Reflections on the Heart of Borneo

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editors

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Cover: Farmer waiting for the things to come (photo: G.A. Persoon)

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Preface

This book contains a selection of revised papers that were presented during the Heart of Borneo conference in Leiden in 2005. This conference was organised jointly by the World Wide Fund for Nature (WWF Netherlands), the International Institute for Asian Studies (IIAS) and the Institute of Environmental Sciences (CML) as a follow-up of another conference organised in Brunei in April 2005. During that meeting political leaders of Malaysia, Indonesia and Brunei, together with scientists from the region, as well as representatives of the major international conservation agencies discussed the need to collectively take responsibility for the protection of the Heart of Borneo, the large transborder area of high conservation value shared by the three countries.

The meeting in Leiden aimed to bring together European and American scholars from various disciplines to discuss the state of scientific research and the contribution of science to the conservation goals of the Heart of Borneo initiative.

The conference was opened by the rector of Leiden University, Prof. D. Breimer, and Prof. H. Udo de Haes, director of CML. The keynote speech was delivered by Redmond O'Hanlon, the author of the famous 'Into the heart of Borneo' (1983). During the first two days of the conference, these participants shared their often long-term interest and experience in various geographical parts of Borneo and reflected on the challenges of turning this initiative into reality.

On the third day, the conference moved to The Hague where the preliminary recommendations of the scholars were presented to and discussed with representatives of the private sector as well as governmental officials. Some heads of districts in Kalimantan (the Indonesian part of Borneo) made a clear statement by announcing that they would turn their districts into 'conservation districts'.

This conference would not have been possible without the financial support of the World Wide Fund for Nature (WWF Netherlands), the International Institute for Asian Studies (IIAS), the Institute of Environmental Sciences (CML), the Center for International Forestry Research (CIFOR) in Bogor, Indonesia. Tropenbos International in Wageningen, the Netherlands contributed funds for a number of participants from Indonesia and was willing to publish this volume in its scientific series. At a more personal level, we would like to thank Gerhard van den Top, Mirjam van Gool and Petra van Aken of WWF Netherlands, Wim Stokhof and

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The editors

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Introduction

1

Gerard A. Persoon & Manon Osseweijer

Borneo's environment

The third largest island in the world after Greenland and New Guinea, Borneo is situated in the equatorial region of the Pacific Ocean. It is ringed by the islands of Sumatra to the west, Java to the south, Sulawesi to the east and the archipelago of the Philippines to the northeast. With a landmass of nearly 740,000 square kilometres Borneo is sparsely populated by humans, but nevertheless it is host to some of the most surprising and most diverse ecosystems on this planet. A network of large rivers constitutes the main routes for communication and transport. The three longest rivers in Indonesia are located on Borneo: the Kapuas (1,143 km) flows to the west coast, the Barito (900 km) flows south and the Mahakam (775 km) of which the estuary is on the east coast. The majority of human settlements have been concentrated on the rivers and coastlines. Most of the lowlands are poorly drained and swampy.

Borneo's territory is divided between three nations. In the northwest the independent sultanate of Brunei Darussalam (usually abbreviated to Brunei) covers less than 6,000 square kilometres (about twice the size of Luxembourg). Brunei itself is divided in half by the largest state of Malaysia, Sarawak (covering 124,500 square kilometres), which is located along the northwest coast of the island. Sabah is the second Malaysian state (72,000 square kilometres) and covers the northeastern tip of Borneo. However, the largest part of Borneo covering more than 500,000 square kilometres belongs to Indonesia and is called Kalimantan.[1] The Indonesian part of Borneo is more than twice as large as the Malaysian territory and nearly one hundred times the area of Brunei. The provinces of Kalimantan make up just over 28% of Indonesia (WWF 2005a, b).

Borneo's flora is among the most diverse and plentiful to be found anywhere. The reason for this is the island's unique geological and climatic history that encouraged the development of such incredible diversity. Thousands of plants, many of them unique, are to be found in Borneo's forests. There are up to 15,000 different

1 Kalimantan is divided into the four administrative provinces of East Kalimantan (Kalimantan Timor), South Kalimantan (Kalimantan Selatan), Central Kalimantan (Kalimantan Tengah) and West Kalimantan (Kalimantan Barat).

flowering plants in Borneo (MacKinnon *et al*. 1997). There are also more than 3,000 species of trees, including 267 species of Dipterocarps (large rainforest trees that produce valuable timber and resins) which are considered the most valuable group of commercial timber species in the region. Of these 155 are endemic to Borneo. Most plant species in Borneo can be found in forest habitats. There are lowland Dipterocarp forests, hill Dipterocarp forests, mangrove, peat swamp and freshwater swamp forests and ironwood forests.

Just like the flora of the island, Borneo's rich animal life reflects the geological and climatic history of the area. However in relation to its size, Borneo's fauna is less diverse than in the neighbouring smaller island of Sumatra, largely because Borneo is situated farther away from mainland Asia. Nevertheless Borneo is home to a higher number of endemic mammals (44) than its neighbour (MacKinnon *et al*. 1997, Payne et al 2002). Each scientific expedition produces new discoveries or rediscoveries of species and sub-species (this is particularly true of Borneo's freshwater fish and amphibians (WWF 2005a). There are thirteen different primates on Borneo as well as several large mammals such as the banteng (*Bos javanicus*, a species of wild cattle), Sumatran rhinoceros (*Dicerorhinus sumatrensis*) and the Asian elephant (*Elephas maximus*). Moreover Borneo is well known for its orang-utan (*Pongo pygmaeus*) populations, an animal which is severely threatened (Rijksen and Meijaard 1999). Nijman *et al* in this volume describe that since the trade in apes derives largely from the destruction of habitat as the result of logging, conversion, and encroachment, addressing this trade in isolation is futile. Reducing the trade in orang-utans and gibbons can only be achieved by protecting the remaining forest, a measure which must be enforced by the relevant authorities and implementing agencies of the Indonesian Government, land concession holders and landowners.

Borneo also has its share of such carnivores and omnivores as the clouded leopard (*Neofelis nebulosa*) and the sun bear (*Helarctos malayanus*), most of the endemic mammals are bats and rodents which play an important role in the island's ecology as predators and by dispersing seeds throughout the forests (MacKinnon *et al.* 1997). With regard to birdlife, Borneo has at least thirty-seven endemic birds of which the hornbill is a very important symbol throughout the entire island.

In this volume, De Iongh and Van Weerd discuss the possibility of using the avian guilds in the assessment and monitoring of biological diversity as an essential part of most certification schemes for sustainable forest management.

Borneo is also home to the largest heath forests in Southeast Asia, but these forests are disappearing fast. Between 1985 and 1997 some 20 million ha of forest were destroyed in Indonesia (about 1.5 million ha per year), most of it lowland forest below 300m where more than 60 per cent of all rainforest species occur (World

Bank 2001). In the mid-1980s Borneo's forests still covered 71 per cent of the island. This percentage dropped to a mere 54 per cent by 2000 (FWI/GFW 2002). In Kalimantan especially the situation is dire. Whereas in 1985 nearly 40 million ha were still forested (75 per cent of the total land mass), by 2002 this number had dropped to less than 27 million ha, just half of the land mass (Holmes 2004). The World Bank predicts that by 2010 all lowland forests in Kalimantan, outside protected areas, will have disappeared (World Bank 2001; FWI/GFW 2002).

Forest uses

In recent years, the forests of Borneo have been under great pressure and they continue to be so. Behind the dramatic figures of forest degradation, there is a wide range of causal chains and actors involved in various ways in this process of forest decline. The most direct and most visible cause of forest decline is of course the destruction of the forest either by complete clearance or by burning. Such destruction is often simply the final stage of a gradual degradation process which commenced many years earlier. Among the underlying causes of these processes is the general attitude towards primary forest as empty land (*tanah kosong*), ready to be turned into more such productive forms of land use as plantations, transmigration and intensive agriculture (Padoch and Peluso 1996, FWI/GFW 2002, Wadley 2005). At one end of the spectrum, agents are who can be differentiated as the primary and secondary or even tertiary actors involved in the various stages of this process of deforestation range from forest-dwelling communities, and shifting cultivators, to expanding agriculturalists and logging companies, plantation owners and governmental institutions. At a greater distance from the forest but still with an unquestionable role in the deforestation process are of course financing institutions both inside and outside Indonesia and the purchasing power of consumer markets in various parts of the world.

The forest-dwelling communities are the hunters and gatherers and the traditional agriculturalists. Hunters and gatherers are still to be found in a number of provinces. They are known by a variety of ethnic names among them Punan and Penan. Although early reports on these peoples dating from the beginning decades of the 20th century have always predicted their complete assimilation and integration, nevertheless they have succeeded in surviving up to the present day in a heavily modified version of their traditional life-style. Over the years they have been subjected to all kinds of integration and assimilation policies introduced by the colonial and Indonesian governments as well as religious organisations, which are discussed by Agni Klintuni (in this volume) in the case of the Punan.

In large parts of Borneo shifting agriculture, often in combination with a permanent settlement, frequently in the form of a long house, has been a dominant type

of land use for a very long period. A large number of such Dayak ethnic (sub-) groups as the Iban, the Kenyah and the Ngaju, practise this kind of agriculture. A combination of the cultivation of rubber, maize, cassava and upland rice with collection of non-timber forest products (NTFPs) including some hunting of forest animals has often been a dominant form of land use. It has also been, and to some extent still is, the initial phase adopted by farmers after opening up a new area for agriculture and before they engage in other types of agriculture. There are also some ethnic groups that combine extensive agriculture with hunting and gathering and the domestication of animals. In several parts of Borneo, harvesting of rattan from the wild has successfully been replaced by the domestication of rattan intercropped with various other useful plants (Dove 1985; Colfer *et al.* 1996).

At the other end of the spectrum are the agencies and institutions that are fighting for the protection and conservation of resources. Here too, it is possible to make a differentiation between the various actors in this field of activity. In addition to local people resisting forest destruction, there are national NGOs, governmental agencies, religious organisations and in particular international agencies.

Turning to the non-corporate forest users, they represent a full range, from the traditional hunters and gatherers to shifting agriculturalists of various types, expanding agriculturalists who combine subsistence farming with the cultivation of cash crops and there are also areas with intensive agriculture (Dove 1986, Colfer *et al.* 1996, Sellato 1996, 2002). Surprising for this kind of tropical forest areas is the absence of cattle and extensive grasslands used for grazing. Cattle do not play a big role in the dominant land use patterns in Borneo. Cows and buffaloes are owned by individual farmers but their numbers are limited and they do not make a big impact on the type of land use.

A general succession of stages in forest conversion pictures the process of forest degradation in a number of different stages, from primary natural forest, through logged-over (natural forest), to various degrees of degraded forest to complete conversion of forests into other land-use types. This model seems to be relevant to the way this process has taken place in Borneo as well to the last few decades since when mechanized large-scale logging started to dominate the process. Another important aspect is the force with which the international market for forest products and timber in particular has been able to exercise its influence in Borneo.

Commercial logging

Commercial logging operations have a long history in Borneo but since the early 1970s in particular this form of forest use has begun to exert a major impact on the quality and size of the remaining forest. Initially, the Department of Forestry

granted large-scale logging concessions to foreign companies (Filipino, and Malaysian) but within a couple of years domestic companies were founded and took over the job. Many of them used the earnings they derived from logging to develop diversified and vast industrial conglomerations (Raja Garuda Mas, Sinar Mas, Barito Pacific, Astra).

Within a relatively short period, large areas of primary forest were selectively logged and some of these areas were simultaneously already designated transmigration sites so loggers and full-scale land clearing operations were closely linked. Other parts were designated areas for the establishment of tree plantations for the production of industrial cash crops. Logging roads provided these isolated communities with improved access to markets to sell or exchange their non-timber forest products. However, since the 1970s and 1980s conversion into private or State- owned plantations for such industrial crops as rubber and palm oil have become a major driving force behind the forest conversion (Casson 2000, Potter 2005, AidEnvironment 2006).

The success of the oil palm cultivation in economic terms has led to the belief that this crop will also bring quick benefits to smallholder farmers. In many areas in Borneo this crop is considered a miracle crop that comparatively speaking requires little investment in terms of money and labour. In fact, all types of small-scale forest users, both (former) shifting agriculturalists, transmigrants, even former hunters/gatherers are planting oil palm seedlings as the way forward to economic prosperity.

However, there are also cases in which people resist this altogether. Acciaioli, in this volume, gives an example of the local communities' responses to the establishment of large-scale oil palm plantations and more specifically their efforts to mount resistance and why these have so far proved to be largely futile.

In contrast to rubber, which was mostly a community-based production, palm oil is not integrated into the traditional farming systems and consequently the private sector is the dominant palm-oil developer in Indonesia. In her chapter, Potter criticises this development and argues that a larger role for smallholders in a mixed farming system, rather than the present concentration on plantation monocultures, is a more suitable goal for future oil-palm production in Borneo.

Large areas were turned into plantations and there are also large tracts of forests that were cleared but never planted with oil palm. It is assumed that the concession holders were only after the income to be made from the logging, but never even intended to invest in plantations. In this way millions of hectares of forest land have been cleared of growth but not replanted. They have been turned into

useful waste and shrub land, partly covered with grasses, in particular Imperata cylindrica (*alang-alang*).

The most important reason the timber industry exerted such a great impact on the forest was that it was developed on a large scale and in a ruthlessly organized way. Exploitation rights were granted to concessionaires for nearly all accessible non-protected forests. The dominant forestry model was selective logging, which did not involve complete forest clearance but rather 'forest creaming', which meant that only the economically most interesting trees were taken. During this process logging roads, which attracted spontaneous settlers, opened up large forest areas. The oil and gas industry and the gold-mining industry have had a similar impact on the forest.

The logging companies were certainly not the only ones to open up primary forest. Many forest areas were and have continued to be used by local communities for a variety of land uses involving shifting cultivation (often integrated with rubber) and hunting/gathering. The commercial exploitation in these community forests has ushered in prosperity as well as resistance. Whichever impact dominated, these communities usually realized that logging brought about only temporary change as the loggers continually moved deeper into the forest in search of logs. For many years local communities were the dominant producers of rubber until other producers appeared on the scene and alternative products became available.

In recent years, the demand for round wood to feed the forestry industries has grown rapidly. Since the early 1980s, when the export of round wood was banned, there has been a rapid growth in the Indonesian wood industry. The numbers of large- and small-scale saw mills, plywood industries and factories for the pulp and paper industries have grown dramatically. They are to be found in all major wood-producing provinces. Usually they are located close to an export harbour. A large part of the growth of the provincial capitals in Borneo can be attributed to the expansion of the industrial capacity which is based on forest exploitation and its related industries and services.

The investments in these wood-processing industries necessitate the permanent flow of wood and wood products to these centres. It is no secret that the collective consumption of these industries far exceeds the sustainable supply of forests. For many years figures on available logs, their area of origin, the remaining forest cover were produced by various offices, but now it is clear many of these sources were underestimating the total processing capacities of the industries while overestimating the quality of the forest. It is also obvious that the wood-producing industry will not be able to continue its present scope of operations: gradually the supply will shrink as a result of the exhaustion of the forest resources. At present

they still continue to operate, fed by the continuous flow of illegally cut wood, but in the long run this source too will stop feeding industries.

Illegal logging is still rampant in Indonesia. The smuggling of timber from Indonesia across the border with Malaysia in particular is still a big issue and a source of serious political conflicts between the countries. Numerous studies have revealed the complex networks that are involved in this trade and they also indicate the lack of true political will to address the issue seriously (Obidzinski 2004; Wadley and Eilenberg 2005).

When the Indonesian ban on the export of ramin (*Gonystylus spp*.) and the CITES listing came into effect (2001), independent industry consultants estimated that as much as 60 per cent of the ramin exports from Malaysia were being sourced in Indonesia, with a quantity of as much as 120,000 cubic metres of ramin logs needing to be imported legally and illegally to feed the Malaysian ramin industry (Tuson and Valentius 2005).

The use of fire in the process of converting forest to agricultural land has a long history. In fact, throughout history fire has been the most powerful instrument in changing the forest landscape. Small-scale use of fire has always been resorted to by the shifting agriculturalists. In the process of land clearing activities too, fire has always been a useful instrument to get rid of all the detritus left in the forest after the valuable timber has been moved out. The 1980s and 1990s, however, have seen increasing outbreaks of serious forest fires, especially during the El Niño phases (among other 1982/83, 1991/92, 1997/98). Virtually all forest fires, it is now believed, are man made. They are predominantly caused by companies involved in the rapid expansion of oil-palm and pulp tree plantations and by arsonists (often related to the development of the former).

Commercial exploitation of forest resources is to a large extent export oriented. Sawn timber, plywood, and paper as well as such industrial crops as rubber and palm oil are mainly produced for external markets. They leave their area of origin as raw materials and are transported to harbour towns where most of the processing takes place. Over the years, most of the saw mills have been concentrated close to these harbour towns, among them Samarinda, Banjarmasin, Balikpapan and Pontianak.

Behind these exports-oriented industries and companies, there is of course a whole world of private and collective stakeholders, governmental institutions, financing institutions and consumer markets. Although in the discourse on deforestation blame is often laid fairly and squarely on the companies that are actually involved in the logging or land-clearing operations, they could not do their job without extremely close connections with their financial and commodity markets.

In one case study it was revealed that all the major Dutch commercial banks have been substantially involved in financing the oil-palm sub-sector in Indonesia (see Wakker *et al.* 2000). The study highlighted the fact that between 1994 and 1999, Dutch financial institutions have been heavily involved in the oil-palm sub-sector in Indonesia. All the major Dutch banks were found to have financial ties with several of the main plantation groups in Indonesia. Many of plantation subsidiaries of these groups in which Dutch banks are involved contribute to such environmental and social problems as forest fires, deforestation, illegal land clearing and social conflicts (Van Gelder and Wakker 2006).

Transnational conservation projects

In recent years, conservation across national boundaries has attracted growing attention. Because national boundaries are often the outcome of very complex historical processes involving battles between traditional rulers or empires or political agreements between colonial powers, which rarely coincided with ecological realities or desirabilities, efforts to protect nature have usually remained confined to the limits set by the official, national boundaries. Nature conservation has also not been high on the agenda in the bilateral relations between many countries. These agendas have tended to be dominated by the illegal movement of people and products, or by fighting guerilla movements. In recent years, however, there seems to be a change in this respect.

In a globalized world and with increasing numbers of species and of individual plants and animals as well as entire ecosystems on red lists, the awareness is rising that efforts to project wilderness should not stop at national boundaries if there are good ecological reasons to connect such areas with areas in neighbouring countries. Ecologists striving for land-use planning for the sake of nature conservation will look for opportunities beyond these boundaries. At the same time, a wide range of political problems has emerged as many countries are not used to talking to each other in terms of taking very concrete action aimed at the blurring of national boundaries for the sake of nature conservation instead of reinforcing such boundaries. This problem predominates among of the main challenges in transboundary conservation.

Transboundary conservation is a relatively new phenomenon, but it is rapidly expanding. In a recent overview published by Conservation International, it is stated that at present there are 188 areas, involving 818 protected parks and reserves in 112 countries, and representing approximately 17 per cent of the global extent of protected areas (Mittermeier *et al.* 2006). The history of transboundary conservation dates back about one hundred years when the first joint park was

established between the USA and Canada. In Europe, this would take much longer and it was only after World War II that the first park of this kind was established.

In Latin America, efforts were undertaken in the 1970s to set up a co-operation between Panama and Colombia. More or less at the same time, similar initiatives were also undertaken between Brazil and Argentina. Efforts to establish this kind of protection area were undertaken relatively late in Asia and Africa. In Asia, the first transboundary marine protected area was established between Malaysia and the Philippines for the so-called Turtle islands. In Africa, where they were labelled 'peace parks' because of the fact that they were set up in conflict zones between countries, transboundary conservation areas were established only in 2000. These armed conflicts brought great harm to local communities as well as to the wild life in the areas. By establishing these zones as protected areas, it was hoped that ideally conflicts could be ended and local communities could start picking up their daily life again.

In recent years quite a bit of effort has been put into discussing the principles of transboundary conservation, its terminology and its instruments both legal as well as best practices by various organizations. Internationally the topic of transboundary conservation is high on the agenda.[2] During the recent Conferences of the Parties to the CBD, a number of strong recommendations were adopted in favour of transboundary conservation areas (CBD 2004 and 2006). All major agencies working in the field of nature conservation are active in this field and the concept is rapidly gaining in popularity among them because it combines a number of aspects relevant to these organizations: high visibility, large prestigious projects, and major conservation goals.

From a conservation perspective, the advantages of transnational protected areas are readily identifiable. It is easier to make plans for a single large area and manage it than to plan and manage a multitude of smaller areas in various countries. The biological benefits are also patently evident: larger areas offer space to more species in larger numbers and they are more resistant to external threats as they allow animals to move freely in larger areas. In border zones, such areas may also contribute to a process of peace making by focusing on something positive rather than continuing along the familiar lines of violent clashes, border disputes, and poaching or smuggling.[3] There are also social benefits in terms of the free move-

2 A transboundary protected area is defined as an area of land and/or sea that straddles one or more boundaries between states, sub-national units such as provinces and regions, autonomous areas and/or areas beyond the limits of sovereignty or jurisdiction, whose constituent parts are especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed cooperatively through legal and other effective means (IUCN).

3 Interestingly in a number of conflict zones , wild life is doing relatively well. Across the world there are a number of demilitarized zones which have become a kind of refuge area for wild life. Examples

ment of people across national boundaries, or at least they can do so with less formality. This is especially true of areas where national boundaries were once drawn right across ethnic territories, separating families and ending centuries of social and cultural exchange (Qunli and Nitta 2004, Mittermeier *et al.* 2006).

The HoB Initiave

In the course of history, Malaysian and Indonesian authorities have established a large number of protected areas in Borneo. Parks throughout the island have such various statuses as national parks, protected wild life reserves, or protected forests. Some of the protected areas have also been accorded international recognition by UNESCO as a 'Man-and-Biosphere reserve', a 'World Heritage site', or as a 'Ramsar site' (Wetlands International Indonesia Program 2005). At present Kalimantan has ten national parks with a total land area of 4,609,000 ha, Sabah has six national parks, including three marine parks (total 243,000 ha), Sarawak has fifteen national parks (total 201,000 ha), while Brunei has one national park covering 46,000 ha of rainforest.

The WWF campaign for the Heart of Borneo, which was launched in 2004, is one of the major conservation initiatives taken to protect large areas with high biodiversity. The proposed area covers about 220,000 square kilometres in Indonesia, the Malaysian states of Sarawak and Sabah, and a small part of Brunei (see map 1.1). Other large-scale examples are the Guyana Shield in the northern part of South America, the massive rainforest area in the Congo Basin in Central Africa and the Sulu-Sulawesi Marine Ecoregion between Indonesia, the Philippines and Sabah. All of them occupy large transnational areas and have been designed to connect a number of smaller protected areas.

For the initiators and supporters of the Heart of Borneo there are various kinds of challenges to turn the initiative into reality ahead. These challenges are by definition interconnected. The parties involved in these challenges could reinforce each other by offering supportive action but they could also influence each other in a negative sense. Evidence of poor commitment or outright failure to deliver the expected output by a particular party could undermine the entire conservation process.

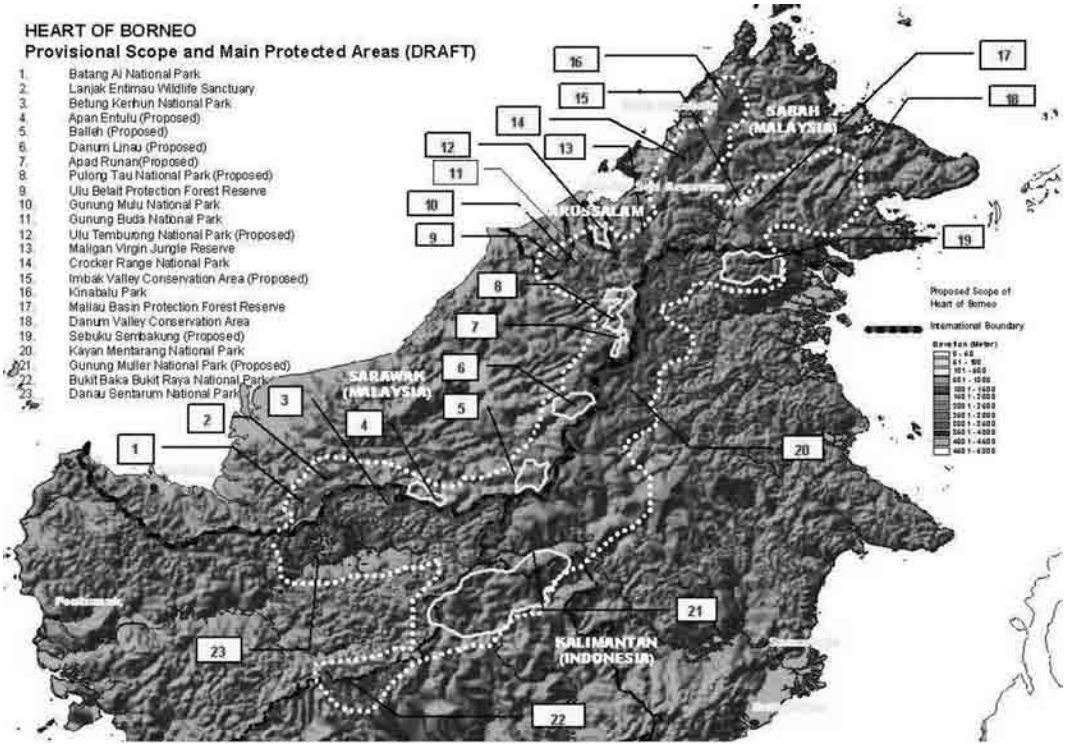
The idea of the Heart of Borneo conservation area was proposed to the three countries in which the region falls. It was the International Conservation Movement that conceived the idea. During the April 2005 conference in Brunei, a vi-

of such zones are to be found in Germany on the former border area between West- and East Germany, the demilitarized zone between North and South Korea and part of the borderland between the United States and Mexico.

sion statement for the Heart of Borneo was prepared by the representatives of all three countries and other participants. The vision statement reads as follows:

> **The Heart of Borneo: Three countries, one conservation vision**
> Borneo's forests, water and biological diversity are critical for the prosperity of the entire island. The continued maintenance of their natural and cultural wealth is of local, national and global importance. At the very heart of Borneo there lies a uniquely rich, largely forested landscape. It straddles the transboundary highlands of Brunei, Indonesia and Malaysia, and reaches out through the foothills into the adjacent lowlands. Our vision for the heart of Borneo is that partner ships at all levels ensure effective management and conservation of a network of protected areas, productive forests and other sustainable land-uses. Borneo's magnificent heritage is thereby sustained forever (WWF 2005c).

Another major step was taken during the Conference of the Parties to the CBD at its eighth meeting in Curitiba, Brazil, in March 2006. During this meeting, in front of a global forum, representatives of all three countries signed an agreement to promote the protection of the Heart of Borneo (see figure 1.1). This act was well received by the audience and many parties committed themselves to supporting this goal.



Map 1.1 ▪ Heart of Borneo – provisional scope and main protected areas. The white dotted line indicates the provisional boundaries of the Heart of Borneo

Figure 1.1 ▪ The signing of the agreement by representatives of the three countries involved, Curitiba (Brazil), March 2006. Photo: Gerard A. Persoon.

In December 2006, an official declaration by the heads of State was made during the ASEAN Summit in Manila, which paved the way to the signing of the 'Declaration on the Heart of Borneo Initiative: Three countries, one conservation vision' in Bali, in February 2007 (see figure 1.2). Since that time WWF staff members in Indonesia and Malaysia have been working hard to keep this spirit alive. During numerous regional meetings, involving ASEAN nations, reference has been made to the Heart of Borneo. This seems a necessary step in the process towards more concrete management plans to implement the Heart of Borneo. Brunei was the first country to finalise this plan, which had already been approved by the Brunei Government and has now (early 2008) been sent to the Sultan for approval. During the 13th ASEAN summit in Singapore, a Declaration on Environmental Sustainability, referring explicitly to the Heart of Borneo, was drafted by all heads of governments. This was in part to stimulate Indonesia and Malaysia to come up with their management plans as soon as possible. Time schedules have been set for a number of tri-country meetings to discuss the progress in the drafting and synchronising of these plans. In the meantime, a number of donor countries such as Finland have agreed to support the Heart of Borneo financially (WWF 2006a, 2006b, 2007-2008).

With all the official agreements signed, important hurdles have been successfully cleared at high levels. But it remains to be seen how this achievement will actually trickle down from the State bureaucracies to the local government units and how this will lead to consistent policies and implementations.

DECLARATION ON THE HEART OF BORNEO INITIATIVE
Three Countries, One Conservation Vision

We, the Governments of Brunei Darussalam, Indonesia and Malaysia, recognizing the importance of the Island of Borneo as a life support system, hereby declare that:

- With one conservation vision and with a view to promote people's welfare, we will cooperate in ensuring the effective management of forest resources and conservation of a network of protected areas, productive forests and other sustainable land-uses within an area which the three respective countries will designate as the "Heart of Borneo (HoB)", thereby maintaining Bornean natural heritage for the benefit of present and future generations, with full respect to each country's sovereignty and territorial boundaries, and also without prejudice to the ongoing negotiations on land boundary demarcation.
- The HoB Initiative is a voluntary trans-boundary cooperation of the three countries combining the stakeholders' interests, based on local wisdom, acknowledgement of and respect for laws, regulations and policies in the respective countries and taking into consideration relevant multilateral environmental agreements, as well as existing regional and bilateral agreements / arrangements.
- We are willing to cooperate based on sustainable development principles through research and development, sustainable use, protection, education and training, fundraising, as well as other activities that are relevant to trans-boundary management, conservation and development within the areas of the HoB.

To support this Declaration, we, the three countries will prepare our respective project documents incorporating the strategic and operational plans, which will form the basis for the development of our road map towards realizing the vision of the HoB Initiative.

Done at Bali, Indonesia on the twelfth day of February, two thousand and seven in three original copies.

For the Government of His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam	For the Government of the Republic of Indonesia	For the Government of Malaysia
H.E. Pehin Dato Dr. Awang Haji Ahmad bin Haji Jumat Minister of Industry and Primary Resources, Brunei Darussalam	**H.E. Mr. M. S. Kaban** Minister of Forestry, Republic of Indonesia	**H.E. Dato' Seri Azmi bin Khalid** Minister of Natural Resources and Environment, Malaysia

Figure 1.2 ▪ Declaration on the Heart of Borneo initiative

Challenges

Evidently, the contribution and type of involvement of each country differs. The part of the HoB within Brunei's boundaries is an already well-protected area, the Ulu Temburong National Park, and the Government has decided to expand its area. In Malaysia, some parts of the HoB designated area already have a protected status; others were initially to be converted into oil palm plantations after a process of logging and land clearance. The land-use plan for these parts will have to be changed by the Government. Indonesia, with by far the largest part of the Heart of Borneo within its boundaries, is facing the most serious challenges: the scale of illegal logging and the mining potential are high, while it also houses the largest population living within the boundaries of the projected area. Indonesia is not only the poorest country among the three countries involved, but its administrative districts in the Heart of Borneo area are also the poorest within Indonesia. Over and above this, as a result of the governmental and administrative decentralization, the Indonesian part of the Heart of Borneo is to be managed at the provincial and district level. Faced with decreased financial support from the capital Jakarta, provinces and districts are more heavily dependent on local resources. As nature conservation does not generate a great deal of an income, district officials are inclined to look for potential sources which are usually found in the extraction of natural resources or the conversion of forest land into palm-oil plantations. Alternatives that would generate equivalent levels of income are not easy to identify. They imply more complicated financial mechanisms, such as payments for environmental services or generating income over more extended periods of time through the sustainable harvesting of non-timber forest products or ecotourism. A decentralized form of government in a relatively poor region is not a recipe for great enthusiasm for nature conservation for its own sake. Turning a district into a 'conservation district', as some district heads have done, is a brave step which implies a major financial challenge in to the time to come (Husin 2005).

The Heart of Borneo concept was initially proposed and accepted by the three Governments. But the people living in the area did not a play an active role in this process. Because this aspect of the plan was not given priority in the conservation campaign, it is anticipated it will be the most complicated and time-consuming challenge in the years to come. The ethnic diversity, the dispersed settlements, the complicated structures of land rights and claims, and the various degrees of involvement and experience in protected areas that already exist allied with the highly varied life-styles all conspire to stand in the way of awareness-raising and support for the Heart of Borneo (see also Brosius and Russell 2003 and Colchester 2003). In other words, as Eghenter argues in this volume: Whose Heart of Borneo are we talking about? She raises critical issues related to the building of constituencies for equitable conservation among local communities. In the following chapter, Bakker approaches this issue from another angle by describing the com-

plexities of legal pluralism and the strategic use of history and tradition in the battle for land rights. Although he draws his conclusion from Southeast Kalimantan, we believe that his findings are highly relevant to the whole Heart of Borneo.

For a very long time, many parts of the Heart of Borneo were among the most isolated places in Southeast Asia, luring and inspiring explorers and travellers. Consequently, local people have had to cope with a large variety of outside influences ranging from traders, missionaries, development workers, logging and mining companies, not to mention -military forces. They have experienced little in terms of positive support for their culture and way of life, or recognition of their land rights. On the contrary, they have been perceived as backward and isolated people with a life-style in urgent need of change. They often feel left behind, stuck at the losing end of outside interventions. Hence, it is not difficult to understand the involvement of local people in all kinds of illegal activities, such as logging, hunting and the wild life trade (Wadley and Eilenberg 2005). Where nature conservation is concerned, in many cases they have experienced broken promises in their associations with conservation plans. Sheil, Van Heist *et al.* (in this volume), who have been involved in an inventory of local environmental knowledge, try to use this body of knowledge as a starting point for conservation priorities.

Perez is rather pessimistic about this kind of bottom-up approach and introduces the concept of 'environmental etiquette'. This concept refers to recognizable patterns of behaviour that are deemed proper, respectful, and acceptable ways of interacting without achieving real conservation goals by participating actors. In her chapter, she compares conservation projects in Indonesia and the Philippines.

Science and conservation

At the conference from which most of the contributions in this volume result, there was wide acceptance of the need to protect the Heart of Borneo from the threat of large-scale logging and oil-palm plantations. Beyond this point, it turned out to be impossible to reach an agreement on how to move forward with respect to the position of the stakeholders involved, including governments at various levels, the private sectors, the local communities, and the conservation organisations. Some scholars raised questions regarding the political and economic feasibility of such a large protected area. A few feared that the newly acquired level of empowerment of the local communities would be undermined by imposing a top-down conservation initiative. Yet others posed critical questions about the level of funding that will be needed to compete with the potential income generated from other forms of land use, such as timber harvesting and oil-palm plantations.

Many authors have been involved in research among people living in the Heart of Borneo (see Eghenter *et al.* 2003). Depending on the scientist's perspective, it would be possible to remain at a safe distance and observe the initiative, the process and the activities undertaken as an external observer. However, there is also the possibility to try to contribute to finding answers to the questions posed using the best available knowledge within the discipline. On the whole, it is obvious that the Heart of Borneo is a gigantic interdisciplinary process which touches on a great variety of disciplines and interest groups. Soliciting the active involvement of scholars from both the natural and social sciences will be necessary to secure the future of the Heart of Borneo, and not just for collecting knowledge on the 'facts' about the area in terms of ecology, economy, political context and the forest-dwelling communities. It will also be necessary to invite these scientists to make their contributions in the designing of a successful programme for the Heart of Borneo. The way this process is going to be managed, the degree to which scientists from the region as well as from elsewhere will actually be involved, and the way these insights will be integrated into the complexities of the interests of the stakeholders is still undecided. Even though the chapters in this book may not lead to any clear-cut solutions, it is hoped that they will stimulate further reflection on the way forward for the Heart of Borneo.

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Biodiversity

Biodiversity conservation in Borneo and the threat of large scale disturbance events

2

Daniel F.R. Cleary

Introduction

Southeast Asia has the highest rate of deforestation of the major tropical areas (Castelletta et al. 2000; Sodhi *et al.* 2004). If this continues it may lose up to 75% of its original forests and 42% of its biodiversity by 2100. This will have global repercussions as the region is home to one of the highest concentrations of endemic species and includes four global biodiversity hotspots: Indo-Burma, Wallacea, and the Philippines, all three of which surround the fourth hotspot, Sundaland – of which Borneo is the last stronghold of relatively large tracts of intact forest (Myers *et al.* 2000, Sodhi *et al.* 2004).

Major challenges to conservation in Southeast Asia include population growth, poverty, corruption and a chronic shortage of conservation resources including expertise and funding (Sodhi *et al.* 2004). There is also a paucity of scientific studies on the region; the number of scientific publications on Southeast Asia relative to its forest area was less than other areas such as the Caribbean, Central America, Sub-Saharan Africa and South America. Studies were also taxonomically biased with more publications on mammals relative to their species richness than other taxonomic groups such as vascular plants, invertebrates and fish (Sodhi *et al.* 2004). To remedy this problem Sodhi *et al.* (2004) note the urgent need for collaborative research efforts on Southeast Asian biotas, particularly poorly studied taxonomic groups.

Many governments of developing countries face the challenge of exploiting natural resources for economic development while trying to minimize its environmental impact. The balance at present, however, appears weighted towards development and exploitation rather than conservation. Numerous government-stimulated or subsidised programmes are catalysts to environmental degradation; others even lack a sound economic basis. Cheap land prices and runaway inflation are further disincentives to invest in high-value agroforestry and perennial crops instead of fire-maintained cattle pastures and slash-and-burn farming activities (Laurance *et al.* 2001).

Even when rainforest conversion is economically unrewarding, it is often encouraged by government incentives. Conversion of forest is encouraged when the easiest way to gain title to land is to convert forest to pasture (Uhl *et al.* 1988). This may lead to irreversible species loss and positive feedbacks between biodiversity changes and ecosystem processes that are likely to cause exponential cost increases to society (Chapin *et al.* 2000).

Unfortunately, countries such as Indonesia have little to learn from practices in developed nations. In the United States billions have been spent subsidizing environmentally destructive activities such as clear-cutting and fishing. Instead, taxes should be shifted from things society wants to encourage, such as investment and payrolls, to things society wants to discourage, like pollution and habitat degradation (Roodman 1998).

Short-term social and economic benefits, however, can accrue from processes inimical to sustainable development and conservation. Actions that harm biodiversity can provide valuable societal benefits (Tilman 2000). In Madagascar, for example, forest conservation would have brought significant local and global-level benefits, but at the national level, the financial benefits from industrial logging trumped the benefits of conservation (Kremen *et al.* 2000). Humanity is thus engaged in a system of trade-offs – between the current benefits and future costs of environmental damage, and between benefits for a few and costs to many. Work at the interface of ecology and economics is necessary to quantify the immediate and long-term costs and benefits of alternative actions (Tilman 2000).

Surveying forests for the establishment of nature reserves

At present one of the most important means of protecting biodiversity is the establishment of nature reserves. Balmford *et al.* (2003), furthermore, found the benefit-to-cost ratio of conservation to be far greater in lesser-developed areas of the world, where costs are lower and most of the earth's biodiversity is concentrated – especially when reserves cover large areas. These are, however, also the areas with the greatest shortfall in conservation spending (Balmford *et al.* 2003).

Unfortunately, even when the conservation-minded have had the chance to preserve biodiversity, they have generally done a poor job. Systematic planning has generally been lacking, while new reserves have often been located in places that poorly represent biodiversity (Margules and Pressey 2000). This has led to an alarming number of paper parks, designated as parks, but poorly protected and managed, and which derive little benefit from their status (Braatz *et al.* 1992).

Since ecological processes and crucial habitats are not homogeneously distributed, the design of nature reserves must be based on spatially explicit quantitative data (Sala *et al.* 2002). Biodiversity inventories have been found to be highly cost effective in establishing or prioritising nature reserves (Balmford and Gaston 1999). Multi-taxon biodiversity inventories are essential for picking protected areas; reserves will otherwise be larger than necessary, available resources will be spread too thinly, and conservation objectives will be less likely to be met (Balmford and Gaston 1999). Besides leading to a better understanding of the spatial distribution of biodiversity, unnecessary costs associated with inefficient reserves – such as opportunity costs and initial expenditures on infrastructure – can be avoided through survey-based reserve selection. Regrettably, few good surveys have been conducted in Indonesian Borneo. While new species of mammals are being discovered in other areas of Southeast Asia (Surridge *et al.* 1999), the still extensive forests of Borneo are being burned and neglected.

Lack of information on which sites to conserve is a major obstacle to protecting tropical biodiversity. Unfortunately, species turnover may differ among taxonomic groups. An extensive study (Lawton *et al.* 1998) in Africa on the response of various invertebrate groups to disturbance found no single group of organisms could serve as a good indicator taxon for changes in the species richness of other groups. In contrast, Schulze *et al.* (2004) found species richness of most taxonomic groups – including trees, understory plants, birds (endemics, insectivores, frugivores/nectarivores), butterflies (endemics, fruit feeders) and dung beetles – to be significantly correlated across a gradient from near-primary to secondary forest in Sulawesi, Indonesia. Howard *et al.* (1998) also found little congruence in the species richness of woody plants, large moths, butterflies, birds, and small mammals across 50 Ugandan forests, but used a complementarity approach to show that sets of priority forests selected using data on single taxa reflected species diversity in other groups with the same efficiency as using all taxa together. This is because the different taxa exhibit similar biogeography so priority forests for one taxon collectively represent the important forest types for other taxa as well. The biotas of priority forests best complement those of other areas. The different groups though performed differently with birds and butterflies performing as well as data on all groups together, whereas the poorest performing group, the woody plants, resulted in the loss of c. 10% of species compared to using data on all taxa. In complementarity approaches to conservation the main goal is generally to maximise the number of species protected. Given a protected area, new areas should be added to the reserve network that adds the most species that have not already been represented. The use of raw species richness, in contrast, may lead to the inefficient representation of the largest number of species in reserve networks (Justus and Sarkar 2002). Indicator-based complementarity procedures appear to be the best approaches to reach a compromise between maximising non-target species gains and minimising land-use requirements (Reyers *et al.* 2000).

An additional major weakness in biodiversity measurement is that most data sets span less than one full generation of the organisms in question. Longer data sets could provide information frequently identified as gaps in our knowledge (Willis *et al.* 2005). Due to a lack of temporal research, especially research comparing protected areas before and after protection, it is unclear whether protected areas are effectively protected (Liu *et al.* 2001). Standard conservation dogmas such as eco-tourism may also not always be beneficial, even locally. Tourism, for example, can open up previously closed economies and severely impact on protected areas and the habitats of endangered animals (Liu *et al.* 2001).

In protecting biodiversity, the effectiveness of parks and designated conservation areas was significantly related to the probability of apprehending and penalising violators. Deterrents against clearing and logging were further correlated with park effectiveness (Bruner *et al.* 2001), as were border demarcation and compensation programs to local communities. Factors that were not related to park success included the number of people living in a park, accessibility, local support, percentage of park area contested, budget, number of staff working on economic development or education, and the local involvement of communities (Bruner *et al.* 2001). Even when parks are successful, economic development initiated by park establishment can drive a wedge between conservation and development goals. Establishing parks can, for example, attract migrants who dilute the benefits of the park to the native people, or stimulate infrastructure projects that have a negative impact on the park itself (Du Toit 2002).

Even with the best protection, nature reserves surrounded by an altered habitat-matrix remain susceptible to negative and often catastrophic forms of disturbance (Cleary 2003, Cleary *et al.* 2004, Cleary and Genner 2004). During the 1997/98 ENSO (El Niño Southern Oscillation) event, fire damaged a number of national parks and protected areas in Indonesia including very large parks in Sumatra (the 2,568 km^2 Bukit Barisan Selatan National Park) and Borneo – more than 90% of the ca. 2,000 km^2 Kutai National Park (Hoffmann *et al.* 1999) and two-thirds of the 10,000 ha Sungai Wain protected forest in the Balikpapan-Samarinda region of East Kalimantan burned (Figure 2.1).

Humans now impact all of the earth's major ecosystems; these impacts merit greater attention (Tilman 1999). Biologists in particular should participate more in policy making and planning, the only sure way to understand where new ecological and biological knowledge is needed, as well as the social and political constraints on effective planning (Margules and Pressey 2000). Unfortunately, agencies working on sustainable forestry usually employ foresters, lawyers and anthropologists, but rarely biologists (Bennett 2000).

Figure 2.1 ▪ Photograph of the Sungai Wain Protected Forest Reserve, East Kalimantan, Indonesian Borneo in March 1998. Smoke from ground fires can be seen (Photo: Daniel Cleary)

It should also be evident that reserves alone are insufficient for nature conservation and strategies are required for managing whole landscapes including areas allocated to production (Margules and Pressey 2000). An important part of this task is the acquisition of multi-scale quantitative data on species abundances and the functional characteristics of these species.

The importance of spatial scale

Scientists have recently realized that many taxa are affected by both local and landscape-scale variation in habitat structure (Drapeau *et al.* 2000). Mechanisms that affect community structure can fall into two scale-related categories. First there are mechanisms that affect communities at small spatial scales, such as inter- and intraspecific competition or microclimatic variables that act on the physiological traits of species. Alternatively, there are large-scale mechanisms that may have no direct impact on individuals but may have a strong effect on communities. Habitat fragmentation, for example, can decrease rates of dispersal and severely constrain gene flow (Pearman 2002).

Variance in community structure has been readily observed at small spatial scales. Studies in the most diverse ecosystems – coral reefs and tropical rainforests – have shown that enlarging the spatial scale of study often leads to highly consist-

ent patterns in community structure; variability declines, often dramatically, as larger areas are sampled (Pandolfi 2002). The decline in variance at large spatial scales is offset by patterns of speciation, extinction, and migration at very large biogeographic scales. Studies encompassing small and large spatial and temporal scales show the largest variance in community structure, whereas studies conducted at intermediate scales show high degrees of order in community structure. Small spatial scales include plot-based studies of less than a hectare, whereas large spatial scales include studies larger than 1000 km^2 that include multiple biogeographic realms. Small and large scalar relationships will, however, also depend on the taxon under study and mean community-wide levels of dispersal (Pandolfi 2002).

Studies addressing the impact of scale on community traits tend to show that responses to scale-related environmental change can vary both among and within taxa (Cleary 2003, Hill and Hamer 2004). Hill and Hamer (2004), for example, found that the spatial scale of sampling had an opposite effect on lepidoptera and birds; small-scale studies were more likely to report a decrease in diversity for birds and an increase in diversity for lepidoptera. Large-scale studies generally had the opposite effect. Pearman (2002) found a significant relationship between local-scale habitat structure and species richness in certain bird guilds, but not in others. He also found that the area of primary forest cover within hundreds of metres of his plots (large-scale) was a better predictor of species richness than local habitat structure for certain guilds. In another bird study, landscape factors were as important as local factors in determining community composition (Drapeau *et al.* 2000). In a review of the impact of logging and fragmentation on bird assemblages Lambert and Collar (2002) found that logged forests generally retain most primary forest species while forest fragments, even if primary, lose a substantial number of species. Of the 274 Sundaic bird species confined to lowland forest 83 were adversely affected by fragmentation while 26 were negatively affected by logging; sallying insectivores, terrestrial insectivores and woodpeckers were particularly susceptible to both forms. Other studies, however, failed to find significant impacts on bird communities from landscape scale factors. Schmiegelow *et al.* (1997), for example, concluded that the impact of habitat fragmentation was small on bird assemblages.

Scale is also important in determining patterns of distance decay in community similarity i.e., the decline in similarity between two sites as the distance between them increases. Increasing the geographic scale of sampling will decrease variation and possibly allow for the detection of distance-decay trends as the variation due to distance may be larger than the noise from small sample areas (Nekola and White 1999). Natural environmental periodicities may, for example, cause the lack of a relationship between community similarity and distance at certain spatial scales. A relationship between community similarity and distance may also

be prevalent at small spatial scales, for example in a study from a mountain crest to valley, due to the pronounced environmental gradient. This effect may disappear as more mountain crests and valleys are included in the study and reappear as climatic gradients, or as barriers to dispersal become important (Nekola and White 1999).

By studying ecological communities at multiple spatial scales, we stand to learn much about processes and mechanisms that regulate the maintenance of biological diversity (Pandolfi 2002). Diversity studies at all scales are thus urgently needed, especially in tropical regions, though there have been few studies at larger than local scales (sensu Gray 2000). Large-scale field manipulation experiments in particular should be an important way of assessing the impact of scale on patterns of biodiversity (Godfray and Lawton 2001). Few studies, however, have addressed the impact of scale on species communities, even in well-known taxa (Pearman 2002). High-resolution data sets documenting the occurrence of large numbers of species over extensive areas are therefore urgently needed (Gaston 2000).

Large-scale studies and pseudoreplication

Field biologists studying large-scale phenomena, such as the impact of ENSO (El Niño Southern Oscillation)-events on spatial patterns of composition, often study processes that occur over too large a spatial scale for standard research techniques. Historical and regional processes are generally less open to experimentation than local processes in ecological time, but can be studied using comparative studies, pattern analysis, and 'natural' experiments (Ricklefs 1987). Manipulated experiments should therefore have no priority over 'natural' experiments since neither replication nor control are essential to critical experimentation, although they should be obtained when possible (Oksanen 2001). The size and severity of disturbances, for instance, can preclude experimental manipulation; for example, the conversion of forest to heathland where severe disturbances are required to remove the trees and a large portion of the topsoil. Severe fire is the most likely event to initiate such a change, as it both kills the vegetation and consumes soil organic matter (Petraitis and Latham 1999). Often, however, the scale and severity of fire necessary to simulate such a natural fire event are beyond the financial and logistical capacities of most ecologists.

