

# Research projects of stakeholders funded at the National Park Bukit Duabelas (TNBD)

Name	Counterpart	Title
Jimmy Marpaung	Z01	The potential of high economic value of non-timber forest products (NTFPs) utilized by Orang Rimba in Bukit 12 National Park (Case Studies: Tumenggung Grip Group, Tumenggung Bebayang Group and Tumenggung Bepayung Group

#### Background

Bukit Duabelas National Park (TNBD) was appointed with the consideration of the living space and livelihoods of Orang Rimba who have traditionally lived in the TNBD area by hunting and gathering. This consideration is then interpreted as an effort to preserve and guarantee the availability of natural resources in TNBD utilized by Orang Rimba for their livelihoods. The types of natural resources utilized are mainly from non-timber forest products (NT-FPs). There is a large potential of NTFPs in the TNBD area which are still not well identified, which causes the NTFPs to not yet be managed optimally.

In the present, Orang Rimba communities that initially live with hunting and gathering patterns are beginning to shift towards traditional/permanent cultivation (rubber plants and annuals within the region). Even so, collection of NTFPs is still ongoing. The shift in lifestyle becomes a threat to the availability of natural resources and space in the TNBD area if it is not anticipated early on. It is necessary to survey the potential availability of high-value NTFPs in the TNBD area as one of the anticipatory steps. Knowing the potential NTFP data will be an important consideration in determining appropriate interventions to ensure the availability and sustainability of the park as a source of Orang Rimba livelihood.

#### Objectives

- 1. To obtain data on the types of NTFPs and how they are used by Orang Rimba communities in the National Park.
- 2. To obtain data on the potential (population, distribution, habitat conditions) of high value NTFPs that have been used by Orang Rimba in TNBD

## Methodology

The research method used is descriptive qualitative method. Data collection is done in 3 ways, namely:

- Literature study, through collecting references and supporting data in the form of research results, journals, maps, etc;
- Semi-structured interview. Interviews will be conducted with 3 (three) groups of Orang Rimba Tumenggung namely Tumenggung Grip, Tumenggung Bebayang and Tumenggung Bepayung to find out the types of NTFPs used that have high economic value and the patterns of utilization and distribution in each location; and
- Field observations. Direct observations to the TNBD area to see the potential of NTFPs. Observation to the location is based on information from the Orang Rimba (purposive sampling).

## **Results and Discussion**

Based on information from Orang Rimba and the results of the vegetation analysis conducted, it can be seen that the types of NTFPs available in nature with high economic values are less compared to the resources used by the Orang Rimba. As seen in the Tumenggung Grip location, the only NTFP with a high economic value and have a sale value at the observation location was *durian* (*Durio* sp) with an INP value of 72.26, followed by *kabau* and *meranti kuning* with an INP value of 3,55 and 1.39 respectively. The highest INP at Tumenggung Bepayung location was found in the NTFPs type, namely *medang* (*Phoebe* sp) at 32.64, while in the NTFPs type the highest INP value was found to be *meranti rambai* at 5.28, followed by *merpayang* at 2.51. As for the location of Tumenggung Bebayang, the highest INP was found to be *pulai* at 25.87, while in NTFPs the highest value was 18.983 for *durian daun*.

CRC 990 Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)









**Table 1.** Types of Vegetations Producing NTFPs in Tumenggung Grip, Tumenggung Bepayung and Tumenggung

 Bebayang Region

No	Local Name	Scientific Name	Parts Used	Usage	Price
1	Jernang Rambay	Daemonorops draco	Fruits	Basic ingredients of paint, cosmet- ics, medicine	- Rp. 200,000 / kg for fruit - Rp. 2,300,000 up to Rp. 2,800,000 for the sap
2	Rotan Udang -		Stem	Rattan craft material	Rp. 190.000/pikul 1 pikul = 100 kgs
3	Merpayang	-	Fruits	Medicine	Rp. 50,000, - to Rp. 60,000 per kg of dried fruit
4	Damar Mata Kucing	a -		Industrial raw material	Rp. 30.000,-/kg
5	Jernang burung	irung -		Basic ingredients of paint, cosmet- ics, medicine	Rp. 25.000,-/kg
6	Balam	Palaquium Sp	Sap	-	Rp. 20,000 to Rp. 25,000,- but there are currently no collectors
7	Durian	Durio	Fruits	Food	Rp. 10,000,- to Rp. 50.000, - depending on the season
8	Kabau	Archidendron microcarpum	Fruits	Food	Rp. 6000,-Rp. 7000,- per Kg
9	Petay	Parkia speciosa	Fruits	food	Rp. 3000, - Rp 6000,- per bundle
10	Meranti rambai, meranti kuning, Meranti batu	Shorea Sp	Resin sap	Industrial raw material	Rp. 2000/kg up to Rp. 3000/kg
11	Rotan Tebu-tebu	<i>Calamus</i> Sp	Stem	Rattan craft material	Rp. 1000,-/kg
12	Rotan Semambu	Calamus Sp	Stem	Rattan craft material	-
13	Rotan Seni	otan Seni -		Material for making Ambung	-
14	Rotan batu -		Stem	Rattan craft material	-
15	Rotan balam	n balam Calamus sp		Rattan craft material	-
16	Cempedak	empedak Artocarpus sp		Food	Personal consumption
17	Bayas	Oncosperma horidum	Pith	Foodstuff	Personal consumption
18	Kasai	Pometia Sp	Fruits	Bark (medicine for wounds), leaves and bark (medicine for fever, discol- or hair, influenza, dysentery)	Personal consumption
19	Rambutan	Nephelium Lappaceum	Fruits	Food	Personal consumption
20	Siluk	-	Leaf	Medicine	-
21	Merpuyon -		Leaf	Medicine	-
22	Tampuy	Baccaurea macrocarpa	Fruits	Food	Personal consumption
23	Buntor	-	Fruits	Food	Personal consumption
24	Keranji	Dialium Sp	Fruits	Fruits (mouth ulcers, diarrhea, bleeding gums, bad cholesterol)	Untapped
25	Petaling	Ochanostachys amentacea	Leaf	(fever medicine)	Untapped
26	Kepayang	epayang Pangium edule		Cooking Oil	Untapped
27	Jelutung	ung Dyera costulata		-	Untapped

