

Article

Governance Lessons from Two Sumatran Integrated Conservation and Development Projects

Candice Carr Kelman

Current affiliation: Arizona State University, Tempe, AZ, USA
Research undertaken at: University of California, Irvine, CA, USA

E-mail: candice.carr.kelman@asu.edu

Abstract

Governance issues are at the heart of successful biodiversity conservation and sustainable development. This article examines two Integrated Conservation and Development Projects (ICDPs) conducted in parks on Sumatra, to better understand the foundations of effective biodiversity conservation programmes. The ICDP centred on a networked and multiscale approach to governance issues seems to have had a longer-term positive impact on truly protecting biodiversity than the one that focused elsewhere. The findings from this research support the notion that an overarching spotlight on institutions and multilevel governance matters (ranging from spatial planning and policy making to arresting poachers to battling corruption) can help in addressing many conservation and development dilemmas. Grounded in field research, this paper calls for a model of biodiversity conservation based on multilayered, networked governance structures, proper law enforcement, and an emphasis on the development of institutional capacity, especially at the local level. These networks should be nurtured by long-term partnerships between governments, communities, and NGOs. Donors and planners should focus on these key areas in conservation design.

Keywords: integrated conservation and development, protected areas, forest governance, multiscale networks, community-based biodiversity conservation, landscape conservation planning, socially just conservation, people vs. parks, Indonesia

INTRODUCTION

What have we learnt from Integrated Conservation and Development?

There is widespread recognition that conservationists must continue to work closely with a wide variety of actors in the field, particularly communities in and around parks¹ (McShane and Wells 2004; Sunderland et al. 2008; McShane et al. 2011). What remains less clear is exactly how these partnerships should work, and how conservation and social needs should be linked.

This article aims to contribute to the discussion regarding what to emphasise in project design and implementation. Early Integrated Conservation and Development Projects (ICDPs) offer important lessons regarding the reconciliation of tensions between conservation goals and the aspirations of people in and around protected areas (PAs) (Wells and Brandon 1992). The ICDP model has evolved, and the general approach of integrating conservation and development in a project form remains widely used (McShane and Wells 2004; McShane et al. 2011).

It is now widely recognised that there are tradeoffs in the integration of conservation and development, rather than the original optimistic outlook that ICDPs present win-win situations (Brown 2004; Scherl et al. 2004; McShane et al. 2011; Salafsky 2011). One key to balancing these tradeoffs lies in the creation of inclusive, adaptive, and sustainable governance structures that build partnerships, empower people, foster dialog, and emphasise the use of the best science available (Scherl et al. 2004). Conservation institutions must be supported by an enforcement of rules by legitimate authority figures² and a bolstering of institutional capacity (Gibson et al. 2005).

Access this article online

Quick Response Code:



Website:

www.conservationandsociety.org

DOI:

10.4103/0972-4923.121028

Common pitfalls and problems of early ICDPs have been:

- a focus on project activities rather than biodiversity outcomes;
- addressing local symptoms while ignoring macro-level problems and vice-versa;
- lack of adaptive management; plans that dictate a time-bound project cycle with externally imposed deadlines;
- a failure to cede significant decision-making powers to local communities, thereby preventing local ownership of project goals;
- acting as if communities are homogeneous entities;
- expectations of win-win scenarios and a failure to consider the potential tradeoffs (Wells and Brandon 1992; McShane and Wells 2004; Scherl et al. 2004: 30–31).

Each of these problems shows up in the two case studies examined in this paper.

RESEARCH METHODS

The purpose of this study was to gain insights into the reconciliation of nature conservation with the improvement of human well-being through the examination of how selected ICDPs (see Table 1) were planned and implemented, and what their results have been, about a decade after the projects began. Four ICDP sites on Sumatra and Borneo were chosen as case studies (in addition to the two cases discussed in this article, I also studied two parks in East Kalimantan). Indonesia has the largest area of remaining rainforest in Southeast Asia and is rapidly developing. Field research was conducted through open-ended, semi-structured interviews, review of archival records, and direct observation of project sites (*post hoc*).

The process of implementation of each ICDP was traced and compared with the other case studies to evaluate the relative success of each project and gain insights from this. Project success was assessed based on overall sustainability, and lasting conservation and development impacts approximately a decade after initial implementation (see Table 2). I aimed to discover what did and did not work in ICDP design and implementation, and assess the involvement of international actors (conservation organisations, international organisations, donors, governments, etc.) in the socially just and effective integration of biodiversity conservation and sustainable development in Indonesia and beyond.