In the tropics, large size and long regeneration times coupled with very low population densities would seem to preclude an experimental approach to evaluate mechanisms that facilitate or inhibit plant species coexistence in tropical forests. Alternative methods may include measurements that could be used as parameters in models (Wright 2002). Modelling studies have also shown that dynamics induced from cellular automata or coupled map lattice models are predicted to arise at spatial scales larger than those studied by most biologists (Rohani *et al.* 1997).

Not all hypotheses can be tested with experimentation, especially where systems are too large and complex, past events are important, and processes are too slow. It is unfortunate that studies using 'natural' experiments over large spatial and temporal scales are often perceived to be of less scientific relevance than strictly experimental studies. This arises from the 'myth of experimental superiority' based on the experimental monopoly of falsification whereby hypotheses are tested and either accepted or rejected. Even in experimental studies, tests often only falsify auxiliary assumptions. In contrast, hypotheses placed in an historical context may only need a few important comparative assessments to provide inferences that are just as convincing as confirmatory results in experiments (Arens 2002).

Another problem with large-scale studies is replication. Obviously, plots of 1 m^2 are easier to replicate than landscapes. Although the former may be useful for assessing the diversity of nematodes, they are probably less useful for assessing the diversity of trees, butterflies, or larger animals. Using small plots can also bias results. In a study of corals, local species richness in small 1 m^2 quadrats was much more sensitive to local variables such as depth and habitat, and insensitive to regional richness. Larger 10 m transects, however, were sensitive to regional species richness (Karlson and Cornell 2002).

Unfortunately, achieving replication at large spatial scales can increase cost and logistical problems (Brotons *et al.* 2003). The testing of general theories would therefore benefit from a larger number of unreplicated or so-called 'pseudoreplicated' studies in different areas and on different taxa. Oksanen (2001) notes that 'an unreplicated test of strong and critical predictions is likely to be more instructive than a well-replicated test of weak and trivial ones.'

The use of pseudoreplication for qualifying certain studies has been much abused recently; it is preferable to specify perceived statistical problems in studies where these exist (Oksanen 2001). When possible, interval estimates should be given, whether taken over replicated plots within an area or simulated using bootstraps or other methods. The pseudoreplication (Hurlbert 1984) debate has sometimes led to 'entirely unwarranted stigmatisation of a reasonable way to test predictions referring to large-scale systems' (Oksanen 2001). Oksanen (2001) conjectures that replication is even unnecessary from hypothetico-deductivist reasoning. For a deductive study, it is perfectly acceptable to assign systems randomly to treatment and control situations where the vigour of the study will depend on a priori hypotheses and their probability of corroboration. This is especially the case when predictions of change are dramatic enough to render any otherwise spontaneous changes in the system of negligible importance.

Biodiversity conservation, alternative stable states and large-scale disturbance events

Alternative stable states can arise when an ecosystem changes from one stable state to another and remains in that state despite the cause of disturbance returning to its original value. Alternatively another or the same disturbance factor can take over and hold the ecosystem in the new state. A case in point is the transition of the Serengeti from woodland to grassland. Fire alone may have caused the transition to grassland, but once grassland, elephants can prevent a reversion to woodland (Dublin *et al.* 1990). Extremely large shifts can occur in ecosystems when alternative stable states exist. In certain instances gradual changes in environmental parameters, such as temperature, may have little impact until a critical threshold (also known as a catastrophic bifurcation) is reached after which the effects will be hard to reverse (Scheffer and Carpenter 2003). Assuming the absence of alternative states (or multiple attractors) may be harmful, especially when this leads to unwarranted beliefs, e.g. that the impact of pollution can be easily reversed.

A large spatial scale is crucial for testing for the existence of alternative community states (Petraitis and Latham 1999). Essentially, the scale of the disturbance must be large enough to overcome edge effects, which would cause original communities to return to their original state in a relatively short period of time. Compensatory dynamics of complementary species may buffer ecosystems from environmental perturbations within certain limits. Severe perturbations may, however, cause large ecosystem reorganisations if they exceed the tolerance of dominant species (Brown *et al.* 2001). Switches between alternative states require disturbances large and long enough to remove species that maintain given ecosystems, and facilitate the arrival of species that initiate the switch to the alternative state. Because this can only happen when the disturbance occurs over very large areas, it must be scale dependent (Petraitis and Latham 1999).

This process may be well underway in large areas of Borneo. During the ENSO-induced drought of 1982/83, 17% (3.5 x 106 ha, an area the size of Taiwan) of the Indonesian province of East Kalimantan in eastern Borneo burned (Harrison 2000). During the ENSO-induced drought of 1997/98, 25% (some 5.2 x 106 ha) of the province burned (Hoffmann *et al.* 1999). Significantly, ENSO events are increasing in frequency, severity and geographic scale (Tudhope *et al.* 2001; see also Timmerman *et al.* 1999; Holmgren *et al.* 2001; Siegert *et al.* 2001). Future events may therefore be worse than the 1997/98 ENSO event, which was the worst in recorded history.

In East Kalimantan, forest fires during the 1997/98 ENSO event caused a massive reduction in climax tree density in relation to tree diameter, but only caused a

disproportionate reduction in understory climax tree species after repeated fires (e.g., forest that burned during the 1982/83 and 1997/98 ENSO events). Due to the general lack of a seed bank for climax species, their regeneration following burn events depend on sapling survival, resprouting and seed rain from surviving trees (van Nieuwstad *et al.* 2002, Slik and Eichhorn 2003, Cleary and Priadjati 2005, Cleary *et al.* 2006 a). Pioneer tree density in previously unburned forest was also much lower than in previously burned forest (Slik *et al.* 2002). In burned forests, climax tree species were most common in swamps, river valleys and lower slopes, and uncommon on higher slope areas. In unburned forests, however, the opposite trend occurred with climax species density highest on slopes and ridges and lowest in swamps and river valleys. Pioneer tree species were abundant throughout the burned forest, particularly on slopes and ridges (Slik and Eichhorn 2003).

Because secondary fires are often more severe than initial fires (Cochrane and Schulze 1998), multiple fires will eventually lead to the irreversible loss of certain species from the forest ecosystem (Slik and Eichhorn 2003). Under a frequent burn regime these forests may even be converted to non-forest habitat (Nepstad *et al.* 2001). A less frequent burn regime – such as that associated with periodic severe ENSO induced droughts – may not cause permanent deforestation, but may have far-reaching consequences for affected forests (Curran and Leighton 2000; Holmgren *et al.* 2001; Laurance 1998; Nepstad *et al.* 1999): species assemblages may change, and important (keystone) species may find the periodically burned forest unsuitable. The forest may also be transformed into a pioneer-dominated transitional state, and maintained in this state by recurrent periodic fires (Petraitis and Latham 1999).

Because regeneration is vigorous in moist tropical settings, disturbed forests can return to primary abiotic and biotic conditions after only 4-30 years (Finnegan 1996, Holdsworth and Uhl 1997). The intrinsic growth rates and mobility of many forest species, furthermore, means that when disturbances are local and small-scale, they quickly recolonise disturbed areas. When disturbances are large-scale and repeated, however, different dynamics can be expected. Large-scale phenomena such as increasingly severe ENSO-induced drought, combined with abundant man-made ignition sources, must be explicitly considered when managing tropical biodiversity.

The increasing severity of ENSO events combined with the ubiquity of human ignition sources makes ENSO-associated fires a profound threat to biodiversity in tropical rainforests (Laurance 2003). An enormous area of Borneo burned during the 1997/98 ENSO event, creating a huge perimeter of adjacent unburned forest with increased burn potential. It is sobering to think that almost the whole of Kutai National Park in East Kalimantan (a 200,000 ha nature reserve renowned for its biological diversity (MacKinnon *et al.* 1997) burned in just a few days.

Even in large unburned isolates (3,500 and 138,000 ha), butterfly species richness was considerably lower than in control sites and sites sampled before the 1997/98 ENSO event (Cleary 2003, Cleary and Genner 2004, Cleary and Grill 2004, Cleary *et al.* 2004, Cleary and Mooers 2004) and remained considerably lower seven years after the 1997/98 ENSO event (Cleary and Genner 2006). Endemics and specialised species were particularly hard hit; none of the pre-ENSO Bornean endemics (Cleary *et al.*, in press b), for example, returned to the Wanariset Research Forest in East Kalimantan (sampled before and after the 1997/98 ENSO event) following the disturbance (Charette *et al.* 2006).

The Wanariset forest, which partially burned during the 1982/83 ENSO event, was particularly hard hit in 1997/98 (Figures 2.2 and 2.3). Species richness of the butterfly assemblage at Wanariset dropped dramatically; prior to the drought and fire in 1997, 211.13 ± 2.52 (95% CI; n = 1300 individuals) species were recorded, but this dropped to 39.21 ± 3.20 species (n = 1300) in 1998. Immediately after the fires, in 1998, Wanariset was largely denuded of living vegetation and consisted of dead, burnt trees and remnant live trees that had shed their leaves during the prolonged drought (van Nieuwstadt 2002). The first vegetation to re-appear were resprouts of badly damaged trees, especially *Fordia splendidissima* (Cleary and Grill 2004), the most dominant resprouting species in Wanariset and the proximate Sungai Wain forest reserve (Van Nieuwstadt 2002). A year later, in 1999, Wanariset was covered with small pioneer saplings, predominantly belonging to typical

Figure 2.2 ▪ Photograph of the Wanariset Research Forest, East Kalimantan, Indonesian Borneo after the forest fires (April 1998). Virtually no living vegetation remained and the ground was covered with a thick layer of ash (Photo: Daniel Cleary)

Figure 2.3 ▪ A smoldering tree in the Wanariset Research Forest Borneo (April 1998). Fires can smolder in trees like this for extended periods of time and cause secondary burns (Photo: Daniel Cleary)

pioneer genera such as *Trema*, *Mallotus* and *Macaranga* in addition to forbs such as *Eupatorium odoratum* and various fern species. In 2000, areas which were relatively unaffected by the fires (8% of Wanariset, Eichhorn pers. obs.) had already established a closed canopy with a dense undergrowth of forest herbs (predominantly Zingiberaceae and Maranthaceae), while the burned areas were dominated by relatively large pioneer saplings (Cleary pers. obs.). The return of butterflies to Wanariset closely mirrored this succession. Immediately after the fires, virtually all of the specialists had disappeared, including all 42 (372 individuals recorded in 1997) of the pre-fire *Arhopala* species (specialised tree feeders). Immediately after the fires the forest was dominated by various species of *Euploea* (large mobile butterflies that feed on various plant families including Moraceae, Apocynaceae and Asclepiadaceae), remnant generalist species that survived in the small unburned patches (e.g. *Drupadia theda* and *Jamides pura*), and the small generalist lycaenid *Jamides celeno*, which made up 58% (n = 1,043 individuals recorded) of the post-fire community in 1998 compared to 3% (n = 36 individuals recorded) before the fires in 1997 (Cleary and Grill 1994). Significantly, this species was able to feed on the young resprouts of *Fordia splendidissima*, while larval survival was further facilitated by the crazy ant *Anoplolepis gracilipes* (Cleary and Grill 2004).

In addition to affecting species diversity, the ENSO event also negatively affected the genetic diversity of a remnant species, *Drupadia theda* (Figure 2.4, Cleary *et*

al. 2006b). In contrast, logging had a much less pronounced impact despite pronounced structural damage; species richness was similar (birds: Cleary *et al.* 2005 a) or even higher (butterflies: Cleary 2004, Cleary *et al.* 2005b; Cleary *et al.,* in press a) in logged forest compared to adjacent unlogged forest, although logging did adversely affect the abundance of certain groups, e.g. large birds, butterflies specialised for tree feeding and restricted range butterflies (Cleary *et al.*, in press a; Cleary *et al.*, in press b).

Severe ENSO-induced disturbances in Kalimantan have clearly caused catastrophic ecological changes. We suggest improved protection and management of remaining undisturbed and disturbed (e.g. logged) forest may offer an important matrix necessary for maintaining biodiversity, within both well-managed logging concessions and adjacent pristine reserves. ENSO-induced forest fires are not a purely natural phenomenon, but are caused by a combination of logging, migrant farmers and ENSO induced drought (Laurance 1998). Much can be accomplished by reducing the density of man-made ignition sources and reducing the fire susceptibility of disturbed but unburned forest. Preventing forest fires from spreading into areas that have remained unaffected during ENSO events should be a conservation priority. Unfortunately, none of Indonesia's multi-billion dollar reforestation fund was used to fight the catastrophic forest fires in 1997 and 1998

Figure 2.4 ▪ A *Drupadia theda*. The species is typically seen basking in small gaps. (Photo: Hank Hammatt)

(Anonymous 1998). Without such a landscape approach, resulting island reserves will be doomed. We urgently need more information on the influence of the surrounding landscape matrix on forest biodiversity, stability and recovery before, during and after disturbance (Chazdon 1998), and on the relative costs and benefits of conservation of different classes of tropical habitat. The combination of severe environmental stress (drought) and habitat alteration (fire) make severe ENSO events a looming and unpredictable threat to tropical biodiversity. Traditional conservation practices such as national park establishment and protection are thus clearly insufficient to address the new disturbance dynamics of increasingly frequent severe ENSO events.

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The use of avian guilds for monitoring Bornean lowland forests

3

Methodology development for rapid assessment of avian communities

Hans de Iongh & Merlijn van Weerd

Introduction

The increasing rate of habitat loss in the tropics forms a serious threat to the world's biodiversity. This threat is particularly pronounced in tropical forests, which contain a large portion of the planet's species, and which are being converted faster than any other biome (FAO 1997). While tropical forests are used in many ways, timber harvesting is the most lucrative and widespread; logging can have large environmental impacts as it affects the structure, composition and function of the forest (Fimbel *et al.* 2001).

In this paper we address two aspects of guild structure of the Bornean forest avifauna. First, we conduct a literature review to assess the degree to which Bornean avian guilds respond in a predictable fashion to tropical forest disturbance. Second, we use field data from lowland forests in Kalimantan to assess avian guild structure. These two objectives should be considered within the context of recent changes in Borneo's tropical forest cover and strategies to restore and compensate these losses.

The large area of timber production forests in the Heart of Borneo presents an opportunity to complement existing protected areas, providing critical habitat for wildlife and native plant species. Although production forests are not a substitute for nature preserves, they provide a complementary role when sustainably managed for both timber and non-timber resources (Ros-Tonen *et al.* 1995; Fimbel *et al.* 2001; Azevedo-Ramos *et al.* 2002). The challenge lies in defining sound and practical biodiversity monitoring systems that provide the scientific basis for sustainable forest management. Similarly, protected area managers need to be informed of changes in forest biodiversity to improve management (Noss 1999).

The assessment and monitoring of biological diversity is an essential part of most certification schemes for sustainable forest management. To monitor the whole array of systems, species and processes – especially in species-rich tropical lowland forests – is a complex task and involves enormous amounts of work if no

proper system of indicators/verifiers is selected. An indicator is defined as any variable or component of the forest ecosystem or relevant management system used to infer attributes of sustainable resource use. Verifiers are the data or information that need to be collected for the assessment of any particular indicator (Ghazoul and Hellier 2000).

Generally, two categories of indicators are in use, defined by Stork *et al.* (1997), World Bank (1998) and CIFOR (1999):

- Pressure indicators quantify the driving forces that impact biodiversity. Pressure indicators are a direct measure of the level of disturbance (e.g. the scale and intensity of logging in space and time).
- Performance or response indicators reveal trends towards, or away from, biodiversity conservation and measure progress in attaining conservation goals (e.g. species richness of birds in space and time in response to logging disturbance).

Performance indicators show, for example, whether management needs to be modified to enhance or mitigate the effects of human interventions (e.g. logging) in forest ecosystems, and are therefore the most interesting to this study. Our study will focus on the use of performance indicators.

An important pre-condition for meaningful monitoring is that the scale of the pressure indicator matches the scale of the performance indicator. For instance, at the scale of a large protected forest area, we do not expect clear visible impacts of disturbances which occur at lower scale levels, e.g. in sub-sectors of larger forest areas. At the lower scales where disturbances occur, we expect a direct impact on performance indicators, be it flora or fauna.

Table 3.1 summarizes the biological indicators/verifiers used in a number of certification systems for sustainable forest management.

Most certification systems use species richness of forest dependent fauna and flora as indicators/verifiers; others use diversity indices, genetic diversity, keystone species, endemic species or rare and endangered species as additional indicators/verifiers (Table 3.1). Several authors have argued that changes in species richness, the presence or absence of keystone species and changes in diversity indices are poor predictors of the impact of logging (Ghazoul and Hellier 2000; Fimbel *et al.* 2001). Butchart *et al.* (2004) have developed biodiversity red list indices for birds based on (changes in) their global Red List status using the IUCN Global Red List (IUCN 2004); their use on regional and local scales has yet to be developed. Several authors have highlighted the need for harmonization, and practical instruments and protocols which can be used by forest managers in the field. Forest disturbance impact monitoring protocols need to be clear, flexible, feasible, cost

Table 3.1 ▪ Overview of biological indicators used in existing certification schemes.

	CIFOR	ACT	ATO	ITTO	TFS	FSC	PEFC	FAO/ UNEP	Smart-wood	World-bank	MTCC	BRL
Species richness*	X			X	X	X	X	X			X	X
Genetic diversity	X				X	X		X			X	
Keystone species				X	X					X	X	
Rare and endangered species	X	X	X	X	X	X	X	X	X		X	
Guilds	X	X		X								
Population dynamics	X							X				
Hunting	X									X		
Invasive species	X									X		

Data derived from: Lammerts van Bueren and Duivenvoorden, 1996, Van der Hoeven *et al.* 2000, Ozinga 2001.
* Often described as number of forest-dependent species or species lists of flora and fauna.

Acronyms: CIFOR: Centre for International Forestry Research; ACT: Amazon Cooperation Treaty; ATO: African Timber Organisation; ITTO: International Tropical Timber Organisation; TFS: Tropical Forestry Services; FAO: Food and Agriculture Organisation; FSC: Forest Stewardship Council; UNEP: United Nations Environment Program; MTCC.: Malaysian criteria and indicators for forest management; PEFC: Promoting Sustainable Forest Management; BRL.: Netherlands minimum requirements for sustainable forest management 'BRL' (concept).

effective, measurable and representative (FAO 1995; Lammerts van Bueren and Duivenvoorden 1996; Van der Hoeven *et al.* 2000).

Several authors, however, have cast doubt over the validity of using biological indicators for ecosystem health, especially the criteria currently used by the main certification schemes as summarised in Table 3.1 have been critisised (e.g. Landres *et al.* 1988; Hilty and Merenlender 2000; Sheil 2001; Azevedo-Ramos *et al.* 2002; Sheil *et al.* 2004). Others doubt whether a single taxon can predict responses of other taxa to a disturbance factor, as relationships between taxa are often not linear (e.g. Lawton *et al.* 1998). While examples for the predictive capacity of two plant genera (Mallotus and Macaranga) in predicting the decline of other vascular plant species as a result of disturbance have been reported (Kessler 1999; Slik 2001), there is much less scientific evidence for single fauna taxa (species or genera) in tropical rainforests having this predictive capacity (Azevedo Ramos *et al.* 2002).

Without confirming research, using fauna indicators to assess population trends and habitat suitability for other species is inappropriate (Landres *et al.* 1988). Further constraints include the possibly high costs and manpower required to monitor animal populations (Azevedo-Ramos *et al.* 2002). Restricting monitoring exclusively to vegetation parameters is unacceptable as the responses of organisms to changes in vegetation structure are often neither linear nor well understood (Ghazoul and Hellier 2000; Fimbel *et al.* 2001).

We believe the doubts expressed by the authors above are partly addressed by the proposed protocol of Ghazoul and Hellier (2000), who suggest a monitoring framework for 1) forest structure; 2) bird community structure; 3) butterfly species richness; and 4) forest disturbance by measuring the amount of dead wood and decomposition. Their monitoring protocol includes suggestions for the use of insectivore avian guilds, but lacks further detail regarding the approach.

Guilds can be defined as 'groups of species that exploit the same class of environmental resources in the same way' (Root 1967). Guilds thus represent a functional relationship between a (group of) species and an ecosystem. The advantage of using guilds rather than single species indicators or species lists is that guilds reflect (changes in) ecosystem parameters. A diversion of guild distributions from a baseline situation indicates changes in the availability of food resources or other changes at the ecosystem level. Some guilds are more sensitive to a certain type of disturbance than others; monitoring guild distributions will thus reveal disturbance specific vulnerabilities of species belonging to certain guilds. Guild distributions can simply be calculated as the fraction of species belonging to the guild out of the total number of species observed. Species-abundance indices can also be calculated per guild (Bibby *et al.* 1992). The methods section in this paper contains further detail on classifying avian species lists into avian guild classes.

Birds have been presented as potentially valuable disturbance indicators (e.g. Mannan *et al.* 1984; Furness and Greenwood 1993; Stork *et al.* 1997; Ghazoul and Hellier 2000). There is a worldwide knowledge base on birds and many people can identify them. Various studies have examined the response of bird groups to different disturbance levels and restoration processes in tropical forests disturbed by logging, plantations, and bush fire (Fimbel *et al.* 2001). Few of these studies, however, have attempted to present their results as baseline data for the future monitoring of forest disturbance impact (Danielsen 1997). Only the Centre for International Forestry Research (CIFOR 1999), the Amazon Co-operation Treaty (ACT), and the International Timber Trade Organization (ITTO 1999) have proposed the use of (avian) guilds for monitoring the impact of forest disturbance on fauna and flora (see also Table 3.1).

In view of the above, the main aim of our study is to assess the feasibility of using avian guilds in monitoring programmes for sustainable forest management in the Heart of Borneo, as an improved and additional measure to bird species richness alone. Most existing certification systems already require monitoring of (changes in) species richness in relation to forest disturbance. With little additional effort, species lists thus obtained can be used to monitor changes in bird guild structure, which will provide information on sensitive groups of birds and on structural relations between species and ecosystems. We will try to answer two questions: 1) What scientific results are available on the impact of logging on avian guilds in SE Asia, with special reference to Borneo? 2) What is the avian guild structure in Bornean lowland forest in undisturbed and disturbed forest sites?

Methods

Literature review

We reviewed the literature on the impact of selective logging on birds in SE Asia, with special reference to Peninsula Malaysia and Borneo. The indirect effects of logging – such as fragmentation, increased harvesting of non-timber forest products and hunting – were not included. The papers were analysed with a specific focus on the impact of logging on avian species richness and avian guilds. While the review does not pretend to be exhaustive, it covers a fair share of the available scientific literature, including 14 papers (Table 3.2) and some major reviews such as MacKinnon *et al.* (1996), Johns (1997), Danielsen (1997), Putz *et al.* (1998), CIFOR (1999), Fimbel *et al.* (2001), Van der Hoeven *et al.* (2000) and Azevedo-Ramos *et al.* (2002) – a total of 22 studies.

Avian guild structure analysis

Avian guild structure was analysed for the relatively ündisturbed lowland forest site of 'Sungai Wain Forest Reserve' (East Kalimantan) and compared with two more disturbed lowland forest sites in the Pasir district of East Kalimantan (Pinang Jatus and Mului). Avian Guild structure was analyses both based on a checklist and on a rapid assessment (for Sungai Wain Forest Reserve) for the two sites in the Pasir district only the results of rapid assessments of forest-dependent resident lowland bird species were used (for methods see Wielstra and Pieterse, 2005).

Avian guild structure was analysed for Sungai Wain Forest Reserve using Frederiskon's checklist (unpublished). Only forest dependent species were used for this analyses, migrants and non-forest dependent species (such as wetland birds) were omitted from the list.

Species lists for Pinang Jatus and Muluy were obtained from Wielinga and Pieterse (unpublished); guild classification according to MacKinnon *et al.* (1996) and Johns (1997) was used to identify guilds. The distribution of species to the different guilds was done using ecological information for Sungai Wain found in Smythies (2004). Species were included in the understory guilds only if they were specialized in foraging in this stratum; several species belonging to arboreal guilds also use the understory, but do not depend on it, thus were not classified as belonging to the 'understory guild'.

Results

The results of the literature review are presented in table 3.2.

Literature review

Communities

In the Western Ghats of India, few species have disappeared over the past century despite considerable human disturbance. This may be because most species have become opportunistic in habitat selection in response to over 1,000 years of disturbance in the region. Because little or no undisturbed forests remain, intolerant species may already have disappeared (Beehler *et al.* 1987; Daniels 1996). Shankar Raman and Sukumar (2002) had similar results, though they found that most species were present at lower densities in altered habitats (forest edge, abandoned plantations and selectively logged forests).

Table 3.2 ▪ Studies that assess the impact of logging on birds related to the methods used.

Source	Country	Census type	Impact on (understory) guilds / species richness	Vegetation parameters
Wong 1985	Malaysia	M, PC	negative on understory insectivores	?
Bennett and Zainudin 1995	Malaysia	TC	negative on terrestrial granivores and insectivores	?
Johns 1987	Malaysia	TC, SR		?
Johns 1988	Malaysia	SP	negative on understory insectivores	none
Johns 1989	Malaysia	TC	negative on species richness/ positive on nectarivores and frugivores	?
Johns 1992	Malaysia	M, TC	positive on raptors/negative on understory insectivores	?
Johns 1996	Malaysia	M, TC	neutral on species richness/ negative on terrestrial insectivores	Dbh, d
Jones *et al.* 2003	Indonesia	PC	negative on understory insectivores	H, cf, bta, sp. richness
Lambert 1992	Malaysia	M, TC	positive on frugivores	?
Marsden 1998	Indonesia	PC	negative on understory insectivores	Cf, h, d
Marsden and Pilgrim 2003	Papua New Guinea	PC, SP	negative on understory insectivores	Ft, fp, pns
Shankar Raman and Sukumar 2002	India	PC	neutral on species richness	D, bta, dbh, cf, h
Styring and Ickes 2001	Malaysia	TC	negative on species richness	?
Zakaria et al. 2002	Malaysia	M	negative on species richness/ positive on nectarivores	?

Explanation of the abbreviations: Census types: M = mist netting, PC = point counts , SR = spot recordings, TC= transect counts.
Vegetation parameters: bta = basal tree area, cf = cover of foliage in one or more strata, d = density of vegetation, dbh = diameter at breast height, dsp = distance from sampling point, fl = flower production, fr = fruit production, ft = forest type, h = height, ld = logging damage, pns = probable nest sites.

In Malaysia and Indonesia, where a relatively large number of studies have been conducted, species composition in general showed significant overlap between primary and logged forests (Van der Hoeven *et al.* 2000; Lambert and Collar 2001; Styring and Ickes 2001; Zakaria *et al.* 2002). Logged sites, however, contain slightly lower abundance and species diversity index levels (Wong 1985; Johns 1986, 1989, 1992; Zakaria 1994; Lambert 1992; Grieser Johns 1996; Nordin and Zakaria 1997). Species that increased as a result of logging were mostly common edge and second-growth species, while rarer forest-dependent species declined (Johns 1986, Styring and Ickes 2001).

Lambert and Collar (2002) found in their review of the Sundaic region (southern Peninsular Thailand, the Malay Peninsula, Borneo, Sumatra, Java and Palawan) that of 274 resident forest species, up to 76 species (or 28%) responded negatively to the effects of logging in at least part of their range. Almost all species that typically excavate tunnels in rotting tree stumps or termite mounds are strongly affected by logging, while birds typical of the canopy were found more resilient to logging. Lambert and Collar suspect the higher number of avian species found in logged forests to be at least partly biased by the failure to detect all forest dependent species, as they are unobtrusive and occur at much lower densities than those typical of more open, heavily logged forests.

Carnivores

Because raptor-surveys require specialized census techniques, little data on selective logging effects on this guild is available (Zakaria 1994; Thiollay 1998). In one study covering sites in five different countries in Southeast Asia (Thiollay 1998), raptors were found to have higher densities and higher species diversity in primary or little disturbed forests compared to logged forests and tree plantations. Unfortunately, the effects of the latter two were not differentiated, making it difficult to be sure of the effects of logging alone.

Nectarivores

Most species of nectarivorous birds appear to be more abundant after logging in Malaysia (Johns 1989a; Lambert 1992; Zakaria 1994). Increases might be expected from enhanced growth of vines and flowering herbaceous plants. This growth could also lead to increased numbers of insects, which most nectarivorous birds use as a supplementary food source (Lambert 1990). Trends are probably biased, however, because of increased conspicuousness of canopy species in logged forests (Zakaria and Francis 2001).

Frugivores

Arboreal frugivores appear to be adversely affected by logging in some areas, though not in others, on both Peninsular Malaysia and Borneo (Johns 1989; Lambert 1992; Zakaria 1994; Nordin and Zakaria 1997). Some of the effects may be biased because of enhanced visibility of canopy species in logged forests. Studies that avoid this bias found many fewer arboreal frugivores in logged forests than in primary ones (Zakaria and Francis 2001; Zakaria and Nordin 1998). Species that use both canopy and understory are markedly reduced in logged forests. This is probably because the large fruit trees they depend on are much reduced, while they do not feed on the small fruits of many pioneer plants abundant in secondary forests (Lambert 1992; Zakaria 1994). More generalist species that also include insects in their menu feed on smaller berries. This, together with possibly reduced competition with primary forest frugivores and their ability to switch to other food sources may cause the increase that many frugivore insectivores show after logging (Johns 1989; Lambert 1992; Zakaria 1994; Grieser Johns 1996).

Hornbills, which are both frugivorous and carnivorous, showed decreased densities in some studies, but little changes in others (Zakaria and Francis 2001; Datta 1998; Johns 1987). The effects of logging on this group are perhaps biased by the effects of hunting. Also, hornbills forage over large areas and may be detected flying over degraded forest, even while they spend little time there. As a result, the adverse effects of logging on this family may be underestimated by short-term studies (Johns 1987; Zakaria 1994).

Terrestrial frugivore-insectivores like pheasants and other phasianids tend to decrease after logging (Johns 1989a; Lambert 1992; Bennett and Zainuddin 1995; Griesser Johns 1996). Although this might be correlated with increased hunting pressure, decreases were also observed in areas that were almost devoid of hunting.

Insectivores

Many sallying insectivores were found to decrease under logging pressure in Malaysia (Zakaria and Francis 2001) although there are species, like the monarch flycatcher, that may increase (Zakaria 1994). Among foliage-gleaning insectivores, largely consisting of babblers, some species have been reported to increase as a result of logging, while many others decrease. Most species, however, seem to persist in logged forest (Johns 1989; Zakaria 1994; Lambert 1992; Nordin and Zakaria 1997).

Terrestrial insectivores, especially wren-babblers and pittas, show declines after logging in several reports (e.g. Johns 1989; Lambert 1992; Lambert and Collar 2002). One cause of these declines may be loss of sheltered understory, which could affect

their food supply. Johns (1992) found that avian density and diversity remained lower than in primary forest 25 years after logging.

Bark-gleaning insectivores decreased in all logged forest studies in Malaysia. Presumably, these species are affected by the loss of large trees, although short term benefit might be expected due to an increase in standing dead trees shortly after logging (Zakaria and Francis 2001).

Comparative analysis of Sungai Wain and two lowland forest sites in East Kalimantan

Table 3.3 compares the avian guild structure in 1) Sungai Wain Forest Reserve, based on the full checklist, 2) Sungai Wain Forest reserve based on a rapid assessment and 3) Pinang Jatus and 4) Muluy, the latter two being tropical lowland forest sites in the Pasir district of East Kalimantan. A chi-square analysis (Heath 1995) shows that the proportion of the number of species per guild differs significantly between the three selected sites 2), 3) and 4) based on the rapid assessments (df: 24, $P < 0.001$). Species richness in the three different rapid assessment sites 2), 3) and 4) was much lower than the number of 177 species on the checklist of Sungai Wain Forest Reserve; during rapid assessments 125 species were identified in Sungai Wain, 126 species in Pinang Jatus, and 109 species in Mului.

The finding that the number of species included in the rapid assessment of Sungai Wain (125) was significantly lower than the total number of species recorded in the checklist (177) can largely be explained by the lower number of arboreal species in the rapid assessment samples. The arboreal: understory/terrestrial ratio is 1.2 in the checklist sample, 1.0 in the rapid assessment sample.

When comparing the results of the rapid assessments in Table 3.3, similarities (although not significant) are found in the proportions of arboreal frugivores, arboreal insectivores, understory frugivores and terrestrial frugivores, omnivores and insectivores in all three sites. Understory insectivores show a clear trend of high proportions (30 percent) in the undistrurbed Sungai Wain site, a lower proportion (27 percent) in the semi-disturbed Mului site and the lowest proportion (21 percent) in the most disturbed Pinang Jatus site. In all three rapid assessment sites, insectivores represented more than 40 percent of total species numbers, of which terrestrial and understory insectivores counted for more than 24 percent.

Wielstra and Pieterse's (2005) study observed seven species endemic to Borneo and 106 biome-restricted species. Five of them are classified as globally threatened on the IUCN Global Red List: the Endangered species Bornean Peacock-pheasant (*Polyplectron schleiermacheri*) and Storm's Stork (*Ciconia stormi*), and the Vulnerable species Large Green-Pigeon (*Treron capellei*), Short-toed Coucal (*Centropus*

Table 3.3 ▪ Avian Guild distribution of the avifauna of Sungai Wain forest reserve in East Kalimantan (based on bird checklist), compared with Sungai Wain and two tropical lowland forest sites (based on rapid assessments).

Guild	Sungai Wain (based on checklist)	Sungai Wain (rapid assessment)	Pinang Jatus (rapid assessment)	Mului (rapid assessment)
Carnivore	4 (2%)	7 (6%)	13 (10%)	4 (4%)
Nocturnal carnivore / insectivore	10 (6%)	5 (4%)	2 (2%)	2 (2%)
Nectarivore / insectivore	16 (9%)	8 (6%)	14 (11%)	13 (12%)
Arboreal frugivore	12 (7%)	8 (6%)	10 (8%)	10 (9%)
Arboreal frugivore / insectivore	19 (11%)	7 (6%)	4 (3%)	7 (6%)
Arboreal frugivore / carnivore	7 (4%)	5 (4%)	11 (9%)	6 (6%)
Arboreal insectivore	53 (30%)	25 (20%)	24 (19%)	22 (20%)
Understory frugivore	0	0	0	0
Understory frugivore / insectivore	7 (4%)	9 (7%)	7 (6%)	7 (6%)
Understory insectivore	31 (18%)	38 (30%)	27 (21%)	29 (27%)
Terrestrial frugivore	2 (1%)	1 (1%)	1 (1%)	1 (1%)
Terrestrial omnivore	6 (3%)	4 (3%)	4 (3%)	2 (2%)
Terrestrial insectivore	10 (6%)	8 (6%)	9 (7%)	6 (6%)
Total	**177**	**125**	**126**	**109**

The guild analysis is based on forest dependent resident lowland species. Arial feeders, non-breeding migrants and non-forest species are not included. Species lists were obtained from Frederikson (unpublished for Sungai Wain and from Wielstra and Pieterse (unpublished) for Pinang Jatus and Muluy.
Designation to feeding guild is based on Lambert (1992), MacKinnon & Phillipps (1993), Smythies & Davison (1999), Lambert & Collar (2002), Slik & Van Balen (in press) and personal observations. Aerial feeders, wintering migrants and non-forest species are not included. The number of species is given per guild, with the percentage of the total number of species between brackets.

rectunguis), and Blue-headed Pitta (*Pitta baudii*). Another 56 observed species are found in the Red List category Near-threatened; all others are classified in the Red List category Least concern. All species qualify as lowland species; no typical montane species were observed.

Discussion

The literature review is remarkably consistent on the impact of logging on understory insectivores. While the literature review on the impact of logging on avian

guilds is not exhaustive, it represents a significant share of the existing scientific literature on Southeast Asia. In this review both qualitative and quantitative data were taken into account; the review resulted in some consistent conclusions on the impact of forest disturbance on birds in Southeast Asia's tropical lowland forests. First, the review shows neutral or negative impacts on species richness after logging. This indicates that species richness per se may not be a suitable indicator of the impact of forest disturbance on forest biodiversity Ghazoul and Hellier 2000). Ghazoul and Hellier (2000) also suggest that although diversity indices (such as the Shannon Weaver index) are better predictors of disturbance than species richness alone, these indices remain ambiguous and highly dependent on the nature and intensity of the disturbance. As most certification systems still propagate the use of species richness as indicators/verifiers for biodiversity monitoring, critical revision of most of these systems is necessary.

In the study of Wielstra and Pieterse (2005) rapid assessments of Sungai Wain registered significantly fewer species than the checklist. This is to be expected, since the checklist is based on long-term research, while the rapid assessment only covered a few weeks fieldwork. It is also clear that arboreal species are less well represented in rapid assessments, though understory and terrestrial species numbers are comparable with the checklist. We conclude that rapid assessments are a good method for estimating understory and terrestrial species but are inadequate for assessing arboreal species.

Comparing the results of the three rapid assessments in terms of guild composition, there are similarities in the species fractions of avian guilds for arboreal frugivores, arboreal insectivores, understory frugivores and terrestrial frugivores, omnivores and insectivores. Other guilds, like carnivores, understory insectivores and nectarivores/insectivores show more variability between the sites.

The rapid assessments gave a trend of lower proportion of understory insectivores in more disturbed sites; Sungai Wain, the least disturbed site, showed the largest proportion (30 percent) of understory insectivores; figures for the medium-disturbed Muluy site was 27 percent, and for the most disturbed Pinang Jatus site, 21 percent. These findings confirm the results of the literature review, where understory insectivores seem most sensitive to disturbance.

We conclude that both the comprehensive literature review and the field study of Wielstra and Pieterse (2005) confirm that using the species richness of birds as an indicator for forest disturbance by logging in Bornean lowland forests is insufficient for monitoring the impact of disturbance. We also conclude that monitoring of forest disturbance in Bornean lowland forests should be complemented with the analysis of sensitive avian guilds. Compared with species richness, avian guilds have the advantage of providing information on the direct functional rela-

tionship of birds with forest structure and changes in nutrient and energy flows in the ecosystem. Since species richness is already a requirement for monitoring in the most important forest certification schemes, the number of species in each guild can be calculated from existing species lists, based on rapid assessments.

Returning to the questions we set out in the introduction, we conclude the following:

- From the literature review, there seems to be a general pattern in the response of certain avian guilds to tropical forest disturbances, in particular logging. Understory and terrestrial insectivores generally show the strongest negative response, both in terms of species numbers and species abundance. These two avian guilds qualify best for future use as performance indicators to monitor the impact of forest disturbance by logging.

- Rapid assessments seem to be ineffective for monitoring arboreal species but seem quite effective for monitoring understory and terrestrial species.

- In the rapid assessments, understory insectivore guild proportions showed a trend from high in non-disturbed Sungai Wain, to lower in medium-disturbed Mului, to lowest in the disturbed site of Pinang Jatus. Understory insectivore guild proportions may thus qualify as an indicator for disturbance in East Kalimantan. More research is needed to get robust results to confirm this preliminary finding.

- Since understory insectivores and terrestrial insectivores are most vulnerable to forest disturbances by logging, they qualify best for future use in monitoring programmes of forest disturbance by logging. Since natural variation for these specific guilds is to be expected, standards of performance for guild proportions should be set on a case by case basis, derived from species lists obtained from undisturbed forest sites.

We recommend future studies in Kalimantan aim to set (local, regional or global) standards for ecosystem health in tropical lowland forest in the Heart of Borneo, using sensitive groups like understory insectivores as bench marks.

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Commercial natural resource use/extraction

The oil palm question in Borneo

4

Lesley Potter

Introduction

Oil palm plantations are increasingly replacing the forests of Borneo. The shift to oil palm is most advanced in Sabah, which had over a million hectares by 2001[4] (Teoh 2002), while in Sarawak the area now exceeds 500,000 ha (table 4.1). Malaysian planters moved to Sabah and Sarawak as land became scarce on the Peninsula; developments are now targeting marginal sites or locations near wildlife corridors, such as that between the Maliau Basin Reserve and Danum Valley in eastern Sabah within the 'Heart of Borneo' boundary (*The Star*, 7 January 2004), while fragile ecosystems such as the deep peat of coastal Sarawak are also threatened (Khoo and Chandramohan 2002: 13). Figures for Kalimantan suggest that a total target area of a million hectares over the four provinces was attained by 2004 (table 4.1), with considerable scope for expansion. Here I restrict my analysis to recent developments in Kalimantan. My main sources are regional and national newspapers, and NGO and government publications, which update earlier fieldwork.

In the eight years between 1996 and 2003, the area planted to oil palm in Indonesia more than doubled from 2.2 to 5.2 million ha, while the production of crude palm oil increased from 4.9 to 9.8 million tons (DJPBB 2004).[5] Figures for 2004 showed continued growth, with the area planted reaching 5.9 million ha and production, 11.5 million tons (PECAD 2005).[6] The industry has experienced highs and lows over this period: prices for crude palm oil surged during the economic crisis of 1997-1998, but declined from 1999 to reach their lowest point in 2001, while problems securing credit following the bank collapses also slowed the industry (Casson 2000). Confidence and prices have gradually recovered since 2002, with 2004 being particularly buoyant.

4 This area was not all new forest clearing, as oil palm substituted cocoa on existing estates. Casson (2003:6) suggests that 700,000 ha of forest may have been lost in Sabah due to oil palm expansion.

5 Here I am using a mixture of the 'central' statistics from the Direktorat Jenderal Bina Produksi Perkebunan (DJPBB) [Directorate General of Estate Crop Production], together with those available from the provinces and districts. The two sets do not correspond but show similar trends.

6 Production reached 13.6 million tons in 2005 (www.bisnis.com, 28 February 2006, 'Sawit jangan hanya untuk pangan')

Table 4.1 presents figures for areas under oil palm in Sabah and Sarawak, plus the four provinces of Kalimantan. I have used the provincial figures for Kalimantan, rather than those obtainable from the DJPBB, as reflecting more plausible growth rates.

Table 4.1 ▪ Oil palm area, East Malaysia and Kalimantan, 2002-20044

State	2002	2003	Growth 2002-2003	2004	Growth 2003-2004
Sabah	1,096,000	1,135,100	3.6%	1,165,412	2.7%
Sarawak	414,000	464,774	12.3%	508,309	9.4%
Total E. Malaysia	1,510,000	1,599,874	6.0%	1,673,721	4.6%
W. Kalimantan	335,896	349,101	3.9%	367,619	5.3%
C. Kalimantan	295,946	343,323	16.0%	401,442	17.0%
E. Kalimantan	132,174	158,786	20.0%	171,581	8.1%
S. Kalimantan	153,745	155,668	1.2%	172,650	10.9%
Total Kalimantan	917,761	1,006,878	9.7%	1,113,512	10.6%
Borneo total	2,427,761	2,606,752	7.4%	2,787,233	6.9%

Sources: Sabah and Sarawak: Malaysian Palm Oil Board (MPOB), 2004; *Kalimantan Barat Dalam Angka* 2003; *Kalimantan Tengah Dalam Angka*, 2003; *Kalimantan Timur Dalam Angka*, 2003; *Kalimantan Selatan Dalam Angka*, 2003; Dinas Perkebunan Kalimantan Barat 2005; Dinas Perkebunan Kalimantan Selatan 2005; Dinas Perkebunan Kalimantan Tengah 2005; Dinas Perkebunan Kalimantan Timur 2005.

The Yudhoyono government and Agriculture Minister Anton Apriyantono have continued earlier policies of presenting palm oil as the 'primadonna' of agricultural exports; Indonesia is close to displacing Malaysia as the world's leading producer, while plantation companies are encouraged to shift their activities from their traditional bases in Sumatra to Kalimantan, Sulawesi and Papua[7] Despite promises to plant thousands of hectares in Kalimantan, many companies have only been interested in accessing forested land to sell the timber. The heads of new districts formed since 1999 as part of Indonesia's decentralization have encouraged investment in oil palm, as Law 25 of 1999 (Fiscal Balancing) stipulates that they must raise income from local sources; districts thus rely on the big companies for tax revenue and to provide employment. New districts, which have proliferated especially in the provinces of East and Central Kalimantan, are anxious to prove their viability.

7 According to the figures from the DJBPP, this policy is not working, as Sumatra actually increased its percentage of the total area under oil palm from 2000 to 2003 (from 70.8% to 72%), while Kalimantan had only 18.4% of the total. The district and provincial figures give Kalimantan 19.2%, which is still quite low.

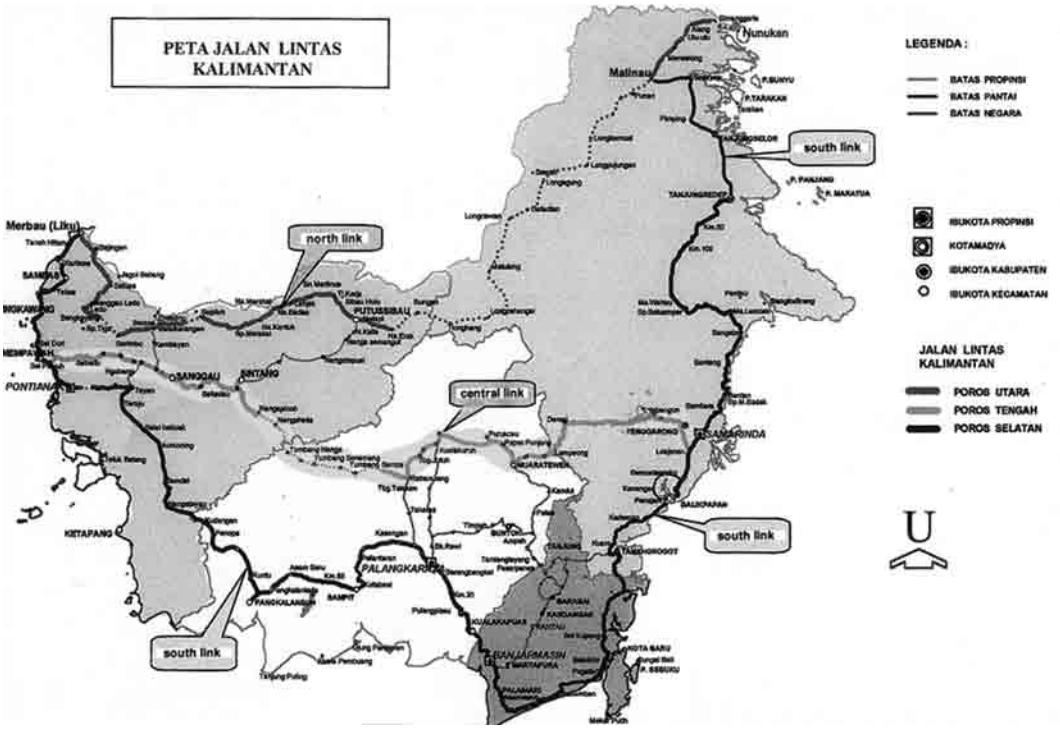
The first objective of this paper is to identify the trends in forest conversion in Kalimantan to assess the scope for oil palm's physical expansion. It then analyses the crop's present distribution and impact in Kalimantan's four provinces. A particular aim is to look at present and possible future incursions of oil palm into the area included within the 'Heart of Borneo' boundaries. The paper concludes with a brief examination of the movement for sustainable palm oil and suggestions for improving smallholder participation in the industry.

Forest conversion and land availability

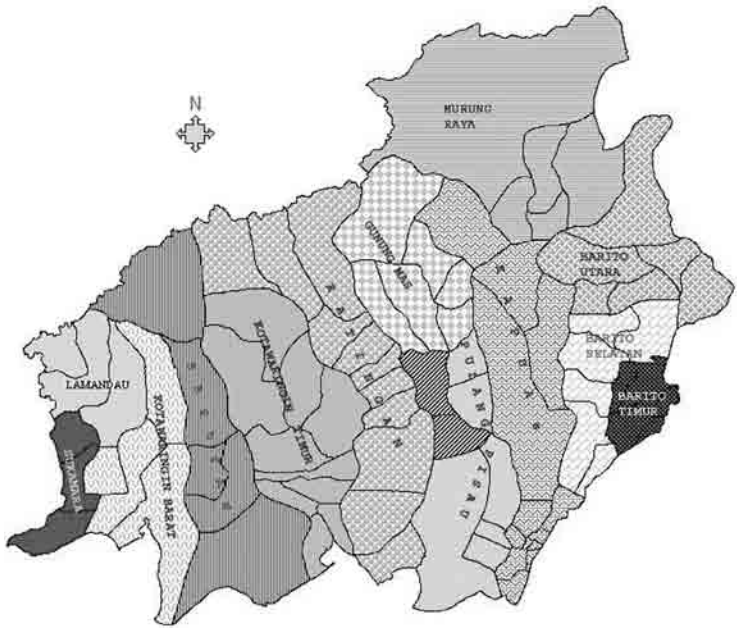
In 1997 it was estimated that 6.3m ha in Kalimantan had been deforested but not replanted in cash crops or timber plantations: 3.3m ha in East Kalimantan, 1.3m ha each in West and Central Kalimantan, and 0.4m ha in South Kalimantan (Holmes 2000). The World Bank specifically drew attention to this 'wasteland' and questioned its utilization (World Bank 2001: 16). Since 1997, deforestation has increased exponentially, through rapid growth in illegal logging, legal conversions via timber use permits[8] and small-scale cutting licences issued to local co-operatives. There is thus a large domain of secondary forest in various stages of re-growth, together with scrub and *Imperata* grassland. A proportion of this land is claimed under traditional village tenure, but such claims are legally weak. All lands included as 'forests' and not in permanent agriculture remain the property of the state, which authorizes their leasing to logging and plantation companies, and under the revised Forestry Law (No 41 of 1999), to smallholder co-operatives.

According to the 1980s forest classification (*Tata Guna Hutan Kesepakatan*, TGHK), agricultural activities, including estate crops such as oil palm, may take place only in areas of 'conversion forest'. 'Production forest' is supposed to be occupied by logging concessions or tree plantations developed for reforestation or pulp. The boundary between production and conversion forest has always been contested; as forests are logged, pressure has grown for their re-classification. Oil palm companies wishing to access 'production forest' have to apply to the Minister of Forestry to have the area excised, and must show proof that the forest is degraded. As this process may take years, local authorities often provide bridging authorization for potential investors (Potter and Lee 1998). Since decentralization in 2001, the maintenance of central authority over lands and forests has been disputed – local leaders have attempted their own re-classifications, though legally the Ministry of Forestry still holds the power.

