yang terdapat dalam Lokasi Kawasan Konservasi Hutan Ramin sebagaimana dimaksud pada Amar KETIGA tidak boleh ditebang dan dipertahankan kelestarian jenisnya
- KELIMA : Bupati Kapuas dapat menambah jumlah jenis-jenis pohon yang dilindungi pada lokasi Kawasan Konservasi Hutan Ramin apabila masih terdapat jenis yang dilindungi didalam kawasan hutan dimaksud dengan Keputusan Bupati Kapuas.
- KEENAM : Kawasan Konservasi Hutan Ramin dapat dimanfaatkan untuk keperluan
- a. Penelitian dan Pengembangan
 - b. Pendidikan
 - c. Ilmu Pengetahuan
 - d. Kegiatan pembibitan Pohon Ramin.
 - e. Kegiatan-kegiatan lain yang sesuai dengan ketentuan yang berlaku.

- KETUJUH : Kepala Dinas Kehutanan Kabupaten Kapuas ditugaskan untuk mengawasi dan mengatur pelaksanaan ketentuan dalam Surat Keputusan ini.
- KEDELAPAN : Apabila ada kerjasama dengan pihak ketiga sebagai pengelola Kawasan Konservasi Hutan Ramin Di Wilayah desa Lahei Kecamatan Mantangai akan diatur kemudian.
- KESEMBILAN : Pelanggaran atas ketentuan dari Keputusan ini dikenakan Sanksi Pidana berdasarkan ketentuan yang berlaku.
- KESEPULUH : Keputusan ini berlaku sejak tanggal ditetapkan dengan ketentuan bilamana terdapat kekeliruan dalam penetapannya akan diubah dan diperbaiki sebagaimana mestinya


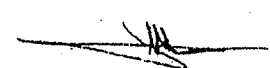
Ditetapkan di Kuala Kapuas
Pada Tanggal, 31 Desember 2003

BUPATI KAPUAS,

BURHANUDIN ALI

Tembusan disampaikan Kepada Yth :

1. Gubernur Propinsi Kalimantan Tengah di- Palangka Raya
2. Kepala Dinas Kehutanan Propinsi Kalimantan Tengah di- Palangka Raya.
3. Sekretaris Daerah Kabupaten Kapuas
Up. Kepala Bagian Hukum Setda Kapuas di- Kuala Kapuas
4. Kepala Badan Perencanaan Pembangunan dan Penanaman Modal Daerah Kabupaten Kapuas di - Kuala Kapuas
5. Kepala Dinas Kehutanan Kabupaten Kapuas di Kuala Kapuas.
6. Camat Mantangai di- Mantangai
7. Pemimpin Proyek Pengendalian dan Pengamanan Kehutanan di 12 Kecamatan TA. 2003 di- Kuala Kapuas
8. Peringgal.

Appendix 8. The certificate letter distinguish the conservation area of ramin in Lahei as seed source of ramin issued by Balai Perbenihan Tanaman Hutan (BPTH) Banjarbaru

	DEPARTEMEN KEHUTANAN DIREKTORAT JENDERAL REHABILITASI LAHAN DAN PERHUTANAN SOSIAL BALAI PERBENIHAN TANAMAN HUTAN KALIMANTAN <i>Jl. Sei. Salak Km. 28 Landasan Ulin PO BOX 10.79 Banjarbaru Telp/Fax (0511) 705083</i> KALIMANTAN SELATAN
	<p style="text-align: center;">SERTIFIKAT SUMBER BENIH TANAMAN HUJUTAN Nomor : 021/V-BPTH.KAL-2/STFK/2004</p> <p>Dengan ini kami menerangkan bahwa sumber benih : KONSERVASI RAMIN</p> <p>Nomor Sumber Benih: 62.01.008 Luas Areal : 200 hektar Jenis Tanaman : Ramin (<i>Gonystilus bancanus</i>) Asal Benih : Hutan Alam Pemilik/Pengelola : Dinas Kehutanan Kab. Kuala Kapuas Alamat : Kantor Dinas Kehutanan Kab. Kapuas Prop. Kalteng</p> <p>Lokasi : a. Desa/RPH : Lahei b. Kecamatan/BKPH : Mentangai c. Kabupaten/KPH : Kuala Kapuas d. Propinsi/Unit : Kalimantan Tengah e. Letak Geografis : - Garis Lintang: 01° 37' 35,16 " LS - Garis Bujur : 114° 05' 11,15" BT f. Ketinggian Tempat: 550 meter dari permukaan laut.</p> <p>Telah memenuhi persyaratan sebagai sumber benih dengan klasifikasi :</p> <p style="text-align: center;">TEGAKAN BENIH TERIDENTIFIKASI</p> <p>Demikian sertifikat ini dibuat dengan sebenarnya untuk dapat dipergunakan sebagaimana mestinya.</p> <p style="text-align: right;">Banjarbaru, 05 Januari 2004</p> <p style="text-align: right;">KEPALA BPTH KALIMANTAN,</p> <p>Sertifikat ini berlaku s/d :</p> <p style="text-align: center;">05 Januari 2009</p> <p><u>Dengan catatan :</u> 1. Tidak ada perubahan fungsi/status 2. Sumber benih tersebut masih produktif</p> <p style="text-align: right;"> Ir. ACHMAD WRATSONGKO NIP. 710004773</p>

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