As a small-N case study comparison, this research aims to improve the generalisability of findings from case studies by having more than one case, while retaining the ability to go into some qualitative depth by looking at a small number of

case studies. In this way, the small-N case study comparison combines the advantages of single-case analysis with those of multi-case analysis, while attempting to avoid the disadvantages of each (Abbott 2004). Lin (1998) observed that a comparative case study offers the opportunity to combine the best features of positivist and interpretivist work, because case studies allow the researcher to see the phenomenon of interest in context, while the inclusion of several case studies forces the investigator to be more rigorous about defining relationships, and allows more generalisability.

The primary methods used in this qualitative study were interviews, observations, and archival records review. For each case study, I will briefly list some of the key informants interviewed. For Kerinci Seblat, I interviewed all the locals I could find who had been involved with the ICDP, which included several people in the head park office (Balai Besar), individuals affiliated with local NGOs (such as LTA and WARSI) and individuals affiliated with global NGOs (such as FFI and WWF). I contacted several experts who had key positions in the design and implementation of the ICDP in Kerinci, including Matt Linkie, Sukianto Lusli, and Raleigh Blouch. I also interviewed key scholars such as Prof. Paul Jepson of Oxford University and Prof. Suraya Afiff of University of Indonesia, both of whom have studied the Kerinci ICDP. When visiting Kerinci, I was based in Sungai Penuh, and took trips to remote villages for interviews.

For Gunung Leuser, I interviewed Mike Griffiths, one of the co-founders of Leuser International Foundation (LIF) and now a central actor in *Badan Pengelolaan Kawasan Ekosistem Leuser (BPKEL)*. I also interviewed a number of the staff at LIF, former members of the Leuser Management Unit (LMU) including Yarrow Robertson, and staff of the local park office. I was frequently in Medan for interviews, but also took several trips into and around Leuser, both in Aceh and the province of Northern Sumatra. At *Manggala Wanabakti*, headquarters of the Ministry of Forestry (*PHKA*) in Jakarta, I interviewed Ibu Listya (former head of KSNP) and Wiratno (former head of GLNP).

This study combines positivist and interpretivist approaches. Positivist aspects of a comparative case study include the observation of the specific details of cases—the facts that lead to similarities and differences between them—while the interpretive qualities exist in the examination of how these observed details are connected in each case and the researcher's comparison of the cases themselves (Lin 1998). Essentially it is the researcher analysing the facts and making sense of them, based upon the patterns that emerge. I utilised interpretive research tools such as coding of field notes, memoing, semiotic analyses and narrative analyses of interviews, finding story-lines, oppositions and syllogisms (Feldman et al. 2004).

After examining the case studies through the processes of this research and evaluating and comparing the various projects, the key variables that continued to surface were institutions and governance, and these emerged as the overarching themes of focus, supported by much literature on the subject. The observations I make here apply to all four of my original case

Table 1
Basic information about the two Indonesian ICDPs studied

Park	Location	Hectares	External Funding	Duration
Gunung Leuser	Sumatra (North)	1,200,000	European Union	1996–2004
Kerinci Seblat	Sumatra (South)	1,368,000	World Bank/GEF	1996–2002

Table 2
Elements of project success: comparison of the Leuser Development Programme and the Kerinci Seblat ICDP

	Overall sustainability		Conservation			Development		
	<i>Was project extended or continued?</i>	<i>Did project experience local resentment?</i>	<i>Environmentally negative activities halted or prevented?</i>	<i>Better protection agreements or regimes established or enforced?</i>	<i>Overall land area under protection increased or more effectively protected?</i>	<i>Effectively linked to conservation goals? Effective in helping reach conservation goals?</i>	<i>Money well spent? Projects useful and ongoing? Good match with community? Participation of villages in process?</i>	<i>Was there significant corruption in delivery of the projects?</i>
LDP in Leuser	Yes, for 2 years; then work continued with new funding	Some, due to increased park protection	Yes, numerous-including logging, palm plantations and transmigration plans of govts	Yes, LDP successful in rooting out some corruption, improving governance	Yes, the establishment of the Leuser Ecosystem around park, and more	Education projects, yes. Other types only helpful in winning hearts and minds	Not a waste of money, because villagers chose projects that suited needs, but short term	Probably, but since development was not focus of LDP, this was minor
Kerinci Seblat ICDP	No, it was cut short by the World Bank team	Some, due to increased protection and high salaries of consultants	Some, due to better law enforcement, but many violations discovered by consultants went unaddressed	No, not on a large or long-term scale. VCAs not significant source of protection	Perhaps. Borders marked; park deforested at slower rate than surrounding areas	No, not on any meaningful scale when compared to the large-scale impacts of non-locally based actors	Some ongoing, but most failed, especially economic development; participation was good, but abrupt project end was problematic	Yes, one <i>Bappeda</i> official was sent to jail, 4 villages did not complete process

studies, although there is only space in this article to examine two of the case studies.

