**Contents**

**TIGERPAPER**

Distribution of the Proboscis monkey in Balangan District, South Kalimantan, Indonesia...........................................1
An assessment of community-based biodiversity conservation and rural livelihood improvement in the buffer zone of Bardia National Park, Nepal...........................................7
Conservation prioritization for the wild tigers in the Bangladesh Sundarbans...................................................15
Plant and butterfly interactions found in the mid elevation forests of Pachamalai Hills, Eastern Ghats, Tamil Nadu.....21
Checklist of waterbirds in Angul District, Orissa, India........31

**FOREST NEWS**

Foresters convene in Rome for COFO and the Third World Forest Week.................................................................1
Speech by Eduardo Rojas-Briales at the Opening of Third Forest Week.................................................................3
Wangari Maathai Award 2012-10-26..........................................4
Focus on effective forest regeneration..................................5
Promoting under-utilized indigenous food resources for food security and nutrition in Asia and the Pacific..............7
Another award for FAO Leasehold Forestry Project in Nepal..................................................................................9
Improving peoples’ livelihoods in Cambodia through Community Forestry..........................................................12
New RAP Forestry Publications...........................................15
FAO Asia-Pacific Forestry Calendar......................................16

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**Front cover:** Male (left), female (upper right) and infant (bottom right) proboscis monkeys (Photos: Courtesy of Mochamad Arief Soendjoto)

**Back cover:** Female Sundarban tiger (Photo: Ashraf Mohammed)

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Introduction

Among the habitats of the proboscis monkey (*Nasalis larvatus*), an endemic, non-human primate of Borneo, frequently cited are mangrove forest, swamp peat forest, and riverine forest. The presence and behavior of the proboscis monkey in these habitat types have been recorded in many studies (e.g., Alikodra, 1997; Alikodra & Mustari, 1994; Bennett, 1988; Bennett & Sebastian, 1988; Bismark, 1981, 1986; Boonratana, 1994, 2000; Jeffrey, 1979; Salter & Aken, 1983; Salter et al., 1985; Yeager, 1991; Yeager & Blondal, 1992). Therefore it is logical that the conservation efforts focus on those habitats.

The proboscis monkey was found living in rubber forest (*Hevea brasiliensis*) and swamp forests dominated with galam *Melaleuca cajuputi* (Soendjoto, 2004; Soendjoto et al., 2001, 2002, 2003, 2005).

Rubber plants have been cultivated and developed in plantations for more than 50 years in South Kalimantan Province, including Balangan District, one of the 13 cities/districts in this province. This
district has an area of 1,878.3 km² and a population density of 60 people/km². Rubber is the main source of livelihood for increasing the peoples’ income.

The present research aimed to map the types and status of the habitats and estimate the population of proboscis monkey in Balangan District, South Kalimantan. The data will be useful for strengthening the conservation strategy for the proboscis monkey.

**Methods**

Data was collected in May – June 2012. The activity was initiated with interviews with the people asking whether they have seen/met the proboscis monkey at locations where they carry out their daily activities, and if yes, where the location was. The name and coordinates of the location was recorded. Other data collected were habitat type, the dominant plants in the area, the status of land, and the population of the proboscis monkey based on sex and age class (male has bigger and longer nose than female; infant has smaller body with dark brown hair on its head and paler hair on its body).

**Results**

There were 13 locations where the proboscis monkey was found. In 8 locations the monkey was directly sighted and in 5 others its presence was reported by people interviewed. Most locations had rubber forest while others were non-rubber forest growing on *baruh*.