8 These permits (*Ijin Pemanfaatan Kayu* IPK) specifically allow clearing for plantations or transmigration settlements.



Map 4.1 ▪ The Heart of Borneo boundaries, major National Parks and the Trans-Kalimantan Highway plan.



Map 4.2 ▪ District boundaries and places mentioned in the text.

Oil palm in Kalimantan: the detailed picture

The four provinces of Kalimantan differ in size, population, infrastructure and experience with oil palm. While the more densely settled parts of South and West Kalimantan have reasonable road networks, this is not the case in East or Central Kalimantan, which have the lowest population densities and most remaining forest. Good communication is crucial for oil palm: fresh fruit bunches must reach a factory within 48 hours. Following extraction, crude palm oil travels by tanker to a port or processing plant.

The vaunted Trans-Kalimantan Highway remains incomplete, especially in its north link between Putussibau and Malinau, and a shorter stretch of its central link, from Nanga Pinoh to Tumbang Samba (map 4.1). The finished sections have proven extremely useful, and a high proportion of existing oil palm holdings are within easy reach of this road. This is especially true of the concentration of holdings in Ketapang (West Kalimantan), from the western border of Central Kalimantan to Palangkaraya, and in Pasir and Kutai Timur in East Kalimantan. Apart from the logging roads, provincial and district roads are lacking in remote areas, while roads everywhere may be impassable during the rainy season.

South Kalimantan

This small province supports a dense agricultural population, especially in its wet rice bowl of the Hulu Sungai. South Kalimantan traditionally specialised in rubber, but coal mining now occupies centre stage. Much of the oil palm is grown east of the Meratus Mountains, especially in Kota Baru and the new district of Tanah Bumbu, where authorities recently reclassified 24,000 ha of forest. The acting district, as head (*bupati*) argued that the vegetation was secondary forest and unsuitable for timber production; reclassification would provide an instant solution for farmers wanting to plant oil palm (*Berita Indonesia* 31.5.04). Elsewhere, land available for oil palm is limited, witnessed by suggestions to expand production into the peat swamp in Hulu Sungai Selatan, or onto the steep lands of the Meratus Mountains (*Banjarmasin Post* 30.9.00; 2.7.04).

West Kalimantan

Historically Kalimantan's leader in oil palm area and production, West Kalimantan retains this prominence, though rates of increase are low. Production from government plantations, already 25 years old, has begun to decline, necessitating large scale replanting. West Kalimantan also has forest loss of up to 250,000 ha per year (*Forest Watch Indonesia*, 3.8.04) while the long border with Sarawak and easy access to Singapore have made the province attractive to timber smugglers (EIA-Telapak 2004; Wadley and Eilenberg 2005). Clearing for oil palm (sometimes also

linked to timber smuggling) is estimated to have removed 724,000 ha of forest in Sanggau district, 567,000 ha in Sintang and 320,000 ha in Kapuas Hulu (*Kalimantan Review* 2004: 101).

The densely populated middle Kapuas basin around Sanggau has the largest oil palm area (around 155,000 ha), with a mix of government plantations, newer private estates and some independent grower cooperatives. Because of its maturity as an oil palm centre, Sanggau district has also attracted private farms to supply certified seed stock to smallholders (Figure 4.1). Its road network, while requiring maintenance, is largely adequate. The road to Sarawak is a vital connection, while the east-west road along the Kapuas River is part of the central link of the Trans-Kalimantan Highway.

Figure 4.1 ▪ Smallholder oil palm farmers using certified seedlings, Sanggau District. Uncleared *tembawang* in background.

Much of the 'forest' in this area results from human planting. In addition to 'jungle' rubber and rice fields, the Dayak villages often possess extensive *tembawang*, or mixed forest gardens. When government plantations (now known collectively as PTPN XIII) entered the district, some adopted the 'nucleus estate and smallholder model' (NES).

Under this system most villagers retained enough land to continue working their rice fields and forest gardens as well as their two-hectare plots (Potter and Lee 1998). Other government estates were developed as *inti* only, resuming land from

villagers and destroying their gardens, but contributing nothing in return. Such estates have recently had to extend land ownership to farmers who have become more vocal in demanding their rights.

While private companies negotiate directly with villagers, land has become scarce with population increase. One system commonly practised is KKPA (Prime Co-operative Credit for Members) where villagers supply 7.5 ha of land to secure 2 ha of planted oil palm. Bank credit is managed through a co-operative, which also supervises inputs. The cost of land and cropping expenses must be repaid during the first few years. Our fieldwork in 2001-2002 found many who had joined plantations struggling to find the required 7.5 ha, as they wanted to keep their rice land and *tembawang* gardens. The latter are generally communally owned, but strong *adat*[9] chiefs have blocked their clearing. In addition to their age and cultural significance as sites of former longhouses, *tembawang* are important local sources of timber, fruit, honey and vegetables. Biodiversity levels are high, with many cultivars of durian and mango.

Villages who participate in government-sponsored rubber schemes have an alternative to oil palm, though with rubber prices low in 2001, the prospect of daily paid estate work was attractive (Potter and Badcock 2005, in press). Dayak rice cultivation, which retains strong cultural significance, is mainly based on wet or dry swiddens; oil palm not only puts pressure on fallow land but encourages rats, which attack rice crops as well as palm fruit. Although the mixed cultivation of oil palm and rice has been suggested, especially in the early years after planting,[10] the rat problem remains. Cattle are being experimentally introduced onto the estates, following a highly successful case of a plantation in Sumatra distributing cattle to *plasma* families (Zahari Zen *et al.* 2005). West Kalimantan's governor suggested that the 7,000 cattle annually imported to the province could be raised on the Sanggau estates, which would reduce cattle smuggling from Malaysia (*Pontianak Post*, 12.10.04).

On the government properties, the replanting programme has reopened old wounds among villagers, who saw PTPN XIII replanting core estate land without provision for smallholders. Some villagers wanted the land restored to its original owners, while others believed it should be converted into *plasma* (*Pontianak Post*, 20.4.04). Where farmers owned the mature trees, company requests for government help in replanting were unsuccessful; aging trees and declining yields have brought neglect of oil palm smallholdings in districts such as Landak (*Pontianak Post* 19.11.04).

9 'Adat' is traditional law, which is still largely respected in the district.
10 Similar to the 'tumpangsari' system of cropping between rows of young trees in Java.

Beyond Sanggau, oil palm extends eastwards to Sintang but with reduced impact, as infrastructure levels decline. Some Sintang villagers had earlier suffered the trauma of estates withdrawing and closing their factories, leaving *plasma* farmers with nowhere to sell their fruit (*Kompas* 30.3.01; *Pontianak Post* 30.8.01). At present there is only one factory near Sintang city to service a wide area. The local government is actively trying to attract investors, distributing 240,000 ha among twelve new companies (*Pontianak Post* 24.2.05).

The extensive southern district of Ketapang is West Kalimantan's second oil palm region. The plantations are located mainly inland from the swampy coast in a band running southwards from Gunung Palung National Park.[11] Many transmigrants work as *plasma* on these estates, while Dayak rice crops are affected by grasshopper swarms which breed in the ubiquitous *Imperata* grasslands. In 1993, a company began to procure village land in Manis Mata sub-district near the remote Central Kalimantan border.

The destruction of traditional Dayak livelihoods and their attempts to obtain compensation have been a long-running saga (WALHI Kalbar and DTE, 2000). In 2004 people were still trying to access land under the plantation's contested KKPA scheme and complaining that oil palm had brought disaster to their lives (*Pontianak Post* 15.4.04). The 'Sawitnisasi'[12] of Ketapang was regretted by one observer (*Pontianak Post* 8.3.05), who believed the costs easily outweighed the benefits for ordinary people. Another suggested that problems with managing credit and the buying and selling of allotments burdened by debt had become serious, and recommended independent growers (as they needed less credit), and slowing the rate of expansion (*Pontianak Post* 9.6.04).

West Kalimantan is the founding province of AMAN, the National Alliance of Traditional People (*Aliansi Masyarakat Adat Nusantara*), originally formed as AMA Kalbar to support local farmers in a land dispute with an oil palm company. It is not surprising that there is debate in Pontianak between those advocating more oil palm (often members of the local parliament, DPRD), and those opposed to its extension. AMA Kalbar recommends alternative tree crops, such as rubber or cocoa; proponents point to the province's two million ha of potential crop area, enough to absorb all migrants seeking work in Sarawak (*Pontianak Post* 28.2.05). Others are worried about the environmental impact of oil palm on water supplies and its excessive use of fertilizer. One correspondent asked 'Why does it *have* to be

11 A recent plan by the Artha Graha group to open estates in Simpang Hilir (*Pontianak Post* 6.6.05) will bring the oil palm to the coastal swamp forest near Gunung Palung National Park. The behaviour of that conglomerate will be worth watching, given its logging interests and the close ties of its director with the army (*Asia Inc.* Aug 2004).

12 Literally 'oilpalmisation'.

oil palm?' arguing that West Kalimantan did not want to resemble North Sumatra, Riau or Peninsular Malaysia (*Pontianak Post* 4.3.05).

One proposed solution with DPRD and PTPN XIII backing is 'family oil palm' (*Kelapa Sawit Keluarga*, KSK), a co-operative to prepare village land for oil palm and raise incomes in a project 'through the people, by the people, for the people'. The palm fruit will be received by PTPN XIII from the districts of Bengkayang, Pontianak and Landak (*Pontianak Post* 4.2.05). The plan is to develop 14,127 ha belonging to 8,972 households. Each household would receive about 1.5 ha: not enough to live on, but perhaps useful in improving incomes under mixed cultivation. The representatives of AMA Kalbar, however, remain resolutely opposed, arguing that KSK is a ploy by the company to obtain more land for oil palm without additional costs, all of which are to be borne by smallholder participants (AMA Kalbar 2005, quoted in DTE 66, 2005). They believe that oil palm destroys Dayak culture:

> Dayaks in West Kalimantan follow a swidden tradition which is rich in ritual and extraordinarily spiritual [….] The oil palm takes away the rubber trees, fruit, tembawang and forest which belong to the people [….] Whatever arrangements are adopted […] they are all the same, they benefit the company and bankrupt the farmer (*Pontianak Post* 21.2.05)

A central government announcement that oil palm will be planted along the Kalimantan-Malaysia border from 2006 was endorsed by the head of the provincial oil palm planters' association. He asserted that West Kalimantan had been slow in expanding the crop and investors had shown little interest, partly because securing land was perceived as 'complicated' – the result of lobbying by NGOs, academics and students (*Pontianak Post* 10.5.05). A further government statement emphasized that smallholders would be targeted in the new border program 'for and by the people'. The provincial government would coordinate activities in which all could participate once suitable investors were found (*Pontianak Post* 8.6.05). The central government has been concerned for some time to control the Malaysia-Kalimantan border, partly to reduce the rampant illegal logging of this 'no man's land' (*tak bertuan*) and to persuade the population to look to Indonesia rather than Malaysia for employment (*Jakarta Post* 4.5.05).

This push for border region oil palm will put pressure on lowland border forests included in the 'Heart of Borneo' initiative. The Worldwide Fund for Nature (WWF) and the Center for International Forestry Research (CIFOR) are both opposed to the scheme, which could potentially remove forest from 1.8 m ha, 1 m in West Kalimantan and the balance in East Kalimantan. Some argue it would be better to revitalize existing oil palm areas: 1.5 out of West Kalimantan's 2.3 m ha have been abandoned (*Pontianak Post* 16.9.05; *Jakarta Post* 15.10.05). Others suggest smallholders would be better off growing cocoa or rubber in the border region and

that removing the forest would be disastrous (*Pontianak Post* 16.9.05). One plan by state-owned plantations was rejected as it envisaged oil palm occupying national parks such as Betung Kerihun and Danau Sentarum. Even though it may take time before much happens, the lack of detailed planning has environmentalists worried (*Wall Street Journal* 4.11.05).

Central Kalimantan: Borneo's 'wild south'?

Previously there were five districts in the province plus the city of Palangkaraya; the five have now become thirteen. The new districts in particular have urgently been seeking investors, with the result that Central Kalimantan, the site of Suharto's failed million-hectare rice scheme,[13] announced in May 2004 that it would establish a million hectares of oil palm. The idea was to place 300,000 ha in the three districts which now make up Kotawaringin Barat; 400,000 ha in Kotawaringin Timur, Seruyan and Katingan; and 300,000 ha in Barito and Kapuas districts further east (map 4.2). The initial impetus came from the Megawati government, facilitated by the Minister to Accelerate Development in Eastern Indonesia.[14] He advocated a tripartite arrangement between the government, the banks and business interests, plus possible investors from China and Malaysia, with international environmental organisations co-opted to provide legitimacy (*Kalteng Pos* 1.5.04).

Wahli Kalteng, representing a number of local NGOs, foresaw further threats to forest sustainability. It was expected that the companies would ignore the 4 m ha of available degraded land and seek forested land instead. They would use IPK permits to clear the timber and fire to establish their plantations. Social problems would be inevitable, as people would be offered inadequate compensation (*Kalteng Pos* 8.5.04). The Green Forum was also critical, describing the supposed benefits from the estates as myth – locals would find work only as day labourers at meagre wages (*Kalteng Pos* 14.5.04). In a further report, WAHLI's director predicted that if each of the trees on a million hectares was given the recommended eight kg of fertilizer per year (at 140 trees per hectare), the result would be 1.12 billion kg of fertilizer, which would surely affect water quality in the rivers (WAHLI 2004).

The main reason for the negative reaction towards oil palm in Central Kalimantan was that the majority of estates were simply private enterprises (*Perkebunan Besar Swasta*, PBS), with no *plasma* or other arrangements to include local people. In a detailed list of 56 estates drawn up in 2002, 44 were private enterprises

13 The million hectare rice scheme, in which peat swamp was to be converted to wet rice production using transmigrant settlers, was not only a complete failure, but contributed enormously to greenhouse gas emissions during the fires of 1997, when the underlying peat burned, producing huge amounts of smoke.

14 Kalimantan is regarded as part of 'eastern Indonesia', although this is geographically incorrect.

(Dinas Perkebunan Kalteng 2002). On one estate visited by the author in Kotawaringin Barat, almost the entire workforce consisted of Javanese contract labourers (fieldwork, 1999). PT Agro Indomas, established in Kotawaringin Timor (now Kabupaten Seruyan) in 1997, was engaged in an acrimonious conflict over compensation for 10,000 ha of land from two villages. The people claimed that much of the land was heavily timbered, providing ironwood for their boat-building industry on the shores of Lake Sembuluh. The estate authorities maintained that the vegetation was valueless scrub and grassland. The villagers complained that the company had cleared their rattan gardens, and rubber and fruit trees, had given them minimal payment, and had occupied the swampland they used for growing rice. In 1999 the villagers destroyed a bridge between the estate and the road. After the district authorities intervened, the company provided compensation, but then extended its land claim. An investigation was undertaken by WAHLI Kalteng and the British organisation 'Down to Earth'. Photographs clearly showed both shipbuilding activity and the remains of forests. The Commonwealth Development Corporation (CDC), which had partly funded the company, encouraged it to avoid 'insensitive and confrontational' comments and to remain focused on social and environmental issues.[15]

The new district of Seruyan, especially the area around Lake Sembuluh now ringed with plantations, has been at the heart of the ferment over oil palm that gripped Central Kalimantan during 2003 and 2004. The official statistics credited Seruyan with 60,300 ha in 2003, but the Bupati insisted in February 2004 that at least 250,000 ha were ready to be harvested, while eleven factories had been established and another six were planned (*Kalimantan Tengah Dalam Angka*, 2003; *Kalteng Pos* 4.2.04).[16] A new port was to be constructed for shipping crude palm oil – which, he claimed, would be the largest in ASEAN or perhaps the world – to handle 1.2 million tons per year (*Kalteng Pos* 4.2.04; *Kompas* 18.3.04). The Bupati's claims were deflated by port construction company PT Pelindo III, whose director stated that the company had other priorities for Central Kalimantan (*Radar Banjar* 9.12.04).

Another case of the Bupati's misplaced enthusiasm concerned Tanjung Puting National Park, a famous orangutan rehabilitation centre. The park had been invaded by illegal loggers for years and much of its forest was degraded (EIA-Telapak, 2003). The Bupati planned to change the status of 60,000 ha and invite investors to grow oil palm. He was already at odds with the Forestry Department in Jakarta over the boundaries of three plantations which had strayed into the park, and was

15 See WAHLI Kalimantan Tengah & Down to Earth 2000; Casson 2001a; Acciaoli 2005 for more detail about this dispute.

16 Acciaioli (2005) presents official Seruyan District figures of 78,169 ha under oil palm in July 2004.

firmly told to cancel any new permits to investors as the Forestry Department wanted to rehabilitate the area. The Director General of Forest Protection and Nature Conservation took the opportunity to reiterate that the Forestry Department was forbidding any further conversions from forest to estate crops, as degraded forests were to be rehabilitated (*Media Indonesia* 22.2.05; *Kalteng Pos* 25.2.05).

A new dispute between an oil palm company and villagers erupted in May 2005 in Barito Utara district. The company had cleared rubber, fruit trees and forest from village land and was negotiating with the local government to occupy the land for 60 years.[17] Local government officials stated that they were 'socialising' the land arrangements of seven villages, which they argued belonged to the state; the people would benefit from growing oil palm and receive legal ownership certificates. The villagers responded that the company's contractor had cleared and burned their entire 30,000 ha of forest and farmland. On May 16 they issued an ultimatum in a letter with 547 signatures addressed to the President and important functionaries at the central, provincial and district levels, as well as various NGOs. The letter demanded that two of the Bupati's resolutions be rescinded: the granting of a location permit to the company (September 2003) and a partnership agreement between the company and the villagers (July 2004). If action was not taken, the villagers vowed to re-occupy the land (*Palangkaraya Post* 11.5.05; *Kalteng Pos* 11.5.05; *Banjarmasin Post* 18.5.05).

A further confrontation over estate encroachment on village land occurred in Kotawaringin Barat, on an estate belonging to a notorious 'illegal logging baron'.[18] It involved the police, the army, the estate's own security guards and truckloads of villagers bearing sticks and containers of rubber coagulating acid. The result was one death and several serious injuries. The incident illustrates the violence that continues to mar social relations surrounding oil palm in Central Kalimantan; the involvement of the police and the army is a worrying 'throwback' to the Suharto era (*Banjarmasin Post*, 27.5.05; 12.6.05).

East Kalimantan

The huge province of East Kalimantan, famous for its oil, gas, forest industries and coal, has yet to significantly contribute to oil palm area or production – though not for want of trying. Although East Kalimantan has more forest concessions (HPH) than any other Kalimantan province, legal forest production is declining. The exception is production from small-scale permits, which district authorities issued to local co-operatives from 1999 to 2002, which has resulted in increased clear felling. Illegal

17 A normal HGU lease runs for 35 years, with possible extensions.

18 Abdul Rashid and his nephews, with their company Tanjung Lingga, were described by EIA-Telapak (2003: 4) as being 'above the law'.

logging also prevails, satisfying continuing demand from local and Javanese industries, and from Sabah for smuggled logs. Since the 1980s, East Kalimantan hosts large areas of logged over, regenerating and degraded forest, augmented by widespread fires in 1998. Attempts at village-based reforestation using fast-growing 'super teak' (*jati super*) or *sengon* (*Paraserianthes falcataria*) have not brought farmers high returns (CIFOR 2002; Timpakul 2004). Potential oil palm companies have followed the trend and sought forest and transportation access; high prices for oil palm over the past two years have produced a boom mentality similar to that in Central Kalimantan, with the usual group of 'fly by night' operators.

East Kalimantan's original million-hectare program, conceived in 1998 by Governor Suwarna, sought to construct an 'oil palm safety belt' in the border area with Sabah (now Nunukan district). In 2005, the Yudhoyono government is using similar language for its 'border protection through oil palm' plan. The earlier scheme was to be developed, in part, on the extensive Yamaker forest concession, once run by the army, then devolved to the government company Perhutani, but now virtually abandoned. Thousands of young men were engaged in illegal logging in this remote area, most of them deported from Sabah where they already had experience with oil palm (*Suara Pembaruan* 18.4.00). The area, to the north of the proposed Sebuku Sembakung National Park, is now included in the 'Heart of Borneo' initiative, while the decision to declare the Sebuku-Sembakung Reserve required the cancellation of several oil palm projects (Wakker 1999) This[19] led the governor to reconsider his original plan; its sequel is to spread the 'million hectares' more widely across the province while continuing to assist returned migrants. In 2002 there was a general call for returned migrants to be given three hectares of oil palm per family – there are an estimated 300,000 ex-illegal immigrants in the province (*Media Indonesia* 9.10.02) – while the government would assist with advice and banks would provide credit.

The provincial government, however, had already cancelled the location permits of 146 companies, a total of 2.5 m ha. The story was the common one of companies clearing the forest and taking the timber but not planting. The head of the provincial estate crops office suggested that only eight per cent of the millions of hectares covered by location permits were serious; at the present rate of development, he estimated East Kalimantan's million hectares of oil palm would take 15 years to materialise (*Kompas*, 22.10.03). A year later it was reported that Malaysian investors wanted to plant 1.5 million ha in the border districts: a Memorandum of Understanding had been signed with Malinau district for 100,000 ha, with Bulungan for a further 100,000 ha, and with Nunukan, for 40,000 ha. A new ruling from the

19 Most recent information suggests that this park is unlikely to be declared, as the Bupati of Nunukan is opposed to it (E. Meijaard, pers comm.).

National Land Authority, however, limited the holdings of foreign private companies to a maximum of 20,000 ha per province (*Kaltim Post* 7.10.04).

Another problem hindering the rapid spread of oil palm is the lack of reliable seed. Good planting material is expensive: Rp 13,000-15,000 per seedling, while poor seedlings cost Rp 3,000-5,000 (*Kompas* 22.2.05). Small farmers generally use cheap seed, which may reduce production levels by 50 per cent and cut tree life expectancy. The North Sumatran company Socfindo, suggesting East Kalimantan should become Eastern Indonesia's prime location for oil palm seedling production, has thus been seeking 20,000 ha to develop a seed centre. Certified seed now has to come from North Sumatra, which adds to its cost (*Kaltim Post* 26.2.05). Such seed problems have been symptomatic of a general shortage: Indonesia must import 20 to 30 million seeds annually, some from as far away as Costa Rica, until local production is able to meet demand (*Bisnis* 24.11.04. *Jakarta Post* 13.10.05). Seeds for Kalimantan are also smuggled across the border from Malaysia, which regards seed technology as confidential and does not legally certify seeds for Indonesian companies (*Jakarta Post* 5.9.05).

Members of the local parliament (DPRD) began to understand the difficulties of estate crops after visiting Nunukan and Pasir. Nunukan district farmers had begun planting, but with neither factories nor investors, transmigrants and independent growers were forced to burn their worthless product (*Kaltim Post* 29.11.04). In Pasir the problems centred on land disputes. In February 2005, it was admitted that the million-hectare project had failed, that it had been used only as a way to 'spy out' timber. The estate crops office had given location permits to hundreds of large private companies, covering an area of 3,145,000 ha; only 338,205 ha were sown, resulting in 160,000 ha of oil palm (*Kompas* 22.2.05). East Kalimantan continues to be targeted by oil palm companies, though often for the wrong reasons. With only about 160,000 ha to show for the efforts, it will be some years before the million-hectare target is reached. We now briefly examine local conditions in selected districts.

The southerly district of Pasir was the first to establish oil palm, and it still leads the province in planted area. As in West Kalimantan, the crop arrived with a government plantation in the 1980s, the workforce consisting primarily of Javanese transmigrants. Pasir subsequently became infamous for a dispute between the company (PTPN XIII) and the indigenous Paser people, which dragged on for two years. The area in contention was 8,000 ha of core or *inti* land, claimed by 3,000 families from eight villages who insisted they acquire the land as plasma. The people complained of being marginalized: the estate had not improved their lives as promised, and had felled their rattan gardens and fruit trees without compensation (*Suara Kaltim* 30.12.99). In December 1999, villagers invaded the disputed fields and built barricades blocking the access roads. The estate closed its nearby

factory, making it impossible for its 1,500 transmigrant smallholders to process their fruit. Jakarta authorities instructed the company to give locals a 'partnership' (KKPA) scheme and seeds to plant the land; after further months of wrangling, the estate partially complied. The people claimed the land was theirs under traditional law, but the estate's lawyer saw them as mere shifting cultivators, who envied the transmigrant farmers and wanted the land (*Media Indonesia* 22.8.01). This dispute was most serious in the damage it caused to social relations, with transmigrants pitted against local villagers.

In Kutai Barat a company involved in an earlier dispute left the district for some years, only to return in 2004 and dispense Christmas drinks and cakes in a show of goodwill (*Kaltim Post* 14.12.04). The experience of the Benuaq Dayak with PT Lonsum and its three estates began after their arrival in the Jempang area in 1996, when they attempted to take over peoples' land and gardens without compensation. The villagers fought back and at one stage occupied the company's base camp, but were subjected to intimidation and arrests by the security forces (DTE 4.6.99). Eventually land was established for *plasma*, but PT Lonsum departed before building a factory, rendering the plantings worthless with no other factories available (Casson,2001b). Since returning, the company has been compensating villagers for the lands previously resumed. Village leaders have pronounced themselves happy, although NGOs are wary.

Kutai Timur district, the second largest oil palm producer, was caught up in the excitement surrounding the million hectare scheme, announcing plans to overtake Pasir and become Eastern Indonesia's leading 'agropolitan' centre by 2010 (*Kaltim Post* 28.6.04). However, a more sober assessment indicated that only ten of 52 companies granted location permits wanted to continue [their operations] (*Kaltim Post* 23.2.05). With 5,000 unemployed in the district, the Bupati insisted each plantation hire local workers (*Kaltim Post* 22.4.04). There has also been an effort to develop new kinds of partnerships between co-operatives and investors, for example by using the 'build-operate-transfer' model (*Bisnis* 6.4.01).[20] Mutual arrangements involving shares were advocated in 2004: 'the people own the capital of the land, the investors have the capital to develop estate crops'. The government wanted the people to be participants, not just observers (*Kaltim Post* 22.3.05).

One experiment in Nunukan district involved local people in oil palm on a more limited scale, in a project that also involved cattle and food crops such as corn and cassava. An original holding of 2,000 ha, divided into two hectare lots, was managed by a co-operative in which people held shares, together with a mini-factory.

20 Under this model, the company operates the plantation belonging to the co-operative for 15 years, then transfers it back to the owners. As such schemes are still in their early stages, it is not possible to predict their chances of success.

Such a model had already been tried in Kutai Barat (*Radar Tarakan* 20.12.02). Some novel ways of collaborative ownership were also attempted, with normal *plasma* but shares available in the *inti* holding – 30% for the farmers and 70% for the company – controlled through a co-operative (*Kaltim Post* 5.8.04). The lack of factories has been the big drawback in Nunukan. More than 20,000 tons of fruit from smallholder plantings rotted by the roadside for lack of a factory, which the offending company was three years late in building (*Kompas* 27.11.04). It has also been suggested that those companies established near the border with Sabah were engaged in illegal logging and not serious about cultivation (*Radar Tarakan* 15.4.04; *Kompas*, 3.8.04).

Oil palm and the 'Heart of Borneo'

The inclusion of Kayan Mentarang National Park, largely located in Malinau district, is essential to the 'Heart of Borneo' initiative. While the park's altitude and inaccessibility probably protect it from oil palm, Malinau town lies in a valley and there have been attempts to establish oil palm on the slopes of some Sesayap River tributaries, including the Malinau River itself (e.g. *Radar Tarakan* 22.12.02). While the Trans-Kalimantan Highway has improved communications with the coast, 80 per cent of settlements are still reachable only by river, or in parts of Kayan Mentarang, by air (*Kompas*, 17.6.03). Recently, the district sought an agreement with Sabah Forest Industries to open land for oil palm (*Kaltim Post* 20.11.04). CIFOR scientists, who had been warning the people and district government of Malinau about the realities and social problems of oil palm (CIFOR, 2000), assessed a typical forest area likely to be targeted – one with steep slopes and thin, easily eroded soil lacking in nutrients (Imam Basuki and Sheil 2005). They advised the Malinau government that oil palm plantations were not sustainable under such conditions, and to their gratification the project was shelved (*Jakarta Post* 30.3.05).

The northern section of Kapuas Hulu (West Kalimantan) also falls within the 'Heart of Borneo' boundaries. Although seven oil palm holdings around Danau Sentarum National Park had their permits cancelled under suspicion of collecting timber, virtually all forested land of low to medium elevation will eventually be considered by oil palm companies. Illegal loggers have also used plantation access roads to penetrate forested areas (Asril Darussamin *et al.* 2004). The central government plan for oil palm in the border zone may partly overcome Kapaus Hulu's perceived disadvantages (distance from the coast and transportation difficulties) in attracting investment (*Pontianak Post* 29.4.05).

Parts of three districts in the far north of Central Kalimantan – Gunung Mas, Murung Raya and Katingan – also fall within the 'Heart of Borneo', including Bukit Baka/Raya National Park and a proposed new park in the Gunung Muller moun-

tains. Though these remote areas have yet to attract oil palm interests, the districts are financially vulnerable. Malinau, Kapuas Hulu, Gunung Mas and Murung Raya are already calling themselves 'conservation districts' as parks and protected areas occupy much of their land, and they nurse the headwaters of major streams. As they are not permitted to cut most of their forests, they are not in receipt of the Reforestation Fund (*Dana Reboisasi*, DR) that supplements the income of other forested districts (*Kompas* 15.12.04). Obviously they will need compensation if they are to resist the blandishments of oil palm companies and illegal loggers.

The threat posed by oil palm to most of the 'Heart of Borneo' project is not imminent, but the pace of development is increasing. As transport improves, many of the remaining areas of lowland forest, potentially richer and more diverse than the uplands, may seriously be at risk – Nunukan and Kapuas Hulu would appear most immediately vulnerable. Most cross-border traffic within 'Heart of Borneo' takes place in these districts, making them target areas for the central government's oil palm 'safety belt'.

'Sustainable palm oil'?

The Round Table on Sustainable Palm Oil (RSPO), a voluntary organization, was founded in 2003 with support from WWF and mainly European business interests. The Round Table is aimed at large companies, primarily in Malaysia and Indonesia, and traders, processors, distributors and financiers. European consumers prefer products certified as coming from sustainable sources, but the industry's environmental and social record has been criticized by NGOs. Two meetings, in Kuala Lumpur and Jakarta, enabled participants to draw up guidelines for the operation of large estates. After extensive public comment, their revised versions were presented at a third meeting in Singapore in November 2005 (RSPO 2005). The guidelines prohibit plantations from clearing forests, especially High Conservation Value forests – burning would not be permitted and estates would be expected to retain or restore biodiversity on and around their property.

Just how the last aim would be achieved is unclear, as oil palm estates are infamous for their 'monoculture' status. According to the guidelines mentioned abovethey must control pesticide use and factory effluents, minimize soil degradation, and maintain the quantity and quality of surface and ground water. Assessments of impacts on local communities and proper systems for dealing with grievances and compensation are needed, while employees must receive acceptable pay and conditions. Organizations such as 'Down to Earth' have dismissed sustainable palm oil as 'mission impossible', and the equating of sustainability with good management as 'greenwash' (DTE 2004: 1). However, if pressure can be put on companies to change their behaviour or risk losing markets, there may be positive outcomes.

Few Indonesian companies have joined so far, though signatories include PT Agro Indomas and PT Lonsum, neither of which practised good management in the past. In some areas, such as controlling land use and monitoring labour conditions, responsibility rests firmly with the government, not the plantation. Nor does it seem possible to fit smallholders into these guidelines (RSPO, 2005).

Making oil palm 'smallholder-friendly'

Although disputes continue to erupt between smallholders and plantation management, these have become less frequent except in Central Kalimantan, and efforts are being made to find appropriate ways of enabling smallholders to share in the industry. New shareholding arrangements and techniques allowing local people to continue their mixed cultivation, with oil palm just one element in a varied system (as in Nunukan) seem the most promising. The opposite situation occurs in Pasir, where the farmer has no alternative and must rely on oil palm: 'if he doesn't receive income from sawit he's encircled with creditors' (Timpakul 2.9.904). West Kalimantan's 'family oil palm' idea is partly being replicated in Kutai, where the Bupati provides credit of up to Rp 500 million for each subdistrict to develop a minimum of 20 hectares. There is no factory yet, though investors are reportedly ready to build one (*Kaltim Post* 10.8.04; 4.9.04). Secure tenure conditions are essential to ensure locals receive fair treatment from companies – this is undoubtedly the most important concern. Clear and flexible credit arrangements are also vital: in Riau, Sumatra, independent growers are able to negotiate better deals than plantation workers. As yet, there are few independent growers in Kalimantan, who would need access to certified seed and fertilizer at subsidized prices. Zen *et al.* (2005) hypothesize that differences in production between smallholders and plantations may be largely due to poorer planting materials and minimal fertilizer use by smallholders. Independent smallholders also need their own co-operative mini factories – perhaps similar to those recently built in Riau – to avoid reliance on the large companies.

Conclusion

All indications point to an inexorable increase in areas under oil palm in Kalimantan, as in the rest of Borneo. Although companies and their advocates have complained about the need to obtain permission from the Minister of Forestry before accessing forested land, this restriction has provided one of the few checks on their activities, including forest destruction by bogus companies. Provided that existing claims on the land can be satisfactorily resolved, there is plenty of degraded forest, scrub and grassland available in Kalimantan. While lack of investment – symptomatic of Indonesia's problems in attracting international investment – has

been a brake thus far, Malaysian firms are interested, as are Chinese companies – especially in the proposed border oil palm corridor (*Jakarta Post* 9.6.05; 24.10.05; *Wall Street Journal* 4.11.05). Indonesia has a great advantage with its low labour costs and land availability.

Much of the land included in the 'Heart of Borneo' initiative, however, is theoretically unsuited to oil palm, due to inaccessibility as much as elevation and poor soils. Sensible land use planning, which would include compensation to districts engaged in conservation, should help to keep it that way.

In the remainder of the island, oil palm is a useful product in the overall economic mix, but only if it is indeed produced sustainably, with due consideration to environmental and social factors. A larger role for smallholders in a mixed farming system, rather than the present concentration on plantation monocultures, would be a more suitable goal for future oil palm production in Borneo.

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Mobilizing against the 'cruel oil'

Dilemmas of organizing resistance against palm oil plantations in Central Kalimantan[21]

5

Greg Acciaioli

> Oil palm agriculture can annihilate not just wildlife, but also human communities. Oil palm causes social conflicts, destruction of indigenous cultural values, and loss of traditional tribal lands (…) Tribal peoples' customary land rights are often not recognized by the state or are inadequately addressed when tribal lands are 'allocated' by the government to oil palm plantation companies. In Borneo, many of the indigenous people displaced by oil palm plantations are forest-dwelling Dayak tribes that have lived on their ancestral forest land for many generations (Brown and Jacobson 2005: 21-22).

Introduction: situating 'cruel oil'

The detrimental effects of the spread of oil palm plantations on local peoples whose lands are expropriated for these concessions have in recent years been a focus of critiques by NGOs located both within Indonesia (e.g. WALHI, SawitWatch) and from outside the country (e.g. Down to Earth (DTE), World Wide Fund for Nature (WWF)). But the opening quote above does not stem from such a source; it is taken from a recently published report entitled *Cruel Oil: How Palm Oil Harms Health, Rainforest and Wildlife* (Brown and Jacobson [May] 2005) issued by the Center for Science in the Public Interest. This independent Washington DC think tank has been more well known for its 'objective' scientific evaluations of claims made by manufacturers relating to nutritional value, weight loss potential, addiction, and other aspects of foods, vitamin supplements, and other issues arising

21 The fieldwork, carried out in October and November of 2004, on which this paper is largely based was supported by a grant from the Asia Research Institute, National University of Singapore, which also provided the facilities for writing the first draft. An initial survey in Central Kalimantan, carried out in June 2003 in association with Ian Chalmers of Curtin University of Technology, was funded by the Research Unit for the Study of Societies in Change (RUSSIC), Curtin University of Technology in Perth. Sponsorship was provided by the Indonesian Institute of Sciences (LIPI). Much assistance was provided by Dr Kumpiady Widen of the University of Palangka Raya, who has acted as my counterpart in Central Kalimantan; Drs. Jansen Mawar facilitated many local arrangements in Palangka Raya as well. I am grateful to all these persons and institutions for their support, financial, intellectual and moral. Many thanks as well to Gerard Persoon, Jamie Davidson, Manon Osseweijer, and Ian Chalmers, who provided valuable commentary on drafts of this paper. Of course, none of these institutions or individuals is responsible for any of the opinions or errors of fact or shortcomings of interpretation that remain in this paper.

in advertising of the food and pharmaceuticals sectors. Indeed, this report's first focus remains the effects of palm oil on human health. It presents compelling evidence to counter the claims of scientists and advocates from the palm oil industry that palm oil is healthful, compared to hydrogenated vegetable oils containing trans-fatty acids, or at least neutral in regard to promoting heart disease.[22] While that focus may be familiar territory for this health-advocacy organization, what is ground-breaking is that well over half the report bases its critique on the ecological and social impacts of oil palm agriculture. In this regard the report concentrates on the devastation of wildlife and their forest habitat and the destruction of the livelihoods and ways of life (i.e. cultures) of subsistence farmers whose lands are expropriated for oil palm concessions (Brown and Jacobson 2005: 11-26). My focus in this paper is a case study of just such an impact. But my concern is not just with the ecological impacts of oil palm plantation expansion in the lands surrounding Lake Sembuluh in Central Kalimantan, but more precisely with the local society's response to it, specifically their efforts at resistance and why these have so far proved to be largely futile.

Along with six other villages located along the middle reaches of the Seruyan River[23] to the west and northwest, the four villages spread along the northern and northeastern shores of the lake – Terawan, Bangkal, Sembuluh I and Sembuluh II – currently comprise the subdistrict (*kecamatan*), named Danau Sembuluh, whose capital is Telaga Pulang at the southern tip of the lake, where it flows into this river. The Seruyan River forms the spine[24] of a newly declared regency (*kabupaten*), which was only recognized in a government inauguration ceremony as beginning its independent existence in August 2004.[25] In previously years it had maintained the status of 'assistant region' within the long established regency of Kotawaringin Timur (Kotim), whose capital remains the port city Sampit. It is one of eight new regencies established in the province of Central Kalimantan within the two years following the implementation of national laws no. 22 and 25 of 1999

22 Within two weeks of this report's publication at the end of May 2005, the Malaysian Palm Oil Board hit back in customarily trenchant fashion, arguing that the Center for Science in the Public Interest report is but another example of self-serving and misleading propaganda by a US agency intent on promoting homegrown soy bean products rather than the more competitively priced and health-neutral palm oil produced primarily by Malaysia and Indonesia (Amoorthy 2005).

23 On some maps the Seruyan River is labeled the Pembuang River, hence the name of the Seruyan Regency capital, Kuala Pembuang, near its mouth.

24 Rivers have long functioned as the life lines in Kalimantan, integrating villages and towns on their length into a unit long known as a `river course region' (*daerah aliran sungei* or DAS). Given this continuing significance, many of the new regencies in Central Kalimantan are ribbon-like in shape, following the course of one river from the northern border of the province to the southern outlet into the Java Sea, and taking the name of the central river serving as its spine for the regency as a whole (e.g. Katingan, Seruyan, etc.).

25 This new regency had first been planned in 1999 (Casson 2001: 9), the year of the regional autonomy legislation. It was officially declared a regency in 2002, and had its first *bupati* elected by the regency-level parliament in June 2003.

setting forth the parameters of regional autonomy. Like all such new administrative units established under the auspices of this legislation, the government of Seruyan regency has two years in which to prove that it can stand on its own (*mandiri*). Within that time period it must build, for example, offices to house the new regency-level government departments and its legislature. After two year its status is to be reviewed, with the judgment then taken at provincial level of whether it should remain a regency or be absorbed back into its parent regency, Kotawaringin Timur. This circumstance – the relative recency of its status as a new government administrative unit and its consequent struggle to find sources of regional income (*pendapatan asli daerah* or PAD) (Barr and Resosudarmo 2001: vi) to fund its new infrastructure – is crucial to understanding the rapid expansion of oil palm plantations in the local political economy. For it is the desperate search for regional income in the wake of the loss of central government funding for basic governmental salaries and services that has provided a major incentive for the promotion of oil palm plantations as an income source in the wake of the loss of the province's forests due to liberally dispensed timber concessions during the New Order and illegal logging continuing into the Reform Era (*Suara Pembaruan* 'Empat Juta Hektare [sic] Hutan di Kalteng Rusak Parah').

Setting out the field: economic and social transitions in Central Kalimantan

Even up to the end of the eighties economists still regarded timber as the mainstay of the Central Kalimantan economy (Mubyarto and Baswir 1989). The timber boom of the 1960s had been the impetus to the development of the province, which had only separated from South Kalimantan in 1957 as a governmental unit intended as a 'Dayak homeland' freed from the dominance of the Banjarese of the south (Miles 1976). By the mid-eighties 80% of the province's 154,000 square kilometers of area was still covered by forest, attracting considerable immigration and earning it the title of one of the wealthiest and fastest-growing provincial economies in Indonesia (Mubyarto and Baswir 1989: 504).[26] Manufacturing in the province was almost exclusively timber-based; in 1983 the two largest industries, sawmills and plywood, accounted together for 96% of the manufacturing value added among firms employing twenty or more workers. Even then, however, a note of caution regarding 'declining forest output' was sounded (Mubyarto and Baswir 1989: 507). In particular, the Seruyan region, then part of Kotawaringin Timur regency, still accounted for thirty percent of Central Kalimantan's total

26 Indeed, in the period 1976-1982 its rate of GDP growth was second only to Aceh among Indonesian provinces, though Mubyarto and Baswir (1989) do note that this phenomenal growth rate was due in part to its very low baseline.

log production as late as 1998/1999, but was already manifesting signs of timber depletion.[27]

The nineties witnessed the more intensive shift away from almost exclusive orientation to the timber sector to an increasing (projected) reliance for generating income on the plantation sector, particularly the oil palm subsector (Casson 2001: xiii).[28] Oil palm plantation development actually began in the province in 1992, with the first plantation companies seeking permission to open land in Kotawaringin Barat and Kotawaringin Timur regencies[29] ('Kinerja Perkebunan Kelapa Sawit'). In 2004 the largest concentration of plantations already in production, most of them devoted to oil palms, was still located in the western half of the province (map 5.1). In contrast, most of those in the eastern half of the region, particularly in the regencies along the Barito River, were still either in the candidate or land-clearing stages. In the province generally there was a rapid expansion of the palm oil subsector in the four years preceding the onset of the region's economic crisis,[30] with the area devoted to palm oil estates multiplying almost fivefold – 10,987 ha. in 1994 compared to 52,595 ha. in 1997.

The late onset of palm oil plantations in the province has had crucial consequences for the economic form of the enterprises promoting it. The earlier introduction of oil palms in Sumatra and even West Kalimantan had largely been carried out under the auspices of the NES/PIR (Nucleus Estate and Smallholder or *Perkebunan Inti Rakyat*) program.[31] This program depended upon local farmers (or sometimes transmigrants) functioning as both plantation workers on large estates or central processing facilities, in the early stages usually government-owned, and as smallholders tending their cash crop gardens of rubber, oil palms, and other crops, located around the nucleus estate (Brookfield *et al.* 1995: 89ff.). These farmers were usually given up to 2 ha. of tree-crop land and .5 to 1 ha. of land for subsistence, holdings which they could work part-time, while also serving as labourers in the

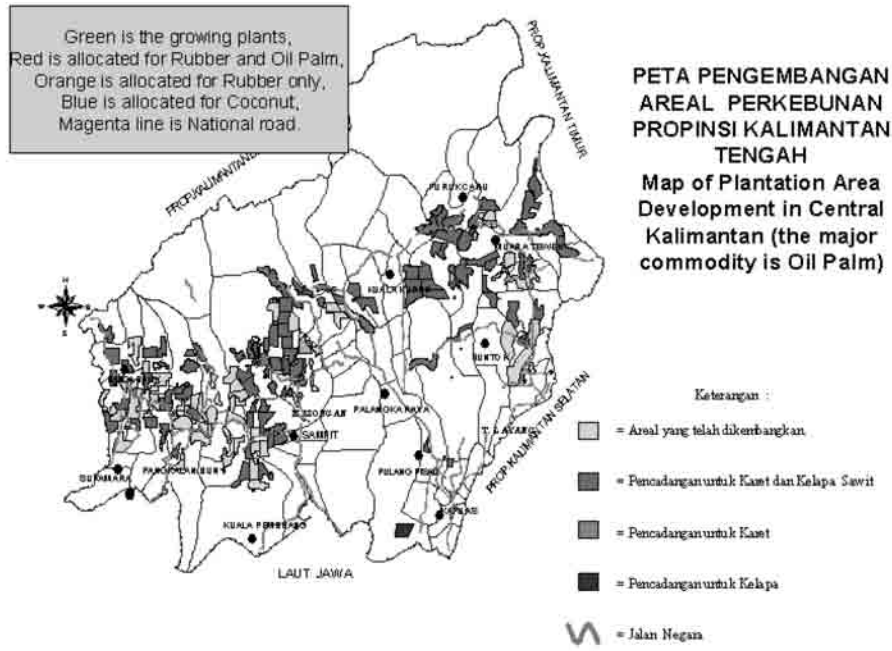
27 A World Bank report (Holmes 2000) cited by Casson (2001: 5) predicted that the timber supply in Kotawaringin Timur regency would be totally depleted by 2010. Some publications (e.g. Lynch and Harwell 2002: xxvii, quoting Holmes 2000) use this date for the projected depletion of timber supply in Kalimantan as a whole.

28 Casson (2002) gives a comprehensive account of the rapid expansion of the oil palm subsector for Indonesia as a whole since 1967, whereas my focus here is specifically on Central Kalimantan.

29 At that time Kotawaringin Timur regency still subsumed what later became Katingan and Seruyan regencies.

30 Following in the wake of the devaluation of the Thai baht in 1997, the Indonesian financial crisis known as Krismon, the acronym for *Krisis Moneter*, began in 1998. Some would say it has yet to end for Indonesia.

31 This Indonesian program was designed along the lines of successful schemes in Malaysia drawn up by the Federal Land Development Authority (FELDA) both to extensify cash crop cultivation and to relieve poverty (Waluyo 1999). Many of these programs were carried out in East Malaysia by the Sabah Land Development Board, with oil palm beginning to replace rubber as the leading cash crop by the 1980s in that Malaysian state (Brookfield *et al.* 1995:60).



Map 5.1 ▪ Plantation Area Development in Central Kalimantan

central estate. Consistent with the cell metaphor the small holdings around the nucleus estate were referred to as *plasma*. The program was in part a response to changing World Bank lending priorities; as early as 1973 the World Bank began to extend credit to develop the public plantation subsector for such crops as tea, rubber and oil palm. The first such projects were initiated in Sumatra by 1976 (Iswaningsih 1999: 78) and in West Kalimantan in 1991.[32] However, by the mid-nineties the priorities of the World Bank and other international agencies had changed. Such agencies were pressuring governments of the South to open up their economies to foreign investors. In keeping with the trend toward privatization or *swastanisasi* (Iswaningsih 1999: 78)[33] promoted by the structural adjustment programs imposed by the IMF and World Bank by the mid-nineties, almost all the expansion of palm oil holdings in Central Kalimantan occurred in the private subsector of large corporate plantations. Most of these were controlled by large conglomerates with various individual companies opening separate plantations (e.g. Astra Argo Lestari Group, Sinar Mas Group, Asam Jawa Goup, Salim Group, Graha Group.); no government

32 The nucleus estate/plasma system still continues in some parts of Indonesia. In 2004 1.8 million ha. of oil palm land under cultivation (29.7%) were still owned by smallholders, as compared to 0.6 million ha. owned by state plantation companies (i.e. the nucleus estates).

33 This trend constituted a remarkable reversal of earlier investment patterns. Mubyato and Baswir (1989: 507) noted the paucity of foreign investment in resource activities in the province up to the 80s.

oil palm estates were established in the province in this period (Casson 2001: 6).[34] Local farmers have not been given any facilities or assistance to develop small holdings around these privately-owned plantations; the only role allotted to them has been as wage labourers, often working at very low piece rates (e.g. 80 Rp. per 10-litre polyvinyl bag filled with dirt for transplantation of each seedling in 2004) and only supplementing the plantation-resident labourers, many of them brought from Java. As a consequence, they have not seen these plantations as a development benefiting them, the long-settled residents of the locality.

Pemekaran and the spread of oil palm plantations in Seruyan regency

Perhaps the most fundamental unintended consequence of the regional autonomy laws has been the 'blossoming' (*pemekaran*) of new political units – from provinces (*propinsi*) through regencies (*kabupaten*) down to subdistricts (*kecamatan*) and even administrative villages (*desa*). The splitting off from Kotawaringan Timur of Katingan and Seruyan as separate regencies is one example. As noted in the introduction, the leaders (*bupati*) of these new units have been desperately seeking sources of regional income to establish themselves as self-supporting government units. While Katingan regency has been active in the promotion of mining,[35] oil palm plantations have been the primary option for the inaugural *bupati* of Seruyan, a contractor hailing originally from the Lake Sembuluh region.[36]

According to the study which established the parameters of land planning for the new Seruyan regency (*Ringkasan Bahan Ekspose Antara*), only 48,661.93 ha., slight-

34 Due to this late onset of palm oil plantation development in the period of *swastanisasi*, most all of the land devoted to palm oil production in Central Kalimantan belongs to those 2.8 million ha. (57.1% of the total) owned by private companies in the nation as a whole (Down To Earth No. 63, November 2004 'Sustainable palm oil: mission impossible?').