CASE STUDIES

Social and political context of conservation and ICDPs in Indonesia

Both of the parks discussed in this article are on Sumatra, the westernmost island of the Indonesian archipelago. They are the two largest parks on the island, both mountainous and important habitat for the increasingly endangered Sumatran tiger and other rare species. Large contiguous habitats are more likely to have the ability to support a healthy population of high-trophic species, provided that the area contains the right mix of ecosystem types required by those fauna. Most PAs are in mountainous areas, which are more difficult to develop for human use, but are usually less biologically rich than lowland areas, although endemism may increase with elevation (Caldecott 1996). Both parks are threatened by illegal logging, hunting, and encroachment, but as Nellemann et al. (2007) show, Gunung Leuser was under greater threat than Kerinci Seblat was during the period of project implementation.

In addition to being a high biodiversity country with numerous endemic and endangered species, Indonesia is the fourth most populous country in the world, and is rapidly developing despite the economic setbacks of the Asian financial crisis. Indonesia was also one of the first countries to implement ICDPs. Approximately 20 ICDPs were planned and implemented in Indonesia beginning in the early 1990s (Wells et al. 1999). During this time, effective conservation as well as social justice and human rights in Indonesia were often constrained by the authoritarian military government.

After three decades of rule by Soeharto's autocratic New Order regime (1967–1998), corruption had become deeply engrained in practice, and continues to hinder fair conduct in business and governance in Indonesia (Colfer and Resosudarmo 2002). In 1997, a series of crises destabilised the New Order and led to massive upheaval and reorganisation of Indonesian government and society. Drought, fires, and famine across Sumatra and Kalimantan combined with the Asian economic crisis to fracture the power of the New Order regime, leading to chaos and transformation.

The fall of Soeharto in 1998 and the ensuing process of rapid democratisation and decentralisation (*reformasi*) to regional autonomy (*otonomi daerah*) had both positive and negative consequences for the practice of conservation, and the ICDPs in particular, in Indonesia. Negative consequences include the breakdown of the rule of law that prevailed in the years immediately following the economic crisis and collapse of the Soeharto regime (World Bank 2003).

Multiple Indonesians interviewed for this research noted the chaotic context of the late 1990s and the early *reformasi* era as major obstacles for governance in general and conservation in particular³. One informant described the situation as having been like “taking the lid off a boiling pot”⁴ and another described the changes as having been like “a pendulum swinging from strict authoritarianism to anarchic chaos in a very short period of time”⁵. Central government authorities went from having absolute power to having relatively little power, especially in remote areas.

With their new authority to plan development locally, and the political climate of chaos and disorganisation at the national level, district governments (*pemerintah Kabupaten*) began to plan roads and hand out permits regardless of the federal status of the land. Regional planning and coordination was poor, even

with neighboring *Kabupaten*. This was further exacerbated by the proliferation of *Kabupaten*, as local elites were quick to realise that *Bupati* (the chief governors of *Kabupaten*) were suddenly the most powerful people in the country. *Kabupaten* rapidly became smaller and more numerous in the decade after decentralisation, as new dividing lines were made, complicating regional planning and coordination.

In the desperate economic situation and disjointed political climate of the late 1990s, many Indonesians saw that there would not likely be any punishment for certain unlawful actions in parks (McCarthy 2006), especially from a central government agency like the Directorate General of Forest Protection and Nature Conservation (*Directorat Jenderal Perlindungan Hutan dan Konservasi Alam, PHKA*), the subsection of the Ministry of Forestry which manages parks and PAs. Illegal activities in conservation areas increased, including farming, settlements, poaching, and illegal logging, and in many conservation areas, *PHKA* officials felt powerless to take action on these violations for a variety of reasons⁶.

Firstly, it does little good to arrest people who will likely not be processed through the local legal system due to corruption and/or sympathy on the part of local justice officials, especially when it would take a significant portion of the park budget to initiate this legal process⁷. Secondly, local *PHKA* officials (park rangers) often have very little incentive to go after law breakers. Not only is it unlikely to further their career (because promotions are usually based on seniority more than merit), but they also have to live in the same community with the families and larger social networks of the offenders (McCarthy 2006). Thirdly, when large numbers of people are breaking laws, the park rangers are out numbered⁸. In several Indonesian parks, there were instances of violence and retaliation against park rangers (Nellemann et al. 2007) for attempting to arrest perpetrators of illegal activities during this time period⁹. Finally, due to the financial crisis, many rangers felt pity for some lawbreakers, who may have been forced to seek new ways to survive¹⁰.