<table>
<thead>
<tr>
<th>No</th>
<th>Name and coordinates of locations where populations were sighted</th>
<th>Type and condition of habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mandadar Forest, Kusambi Hulu Rubber forest; the average tree diameter was 34.5 cm North: <em>ramping</em> and unused paddy-field South: <em>ramping</em>, resettlement, and rivulet West: rubber forest</td>
<td>19° 14.9' S, 115° 24' 14.0' E + 2 F + 1 SU</td>
</tr>
<tr>
<td>2.</td>
<td>Pak Slametno’s plantation, Prime seedling rubber plantation; the average tree diameter was 35.5 cm North: resettlement and Halong River East, South, and West: rubber forest</td>
<td>02° 16' 56.5&quot; S, 115° 34' 54.1&quot; E + 9</td>
</tr>
<tr>
<td>3.</td>
<td><em>Baruh</em> Tawayau, Galumbang Village, Juai Subdistrict; 02°15' Vegetation dominated by kujamas (<em>Syzygium stapfiana</em>) North: paddy field, resettlement, and Halong River East: rubber forest and <em>Baruh</em> Tambunau South: Kambing Stream, Opak Stream, and Juai Stream West: rubber forest</td>
<td>40.0° S, 115° 36' 32.2'' E + 1 M + 1 F + 1 SU</td>
</tr>
<tr>
<td>4.</td>
<td><em>Baruh</em> Tambunau, Binju Village, Halong Subdistrict; 02° 16' 09.8&quot; S, East: rubber forest South: Kambing Stream, Opak Stream, and Juai Stream West: rubber forest</td>
<td>115°37' 24.9&quot; E + 2 SU</td>
</tr>
<tr>
<td>5.</td>
<td>Gudang Gatah, Buntu Karau Rubber forest; the average tree diameter was 44 cm North: Halong River East and west: rubber forest South: resettlement</td>
<td>45.9° S, 115° 32' 35.0&quot; E; + 3 F + 1 KT</td>
</tr>
<tr>
<td>No.</td>
<td>Location</td>
<td>Subdistrict</td>
</tr>
<tr>
<td>-----</td>
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<tr>
<td>6.</td>
<td>Buntu Karau Village, Juai Subdistrict</td>
<td>02° 17' 30.9” S, 115° 32' 15.2” E</td>
</tr>
<tr>
<td>7.</td>
<td>Garuda Maharam, Gunung Pandau Village, Paringin Subdistrict</td>
<td>02° 19' 59.2” S, 115° 28' 36.4” E</td>
</tr>
<tr>
<td>8.</td>
<td>Pahajatan, Tungkap Village, South Paringin Subdistrict</td>
<td>02° 20' 32.1” S, 115° 27' 58.4” E</td>
</tr>
<tr>
<td>9.</td>
<td>Baruh Katigan, Belanti Village, Awayan Subdistrict</td>
<td>02°23' 38.0” S, 115° 31' 26.6” E</td>
</tr>
<tr>
<td>10.</td>
<td>Muslimin Graveyard, Belanti Village, Awayan Subdistrict</td>
<td>02° 23' 54.8” S, 115° 31' 45.0” E</td>
</tr>
<tr>
<td>11.</td>
<td>Batang Banyu Mati, Pulantan Village, Awayan Subdistrict</td>
<td>02° 25' 29.6” S, 115° 32' 18.7” E</td>
</tr>
<tr>
<td>12.</td>
<td>Baruh Pacal, Maningau Village, Awayan Subdistrict</td>
<td>02°23' 58.6.4” S, 115° 32' 15.92” E</td>
</tr>
<tr>
<td>13.</td>
<td>Pak Mursian’s Plantation, Mampari Village, Batumandi Subdistrict</td>
<td>02° 22' 57.7” S, 115° 25' 31.8” E</td>
</tr>
</tbody>
</table>
The presence of the proboscis monkey at a site of location shows that the site is part of its home range. According to the people (dry-land farmers, rubber tappers, fisherman), the population of proboscis monkey is more than 15 individuals.

In locations 2, 6, 7, 9, 12 the proboscis monkeys were not directly seen. They might have been at other sites during the observation period.

In some rubber forests there is land planted with dry-land paddy or other food/fruit plants (such as banana, cempedak [Artocarpus integer], pampakin [Durio kutejensis]).

Baruh (lebak): land that is lower than its surroundings, inundated with an average water depth of 1 m, and wide (more than 1 ha in general). During a long dry season some have no water. Plants growing on baruh generally are trees more than 5 m tall, such as kujamas.

Ramping: its width is less than 250 m². In a long dry season, there is no water. Plants growing on ramping are generally less than 1.5 m tall, such as bamban (Donax caniniformis).

The perceptions and attitudes of the people toward the proboscis monkey varies. Most people (86.96%; n = 23) did not know that the proboscis monkey is a protected animal. Most people (91.30%; n = 23) were aware that hunting of the proboscis monkey was practiced.

Discussion

Habitat

Rubber forests differ from rubber plantations. In rubber forests other plants are allowed to grow (or are not cut) together with rubber trees that were planted purposely. For shifting cultivation farmers, this is a long-period treatment to make land naturally fertile (bera period). Rubber forest is cut if people need the land to plant paddy. The cutting is carried out when rubber is not productive or the when the need of paddy as a food increases.

In rubber plantations other plants are deliberately cleared or killed by cutting or spraying with herbicide. Plants that are tolerated to grow are grasses with some potential as food. By clearing or killing other plants the competition for nutrition is reduced, so rubber production increases.