35 Oil palm plantations have been promoted in Katingan regency as well. The *Cruel Oil* report (Brown and Jacobson 2005: 17) documents the contribution of the 'wave of forest conversion to palm oil' to the precipitous decline of the Bornean orangutan (*Pongo pygmaeus*). Specifically, the report recounts how in Central Kalimantan during land-clearing activities for a new oil palm plantation in Katingan regency, an excavator hit and killed orangutans, while in another area in the same regency the PT Makin Group, a subsidiary company of Gudang Garam, one of Indonesia's largest clove cigarette manufacturers (Dewanto and Usman 2004: 119), has destroyed forest that could have supported 400 to 500 orangutans within its local concession of 154 square miles. See also Center for Science in the Public Interest, 'CSPI Says Orangutans Literally 'Dying for Cookies".

36 As noted in a Sawit Watch website report (Sawit Watch Online: Monitoring – Kasus, 'Tragedi Kebun Sawit di Tanah Sembuluh [The Tragedy of Oil Palm Plantations in the Sembuluh Land]' written before his election as Seruyan's first bupati by the regency legislature, this contractor, when still a PDI-P politician in Kotawaringan Timur , was trading in land owned by the Sembuluh people with oil palm companies. As the repayment for his services he received the timber use concession (*Izin Pemanfaatan Kayu* or IPK) for all the area to be cleared, according to this website report.

ly less than 3% of the land area of the new regency at its inception was devoted to plantations of all sorts. The oil palm plantation subsector has grown rapidly in the regency since that time.[37] By late 2004 twenty-nine enterprises had sought permission to open up oil palm plantations in the region now covered by the new regency. However, by late 2004 only 21% (88,695 ha.) of the area targeted by these enterprises had actually been cleared, while only 18.6% (78,169.41 ha.) of that 421,115 ha. total had already been planted with palms. Seven private enterprises accounted for the vast majority of early plantings in the late nineties, while only four private companies had continued with planting from 2001 on,[38] three of which are all operating around Lake Sembuluh. Seven firms had already opened up crude palm oil processing refineries in the regency, two of them within the Lake Sembuluh area.

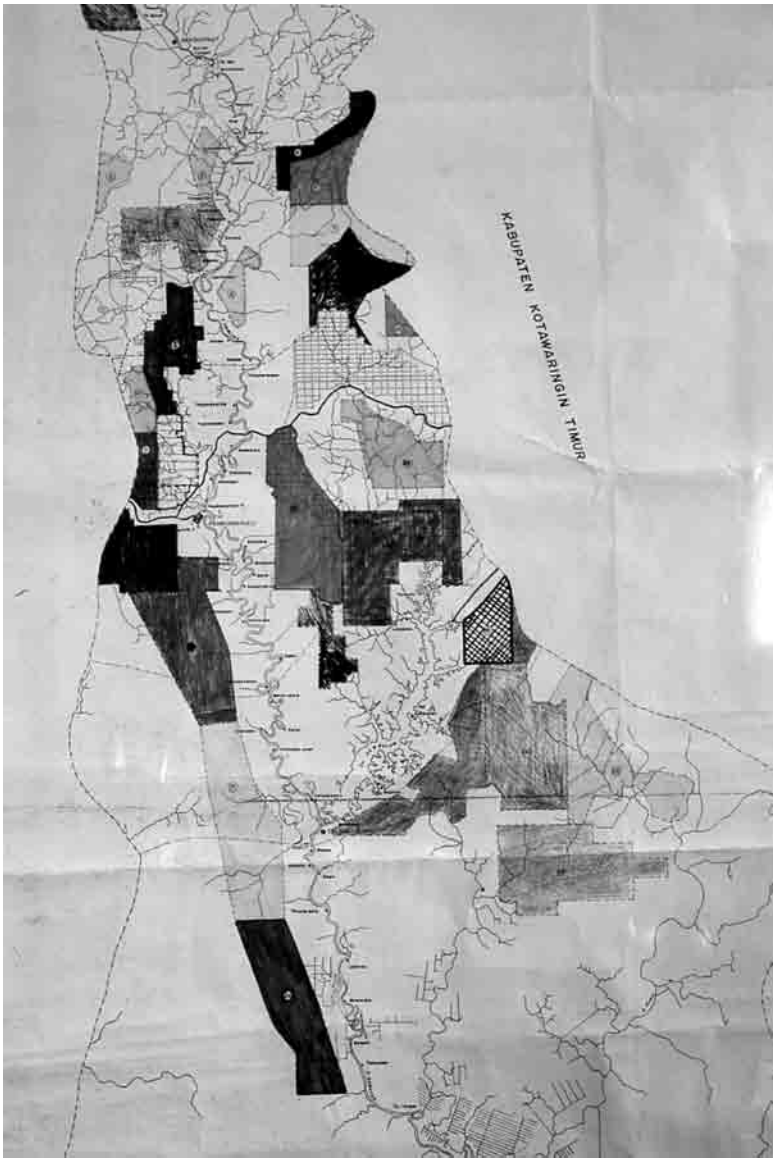
Indeed, Lake Sembuluh has been the crucial area for oil palm plantation extension in Seruyan regency since its separation from Kotawaringin Timur. Plantations almost completely surround the lake (map 5.2), except for a patch of land in the area to the southwest of the lake leading toward the Seruyan River; other plantations extend from Sembuluh into Hanau subdistrict, its neighbour to the immediate north. In fact, ten of the eleven enterprises seeking permission for oil palm plantations in Seruyan regency since May 2003 have their targeted areas wholly or partially within Lake Sembuluh subdistrict, covering a total of 174,500 ha.

Community responses: resistance to oil palm plantations at Sembuluh

Although the regency government may have authorized the granting of concessions to this land, the actual opening and operation of the plantations have certainly not met with the agreement of the local communities inhabiting the villages around Lake Sembuluh. As Casson (2001: 21) notes, and reports on many NGO websites (e.g. Down to Earth, Sawit Watch, WALHI) confirm, 'social conflict has been rife.' Many inhabitants I interviewed considered the *bupati*'s promotion of

37 The assertions and statistics cited in this paragraph derive from data I collected during October 2004 in Kuala Pembuang from the regency-level Department of Forestry and Plantations, whose generosity in sharing these data I would like to acknowledge. Due to space limitations, I cannot include here all the tables tabulated from the data collected from this office from which the assertions in this paragraph are drawn. However, the full set of tables is available from me if you wish to email me at acciaiol@cyllene.uwa.edu.au.

38 Villagers interviewed at Sembuluh I and Sembuluh II administrative villages (*desa*) noted that many companies went to the effort of gaining permissions to open plantations, but only in order to gain the entailed permission to clear the area of trees. Such clearing provided them with lucrative logging profits, the real aim of their efforts. The result was an intensified denudation of the forest and loss of resources to the villagers with no compensating outcomes. Villagers were well aware (and resentful) of the *bupati*'s role in claiming such land as his own and reaping the benefits of timber clearance (see previous note).



Map 5.2 ▪ Location of Large Oil palm plantations in Seruyan Regency

foreign investment in oil palm plantations as a 'foolhardy policy' (*kebijaksanaan gila-gilaan*) intent on destroying the local livelihoods of Sembuluh inhabitants rather than bringing them the 'prosperity'(*kesejahteraan*) touted by the *bupati* in justifying his authorizations. Their opposition to this policy has been evident in a series of demonstrations and acts of sabotage that constitute a practically realized narrative of everyday resistance (Scott 1985). For example, actions taken against

PT Agro Indomas[39], one of the first enterprises to open a plantation in the vicinity of Lake Sembuluh, began with demonstrations in Sampit in the early years when the concession was still within Kotawaringin Timur regency. After the erection of infrastructure for the plantation, villagers destroyed the 40-meter long bridge linking the company fields with its housing and office complex, arguing that this low bridge blocked transport on a crucial water course in the region. Villagers have also seized company equipment, including tractors and a backhoe (Sawit Watch Online, Monitoring – Kasus, 'Tragedi Kebun Sawit di Tanah Sembuluh').

The issues have been myriad. Company officials claim that they opened their plantation in 'an area logged over and covered mainly with lallang [i.e. *alang-alang* or elephant grass] and belukar [scrub]' (Carson Cumberbatch , 'A Trace of the Plantation Project'), while villagers maintain that much of the land opened up was still primary and secondary forest. In support of their version villagers claim to have photos of the tree stumps evident directly after the clearing to prove the continuing existence of forest when the company began its clearing operation. In addition, they query why such heavy equipment had to be used simply to clear grassland.[40] Villagers from Terawan on the northwestern shore of the lake, now largely hemmed in by the PT Agro Indomas plantation, complain of their lack of access to the former nearby forest for local products they used domestically, as well as to what had been the potentially cultivable land (*lahan*) for opening up and working dry rice fields. More recently, since the opening of the palm oil processing mill in April 2001, they have complained of itching after bathing in the lake and of a loss of fish, especially in the dry season when the lake waters recede and the currents lessen. The complaints of the Bangkal villagers over lack of compensation for land have even been publicly admitted by the plantation managers in the Carson Cum-

39 PT Agro Indomas is not the original name of the company. It was originally incorporated as the Indonesian company PT Bohindomas Permain in 1985 (according to Casson 2001: 22) or 1989 (according to the Carson Cumberbatch & Company website, 'A Trace of the Plantation Project'). Its name was changed to the present PT Agro Indomas when it became a foreign-owned company (Perusahaan Modal Asing or PMA) in 1995, whose new owners were three Malaysian companies: Agro Hope Sdn Bhd, Shalimar Developments Sdn Bhd, and Cosville Holdings Sdn Bhd. Ultimately, the Sri Lankan conglomerate Carson Cumberbatch & Company owns and controls the first two of these Malaysian companies. The capital for opening the estate came from loans from CDC (Commonwealth Development Corporation) Group plc and Rabobank (further information on the funding of oil palm plantations by Dutch banks may be found in Wakker [2000]). Its management staff is largely comprised of Sri Lankan and Malaysian professionals, although the long-term aim is 'transfer of skills to Indonesian managers who will form the backbone of the future management team' ('A Trace of the Plantation'; see also Casson 2001: 22). In many ways PT Agro Indomas exemplifies in its history and practice the trend of foreign capital-dominated swastanisasi noted by Iswaningsih (1999). This note's capsule history may thus be taken as representative of many of the other companies opening oil palm plantations in the region.

40 A 1998 environmental impact assessment (AMDAL) by the Jakarta-based consulting agency PT Shantika Mitra Wiguna noted that most of the area in the company's concession was secondary forest (Casson 2001: 23).

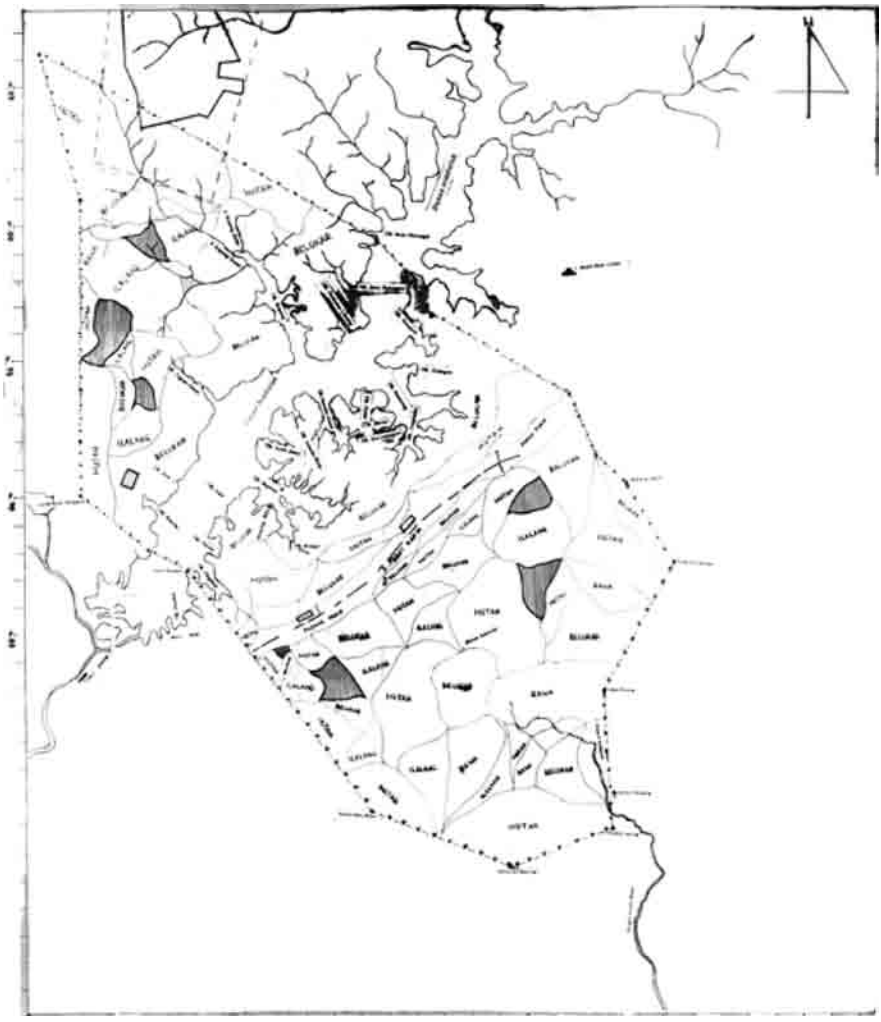
berbatch website 'A Trace of the Plantation Project' as a counterpoint to the otherwise glowing tone of this website regarding the company's ecologically friendly and economically beneficial practices. The villagers from Terawan, Sembuluh I and Sembuluh II whose lands fall within the boundaries of the concession have been no less vociferous in their claims. Yet, so far the villagers' claims, despite such actions, have remained largely unheeded. Part of the reason for their failure lies in some of the weaknesses of the forms of organization and their underlying rationales harnessed by the populace to combat this expansion.

Organizing the resistance effort: NGOs and people's organizations in the villages

Opposition to the oil palm plantations has not sprung from the local populace alone; they have been catalyzed into action by association with various NGOs located in the provincial capital, Palangkaraya. Among the first of these NGOs to monitor the situation was Yayasan Betang Borneo.[41] First organized in part to deal with the original million-hectare plan in the peat-soil region of the south, it has extended its activities to various causes, many of them related to deforestation in the province; among these causes has been the early spread of oil palm plantations around Lake Sembuluh. One of the other early efforts was the participatory mapping project carried out by villagers and NGO experts in GIS techniques allied to Yayasan Tahanjungan Tarung (YTT).[42] One of the key aims of this mapping was to confirm villagers' contestations of the claims by PT Agro Indomas and other companies that they were largely opening up grassland and scrub. As the participatory community maps created indicate – map 5.3 gives a detail from one such map – there is a diversity of land types encompassed by the areas now allocated as plantation concessions, including not only the scrub (*belukar*) land claimed by the enterprises, but also remaining patches of forest, swamp, and garden land of local inhabitants. This action was certainly important in bolstering claims for compensation and in some cases, where continuing garden use had been demonstrated, to heightening claims beyond the Rp. 425,000 Rp./ha. (approx. $46.73 USD/ha. at the current (16/8/06) exchange rate) that had been set (without consultation with villagers) as the standard compensation rate by the regency government. However, the mapping exercise also had the unfortunate effect of convincing some villagers that the result would be a continuing entitlement to the land that the mapping indicated they had worked, as if this exercise were equivalent to the surveying car-

41 This NGO's name alludes to the longhouse (*betang* in the Ngaju language, the lingua franca of much of the province before the spread of competence in Indonesian), regarded an icon of Central Kalimantan, although the various Dayak groups (e.g. Ngaju) inhabiting most of the southern reaches of Central Kalimantan rarely have longhouses.

42 This project thus exemplifies the 'countermapping' whose use Peluso (1995) has explored elsewhere in Kalimantan.



Map 5.3 ▪ The upstream area Seruyan river

ried out by the National Land Agency (Badan Pertanahan Negara or BPN) as part of its land registration procedures, despite the lack of any such claim by YTT itself. When this turned out not to be the case, there was a certain estrangement and a degree of withdrawal from the area by this NGO.[43]

43 Yayasan Tahanjungan Tarung is committed to continuing its community participatory mapping efforts, but has largely shifted its attention to the upper reaches of the Seruyan River, where oil palm plantation companies and other resources exploitation schemes are currently targeting areas for development (see Map 5.3). Most recently, it has signaled a commitment to recommence monitoring the situation at Lake Sembuluh.

As a result, much of the responsibility for monitoring and facilitating opposition to the oil palm plantation expansion has been handed over to WAHLI Kalteng. This NGO, with its extensive network of affiliated NGOs under the central (i.e. Jakarta) WAHLI umbrella,[44] has used various means to publicize the Sembuluh cause, including webpages, newsletter articles, posters, sponsorship of research and other means. It has worked extensively with the Indonesian NGO Sawit Watch, co-facilitating research by international NGO researchers and activists from such NGOs as the British-based Down to Earth (DTE)[45] and Dutch-based Novib Oxfam Netherlands and Milieudefensie.[46] One of its major activities working with the local populace has been the facilitation of the establishment of 'people's organizations' (*organisasi rakyat*) to mobilize the populace (or at least those sectors of the local populace opposed to the plantations) in defence of their local resources.

Assessing these local people's organizations requires not only considering the range of their activities, but also the underlying values in terms of which they have been formed. Such values are manifest, to take but one example, in the document setting forth the founding of one such organization facilitated by WAHLI, the youth organization Serikat Pemuda Peduli Daerah (SPPD) (see Appendix I: Official Record of the Formation of the People's Organization). SPPD has all the trappings of a modern, rationalized organization with its management structure, including limited cycles of office tenure, and its corporate idiom of vision and mission. The values upon which it proclaims itself based are those of a contemporary democratic society, committed to organizational transparency and oriented to conservationist values. It is certainly not an attempt to revive any sort of traditional customary institution asserted as once having guided a harmonious accommodation with the environment (see below).

44 WALHI, the acronym for Wahana Lingkungan Hidup Indonesia, usually translated as Indonesian Forum for the Environment, is the primary coordinating organization for a wide range of environmental and social NGOs across the country.

45 See various articles concerning the ecological impact of oil palm plantations on the DTE website dte.gn.apc.org.

46 See Bruin (2004) and the 2004 film 'Growing Palm Oil and the Social Impact'. Since at least early 2004, WALHI Kalteng's attention has been somewhat diverted from the expansion of oil palm plantations encircling Lake Sembuluh to the issue of monitoring the penetration of Tanjung Puting National Park, located immediately to the southwest of Lake Sembuluh in a position straddling Kotawaringin Barat and Seruyan regencies, by three oil palm enterprises different from those operating around Lake Sembuluh (WALHI. 'Taman Nasional Tanjung Puting Jadi Perkebunan Sawit'). WALHI Kalteng's monitoring and publicity efforts here have had some success, as the bupati has been called to account by the provincial legislature and required to justify how he could issue permissions warranting these incursions into national park land (ILRC (Illegal Logging Response Center) 'DPRD Kalteng akan Panggil Bupati Seruyan'). So far the *bupati* seems to have been successful in stalling the issue by pointing to the contradictions of various delimitations of park boundaries in the reports of different departments and agencies.

In contrast to other NGO-facilitated people's organizations founded at Sembuluh, such as the complementary elders' organization KOMPAK Sembuluh,[47] SPPD has emphasized much more confrontational undertakings, including the assembling of demonstrations at the entrances to company plantations. Its founder has also emphasized much more the need to educate the local populace about the long-term importance of the environment, including in his intended projects the compiling of a dictionary of locally useful plants, some of which might be converted into local intellectual property before foreign pharmaceutical companies could enter the area to appropriate these plants and then apply for their own patents. He has also been more strident in his opposition to the government apparatus, hoping through his organization to compile a catalogue of laws and local regulations. This compendium would then be 'socialized' to village community members so that they would no longer be the object of illegal government intimidation and would not have to pay bribes for services to which they were actually entitled.

Contradictions in resistance strategies: Are the Sembuluh people 'indigenous' (*masyarakat adat*)?

The underlying modernity of Sembuluh people's organizations like SPPD and KOMPAK Sembuluh belies the assertions of the report *Cruel Oil: How Palm Oil Harms Health* that it is simply the land rights and ways of life of 'tribal people', only the 'forest-dwelling Dayak tribes' of Kalimantan, that are being eroded by the spread of oil palm plantations (Brown and Jacobson 2005: 21-22). The Islamic people of Sembuluh I and Sembuluh II villages are blatantly modern in their orientation, rejecting in their responses to my interview queries an identity as Dayak and an identification with the pan-Dayak cause (Thung *et al.* 2004; Dove 2006: 195). Yet, they are caught in the bind that in order to gain the support of NGOs and the wider international community they must be increasingly assimilated to such status. Sawit Watch's web pages monitoring conflicts over oil palm plantations depict them as an 'indigenous people' (*masyarakat adat*) ('Tragedi Kebun Sawit di Tanah Sembuluh [The Tragedy of Oil Palm Plantations in the Sembuluh Land]' and as a Dayak 'subtribe' (*sub suku*) ('Sawit dan Sengsara Rakyat Dayak [Oil palms and the Suffering of the Dayak People]'). Indeed, even the very mechanisms of compensation offered by the oil palm enterprises under guidelines established by the new regency government force the Sembuluh people to adopt the customary land tenure norms of the Kohin and Temuan Dayak settled to the north of the lake. Their ambivalence in adopting such norms, indeed such an identity, constitutes

47 The acronym KOMPAK derives from Komunitas Masyarakat Pengelola Kawasan Sembuluh [The Community of the [Local] Society as [Environmental] Managers for the Sembuluh Region]. Space limitations preclude in-depth treatment of the full range of local people's organizations and their activities at Sembuluh, which I hope to analyze elsewhere.

one of the primary reasons for their failure to stem the expansion of the oil palm plantations and even simply to gain what they consider adequate compensation for lands and livelihoods already lost.

This dynamic is evident in their attempts to gain compensation from PT Kerry Sawit Indonesia (PT KSI), one of the more recent oil palm enterprises to begin clearing land in the area. The demands issued by the organization KOMPAK Sembuluh to this company (see Appendix II) present a clear contrast with the idioms used to establish such people's organizations as SPPD. In keeping with the orientations of some NGOs supporting their cause, the discourse of resistance to the oil palm plantations encoded in that organization's founding document and in other contexts has primarily been one of *class*. The very term *rakyat* ([the] people) in the term commonly used for such an organization (*organisasi rakyat*) clearly indicates this orientation. Yet, their demands addressed to PT Kerry Sawit attempt to ground the claims of the local society in another idiom – that of *indigeneity*, the focus of the Indonesian 'indigenous peoples' movement' (*gerakan masyarakat adat*), which has gained considerable government attention, especially during its two national congresses (1999 in Jakarta and 2003 in West Lombok) (Acciaioli 2002, n.d.). In the first paragraph of this statement the organization itself is deemed to have 'arisen with the aim of protecting (*mengayomi*) the rights of the customary society (*masyarakat adat*, i.e. local indigenous people),' thus claiming the warrant of indigeneity in order to argue for a special class of rights to be extended to local community members.

Yet, in most contexts this self-identification as a *masyarakat adat* is absent from the pronouncements of inhabitants of Sembuluh I and Sembuluh II villages. As the village headman of Sembuluh II declared in an interview, *adat* is 'ancient and old-fashioned' (*kuno dan kolot*); people in Sembuluh II aspire instead to be modern (*moderen*) and advanced (*maju*) in their attitudes and activities. For example, when discussing usages related to land, this headman, as well as numerous other informants, tended to use such terms as *tradisi* ('tradition') and *kebiasaan* ('usage'), as if explicitly avoiding the term *adat* ('custom[ary]'). In the document of demands against PT Kerry Sawit Indonesia, the subsequent use of the term 'people's forest' (*hutan rakyat*) rather than 'customary forest' (*hutan adat*), as is used in other areas where affiliation to the Indonesian *gerakan masyarakat adat* has been stronger, reveals the very tentativeness of the Sembuluh identification as *masyarakat adat* earlier in the document.

It is precisely this ambivalence, or perhaps even lack, that has rendered attempts at land compensation from the plantation enterprises so vexed. Following guidelines issued by the *bupati* in regard to plantation land rights, compensation can only be given for individually owned land; communal land, with temporary use rights (*hak ulayat*) being communally accorded to individuals depending on their need

each season, is not to be compensated. The basic compensation rate of 425,000 Rp./ha. can be supplemented if it can be proven that there are gardens (*kebun*) producing fruit trees – durian and jackfruit have long been grown in the area – or other perennials in that area owned by a specific individual. However, most of the cases regarding compensation have revolved around cultivable land (*lahan*) that had previously been opened up for dry rice fields (*huma* or *ladang*, as opposed to *kebun*, gardens). And it is in this context that the claim to status as *masyarakat adat* is most clearly weakened. For, unlike the surrounding Kohin Dayak who constitute the majority in many of the upriver villages along the Seruyan River, and the Temuan to the east, both of whom make up a considerable part of the population of Bangkal administrative village at the northern edge of the lake, the villagers of Sembuluh I and Sembuluh II have no clearly codified *adat* in regard to the possession of *ladang* land. The population of these two villages is multi-ethnic, with strong cultural influence from the Banjarese migrants who settled generations ago.[48] In the contemporary context, some villagers, prominent among them those who acknowledge their ancestors as Banjarese, identify the ethnicity of the settlement as predominantly Malay,[49] thus confirming the assessments of previous researchers in the area that Dayaks who convert to Islam 'become Malay' or 'enter Malay[ness]' (*masuk Melayu*) (e.g. Miles 1976)[50] and paralleling the characterization of inland Muslim villages in West Kalimantan (e.g. Hermansyah 2003 on the Embau).[51] Other villagers, however, including many who acknowledge descent from the indigenes speaking the now almost extinct Sembuluh language, assert that the ethnicity of the village is simply Sembuluh, a category that is neither Dayak nor Malay, but possessing an independent status of its own that is acknowl-

48 Of course, the predominance of Banjarese migrants in Sembuluh I and Sembuluh II also constitutes a *prima facie* case against the declaration of indigeneity as a warrant for special consideration in compensation for land. This circumstance has not escaped the attention of many of the officials of KOMPAK Sembuluh and of SPPD.

49 When he visited Sembuluh during World War I, the Norwegian anthropologist Lumholtz (1920: 104) simply labeled the inhabitants as predominantly Malay, noting that '[t]he Dayaks who originally lived here have disappeared or amalgamated with the Malay intruders'.

50 Douglas Miles conducted his research in both an upriver village, predominantly Ngaju Dayak, and a downriver market town, primarily Malay, along the Mentaya River in Kotawaringin Timur in the early sixties. Sampit is the major port city along this river, now about two hours east of Bangkal by the road that serves as the last major leg of the Trans-Kalimantan Highway (known as Jalan Cilik Riwut in this part of Central Kalimantan) that has been completed, running between Palangkaraya and Pangkalanbun via Sampit.

51 It is no longer the case that a Dayak who converts to Islam automatically 'becomes Malay' (*masuk Melayu*), at least not in Central Kalimantan (Klinken 2002: 9, n. 23; Chalmers n.d.: 16). Indeed, the Bakumpai Dayak, the ethnic group from which the current provincial governor hails, are almost entirely Muslim. The strength of the pan-Dayak movement (Thun et al. 2004) is probably one reason that Dayaks who convert to Islam do not relinquish their Dayak identity in many cases. However, as this essay argues, the Sembuluh case is different, in part because conversion took place long before any pan-Dayak movement.

edged as deeply 'nuanced by Islam' (*bernuansa Islam*).[52] Such informants, noting the continuing use of a unique Sembuluh language in the more isolated hamlets (*dukuh*) around the lake, such as Tabiku and Lanpasa, acknowledge that the original language of the area must have been similar to Kohin, but had been relexified through the generations with the influx of migrants from South Kalimantan and elsewhere.[53] And accompanying this reworking of the local language has been the thoroughgoing transformation of local culture that has abolished the observance of local Dayak custom (*adat*).

Given this tangled nexus of language, ethnicity, and culture, the Sembuluh I and Sembuluh II villagers consequently no longer recognize the authority of the *damang*, the functionary created by the nascent provincial government to 'act as a representative' (*mewakili*) of the *camat* to adjudicate customary matters at the subdistrict level (Pemerintah Daerah Propinsi Kalimantan Tengah, Sekretariat Daera Propinsi Kalimantan Tengah, Biro Pemerintahan Desa 1999; Usop and Suan 1997). As one village Islamic leader (*penghulu*) from Sembuluh II declared to the research team from the World Bank 'Justice for the Poor' program, 'Here the usage (*kebiasaannya*) is that it is the village headman who is the one to resolve disputes. He is the one who has the authority (*wewenang*)' (Justice for the Poor 'Kembali ke Masa Depan: Otonomi Daerah dan Kebangkitan Adat yang Tidak Pasti', p. 10).[54] Such rejection renders rather hollow the assertion of *masyarakat adat* status for the Sembuluh I and II villagers in the declaration to PT Kerry Sawit

52 The villagers' use of this term echoes the same phrase used to describe the culture of the Islamic downriver peoples, as well as the inhabitants of villages upriver most influenced by Banjarese migration, by Pedlik Asser, formerly a candidate for the vice-*bupati* position and now the head of the security division (Linmas) of the regency government offices, in his campaign booklets outlining his policies for development of the region (e.g. Asser 2003) While we may think of the term nuance as referring to a subtle, perhaps even superficial aspect of a cultural manifestation, the term *bernuansa* as used in the local area appeared to bespeak a much more thoroughgoing transformation of the foundational aspects of culture.

53 In contrast, some of the descendants of Banjarese migrants to the village referred to the 'authentic Sembuluh language' (*bahasa Sembuluh asli*) as a creation (*ciptaan*), one of these informants describing it as coming in a dream to the first Banjarese migrant generations ago, who then taught it to the other villagers in the settlement.

54 This declaration is substantiated later in the case-study section of the same report, where the resolution of a dispute among fishermen by the Sembuluh II village headman is detailed (Justice for the Poor 'Kembali ke Masa Depan: Otonomi Daerah dan Kebangkitan Adat yang Tidak Pasti', pp.14-15). The report notes that a major problem in the province is the non-acknowledgement of Dayak *adat* and its functionaries by members of other ethnic groups, including the many Madurese who have begun to return to the island since 2004 in the wake of the Sampit massacres (pp. 23-24). The report concludes that the 'revival of custom' (*kebangkitan adat*), often proclaimed by both the pan-Dayak movement and the indigenous peoples' movement as the solution to local-level conflict in Indonesia, provides no resolution for inter-ethnic disputes (p. 24).

Indonesia, working against any attempts to claim special recognition of their land claims under the terms elsewhere accorded to Indonesian 'indigenous peoples'.[55]

Ironically, however, what the government in collusion with the oil palm plantation enterprises has been forcing upon the Sembuluh villagers is a sort of nascent assimilation to standard Dayak land tenure usages.[56] According to local villagers, there has never been a right of first clearance observed among the inhabitants of Sembuluh I and Sembuluh II. The first person who has opened a dry-rice field (*huma* or *ladang*)[57] has no persisting rights once use of the field, at most after two years, has been abandoned. Once the area is again fertile, any person from the local region – they need not be from even the same village – may open a new field there without asking permission from the opener of the previous field in that location. Indeed, no permission need be sought from any central *adat* council or similar group of *adat* functionaries, since it is precisely those sorts of customary bodies and officials that are not functioning in Sembuluh I and Sembuluh II. Instead, this pattern of free access to land simply constitutes 'tradition' (*tradisi*) or 'usage[s]' (*kebiasaan*). However, oil palm enterprises operating under the regulations of 'positive law' require greater clarity than such 'usages' can bring in determining who is entitled to compensation for areas of land included in their concession. Legally, no compensation can be paid to the village as a whole for the areas of former dry-rice fields, since *hak ulayat* is not acknowledged and recipients of compensation must be real individuals not corporate bodies.[58]

In accordance with directives from the regency government, the companies have determined that those who first opened the land for *ladang* within the current confines of their concession are the ones entitled to compensation. Such a situa-

55 Bakker (n.d.) presents recent examples of the dynamics of asserting and gaining recognition of land and resource claims in the contemporary context of revitalized *adat* among the Mului people of upriver Pasir, East Kalimantan.

56 In fact, Bruin (2004: 12) assimilates the land tenure 'traditions' of Sembuluh I and Sembuluh II villagers to 'traditional Dayak rules'. Increasingly, the contemporary contestations over land are evidencing such an assimilation, although villagers, especially when lamenting the current spate of land disputes triggered by desire for individual compensation from the oil palm plantations, deny that their long-held 'traditions' and 'usages' have been in accordance with the norms of the neighbouring Dayak.

57 In contrast to these conventions for dry rice fields (*ladang*), opening a garden (*kebun*) does involve a persisting set of claims, since gardens are usually planted partially with trees and other perennials that have fruits which can continue to be harvested.

58 As of 2004, many local governments had yet to to implement through regional regulations the national People's Advisory Assembly's (*Majelis Permusyawaratan Rakyat*) 2001 law on agrarian reform and natural resource management (TAP Nomor IX/MPR/2001), which at least attempted to give some acknowledgment to customary collective rights. Hence, one NGO active in following the Sembuluh case has noted, 'Even outside 'state forests' there is no formal means of acknowledging and protecting collective land rights' (Down To Earth No. 63, November 2004 'Sustainable palm oil: mission impossible?').

tion has led to the emergence of considerable horizontal dissension, sometimes erupting into overt conflict among villagers, as they argue over claims and counterclaims based upon what lands they assert their grandfathers and other ancestors first opened up.[59] Many elders in the village despair over the current situation, arguing that such rights based upon first opening have never been recognized in Sembuluh I and Sembuluh II. Ironically, what is revealed by comparison with Bangkal, where a variant of Dayak *adat* still prevails and a *damang* is active, is that the Muslim villagers of Sembuluh are being forced into the mould of surrounding Dayak 'custom',[60] which the government and oil palm enterprises can at least recognize as a codified form of custom in comparison to the fluid, uncodified 'usages' informally observed in Sembuluh I and Sembuluh II. Yet, this is an *adat* (and associated identity) that these villagers reject as opposed, in their eyes, to both Islam and modernity, which they have sought as the cornerstones of their own identity. Ironically, this very rejection is what keeps them from affiliating with the pan-Dayak movement (Thung *et al.* 2004; Dove 2006), whose supra-local influence might have given them the leverage to pursue their claims for compensation and greater management rights over their land.

The nub of the issue, however, is that the possibility of such success would negate the very terms on which the aspiring modern Muslim inhabitants of Sembuluh I and Sembuluh II wish to operate. The *masyarakat adat* movement, with which the pan-Dayak movement is strongly affiliated, has operated on a platform (Kartika and Gautama 1999b) that rejects the increasing commodification of the environment that the entry of foreign capitalist interests has accelerated since the economic reforms of the New Order were initiated. The movement's invocations of traditional or local wisdom and its frequent recasting of local customary codes, whether the *sasi* system in Maluku (Zerner 1992) or the *ombo* system of Lindu (Acciaioli 2002), as 'community-based natural resource management systems' (*sistem pengelolaan sumber daya alam berbasiskan masyarakat lokal*) are posed as alternatives to the investor-based capitalism promoted by the New Order and subsequent regimes, indeed to the very processes of environmental commodification. Yet, this capitalist pattern favouring penetration of localities by outside entrepreneurs has even been intensified in recent years. Both the demands of the

59 Precisely such conflict, spawned by the competition over compensation offered by oil palm companies, is depicted in the comic book *Mempertahankan Hak* (Wowno [Wahono] 2002) that the Bogor-based NGO Sawit Watch has distributed to local village functionaries and other elders in this region (and others), such as the founding officers of KOMPAK Sembuluh.

60 Such rights of first clearance correspond to more generally recognized norms of Dayak land tenure that have been increasingly subject to codification and generalization in the national and now trans-national (i.e. Indonesia and east Malaysia) pan-Dayak movement that has mobilized various communities identifying themselves generally as Dayak – hence relegating their local regional and community identities to *subetnis* and *subsubetnis* levels – in the quest to assert their claims to autonomy, including, perhaps most importantly, the right to local resource management (Alcorn et al. 2003; Thung et al. 2004).

national economic recovery process, including the terms of IMF-imposed structural adjustment programs, from the Asian financial crisis *(krismon)* and the necessity for increased local income (*Pendapatan Asli Daerah* or PAD) entailed by regional autonomy and the associated 'blossoming'(*pemekaran*) of new regencies and other local units within Indonesia have fostered an increasing orientation to foreign-based capital. The rapid and seemingly inexorable expansion of oil palm plantations in Central Kalimantan, almost all of them ultimately owned by foreign capital, serves as a paradigmatic example of a globally linked local response that results in the alienation of village populations from their traditional sources of livelihood and a consequent decline in their economic prosperity and cultural autonomy.[61]

Conclusion: Paradoxes of resistance and accommodation to the oil palm plantations

The Sembuluh case study provides one exemplification of many of the processes documented by *Cruel Oil: How Palm Oil Harms Health, Rainforest and Wildlife* and other reports concerning the ecological destruction of habitats and social devastation of communities produced by oil palm plantations:

> Oil palm has been the direct cause of a host of ecological problems including deforestation; endangered wildlife species; habitat destruction and fragmentation; soil, air, and water pollution and toxic chemical contamination; and last – but certainly not least – social conflict and displacement of local communities (Brown and Jacobson 2005: 11)

In many ways this report echoes, though in reverse order of declaration, the image of the effects of oil palm plantations drawn by the special preliminary seminar devoted to this agricultural commodity at the first Archipelagic Indigenous Peo-

61 Sembuluh villagers have labeled the incursion of these plantations on current terms as a transgression of their basic human rights (*hak-hak azasi manusia*). The recent United Nations emphasis upon a more wide-ranging notion of human development, as opposed to former notions of development that could be measured in strictly economic terms, would tend to support such a characterization. The 'millennium development goals' advocated by the United Nations Development Programme (UNDP) depend partially on a human poverty index that includes not only specification of incomes levels, but consideration of the opportunities and facilities made available to local communities in such social aspects as schooling, gender equity, cultural expression, and others (Fukuda-Parr *et al.* 2004). Although income poverty is defined by a threshold of $1.00 USD/day, the calculation of the human poverty index also considers the proportion of the population below the threshold of $2.00 USD/day. Plantation labourers in the Sembuluh region, with their average daily incomes of 15,000 Rp./day fall well below this second threshold, confirming in contemporary UN terms the villagers' description of themselves as increasingly impoverished by the plantations.

ples' Congress (Kongres Masyarakat Adat Nusantara or KMAN), held in Jakarta in March, 1999:

> The relations between [members of] customary communities [i.e. 'indigenous peoples'] become distant because all people have to struggle just to sustain their own lives. Economic asymmetries become wider, giving rise to social envy. Air and water pollution rise to levels dangerous for health as well. Biodiversity is also threatened because of the opening of the forest (Kartika and Gautama 1999a: 69).

However, the Sembuluh situation also demonstrates that this state of social anomie in the midst of environmental degradation is not restricted to indigenous peoples, the iconic 'forest-dwelling tribes' so often highlighted by such reports (as in this paper's opening quotation from the *Cruel Oil* report). Unlike such groups, Sembuluh villagers have not rejected per se the very process of *commodification* of the environment that oil palm plantation expansion represents, but only the specific *alienation* of land and natural resources from their control required by this process.

Writing just after his travels throughout central Borneo during World War I, Lumholtz (1921: 105) noted the involvement of Sembuluh villagers in rubber cultivation when they rejected the daily wage he offered them to work as his bearers (i.e. coolies) on the grounds that they could earn much more cultivating their rubber trees. Such grounds of refusal indicate an early engagement of local villagers with capitalism and one might say an early involvement in processes of commodifying the environment. The ongoing compensation claims against the oil palm company PT Salonok Ladang Mas by one villager in Tabiku for his *jeluntung* trees[62], whose cultivation rights had been granted by the government in 1957, demonstrates the continuing engagement by Sembuluh villagers in such processes. What many of the Sembuluh villagers currently want is a greater, more just participation on their terms in the modern, accelerated form of this process – the transnational penetration of late global capitalism – rather than a reversion to a form of custom-based community tenure, as has been demanded in many similar contexts by advocates from the Indonesian indigenous peoples' movement. Even the most radical of local advocates, including the community member who cut the bridge connecting the two sectors of the PT Agro Indomas plantation, argue that they do not reject the plantations as a system per se. As the list of demands of KOMPAK Sembuluh to

62 Tapping *jeluntung* (local pronunciation; other variants include jelutong) trees yields latex that is used in chewing gum and paints, as well as for sizing paper. *Jeluntung* timber is also highly prized, especially for use in pattern making, sculpting and carving, as well as for producing architectural models, drawing boards, picture frames, wooden shoes (clogs), furniture parts, doorknobs, dowels, pencils, plywood, laminated board, toys, dowels, blackboards, brush handles, matchsticks and packing crates (Kaiser, 'Wood of the Month: Jelutong Popular with Carvers, Sculptors and Patternmakers', p. 1).

PT Kerry Sawit Indonesia (Appendix II) reveals, what they desire is fair compensation, greater labour opportunities as both field workers and managers, minimization of and compensation for environmental degradation, contributions to local village development in such sectors as education, and other benefits accruing to the accelerated modernity that such plantations can bring: in short, what they consider their fair share of the benefits of investor-facilitated development. Some villagers, aware of the PIR (*Perkebunan Inti Rakyat*) system implemented earlier in other Indonesian settlements, including transmigration sites, declare that they would endorse the placement of oil palm plantations in the Sembuluh region if only a *plasma* system in which they would receive land and facilities for complementary smallholder development could be realized in their locality as well. As noted above, the youthful founder of SPPD also voiced the need to inventory all local plants in order to assess the marketability of their possible pharmaceutical benefits, i.e. a locally controlled process of conversion into intellectual property that itself bespeaks a locally based desire for a very modern form of commodification. Ironically, it may very well be that their quest as self-styled representatives of modernity for *inclusion in* this process of environmental commodification has facilitated their failure to a greater extent than the more explicit strategies of *opposition to* such processes in some of the more militant areas of Dayak mobilization in Kalimantan affiliated to the pan-Indonesian indigenous peoples' movement.

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Appendix I
Official record of the formation of the people's organization: (*berita acara pembentukan organisasi rakyat*)

1 *Name*:
Serikat Pemuda Peduli Daerah (SPPD) (The Union of Youths Concerned for their Region)

2 *Vision and Aim*:
The resources of the region constitute the key for urging the self-sufficiency of [our] sovereign society, increasing its prosperity, now and in the future.

3 *Mission and Duty*:
- Protect (*mengayomi*) the rights of youths and society in the management of the region's resources;
- Struggle for conservation with the aim of an environment that is useful for the people's prosperity
- Become a counterweight (*penyeimbang*) to the policies of the government and other parties that cause loss to the people in the management of the region.
- Become a vessel for the struggle of the youths and the society to obtain the use of their resources in a just and continuous [i.e. sustainable] fashion.

4 *Fundamental Values*:
   1 Independent: (non-partisan)
   SPPD aims to be independent; it does not affiliate or take sides with any political institution whatsoever and it does not aim to engage in practical political activities.
   2. Transparent:
   SPPD holds in high regard openness in running its organization in a responsible fashion, in which the management of SPPD is open for its constituency. Its responsibilities will be carried out in a way that is consistent with the mechanisms that have been created and agreed to.
   3 Democratic:
   Each phase and level in taking decisions will be undertaken in a democratic fashion: every person has a speaking and voting right.
   4 Anti-violence:
   The solution of all sorts of problems will be undertaken by emphasizing peaceful methods, consensus and discussion (*mufakat dan musyawarah*) in a non-violent fashion.

5 *Management*:
SPPD is managed by a Management Board, whose function is to carry out the mission of the institution in order to achieve its vision.

Director	xxxx
Vice-director	xxxx
Secretary	xxxx
Treasurer	xxxx
Section for Empowering Women and Adolescents	xxxx
Section for Education and Development of Human Resources	xxxx
Section for Campaigns and Increasing Consciousness	xxxx
Section for Development of the People's Economy	xxxx

6 *Management Cycle*
One management cycle for SPPD will occupy one year, after which the officials will be chosen again by a Meeting of all Members.

7 The membership of SPPD is open to the entire society, youths and students of Sembuluh and/or all people who share the vision of SPPD.

Minutes:	Acknowledged and inspected by
xxxx	xxxxx (director)

Appendix II
Demands and orientation statement, KOMPAK sembuluh

Kompak Sembuluh (*Komunitas Masyarakat Pengelola Kawasan Sembuluh*) is a people's organization that has arisen with the aim of protecting (*mengayomi*) the rights of the customary society (*masyarakat adat*), struggling for a system of management of the region and its natural resources that is based on the people, is just, democratic and based on local wisdom (*kearifan lokal*), and for conservation of the functions of the environment that are useful for the prosperity of the people, and acting as a vessel for the struggle of the people to obtain the use of their resources in a just and sustainable fashion.

Consistent with its aims, kompak Sembuluh has sharply focused its attention on the operations of various oil palm enterprises, especially pt ksi (Kerry Sawit Indonesia), in the territory of the Sembuluh region, Lake Sembuluh Subdistrict, Seruyan Regency, Central Kalimantan. Pt ksi and other oil palm plantation enterprises have left unresolved problems that take the form of a difference from the orientation of the society in regard to the presence and resolution of several rights to the land and several other problems that have yet to be given satisfactory explanations by the enterprises. Therefore, kompak Sembuluh wishes to put forth its orientation and make the following demands:

Pt ksi must explain and clarify several contributions that [it] might [make to] contribute to the acceleration of the development of the local society's economy that are real, actual and can be immediately felt by the society.

Pt ksi must give priority in its work force to labor from the local society, and not just in the capacity of 'rough' (*kasar*) daily laborers; this does not imply that it should reject all workers from outside, but that local labor has to receive extensive opportunities as well. Analogously, the enterprise should make efforts for the empowerment and cultivation of [local] students and youths in order to raise the level of their education and skills through the facilitation of scholarships, courses, training and by other means, especially if it holds the opinion that the capacities of the local labor force are still weak.

The wages of the plantation worker have to be in accord with the living needs of the people; in this matter the enterprise has to make an objective evaluation in regard to its labor needs and the value of the work that can be carried out before various other sources of life [i.e. livelihood] are removed as a result of the effect of the opening of oil palm [plantations] (such as fishing, dry field [rice] cultivation and people's gardens).

PT KSI also has to give explicit assurances that it is not using force and intimidation along with using the power of the [government] apparatus [i.e. police, etc.] in relation to the decisions made by the members of the society when they make their choice of occupations and use of the land and area, including in relation as well to the society [members] who have clearly declared their lack of agreement to the opening up of the land and people's forest (*hutan rakyat*) for oil palm plantations. We judge any transgressions in this respect to be transgressions of basic human rights.

PT KSI also has to give assurances that it will not cause or give rise to any negative effects on the environment that can result in the destruction of the Sembuluh area, including both life on the land and life in the waters of Lake Sembuluh. In order to assure this, it has to be made certain that there will not be any negative effect (erosion, sedimentation and pollution) from the plantations that it opens, even more importantly during the rainy season.

PT KSI also has to explain what direct contributions it can make to the development of the village and village society as part of the efforts to raise the level of village development. We hope that PT KSI will be able to give such an explanation so that there is some certainty for the future of the Sembuluh society and region.

Sembuluh, 8 September 2003

Director	Secretary
xxxx	xxxx

Trade in Borneo's orang-utans and gibbons

6

Vincent Nijman, Julia Ng & Chris R. Shepherd

In 2003 and 2004 we made an assessment of the trade in Bornean gibbons and orang-utans by surveying animal markets and zoos on Kalimantan (Indonesian Borneo), Java and Bali. Trade on these islands – where the apes are mostly traded as pets – was widespread, with most forest-dwelling people knowing the commercial value of a young orang-utan or gibbon. Law-enforcement safeguarding the orang-utans and gibbons and their habitat was almost completely lacking. We conclude that since the trade in apes derives largely from the destruction of habitat due to logging, conversion, and encroachment, addressing trade in isolation is futile. Reducing the trade in orang-utans and gibbons can only be achieved by protecting the remaining forest, which must be enforced by the relevant authorities and implementing agencies of the Indonesian government, land concession holders and landowners.

Introduction

The sale and exchange of wild animals and plants – 'wildlife trade' – is an issue at the very heart of the relationship between biodiversity conservation and sustainable development. Directly and indirectly, increasing demand and consumption are depleting the earth's living natural resources at an alarming rate, even though it is well-known that these resources form the biological foundation upon which human society depends (Broad *et al.* 2003).

Among the wildlife traded (inter)nationally, primates have received a disproportionate amount of attention from animal welfare groups, conservationists, legislators, international donor agencies and the general public. Thus primates make excellent flagship species for conservation (Cowlishaw and Dunbar 2000) and this is especially apparent for our close relatives, the apes. Among the 17 species of apes (gibbons, orang-utans, chimpanzees and gorillas) recognised by the IUCN (2004), three are listed as vulnerable, seven as endangered and two as critically endangered. One species is listed as data deficient indicating that its status is so uncertain that any category is plausible. The apes are clearly facing difficult times and the future is not looking bright.

There is a high degree of agreement on what are the most severe threats to apes. For most species, habitat loss is the number one threat; many of the additional threats are secondary and often a direct result of habitat loss. For all apes, the forest is their main habitat; habitat loss is the result of forest clearing, logging for fuel and timber, and degradation of the forest due to (selective) logging, collection of non-timber forest products, and forest fragmentation.

The hunting, capturing, and subsequent trade in apes is another serious threat to the survival of primates. Hunting and trade are often linked: to obtain the juvenile for trade, the mother has to be killed first. Alternatively, when an adult ape is hunted for its meat, the juvenile may end up in trade rather than in the pot. The trade in apes has both domestic and international markets; the relative contribution of domestic and international trade differs greatly between regions and between species. The international trade was previously driven by biomedical research, although the trade in pets and zoo and circus animals contributed, as did the trade in primate parts for traditional medicines. In many countries the majority of live primates are traded as pets (Cowlishaw and Dunbar 2000) although data on the domestic trade in apes and other primates are often difficult to obtain (Mittermeier 1991).