For all of the above reasons, the implementation of ICDPs was hampered in Indonesia during the late 1990s and early part of this century, which is the time frame during which most of them began and ended. However, the wide variation in ICDP outcomes shows that the turbulent political climate is not an adequate explanation for project failure, as so many were implemented in roughly the same time period and yet had very different results.

State management of Indonesian parks

In the late 1990s, a majority of PAs in Indonesia were facing serious threats, but had minimal management infrastructure (IUCN 1999). These findings are supported by more recent research conducted during IUCN-UNESCO World Heritage (WH) monitoring missions to Sumatra, regarding the status of the Tropical Rainforest Heritage of Sumatra (TRHS), which is a World Heritage Site comprising the three largest national parks (*Taman Nasional*) on Sumatra: Kerinci Seblat, Gunung

Leuser, and Bukit Barisan Selatan (Hitchcock and Meyers 2006). The following selection from the WH mission report explains their recommendation for the inscription of the TRHS on the Danger List:

The capacity of management to effectively respond to and resolve critical situations has failed to keep pace with the mounting threats due to a range of institutional constraints, including funding constraints; inadequate cooperation and support from local, provincial and central government agencies, including in some cases law enforcement agencies; confusion over the rights of local government within national parks; and bureaucratic procedural constraints and inefficiencies. In addition, local communities and local government remain largely uninformed about the importance of and threats to WH property, and are therefore often antagonistic. (Hitchcock and Meyers 2006: 1)

The above description of some of the institutional problems facing parks on Sumatra offers a preface to the descriptions of the ICDPs carried out in Kerinci Seblat (Kerinci) and Gunung Leuser (Leuser). In addition, there also exist less visible and more complex “webs of power and interest” that perpetuate illegal activities in PAs; McCarthy (2006: 142) described logging networks involving investors (*cukong*), “bosses” known as *tauke*, and corrupt “rogue officials” (*oknum*). The field research I conducted in 2007 and 2008 indicated that all of the problems listed above remain serious despite some improvements.

Case study one: Kerinci Seblat

ICDP context and plan

Located in southwestern Sumatra, the Kerinci Seblat National Park (Kerinci) is one of the largest PAs in Southeast Asia, with an area of approximately 1.4 million ha. The park straddles four Provinces (Jambi, West Sumatra, Bengkulu, and South Sumatra) and thirteen districts (*Kabupaten*)¹¹, making coordination with local governments regarding park management administratively complex.

The park includes a wide range of habitats, supporting rich biodiversity, including 85 of the 199 Sumatran mammal species. As of 2002, 24% of the species-rich lowland forests within the park had already been destroyed (Component A 2002), in addition to the lowland forests surrounding the park that have been lost to logging concessions. Threats to the park include road construction, wildlife poaching, agricultural encroachment, in-migration, illegal logging, mining, collection of non-timber forest products, and issues regarding boundary overlap (Wells et al. 1999; Component A 2002; Hitchcock and Meyers 2006).

The ICDP in Kerinci was planned and financed by the World Bank, implemented and managed largely by various foreign consultants hired by the World Bank, in partnership with WWF Indonesia and the Sumatran Conservation NGO Network *Warung Konservasi Indonesia (WARSI)*. The six

year project was originally envisioned as just the introductory period of a much longer programme required to fully protect the park and integrate its proper management with regional development. However, there was never any commitment from the World Bank to a multi-phased project such as might have been achieved through an Adaptable Program Loan, and no commitment from the Government of Indonesia (GoI) to continue funding after the ICDP. It was imagined that the Kerinci ICDP would be a model for reconciling conservation and development throughout Indonesia and Asia (World Bank 2003). Instead, it stands out as a notorious ICDP failure, partly due to its high profile and large investment from the World Bank, combined with the unsatisfactory results and cancellation (Linkie et al. 2008).

A World Bank sponsored assessment of the Kerinci ICDP conducted between September 1996 and April 1997 (Wells et al. 1999) was pessimistic about its potential for success. This is particularly notable for two reasons: first, the ICDP in Kerinci had only just begun, and second, the World Bank Task Team Leader of the Kerinci ICDP (Asmeen Kahn) was one of the authors of the report. The World Bank's final project evaluation (2003) rated the ICDP in Kerinci as unsatisfactory overall. Most of the comments explaining the unsatisfactory evaluation are related to problems regarding governance, bureaucracy, and lack of institutional capacity and coordination on the part of PHKA and local governments. Although the ICDP contained several elements that aimed to address such problems, the scope of the issues was not likely to be resolved in the six years of project operation (especially the politically tumultuous time period of 1996–2002). This highlights the need for long-term partnerships and the establishment of governance networks that transcend the time scale of a project.

