Project: PD 24/00 Rev. 1(I)
Promotion of Sustainable Utilization of Rattan
from Plantation in Thailand

Report of the Study Tour to Indonesia

25 May – 2 June 2004

Royal Forest Department

National Park, Wildlife and Plant Conservation Department

International Tropical Timber Organization (ITTO)

Study Tour to Indonesia

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INTRODUCTION

Several varieties of palm occurring in the Tropical Rain Forest and Sub-tropical region, “Rattan” is a kind of palms named for a spiny climbing palm. It belongs to the non-timber forest product, which used as a source of cane for furniture and weaving industry for a long time. Rattan products are popular because of their beauty, freshness, easy to bend, brightness, light, endurance, and natural appearance. Nowadays, although the products are still in a great demand and the activities of weaving and utilizing rattan cane are facing the problem due to the lack of raw material.

In Thailand, all activities about rattan have been diminished since harvesting rattan from natural forest has been prohibited. Moreover, there has been a lack of raw materials, especially commercial species from over exploitation in the past. At present, nearly all rattan raw materials have to be imported from neighboring countries such as Indonesia, Myanmar, Cambodia, Singapore, and Vietnam. The target of future rattan industry in Thailand can only be reached through local supply from rattan plantations with appropriate management systems. Since Indonesia has been known as the world’s biggest rattan exporter supplying 80% of the world market.

International Tropical Timber Organization (ITTO) had supported the research team under PD 24/00 Rev. 1(I) Project, **Promotion of Sustainable Utilization of Rattan from Plantation in Thailand** to visit Indonesia. The team would bring back the knowledge and experiences to establish, enhance and develop rattan plantation and utilization in Thailand to fulfil the people needs in term of career and income development and sustainability of forest resources.

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25 May 2004

The group comprising of Ms. Pannee Denrungruang, Ms. Rungnapar Pattanavibool, Ms. Valaiporn Satitvibool, Ms. Mayuree Jitkaew, Mr. Yanyong Kangkarn, Mr. Tanit Nuyim, and Mr. Smit Boonsermsuk arrived Soekarno – Hatta International Airport, Jakarta, Indonesia and proceeded to stay overnight in Bogor.

26 May 2004

Balai Latihan Kerja (BLK) Training Center in Banjarbaru City, Central Kalimantan

BLK is the training center for wood and rattan furniture established under the assistance of the Government of Denmark with 25 officers at the beginning. Normally, the center organizes training workshop for interested people 4 times a year without financial support from the government. The center's administration costs are from the income from product sold. In the former time, this center could produce and export high quality products. At present, there are only 7 officers and the activities of the center are reduced due to the lack of rattan raw materials and the attention from the government.

27 May 2004

PT. Sarikaya Sega Utama, Rattan Carpet Factory

The factory was set up in 1987. About 90% of the products are exported to Japan and 10% to Europe and other countries. Most of the products here are ready-to-use products made from the composition materials between real **Sega** (*Calamus caesius*) and the variation called **Irit**. Major processes of making rattan products are started with size and quality grading, bleaching in bleach solution for 1 week (Fig.16-18), drying under sun light before making the products. Major products from the factory are mat and carpet.

For mat-making process, the canes are split into long stripes and polished, bleached and dried. All stripes are punctured by machine and threaded together

manually. Finally, the edges of the mat were sew and embellished by rattan skin to make it more beautiful.

For carpet making, the processed rattan skins are weaved to thin layer of mats and glued with a layer of supported sheet underneath. Mostly, type and quality of supported sheet layer depend on the need and order of the customers.

After the visit to carpet factory, the group proceeded Sampit City, about 8 hours by car from Banjarbaru City.

28 May 2004

Sampi City

Sampit City, is situated located on the bank of Mantaya river. Rattan plantation is in Trantang district about 45 minutes by speed boat from Sampit City. Tantrang district is a trade center for rattan canes from the villagers around the area. Rattan canes harvested from the areas (about 50,000 ha) are transported along the river by barge or raft pulled by boat to the center where rattan canes will be passed through several processes of preparation before keeping in the stock.