Here we document trade in two of the most readily identifiable primate families – the gibbons and the orang-utans – on the island of Borneo, in particular trade within and from Kalimantan, the Indonesian part of the island. More specifically, our aims were to: 1) gather, compile and analyse information on the trade dynamics of gibbons and orang-utans on Borneo; 2) document those Bornean gibbons and orang-utans that were once traded and are now held in zoological gardens.

Methods

Study area

The island of Borneo, at 746,305 km^2, is the third largest island in the world (after Greenland and New Guinea). Administratively it is divided into the four Indonesian provinces of West, Central, East and South Kalimantan, the two autonomous Malaysian states of Sabah and Sarawak, and the Sultanate of Brunei Darussalam. Borneo supports the largest expanse of lowland evergreen rain forest in the western Indo-Malayan region. In Kalimantan alone, some 267,000 km^2 is still under forest, or about 50% of the land surface (Fuller *et al.* 2004), though this is dwindling. Lowland forests in particular are threatened by these practises due to their accessibility and soil fertility. Less than 10% of the forest on Borneo is formally protected, and most of this is concentrated in the mountains.

Gibbons and orang-utans

Two species of gibbons occur allopatrically on Borneo, the Bornean white-bearded gibbon *Hylobates albibarbis* in the southwest and the Müller's gibbon *H. muelleri* in the remaining three-quarters of the island. The Bornean orang-utan *Pongo pygmaeus* has a patchy distribution throughout the island. All three species are endemic to Borneo – that is, they are not found anywhere else than on Borneo. Without going into too much detail, there are some biological characteristics of gibbons and orang-utans that are relevant to the current study: 1) they are completely arboreal, i.e. they cannot survive in the absence of closed-canopy forest; 2) they typically occur at low densities in the lowlands, and decrease with increasing altitude so that no viable populations exist above 500 m (orang-utans) or above 1,000 m (gibbons); and 3) they are typical K-strategists – that is, they start breeding late, have long inter-birth intervals, produce only one young at a time and few overall (Chivers 1992; Rijksen and Meijaard 1999).

Throughout their range gibbons and orang-utans enjoy the highest form of legal protection; it is illegal for private persons to keep or trade in these species. Indonesia, Malaysia and Brunei are signatories to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES). All species of gibbon and orang-utan are listed in CITES Appendix I which prohibits among contracting parties all international trade in these species and their parts and derivatives, except under specific circumstances (Soehartono and Mardiastuti 2002).

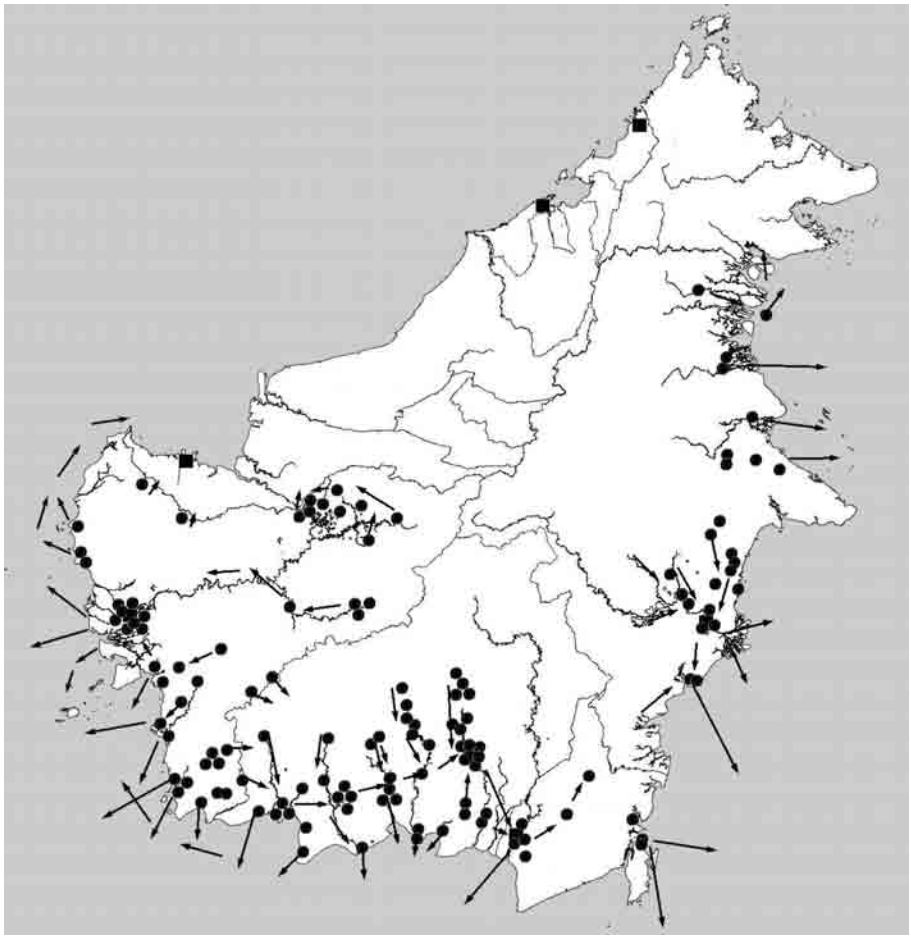
Data acquisition

As part of a larger TRAFFIC (the wildlife trade monotoring network) research and monitoring programme (the results of which are in part presented in Nijman 2005a, 2005b), data on the trade in gibbons and orang-utans were collected during an island-wide survey in June-September 2003 and June-October 2004. Additional data on Bornean gibbons and orang-utans were collected during a survey on Java and Bali in August-October 2003. We visited wildlife markets (*pasar burung*/*pasar satwa*) and petshops, where information was requested from vendors and shop owners; in towns and villages we searched for private owners of pet gibbons and orang-utans. From the owner we tried to obtain data on the history of the animal, where and how it was acquired, and at what price. Aware of our interest, these animals were then often offered for sale, in which case we noted the requested price. No gibbons or orang-utans were purchased during the survey. A proportion of traded gibbons and orang-utans end up in zoos, and we surveyed zoos to obtain data on the origins of their animals. This included four zoos on Kalimantan, and eleven additional zoos on the islands of Java and Bali.

Results

Numbers and extent of trade

The trade in orang-utans and gibbons is widespread throughout Kalimantan, even in areas where the species is not present in the wild (map 6.1). Unlike the situation in Java, where trade is concentrated in a relatively small number of wildlife markets (the so-called bird markets), the buying and selling of orang-utans and gibbons on Kalimantan is diffuse. This is more the case for orang-utans than for gibbons, in areas where the species occurs in the wild, and especially in the interior of Kalimantan, where forest-dwelling people are well aware of the value of an infant ape. As there is no moral stigma attached to killing or capturing orang-utans and gibbons and law enforcement is lacking, few will resist when the op-



Map 6.1 ▪ Locations from where information was received on trade in orang-utans or orang-utan parts, and orang-utans in private hands in 2001-2004 (from Nijman 2005b). Arrows indicate the general direction of trade.

portunity arises. Thus – and more so in the interior than along the coast – a young orang-utan, and to a slightly lesser degree a young gibbon, is a commodity. In the villages, many people keep, at one time or another, an orang-utan or gibbon as a 'pet', not necessarily due to fondness for the animal (although there may be), but as it represents something that can be sold for money or bartered.

Throughout Kalimantan in 2003-2004, we recorded or received reliable reports of 74 Bornean orang-utans, 79 Bornean white-bearded gibbons, 54 Müller's gibbons, and 24 gibbons of the two aforementioned species in trade. Trade was present in all four provinces of Kalimantan, although the degree of its openness differed between regions. On Java we recorded 18 Bornean orang-utans, 3 Bornean white-bearded gibbons and 10 Müller's gibbons in trade.

Zoological gardens

Bornean orang-utans are among the most common apes in Indonesian zoos, and in the 15 zoos that we surveyed, we recorded a total of 62 individuals (table 6.1). The majority of them were still young, although a fair number had reached adulthood. Although some were kept alone, we often found groups of more than five animals in a single enclosure. Almost equal numbers of Bornean white-bearded gibbons and Müller's gibbons were observed in zoos. They were often housed alone, though sometimes in groups (including congenerics) of up to ten individuals.

Table 6.1 ▪ Bornean gibbons (*Hylobates albibarbis* and *H. muelleri*) and orang-utans (*Pongo pygmaeus*) in zoological gardens on Java, Bali, and Kalimantan, and their reported origin.

Origin	H. albibarbis	H. muelleri	P. pygmaeus
Confiscated	1	0	16
Donated	6	0	5
Captive-bred	2	0	4
Transfer	9	2	2
Unknown	10	23	40
Total	28	25	67

The zoos are: Pusat Primata Schmutzer, Jakarta, Ragunan, Jakarta, Taman Safari Cisarua, Kebun Binatang Bandung, Gembiraloka, Yogyakarta, Taru Jurug Surakarta, Kebun Binatang Tinjomoyo, Semarang, and Taman Kaloko Widya Mandhala, Purwokerto, Kebun Binatang Surabaya, Taman Safari Pasaruan, Bali Zoo Park, Kebun Binatang Pontianak, Taman Ria Wisata Agro, Kebun Binatang Gunung Bayan, and Kebun Raya Samarinda.

Of the gibbons and orang-utans whose origins were reported, 17 were confiscated by the forestry department and handed over to the zoo, 11 were directly donated to the public, 13 were the result of transfers between zoos (hence their origin was

not known), and 6 were allegedly captive-bred in the zoo. From discussions with the keepers and zoo staff it turned out that the majority of orang-utans and gibbons currently in the zoo were at one time traded.

Discussion

The present study shows that trade in orang-utans and gibbons is widespread throughout Kalimantan, Java and Bali (cf. Malone *et al.* 2002). Most forest-dwelling people know the commercial value of an infant orang-utan or gibbon, and trade flourishes in the absence of effective law enforcement. The battle against the primate trade in Indonesia is failing at different levels: without adequate monitoring and law enforcement, protected areas do not provide sufficient protection while the poaching of legally protected species is systematic outside protected areas. Prosecution of the violators of wildlife conservation laws is absent, and despite hundreds of orang-utans and gibbons being confiscated over the past decade, few people have been prosecuted while even fewer have been sentenced (Nijman 2005ab). As Foead *et al.* (2005) concluded, the orang-utan is still threatened by poaching for trade and by conflict with humans, and the situation is aggravated by the lack of resources and commitment to develop, implement and enforce environmental policy and regulations to protect orang-utans throughout their remaining range. We may add that the same holds true for gibbons.

The hunting and capturing of orang-utans and gibbons for trade is often associated with the timber trade, with many apes reported killed inside logging concessions or forest areas being logged. The active protection of protected areas (national parks, strict nature reserves) is lacking in all but a few gazetted areas (Jepson et al. 2001) while hunting levels inside protected areas may be as high as in non-protected forests (e.g. Nijman 2005c). We received numerous reports of orang-utans and gibbons being hunted inside protected areas, including Betung Kerihun National Park, Kayan Mentarang National Park and Danau Sentarum National Park. Conversion of prime forest into (oil palm or other crop) plantations creates another source for orang-utans appearing in trade (Buckland 2005) – given the absence of planning for what to do with affected wildlife, many orang-utans are either killed locally or end up in trade. Likewise, forest fires associated with the El Nino Southern Oscillation Event regularly claim numerous orang-utans, with at least some of them ending up in trade.

Despite legal protection since the first half of the last century and the best efforts of some, the trade in orang-utans and gibbons remains omnipresent in Indonesia. While government agencies and NGOs are trying to curb the illegal trade in wildlife (and programmes exist to reintroduce confiscated animals into forest areas without resident populations), the same or other government agencies en-

sure a steady supply of new wildlife by granting permits allowing the destruction of the habitats of the largest remaining orang-utan and gibbon populations. To tackle this problem and to reduce the trade in orang-utans, gibbons and many other species of wildlife, we have to realise that trade occurs as a consequence of habitat destruction due to logging, conversion, encroachment, and arson, and that addressing trade in isolation is futile. Reducing the trade in orang-utans and gibbons can only be achieved with a concurrent increase in the protection of the remaining forest, which must be enforced by the relevant authorities and implementing agencies of the Indonesian government, land concession holders and landowners.

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Commercial involvement in nature conservation

Whose Heart of Borneo?

Critical issues in building constituencies for equitable conservation

7

Cristina Eghenter

Introduction

Conservation is no longer restricted to protected area management. In response to the urgency and global nature of environmental threats, conservation organizations are increasingly defining and advocating larger-scale interventions, whether referred to as eco-regions, bioregional planning, or the landscape approach to conservation. This trend also reflects a paradigm shift towards a broader definition of conservation that includes sustainable development, sustainable forest management and spatial planning.

This kind of engagement undoubtedly poses challenges. One is the risk of marginalizing local communities and local policy concerns, which are integral to the successful implementation of any conservation agenda. Another crucial challenge concerns the ability to build and maintain diverse and legitimate constituencies to support large-scale conservation initiatives like the Heart of Borneo.

In discussing local support for conservation and the still elitist nature of conservation efforts, Brosius and Russell argue that there is relatively 'low investment in building local constituencies and understanding local conservation concerns' (2003: 55). More generally, I would argue that there is often limited understanding of local dynamics, and a very slow process of attuning projects and programs to local realities. This in turn prevents adequate assessment of the real challenges to conservation work, and hinders sound judgment on opportunities for alliances at the local level (cf. Sayer and Campbell 2004). Building and maintaining constituencies is crucial to the success of an initiative like the Heart of Borneo – local support remains a determining factor in ensuring the long-term viability of protected areas and conservation efforts.

The Heart of Borneo initiative proposes 'Think globally and act locally.' But does this slogan accurately capture the needs of the present situation? Local constituencies are rooted in local support, and support is built through understanding local realities. The creation of local constituencies is crucial to generate the sense of local ownership and accountability necessary for success. It thus seems that a reversed version of the slogan – 'think locally and act globally' – might better re-

flect what is necessary to ensure the viability of a broad, multiple-landscape and interregional initiative like the Heart of Borneo.

The Heart of Borneo initiative

One of the documents [drafted in preparation of the International Meeting in Brunei in June 2004] defines the objectives of the Heart of Borneo initiative as: protection of forest, maintenance of vital ecological functions, cultural survival, and alleviation of poverty. 'The Heart of Borneo (HOB) initiative has been launched to protect a 220,000 km^2 area in the upper to middle parts of Borneo, which mainly consists of upland areas and ecologically connected lowland areas […] to help conserve an inter-connected Borneo rainforest, through a network of protected areas and well-managed, productive forest, which will provide water security, food security and cultural survival for the people of Borneo. This will also help to alleviate poverty and will conserve biodiversity. In the long term, it will save the island from the ultimate threat of deforestation and increased impacts from droughts and fires.'

At the political level, 'The HOB conservation programme will engage the governments of Brunei, Indonesia and Malaysia, at national and local levels, to support the protection and sustainable use of the forests and water-catchments of these areas, bearing in mind the need to optimize the benefits for the adjacent communities and the need for any conservation programme to be driven by local and national priorities […] The declaration of HOB by the three country-governments in the CBD (Convention on Biological Diversity) meeting in April 2006 is the HoB's first programmatic goal. In phase II (2006-2014) the 'declaration spirit will be implemented through various conservation programmes conducted by the management units.'

Constituencies in the Heart of Borneo

Building constituencies involves creating acceptance of and support for conservation and forging alliances with stakeholders around specific conservation objectives. Their participation and continued support is contingent on the extent to which they find their interests and priorities reflected, and secured, in the conservation program. Some of the critical issues to consider include:

- Diversity of perceptions among stakeholders about the purpose of conservation areas, and who benefits from them;
- Returns on time and effort invested by promoters of conservation programs to create and maintain constituencies and generate support for conservation initiatives;

- Diverging expectations about the kind and degree of benefits brought by conservation, and the 'willingness to pay' or readiness of various stakeholders to bear the costs of conservation.

The perceptions and expectations of stakeholders reflect their level of support for the conservation initiative and, more importantly, affect the sustainability of the constituency over time. For the Heart of Borneo Initiative, we can identify three main constituencies. This categorization may oversimplify complex realities, but can still help explain the behavior of different stakeholders. Members of these constituencies are drawn from an eclectic universe with diverging and multiple interests – or may shift alliances – but they do share commonalities as members of specific constituencies and holders of particular views on conservation.

1 A 'virtual' constituency made up of campaigners, conservationists and conservation organizations, the general public fascinated in Borneo, and donor agencies.

This constituency can be created in a relatively short time as it is campaign-oriented and issue-specific. While members have diverse interests, there is consensus on the importance of conservation and the protection of biodiversity. The temporal horizon of its members is future-oriented, and there is a high level of willingness to pay or to invest in conservation. Their time commitments may differ, ranging from long-term for conservation organizations to short- and medium term for donor agencies.

2 A constituency of politicians/policy makers with authority, electoral commitments, and direct stakes as public figures in how conservation may (or may not) secure tangible benefits for the area (district).

For members of this constituency, conservation itself remains a contested end. Economic interests and development-based concerns are their primary focus, justified by their need to balance district budgets and to improve living conditions of the people in the interior – conservation areas are thus often seen as obstacles to development. Their temporal horizon is more oriented towards the present, and relatively less towards the future, and there is little willingness to pay unless there are sure returns. It takes time and effort to build support for conservation among members of this constituency.

3 A constituency made of forest communities whose livelihoods are directly affected by the existence of the conservation area, and are dependent on continued access and exploitation of natural resources in the area.

Among members of this constituency, direct dependence on those resources targeted for conservation dramatically reduces their willingness to pay or bear the costs of conservation. At the same time, members have high expectations for social and economic benefits from conservation initiatives. This constituency is also vulnerable and sensitive to breaches in relations of trust. Two contrasting considerations inform their views on conservation: on the one hand, conservation is seen as traditional management of natural resources; the forest is the 'working' environment that the community requires as a condition of its continued existence (Hunn 2003: S82). On the other hand, conservation represents an obstacle to development, especially the building of roads to connect isolated areas.

Depending on which 'discourse' of conservation prevails, potential points of common interest can exist between the third constituency and the others. Practices of local people may converge with the interests of conservation organizations (Eghenter 2000) or with the interests of local policy makers. Understanding these differences and points of convergence is crucial to the creation and maintenance of constituencies for conservation. By either portraying themselves as 'champions of conservation' and allies of the virtual constituency, or 'advocators of development' and allies of business people and policy makers, members of forest communities become key players in alliances and partnerships for conservation initiatives.

Kayan Mentarang National Park

Kayan Mentarang National Park is geographically and symbolically located in the heart of Borneo, on the border with Sarawak to the west and Sabah to the north. With its gazetted 1.38 million ha, it is the largest protected area of rainforest in Borneo and one of the largest in Southeast Asia. A strict nature reserve since 1980, the area was declared a National Park by the Minister of Forestry in October 1996. In 2002, it became the first conservation area in Indonesia to be granted collaborative management status by the Ministry of Forestry. The natural history of the park is inexorably intertwined with the history of its people – the reserve contains extensive archaeological remains in the form of stone burials, which date back about three hundred years and were used as secondary burial sites.

About 21,000 Dayak live inside or in close proximity to Kayan Mentarang National Park. Roughly half of them are primarily shifting cultivators; the rest are mainly wet-rice farmers. The inhabitants of the park and surrounding areas depend on hunting, fishing, and the collection of wild plants for their subsistence needs; trade in forest products such as gall stones (from langurs and porcupines) and aloes wood or *gaharu* (Aquilaria spp) and temporary employment in Malaysia and trade with Sarawak generate cash to buy commercial goods, tools and equipment, pay for school fees and cover travel expenses to the lowlands. While not 'poor'

by definition (living standards and income are above the provincial average), the cost of living is high and access to schools, medical facilities and markets remains limited. One liter of gasoline, for example, can cost ten times more in the interior than in the lowlands due to the costs of transportation by air or river. Only the existence of government price subsidies has managed to keep prices of essential goods under control.

Communities living in and around the park are *adat* or indigenous communities, largely regulated by customary law or *adat* in the conduct of their daily affairs, including the management of natural resources in their customary territories or *wilayah adat*. Customary chiefs or *kepala adat* administer customary law with the help of customary councils or *lembaga adat*, comprised of elected village officials and community leaders. The communities have native customary rights to the entire territory of the Kayan Mentarang National Park, which is divided among ten different customary territories (Eghenter, Sellato and Devung 2003).

Dynamics of constituencies in Kayan Mentarang National Park

The case of Kayan Mentarang National Park showcases the challenges of building and maintaining constituencies for conservation, and how these can shift over time due to changing perspectives and external factors.

Table 7.1 ▪ 1996-1998: Advocacy for social entitlements

Constituency	Support	Willingness to pay	Expectations vis-à-vis a national park
1 Virtual	+++	+++	Biodiversity protection and community-based management
2 Policy makers	++	++	Benefits and role in the management of the park
3 Forest communities	+++	++	Social benefits (tenure security)

In partnership with the communities, and most notably with their customary councils, WWF Indonesia has been documenting land claims and forest use through community mapping. It has identified the availability of natural resources with economic value, and conducted participatory assessments regarding the role of traditional institutions. WWF has also led participatory planning exercises in all communities of the park. These community meetings resulted in recommendations for the redrawing of the external boundaries of the national park, and for *adat* or customary regulations to govern the sustainable management of natural resources within the park.

Advocacy for the role of *adat* in the future management of the park and for rights to continue accessing and using natural resources proved to the communities that WWF was committed to securing social entitlements and minimizing the opportunity costs related to the establishment of a national park. As a result, support for WWF by local forest communities was high, as was trust between the parties. WWF helped facilitate the establishment of an inter-*adat* institution or *Forum Musyawarah Masyarakat Adat* (FOMMA). FOMMA was formally established on October 7, 2000. The organization, with a high degree of traditional legitimacy, is concerned with guaranteeing the protection and sustainable management of the forest in the ten customary lands comprising the national park area. FOMMA is also committed to protecting the rights of indigenous people and enhancing their economic prosperity in the national park area.

Table 7.2 ▪ 2000-2004: Waiting for legitimation and establishment of collaborative management

Constituency	Support	Willingness to pay	Expectations vis-à-vis a national park
1 Virtual	+++	+++	Collaborative management
2 Policy makers	+	+	Development
3 Forest communities	+	+	Socio-economic Benefits

Changing circumstances and delayed decision-making affected the views and expectations of the national park's various stakeholders, and caused the support of two main constituencies to erode. The momentous political and social changes in Indonesia in 1998 opened up new opportunities for political and financial decentralization, and economic development. Under the new legislation, districts found themselves responsible for development initiatives and turned to the exploitation of their natural assets as a quick way to gain revenues for the projects. A conservation area could hardly provide the immediate economic returns that were needed.

Circumstances changed for communities in the interior too. They became the target of local development plans and became more involved in economic projects. They were also directly approached by outside investors. New actors emerged in the interior: local intellectuals and community leaders who had long left the national park area returned to steer the course of development and pursue political ambitions.

Advocacy by WWF and FOMMA finally led to the issuance of a ministerial decree for the collaborative management of the Kayan Mentarang National Park, a first in Indonesia. The management plan was completed and submitted to the Ministry of Forestry in 2000, and the decree for the collaborative management of the

park was issued in April 2002. The key co-management institution is the *Dewan Penentu Kebijakan (DPK)*, or Policy Board. This Board includes conservation representatives of the central government (experts from PHKA, the National Agency for Forest Protection and Nature Conservation), representatives of provincial and district governments, and local communities represented by FOMMA. The operating principles of the Board emphasize the importance of coordination, competence, shared responsibilities, and equal partnership among all stakeholders. The board does not have full authority over management issues, but may advise or make recommendations to the Ministry of Forestry.

While the idea of collaborative management was approved – at least on paper – implementation of the decree took too long. Mechanisms and governance structures to secure equal participation of local communities in managing conservation remained unrealized, while benefit-sharing schemes were never set up. Important issues for communities such as the redrawing of boundaries and recognition of *adat* regulations for managing natural resources in the park area remained unacknowledged for several years. This eroded the credibility of the National Agency for Forest Protection and Nature Conservation of the Ministry of Forestry in the eyes of the district government and local communities. It also eroded the trust that had slowly been built through WWF activities in the field.

Lack of funding was not the only obstacle to implementing collaborative management in Kayan Mentarang National Park. The latter remains an 'experiment', a pioneering effort to promote reform in current regulations governing conservation areas in Indonesia, to better accommodate the principles of legitimacy, equity, and good governance in protected areas claimed by indigenous people. As a pioneering model in conservation area management, one which has only slowly and recently been brought to the table of policy reform, Kayan Mentarang National Park suffers from its own 'legislative anomaly'.

Strengthening constituencies for equity in conservation

While the support and commitment of the 'virtual' constituency towards making Kayan Mentarang National park a model in community-based collaborative management remained constant over the years, local government and local communities' support declined dramatically. It is the latter two constituencies that will in the end determine the possibility of success for the Heart of Borneo initiative. Recovering and strengthening their support will depend on addressing the following issues:

Economic and social benefits

The viability of large conservation initiatives and the effectiveness of collaborative forms of governance within national parks depend on more vigorously addressing issues of economic development surrounding conservation and the provision of environmental services. Representation of local people on the Kayan Mentarang National Park management board may not be enough to rekindle the long-term support of local communities in the national park. The view on national parks and conservation is now firmly rooted in the contention that local people deserve to be compensated for managing and preserving the forests of the interior. Development aspirations must be acknowledged by securing present and future benefits. The challenge is to devise schemes that provide tangible and sustainable incentives to local people, and to reward them directly for contributing to the conservation and sustainable management of the Heart of Borneo.

Legal pluralism

The Heart of Borneo's forests and landscapes have traditionally been managed on the basis of *adat* or customary regulations. These regulations still play a role in the communities of the interior. District governments have started to formally recognize the role of *adat* and *adat* leaders. The support of forest communities for the conservation initiative will very much depend on the recognition and incorporation of *adat* regulations in the park's formal regulations. Customary law would in this way be established on an equal footing with the positive law of the formal legal system, while the rights and claims of indigenous communities would be validated on their own legal terms. Establishing the possibility for more than one legal frame of reference, a form of legal pluralism (Aziz Khan in press), would encourage local support and enhance accountability among the park's communities.

Equity and good governance in conservation management

Local communities are often on the weak end of the power balance vis-à-vis local and national authorities, businesses, and international organizations. If a conservation initiative like the Heart of Borneo is to succeed, it needs to create and nurture local peoples' participation and sense of ownership in the project. Transparent practices as well as mechanisms to build and maintain trust relations among all stakeholders need to be implemented. International donors and NGOs should be equally liable for open and transparent practices, especially regarding the availability and use of financial support. Local constituencies' support can only be maintained through consultation, a forum where stakeholders can participate, discuss the complexities of natural resource management, and develop and adjust strategies to promote sustainable development and conservation.

'Think locally and act globally'

As stated by Gibson, McKean, and Ostrom, 'forest management is intensely local' (2000: 21). The actions of local governments and people can determine the success or failure of arrangements in natural resource management. The 'local' remains the appropriate level for reforms promoting good governance and equity in natural resource management and conservation.

'Think locally' requires greater attention to the complexity and diversity of locally held priorities and expectations regarding the management of natural resources, and who is to benefit from them. Micro-level analysis allows us to form a more realistic picture of local circumstances, explore developments in local scenarios, and identify key causal factors in the creation and sustenance of local constituencies for conservation.

By building on a richer understanding of local dynamics and conservation concerns, large initiatives like the Heart of Borneo need to put greater effort into building local constituencies and achieving genuine acceptance on the ground. Only the latter can secure conservation results and provide solid platforms for successful global campaigns across countless landscapes and diverse audiences.

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Politics or tradition
Debating *Hak Ulayat* in Pasir

8

Laurens Bakker

Introduction

The position of *adat*[63] in Indonesia has been dynamic and resilient throughout its history, and remains contested in the nation's present.[64] Following Soeharto's fall from power, local communities throughout Indonesia have advanced claims to land and demands for indemnification based on *adat* and history. This has rekindled the debate on the meaning and function of *adat* within local and national governance, especially regarding land tenure and natural resources management (e.g. Sakai 2002; Sarwono 2001; Taufik and Febrianti 2003). Recent developments have shown that far from concurring with government land policies, *adat* communities' faith and sense of justice lie in their own systems.

In theory, Indonesian national land law sustains customary land rights. Article 5 of the Basic Agrarian Law (BAL) of 1960 affirms the validity of *adat* law.[65] The BAL, however, contains restricting conditions that offer ample opportunity for imaginative interpretation by those enforcing the law (Haverfield 1999: 51-54). Intended as a unifying code based on Western legal systems – but uniquely Indonesian in its incorporation of unwritten *adat* – the drafters of the BAL envisioned *adat* to gradually adapt to national law, or be absorbed and replaced by it (Soerodjo 2003: 17-19; Parlindungan 2003: 5). In practise, *adat* claims were rarely recognised.

The coming into force in 2001 of laws 22/1999 and 25/1999 on administrative and fiscal decentralisation brought the issue under the authority of the district (*kabupaten*) government. Notably in West Sumatra, *kabupaten* chose to adopt an *adat* style of land administration rather than continuing with the national model

63 *Adat* is often translated as 'tradition' or 'custom'. As a working definition this will suffice, though I want to stress that this does not mean *adat* should be regarded as static. Like culture, *adat* is fluid and its meaning is constantly redefined and adjusted to suit contemporary needs.

64 This paper is based on ongoing research carried out in *kabupaten* Pasir by the author. The research is part of the Indonesian-Dutch INDRA Project on developments in land law in Indonesia, and of the Indonesian-Dutch Tropenbos Gunung Lumut Biodiversity Research Project. The author would like to thank Fakultas Kehutanan of Universitas Mulawarman, Lembaga Ilmu Pengetahuan Indonesia, Tropenbos International Indonesia and the Van Vollenhoven Institute of Leiden University for their kind support of the research. Financial support was provided by the KNAW, the Adatrechtstichting and the Leiden University Fund.

65 Harsono (2002) provides an excellent compilation of Indonesian land law.

(e.g. Fanany 2003). The demand for formal recognition of local *adat*, however, is nationwide, while many *adat*-related claims concern *hak ulayat*,[66] probably the most problematic type of land claim mentioned in the BAL. The BAL leaves the concept undefined, but its elucidation states that *hak ulayat* is similar to *beschikkingsrecht*, a concept originating in Dutch colonial law.[67] Thus *hak ulayat* can be said to connote a group's communal land rights, where individuals share rights of usage and ownership, but may not claim land as individual property or sell or lease it to third parties. Article 3 of the BAL states that *hak ulayat*, or similar concepts used by *adat* communities, should be adapted to suit national interests and Indonesian unity. In other words, they should be changed if necessary, but are legally valid.

Communal land rights cannot be registered under the current Indonesian land registration system. Two theoretical possibilities exist for certifying *hak ulayat*. The first, favoured by the Indonesian administration, proposes converting *ulayat* claims into individual rights as recognised by the BAL. The second, voiced by *adat* communities and activists, proposes amending the BAL to allow certification of communal land rights. A solution was sought by the Minister of Agriculture/Head of the National Land Agency (*Menteri Negara agrarian/Kepala Badan Pertanahan Nasional*, hereafter MNA/KBPN) who promulgated a ministerial regulation (*permen*) in 1999 entitled 'Guideline to solving the problem of *adat* communities' *hak ulayat*' (MNA/KBPN 1999a). In the accompanying ministerial instruction (MNA/KBPN 1999b), the *permen* is said to have clarified the meaning of *hak ulayat*, criteria for its existence, and the powers held by *adat* communities over *tanah ulayat*. Its purpose is to provide guidelines for solving the problems surrounding the status of *tanah ulayat* under national land law, by having district governments draft local regulations (*peraturan daerah*, hereafter *perda*) on the existence of *hak ulayat* in the district.

This paper discusses developments in Pasir district, East Kalimantan. When the *permen* was issued, the local government decided to implement it immediately. The *permen* was followed to the letter, but the result, far from clarifying land ownership, led to unrest and confusion. Below I discuss various concepts of the '*adat* of Paser'[68] that emerged in the debate, as well as the rights parties claim derive from them. Not only do these concepts and rights differ – several are incompatible.

66 The legal term *hak ulayat* is derived from the West Sumatran Minangkabau word *wilayat*. The Minangkabau, as an ethnic group, are famous throughout Indonesia for the strength of their *adat.* However, similar concepts exist throughout Indonesia and are known under an enormous variety of local names.

67 See Van Vollenhoven (1909: 19-20); Ter Haar (1950: 56-73); or Holleman (1981) for extensive definitions.

68 In the local language Pasir is called Paser.

The problem of *hak ulayat*

The *permen* has a clearer approach to *hak ulayat* and its position within national land law than the BAL. Chapter 1.1 begins:

> *Hak ulayat* and similar *adat* law community constructs (hereafter called *hak ulayat),* are rights that according to *adat* law are enjoyed by a specified *adat* law community to a specified territory that is the everyday environment of its members to exploit the profit of its natural resources, including land, in the aforementioned territory, for the benefit of their survival and daily needs, which are made clear by physical and spiritual relations of decent between the aforementioned *adat* community and said territory.

Conditions are then named under which its continued existence may be assumed. 'An *adat* community's *hak ulayat* can be said to still exist when:

a A group of people is encountered who still feel united through *adat* law structure as equal members of a specified community, who recognise the rules of said community and apply these in daily life.
b Specified *ulayat* land is encountered which is the daily environment of the members of said law community and the area where the necessities for their daily lives are obtained, and
c An *adat* law structure is encountered regarding the administration, authority and usage of the *ulayat* land that is in effect and observed by the members of said law community (chapter 2.2.).

Next, claims are limited. Article 3 states that *hak ulayat* cannot be claimed when the land is owned or used by others in accordance with other BAL-derived rights, or when the land has been disowned by the government. Regarding the authority and temporal dimension of *ulayat* claims, article 4 decrees that authority over *ulayat* lands is not only held by *adat* leaders, but also by the national state or other legal bodies. Moreover, if the community so desires, *adat* leaders must register *ulayat* land under individual rights such as recognised in the BAL.

However, the *permen* concerns future arrangements for a continued *hak ulayat* as well. It is possible for an *adat* law community to temporarily hand over rights to land to the state, which may than issue a temporary rights of usage to third parties (chapter 4, article 2). When the usage period agreed between parties has ended, permission has to be sought from the *adat* community before the land usage may be continued. Permission from the state alone is insufficient. Nor may the state give out rights to *ulayat* lands for a longer period of time than what the *adat* law community has agreed to (chapter 4, article 3).

Local *kabupaten* governments are instructed to consider claims of *hak ulayat* (chapter 3, article 5.1) against the conditions set out in chapter 2.2., and to draw up *perda* to formally record the (non-)existence of *hak ulayat* (chapter 3.6., and, if necessary, to draw up a map to define its area (chapter 3, article 5.2).

The *permen* contains rules and criteria against which *hak ulayat* claims are to be considered. It allows for local variation, and charges local governments to bring *hak ulayat* from its shadowy existence on the margins of national law into a clear and well-defined legal domain. In February 1999, the Minister of Agraria made the headlines by stating during a meeting with a representative of the Dayak Benuaq people that he would protect and reinforce rights to *adat* land (*Pemerintah Lindungi* 1999). Five days after issuing the *permen* he was in the newspapers again, stating that with *permen* 5/1999, he wanted to 'challenge *adat* communities to prove their rights to *tanah ulayat*, whether they were still valid or not' (*BPN Keluarkan* 1999). Still, as Sumardjono (1999) shows, the *permen* left decision-making powers with the *kabupaten* governments and local actors. *Ulayat* rights, she writes, can co-exist with other rights and laws, and be protected by formal authorities However, she adds, *ulayat* rights will have to be decided through dialogue between *adat* communities, non-*adat* groups, local governments, NGOs, natural resource-managing organisations such as the Ministry of Forestry, and legal specialists considering higher laws (see also MNA/KBPN 1999b, paragraph 2). Sumardjono's conclusion – that *ulayat* rights will be watered down by this multitude of stakeholders – appears likely.

The impact of the 1999 *permen* remains unclear. NGOs occasionally present it as a legal base for the existence of *hak ulayat* and argue for further research before a *perda* can be issued (e.g. Lembaga Studi Pemantanan Lingkungan (LSPL), 2001; Wahana Lingkungan Hidup Indonesia (WALHI 2004). The *permen* is also adopted by researchers from the law faculty at Universitas Hasanuddin from Makassar. This research team has worked on *hak ulayat* in *kabupatens* Nunukan and Pasir.[69] Members of the team are frequently invited as speakers or advisors (*Hak Ulayat* 2002) and are becoming known as experts throughout Indonesia.

Introduction to Pasir

Pasir is the southernmost *kabupaten* of the province of East Kalimantan. With an area of some 15,000 km² and a population of 270,000, Pasir is rich in natural resources and has extensive logging, oil and mining industries as well as large oil palm plantations. Dry rice farming using slash-and-burn techniques is practiced

69 Research in Nunukan resulted in recognition of *hak ulayat* of the Dayak Lundaye people. The content of the Pasir *perda* is not yet finalized.

in swiddens (*ladang*), while fishing is a main source of income in coastal areas. The land is quite flat near the coast until it meets the foothills of the Meratus Mountains to the south and those of the Lumut Mountains to the north.

The original inhabitants are the Orang Paser, who consider themselves related to Dayak groups living further inland. Orang Paser currently make up around 40 percent of the district's population. Sub-groups living in the mountains, on the plains between the sea and the mountains, and along the coast speak different dialects of *Bahasa Paser* and have variations in *adat*. Large numbers of Bugis from South Sulawesi live along the coast and on the plains, as do Banjarese from nearby South Kalimantan. Both groups have lived in the area for hundreds of years and have left their influence on culture and daily life. Over the past decades waves of migration and transmigration have brought Javanese, Balinese, East Nusa Tenggarese, Menadonese, Batak, Toraja and Madurese as well.

Culturally, the district is divided between the mountains and the Bugis-Malay-oriented coast and plain centred on the capital Tanah Grogot. Nearly all Orang Paser today are Muslim; the mountain groups are often Muslim in name only, though this is changing as younger generations enter schools and migrate to coastal villages. Until recently, the lack of infrastructure isolated mountain communities, limiting the influx of migrants and maintaining their social and cultural orientation towards the Dayak tribes of the hinterland. The construction of roads by logging companies in the past decades, however, began to shift the focus of the mountain communities towards the coast.

Since at least the sixteenth century, Pasir was a sultanate, often ruled by Bugis or Banjarese sultans. The Netherlands Indies government disposed of the sultan in 1912, after which Pasir came under direct colonial rule (cf. Eisenberger 1936). The administrative centre of Tanah Grogot was built by the Dutch to replace the old Sultanate capital of Pasir Balengkong. The town today has some 50,000 inhabitants, schools, a hospital, a large market and a shopping mall. It is dominated by the many government offices of the *kabupaten*, many of them new and built to impress. Its central street is a one-kilometre stretch of four-lane highway flanked by official buildings, mansions, shops, and public institutions. Although small agricultural enterprises dominate its outskirts, the town is the undisputed urban centre of the area.

The Gunung Lumut area is, by contrast, sparsely inhabited. Villages seldom have more then 300 inhabitants and may be 20 kilometres apart; until recently, travelling was limited to the rainy season when rivers could be navigated. The more recent construction of logging roads into the area stimulated the trade in forest products: of which timber is by far the most important, followed by rattan, wild honey, fruits, song birds, game and edible birds' nests. Part of Gunung Lumut

has the status of protected forest (*hutan lindung*). Yet decentralisation gave local village governments the impression that they, rather than other levels of government, were authorised to manage the area's natural resources, not least as they consider the forests theirs by *adat* right. When the local government started researching *hak ulayat,* however, Gunung Lumut was not included. The ensuing discrepancy between the research results and daily reality is discussed next.

Adat in practice

The government of Pasir acted swiftly when *permen* 5/1999 on *hak ulayat* was issued. Hoping for clarity on land status and anticipating few problems, research was carried out in cooperation with the law department of Universitas Hasanuddin in June 2001. Researchers from Hasanuddin and the Pasir government conducted fieldwork from 7 until 10 August 2002, and presented their results as well as a draft *perda* on *adat* communities' *hak ulayat* in Tanah Grogot on 30 December. The researchers concluded that *hak ulayat* no longer existed in Pasir, a conclusion reflected in the corresponding *perda*. Turmoil ensued when local NGOs and representatives disagreed with the findings; a new meeting between all concerned parties was deemed necessary to discuss the nature and content of the *perda*. As of December 2004, this meeting had yet to take place, said to be postponed until after the upcoming *bupati* elections.

The Pasir government and *hak ulayat*

The research saw three teams conducting 180 interviews over five days in three main locations in central Pasir: Tanah Grogot and surroundings; villages along the Balikpapan-Banjarmasin road; and villages adjacent to the mountains.[70] Migrants were well-represented in the former, densely populated locations; the third location, close to the mountains and with lower population density, contains the largest number of Orang Paser. A clear majority of respondents in the third location asserted the existence of a system of communal land ownership; within all of Pasir, however, these people were a numeral minority.

Although many respondents throughout Pasir believed *hak ulayat* to exist, the researchers did not believe their data confirmed this. The researchers' main reservations centred on the inconsistent? answers and descriptions they received to their

70 Space does not permit discussion of this research at length, so I will only state its main findings. For a detailed account see the report *Tim Peneliti Fakultas Hukum Universitas Hasanuddin* (2002), hereafter TPFHUH.

questions, as well as the unclear link between current practices and historical *hak ulayat*. They concluded:

> The perception of the population regarding jural communities or law areas and collective rights of the community (*hak ulayat*) is not uniform, not consistent. Moreover [they] are unable or unwilling to distinguish between *ulayat* as it once existed and that which still exists, or between *hak adat*, *adat* lands, *hak ulayat* or *ulayat* lands… [F]rom this context it becomes clear that the base of the claim is not clear (TPFHUH 2002: 74).

The team recommended that the criteria laid down in *permen* 5/1999 be observed with the utmost consideration. The resulting draft *perda* (Pemerintah Kabupaten Pasir 2003) follows the researchers' conclusions. It starts with a recapitulation of the definitions and concepts given in the *permen* and delivers its verdict in chapter five, entitled 'Determining the existence of *adat* law communities and *hak ulayat*'. Chapter five (art. 10.1) states that there is no community, *adat* organisation or the like in Pasir that meets the criteria set down for an *adat* law community. It follows (Art. 10.2) that since there are no *adat* law communities, adherence to *hak ulayat* cannot be argued. Since (art. 10.3) there are no *adat* law communities, no territory can be claimed based on *hak ulayat*. Since no *adat* law communities subjected to *hak ulayat* exist, no such claims to land, forest, or water can be made (art. 11). Other claims, however, can be made (art. 12.1). Plots of land controlled by communities who do not meet the criteria for *adat* law communities (and hence for *hak ulayat*) can be designated as *adat* land, *adat* forest, or state land. These are land rights recognised in the BAL, but under individual rather than communal ownership. The *perda* then relegates *hak ulayat* to the past (art. 13) in its conclusion that demonstrable *hak ulayat* as practised by *adat* law communities no longer exists, that it may not be revived as customary legal practice, and that no new *hak ulayat* may be created.

The research conclusions and the *perda* both incline towards formal Indonesian land law. The implementation of the *perda* would define large plots of land as state land, available to the local government for development. From an administrative point of view, this would be an improvement on the current land tenure situation, which according to Pasir officials is 'rooted in arbitrariness and opportunism'. This view was supported by the researchers, who concluded that traditional forms of communal land tenure no longer existed in Pasir as they could not discern a consistent system in the answers of informants asked to define legal concepts. It could, however, also mean that communal land tenure exists under a variety of names, something which my own research suggests. The second part of the conclusion – that there is no communal land ownership as the terminology is unwieldy – is probably premature. Definitions of legal concepts are not commonplace topics of conversation among most Indonesian citizens, and uniform an-

swers are unlikely where multiple concepts exist. A further difficulty is presented by the statement that historic *ulayat* differs from today's practices. This suggests that historical sources are available, but as far as I am aware there are none on *hak ulayat* in Pasir. Furthermore, no such historical sources are named in the research report's bibliography. As Sumardjono (1999) points out, *hak ulayat* is dynamic and adaptive, making it extremely difficult to compare its present form to past ones without access to historical sources.

The Pasir legislature faces a difficult task. From the government's perspective, Pasir would benefit most if the current, unclear land tenure situation was replaced by the national land registration system, which would open the way for the local government to undertake new projects and investments. The draft *perda*, however, is vigorously contested by locals and NGOs alike. The way this tricky affair will be solved is the subject of speculation at local government offices as well as among the population.

Adat Paser according to Pasir NGOs

Throughout Pasir, numerous non-governmental organisations claim to be guardians of the population's interest. Many are hardly known outside their immediate area; lack of experience, funding, and contacts often leave them at the margins of local politics. While financial incidents involving NGOs have left both the population and the government wary, others have secured credibility among the population and government, although their influence varies. Three of these organisations are relevant here as they claim to represent Orang Paser *adat* communities.

The best-known and largest NGO is *Lembaga Adat Paser* (LAP), an organization with branches and offices throughout Pasir's towns. Most people with positions in LAP are middle and upper grade civil servants from Tanah Grogot where LAP has its headquarters. LAP formally cooperates with the local government, as established in *perda* 3/2000; the government funds LAP projects and considers the NGO to represent the *adat* population. In exchange, LAP functions as an intermediary between the government and other NGOs, who only have access to the government through it. This gives LAP a key position in local politics but exposes it to criticism as well, of compromising its formerly independent position.

Obviously, LAP does not agree. It considers itself representive of *adat* communities in Pasir in the broadest sense – of Orang Paser as well as Javanese, Bugis, and members of other migrant groups. In its view, *adat* is based on tradition and ethnicity, constantly developing through the influence of the national state and the Muslim religion. This makes LAP the large social organisation it needs to be: the relationship between LAP and the local government is partly based on the size of

LAP's (self established) backing. Contrary to what critics fear, LAP does not blindly follow the local government's decisions. When the draft *perda* on *hak ulayat* was presented in 2002, LAP vehemently protested it.[71]

LAP's base is in Tanah Grogot. To gain publicity they incorporate smaller NGOs such as Pema (see below) as local branches. This helps spread LAP's name, but not necessary in favourable ways. Smaller NGOs feel that they have no choice in the matter: not joining means no access to the government, while joining means participation in an organisation whose integrity is publicly doubted.

One of the smaller NGOs incorporated within LAP is Pema-Paser (*Persatuan masyarakat adat Paser*). Pema began some four years ago as a branch of the nationwide *Aliansi Masyarakat Adat Nusantara* (AMAN), with which it still cooperates. Pema consists of three people, all Orang Paser. Their leader is a school teacher in one of the towns along the Balikpapan-Banjarmasin road, at the foot of the Gunung Lumut mountains. Well-known and respected locally, he descends from a family of *adat* scholars (*pengawa*), and although his knowledge of *adat* is limited, he remains associated with his title.[72]

Pema was founded as a response to the local government's ignoring of land claims and its granting of logging concessions in *adat* forests without consultation or compensation. Pema's leader, aiming to create a forum for Gunung Lumut communities to unite and influence the government, became interested in the culture and languages of the various groups; he now intends to make Pema both a social forum and a facilitator of scientific research in Gunung Lumut. As Pema wants to remain independent of the government, it does not apply for state funds; with its limited financial resources, it depends on outside sources such as AMAN. All members of Pema's staff have other jobs or *ladang* to provide for their daily needs.

Pema's members are pragmatic and undaunted by the sheer size of their undertaking. When AMAN published an Indonesian language version of the draft United Nations Declaration on the Rights of Indigenous Peoples[73], Pema members first discussed the document amongst themselves, and then took it to Gunung Lumut communities to see if they agreed with the declaration or would propose alterations – to AMAN and, eventually, to the United Nations. These consultations demanded Pema staff to sacrifice their weekends and debate well into the night.

71 Yet, an *adat* NGO could never afford to openly agree with a government regulation unfavourable to *hak ulayat*.

72 Whereas each village has a *kepala adat*, a number of villages together have a *pengawa,* an *adat* scholar on whose knowledge *kepala adat* can fall back if unable to solve a problem. *Pengawa* still exist in Pasir, but their position has become less prominent.

73 See AMAN (2004) and UNHCR (1996-2004).

Pema is the best-known NGO in Gunung Lumut, but is unknown in Tanah Grogot. As a consequence, Pema's members, though experts on local culture, have no influence in the *hak ulayat* debate. Cooperation with LAP might change this, but Pema members are less than pleased with LAP's reputation, and hope to keep LAP activities in Gunung Lumut under their control.

Both LAP and Pema believe that there still are communities in Pasir that have valid *hak ulayat* claims. However, these communities need representation with the district government; something the communities themselves are not capable of due to their isolated locations and lack of education. Both LAP and Pema feel that they are the organisations most qualified to represent these communities, and that this can best be done by referring to *adat*. In the case of Pema this claim has an historical base, the LAP uses a fully new approach. '*Adat*' however is the key concept on which they base their claim of authority with base the district government and the communities they claim to represent. Obviously this is a new approach of the concept as *adat Paser* never new such permanent representative bodies with the district authorities[74].

Adat land usage in Gunung Lumut communities

In Gunung Lumut traditional authority and official administration operate on the same field. Local circumstances and individual personalities determine their cooperation, and each village has its own local *modus operandi*.

As already stated, permanent contacts between Gunung Lumut and the rest of Pasir are relatively recent. When the national administration established *desa* (villages) and appointed *kepala desa* (village heads) in the late 1970s, it seriously unsettled traditional governance. The new structure consisted of a specialist in local *adat*, frequently called *tuo kampong* or, as is common nowadays, the *kepala adat*. *The kepala adat* is unauthorized to decide cases by himself; decisions have to be reached through communal deliberation. The *kepala adat*'s authority depends on his knowledge of *adat* and on his charisma and eloquence.