The final ICDP plan consisted of four components: (A) Park Management; (B) Area and Village Development; (C) Integrating Biodiversity in Forest Concession Management; and (D) Monitoring and Evaluation. The overall objective of the project was "... to secure the biodiversity of KSNP and stop further habitat fragmentation... The project design proposes to meet this objective by institutional strengthening in the areas of integrated planning, coordinated implementation and regular monitoring and enforcement at provincial and local levels; building institutional capacity through increased staffing and in-service training; and improving livelihoods through improved resource management and services delivery." (World Bank 1996).

The first goal listed here (integrated planning) was not actually emphasised in implementation (see Wells et al. (1999: 21); if it had been, perhaps outcomes would have been better. The second goal listed (building institutional capacity) was relatively successful, while the third was not directly addressed (improving livelihoods through improved resource management and services delivery).

Kerinci ICDP implementation and outcomes

According to the World Bank, as the project planning unfolded, the "emphasis evolved away from bioregional integrated

landscape and development planning to a focus on small-scale village development based on the (flawed) assumption that poverty and the lack of alternative livelihoods were driving deforestation and agricultural encroachment into the park (they might have been a contributing factor, but were not the main one)" (World Bank 2003: 1). This stark analysis by the World Bank of their own project supports the thesis that it would have been more fruitful to focus on larger issues of governance (such as eliminating corruption and large-scale illegal logging), including planning (such as coordination and harmonisation of plans among various levels of government) rather than focusing on village development projects.

Component A appears to have been the most successful part of the Kerinci ICDP, and these activities were all related to formal park governance. The major conservation achievements of the project were part of Component A, such as achieving the formal gazettement of Kerinci as a national park in 2000 after a complex, 11-step process including demarcation on the ground using wooden and concrete markers. Kerinci was the first national park in Indonesia to be legally gazetted. Despite boundary disputes with local communities and companies holding adjacent logging concessions, the park would not have had proper management (*pengelolaan*) without the ICDP¹².

Also as a part of component A, a management plan was produced, which continues to be used as the basis for annual KSNP work plans. A baseline survey of forest cover was made, to be used for landscape monitoring, with a goal of identifying 'hot spots' of encroachment. Three park staff were trained in GIS, and they continue to use it for some landscape monitoring, although the system is incomplete and can only be used for printing basic maps for patrol activities (World Bank 2003). Each year, the Park GIS unit buys NASA LandSat data for translation into GIS maps for tracking changes in the forest cover of the park over time and conducting patrolling activities¹³. In addition, the project stimulated the addition of park staff, an increase from 71 to 180, including numerous university graduates (first time graduates had been recruited as field staff). These new staff were trained and taken on study tours to parks in Indonesia and Malaysia as a part of Component A. Also, a new interpretation centre with a library was established at the park headquarters and a park website was developed (World Bank 2003).

Component B—Area and Village Development—originally intended to work with 134 of the 383¹⁴ of villages along the park boundary (the number of villages included in the ICDP was later reduced to 75¹⁵). The idea was to provide development assistance to villages surrounding the park, intending to take pressure away from park edges. Agricultural encroachment by local people was perceived as a principal direct threat to the park (Barber et al. 1995). However, a pre-implementation analysis by Barber et al. (1995: 26) notes that efforts "to change government policies on regional economic planning and investment" may be more critical than the ICDP's emphasis on boundary village investments. Similarly, Wells et al. (1999: 22–23) found that logging and road construction posed more serious threats than villages.

Component B was planned and implemented by WWF Indonesia and *WARSI* in concert with World Bank consultants. The strategy used involved a contractual commitment from each village to undertake certain conservation measures (Village Conservation Agreement, or VCA) in exchange for a development grant. The Village Conservation Grants (VCGs) from the World Bank of USD 50,000 per village (given in two installments several years apart to ensure cooperation) were for infrastructure or economic development such as revolving funds or agricultural inputs¹⁶.

Several locals who were Indonesian collaborators with the project reported that WWF Indonesia and *WARSI* (coordinating village development projects) were shocked and saddened by the unsatisfactory rating by the World Bank¹⁷. They told me that many locals working with these organisations had hoped that the project would be extended, and that more villages could be incorporated. From their point of view, things were just getting started when the project abruptly ended. They were especially disappointed that they were left with the responsibility of conveying the disappointing news to all of the villagers with whom they had been working for years on this project. The sentiment was that the World Bank decision-makers should have told the villagers that the project was over and why¹⁸.