The proboscis monkeys are found more frequently in rubber forests than in rubber plantations. Rubber forest comprises a variety of food and provides a safer hiding place from either disturbance or predators. One of potential disturbances is people moving around tapping rubber. Kujamas and salam (Syzygium polianthum) are two of many food sources for the proboscis monkey in the rubber forests of Tabalong District, South Kalimantan (Soendjoto et al., 2006). Aren or timbatu (Arenga pinnata) growing at Sungai Mati, Muslimin Graveyard, Pahajatan, and Mandadar Forest are the hiding places for the proboscis monkeys. There are also reports that fruits of aren/timbatu are food for the proboscis monkey.

In addition to rubber forest, proboscis monkeys are also frequently found at the area called baruh. Baruh (mainly inundated all year) is not purposely planted for financial and technical reasons, so water-resistant plants grow wildly and form a forest ecosystem. In such conditions, baruh not only functions as water source for the proboscis monkey, but also provides food and becomes their hiding place. Baruh Tambunau of Binju Village, Halong Subdistrict and Baruh Pacal of Awayan Subdistrict are wide and deeply inundated, limiting people’s activities.

Perception and attitude of the people

People have different perceptions and attitudes toward the proboscis monkey. Some people know that the proboscis monkey is a protected animal. They do not disturb the animal for the reason that their home range is far from human resettlements and activities. They maintain the baruh for the proboscis monkey.

However, some people keep the monkeys as a pets, for example at Teluk Bayur Village, Juai
Subdistrict. There has been no deeper investigation made as to whether they know that keeping a protected animal (moreover without authority’s permission) is against the law. Many cases have proven that proboscis monkeys kept in captivity do not survive long. An inappropriate diet and stress are the most common factors.

Some rubber farmers view the proboscis monkey as a pest. The monkeys damage young rubber plants. Their jumping from one twig to another or from one branch to another can break twigs or branches. Because of such behavior, at Baru Village, Awayan Subdistrict the proboscis monkey is shot.

In addition, the proboscis monkey is hunted for consumption. Almost all the locations mentioned in the table had been visited by hunters. The hunters were transmigrants of Juai Subdistrict, Balangan District and people of certain ethnic groups coming from outside Balangan District (i.e., Central Kalimantan Province).

Many of the people’s activities tend to damage the habitat of the proboscis monkey and result in the decrease of its population. Changes from secondary forest or rubber forest to resettlements, coal open-mining areas, and oil-palm plantations are occurring in South Kalimantan Province. They decrease the food availability and reduce the monkey’s home range. On a more hopeful note, there is a population of the proboscis monkey reportedly living in a former coal mining area that was reclaimed and revegetated more than 15 years ago. The first author is investigating this.

References


AN ASSESSMENT OF COMMUNITY-BASED BIODIVERSITY CONSERVATION AND RURAL LIVELIHOOD IMPROVEMENT IN THE BUFFER ZONE OF BARDIA NATIONAL PARK, NEPAL
by Damodar Gaire

Introduction

Community-based conservation reverses top-down, centre-driven conservation by focusing on the people who bear the costs of conservation. In the broadest sense then, community-based conservation includes natural resource or biodiversity protection by, for, and with local communities (Western & Wright 1994, p. 7).

Nepal has joined hands with international communities and embarked on the modern era of biodiversity conservation since the 1970s. The establishment of national parks and other forms of protected areas has been considered a key conservation strategy to protect these natural heritages. So far, Nepal has created an impressive network of protected areas that cover more than 18% of the total surface area of the country. By signing the global Convention of Biological Diversity held in Rio de Janerio in 1992, Nepal expressed its strong commitment to the conservation and sustainable utilization of biological diversity for the socio-economic development of the country (HMGN, 2000).

There has been a major shift in the management paradigm of protected areas – from protective to collaborative – with the introduction of conservation areas and buffer zones. It is not conceivable that protected areas could be managed for the long term without people’s goodwill and active support. Over time, management has now focused more on meeting people’s basic needs so that resource use pressure on protected areas could be alleviated. The formation and institutionalization of different community-based organizations in the buffer zone is a stepping stone toward empowering and involving people in resource management (Maskey, 2001).

Nepal’s biodiversity conservation initiatives have taken place against the background of a number of national needs and international commitments. Many initiatives have been undertaken to conserve the rich biodiversity of Nepal. One of the main initiatives to date for protecting Nepal’s biodiversity is the community-based conservation program in the Bardia National Park buffer zone.