The visit was made to *Calamus caesius* plantations in natural forest on the other side of the river where rattans are harvested and maintained for sustainable uses since the old generations. Therefore, the growing stock of rattan is still available for annual harvesting. Based on an experience of the farmers, light intensity at 60% or a little higher is suitable for the growth of rattan especially *C. caesius*. Thus, thinning is a common practice among the farmers in order to open the canopy for optimal light. The farmers also demonstrated that rattan seedlings growing in natural forest do not need fertilizer, while removing off the first cane from the clump induce the growth and sprouting of new shoots.

The *C. caesius* canes harvested in this area are approximately 30-40 m long, the lower part of which, called **Kubu**, are cane and skin suitable for furniture. The top part, called **Sop**, is soft and good to split into small thread for weaving. Before harvesting, the farmers test the quality of rattan cane by bending. The cane is ready to be harvested if there is a slight crack sound with the tiny silica sprang out during bending.

The steps in processing of rattan canes are as follows.

1) The farmers will harvest rattan canes from the plantation. There is a regulation that each clump be harvested every second-third year for sustainability.

2. The canes are bound and transported by barge or bamboo raft down stream or pulling with boat.

3. Cleaning the cane by removing leaf sheath and debris.

4. Fumigating the canes with sulfur (sulfurization) for 2 nights to prevent insect and whiten the cane.

5. Washing the canes in the pond with water.

6. Sun drying for 2-3 days.

7. Fumigating the canes with sulfur again for 2 nights

8. Sun drying for 2-3 days.

9. Cane grading and packaging.

In case of *Daemonorops sabut*, preparing processes needs different treatment from that of *C. caesius*, *i.e.*, boiling in diesel oil for 2 hours prior to drying under sunlight, fumigating with sulfur, and drying under sunlight for the second time. About 3,000 liters of diesel is estimated to be used for treatment of 3 tons of rattan.

29 May 2004

Banjarbaru City

The group visited Forestry Division to observed the activities of cooperatives for rattan weaving products in Banjarbaru City. After one-night stay the group proceeded to Surabaya.

30 May 2004

The group traveled by train from Surabaya to Cirebon City.

31 May 2004

The group visited Department of Forestry in Cirebon City and rattan plantation on Cirimy Mountain where 2 rattan species (*Calamus manan* and *C. caesius*) are planted in *Pinus merkusii* and Mahogany plantations at an elevation of 800 m above mean sea level. The experiments are supported by ITTO to conduct a comparative study on

growth of rattans at different altitudes, *i.e.*, mountain top, foothill, and plain area. It is recommended that the collar of rattan seedlings be left above the ground level and not covered with soil upon planting. This will enhance the growth of cane and the sprouting of new shoots.

Before leaving Cirebon City, the group visited Cirebon rattan furniture factory. Cirebon is the biggest exporter of furniture products throughout the world, particularly Europe and Saudi Arabia.

1 June 2004

The last day of the study tour was spent for the visit Bogor Botanical Garden in Bogor to study morphological characteristic of several rattan species.

2 June 2004

Departure Jakarta for Bangkok

Benefit gained from the study tour

- Knowledge on how to grow, manage, utilize and prepare rattan raw material before delivering to the dealers.

- Present situation of rattan in Indonesia in different aspects, particularly planting, harvesting, management, utilization, and trade.

- Information, problems and solution that can be applied to the situations in Thailand.

- Experience and know-how techniques learned from Indonesian farmers such as rattan planting and management, thinning for opening the tree canopies for optimal light, *i.e*., about 60%, to enhance rattan growth based on local wisdom that can be introduced to the farmers in Thailand.

Conclusion and Recommendation

Indonesia has a variety of rattans grown naturally. Sufficient raw materials made potential on establishing large rattan factories. Moreover, proper management and

utilization has been done in circle for a long time, which encourages high productivity and sustainability.

The uses of integrated materials for furniture making in Indonesia such as bed, table, and chair etc. can reduce the use of rattan raw materials and production cost with the value-added. This also made sustainability in rattan utilization.

In case of Thailand, following issues should be taken in to immediate actions.