Component B appears to have been the most controversial, complex, and problematic part of the ICDP. Despite conflicting viewpoints about the relative success of the outcomes of Component B, there seems to be agreement that there was very little, if any, connection or linkage between the VCAs and the small development grants (VCGs) given to the villages when it comes to the success or failure of either, even though the main point of the grants was to provide an incentive for conservation—and this was meant to be the main linkage point between conservation and development in the ICDP. This is the classic lack of linkage between conservation and development activities bemoaned by so many reviews of ICDPs (see Wells and Brandon 1992; Wells et al. 1999; Salafsky and Wollenberg 2000; Brown 2004. More recent study results have revealed some interesting patterns regarding this conservation-development project linkage, or lack thereof.

Linkie et al. (2008) published a quantitative analysis of the relationship between forest cover changes and inclusion of villages in the Kerinci ICDP. They found that a village's participation in the project had no effect on local deforestation rates compared to non-participating villages. They conclude that strengthening law enforcement and local property rights would be far more effective than the ICDP strategy of providing economic development assistance, which had no effect on forest conservation. However, they do note that the overall rate of deforestation in the Kerinci Seblat region, at less than 1% per year during the ICDP, is lower than the 1.69% per year recorded between 1972 and 2002 in the comparably-sized region containing the Bukit Barisan Selatan National Park, and much lower than the annual deforestation rate of 5.9% recorded in unprotected areas of Sumatra. Within Kerinci itself the deforestation rate was just 0.28% annually, which the authors believe may be related to

the accessibility of forests around the park, currently acting as a buffer, but being diminished annually (Linkie et al. 2008). This data suggests that the ICDP was relatively effective at protecting the park from encroachment and logging, although not because of the village development or conservation agreements.

An in-depth qualitative study by Syaf et al. (2008) also found that there was almost no connection between grants received and whether or not the village conservation agreements were respected. However, they also found much more nuanced information related to both the VCAs and the VCGs than was studied or reported by the World Bank. The main lessons to be learned from the study by Syaf et al. (2008) are (1) that the VCAs were surprisingly effective, despite having little connection to the success of the VCG; (2) economic development assistance would need more supervision and consultation for success, particularly for revolving funds, and any connection to conservation success is unclear; (3) traditional rules are relatively effective in supporting conservation when there are no conflicts with the park authorities; (4) while traditional rules may not be sufficient to protect the park, they are very helpful, along with social capital, good relations with the park, and law enforcement, to create good governance; (5) investments in infrastructure were far more sustainable and much more highly valued by villages than economic development projects (or tree-planting schemes).

These findings support the notion that respect for traditional land management regimes and attempts at adaptive co-management (as well as small infrastructure and human development activities) may be more fruitful than economic development schemes purporting to incentivise conservation efforts. Co-management plans for special and traditional use zones for villages within the park were drafted during the last year of the ICDP, but never signed. Although these plans seem to have been well designed, they were undermined by larger governance problems, especially lack of law enforcement and support from district governments (Blouch 2010).

Component C of the Kerinci ICDP was largely futile. Biological surveys showed that several concessionaires were logging within the park, and that the concessions given to these companies were incredibly species-rich areas that deserved repatriation to the park, but the Directorate General of Forest Management took no action. This evidence could have been used to revoke the concessions and return the remaining highly biodiverse areas to the park, but no action was taken (World Bank 2003), which suggests flagrant corruption within the Ministry of Forestry, and underscores the key role of governance in conservation and the importance of the ability of outside organisations to effectively work with government institutions to reach conservation goals.

Component D, Monitoring and Evaluation, supported landscape monitoring activities, including field transect walks, fixed-point photography, socio-economic surveys, hydrological studies, data collection on illegal logging activities, and GIS surveys.

Analysis of results: Lessons from Kerinci Seblat

The ICDP in Kerinci is widely regarded as a failure, despite quiet successes discussed by informants¹⁹ and by Linkie et al. (2008) and Syaf et al. (2008). Aspects of the ICDP were successful; particularly those related to park governance in Component A²⁰. However, the ‘development’ part of the project, which became a central feature, was a lot of work for very little conservation payoff. Here, I will highlight three design weaknesses related to planning, assumptions, and focus of the project. First, the ICDP was a short-term project and was also abruptly discontinued. This lack of long-term commitment on the part of the donor organisation was a major destabilising force, combined with the sudden deleveraging, was a main contributor to project failure²¹, as well as economic and social shock in the region. The ICDP was an unsustainable investment, financially and institutionally (Wells et al. 1999: 69).

The project had a very complex design that took quite a long time to organise before implementation began (partly due to the chaotic Indonesian political context during the beginning of the project²²). By the time that the project was actually up and running, it was discontinued by the World Bank, causing shock on the part of local teams²³ and undermining the trust of communities that had been engaged by the project²⁴. The sudden massive investment and abrupt deleveraging by the World Bank meant that the implementation teams were actually trying to “spend too much money too quickly” in the words of the team leader for Component A (Blouch 2002: 2). This caused its own set of problems, both for project managers and regionally, as people from elsewhere began arriving to the area with the idea that they might be able to obtain some of the benefits of the World Bank funding for projects in the region²⁵. The context proved to be more complex than the World Bank’s short-term commitment could address. The understanding of the local social and political context could have been improved through a thorough institutional analysis, which was not conducted (World Bank 2003).