In contrast, the *kepala desa* is appointed by and answerable to the regional government rather than to the community. Stories abound of *kepala desa* whose interests lay with the government, or with themselves, rather than with the village. Often, the *kepala adat* would have the community's support, whereas the *kepala desa* was backed by the government, giving rise to situations where the *kepala adat* and *kepala desa* cooperated, each with their area of expertise; *kepala desa* ig-

74 Neither have I found indications that such bodies existed at the court of the sultan.

noring *kepala adat* wherever possible; and charismatic *kepala adat* with influence over the *kepala desa*.

Since decentralisation, the *kepala desa* is elected by community members, and hence more dependent on his reputation. Most villages in Gunung Lumut have both a *kepala desa* and a *kepala adat*. Although the competencies of the *kepala desa* are established by law, in practice their respective authorities differ by village. Genarally, *kepala desa* maintain contact with the higher levels of regional government while *kepala adat* are responsible for matters of land and in village disputes. They may work together, for example when the government wants land that villagers consider theirs. A contemporary example of how such cooperation promotes village interests comes from the village of Kepala Telake, the Gunung Lumut community furthest removed from Tanah Grogot, though not the poorest or most isolated.

When Kepala Telake was proclaimed a *desa* with a *kepala desa* some 20 years ago, its population had been steadily declining, its lack of a school and infrastructure encouraging especially younger people to depart for towns on the plain. Some ten years ago a logging company built a dirt road to the village, making regular transportation possible. When the decentralisation laws came into force in 2001, the *kepala desa* was a Kepala Telake man who had been living on the plain for years. He regularly returned because he was trading in edible birds' nests collected in caves around the village. This man swiftly had the village council issue a regulation requiring logging companies operating on the *adat* land of Kepala Telake to contribute a fee per cubic metre to the village treasury. Next he convinced the regional government in Tanah Grogot to give him a monopoly in the trade of birds' nests from Kepala Telake's territory in exchange for a 25 percent tax, thus shutting out outside buyers and harvesters. He then ensured that employment generated by the birds' nests operations benefited the villagers. This provided Kepala Telake with two substantial sources of income based on natural resources available on some 56,200 hectares of land that villagers claim as their *tanah ulayat*.

To convincingly argue his case with the government, the *kepala desa* needed a figure of authority – a *kepala adat*, preferably a senior one. Unfortunately the *kepala adat* of Kepala Telake had died some years before and had not been replaced; all matters relating to *adat* had in the meantime been attended to by a group of elders. Yet, at a congress in 2000, NGOs had stressed the importance of *adat* for Pasir, and a middle-aged man originally from Kepala Telake had declared himself available for the vacant position of *kepala adat.* This man moved back to Kepala Telake in 2002 and began studying *adat* with the village elders, and although he is still uncertain about his own abilities and needs the council of elders, Kepala Telake again has a *kepala adat* to argue its territorial claims with the local government.

Economic developments have encouraged people to return to Kepala Telake, and today the village has some 320 inhabitants. Many families own televisions, motorbikes, stereo equipment and DVD players. Most houses are connected to a communal water supply and power generator, although many families own private generators as well. Enterprising inhabitants have recently set up small logging companies to sell to contractors on the plains, paying higher fees per cubic metre to the village treasury than companies from outside. Migrants live in the village, many of them married to local women whom they met on the plains. These newly returned mixed couples can claim, based on local *adat*, the right to clear a field in the *ulayat* land. Migrants without local spouses usually come for a fixed period and work as loggers, as guards for the bird caves or as craftsmen buiding houses.[75]

Critics suggest that the territorial claims forwarded by Kepala Telake have nothing to do with *adat*, which has long disappeared from the village – its claims are nothing more than attempts to cash in on regional autonomy. While *adat* is used to gain and protect economic privileges under the new system, Kepala Telake serves as an example of its complexity as a system interwoven in social life. *Adat* continued to exist in the absence of a formal representative, with a group of elders continuing to debate and decide matters concerning usage and access to Kepala Telake's *tanah ulayat*. While a local government official has pointed out that a group of villagers, rather than a specialist, were performing the functions of a *kepala adat*, this is the norm in Gunung Lumut – a *kepala adat* singularly making decisions is a rare phenomenon.

Elsewhere (Bakker 2005) I discuss events surrounding the sale of scrap metal in the village of Mului some 20 kilometres west of Kepala Telake, where people refuse to have a *kepala desa*. Discussions ensued over the ownership of the scrap metal, the choice of buyer, and the authority of the local *kepala adat.* Basing themselves on *adat*, villagers considered the scrap metal to be their communal property as it lay on their *tanah ulayat*. This was contested by a third party from Tanah Grogot who likewise claimed ownership. The matter was publicly discussed during a visit of this party to Mului, but since the *kepala adat* was absent, a decision could not be made. Later, the *kepala adat* during a visit to Tanah Grogot signed an agreement stating that he, and Mului, did not own the scrap metal. When the *kepala adat* returned to Mului, the population was outraged – according to them, he did not have the authority to make such an agreement. The agreement was torn up, showing that a *kepala adat* may be influential in decision-making, but his word is not absolute. Rather, the *kepala adat's* authority is like that of the chairman of an assembly, or a respected senior advisor.

75 In September 2004, nine new houses and a new school were under construction, eleven had recently been built and sixteen older ones were still in use.

It seems that each village has its own peculiar division of power between the *kepala adat* and *kepala desa*. In Rantau Layung an aged *kepala adat* and a young *kepala desa* cooperate, though not without tension. The *kepala desa* allows logging in Rantau Layung's forest, to which the *kepala adat* only half-heartedly agrees. He chooses not to make a problem of it to maintain peace in the village, but frequently refers to it in arguments. The *kepala desa* is young and, as yet, not an experienced politician. The *kepala adat* is a seasoned politician, and uses his weight to get the village council to petition the *kepala desa* in matters of formal governance and relations with the regional government. The *kepala desa* is annoyed by this, but cannot counter it. In matters of land tenure and *tanah ulayat*, the *kepala adat* is the undisputed authority – he leads the proceedings both intellectually and physically whenever new *ladang* are opened, or communal plantings or harvests are held.

In the village of Blimbing near the coastal plain, where the population consists of roughly equal numbers of Orang Paser and migrants from various parts of Indonesia, the *kepala desa* and *kepala adat* cooperate closely.[76] The Orang Paser of Blimbing did not object to transmigrants on their *ulayat* land, as the regional government promised financial and material aid. Over the years Blimbing has received a maternity ward and a mosque, while a new row of houses for the exclusive use of Orang Paser will soon be built. Blimbing is reasonably rich in land, claiming some 12,300 hectares as *tanah ulayat*. The migrants' arrival, however, meant that more land was needed for *ladang*, while the regional Department of Forestry has recently begun a 500 ha reforestation program. In addition, there are plans to start a 600 ha communal oil palm plantation. In contrast to the situation in other Gunung Lumut villages, land is becoming scarce in Blimbing, though shortages are unlikely for the near future.

The Orang Paser follow *adat* in matters of land usage and have communal meetings to discusss any plans. As Orang Paser use slash-and-burn techniques, it suffices to hold these meetings once a year – for all at the same time. Migrants are also expected to make their plans known before they begin work, though they need only report to the *kepala desa* who then discusses the matter with the *kepala adat*. This has two practical reasons: many migrants do not follow the yearly *ladang* cycle of the Orang Paser but cultivate permanent gardens (*kebun*), and frequent public meetings over changes there would be too time-consuming. If the *kepala desa* or the *kepala adat* find no fault with the proposed work or alterations, the plan is carried out. If they do, matters may still be discussed in a public meeting.

In Gunung Lumut communities, the existence of *hak ulayat* is not an issue: it is obvious to all that land is owned and managed communally. And though it is not

76 Both are Orang Paser, moreover they are related.

called *hak ulayat* (which is not a Bahasa Paser term), the validity of such a concept is considered self-evident. Unfortunately the fieldwork carried out by Universitas Hasanuddin and the local government did not cover Gunung Lumut. The possible coming into force of the *perda* on *hak ulayat* is not widely known there; most felt that what was decided in Tanah Grogot was far removed from Gunung Lumut, and would have little effect in the mountains without the population's support.

Adat Paser and the sultan

Until the early twentieth century, 'Paser' referred to a sultanate centred on Pasir Balengkong, a few kilometres from Tanah Grogot. The Dutch East Indies government initially had little to do with the governance of Paser. Having concluded a treaty of alliance, the sultan was the formal head of Pasir while the colonial government was a distant power. This changed in 1908 when Sultan Ibrahim Chatil Oeddin handed authority over Pasir to the Dutch (Eisenberger 1936: 89). He and his family were reimbursed and remained in Pasir; in 1916, Chatil Oeddin and his cousin Pangeran Mentri were arrested for supporting a revolt (Eisenberger 1936: 96-98), and in 1918 respectively banished to Java and Padang (Eisenberger 1936: 98).[77]

After Indonesian independence, descendants of Pangeran Mentri returned to Pasir. Several of them, together with other descendants of the sultan's family, have since been claiming ownership of large tracts of land based on heritage rights and local tradition. According to them, these lands were not state lands of the sultanate of Pasir, but privately owned by their ancestors for hundreds of years. The people who lived on the land paid taxes for its usage; while they managed the land, they did not own it. Its current inhabitants do not share this view – according to their version of local history, the land is theirs and governed according to *hak ulayat*.

Right after the decentralization laws came into force, a lawsuit over a small plot of land was begun by a descendant of Pangeran Panji. The plaintiff won this case, but when he started a new case over a significantly larger plot, the District Court and the Court of Appeal ruled against it although the case was very similar to the first. The claim is now with the Supreme Court, which may rule in favour, as it has already once done so in a case involving land claimed by descendants of the Sultan of Kutai (BPN *Diperingatkan* 2002). This case has caused considerable unrest: families living on the land are uncertain of their future and have, with NGO sup-

77 For extensive discussions of the history of the Sultanate of Paser see Assegaff (1982) and Hairiyadi (2005).

port, held demonstrations in Tanah Grogot. The house of the spokesperson of the sultan's descendants was burnt down, and he had to move to Balikpapan.[78]

This case is not unique: since the decentralization laws came into effect in 2001, similar cases have been filed in former sultanates across Indonesia. The plaintiffs often base their claims on private ownership (*hak milik)* and hereditary rights rather than royal heritage. Accordingly, the descendants of Pasir's sultan consider the claim to *tanah ulayat* by the families on the land as nonsense – they have conveniently 'forgotten' the sultanate and invented local *hak ulayat*. As one of them put it: 'If there was any *hak ulayat* this was the sultan's *hak ulayat* as the royal family owned the land and divided its taxes among its members'. The families and the NGOs supporting them counter that the claim to *hak ulayat* is authentic, and the sultan's descendants mistaken. *Hak ulayat* has existed throughout Pasir's history but since the sultan only collected taxes and did not bother with the population, it is to be expected that the court had no idea how the land was actually managed.

Conclusion

As *hak ulayat* is to be established or denied through ministerial regulation, the diverse nature of *adat* should be specifically addressed in research on these regulations. The four villages discussed above all have communal land systems which they call *adat*, yet each has its own manner of implementation, social history and vocabulary. To establish the existence of *hak ulayat* should not have to be the problem. To define it for all of Pasir, which the ministerial regulations wants to see done, is considerably more difficult.

The discussion involves more than the (non-)existence of *hak ulayat.* Decentralization and regional autonomy have given various parties the opportunity to enter the *hak ulayat* debate and use it as an instrument to access power, prestige and, potentially, wealth. For the communities of Gunung Lumut, *hak ulayat* is a confirmation of rights to territory as well as the key to a way of life no longer possible on the comparatively small plots available to individuals under Indonesian land law. The continued existence of *hak ulayat* is thus a form of grassroots autonomy providing small communities with a degree of independence from the local government and other interest groups. This autonomy is politicalized by NGOs who claim the protection of *hak ulayat* as one of their main goals, thus ensuring themselves of popular support and, consequently, of the government's attention. *Hak ulayat* is part and parcel of the legitimisation of Pasir's *adat* NGOs: the conclusion that *hak ulayat* no longer exists would undermine their very reason to exist, not to mention political influence.

78 The case is discussed more extensively in Bakker (2005b).

Nonetheless, communal land rights are part of the living culture of Pasir. So are the Bugis and Banjars who do not share this *hak ulayat*, as is, at least historically, the sultan. Many *kabupaten* preparing their *perda* will have to face a dilemma similar to Pasir's. A regional regulation that does not differentiate between Pasir's various areas and population groups may be optimal for government interests and efficiency, but will alienate segments of the population. If, on the other hand, the differences are taken into account, one *perda* may not be sufficient to cover the details. Regional autonomy, however, allows for exactly such policies, and it remains to be seen to what extent creativity, politics, culture and diversity will allow for a simple division in 'have' and 'have not' *kabupaten*.

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Punan hunter-gatherers and the Heart of Borneo initiative

9

Agni Klintuni Boedhihartono

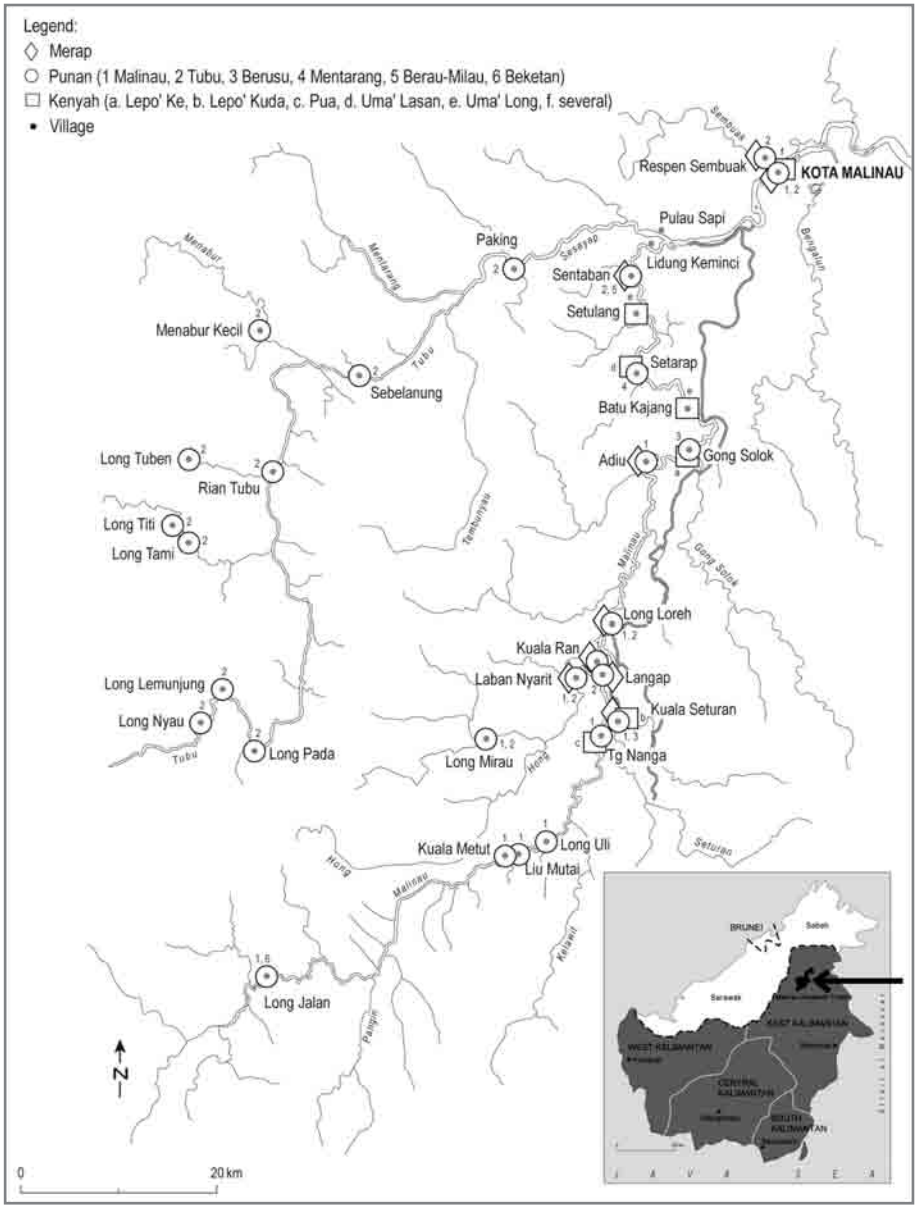
The conservation and sustainable use of Borneo's forests is attracting attention from researchers and NGOs around the world. But what do the indigenous Punan think of this outside concern for the conservation of their forests? How might they participate in the conservation agenda? This paper discusses the potential responses of the Punan people of Malinau district, East Kalimantan, to the concepts underlying the Worldwide Fund for Nature's 'Heart of Borneo Initiative'.

Introduction

East Kalimantan, the Indonesian part of Borneo, is an area of many ethnic groups. The indigenous populations of Borneo, collectively known to outsiders as the Dayak,[79] previously had the reputation of being fierce 'head-hunters.' Some still practice their traditional beliefs, including forms of shamanism, magic and witchcraft, and use medicinal plants. Most are sedentary and practice swidden agriculture and horticulture. Some groups remain nomadic hunter-gatherers, or are semi-sedentary, and are collectively known as the Punan.[80] The Punan live in relatively non-stratified societies and are distinct from the neighbouring Kenyah, Merap, Lundayeh, and Abai communities. My thesis, 'To be or not to be a Punan hunter-gatherer: evolution and transformation of a hunter-gatherer community' (Boedhihartono, 2004), was based on field work with the nomadic Punan people of the Malinau and Tubu River basins in eastern Kalimantan, Indonesia, one of the most remote and inaccessible areas in Borneo and an area that very few outsiders have visited (map 9.1).

I conducted research on Punan daily life, social organization, kinship, local religion, traditional knowledge and customs to better understand the area's Punan population. The transformation from nomadic hunter-gatherers to semi-sedentary and sedentary life in villages has been encouraged by government development programs, bringing new challenges to Punan communities struggling to adapt themselves to 'modern' life. Working for logging and mining companies is

79 The term 'Dayak' was used by the Dutch for all indigenous population of Borneo, and exists since 1757 (Van Hohendorff). The original word *dajak* means inland or land interior (Avé, 1986).
80 'Punan': people of the mountains, upriver and from the forest (Avé, 1986).



Map 9.1 ▪ Location of CIFOR's Malinau Research Forest in East Kalimantan.

one way for the Punan to obtain better livelihoods, though it may ultimately compromise their future as they still depend on the forest for many aspects of survival. There is thus ambiguity between the Punan's search for 'modern' comforts and their desire to stay in the 'rich' primary forests with all the 'sources of life' that it provides. Modernity is seen as a 'good' house, 'good' clothing, 'good' looks, 'good' electronic objects, and the quest for these modern amenities is fuelling a tendency

towards individualism in the community, supplanting the ***sharing*** that has been the basis of traditional organisation and culture.

The Punan remain among the last forest-dependent populations in Indonesia; each plant and animal is important to their 'ecosystem' as well as to their spiritual world. Could their knowledge and classification of flora and fauna aid the conservation of biological and cultural diversity, and become a resource for gaining employment in conservation programmes? Indigenous communities similar to the Punan in other regions have become involved in conservation programmes through community conservation areas and indigenous reserves. Could similar approaches be attempted in Borneo to conserve the Punan's cultural diversity and knowledge, to enable them to improve their livelihoods while conserving their forests?

The Tubu and Malinau Basins, the site of my research, is reputedly an area of high conservation value and perhaps some of this 'value' could benefit the Punan and at the same time allow them to continue at least some aspects of their traditional lifestyle. As a minimum, the Punan should be consulted in the development of any plans to change the status of 'their' forests, and should be given priority in any opportunities for employment that arise from conservation.

The Punan in the Malinau and Tubu River basins

As one of the last nomadic or semi-sedentary groups in Indonesia, the Punan remain both directly and indirectly dependent on their forests. According to a census carried out in 2003 by CIFOR and IRD with the help of a local Punan NGO, there are 8,956 Punan in East Kalimantan (2096 KK[81] or families). The largest group lives in the region of the Tubu and Malinau Rivers, in the northern part of East Kalimantan. Over the past decades, the Indonesian government has tried to sedentarise them in downstream resettlement villages near the coast. The resettlement program provides 'modern' houses made of wooden planks and public services such as education and health care, while land is allocated to agricultural activities. The Punan living in the resettlement villages, however, continue to rely on the forest for some of their subsistence needs (hunting, fishing, and the gathering of forest products) and for collecting non-timber forest products for cash income (figure 9.1).

The central government's development programmes are meant to facilitate the governance of the archipelago, especially isolated areas, and to give equal opportunities in education and health care to all citizens. They are also meant to provide

81 KK: *Kepala Keluarga* or Head of the Family.

Figure 9.1 ▪ Punan changing way of life.

security and an administrative framework for previously mobile populations. While some have claimed that resettlement was imposed by the government to assert control over remote areas of forest near the Malaysian border, most Punan saw the resettlement programs as genuinely motivated by a desire to improve their lives, and in the majority of cases the Punan were willing participants.

Most villages in the upper Tubu area were relocated downstream by the *Depsos* or the Ministry of Social Affairs through the programme *'proyek civilisasi suku-suku terasing'*. Instead of building schools, hospitals or dispensaries upriver, the idea was for local people to move downstream to locations where these facilities were more easily provided. In the Malinau district people were moved to several resettlement villages or *Respen*[82] at Sembuak, Long Loreh, Lubuk Manis, Seturan, Kuala Ran, among others. In some remote areas where the population didn't want to move downstream, missionaries were made responsible for regrouping them in small villages with rudimentary services. This project of 'civilization'[83] for isolated communities was intended to alleviate poverty and to ensure a better life by

82 *Respen*: resettlement *penduduk* or a resettlement village.
83 Civilization is used here in the sense of leading to a better economic and cultural condition. The population of towns and cities are considered to be 'more civilized'.

providing formal education, health care services and the possibility of becoming more involved in mainstream economic activities.

Government development programs have changed the lives of local populations and their environment. Some have benefited: shows the results of household surveys carried out by the CIFOR-IRD[84] team along the Malinau and Tubu Rivers (Levang 2002) (figure 9.2). Populations close to the district capital benefited more than people living upriver, except the inhabitants of the remote village of Long Pada, who have access to non-timber forest products, especially *gaharu* (Aquilaria sp.).[85] The Punan in the resettlement village of Sembuak earn as much as neighbouring ethnic groups, the Merap, Kenyah and Lundayeh. On the other hand, the expanding operations of enterprises exploiting timber, coal, and other mineral resources are leading to greater environmental degradation.

Government relocation and development programs have also tended to promote

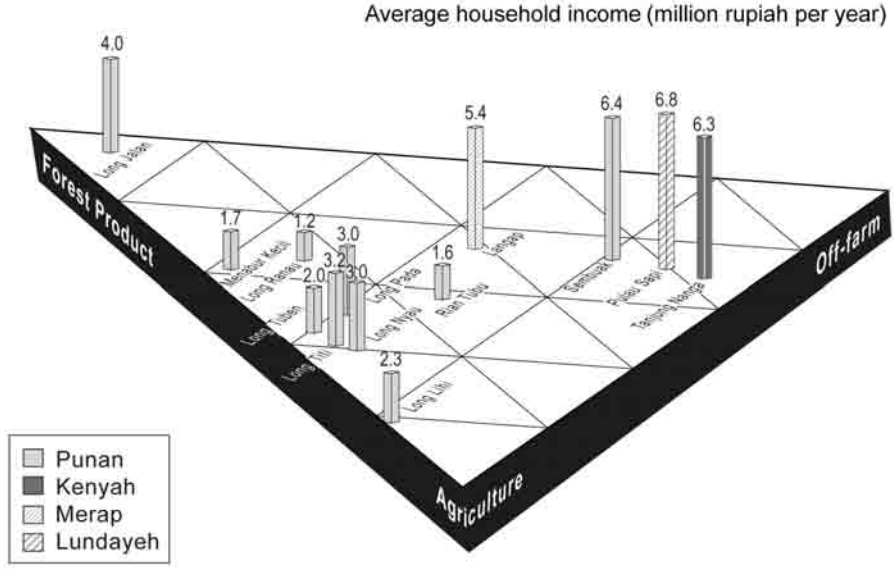


Figure 9.2 ▪ Average household income in the Malinau and Tubu areas (million rupiah per year).

uniformity in ways of life, especially in religion and ideology. When required to declare themselves members of one of the five officially recognised religious groups in Indonesia, many Punan chose Christianity, apparently in response to

84 CIFOR: Center for International Forestry Research. IRD: Institut de Recherche pour le Développement.

85 *Gaharu* (Aquilaria sp.), known as eaglewood, is *lelah* or *sekkau* in Punan languages. The *gaharu* is exported and used for perfumes, incense, soaps, etc., and is also a traditional medicine for local people.

the activities of missionaries in the area. Kalimantan has several churches (Catholic and Protestant) and, according to some villagers, the Catholic missionaries accept the continued practice of traditional rituals (healing practices, transition rites, etc.) while Protestants prefer to suppress them. The government has accepted missionaries from Italy, Belgium, France, Germany and Holland, while Islamisation is a major force in coastal cities, reinforced by the arrival of migrants from other islands. Difficulties have occurred over the past years due to increasing contact between indigenous peoples and newcomers, but despite its remoteness, development programs have stimulated the movement of migrants from other parts of Borneo and other islands of Indonesia to Malinau District.

Punan sedentarised in resettlement villages are losing the oral traditions that previously served to transfer their traditional knowledge and religious beliefs from generation to generation. Since the 1970s, many have lived in a transitional state as they became semi-sedentarised in small upriver villages or in resettlement villages downstream near Kota Malinau, the capital of the district. The change in lifestyle has affected many young Punan, especially those in *Respen* Sembuak, a resettlement village situated across the river from Kota Malinau. Since January 2000, the Malinau area has become a *kabupaten* or district; prior to this the Malinau area was part of the district of Bulungan with the coastal town of Tanjung Selor as its capital.

The Punan are trying to adapt themselves to these new conditions. Traditional practices such as hunting with dogs and blowpipes, collecting medicinal plants and herbs for medicine, and the making of their own tools and household goods is disappearing, while activities associated with modern life are appearing. The use of shotguns for hunting and the purchase of aspirins for illnesses is becoming widespread. People increasingly purchase manufactured goods, and have become dependent on tobacco, sugar, kerosene and many other industrial products (figure 2). The transfer of traditional knowledge and skills, and the 'learning by doing' which usually began with initiation ceremonies, are fast disappearing. Practices such as the making of rattan bags and blowpipes, hunting with adult members of the community, communal cooking, and the narration of legends, myths, folktales, songs, poems, prayers, traditional dances and rituals are all becoming less important. During these activities, elders explained their acts and gestures; great attention was given to observing and participating in these activities, while each gesture had to be practiced until it could be repeated.

Such forms of knowledge sharing meet many obstacles today. Most members of the younger generation prefer to watch TV and DVDs and listen to the radio rather than their elders reciting poems and legends. The Punan are trying to adapt themselves to this new way of life but are encountering difficulties. The rapid disap-

pearance of their cultural identity is creating confusion and uncertainty about the future for the younger generations.

What do the Punan really want?

All contact with outsiders whether governmental or non-governmental influence local culture and identity. But of course the Punan also watch TV and have satellite dishes. They are aware of the possibilities for an 'easy' life in the city, with transportation, electricity, clean water and modern technologies for cooking in their homes. Most find this 'modern' lifestyle attractive. Some anthropologists, especially Western ones, have painted a situation where forest-dwelling peoples have a strong desire to retain their traditional ways of life, a desire which was not apparent in my studies of the Punan. Young Punan in the resettlement villages equate a 'better life' with an urban life, and aspire to the tin roofs and concrete houses they see on television. Electric generators, televisions, DVD and VCD players, chainsaws, jeans and T-shirts are some examples of preferred purchases when they have money.

As part of my research I asked Punan parents what they wanted for their children's future. Most stated that finding salaried employment was their highest priority, and dreamt of their children getting work as government employees, military officers or missionaries. Finding work as teachers, nurses and workers in mining or logging companies was likewise aspired to, the ultimate aim being the security of a monthly salary and access to the privileges and facilities associated with formal sector employment. More recently, people have come to view employment as local assistants or guides for international organisations such as the Center for International Forestry Research (CIFOR) and the World Wide Fund for Nature (WWF) as desirable, as 'easy' jobs with good salaries.

There is a tradition of young people leaving their villages to seek employment elsewhere; remittances from family members working in other parts of Indonesia and in Malaysia are an important source of revenue for many families. Younger Punan often take on dangerous and socially marginal jobs in mining and logging companies, and are readily exploited by employers in distant locations while enjoying few safeguards and benefits. Some young people from Setulang, a Kenyah Uma Long village, worked for a Malaysian logging company in Brazil. They claim that they were well paid and that it is better to conserve the forest around their village and to 'log other people's forests'.

Young Punan realize that to survive they need to adapt to new, 'market-oriented' situations. They learn languages (Bahasa Indonesia and English) rather than their ancient Punan language. The latter, still used for telling folktales and poems about

the life of ancestors, is rapidly declining as few people remain interested in speaking it. In public schools, children learn to speak Bahasa Indonesia, the official language of Indonesia, and to write with the Latin alphabet, which enables them to communicate with other ethnic groups. Bahasa Indonesia and English also help them find jobs in urban areas. This is similar to the situation in Europe, where in France youngsters don't want to learn *patois*[86], preferring to learn French or English to compete with other young people in the European Union.

Pak Bare Tangga from Bila Bekayuk village is the only person in the area who can now recite a *ketuya* poem. These traditional Punan poems about the life of ancestors in the jungles of Borneo (they can be very long, up to seven hours for each poem) are not being learnt by his children as they consider the poems too complicated; they moreover consider it useless to learn a language that cannot be used outside their immediate community. Instead, they prefer to listen to rock and roll or the popular *dangdut* music. They want to wear jeans and T-shirts like other young people around the world, to be world citizens and benefit from all the perceived benefits of the outside world. Implicitly they see globalization more as an opportunity than a threat.

Many youngsters in resettlement villages have forgotten their Punan ancestry; they say, with irony, that they would not be able to survive in the jungle on their own, as they were born in resettlement villages and have been educated for an urban lifestyle. At the same time, they still tend to lose out to the younger generations of other ethnic groups whose parents were already integrated into the more formal economy. They frequently have few options other than to take menial and socially less desirable and poorly paid jobs.

It is noteworthy that the Punan's interest in modernity, which recognises the utility of new technologies, is born of sensitivity to the local environment. This is epitomised by the experience of one young Punan who went to Jakarta for a few months of computer training. He found much of the technology he observed to be interesting and desirable, but emphasized that not everything was suitable for his part of Borneo. He did not, for instance, see the value of buses in his hometown as there are no asphalted roads, and the main means of transportation throughout much of Kalimantan remains motorboat and canoe on the rivers. He would have preferred a little *bajaj*, a three wheeled motorcycle, to go to his rice fields through forest paths.

Health is a major concern for all Punan people throughout the area. They have faith in modern medicine and one of their main dreams is to have better access to hospitals and manufactured medicinal products. Traditional medicine is still

86 *Patois*: vernacular or local language from a specific area in France.

practiced but it is never the preferred option for serious health conditions. The 'magic' effects of even such basic drugs as aspirin are still viewed with awe by the Punan.

What do the Punan think of conservation?

When questioned, Punan will speak of a 'forest in the city' or a modern and 'easy' life in the middle of the forest as ideal scenarios. They still attach value to features of their forest homes, but for the majority, nostalgia for the past is muted by their desire for the benefits of the 'modern' world. The challenge for international conservation and development organisations is to help the Punan find a future that combines the best of their traditional lives with the advantages of modernity. The view of some international activist groups that peoples such as the Punan wish to be left alone to continue their traditional lives is not a view that any of the Punan in my study area subscribed to. Their lives in the forest are harsh, precarious and put them at the margin of survival; most see participation in the modern economy as the only hope for advancement.

The widely held view that people like the Punan are reluctant to see logging and mining companies enter into the forests does not accurately reflect the attitudes of the people I studied. True, the Punan resent outsiders getting the best jobs and most of the benefits, but their desire to secure paid employment outweighs their reluctance to see commercial activities in the forest. Given the choice, almost all would welcome any outside source of employment, although more safeguards, a greater role in decision-making, and a greater share of the profits would be welcomed. The Punan retain a sense of ownership over their traditional land, and share with indigenous groups around the world frustration that they have little influence over, and derive relatively few benefits from, outsiders' use of their land.

Culture and tradition are closely linked to forests and their biodiversity. Biodiversity means something special to the Punan. The diversity that they value relates to the varieties of plants and animals that they encounter, use, or eat in everyday life. They recognise several dozen varieties of durians or mangoes and exploit them as part of their swidden agricultural systems. They value wildlife and eat as much wild boar as they can successfully hunt. Global rarity or conspicuous colours and attractive forms that make wildlife attractive to outside conservation groups are not highly valued. Some animals are the object of taboos, or may have significance in rituals and decision-making. Hornbill feathers, for instance, are important in ritual headdresses but it is far from clear that the Punan or other indigenous groups see the over-hunting of hornbills as a threat to their cultures. Until quite recently, hornbills were probably seen as an inexhaustible resource.

The Punan have their own knowledge systems which outsiders rarely value. One example is their use of the lunar calendar, which influences the time of the planting and harvesting of different crops and seems to correspond to similar systems that still persist in the developed world. These sorts of traditions have evolved over centuries and it is regrettable that most outsiders see them as quaint and of little practical utility. They probably reflect very sensitive and important environmental considerations that are important for local agriculture.

The Punan and the Heart of Borneo initiative

What does the Heart of Borneo initiative mean for the Punan? The Punan's *tanah adat* (territorial land rights) are located right in the middle of the project. Most Punan live in East Kalimantan, but other groups also live in West Kalimantan, Brunei, and Malaysia, where they are known as the Penan. The joint initiative between Indonesia, Malaysia and Brunei could prove important for them, as extended family ties exist between the Punan and Penan groups across the frontiers presently dividing peoples who lived in a single continuous forest area.

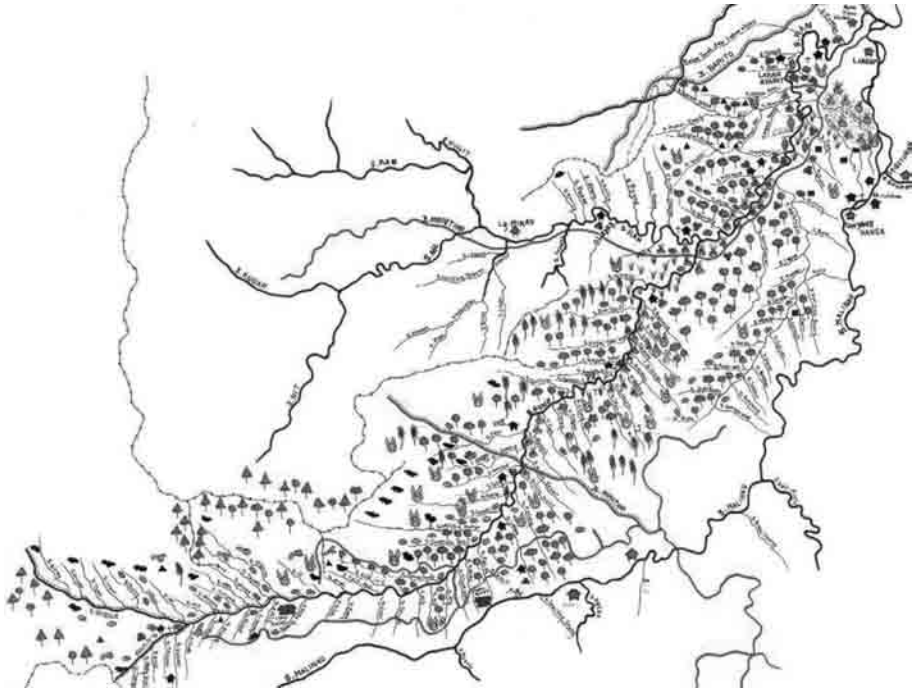
What sort of conservation approach would make sense to these people? One model is KDTKI, 'A village with conservation designation', developed by the International Center for Research in Agroforestry (ICRAF) in Gunung Halimun National Park, West Java and in Krui, Lampung, South Sumatra. Here villagers receive benefits in exchange for commitments to protect features of environmental concern. Contact with research and conservation organisations has made the Punan aware of the benefits that could accrue from an environmental service payment mechanism. One Kenyah village in my study area, Setulang village in Malinau Regency, took a similar initiative to conserve their local forests and to secure outside support for a 'conservation concession'.

Despite the efforts of outside conservationists, however. it proved extremely difficult to deliver even minimal payments to the village for its commitments. Aware that conserving tropical forests has become an international concern, villagers think 'outsiders' should contribute to their livelihoods in exchange for their conservation initiatives. So far they have been disappointed. Some elders have reacted to the activities of international NGOs by suggesting that there should be a 'counterpart' commitment by developed countries to reduce pollution in the big cities and to address the environmental damage that results from industrial activities.

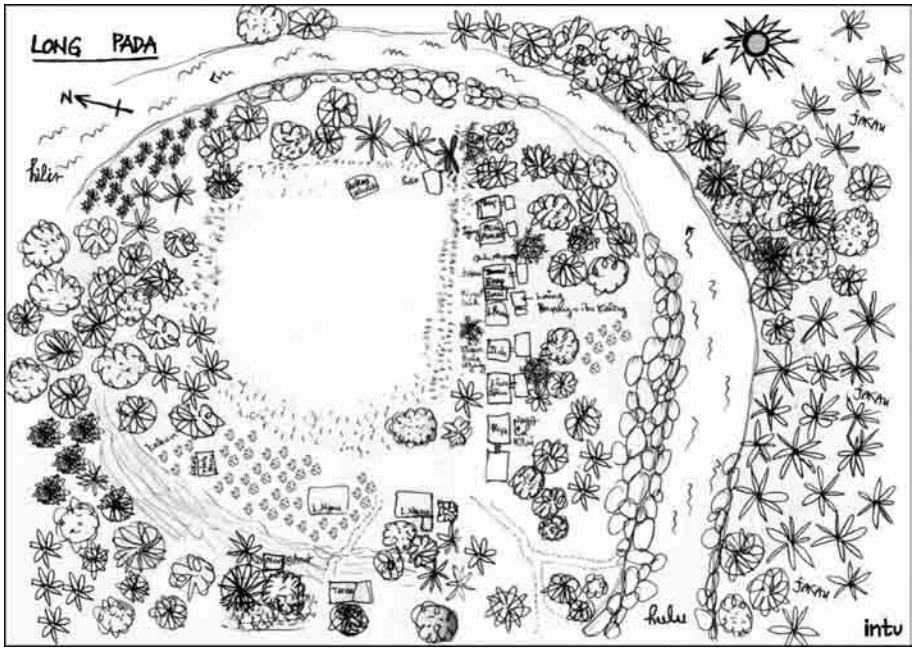
What then are the options for local populations? Would they benefit more from logging, coal mines, oil palm plantations, agro-forests, non-timber forest products or a national park? Probably their ideal landscape would consist of a mixture of the above options. Some elders say they would like to be in the national park,

with the privileges of being a local person but without the constraints on forest use and on deriving a living from it. This concept, which emerged spontaneously in my discussions with the Punan, sounds similar to concepts of extractive and indigenous reserves. Local people in Borneo are aware that locally managed reserves have been established in South America and the Philippines. But given the diversity of peoples in Borneo how would such schemes translate into reality? Each group in Borneo has specific traditional land rights and *adat* or customary laws. Any community conservation initiative would have to take this local complexity into account.

Landscape management by the Punan and Dayak includes slash and burn cultivation, the collection of non-timber forest products, gardens for manioc, taro and vegetables, and the designation of zones for hunting (map 9.2). Punan village planning is also well adapted to the local environment and landscape; the position of houses is usually determined by environmental conditions, as is the location of gardens, fallows (*jakau*), cemeteries and water sources. Punan 'territory' is not just a vast and uniform forest, but a rich mosaic of areas with specific uses and categories, a useful basis for outsiders to understand conservation and development options for the region (map 9.3).



Map 9.2 ▪ The landscape as the Dayak see it (Source: CIFOR).



Map 9.3 ▪ Example of landscape management in a Punan village in the upper Tubu.

In-depth study of the Dayak and Punan way of 'seeing' their landscape would be beneficial. The Punan see the landscape as a mosaic of different forests and land-cover types, and their understanding is based on the experience of generations who have lived and conserved their natural environment. This knowledge is a resource that needs to be conserved, both for its potential application in the modern world and out of respect for the rights and traditions of the people themselves.

Conclusion

As interested parties with well-founded views on what happens in their forests, the Punan and other ethnic minorities need to be involved in the development of concepts for the Heart of Borneo initiative. It is mistaken to think that they are opposed to both conservation and outside economic activities. Like most other people, the Punan want a balance between measures to promote their economic well-being and measures to protect their environment. They want a fair share of the benefits that come from developing the land, as well as to maintain their ethnic identity. They want to be involved as equal partners, and not be informed afterwards of what has been decided for their future. They want to be treated as full members of society and not to have their interests defined by the romantic idealism of foreign anthropologists.

In many parts of the world resource managers are now confronting the problems raised by indigenous peoples whose land was expropriated for timber harvesting or for national parks without their consent or involvement. Grievances remain decades and centuries later, while courts try to sort out the rights and wrongs of the past. In the Heart of Borneo there is an opportunity to do things in ways that will prevent these future problems, but it is essential that the Punan and others are involved from the start and that their views are genuinely listened to. I am sure that the Punan would welcome the Heart of Borneo initiative so long as they are involved in and benefit from the process. An initiative to create more protected areas and promote sustainable development will be welcomed, especially by those who are still dependent on the forests and its products.

So far the Punan have been under-represented in district governments and have received few advantages from the activities of outside companies. Other Dayak groups have received most of the benefits as they have had greater access to educational facilities and other services due to their longer contact with outsiders and proximity to the town of Malinau. In contrast the Punan have often been considered 'backward' and 'primitive' by neighbouring groups due to their continued dependence on the forest, a characterization that has been reinforced by the Punan's limited access to education and health care in their isolated communities.

Improving the management capacity of existing protected areas would benefit from the help of local Punan who remain its most knowledgeable guides. Recognising and empowering their local knowledge would be an excellent way for them to participate in the Heart of Borneo initiative. International organisations such as WWF or CIFOR employing Punan youths as field assistants in biodiversity research and surveys can bring the latter stable or supplementary income to improve their quality of life.

A recent trend among some young people is to return to their traditional *adat* lands. Some Punan from Respen Sembuak have returned to their lands in the upper Tubu area where they have more land to open and vast potential *ladang*.[87] They also see the advantages of being upriver, especially as they may receive a '*ganti rugi*' or fee from logging concessionaires who move into the area. The movement back to their traditional areas is partly motivated by the desire to re-affirm their *adat* rights.

Implementing environmental payment services or the creation of an indigenous reserve might be ways of bringing benefits to local peoples and to make them feel more responsible for their forests and for the richness of their natural resources.

87 *Ladang* is a dry ricefield, used in swidden cultivation/slash and burn agriculture. *Sawah* is the irrigated ricefield we normally find in Java and Bali.

So far, with 'un stockage de nourriture sur pied' (permanent food stock and game running wild in the forest), they have not needed to think about how they would live in 10 or 20 years. If the population does not receive any short-term benefits from the Heart of Borneo initiative, they will not support it. It is clear that they need to be involved in activities that concern their environment, while enjoying the benefits – of ecotourism, for example – might convince them of the practical benefits of keeping their environment in its pristine state.

More specific benefits might derive from reforestation with local species rather than exotic species whose values are unknown to local people. Most Punan see the value of preserving local plants and animals, as they see advantages in having them in the future. But if traditional knowledge is lost, then much of the value of the forest will disappear too. For this reason, as well as for many others, it is important to preserve both cultural identity and traditional knowledge as an integral part of the forest ecosystem. An awareness of the importance of local cultural identity should be given prominence by outsiders, stimulating Punan to take pride in their culture.

In the Heart of Borneo Initiative, conservation should interest everyone concerned. All social classes, ages, genders and ethnic groups need to be involved. Programmes on conservation could be introduced into school curricula in the different provinces of Kalimantan, to build a foundation for conservation among younger generations. Local people agreed with the *bupati* (head of the district) when he said: 'Conservation is not only an European affair anymore, Indonesians should be interested and doing it too'. The most important thing for a large initiative like the Heart of Borneo is to create a sense of ownership among members of the local government and local people. This may mean that the conservation agenda is not entirely consistent with the understanding of international conservationists – but it will greatly improve the chances of achieving a sustainable future for the area.

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Building conservation around local preferences

Concepts, opportunities and progress

10

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Recognising local views and preferences provides many opportunities for collaboration on conservation measures. The key is finding out what local people value and what they want to achieve. In Borneo, we developed and evaluated methods intended to characterise habitats, species and sites and the nature of their significance to indigenous communities. Our approach allowed us to identify priorities and threats, suggest improved management options, and define areas and landscape elements requiring protection. We have returned this knowledge to local stakeholders in various ways. Our goal is to contribute to building a well-informed and broad consensus on the need for conservation as part of an effective program of land-use planning, implementation and forest management. We have been successful in improving communication and changing attitudes both within the communities we worked with and more widely. Local people remain encouraging about our involvement, and although we are unable to affect outcomes directly, our approach, engagement and information sharing are having a significant impact on local perceptions relating to conservation. Such approaches have considerable promise for wider application.

Introduction

Government, business, and even conservationists often view extensive tracts of tropical forests as opportunities: empty unused land waiting to be claimed, areas to be developed or conserved. These areas are seldom empty. Communities may live in these areas and/or possess long-standing claims on them. Such people are nearly invisible in the decision making that impacts their lives (Scott 1998). They often end-up paying a high price for external interventions, including conservation (e.g. Balmford and Whitten 2003).

Also Borneo faces many demands from differing stakeholders. Its immense biodiversity has captured international attention. At the same time economic interests have led to major developments in logging, mining and plantations. The external decisions driving current land-use – whether establishing timber concessions, oil-palm estates or protected areas – seldom consider the perceptions of, and impacts

upon, local people. The result is that impacts (social, economic and environmental) are often perceived as negative.

Communities can experience imposed conservation as simply an unwelcome attempt by outsiders to gain control over their land and resources. That indeed is often what they are. In such cases wholehearted local support is improbable. Without local support conservation activities are likely to be undermined and unsustainable. But such opposition does not imply that local communities are inherently opposed to conservation *per-se* – especially if conservation can fit with their perceptions, choices and requirements (Sheil *et al.* 2006, Vermeulen and Sheil in press).

There is much unexplored potential for conservation-oriented collaboration involving local communities. While local involvement in developing conservation strategies is far from a new idea (Clad 1985), practitioners and critics seldom consider or investgate all the consultative, participatory and democratic options (Kramer *et al.* 1997; Wilshusen *et al.* 2002, Brechin *et al.* 2002). To identify suitable options requires many pre-requisites, notably including a good relationship with local communities and an understanding of their perspective. How can we begin to build such an engagement? Good intentions often founder when confronted with local distrust, language difficulties and profound cultural barriers. But it need not be that way.

We believe that with the right attitudes, approaches and methods conservationists can engage effectively with local people to achieve conservation goals. Treating local people as potentially powerful allies in conservation efforts makes sense and can lead to better conservation outcomes.

At CIFOR, we have worked with various partners to develop methods which can help build collaboration with remote indigenous communities in Borneo. Our approach is based on building communication, understanding the context in which local people live, on good science and, most importantly, on identifying local views and aspirations (Sheil *et al.* 2002, 2004, 2006, Liswanti *et al.* 2004). By engaging with communities in this manner we have been able to build mutual understanding, trust and a good shared basis for future work. We have also been able to clarify the opportunities, synergies and obstacles to developing better land-use and conservation in the region. We find considerable support for achieving conservation outcomes in Malinau (Padmanaba and Sheil in press). Our research in Borneo and elsewhere suggests similar approaches can be effective under a broad range of conditions.

Our paper combines two linked goals (1) to introduce our approach and methods and (2) to highlight their potential for achieving improved conservation out-

comes. We use our work in Malinau East Kalimantan to provide illustrations. Our paper is structured as follows. First we give the context of our work, describing the location and its conservation significance. Next we briefly outline the nature of the methods used before then providing some specific results. In the penultimate section we synthesise some results from our surveys and the lessons regarding local perceptions of the forest and natural resources. Finally we consider the larger opportunities suggested by our work namely how conservation, especially in Borneo, can gain local support.

Context

Location

In 1996, the Indonesian Government provided a forest area in the Malinau and Tubu watersheds of East Kalimantan, Borneo, where CIFOR could conduct long-term research. This forested area lies just east of the Kayan Mentarang National Park. Although relatively unknown from a biological perspective, we suspected the site would be of global conservation significance with numerous rare plants and animals – a prediction our research has since verified.

Our work was conducted in the middle to upper reaches of the Malinau Valley. The indigenous population includes the Merap, Punan, and Kenyah ethnic groups, and the entire area is divided up by traditional claims. Population densities are low (generally less than one person per km^2).

Under Suharto's New Order administration, most of the area was allocated to timber concessions with little regard for local claims or rights. Some steeper land is designated as protected forest, but much of the more accessible remainder has been logged or is likely to be logged. In the early 1990s, large-scale coal mining began on the lower Malinau and private plantation development rapidly expanded.

Political reforms since 1998 led to the central government increasingly devolving power to the district government. This allowed local authorities to allocate logging and land clearing permits themselves, but a rapid rise in forest clearance (Barr *et al.* 2001, Limberg *et al.* 2004) prompted the central government to declare such permits illegal. The ownership of forest land and traditional territories remains unresolved.