Source: Primary Data (2019)

CRC 990 Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)





Funded by





Figure 2 A, B,C. Meranti rambay and data collection at the Tumenggung Bepayung location

Especially for the *jernang rambay* species, no natural growth was found at the observation site in the Tumenggung Bepayung location. Based on information from Orang Rimba, the *jernang* grows in certain locations, generally in forest areas where the vegetation is still good and is near to rivers/swamps. Whereas several other types of NTFPs of high economic value that were not found at the observation location were *sialang* trees, *jengkol, manau*, and *tunjuk langit*. In addition, there are also several types of NTFPs that have not been utilized, such as *kepayang*, *jelutung*, *keranji* and *petaling* due to the absence of markets/HHBK collectors.

**CRC 990** Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)





Funded by

Deutsche Forschungsgemeinschaft

#### Opportunities for developing high-value NTFPs

It can be seen from the observations that the natural availability of high-value NTFPs in three Tumenggung locations is inadequate compared to the number of households (HH) in each group. As an illustration, the number of HH in Tumenggung Grip group is 95, but the natural availability of jernang rambay (highest price) by sampling is only 11 clumps. The observation site is the *jernang rambay* natural habitat that grows most naturally in the group's area. Whereas in Tumenggung Bepayung and Tumenggung Bebayang locations, there were no jernang rambay that grew naturally. Jernang clumps were managed jointly by the Orang Rimba community and anyone from the community can access the yield of jernang. However, in the utilization pattern, there are customary rules in place, for example, jernang fruits which can be harvested must be ripe. Furthermore, Orang Rimba may also mark trees or plants that are to be harvested but not yet ready by giving a sign called *penda*. This sign is in the form of tree branches placed on the plant clumps. If it has been marked but there is still someone who takes or harvests the fruit, then the person who takes it will be subjected to a fine of 60 pieces of cloth. This also applies to other types of NTFPs, especially those with high economic values.

All interviewees stated that they realize that the NTFPs which are the source of their livelihoods are now less available in the area. They hope that these types of NTFPs can be cultivated in their fields because it is difficult to grow naturally in the forest. This certainly needs to be followed up by the park management so that this momentum can be utilized as well as to further regulate the overall resource management in the TNBD area.

In addition, the types of commodities in each field managed by Orang Rimba must also be more varied so that the condition of the land is maintained by native species with high economic value. By optimizing the cultivation in each field that they have traditionally managed, it is hoped that the number of NTFP types of high economic value in the region can increase in their natural habitats because the Orang Rimba community makes more use of the commodities they plant themselves. The next thing that needs to be done is to collect data in the field and study the patterns of ownership and management of fields by Orang Rimba so that the development of NTFPs in the TNBD area can be optimized.



**Figure 3A, B.** Collecting data at Tumenggung Bebayang location and the *kulim* tree

## References

- [BTNBD]. Balai Konservasi Sumber Daya Alam Jambi. 2005. Rencana Pengelolaan Taman Nasional Bukit Duabelas Tahun 2005 -2024. Jambi.
- [BTNBD]. Balai Taman Nasional Bukit Dua Belas. 2018. Laporan Survey Populasi dan Kebun Orang Rimba/SAD di Taman Nasional Bukit Duabelas. Jambi
- [BTNBD]. Balai Taman Nasional Bukit Dua Belas. 2018. Laporan Inventarisasi PSP Bulian Di Wilayah Kerja Resort Marosebo Ulu II Sptn Wilayah I Batanghari. Jambi
- Maleong, L. J. 2007. Metodologi Penelitian Kualitatif. PT Remaja Rosda Karya. Bandung
- Ostrom, E. (1990) *Governing the Commons: The Evolution of Institutions for Collective Action*, New York: Cambridge University Press.
- Prayitno, T.A. 2009. Peningkatan Nilai Tambah Hasil Hutan Bukan Kayu Melalui Pendekatan Teknologi. Jurusan Teknologi Hasil Hutan Fakultas Kehutanan. Universitas Gadjah Mada. Yogyakarta.
- Saefullah. 2017. Peran Modal Sosial Orang Rimba Dalam Mendukung Pemberdayaan Ekonomi di Taman Nasional Bukit Duabelas. Program Studi Ilmu Kehutanan Program Pascasarjana Fakultas Kehutanan Universitas Gadjah Mada. Yogyakarta

**CRC 990** Ecological and Socioeconomic Functions of Tropical Lowland Rainforest Transformation Systems (Sumatra, Indonesia)