Second, the ICDP was predicated on the dual inaccurate assumptions that local communities and their encroachment into the park were the main problem facing park conservation²⁶, and that short-term village development activities would be sufficient and effective in curbing this encroachment. Large-scale projects sponsored by government agencies at multiple scales (road building, forest conversion, estate development, etc.) posed a greater threat to biodiversity in the long run (Wells et al. 1999: 69), along with corruption, clientelist networks, and lack of institutional capacity. These assumptions are emblematic of the design of early ICDPs, and point to the need for better coordination with governments.

A third issue was the lack of sustained focus on multilayered governance, especially supporting effective law enforcement activities. Despite significant capacity building of the park office done by Component A, park guards remained incapable of effective law enforcement to control encroachment, which undermined the co-management attempts of the ICDP (Blouch 2010). There was also local resentment that 25% of ICDP

resources went to consultants, apparently “to compensate for the absence of local institutional capacity” (Wells et al. 1999: 69).

There was inadequate attention to the creation of a lasting, multiscale conservation governance communication network aimed at coordinating activities and rooting out corruption. Although the ICDP made promising attempts to coordinate all of the local and regional governments with park authorities regarding harmonisation of conservation and development resulting in a moratorium on road-building into the park, these interprovincial spatial planning coordination meetings with the park authorities did not continue post-project.

Case study two: Gunung Leuser

ICDP context and plan

Located in the provinces of Aceh and Northern Sumatra, the Gunung Leuser National Park (Leuser) forms the mountainous centre of the larger Leuser Ecosystem. The Leuser Ecosystem constitutes an area of 2.6 million ha, containing a wealth of different forest types, including dipterocarp lowland rainforest. It is the only area on the island of Sumatra where viable populations of all four megafauna species co-exist and remain: the Sumatran orangutan, the Sumatran rhinoceros (the last viable population), the Asian elephant and the Sumatran tiger (MacKinnon et al. 2004). Over 100 mammal species in the ecosystem represent 60% of the Sumatran total (Wells et al. 1999).

The mountainous park itself does not contain sufficient lowland forests to support the increasingly rare megafauna species and other biodiversity. Therefore, the Leuser Ecosystem, which is a very wide buffer zone of mostly intact rainforest surrounding the park, was established as a part of the ICDP (see Figure 1), to protect the areas of high biodiversity value that surround the park boundary (Robertson 2004).

The ICDP, which was called the Leuser Development Programme (LDP), began in late 1995 and was intended to end in late 2002, but was extended for two years through 2004. The original vision for the LDP was described in the LDP Masterplan, written by the leaders of the Leuser International Foundation (LIF)—an NGO based in Medan and Banda Aceh that was created to conserve the greater ecosystem and work towards its permanent protection (Rijksen and Griffiths 1995). The final project was designed and planned in partnership with the main funding organisation, the European Commission (EC). The EC committed 31 million EUR and the GoI contributed six million EUR to finance the ICDP (Leuser Management Unit 2002).

The keystone of the LDP conservation strategy was the establishment and legal protection of the Leuser Ecosystem (*Kawasan Ekosistem Leuser*). This was done through the designation of the Leuser Ecosystem as a conservation concession²⁷ to the LIF. This unprecedented strategy was made possible largely through the high-level political connections of the LIF founders (McCarthy 2006), essentially expanding the national park to cover the areas of rich biological diversity and intact ecosystems, especially lowlands. This innovative institutional design was one of the first examples in Indonesia



Figure 1
Map of Leuser Ecosystem and Gunung Leuser park boundaries

of the move to a landscape-planning approach to conservation planning (Wells et al. 1999) based on ecological data and an integrated, multiscalar approach to governance.

The legal designation of management rights to the locally-based NGO was intended to provide a defence against

corruption as well as combating the common conception of state-owned forest as 'empty land' (*tanah kosong*) open for exploitation. It was also meant to give the LIF the ability to help to protect the area by working with local communities, developing the potential for nature tourism, and conducting

ecological research and monitoring in the region. The production forests and wilderness areas designated for nature tourism that surround the edges of the conservation concession act as a buffer zone, creating one of the few examples of a functional buffer zone around a national park, which was particularly rare in Indonesia (Rijksen and Griffiths 1995).