Biodiversity

Borneo contains an estimated 15,000 species of flowering plants, of which a third occur nowhere else (MacKinnon *et al.* 1996; Kier *et al.* 2005). The island simi-

larly contains at least 37 endemic birds and 44 endemic land mammals as well as various species threatened with extinction elsewhere (Meijaard et al. 2004). New species are regularly found (WWF-Indonesia 2005). Data on Indonesia's lowland forests are limited (Soedjito and Kartawinata 1995; Guhardja et al. 2000).

Our work in Malinau shows that this region is biologically rich (Sheil 2002; CIFOR unpublished data), with several new species identified during our surveys (Rachmatika et al. 2005 and CIFOR-unpublished data). Malinau is markedly heterogeneous in terms of geology, altitude, terrain, drainage and soil types, providing many habitats and niches in which different species can specialise (Basuki and Sheil 2005). One 1-ha plot alone contained 225 tree species (>10cm diameter), making it the richest plot yet recorded in the entire Indonesian archipelago (CIFOR unpublished data).

Approach and methods

A full description and guide to our approach and methods is provided elsewhere (Sheil *et al.* 2002, 2004). Here we give a brief summary.

Our multidisciplinary approach was developed by a multi-disciplinary team of researchers during a study with seven Merap and Punan communities in the forested upper portion of the Malinau watershed (see table 10.1). These communities encompass a broad variety of circumstances. For example, proximity to Malinau town varies from 1 hour to several days.

The Punan and Merap represent distinct cultures, the most obvious difference being the Merap's historical emphasis on rice farming while the Punan have specialised more in non-agricultural, forest-based activities (Kaskija 1995). The Merap are politically active, whereas the historically more nomadic Punan are often viewed as 'backward' by government. In recent decades the government has sought to settle the Punan and encouraged them to develop agriculture.

Our surveys revealed that most household heads in the seven communities describe themselves principally as 'farmers', followed by '*gaharu* (agarwood) collectors' [*gaharu* is a valuable natural resin produced by *Aquilaria* trees when infected by certain fungi] (85) and 'labourer' (forestry/mining; 46).

Table 10.1 ▪ Survey communities

Village/ community	Principal ethnicity*	No. of people (households)	Primary activities	Nearness to Malinau town**
Gong Solok	Merap	208 (44)	Rice farming	1 hour by road
Langap	Merap	415 (99)	Rice farming	4 hours by road + river crossing
Paya Seturan	Merap & Kenyah	116 (25)	Rice farming, fishing	4 hours by road
Punan Rian	Punan	39 (9)	Hunting, fishing, rice farming	4 hours by road
Laban Nyarit	Punan & Merap	138 (29)	Hunting, fishing, *gaharu* collection	4 hours by road + 2 hours by boat
Lio Mutai	Punan	53 (11)	Rice farming, hunting, fishing, *gaharu* collection	4 hours by road + 6-8 hours by boat
Long Jalan	Punan	114 (31)	*Gaharu* collection, hunting, fishing	4 hours by road + 2-3 days by boat

*Note: In general, efforts were made to keep ethnic identities separate in the data recording, although this was not always practical in some settings, such as community meetings.
**Situation 2000. The road now reaches further upstream, but is very poor.

Based on the question, 'What is important to these people and how might this improve decisions about tropical forest landscapes?', our initial activities included a baseline biodiversity survey, with three main components: 1) finding out what occurs where (habitats, locations and species); 2) assessing to whom it matters and in what way; and 3) identifying and sharing implications. This paper focuses on the second and third components.

The research team stayed with each community for three to four weeks with various follow-up visits afterwards. The first few days were devoted to introductions and planning. The researchers were then divided into two teams: one that worked in the village and one in the field. The field team concentrated on identifying what species occurred where, and their biophysical context. Two hundred sample points were assessed, including locally important sites identified by community members and visited under their guidance.

The 'village team', along with several local assistants, held community meetings, focus group discussions, household surveys and interviews. They collected information about the local views, preferences, needs, culture, institutions and aspirations, and examined community perceptions of, and relationship with, the landscape. In addition, key informants identified and located local forest products and landscape units. Scoring exercises, known as the 'Pebble Distribution Methods'

(PDMS), were then held to quantify the importance of these products and lands, with further explanations sought from participants after scoring. The exercises were structured by developing and defining 14 'use and value categories' in collaboration with the first two communities we worked with (table 10.2).

Table 10.2 ▪ Use and value categories.

Category	Our explanation (based on pilot study)
Food	Primary and secondary foods, including famine foods
Medicine	Medicinal and health-related
Light construction	Poles and cut timber for huts, forest camp structures, fences, animal cages
Heavy construction	Poles and cut timber for houses
Boat construction	Timber and sealants for boats (not including oars or punting poles)
Tools	Plant parts used for tools in agriculture, hunting, boating. Includes blowpipes, spears, oars, punting poles, rice pounders, tool handles
Firewood	Wood used as fuel
Basketry/cordage	String, weaving materials, etc.
Ornamentation/ritual	For ceremony, dress, jewellery, decoration
Marketable items	Products that are sold or traded
Hunting function	Poisons, bait, gums used to catch animals
Hunting place	Indirect use of plant as improving a hunting location, usually fruiting trees
Recreation, toys, fun	Area or forest product used for fun or entertainment
The future	General (not explained in detail; depends on the informant)

Mutual understanding is critical. Emphasis was placed on finding terms and categories that were clear and meaningful for both local participants and the researchers. Joint mapping exercises ensured that the community and the researchers had a shared geographical perspective. The scoring exercises used illustrated cards to help the less literate remember each category. As not everyone was at ease speaking in Indonesian, community members were sometimes required to act as translators.

Wider application and availability

Our methods have been published in Indonesian, English, Spanish and French (Sheil *et al.* 2002 et seq.) and we have developed a multilingual website to share our experiences www.cifor.cgiar.org/mla).

Trials and adaptations of our approach have been conducted in Bolivia, Mozambique, Cameroon, Gabon, Phillipines, Vietnam and West Papua. To assist land-use planning, we have used GIS extrapolation to help visualise local values across larger landscapes (Lynam *et al. submitted*). We have also compiled and reviewed ecological information to help improve timber-harvesting methods (Meijaard *et al.* 2004).

A synopsis of selected results

Mapping important sites and rare taxa

Our biophysical surveys were faced with assessing a rugged area of about 2000 km^2 for which the available maps were poor and of limited value. We developed simple base maps from satellite imagery, identifying major rivers, roads, villages, and mountain ridges. Communities then provided names, resource locations such as for sago (*Eugeissona utilis* and *Arenga undulatifolia*), rattans (*Calamus* spp. and *Korthalsia* spp.), agarwood or *gaharu* (*Aquilaria* spp.) and damar (*Agathis borneensis*). They also included various important 'special sites' including good hunting locations, saltlicks, caves, gravesites and former villages, as well as symbolically important, sacred or taboo places. Damage to such sites (including well marked grave sites) by loggers and others was a major complaint by communities All such sites have specific values that should be recognised in conservation and land-use planning.

All the communities surveyed have a history of moving every few years or decades. Historically this was – as clarified by our interviews with knowledgeable community members – due to tribal war, floods, disease and crop failure. More recently movements have occurred in response to government settlement programs. These migrations have left communal history imprinted on the landscape. This history shapes patterns of knowledge, resources, ownership and the personal and heritage values associated with the past, even in the most apparently remote and uninhabited areas.

The maps provide impressive detail for even distant and seemingly vast and inaccessible areas. Given the region's size and limited accessibility, this broad range of information would be nearly impossible to discover from first-hand field exploration only. Ecologically, they reveal the localised nature of many natural resources and their site associations, many of which we were able to check during our field sampling using local guidance.

In our sampling, we sought to understand the range of sites and habitats identified. We suspected special sites often have significance for local people and might contain niche habitats and species. For example, the limited areas of limestone

outcrops provide habitat for the cave swiftlet *Collocalia fuciphaga* and related species whose nests are highly valued for Chinese soups, but also support a variety of limestone and cave dependent species. We specifically sought out such sites using local guidance. These samples (especially those in natural habitats) did, on average, add more (unique or otherwise unobserved) species per sample to the overall survey than more 'typical' sites (Sheil 2002). If our aim was to observe and record as many species as possible in the fewest additional samples, the most effective means would be to ask local guides to take us to more such sites. However, we emphasise that species discovery and counting – though interesting for us, and helpful for conservation planning – is not a primary concern for local people (Sheil and Lawrence 2004). More importantly, many special sites have a special significance to local people … and as our field surveys confirmed, are often being damaged by externally imposed logging and other interventions.

Concerns and aspirations

Household surveys in each community revealed a range and diversity of local environmental concerns. The answers about 'threats caused by human activities' were particularly interesting. It is striking in table 10.3 that threats are reported so unevenly and not as we outsiders might expect. For example, based on other information and discussions with the community, logging undoubtedly has had a significant impact on people in Paya Seturan, yet no one mentioned this. However, failure to mention something may not always imply an absence of concern: as the table reveals, many Punan appear especially unwilling or unable to voice an opinion.

Table 10.3 ▪ What are the threats caused by human activities?

Village	LJ	LM	PR	PS	LN	Lg	GS I
Number of interviews per village	30	14	13	13	32	30	31
Overcutting by logging company	3	7	-	-	31	28	27
Illegal logging	-	-	-	-	4	-	4
Large plantations	-	-	-	-	-	1	2
Coal company	-	-	-	-	-	8	
Swidden cultivation-land shortage	4	2	5	5	9	2	7
Over collection of Aquilaria (Gaharu)	11	-	10	10	-	-	-
Bad research (!)	-	-	-	-	-	1	-
Conflicts with other communities	-	-	1	1	-	-	-
Didn't know	15	6	2	2	-	-	4

*Each respondent can give as many responses as they wish. PS = Paya Seturan, PR = Punan Rian, Lg = Langap, LN = Laban Nyarit, LJ = Long Jalan, LM = LioMutai, GS = Gong Solok.

Table 10.4 ▪ Suggested actions if forest resources are degraded or used up, and the factors important to maintaining forest value

Village (N= 137)	Response from local people /Total number of respondents in each community*				
	LJ	LM	LN	Lg	GS I
	30	14	32	30	31
Suggested action to be taken if forest resources are degraded or used up					
Grow tree crops	–	3	13	16	3
Protect trees – ban cutting	7	4	3	4	2
Limit the logging area by the company	1	–	7	3	8
Keep the forest as a protected area or customary forest	2	1	2	1	9
Replanting	3	–	4	1	1
Bar outsiders from entering community area	2	–	–	–	–
Didn't know	13	6	5	6	6
Factors important to maintaining forest value					
Fruit trees as a heritage for grandchildren	5	–	11	4	13
Birds, because they spread forest seeds	17	1	–	4	4
Koompassia excelsa (trees used by honey bees)	1	1	5	4	3
Ficus sp. (Beringin), because it has mythical associations	2	–	–	–	–
Other specific tree species: Gaharu (*Aquilaria beccariana*), Sago, *Shorea sp.*, *Agathis sp.*, etc., because of value for the local people.	3	–	1	2	1
Wild animals as a heritage for grandchildren	3	–	2	1	1
Trees in customary forest	–	–	1	–	2
Bats, because they spread forest seed	1	–	–	–	–
Didn't know	9	12	13	17	11

*Each respondent could give as many responses as they wished. Lg = Langap, LN = Laban Nyarit, LJ = Long Jalan, LM = Lio Mutai, GS = Gong Solok. Due to revisions of the questionnaire, the data from Paya Seturan and Punan Rian are not comparable with these results.

Responses to concerns are various. Village respondents highlight schooling as being especially important for bringing about better opportunities for young people in the future. Health issues are also noted: 84 households mention disease as requiring increased medical aid, yet only 28 also rated traditional medicine as

being important. Fifteen respondents specifically note the need to collect forest products for sale, to stave off the threat of hunger.

More central to this paper's specific theme are the answers to questions about how to address forest degradation and the factors important for maintaining forest values (table 10.4). Few respondents felt able to suggest useful measures or factors to safeguard forest values. The overwhelming impression is that although these problems are very real and locally acknowledged, they are new and there is little traditional knowledge or local confidence in dealing with them.

Importance of forest

How do people value their different land and forest types? Table 10.5 summarises the scores for land and forest types according to their use and value category. For all but two categories, people rated forest as most important. Rivers are preferred for 'recreation' (mostly described as fishing) and secondary forests for firewood, but primary forest is the most important overall. The results are not necessarily intuitive. For example, Langap people, with their apparently more sophisticated cultivation methods, still rated the forest as more important than fields because they said the forests were the most important source of medicine and timber, as well as providing land for cultivation.

Significantly, all sections of the communities generally considered 'unlogged forest' the most important land type, both in general and for almost all classes of uses that we assessed (table 5b; note here that classes of forest are not well bounded and are likely to overlap, such as between mountain and unlogged forest).

Importance of species

In another series of scoring exercises, informants first scored the importance of the 12 use categories and then scored the overall importance of plants versus animals in each category. Thirdly, they listed the top 10 'most important' wild plant and animal species collected from the forest for each category, and lastly they scored these 10 as well as accounting for the value of other species. The species listings used local names, which were later matched with scientific names as far as possible.

Tables 10.6 and 10.7 present specific examples for these extensive exercises. The illustrations show 'medicinal' importance (by older men in Gong Solok) and 'ornamental and ritual' importance (by older women in Gong Solok).

Table 10.5 ▪ Importance of uses (a) per land type and (b) per forest type (mean of seven communities by principle value categories. Note each column adds to 100).

Value category / Land type	All	Food	Medicine	Light construction	Heavy construction	Boat construction	Tools	Firewood	Basketry/cordage	Ornamentation/ritual	Marketable items	Hunting function	Hunting place	Recreation	Future
(a)															
Village	12.71	10.18	15.5	1.43	2.32	0.25	1.82	1.61	2.68	13.21	9.21	7.04	0.11	17.75	13.04
Old village site	5.86	6.5	4.82	4.79	1.5	0.79	2.46	2.21	4.46	5.29	6.71	5	6.04	2.11	4.89
Garden	11.43	13.86	8.39	4.71	1.07	0.18	0.25	8.61	2.5	10.46	16.86	4.5	6.96	11.71	15.86
River	13.39	15.46	11.11	10.96	6.71	7.82	8.93	19.04	10.68	15.61	14.57	7.89	14.54	26.57	8.54
Marsh/swamp	7.39	6.79	5.71	9.21	9.21	11.50	10.57	3.89	7.93	3.79	4.36	5.57	7.25	1.5	7.21
Cultivation	13.54	14.36	4.71	1.82	1.79	0.89	0.39	17	1.14	0.79	12.32	0.68	7.54	12.39	10.36
Young fallow	6.61	6.43	5.75	1.71	1.25	0.79	2.04	9.96	3.46	3.29	3.64	1.5	5.11	0.29	8.04
Old fallow	7.96	5.5	8.39	27.04	4.93	4.68	12.14	13.79	17.5	14.29	2.54	14.46	14.93	3.18	10.54
Forest	21.11	20.93	35.61	38.32	71.21	73.11	61.39	23.89	49.64	33.29	29.79	53.36	37.54	24.5	21.54
(b)															
Unlogged forest	31.43	38.75	36.29	35.61	50.71	49.50	44.68	29.07	39.04	30.32	35.79	43.5	36.46	34.26	30.68
Logged forest	10.14	8.75	8.18	8.61	5.89	4.61	5.11	15.89	5.86	9.96	8.43	4.93	7.25	8.41	12.71
Sec. forest	15.82	11.18	15.07	23.04	3.96	1.96	4.75	35.57	15.64	26.82	7.07	9.14	11.75	15.34	23.61
Swamp forest	18.86	11.32	12.71	12.11	10	15.46	14.57	10.14	14.68	12.14	12.36	13.71	15.57	18.19	13.68
Mountain forest	23.75	30	27.75	20.64	29.43	28.46	30.89	9.32	24.79	20.75	36.36	28.71	28.96	23.81	19.32

Table 10.6 ▪ Example portion of a community scoring exercise based on species by importance. This shows the medicinal importance for plants and animals given by older men in Gong Solok (Merap).

Plants			Animal		
Provisional ID	Local name	LUVIx100*	Provisional ID	Local name	LUVIx100
Psychotria sarmentosa	Rou' Helalai	0.350	*Ursus malayanus*	Praung Mbuea	0.369
Dissochaeta gracilis	Raou' Myanng	0.350	*Python reticulatus*	Ngie Penganen	0.272
Zingiber purpuracea	Rou' Liak tengan	0.350	*Ants/ Termites*	Tue Tana	0.214
Aristolochia sp2	Kah Kedayan	0.321	*Tragulus napu*	Nayaug Pelanauk	0.214
Zingiber officinalis	Rou' Liak Mbla	0.292	*Apis dorsata (honey)*	Ngiet Tanyit	0.175
Schefflera singalangensis	Kah Kuceih	0.263	*Manis javanica*	Ngaeng	0.156
Ziziphus angustifolius	Tanpahelaue	0.263	*Collocalia fuciphaga (birds' nest)*	Tepleih Lubuye	0.156
Stephania japonica	Rou' Klingiu	0.263	*Hystrix brachyura*	Mblung Tao	0.136
Tinospora crispa	Rou' Paay	0.263	*Mustela nudipes*	Hlangae	0.136
Kleinhovia hospita	Kenga'	0.204	*Psyconanthus zeylanicus*	Bau' maay	0.117

*LUVI is the local users' value index, a relative index that can be compared across classes. All LUVIs of all values and products considered add to one.

Table 10.7 illustrates that species of conservation significance also have local values, such as hornbills (*Buceros vigil, B. rhinoceros*) and sun bears (*Ursus malayanus*). Some species without a subsistence role (food, shelter, medicine or trade) are also important. Species with ritual uses are especially significant and appear impossible to substitute.

Our fieldwork collections showed that more than 1400 plant species out of the more than 2100 recorded have some recognised use or value. Of these, more than 100 had values without substitutes in other species. The scoring exercises clarify which species are considered most important. Among animals, wild pigs are the most valued as a preferred food item. Some resources, like arrow poisons, have

declined in value with the advent of guns. Our scoring results imply that several timber trees are the most valued individual plant species.

Table 10.7 ▪ Example portion of a community scoring exercise of species by importance. This presents ornamental and ritual importance for plants and animals given by older women in Gong Solok (Merap).

Plants			Animals		
Provisional ID	Local name	LUVIx100	Provisional ID	Local name	LUVIx100
Cocos nucifera	Nyau	0.315	*Buceros vigil*	Manauk talaung	0.323
Artocarpus odoratissimus	Kayau hmaug	0.187	*Ursus malayanus*	Weyeh (Mbuea)	0.306
Ficus uncinata	Laaung ntaya	0.140	*Buceros rhinoceros*	Manauk tekuan	0.289
Claderia viridiflora	Rou' mayau	0.128	*Cervus unicolor*	Payau	0.187
Knema mandaharan	Lau	0.117	*Neofelis nebulosa*	Tloeh	0.170
Schizostachyum latifolium	Mblou ngana	0.093	*Argusianus argus*	Manauk kuai	0.136
Calamus caesius	Ngoe ngka'	0.070	*Muntiacus muntjak*	Telaauk	0.102
Aquilaria sp.	Rou kemalah	0.047	*Gracula religiosa*	Manauk kiue	0.085
Callicarpa pentandra	Kala'	0.035	*Python reticulatus*	Pie pengenan	0.085
Kleinhovia hospita	Kenga'	0.035	*Tragulus napu*	Pelanauk	0.017

Synthesis

Forests, logging and local needs

Unlogged forest is consistently valued much more highly by local people than logged forest. If the forests were destroyed by logging this would seem un-surprising – yet commercial logging removes only a few stems per hectare and leaves tall species-rich rain forest behind. Explanations for the decline in value are various: a combination of diminished resources, reduced physical accessibility and reduced access rights.

One factor is the loss of the timber species themselves. Communities value timber for construction. Indeed seven of the top ten most valued species (overall) are commercially important timber species. Due to weight and difficult terrain, timber is only available to villages from specific nearby, or upstream, locations. Unlogged forest is the most important source. However, even in unlogged areas many locally prized timber species such as Kapur, *Dryobalanops lanceolata*, and Meranti, *Shorea* spp, are reserved for the timber concessions and not legally available to local people. While Ulin, *E. zwageri*, is protected by law for the communities, the law is seldom if ever enforced. Many communities already feel a shortage of the timber they use to build houses, boats and other essential items.

Logging is also blamed for other declining forest resources: regulations requiring concession holders to clear undergrowth and climbers every year for several years after timber felling are intended to encourage regeneration and reduce aggressive 'weeds'. In practice, many useful species are removed, including rattan, medicinal plants, animal foods and even timber seedlings. Even if applied properly, the silvicultural benefits are limited while the impacts on biodiversity and communities are considerable – we have proposed that this procedure be abandoned.

During initial surveys and while logging is underway, concession crews often supplement their income by collecting any valuable resources that they encounter. For example, most gaharu trees (*Aquilaria* spp.) are cut, even smaller ones. Local people resent this as gaharu trees provide the main source of cash income for young men. Exhausting the gaharu stocks appears to be a major concern for some Punan groups (note local communities do not cut all the trees in this manner, but are much more selective).

In all the communities the most valued food species is the bearded pig *Sus barbatus*. Pigs are a highly preferred food, providing the bulk of vital animal fats and proteins to local communities. Pig meat is also used in major celebrations and festivals (note all these communities are primarily Christians). According to informants, these animals decline (or are at least hard to find) in logged areas, forcing communities to find other ways to supplement their diets. Monkeys, for example, are more commonly eaten in active concession areas.

Food security and even hunger remain very real concerns. Crop loss from droughts and floods loom large in community histories – all feel that the forest provides insurance in times of need. Many remoter Punan cultivate little and regularly depend on wild foods, including palm starch (sago). However, such reliance on sago has been strongly stigmatised as symbolic of Punan 'backwardness' to the point where communities are ashamed to discuss it. Such problems are identified and understood only by using a range of approaches with several people. In the primary forest, the palms are common enough and community practices

protect them. They are, however, less secure in logged forests. The principle (and preferred) local sago (*Eugeissona utilis*) grows along ridge tops, where the palms are often damaged by machinery extracting logs according to standard logging guidelines that require skid trails and roads to follow ridge tops (Sist *et al.* 1998). Such concerns might be addressed by modifying skid-trail design, or perhaps by programs for improved food security.

Changing circumstances and land-use options

Local people vary in how they judge changes in their reliance on the forest, but overall there is a consistent trend away from subsistence and cultural needs to economic and material goals. Nonetheless, subsistence and cultural needs remain highly significant.

Responses to declining forest resources also vary. For example, Paya Seturan reacted to a timber shortage by deciding to keep a last area of local forest cover as a protected 'timber reserve'. Unfortunately, such sites are not officially recognised and so are threatened by concessions.

Other factors draw people out of and away from the forests. Some remote communities have shifted downstream to be nearer to schools and clinics. But the reverse is happening too: recently some Punan communities moved back upstream to their former villages in an attempt to secure tenure and control access to their 'traditional lands' (Moeliono *et al.* 2004; Yakub Payu, Village Secretary Long Mirau pers. comm.).

Exhaustion of gaharu (or price declines due to plantation-grown substitutes) appears to threaten many Punans' lifestyle. History, however, shows that a flexible and opportunistic lifestyle has allowed the Malinau Punan to respond to the boom and bust of past forest product markets (Sellato 2001), so it may seem premature to worry. Yet it is unclear what the new options might be. The most obvious opportunity seems to be deals with investors to sell land or timber, but flexibility will be lost once the forest is gone.

Uncertainty is a more general problem, brought about by political upheaval relating to control over land and natural resources, and options for cash. Overlapping claims by concessions, government, communities and individuals have led to confusion and conflict. At the moment, short-term options are substantially clearer than the path to long-term security, and inevitably a 'tragedy of the commons' favours liquidating forests. This is especially tragic as people do not wish this to happen, but many feel that if others are going to take away the forest anyway, then why not at least take a slice, too? Even when the forest's survival is preferable to the short-term cash options, 'no forest, but some cash' remains better

than 'no forest, no cash'. The cost to biodiversity and local communities looks likely to be considerable. But local communities cannot be conservationists when they have no reason to believe their personal stand will have any effect. No one has ever taken much heed of their views in the past (Limberg *et al.* 2004). Stability and confidence in tenure is desperately needed.

The forest is not just valued for products, but also as a source of land. In the local swidden system communities are able to grow subsistence crops despite the poor soil nutrients in all but a few areas, by accessing the nutrients from burned forest and fallows. Such practices only work when human densities are low and fallow stages are long. People are interested in innovation and seem willing to experiment with new crops and cultivation methods. Many of the questions asked of us during our stay concerned opportunities to grow cash crops such as teak, cocoa and coffee. Yet, crucially, the results from our biophysical surveys underline just how limited opportunities for such cash crops are. Away from the more level ground and richer river side areas – already used for the rice swiddens and fallows – the steep, highly erosive terrain will not sustain large-scale expansion of non-forest land-uses (Basuki and Sheil 2005). Indeed, the low population densities in the region reflect this low-nutrient ecology. Despite this, entrepreneurs continue to promote the benefits of oil palm and other plantations to people in Malinau. An incentive for local communities to clear land and plant perennial crops lies in the belief that this would ensure their ownership. Insecure tenure, competition between and within communities and poor regulation have all catalysed forest clearing.

The Malinau communities have normal human hopes and wishes – they want money to send their children to school and to have better lives – but this does not mean that they wish to see the forest disappear in return for cash. Balance is sought and local heritage, cultural contexts and ethics are also important. Preferences do not reflect simple finance-centric assessments (Posey 2000, Sheil and Wunder 2002). The common desire of those living nearby forests to protect these areas offers a real opportunity for conservation.

Follow-up; building effective engagement

We have reviewed and shared our survey results with local stakeholders in the hope to stimulate an informed discussion concerning desirable strategies to better protect local resources, conserve biodiversity and to contribute local voices to land-use planning and conservation decision-making.

We used various media. People in villages read little and there is no local radio, but colourful posters (typically of singers, footballers or film-stars) are found on

the walls of even remote villages. We developed posters describing and summarising our survey results. Content was reviewed with the local communities and largely represents their views as illustrated by our survey results, along with the wider conservation significance.

We also produced sets of informative playing cards picturing the 40 locally most important species (in various languages), outlining the values, sources, threats and possible conservation solutions associated with each. The cards also summarise various regional conservation facts.

We are working with local government and WWF to develop an environmental education program for the district, drawing on information from our surveys.

Most recently we have produced a documentary film that primarily shows local people and other stakeholders discussing issues raised by our research—we have distributed this widely in the region and used it as a basis for numerous meetings and discussions regarding land-use.

Impacts and challenges

Various insights from our surveys have immediate practical relevance, such as broad consensus on the need for logging companies to integrate conservation objectives into their management regimes. These objectives include protecting wildlife, water quality, sago and other forest values; preventing understorey slashing; and identifying protected areas both small and large that can be respected by all major stakeholders, such as grave sites, birds' nest caves, springs and timber reserves for local needs.

To gauge the impact of our dissemination work, we conducted an opinion survey in Malinau. At the same time, it provided a summary of current views regarding land-use and conservation in the region. This will be published in *Biodiversity and Conservation* (Padmanaba and Sheil in press). Here we shall highlight a few findings.

Our survey found that knowledge of, and agreement with survey findings increased among villagers, townspeople and civil servants after they received our posters. All respondents appreciated the materials and all agreed that forest conservation and local views are vital in land-use planning. All agreed that logging companies need to be better controlled, while 80% consider them a 'major environmental threat'. We conclude that there is considerable but largely untapped local support for improved land-use planning and implementation, including conservation (Padmanaba and Sheil in press).

There are opportunities for education, for example to improve knowledge and local pride in Malinau's remarkable biodiversity. We found only half of all respondents knew and agreed that 'there are plants and animals in Malinau that are not found in most other parts of the world' and many said they 'didn't know' (Padmanaba and Sheil in press). As elsewhere (Sheil and Lawrence 2005) we find local people excited to learn that they have such exclusive plant and animal species.

While we emphasise the importance of engaging with local perceptions, we also think that these can and should be evaluated. The views are not always well informed—especially when they relate to new developments or outsider interests. Attitudes to plantation development illustrate this:

The respondents of our opinion survey disagreed or were uncertain whether the region was suitable for plantation crops (Padmanaba and Sheil, in press). However, our evaluation of soil data and the application of official Indonesian Government criteria suggests that most land in the upper Malinau (200 of our 200 field sample points) is not economically suited for sustainable large-scale plantation crops including oil palm, pepper, and cacao (Basuki and Sheil 2005). High investments, low outputs, and high environmental costs – including fire, land slides and reduced water quality – are all likely.

So why don't people better recognise these costs and risks? Their perception is largely based on information from plantation investors, who have likely only presented the supposed benefits and not explained the risks. These investors often gain considerable timber revenues in the process of clearing land for plantation projects – and indeed many plantation schemes are never planted (fictitious oil palm plantations in East Kalimantan had already cost the state at least Rp. 3.5 trillion (US$372 million)). There has been little local publicity warning against this and it remains a difficult topic given vested interests (political embarrassment for officials to accept that they may have been duped). By raising concern in various fora, as well as in our posters and video, questions are being raised and the discussion has begun. Indeed this promotion of our survey results and the need for assessment, may have contributed to the recent ministerial agreement not to allow future plantation projects to go ahead without adequate impact assessments.

Plantations are not the only problem. The switch from centralised to local government has brought considerable confusion in Malinau. Control and regulation of natural resources remain uncertain. This insecurity allows a 'tragedy of the commons': many who can, take advantage of the situation, and others lose out. Put simply, the choice is 'get something from the forest now, or lose the forest anyway and have nothing'.

Thus, while local communities in Malinau, and indeed elsewhere, have the potential to be conservation allies this cannot be taken for granted. Any management system needs to find the right incentives, checks and balances (Redford and Stearman 1993, Hutton and Leader-Williams 2003). But there is little doubt that local people can and often do make choices that favour conservation when circumstances allow, and they want the ability to make these choices (Iwan 2003). Our results show that local people desire regulation as part of a fair, transparent and legitimate process.

Despite these challenges, there is scope for optimism. Since our project was undertaken and the dissemination materials distributed, the District of Malinau has made a public commitment to being a 'Conservation District' (July 2005). Though still lacking details, this is strong statement of political intent. In 2006 Malinau's Bupati, Marthin Billa, won the 'Kehati award', a prestigious environmental prize. Officially the district now claims to be 'fully committed' to implement sustainable development principles and sustainable forest management. We believe our activities and those of other CIFOR researchers have helped bring about this commitment.

Conclusions

Surveys like ours are only a first step. Grasping the full conservation significance of local information requires repeated consultation. Though demanding, conservation that responds to local needs and preferences offers much greater legitimacy than more traditional, top-down approaches. In most Western countries, conservation can claim the legitimacy of democratic demand and control; similar legitimacy can be sought in regions like Malinau where local populations should be allowed a greater voice in determining land-use and conservation agendas. Local people need to be viewed as prospective conservation allies. Asking people about their preferences is a good basis for developing this engagement.

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An etiquette of environmentalism

Interactions for natural resource management in the Philippines and Indonesia

11

Padmapani L. Perez

'Environmental projects must be participatory and include local communities if they expect to succeed.' This proposition has been the subject of debate time and again among agents of environmentalism as well as social analysts, without final consensus (see for example, Cooke and Kothari 2001; Hickey and Mohan 2004; Milton 1996; Zerner 2003). Environmentalists take different positions on this debate and thus create varying degrees of involvement and commitment with locals. Most conservation organizations routinely allocate staff, time, and resources to workshops, training seminars, information and education campaigns, and consultations involving local people. This then creates relationships and interactions among communities that need to be examined and explored, rather than taken for granted as part of the standard operating procedures.

In this paper, I will focus on interactions where environmentalists aim to enlist indigenous peoples and other local people to the green cause, on the premise that indigenous cultures engender ecological harmony or that locals possess an intimate knowledge of the environment, and that their cooperation is necessary for the success of an environmentalist project. It is interesting to note that even those projects within the scope of this study that aim to be highly participative and sensitive to indigenous cultures and indigenous peoples' rights eventually meet with a dissonance between spoken or written agreements, and the actions of people. Why so? The present paper explains this dissonance in the light of what was seen to pass between key actors before, during, and after participation in interactions that were organized around two, locally-contested sites for nature-conservation in the Philippines and Indonesia respectively, between 2002 and 2005.[88]

In both case studies, agents of environmentalism were observed to be working towards modifications of the actions and attitudes of the people that they perceived to be stakeholders in bounded protected areas. An implicit agenda was to generate in the world around them prescribed actions that would correspond to their own brand of environmentalism. As can be gathered from campaign materials and reports, it is commonly assumed within conservation circles that the creation of venues for addressing environmental concerns – *environmental venues*, from

88 These case studies are part of a Ph.D. study on indigenous peoples' rights and nature-conservation, conducted by the author at the Institute of Environmental Sciences (CML), Leiden University.

now on – raises some imagined participatory quotient that is directly related to positive community relations and the organization's effectiveness. Environmental venues will be treated as scheduled encounters that gather particular people together at a time and place decided upon by at least one of the key actors concerned, to either further environmentalist objectives, or to negotiate them. They are the primary site of fieldwork for this paper.

Through my own participation in these venues, I noted that a certain etiquette prevailed at these gatherings. By etiquette I mean recognizable patterns of behaviour that are deemed by participating actors as proper, respectful, and acceptable ways of interacting. In this paper, I will show how the practice of an environmentalists' etiquette between hosts and guests in these venues is beneficial to the maintenance of cordial relationships.

I myself was not exempt from this etiquette, as I was attending environmental venues not only as an observer, but also as a guest to both the convenors and the participants of these meetings. As a new face at most of these gatherings, I was often obliged to introduce myself to the body. In my introductions, I stated my name, my hometown (or home country), and my research objectives as an anthropologist. I also made it clear that I was participating in these meetings not as an employee or partner of the World Wildlife Fund in Indonesia, or the Department of Environment and Natural Resources in the Philippines, but as an observer and student interested in the decisions on the environment that are made at these meetings. When I introduced myself, I was conforming to the accepted protocol at these meetings and at the same time, I was establishing my own positionality within the context of the environmental venues. Protocol, venues, and the foregrounding of particular identities, objectives, and positionalities – these are all elements of the etiquette that I will define and describe in this paper. Environmental venues are the sites at which the etiquette is practised and continuously reproduced. While etiquette facilitates smooth communication, it does not necessarily create deep understanding between actors, and this can be obstructive to the goals set by environmentalist agents themselves, as I will show in my descriptions of environmental venues in this paper.

While I recognize that environmental venues are a regular, functional – and in many respects, valid – part of the operations of environmentalist agents, I will disrobe these venues of their status as *modus operandi*. In doing so, my objective is not to evaluate specific projects, organizations, or their methods but rather, to reach an understanding of how they become internalised by the people and communities that are drawn into nature-conservation plans. Furthermore, I do not wish to detract from the successes that have been achieved by the environmentalist agents mentioned here, nor to denigrate the credibility of local leaders who work closely with environmentalists. As an anthropologist I study environmen-

talisms and indigenism in the hopes of contributing knowledge that is useful to both causes, and this paper serves as an attempt to make such a contribution.

Although the practice of environmentalist etiquette occurs at many levels, such as at international[89] or even regional meetings, this paper is confined to local contexts. There are two aspects of local context which will be attended to. First I will describe the specific locales and situations of the communities within and around the Mt. Pulag National Park, in the province of Benguet, in the Philippine Cordillera, and the Taman Nasional Sebangau in the province of Central Kalimantan, in Indonesian Borneo. Secondly I will look at the more general context of the local that environmentalist agents enter into and contend with wherever they may plant themselves. This discussion will be followed by descriptions of actual environmental venues, which brought together agents of environmentalism, indigenous people, and other actors. The attention to detail serves the purpose of highlighting aspects of environmental venues that are usually taken for granted by their proponents and participants; aspects of interaction which add up to an etiquette of environmentalism. For every environmental venue described, I will draw out and discuss different elements of the interaction which I deem to be crucial to emergent relationships, understandings, and misunderstandings between actors.

Acting locally

The processes of localisation for both national parks in this case study began with the recognition of increasing threats to something valuable about each area. In Mt. Pulag it was the existence of a 'unique mountain ecosystem' at 2,900 meters above sea level, its watershed functions, high plant diversity, and endangered species. Some examples of these species are a dwarf bamboo (*Arunolinaria niitakayamensis*), the Luzon bushy-tailed cloud rat (*Crateromys schadenbergi*), and the Philippine brown deer (*Cervus marriannus*). The threats to the environment in the Mt. Pulag National Park are tree-poaching, forest and grassland fires, and the continuing conversion of forests to agricultural land.

Nature-conservationists were drawn to Sebangau for its 'unique tropical peatland forest', its hydrological functions, richness of biological diversity, and an estimated orangutan (*Pongo pygmaeus*) population of 6,910 individuals, as of the year 2003 (Husson and Morrogh-Bernard 2004: 14). The threats that were identified for each

89 For example, the heads of the districts encompassed by the Taman Nasional Sebangau have been hosted in the Netherlands and in Kuala Lumpur at the expense of WWF. This can be seen as an activation of a host-guest etiquette in that it then becomes bad form for the district heads to take away their support for these nature-conservation projects, after having been hosted abroad.

place at the outset of environmental efforts continue to be threats in the present. Similar threats infringe on the Taman Nasional Sebangau as they do in the Mt. Pulag National Park, albeit on a much larger scale: illegal logging, oil palm plantations, widespread forest fires. Because of the human aspect of these threats to the environment, agents of environmentalism in both areas have attempted, with differing degrees of effort and success, to work closely with local communities.

In the Northern Philippines, the 11,550-hectare Mt. Pulag National Park in the Cordillera Mountain Range has been in existence since the year 1987, and it has been under the jurisdiction of a Protected Areas Management Board since the enactment of the National Integrated Protected Areas System (NIPAS), or Republic Act No. 7586 of 1992. The protection of the tropical montane forests of Mt. Pulag and its endemic species has been problematic from the park's inception. Officials of the Protected Areas and Wildlife Service attribute this to the inclusion of agricultural settlements within the boundaries of the park. The root of this problem was that the delineation of the park was done by a table survey. Literally, laying a map on a table and drawing the boundaries of the park on it. This has fuelled resistance towards conservation efforts on the part of the indigenous communities living both beside and within the park. They claim they were not consulted by authorities at the start of the process. Nevertheless, park officials and other agents of environmentalism continue to try to reconcile local people's desire for development with the protection of the park's ecological riches. This issue hangs as a backdrop to many interactions between local people, agents of conservation, and government representatives in the Mt. Pulag National Park, as was observed during fieldwork in 2003 and 2004.

In Indonesian Borneo, the Sebangau Watershed Area in Central Kalimantan acquired the status of a national park in 2004. Prior to this, the area was classified as production forest, which meant that logging companies could hold large concessions therein. The deforestation brought about by their operations was, and continues to be, compounded further by widespread illegal logging, forest fires, and the opening up of oil palm plantations. With the establishment of the 568,700-hectare Taman Nasional Sebangau in 2004, nature-conservationists hope that this destruction will be brought to a halt. The park is highlighted as one of the achievements of the World Wildlife Fund in Indonesia, which facilitated the process of obtaining the park's legal status through 'bottom up and participative involvement of local community and local government' (WWF Factsheet: Sebangau National Park, June 2005). At the time of writing, the WWF and various government bodies and their representatives were working together to create structures for multi-sectoral collaborative management, and to create constituencies for conservation especially among local people living in proximity with the park. The interactions that will be described in this paper took place in 2003, an intense time for the WWF campaigns for the protection of the orangutan population of

Sebangau and their habitat, and in 2005 when the park was newly established and community forums on the park were being set up across the area.

Mt. Pulag National Park: making in-roads to progress

As mentioned above, any cooperation between agents of environmentalism and local people in the Mt. Pulag National Park takes place against the backdrop of conflict over the inclusion of agricultural settlements within the protected area. Indigenous peoples living in the park, primarily Kalanguyas and Ibalois, consider the park's presence to be an encroachment on their ancestral lands. They point out that they have prior rights to their ancestral territory, now recognized in the Indigenous Peoples Rights Act, or Republic Act 9518 of 1997. They argue that they have been living in the area long before the park came into existence, and they were not properly consulted or adequately informed about the creation of the park. They are hostile to park regulations and counter that the park limits the people's opportunities for development. The primary field site for this study is the Kalanguya village of Tawangan, on the eastern slopes of Mt. Pulag. The barangay in its entirety lies within the boundaries of the national park.

Residents of Tawangan feel themselves to be distant from the government and urban centers to which they are connected by political administration and trade. The village lies just within the line of mossy forest growth, with vegetable gardens extending outwards from the clusters of households scattered along the eastern slopes of Mt. Pulag. Tawangan is part of the Municipality of Kabayan, the political center of which is situated on the north-western side of Mt. Pulag. Residents of Tawangan who have official transactions to make at the government offices in the Poblacion of Kabayan must travel there on foot (anywhere from four to six hours of walking), or by hitching a ride with the trucks and jeepneys that carry vegetables from the barangays of Kabayan to urban market places and trading posts. On the other hand, the Municipality of Tinoc, which is part of the province of Ifugao, lies just across from Tawangan. It is a one or two hour walk to reach Tinoc, and from there daily buses ply the dirt roads leading to La Trinidad. This is a six- to eight-hour bus ride. As was expressed to me by residents of Tawangan, getting their vegetable crops to the market is difficult, and getting the sick to hospitals is even harder. The residents of Tawangan desire change, and would like to have easier access to markets and government centers to which they are connected. For this to happen, they said, they need good roads. The two roads extending to and from Tawangan are unpaved dirt roads which become impassable in the rainy season, if not for the residents who voluntarily work to keep the roads open.

Tawangan was first reached by a road in 1997. This was followed by a swift expansion of vegetable gardens into mossy and pine forest areas surrounding Tawangan. Prior to this, the farming of commercial temperate vegetables was already a

major source of income for other indigenous communities around the park. The opening of a road marked a sharp increase of involvement in the market for residents of Tawangan. On the average, households propagating one hectare of land would invest the equivalent of € 125 to plant and harvest one vegetable crop, and eight to ten hours of work a day throughout the crop cycle. One crop cycle would last two to three months. If the prices of vegetables on the market are good, then a harvest could fetch up to € 300 to €3 50. This means that a household would earn about € 175 for three months of hard labour. The market for vegetables fluctuates frequently throughout the Philippines, so each time a household makes a decision to plant a crop of vegetables they are taking the risk of going bankrupt or going into debt, given the high inputs required for pesticides, fertilisers, transportation, and labour. Quite frequently, large chunks of the money earned from one harvest goes into paying off debts. Vegetable gardening is the largest source of income in which all Tawangan households are involved, either through the propagation of crops on their own lots, or by working in other people's gardens. In the eyes of agents of environmentalism, the expansion of vegetable gardens is one of the largest threats to the conservation of the forests of Mt. Pulag.

The principal agents of environmentalism in the Mt. Pulag National Park are, the members of the Protected Areas Management Board (referred to as the Board from now on), and the local municipal and barangay government officials. The Board is a body responsible for the implementation of the National Integrated Protected Areas System, and the Management Plan that is required for every protected area in the Philippines. The existence and structure of the Board is set out in the implementing rules and regulations of the National Integrated Protected Areas System. The Board should be composed of:

1 The DENR Regional Executive Director (RED) as Chairman and advisor in matters related to the technical aspects of protected area management. When there are two or more REDs on the Board, the Secretary shall designated one of them to be the Chairman.
2 One representative of the Autonomous Regional Government where this is applicable.
3 The Provincial Development Officer from each province with territory within the protected area.
4 One representative from each Barangay with territory within the Protected area.
5 One representative from each tribal community residing within the protected area, if applicable.
6 At least three (3) representatives from local NGO's and community organizations, including people's organizations, church or civic organizations. These representatives shall be based in or near protected area.

7 One representative, if necessary, from other national government departments that may be involved in protected area management. In situations wherein two or more such departments are involved, the representative shall be chosen by and among themselves.
(see www.psdn.org.ph/chmbio/dao25.html)

The Mt. Pulag Protected Area Management Board is composed of 24 members. The Board meets quarterly to discuss matters pertaining directly to the management of the park. Most of the barangay and tribal representatives of the Mt. Pulag Board are also local government officials in their village. Furthermore, all the members of the Board, with the exception of one or two regional-level DENR officials, consider themselves to be indigenous to the areas immediately within and surrounding the national park. They claim to have the most active Protected Areas Management Board in the country. One member explicitly attributes this to the fact that they are all indigenous, and 'indigenous people know how to cooperate with the government, and with each other' (personal communication, Board member).

For that matter, politics throughout the Cordillera Administrative Region are dominated by individuals and networks that are predominantly indigenous (Casambre 2001; Finin 2001; Minter and Perez 2004). Thus, all local government positions in the municipality of Kabayan are occupied by members of the Ibaloi, Kankana-ey, and Kalanguya groups settled in that area.

Taman Nasional Sebangau: saving the orangutan

As with the Cordillera Administrative Region in the Philippines, politics in the province of Central Kalimantan, Indonesia are dominated by an indigenous elite of Ngaju Dayak roots (Van Klinken n.d.; Miles 1976; Schiller 1997). This domination continues to gain strength with the decentralization of the Indonesian government. Prior to this, decisions on local governance and natural resource utilization came from central government. Until recently Indonesia's state has followed a policy of environmental exploitation for national economic gain. However, for Dayak political leaders Central Kalimantan is a province of Dayaks, created especially for Dayaks. So decisions on governance issuing from Jakarta have been received with resentment in the province, and today the view is strongly held that development of Central Kalimantan should be development for the Ngaju Dayak. In the Katingan District, one of three districts with jurisdiction in the vicinity of the national park, most of the local government officials that were encountered and consulted in the course of this research ascribed to Dayak identity, although not necessarily of Ngaju origins. Like some of the officials of Kabayan, in the Philippines, these officials of Katingan and its sub-districts and villages were some-

times observed to act as agents of environmentalism. These circumstances will be described in the section on *modus operandi*.

In the Taman Nasional Sebangau case study, the most visible and active environmentalists were the team-members of the World Wildlife Fund – Indonesia that were based in the provincial capital of Palangka Raya. The WWF runs along a completely different trajectory from that of local government officials. The latter explicitly consider themselves to be working within their own territory, for the future of the Dayak peoples. On the other hand, the WWF as an organisation originates from outside of the locale. It is essentially an international organization that has chosen to work for the protection of the Sebangau Watershed Area, for the future of what agents of environmentalism consider a global heritage: biological diversity.

Establishing an office in the Central Kalimantan capital of Palangka Raya in the turbulent wake of the Dayak-Madura conflict of 2001, the WWF considered it prudent to align itself closely with local government. The early stages of their strategy involved the re-classification of the Sebangau watershed area from production forest to protected forest. Their campaign included the drumming up of support among local government officials, a focus on informing local people of the endangered status of the orangutan and other protected species, and the benefits of conservation. One of the strategic moves of the WWF that worked very well for their campaign was the hiring of one or two Ngaju Dayak team-members to bridge the gap between two worlds that are foreign to one another – the world of the WWF, and the world of the Ngaju Dayak of Central Kalimantan. In 2004, the goal of establishing the Sebangau watershed as a protected area was attained. Following this success, the WWF in Palangka Raya worked to build community support hand in hand with the provincial-level Balai Konservasi Sumber Daya Alam, a division of the Ministry of Forestry. Together they were working to establish structures for collaborative management for the Taman Nasional Sebangau.

Local people had different reactions to the WWF campaign. For one, locals considered it peculiar that people around the world should have 'sympathy for the orangutan, but not for the orang Dayak.' This suggests that they had an awareness of the international resources on which the WWF draws. There was a note of bitterness relating to the fact that these resources were simply not meant for the aid of local people who repeatedly described themselves as living in a state of poverty, hardship, and governmental negligence. Although Baun Bango, my primary field site, is itself the seat of government for the sub-district Kamipang, the only artery connecting the residents of the village of Baun Bango to urban government centers, hospitals, markets, and tertiary-level education is the Katingan river. This is true for most villages in the district. People have been waiting for the arrival of a road that would connect them to the town of Kasongan, where the district gov-

ernment is based. The major sources of income for local people entail daily, continuous labour: fishing from inland bodies of water, harvesting and selling rattan, or logging.
According to local people, logging has been the most profitable livelihood activity since it began in the area of Katingan in the 1970s. It is engaged in mainly by young men, who earn approximately € 80 to € 85 for one month of heavy labour which involves finding, cutting, and hauling logs from the forest, through canals, and out to the Katingan river where they are lashed together in log-rafts to be transported to sawmills downriver. The young men, if unmarried, opt to share percentages of their earnings ranging from 30% to the entire amount, with their parents.

There is much anxiety among local people that logging will cease to be a viable source of income in the near future. They cite three reasons for this: 1) President Yudhoyono's vow to bring an end to illegal logging throughout the country, 2) WWF's own campaign to halt illegal logging in the national park, and 3) the shrinking size and quantity of logs available in the forest. Interactions with agents of environmental projects have raised hopes among local people that rattan and fisheries will provide better economic opportunities, soon. In addition, by the year 2005 some community leaders who were previously sceptical had begun to express an enthusiasm for the benefits that the Taman Nasional Sebangau might bring to them. In contrast to this, political leaders of the communities around Mt. Pulag remain at odds with the national park.

Localisation

The preceding paragraphs show that when establishing an environmental project in a locality, agents are entering into a multi-faceted social situation. Aside from their main task of halting the march of environmental degradation, they are faced with the complexities of making new acquaintances, finding allies, and building a network of supportive and sympathetic individuals and organizations: 'building constituencies', in their own language. This is not so easily achieved when working in locales where financial and social resources are scarce for local people, and where basic services may be few and far between, or even non-existent in extreme cases. In both my case studies, the lives of local people are characterized by economic differentiation across residents, relative poverty and hardship among the majority, a lack of basic services from the government, and the daily struggle to cull a living from locally available resources such as forest products, reverie fishes, water, and soil. In such situations, it is difficult to make clear what the benefits of long-term conservation might be to a family that struggles to have three meals a day. In addition environmentalists may find that local politics cannot be completely avoided, be it in government or among other non-governmental organiza-

tions who have their own agendas, and who may or may not be willing to work with yet another new arrival.