1) At present, Thailand has no potential to use rattan raw material from plantation but have to import from outside. It was recommended that we should start to establish a plantation with only commercial rattan species such as *Calamus manan* for big cane, *C. caesius* and *Daemonorops sabut* for small cane. This will secure continuous flow of rattan raw material in future, and provide better livelihood for forest dwellers. It was also suggested to establish the plantation in the logged over areas, secondary forest, or forest timber industry, if we can get permission.

2) Rattan seed production area should be established to provide pure line and quality seeds to the farmers. Research on rattan seed improvement can be conducted within the area and the seeds can be sold or exchanged with other countries.

3) Due to the shortage of rattan raw material, it is suggested that other sorts of material be incorporated with rattan for furniture making. Integrated materials such as water hyacinth, reed and wood should be recommended. To enhance this suggestion, training course on new design of rattan weaving and furniture making should be organized under the PD 24/00 Rev. 1(I) Project, **Promotion of Sustainable Utilization of Rattan from Plantation in Thailand**.

4) Establishment of rattan demonstration plots in the villages for both livelihoods and agro-tourism, where activities related to rattan production and local culture are demonstrated and the products sold to the tourists.

5) Dissemination of the knowledge on rattan ecology, silviculture, harvesting techniques, etc. to the farmers.

Annex I

Itinerary of the Study Tour

25 May 2004 –2 June 2004

Day 1	25 May 2004	Arrive at Soekarno – Hatta Int Airport , Indonesia [TG 413, 11.15-16.25] Check in Hotel Pakuan, Bogor.
Day 2	26 May 2004	Check out from Hotel Pakuan Leave for Central Kalimantan by plane Check in Hotel Batung Batulis, Banjarbaru Visit Balai Latihan Kerja (BLK), Banjarbaru.
Day 3	27 May 2004	Check out from Hotel Batung Batulis, Banjarbaru Visit Rattan Carpet Industry (Large industry) Leave for Sampit Check in Hotel Permata Indah, Sampit.
Day 4	28 May 2004	Visit Rattan (*C. caesius*) Plantation & Natural Forest and Rattan processing at Sampit Regency, Sampit.
Day 5	29 May 2004	Check out from Hotel Permata Indah, Sampit. Visit Rattan weiving co-operation Leave for Surabaya by plane. Check in Hotel Inna Simpang, Surabaya.
Day 6	30 May 2004	Check out from Hotel Inna Simpang, Surabaya. Leave for Cirebon. Check in Hotel Sidodadi, Cirebon.
Day 7	31 May 2004	Check out from Hotel Sidodadi, Cirebon. Visit Rattan Plantation (*C. caesius* and *C. manan*) in *Pinus merkuzii* plantation at Cirebon. Visit Rattan furniture Industry in Cirebon Leave for Jakarta Check in Hotel Melawai, Jakarta.
Day 8	1 June 2004	Visit Bogor Botanical Garden-Indonesia, Bogor
Day 9	2 June 2004	Check out from Hotel Melawai, Jakarta (in the morning) Back to Thailand [TG 434, 12.45-16.15]

ANNEX

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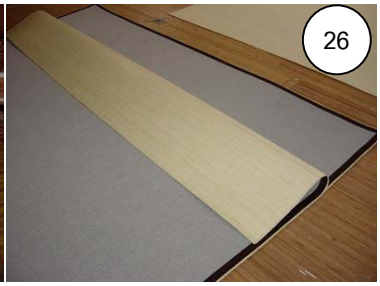

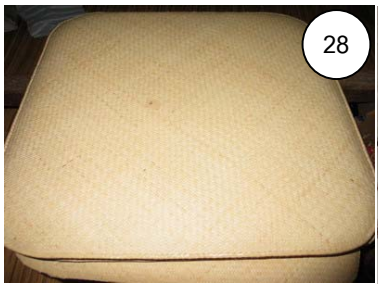

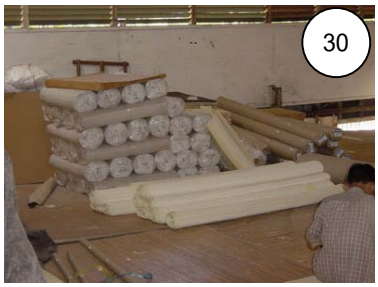

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30-31 May 2004

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