Although there are many examples of community-initiated conservation efforts (see for example, Guha and Martinez-Alier 1997), the more common occurrence is that environmentalists initiate projects or programs and establish relationships with local communities from the outside, going in. This trajectory is part and parcel of organized chains of reaction to perceived global threats such as deforestation, global warming, or extinction of what are considered to be intrinsically valuable species. That is to say, threats as perceived by agents of conservation and not necessarily by local people, who may experience the environment quite differently (Croll and Parkin 1992; Ellen *et al.* 2000; Milton 1996; Ingold 2000). Thus, agents of environmentalism will often first make their entrance into a locale as guests, or even as uninvited third parties (Gerard Persoon, personal communication). Hence, the task and process of localisation is an immense one.

In this light, it becomes vital for environmentalist agents to follow culturally accepted ways of entering a home, so to speak. They must make themselves known to their hosts, explain their agendas from the outset, and forge steadfast relationships. The process sees the production of an etiquette that appears to serve the purpose of environmentalist agents. For instance, it works to the advantage of the guest environmentalist agents that, as one Dayak informant put it, 'we never turn away people who come in peace.' However, the creation of an environmental etiquette between hosts and guests may in fact undermine the objectives of its agents. This will be expounded upon further in the discussion that follows on how host-guest dynamics were observed to operate before, during, and after environmental interactions.

Modus Operandi

In this section I will give detailed, ethnographic accounts of four different environmental venues, and I will discuss the aspects of the etiquette that are illustrated by the interactions that took place in and around each venue.

Forum Masyarakat

In the third quarter of 2005, the WWF-Indonesia team based in Palangka Raya, Central Kalimantan was building up a plan and structures for collaborative management of the Taman Nasional Sebangau. WWF team members, government of-

ficials and other agents of environmentalism travelled from sub-district to sub-district around the park, convening meetings for the purpose of establishing community forums.[90] What follows is an account of the meeting that was convened in the village of Petak Bahandang in June 2005, the *Inisiasi Pembentukan Forum Masyarakat*.[91] This is built up from my attendance in the meeting itself, and from conversations and interviews I conducted before and after the meeting.

Through this account I aim to bring into sharp relief the host-guest protocol, and the positionalities of agents of environmentalism into sharp relief. Although positionality encompasses an actor's post or position in an organization, and also an actor's position or opinion on a given topic or issue, it is more than these two combined. Positionality locates people within shifting networks not only in terms of their gender, status, or class, but also in terms of their webs of relationships. Thus positionality is always evolving, context-dependent, and relational (Tetrault and Maher 1997: 198). As a secondary objective, I also offer up to agents of environmentalism a behind-the-scenes glimpse of what happens in a community immediately before and after the meetings that they convene.

In the days leading up to the *Inisiasi*, I had the opportunity to meet and converse with a few local leaders in Petak Bahandang. They had heard that WWF was convening a meeting, and each of them speculated on whether they would be invited or not. The matter of invitations was discussed informally among men during neighbourly conversations in different households. They told me that they did not know for certain when WWF would arrive, because they hadn't received an invitation. According to them, the directive to attend should issue from the WWF itself, the sub-district head, or the village head. Without an invitation, they felt that they could not go. This question of invitations encapsulates the double-sided nature of host-guest relationships in the dynamic of environmentalism. In a sense, the villagers are hosts to the WWF and its nature-conservation projects. However, at an environmental venue, as convenors the WWF becomes the host, and the villagers become guests who cannot transgress the taboo of appearing uninvited. On the day of the meeting, one of the men told me that he and several others had received an 'oral invitation' and that he would attend the WWF meeting later that morning. I too had received an invitation from the WWF, which was why I had travelled to Petak Bahandang, from my primary field site of Baun Bango.

In the local government building, WWF staff were busy preparing a room for the meeting. They followed the traditional lay-out of a classroom, with a long table up front for speakers, and a screen for the projection of their PowerPoint presenta-

90 At the time of fieldwork for this researcher, only two sub-districts remained that had not yet been convened for the forum.

91 This translates literally as, *The Initiation for the Formation of the Community Forum*.

tions.[92] A streamer was hung up high above the heads of the speakers. It read: *Inisiasi Pembentukan Forum Masyarakat*, and was flanked by the panda logo of WWF, and the logo of the Ministry of Forestry. As participants arrived from the different villages of sub-district Tasik Payawan, there was much friendly banter and laughter between some of the men and the WWF staff. Apparently, most of them had met in previous WWF-organised venues. The atmosphere felt much like that of a gathering of old friends who had not seen each other for a long time.

This jovial atmosphere changed palpably when the meeting began. All 53 participants (all of them male) shuffled into the room, took their seats, and fell silent. The meeting was formally opened with a prayer from one of the participants and welcoming remarks from the sub-district head. This was followed by PowerPoint presentations and speeches from WWF- and government-representatives from district and provincial levels, all of whom spoke about cooperation for the Taman Nasional, and saving the environment. Participants were encouraged to ask questions.

Pak Nurdin of the Balai Konservasi Sumber Daya Alam (BKSDA), gave a presentation explaining what the BKSDA is, and its relationship with the Taman Nasional Sebangau. He told the assembled audience that prior to the establishment of a technical execution body, the BKSDA would be responsible for the management of the park. This was the office within the Ministry of Forestry directly responsible for protected areas. They plan to eventually establish an office near the Taman Nasional Sebangau and monitor the status of flora and fauna, and human activities therein. He also gave an explanation of the forthcoming zonation of the park, which would be carried out by the Badan Planologi, yet another division of the Ministry of Forestry. Pak Nurdin explained the mechanics of the zones, such as the core zone, and the use zone or buffer zone. Questions addressed to Pak Nurdin revolved around two things: the delineation of the zones, and the name of the park. The men were anxious to know how their fields and community forests would be affected. Some pointedly added that these places had belonged to the people for centuries before the park was established. Pak Nurdin assured the men that their recommendations and knowledge would be incorporated in the delineation process, for they were the ones in a position to identify the areas occupied or worked in by community members. As regards the park's name, apparently some of the participants felt that the name was not representative of the area covered by the park. They felt that it should be named after the Katingan River instead of the Sebangau River, so as to acknowledge the inclusion of much of the district in the protected area. In response, Pak Nurdin informed them that the name Sebangau

92 Other organizations opt for less formal physical lay-outs for meetings. For instance, circles were the preferred seating arrangements used by NGO-facilitators at training workshops convened for the South Central Kalimantan Production Forest Project.

was chosen because that was the core area of the park. However, if they so wished it, there was a legal process that could be initiated to have the name changed.

I mention these questions here because they are indicative of local leaders' concerns on ownership. By ownership I do not only mean the actual holding of land as private, corporate, or communal property. Rather, I am referring to local sentiments on the park's belonging to the district of Katingan as a whole. For the local leaders that voiced this concern, the labelling of the park with 'Sebangau' misrepresents the existence of their villages on the borders of the park (or rather, to their minds, the existence of the park on the borders of their villages), and therefore conceals the imminent involvement of their people. This concern was partly allayed by Pak Nurdin's response as well as the proceedings of the rest of the meeting, as shall be seen below.

Following Pak Nurdin's discussion, the PowerPoint presentation of the WWF dealt with the ideal of collaborative management and the purpose of the community forum. Pak Anton of the WWF asked the gathering for their full participation in the management of the park. Jokingly, he said, 'Some of you here may be afraid that the WWF will use weapons on you later on! But don't worry, the purpose of the community forum is for your inclusion. No need to be afraid. There is a way for you to participate.' Only through the participation of the community would the protection of the national park meet with success, he continued. In addition, he pointed out that it was a common experience in other protected areas that a lack of harmony and direct communication between the government and local communities led to conflict. The forum was conceived of to serve as a multi-sectoral coordinating body, which would bring together representatives from the villages, the districts, the government, and other stakeholders. It would be the mouthpiece for the aspirations of the community, and to ensure that it would be truly representative, it was being created through a bottom-up process, that is to say, the meeting itself.

There was a break with coffee, tea, pastries, and more lively banter, after which the real business of the gathering was addressed. Pak Anton took the floor once again as the facilitator. He asked the participants to decide whether or not they wanted to create a community forum for the sub-district of Tasik Payawan, emphasizing that this was part of the bottom-up process. He said,

> 'Gentlemen, you may have other opinions, there may be no need to form it, so we can close this session now and all go home. Ok? But I want to warn everybody one more time, if we don't create this forum it will be a pity for the future of your communities' involvement, for the Kamipang sub-district. But that's only my opinion, and I want an answer from you whether or not we should continue on to the next session.'

The men chose to create a forum for the sub-district. In order to ensure that the process would 'really come from the community', Pak Anton asked the participants to choose a system of electing representatives to the forum. It was decided that they should have direct elections by nomination and then by ballot. The nominees were called up one by one to introduce themselves and give mission and vision statements before the participants. Following are excerpts of noteworthy campaign speeches from three different candidates.

> Pak Achmat: 'One of the things I hope for from WWF, is a reference book. Usually, in a program like this, there is a sort of book that will serve as a guide or a reference for people. If these candidates here today work in the future without any reference book, there will be chaos in the community… If some one were to ask what the WWF is, they would think it's just a cat in a sack, when in fact the animal within is not a cat… It so often happens that when some one is involved in a certain training, there are no benefits for the community because the person is unable to spread information, to make a campaign. So it's the same as nothing. This happens a lot in the community… I have learned from my experiences of having been appointed for many things which, in the end, were of no use at all… So whoever is elected to this forum will have a big responsibility to not spread information that is not true, otherwise there will be many misunderstandings, such as [misunderstandings] about the restricted areas of Sebangau.'
>
> Pak Benny: 'If I am elected as the head of the forum later today, I will immediately raise a question with the… WWF and the regional government about one thing first: about the construction of canals or trenches in the forests inside the Sebangau area. Secondly, the issue of illegal logging and deforestation. These are some of my questions: How will these caretakers work in the Taman Nasional Sebangau later on, if there are still logging concessions operating inside? What system will the caretaker follow from the WWF and the regional government to overcome this? …According to the pamphlet [we were given] earlier, there must be no stealing, no canal or trench-construction in the scope of the forest. I don't care about other villages, but I know for a fact that a lot of this is happening in the area of Tasik Payawan, and this could lead to a lot of trouble in the future. If I am elected as leader later on, please, let us all think together about this problem, and I will deal with it directly.'
>
> Pak Dian: 'It is my hope that the communities of Tasik Payawan will not be left behind. Let us keep up with development. [Let us] modernize. So later on we can socialize any regulations and procedures with the regional government, with the WWF, and the community. So then the aspirations of the community will be strengthened… Then Petak Bahandang and also the whole area of Tasik Payawan will become prosperous. This is my hope.'

There were two rounds of votes. In the first round, the two candidates who voiced environmental concerns were in the lead, with Pak Dian trailing behind by three votes. The other candidates were eliminated for having received less than a predetermined number of votes. After these results were released, the group broke for lunch; a sumptuous meal provided for by the WWF. This time, the atmosphere was different. Although there were much exclamations of appreciation over the food, the men were no longer joking with one another and laughing out loud. Instead, they clustered together in groups which excluded WWF staff and observers such as myself and my research assistant. They spoke in low tones. When they re-convened for a second round of ballot casting, the outcome was that Pak Dian won by a small yet surprising landslide and took the position of leader for the community forum of this sub-district.

If one were to judge by the strength of the campaign speeches alone, it could have easily been concluded that either Pak Achmat or Pak Benny were the more suitable candidates for the leadership of the forum. They had raised pertinent issues which were compatible with the objectives of the environmentalist agents. Pak Dian's speech, in contrast, took on a rather general and vague tone. It was a safe speech, and did not challenge the status quo. Could this have been the reason that he won? If so, why did he not take the lead from the first round of votes?

It would be simplistic of course to assume that a leader could have been chosen on the basis of a two-minute speech alone. Literature on the selection or emergence of community leaders has shown that they succeed or are chosen for their proven and time-tested ability to command attention and respect, to make fair and just decisions, to be a skilled mediator, to make sacrifices, also to exhibit a decent sense of humour in different situations, to negotiate and convey meanings before various audiences, and above all, to act towards the welfare of the community (Hilhorst 2003). One participant whispered to me during lunch that Pak Achmat and Pak Benny were known to act in their self-interest in previous leadership positions. In the case of Pak Dian's victory, however, other things were being weighed besides his character.

Pak Dian himself later confided that he won because the sub-district head had intervened. Pak Dian was a village official responsible for a group of households (RT) in the village. The sub-district head had recently given an outsider permission to put up a temporary night market in that area, without consulting Pak Dian. He had been unhappy with this because any disturbances that might take place in the night market would be his responsibility, and yet he had no say in the decision. Pak Dian had aired his grievances with the sub-district head. Apparently, to atone for this oversight the subdistrict head prompted the participants to give him the leadership position for the community forum. This shows that an 'organizational model of participation ignores the fact that many interactions be-

tween people also take place outside formal organizations, that the interactions of daily life may be more important in shaping cooperation than public negotiations' (Cleaver 2001: 42). However, as guests of the WWF at this meeting, it would've been unacceptable for the sub-district head to openly endorse Pak Dian's leadership for his own reasons. Thus, it had to be done discreetly so that the objectives of the WWF, the hosts of the meeting, remained at the foreground. For his part, Pak Dian was bemused by the politics behind his victory, but was quick to point out that since he was elected, he would take his new responsibilities seriously. On his own initiative, he visited the WWF office in Palangka Raya later that month, to gather materials and information for his own study.

After the various officers were elected, Pak Anton reiterated that the purpose of the forum was to make known the aspirations of the community. He admonished the elected leaders to refrain from keeping silent, as this would defeat the purpose of the forum. He went on to explain that the forum would later consist of district and provincial levels, with representatives from different sectors and stakeholders. In addition, the body would be given authority by the provincial government to manage the Taman Nasional Sebangau. One participant then wanted to know how the organization would do this, if it didn't even have rules and statutes yet.

> Pak Anton replied: 'Yes that's correct every organization should have its own rules and statutes. Isn't that so? But, if we were to come to you with these rules and statutes already formed, then we would be intervening with the process. We don't want to do that. We are just facilitators of the process… Anyway, that was a very good question and I assure you that the matter is on the agenda for the next forum meeting.'

In response, Pak Achmat jokingly piped up: 'In which hotel?' Finally, a document[93] was drawn up to summarize the results of the gathering, and it was signed by the government officials present.[94] A final round of speeches were made, and

93 Documents are not only the material part of the culture of reporting prevalent in most organizations and offices, but also, they are the outcomes of social processes of persuasion and enrolment (Gardner and Lewis 2000: 18).

94 It stated that: 'Pengurus forum masy. ini untuk selanjutnya menjadi bagian dari para pihak sebagai wakil masy. yang ikut dalam perencanaan, pengelolaan Taman Nasional Sebangau serta bersama-sama bertanggungjawab atas berkelanjutan Taman Nasional Sebangau. Pengurus forum masy. bersama-sama dengan para pihak dan pengelola Taman Nasional Sebangau harus aktif mengkomunikasikan berbagai kegiatan dan rencana pengelolaan Taman Nasional kepada anggota masy. secara luas.' Roughly translated: The coordinator of the community forum will become part of the body of representatives of the community that will join in the planning and management of Taman Nasional Sebangau and will be jointly responsible for the sustainability of the Taman Nasional Sebangau. The coordinator of the community forum together with the other parties and the manager of the Taman Nasional Sebangau must actively and extensively communicate all the various kinds of activities and management plans of the National Park to the members of the community.

the meeting was adjourned. Amidst goodbyes, participants drifted out of the room and made to head home.

In the estimation of Pak Dian, elected leader to the forum masyarakat, the formation of the forum masyarakat in Petak Bahandang was successful in the sense that its purpose had been met: leaders were elected, and participants felt that their questions were answered. Before the forum was held, this researcher asked different leaders what their opinion was regarding the Taman Nasional and the work of the WWF. They stated that they had many unanswered questions about what the role of WWF was. Pak Dian felt it was now his responsibility to inform community members better and to explain the advantages of having the Taman Nasional. He was apprehensive however that people who had been working in the forest for generations would be resistant to the idea, especially those who owned logging canals. He said he was handing out stickers and explaining what the stickers were all about to his neighbours. He still felt that his question was not answered regarding the livelihood options for people. In his opinion, the government should give something to replace people's current livelihood options in the protected area. He also continued to believe that WWF would provide programs to increase economic activities and income of local people.

The positionality of agents of environmentalism

In the course of my fieldwork, I had heard many mistaken accusations and suspicions levelled at the presence of WWF in Central Kalimantan. Some alleged that the WWF had a secret agenda to become the owners of the Taman Nasional Sebangau. Few understood that in fact, it is the government that is in charge of the national park, and not the WWF. Others accused them of distributing money to buy people's support. Many felt that in fact the WWF *should* distribute money, land, or job opportunities in order to raise the welfare of the Orang Dayak, instead of the Orang Utan. In a discussion with the Palangka Raya team of WWF, I presented to them the ways in which they were viewed and described by the Ngaju Dayak and other village residents that I had interviewed. In turn they said that these views posed some dangers not only for the WWF but for the Taman Nasional Sebangau itself. The danger, in their opinion had to do with continuity. They expressed the worry that in the event that the WWF should withdraw from the project and turn it over completely to the government, people might consider the time of the national park to be over since they hardly associate it with the government agency responsible, the BKSDA. The local WWF team speculated as to whether something should change in the way the WWF conducted its campaigns. They also pointed out that the BKSDA would have to do a lot more work to gain a higher profile in the Taman Nasional Sebangau. With regard to questions of money and development aide, it worried them further that these views persisted in spite of the staff's

constant efforts to negate them in their interactions with community members, and to emphasize their role as facilitators.

However, the emphasis on the facilitator-role elides the fact that many environmentalists are also initiators of processes and therefore, undeniably, intervenors. Long (2001: 38) points to an underlying belief among development agents that desired changes cannot be generated from within communities, but must be initiated by good influences from the outside. In turn, this positions agents of environmentalism as outsiders, which the facilitator-role only magnifies. An outsider can choose to remain unaffected by what takes place within visited communities. This is compounded by a widely-held view among agents of environmentalism, that nature is something 'out there', cordoned off from human society and human activities which are limited to cultural spaces such as villages, or bounded spaces such as the use-zone. Thinking in this way, environmentalist agents are doubly outsiders. They do not belong to or live in the nature that they work to protect, and they do not belong to or live in the communities that they seek cooperation from. The flipside of the belief that one can intervene, is the belief that one doesn't have to intervene or take direct responsibility for what takes place in the environment out there or the community that one does not belong to (see Cronon 1996; Hornborg 1996; White 1996).

A facilitator, as one who simply guides a process and encourages people to find their own solutions to problems, does not have to take responsibility for decisions made by participants. Thus the cost of any actions taken would have to be shouldered by 'empowered' community representatives. The costs cannot belong to a facilitator whose involvement is bounded by neutrality, and an eventual, total detachment from a project when it comes to be 'owned' by the community. This can be clearly seen from the tone of Pak Anton's statements above, where any decision of the participants not to have a forum would be a waste, and where any silence on the part of elected leaders would defeat the purpose of the forum, and where any structure imposed by the organizers would be an intervention. But did participants really have a choice?

Furthermore, an outsider can leave. The facilitator-role conveniently paves the way for a graceful project exit. Exit plans are a part of the standard operating procedure of most non-government organizations working on a per-project basis. When the project's funding cycles have ended and objectives have been met, then it is time for a project to withdraw and for empowered communities to take over. Facilitators can leave with the belief that they have bequeathed their partners and participants with the ability to continue where they left off.

On the other hand, positive images of the WWF included integrity as a non-government organization. In particular, the elected leader for the forum masyarakat

in another sub-district pointed out that WWF paid for the meetings they themselves convened. Furthermore, they had the ability to also shoulder the expenses participants incurred when travelling to attend WWF meetings. They also provided food and lodging. Few other non-government organizations in Central Kalimantan were known to do this; not even the government could do this, in his opinion. This statement must be seen as coming from some one who has repeatedly benefited from this ability of WWF to sponsor their own participants, and who has had direct and sustained contact with the team members.

Additionally, the WWF has met with a measure of success in that there was a marked change in knowledge of and attitudes towards the Taman Nasional Sebangau in 2003 and in 2005. After the meeting for the Forum Masyarakat in Petak Bahandang, local leaders said that they felt less doubt and apprehension regarding people's continued access to the protected area. The same could be said of the residents of the village of Baun Bango, further downriver. In 2003, even though WWF posters were hanging in almost every household, people said that they had only heard of WWF but did not know what it was about. In contrast, in 2005, people spoke about WWF with an air of familiarity and there were far less expressions of suspicion. Some community leaders even spoke of carbon sinks and made jokes about other villagers who misunderstood the concept and thought that oxygen could be extracted from the swamps and sold by the piece.

In this regard, the spread of information, the production and transformation of knowledge, become vital to the generation and manipulation of relationships and actions. In particular, scientific and expert knowledge are used to legitimize environmental projects and convey the urgency of issues (Chapin 2004; Fairhead and Leach 2003; Long 2001; Zerner 2003). This has at least two outcomes. Firstly, it creates 'a sphere of ignorance' (Van der Ploeg 1989, as referred to in Long 2001: 182) in which the knowledge of indigenous peoples and other local people become marginalized in favour of the science that agents of environmentalism bring. Secondly, it creates expectations, as indigenous people and local people anticipate that agents will bring them new knowledge, and impart it to them in a manner that they can easily understand. When this is not delivered, it is seen by indigenous peoples and local people as a shortcoming of the environmental organization.

The configuration of the positionality of agents of environmentalism in a defined project is made up of the information that they provide on themselves, their chosen facilitator-role, and the various perceptions that people hold of them, as discussed above. The complexity of this positionality is compounded further by the host-and-guest role-switching that takes place between agents of environmentalism and indigenous leaders. In the context of the Taman Nasional Sebangau, it would be interesting to see whether relationships beyond the frame of hosts and

guests will emerge later on, and whether this will significantly affect the future management of the national park.

In describing the formation of the Forum Masyarakat for the Taman Nasional Sebangau, I have focused on an environmental venue in which a clear line is drawn between participants and agents of environmentalism, and where an organization was created without clear rules and statutes as to its functions and administration. In the next environmental venue, I describe the reverse. The boundaries between environmentalist agent, local or indigenous participant, supporter, and offender, are not so clear, while the structures for administration, participation, and even bureaucracy have been created in detail by policy-makers.

Board meetings

As previously mentioned, the structure for collaborative management in the case of the Mt. Pulag National Park is the Protected Areas Management Board. The Board is mandated to:

1 Decide matters relating to planning, resource protection and general administration of the area in accordance with the General Management Planning Strategy (GMPS).
2 Approve proposals, work plans, action plans, guidelines, for management of the protected area in accordance with the approved Management Plan.
3 Delineate and demarcate protected area boundaries, buffer zones, ancestral domains, and recognize the rights and privileges of indigenous communities under the provisions of the Act.
4 Promulgate rules and regulations to promote development programs and projects on biodiversity conservation and sustainable development consistent with the Management Manual of the protected area.
5 Ensure the implementation of programs as prescribed in the Management Plan in order to provide employment to the people dwelling in and around the protected area.
6 Control and regulate the construction, operation and maintenance of roads, trails, water works, sewerage, fire protection and sanitation systems and other utilities within the protected area.
(see www.psdn.org.ph/chmbio/dao25.html)

The Board of Mt. Pulag meets at least four times a year, in the office of the Protected Area Superintendent in Ambangeg, Bokod, located in the foothills of Mt. Pulag. The Regional Technical Director of the Protected Areas and Wildlife Services usually chairs the meetings, and a secretary takes note of the minutes. In this section I will describe interactions from two different meetings I attended.

In December 2003, I was an invited guest of the year-end meeting and Christmas meal. In this meeting, as well as in the next one I would attend, I witnessed the formal manner in which Board members addressed one another and conducted the meeting: 'Mr. Chairman, may I raise a question on this matter?' Motions were forwarded by individual members, and seconded or questioned and rejected by the body.
Since most of the Board members arrived late, the Christmas meal came first. It was a full meal, catered by the home economics department of a nearby vocational school and paid for from the operational funds of the Board. Board members spoke quietly with each other about coming weddings, and the latest news from each of their barangays. Conversations were light and jovial. Apart from myself, the gathering felt like one in which all the people had known each other for a long time. In their conversations with one another, and with me, the men described new forest clearings and vegetable gardens being opened up. These were discussed openly and casually. When I asked where the new gardens were located, the talk turned to boundaries, and the responsibility for the clearings was laid on people who had moved into the area from elsewhere, or from neighboring villages.

After lunch, the meeting was called to order. The main purpose of this board meeting was to discuss the park's Work and Financial Plan for 2004, particularly the allocation of a P325,211.39 working budget, which came from the park's collection of entrance fees and green fees from backpackers and hikers (minutes of the meeting, December 2003). Since there were three pending proposals, a 'division of the house' was suggested by one of the board members, in order for a decision to be reached. Notably, all of the pending proposals were for infrastructure, including a visitors' center at one of the entry points to the National Park, and toilet and shower facilities at Babadac, another, more frequented entry point for hikers. In the votation, it was the latter option that was selected by the board members. Since the budget for this was only P150,000, it was unanimously decided that the remaining amount could be put into 'Phase I' of the construction of the visitors' center.

At the very end of the meeting, I was called forward by the Protected Area Superintendent and requested to introduce myself, explain my research objectives, and inform the Board of my research plans for Mt. Pulag. Board members asked me whether I could speak the local languages, how much time I would spend in the area, what barangays I would visit, when my research proper would begin, and whether I could provide copies of my completed study to the board and to every barangay that would be involved. After I answered each question, the Regional Technical Director explained my presence further by saying that I was following protocol and asking for the board's permission. I was asked whether I would be collecting biological specimens. When I answered, No, the motion was raised for my research to be approved, and it was seconded by the rest of the members.

Finally, the Regional Technical Director gave a few closing remarks about the spirit of Christmas and the board's visions for the new year ahead.

In December 2004 an emergency board meeting was called. The urgent matter at hand was the construction of a 7.4-kilometer road between the barangays of Tawangan and Lusod. Both villages in their entirety lay within the boundaries of the park. The Protected Area Superintendent reported to the board about the visible impact of the road: it had cut through primary-growth pine and mossy forests, causing erosion on the slopes immediately adjacent to the road, and thereby destroying flora. She went on to say that mountaineering visitors had complained to her that the road could be seen from the grasslands just below the peak of Mt. Pulag. She also reported that new pig-pens, houses, vegetable gardens, and signs that read 'private property' and 'no trespassing' had sprung up by the roadside. To say however that she was 'reporting' new information to the board would be misleading, for all the board members were in full cognizance of what was happening. In fact, only 1 kilometer of the road remained to be built. A few of them, especially those from the municipal government of Kabayan, and those living in Tawangan and Lusod, were themselves witnesses to, if not responsible for these developments. Also present were the municipal mayor of Kabayan, and engineers from the Department of Public Works and Highways.

A representative from the barangay of Ekkip raised a question: 'One of the conditions for the release of that fund was an Environmental Compliance Certificate. How could the project push through without [the Environmental Compliance Certificate]?'

The mayor explained that there was an urgency for the local government unit to make use of the P5-million fund while it was available. More importantly, he added, they were only following the wishes of the indigenous people who had been 'living there for centuries and yet still did not have a road for them to get to hospitals or get supplies.' Apparently, the road-building had proceeded with the blessings and support of elected government officials through a string of connections traceable from the barangays and the municipality, through to provincial, congressional and senatorial levels of government.

The meeting proceeded apace as the case of the road was pieced together bit by bit by the board members, the municipal officials, the engineers, and officers from the Environmental Management Bureau of the Department of Environment and Natural Resources. At times voices were raised slightly, and accusations were subtly passed back and forth, such that no one lost face and the tone of the meeting remained formal and diplomatic from beginning to end. At one point the Protected Area Superintendent turned to the engineers from the Department of Public Works and Highways and calmly informed them that they would have to pay a

penalty for implementing their project 'guerilla-style', without an Environmental Compliance Certificate. One engineer replied: 'Let's plan for future maintenance and management of the road. The road should push through, and so should the Environmental Impact Assessment.'

The Environmental Impact Assessment was described by the chair of the meeting as a planning tool, not a building permit. The Protected Area Superintendent described it as a 'weapon for forecasting'. Under the Philippine Environmental Impact Assessment System (Presidential Decree 1586), all constructions, public works, and enterprises are required to undergo assessment, and produce a management plan which would identify the impacts of the project on the environment, lay down the environmental costs of the project, and propose appropriate solutions or interventions.

As the meeting went on, the following decisions were reached by the Board: First, they called for a temporary halt in the construction of the road. The proponent, in this case the Department of Public Works and Highways, was asked to pay a fine and acquire an Environmental Compliance Certificate before the road-building could proceed. A Memorandum of Agreement would be drawn up with the communities of Lusod and Tawangan, wherein the communities would agree not to put up new constructions or open new clearings along the road. Both barangay government units would be asked to create Resolutions to this effect. The Regional Technical Director of the Protected Areas and Wildlife Service emphasized that, 'Penalties should be added, subject to due process.'

In relation to this, a barangay representative suggested that the forest patrol should be brought back in full force and that they should have more visibility. Another barangay representative asked whether the Board members should participate in monitoring such projects. And a third agitatedly asked, 'What authority do we have? In [my barangay] I want to protect the environment but what's my authority to do so?' He was placated by a promise from the Regional Technical Director that they were working towards a deputization that would be issued by the Department of Justice.

Finally, the meeting ended on the spoken agreement that the local government of Kabayan would coordinate more closely with the Board in future development projects, to prevent any further inconveniences and unnecessary costs. Plans were made for a seminar on Environmental Impact Assessment, to be attended by both board members and local government officials.

The positionality of indigenous peoples

As mentioned earlier, almost all the members of the Board are themselves indigenous peoples. There are no clear and simple boundaries between majority and minority, insiders and outsiders, government officials and local residents, agents of environmentalism and 'targeted' participants. And yet another kind of division prevails in these board meetings, that between those who are interaction-savvy and those who are not.

It is interesting to note that the discussions during meetings were peppered with a slew of acronyms. The board members who spoke up did not actually say 'Environmental Compliance Certificate'. They only said 'E-C-C' and 'E-I-A' (for Environmental Impact Assessment). They described the road as an 'E-C-P', or an Environmentally Critical Project. The Memorandum of Agreement was referred to as the 'MOA'. The Protected Area Superintendent was addressed as 'Pasu', and the Board was constantly referred to as the 'PAM-B'. Assumedly, everyone present was familiar with and understood these acronyms and there was no need for them to be spelled out for anybody, besides me. However, interviews later showed that not all members were familiar with the acronyms being invoked. Furthermore, few of the members were well-versed in the formal manner of speech that was evidently the protocol at these gatherings. Only a handful had read and understood the laws pertinent to their positions. These members were observed to be quite vocal about their views and suggestions, ably invoking specific sections and article numbers of various laws. The others remained silent for the most part of the meetings. In the emergency meeting regarding the road, not one of the representatives from Tawangan or Lusod made any remarks, although they were the board members directly concerned.[95]

A look into the professional life histories and current activities of these board members reveals frequent attendance at environmental venues and other gatherings convened by government and non-government organizations alike. Some of them are involved in local decision-making, and serve as consultants and liaisons for foreign-funded development projects. They also have a solid educational background. This positions them as being interaction-exposed, and so they possess the necessary skills to make themselves heard and, often, to influence the flow of events, discussions, and actions taken by others. Over the years, countless interventions have been organized in the municipality of Kabayan and other ter-

95 A member of the municipal government of Kabayan shared her observations with me, stating that when Kalanguya are elected to the municipal government, they always remain silent and barely participate in discussions. However, when they do their work, they are known to deliver results swiftly and satisfactorily. 'They lose out on a simple technicality,' she said (Municipal employee, personal communication).

ritories within the Mt. Pulag National Park. A development worker noted that one is likely to see the same community representatives, again and again, at each of these venues. This interaction-readiness sets them apart as obvious participants. Hilhorst refers to these actors as interface experts (2003: 182). Their dominance at the interface means that less outstanding individuals who may have something to say, or who may represent an already under-privileged sector of a local community are mostly excluded or unheard at these interfaces. The result of this is that interaction outcomes may be skewed to favour the perspectives and agendas of obvious participants.

At this point, we might ask: If local government officials were also board members, why was information regarding the Tawangan-Lusod road and other development projects not shared between the local government and the Board? Why was 90% of the road already built, by the time the Board intervened? I argue that among professional indigenous persons who are in local government, duties, obligations, and accountability towards fellow indigenous persons and constituents come first, regardless of the questionable lawfulness of their actions. As Mr. Orlando, one former forest ranger[96] painfully found out, his attempts to curb his fellow-Kalanguyas' illegal logging activities constituted betrayal of his *kailian*[97], causing him to be ostracized and sometimes threatened (see discussion below).

The agents of environmentalism in this study make a living by working for the environment. Although many of those I encountered were sympathetic to the needs and aspirations of the local communities they worked with, their primary objectives and professional interests were environmental. In contrast, professional indigenous persons give their loyalty to fellow indigenous persons first – especially those of their own ethnic group. Being indigenous is felt as a life-long belonging to a clan, a place, and a community, regardless of whether this is expressed explicitly and verbally. On the other hand, a professional position is felt to be emanating externally, from a position that may be temporally short in a life-span of being indigenous. Thus action along the lines of the latter are limited to the times when the responsibilities of the position must be enacted or performed. Often this translates to the length of one's term of office, the time spent in meetings, or time spent in the office, or time spent on official trips to urban government centers or village project sites.

96 At present there are five forest rangers for the entire park area. Some of them reside in urban centers far removed from the park.

97 Generally speaking, *kailian* is used by the Kalanguya of Tawangan to refer to co-members of a community or a defined territorial area. In the ritual sphere of life, *kailian* refers to those who are invited to a feast and included in the distribution of meat at such a feast.

A member of the board remarked in an interview that indigenous people are not likely to report on the illegal activities of other indigenous people, even when it may be their duty to the state to do so. There exists a tacit understanding between *kailian*, that every one puts all their efforts into making a living. In interviews and casual conversations any questionable environmental activity vis-à-vis the park rules was described as a last recourse in meeting one's family's needs. The same holds for the Ngaju Dayak and other local residents in the Indonesian case study. The sense of entitlement of people to their territories, and the right to do as they see fit within these territories were very strongly articulated when spoken of in relation their indigenous identity. This was often expressed along the lines of having been present in the area for centuries, and having been stewards of the forest since time immemorial. In both the Indonesian and Philippine field sites, I was asked by at least one indigenous person, in so many words, to reflect on this question: 'Why is the forest still here, even if we have been working in it for centuries?' Surely, they argued, agents of environmentalism must realize that it is because they themselves live harmoniously with the environment. It followed, then, that no one should interfere with a way of life that has existed for centuries, and that they should be able to choose the changes they desired in their own territories.

In the context of NGOs working in the Philippine Cordillera, Hilhorst has shown how NGOs create legitimizing representations of themselves and their clients. While she finds that 'the influence of local people in these processes is negligible' (2003: 222), she goes on to point out that local people form their own image of the intervenor, and expect them to act according to this image. The converse of this, I would add, is that indigenous people, especially those who are interface experts, are also adept at tactically deploying representations of themselves, even in contexts where other participants may be cognizant that these notions do not fit with on-the-ground realities.

In the dynamic of environmentalist action, I refer to these articulations as the ability to perform environmentalism. For indigenous peoples, performing environmentalism works two-ways. First, it bolsters the view among agents of environmentalism that indigenous peoples live harmoniously with nature. If it turns out that they no longer do so, then it is argued that they should, since the capacity to do so is embedded in their traditions. Secondly, performing environmentalism also draws power and legitimacy from the widespread appeal of the very same assumption.

As can be induced from the Board meetings above, performing environmentalism entails attention to form and formality, but not necessarily to content. It is interesting to note that during the cigarette and coffee breaks at these and other Board meetings, it was observed that the restrained and formalized discussions turn into unreserved conversations between board members. Topics ranged from

news about one another's families, the prices of vegetables in lowland markets, jokes, and the continued clearing of forests for gardens. When it came to the latter, the story always ran along the lines of how people from other areas (usually neighboring barangays or municipalities) were the ones doing the burning and bulldozing in the board members' own barangays. The opening up of gardens – the violation of the park regulations – was strikingly almost always the fault of an Other. Within the official time of meetings, these matters, equally pertinent to the responsibilities of the Board, were left out. Instead, attention would be devoted to protocol (case in point: my introduction the Board and the subsequent motion to permit my research in the park), infrastructure, and the wise use of available funds. In this way, the Board still met its responsibilities and goals, without having to get to the bottom of the conflict between indigenous peoples' interests and park regulations.

Below I describe two more environmental venues which will pave the way for a deeper discussion on attention to form and etiquette.

Barangay meetings, *sosialisasi*, and everyday life

In Tawangan, general assemblies for barangay residents are held once a month. The assembly is attended by two or three representatives from each of the barangay's 13 sitios. Not all barangays in the municipality of Kabayan meet on a monthly basis. The barangay chairman, also known as 'Kap', explained that the monthly meetings were drawn up as a policy by the barangay itself, with the aim of maintaining the unity of the Kalanguya residents. At these meetings, local activities, development plans, policies, and problems are discussed.

In a general assembly that was held shortly after the emergency Board meeting above, the following agenda points were discussed in the presence of about 30 Tawangan residents and barangay officials: the barangay curfew, the concreting of footpaths, the road construction, the location of communal forests, the prohibition on firecrackers for New Year's Eve, illegal logging, house-building regulations, and planning for the coming end of school year program. It was an evenly mixed group of men and women several of whom had taken their small children along. The meeting was held in the barangay hall, with the people sharing benches and tables facing the Kap and the blackboard on which he had written down the agenda points. I am limiting the description of the meeting to those agenda points and remarks from the residents that had some bearing on protection or conservation of the forest, namely, illegal logging, communal forests, the road, and house building.

The representative of Tawangan to the Protected Areas Management Board had informed Kap of the discussions at the emergency meeting. During the general assembly, Kap announced that it was prohibited to build houses or open new

gardens along the road. The announcement was met with quiet laughter, which Kap ignored. Another barangay official reiterated that although it was desirable to have a house by the road, it was for their own good that people should avoid building their residences within 7-15 meters of the road; children could get into accidents, or the land could be claimed by the government for right of way. In relation to this, another barangay official reminded people that they should also avoid building houses beside creeks and rivers. He cited safety as the reason behind this: the bodies of water swell during typhoons and could sweep houses and belongings away.

The concern of house-building led on to the agenda point on illegal logging. The barangay chairperson informed every one that President Gloria Macapagal-Arroyo had declared a total ban on logging. Barangay officials clarified that it was permissible for residents to cut wood for building houses in Tawangan, but that it was illegal to transport wood to sell in other barangays. Mr. Orlando, who once worked for the forest patrol of the Mt. Pulag National Park stood up and said that he hoped the people would take the logging ban seriously, as the trees were protecting them from the possibility of landslides. He related that during typhoons he could not sleep because he feared they would be swept away. People laughed again, and no one reacted directly to his comments. In contrast to this reception of his views, Mr. Orlando is lauded by officials for the service that he did for the national park. He is regarded by them as a hero of sorts, as in the past he had received death threats from fellow indigenous persons for his interference with their tree-poaching activities, and to this day, he tries to dissuade people from environmentally-destructive activities. 'I was hated for that kind of work,' Mr. Orlando confided. 'The people know what they are doing, but I'm thinking, in about ten years when the trees are gone they'll see: 'It's our fault'."

To return to the barangay assembly, Kap reiterated the total logging ban. He narrated a story of a jeep-load of logs that he and another barangay official had apprehended recently. They only let it through because the people had pleaded with them, explaining that the wood had already been paid for. Every one present knew of this incident, he said. This was not going to be allowed ever again. Now, if people continued to smuggle timber out in secret, said Kap with a shrug, there was nothing he could do about that. When Kap came to the agenda point on communal forests he rattled of the names of the designated communal forests of Tawangan. Nothing else was said about them, except that people should be reminded of their existence. Similarly, in the Taman Nasional Sebangau case study, I had attended community assemblies where local government officials 'reminded' the gathering about certain regulations.

In sub-district Kamipang, adjacent to the Taman Nasional Sebangau, the new sub-district head of 2003, Pak Ramelan, travelled to all the villages within his ju-

risdiction in order to see what the situation was of each village, and also for *sosialisasi*. The socialization of a policy or an environmental concern basically means that information campaigns and meetings are held with people so as to introduce them. I was invited to join the team of government officers that travelled with Pak Ramelan: a local government health worker, two police officers, the head of the district's Department of Education. They travelled from village to village by speedboat. In each village, the officials were welcomed in the house of the village head, or his deputy. There we were fed full meals and served coffee and tea. When the team was caught by nightfall, then the village head would accommodate the whole team in his house.

Shortly after these meals, the team would walk to a classroom in the school, where village residents were already waiting for them. The government officials all sat at a table in front of the gathering, and each in his turn delivered speeches. The residents were also invited to ask questions, or to voice out their concerns. While the meeting proceeded, women came to pass out snacks and drinks to all the participants. Some of the women sat in the audience and listened intently to Pak Ramelan as he explained that since the District of Katingan was new, every one had to pool together their efforts and resources in order to develop the area. This was the reason he had decided to visit all the villages under his jurisdiction, he said: to get to know the situation in his sub-district, and to discuss with the villagers about development. In his opening speeches, he told villagers that one could not speak of development without speaking of education, health, and the environment.

As regards environmental concerns, the police officers reminded villagers that they would arrest or penalize any individuals apprehended using poison, potassium, dynamite or electricity for fishing. They remarked that people who use these destructive fishing methods were only thinking of themselves and were depriving the rest of the community of food. Pak Ramelan added that there was now a legal basis for issuing warnings, collecting fines, or even imprisoning people apprehended for illegal fishing. He emphasized that they were not just going to implement this for themselves or for the government. He told locals assembled at their meetings that they were doing this to stabilize the livelihood of people for the future. No mention was made of illegal logging at any of these meetings.

While travelling between villages, the sub-district head and his team apprehended two fishermen who were using car batteries to electrocute fish. The police informed them that it was illegal and that they could be arrested for doing so. Then the team confiscated the fishing tools, but let them keep the fish. The fishermen were told that their equipment would be kept in Baun Bango, the seat of the sub-district government. As the team's boat sped away from the bewildered-looking fishermen, jokes were raised among the officials about how it was a pity there was no press around to take their photographs and write a story for the newspapers.

Environmental etiquette, performances, and everyday life

The actors featured in the preceding paragraphs also ascribe to indigenous identities. However, in the contexts just described, there was no assertion nor ascription of indigenous identity. Instead individuals were witnessed performing their duties as government officials, and as members of their communities. Kap's brief narrative on illegal transportation of timber outside of Tawangan hints at what lies behind-the-scenes of his environmentalist performance. His remark regarding village members who secretively pursue this activity hint at a resignation that this illegal trade may continue despite his performance of his duty. It is defeatist because it connotes an admission of inability to police the matter at hand, or a lack of political will. In the case of illegal fishing in the Indonesian case study, residents said that it was common knowledge that if the police confiscate your fishing equipment today, you may 'pay a fine' a few days later in order for your equipment to be released. Afterwards, people are knowingly left to continue using the equipment illegally, until the next time some one is apprehended.

This on-the-ground fact of life has led me to the question, how do environmental venues fit into the constellation of activities that make up people's everyday lives? At the village-level, environmental venues are often mere intermissions in the unending activities of nourishing life and nurturing relationships. In some instances, formal meetings provide diversions from the drudgery of everyday work. For the most part, workshops away from home are experienced by people as costly in terms of time. While it is true that some environmentalist agencies are able to provide food and lodging, the same benefits do not extend to the families of these participants. Time in meetings is time away from the work that sustains daily life and that keeps people in touch with the environment that holds the bases of their existence. This is the very same environment that agents of environmentalism regard as nature that needs to be saved. For agents of environmentalism and professional indigenous peoples, meetings and similar interactions are part and parcel of the work that fills the weekdays, and provides their salaries. However, local government officials are incidental environmentalists, performing environmentalism at strategic moments, but reverting to a complicity regarding the need for livelihood when faced with the reality of their constituents' daily lives.

At these environmental venues, the prevailing etiquette means that no one blows the whistle on careful omissions, or on representations and performances that are not reflected in everyday life. Consonantly, saving face and maintaining congenial relationships during these interactions are given more importance than the actual environmental issues at hand. In the following section, I discuss and reiterate a few more elements and implications of this etiquette.

The etiquette of environmentalism

As was mentioned in the discussion on the Forum Masyarakat, invitations are one of the elements of etiquette at environmental venues. Invitations are usually sent out in letter-form, occasionally by word of mouth. Attention to etiquette is evident in that in certain instances, people feel they cannot or should not attend if uninvited. Thus, the invitation-giver holds a power to include and exclude individuals or certain community sectors from environmental venues. Who receives these invitations and responds to them? In the Indonesian interactions, participants were predominantly male and occupying leadership positions either by seniority, by election, or through their being part of local government structures. The same is generally true for the Philippine interactions, although one is more likely to find that women and children come to listen in at these meetings as well, and that efforts are made to assure that some female representatives are present. Sometimes a general announcement is simply sent to some one in the village who is a formal leader and it is left to him (almost always a he) to assemble a delegation or to pick a representative if he himself will not go.

When environmental venues are situated in local villages, in keeping with protocol, the village head and other important officials present are asked to give opening or welcome speeches. If the meeting is held in an urban center rather than in the village, then villagers are usually not asked to make opening speeches unless they are an official of some committee or consultative body. Thus, inclusion and exclusion and who to honour and what protocol to follow also depends on where the interaction is situated and who the hosts are.

When agents of environmentalism travel to villages where there may be no accommodations for travellers, they are hosted by local families, and the entire village is seen to be their host. When the host-guest relationship is activated, then people take the utmost care not to offend one another. This may explain why environmentalist agents sometimes choose to turn a blind eye to the environmental transgressions of their hosts. Once again, they emphasize that their role is to facilitate processes and not to police people's activities. Similarly, the prevailing host-guest relationship may also prevent indigenous peoples from outwardly contradicting their guests. This may be especially so among the Ngaju Dayak and Kalanguya in this study, both of whom expressed to me that hospitality to strangers, friends, and family alike was a great virtue of their people. Food always plays an important role in the host-guest relationship. The offering and acceptance of food can be taken to be a seal of companionship, even if it is but temporary. A reversal of roles takes place when the environmental venue is set up and commences. Here, agents of environmentalism become scheduled hosts, and the villagers become their guests.

The host-guest relationship terminates when the guest departs (Nash 1977; Smith 1977). Environmentalists assume that it continues. In a way, they are correct in that all their encounters with locals at environmental venues have a cumulative effect. Participants get to know the convenor and one another better, and agendas are slowly brought to light. However, if agents of environmentalists position themselves as guests each time, or scheduled hosts, then the relationship doesn't deepen further. Any agreements may be superficial in the eyes of locals, who are permanent hosts to any localized environmental project, and who see the proponents of these projects as absentee- or long distance managers. Inevitably, agents of environmentalism will always be departing. This is because of the boundedness of their work within project cycles, and also because of the way they structure interfaces with their chosen participants. If these are the conditions of their work, will it ever be possible for them to transcend the role of a polite guest, and act or speak as an accepted and respected community presence?

Epilogue: continued misunderstanding, future possibilities

In 2006, the leaders of indigenous groups in the Mt. Pulag National Park sent a formal petition to President Macapagal-Arroyo, seeking the turnover of the management of the park to the Municipality of Kabayan (Sunstar 17 May 2006). Similarly, an article regarding the Taman Nasional Sebangau in the Kalteng Pos (13 February 2006) aired the misgivings and disappointments of one village leader concerning the role and presence of WWF in his village. Together these two news items point to continued resistance and misunderstandings between agents of environmentalism and local communities, despite the efforts of the former to create venues for participation and representation. Put in a positive light, localisation can be seen as cooperation, inclusion, participation, and '… the localised management of available resources in accordance with existing local and regional knowledge, skills, potentialities and restrictions' (Long 2001: 225). However, localisation could also mean control in a negative sense. By identifying a space to work in and stakeholders to work with, agents of environmentalism produce new layers of power relationships and also new boundaries, both of which come hand in hand with various forms of exclusion (Cooke and Kothari 2001).

Through these two case studies in Southeast Asia, I have shown that these participative venues, with their intermittent schedules and clear-cut beginnings and endings, set the stage for environmentalist performances and cultivate an etiquette of environmentalism. The etiquette of environmentalism supports the formation and maintenance of cordial relationships between the permanent hosts of environmentalist projects (local communities) and the guests that bring them (agents of environmentalism). However, the etiquette also serves to maintain a distance between these two actors; hampering the deepening of relationships and prevent-

ing meaningful agreements on complicated, gritty, and even dangerous issues. Thus, it is a grave error for environmentalist agents to conflate local participation with consent, and to expect this to translate into the kinds of ecologically-sound actions they hope to encourage.

In the light of these conclusions, I believe that there is a need for radical re-tooling of the structure and design of environmentalist interfaces with local people. Furthermore, the boundedness in time of environmental projects needs to be re-configured. As they are presently organized, they are merely fleeting moments in the daily lives of local people, and make up only a fraction of the life of a community and the environment. If agents of environmentalism are able to expand their facilitator-roles, breach the pleasantries of etiquette, and break down the cycle of host-guest role reversals, then in the future they might have deeper engagements and understandings with local leaders and indigenous communities. The task is a gargantuan one, but the agents of environmentalism in this paper have already taken the first step by examining their positionality and contemplating the need for change.

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