The team at the centre of the LDP was the Leuser Management Unit (LMU), which was to provide technical expertise and coordinate with stakeholders at multiple scales. These included the LIF, the Leuser Steering Committee (made up of representatives from the key agencies of the national government), regional government agencies, communities, and local NGOs, research institutions, and private organisations. The LMU team was led by foreign experts as well as senior Indonesian staff, headquartered in Medan, with several field offices. The LMU was to transfer the project activities to the Leuser International Foundation upon completion, in the name of project sustainability (which it did). The focus areas of the LMU were park management, buffer zone spatial planning and rural development, communications, research and monitoring (Monk 2001).

The ICDP included a component on education and local public awareness regarding the valuable ecosystem services provided by the Leuser Ecosystem to the entire region (Rijksen and Griffiths 1995: 199). These include the regulation of water supply for over four million people, flood and landslide control, fire prevention, and carbon fixation. The total value of these services was calculated to be approximately 300 million EUR per year (MacKinnon et al. 2004).

The major threats to the ecosystem during the time of the ICDP were large scale clearance of forests for plantations, the allocation of logging concessions, the poor performance of many concessionaires as well as illegal logging, transmigration and settlement into the last remaining tracts of lowland forests in the Leuser Ecosystem, and planned infrastructure development such as large roads and dams (MacKinnon et al. 2004). Additionally, the Final Report of the ICDP noted the hunting and capture of threatened species such as the tiger, elephant, rhino, and orangutans for medicinal and pet trades. The report particularly emphasised the problem of “rampant illegal logging among local villagers, government officials, timber companies, and powerful individuals” who use “threats, bribes, and terror tactics to continue and extend their activities” which “local law enforcement agencies remain powerless to halt” (MacKinnon et al. 2004: 1). The logging networks described here appear to be the same that Dauvergne (1997) and McCarthy (2006) discuss.

In addition to the hidden webs of corruption left from past clientelist regimes, the new, fragmented politics of regional autonomy also shifted the balance of power in the nation. Land use designations determined at the central level were frequently being rejected locally. Nowhere was the rejection of control by Jakarta more visible than in Aceh. Violence between government forces and the independence fighters in Aceh (Gerakan Aceh Merdeka) presented an additional complication for the LDP (MacKinnon et al.

2004). Despite these significant threats, the project was able to realise many of its planned goals, including coordinating better protection of the entire conservation concession, and improving the oversight of conservation management and buffer zone development activities (Rijksen and Griffiths 1995: 164–165).

LDP implementation and outcomes

This ICDP had high-level political support, a strong institutional framework, and well-equipped staff in a centralised headquarters (Wells et al. 1999). Effective project efforts protected the park from two planned roads and various swamp-forest drainage projects, four transmigration schemes, and halted plans for six new logging concessions and five large oil palm plantation permits (Griffiths et al. 2002) within the Leuser Ecosystem (see Figure 2).

Biological studies were carried out to identify the most important conservation areas of the park, and a corridor was established to connect the biodiverse Singkil Swamp area to the Leuser Ecosystem (MacKinnon et al. 2004). The boundaries of the Leuser Ecosystem were demarcated in the field and incorporated into the spatial plans of most existing (and newly established) regencies (*Kecamatan*) and districts (*Kabupaten*), as well as at the provincial and national levels (Robertson 2004).

Project managers created an anti-poaching unit of 45 members, which conducted monthly patrols in remote locations to protect rhinoceros, an elephant patrol unit, mobile patrol units that documented illegal logging activities, and a hidden camera programme that provided photographic evidence of the large terrestrial mammals. During the programme extension of two years (2002–2004), an airstrip was built in Kutacane and handed over to the government of Southeast Aceh, and the construction of the Leuser Conservation Centre on the campus of University of North Sumatra in Medan was completed and turned over to the LIF (Robertson 2004). The LIF continues to operate this office and another in Banda Aceh, along with field offices.

A total of 613 small-scale village development projects were conducted in 11 districts in Aceh and Northern Sumatra between 1995 and 2001, at a total cost of over twenty-two billion IDR. These projects were delivered to villages depending upon their needs and requests, and the ability of the LDP to provide such projects. These projects included a wide range of activities including providing seedlings for nutmeg and mace gardens, animals for raising, canoes or motors for boats, educational activities, family planning clinics, lodges for ecotourism, small grants for startup businesses such as embroidering men’s hats or processing grains, building of bridges and irrigation canals, and many other types of projects (Unit Manajemen Leuser 2001a; Unit Manajemen Leuser 2001b).

Like the ICDP in Kerinci, development was designed to be linked to conservation through the establishment of “quid-pro-quo agreements” with village leaders agreeing to cease logging and clearing of forests in the Leuser Ecosystem in exchange for micro-projects (McCarthy 2006). In the end,

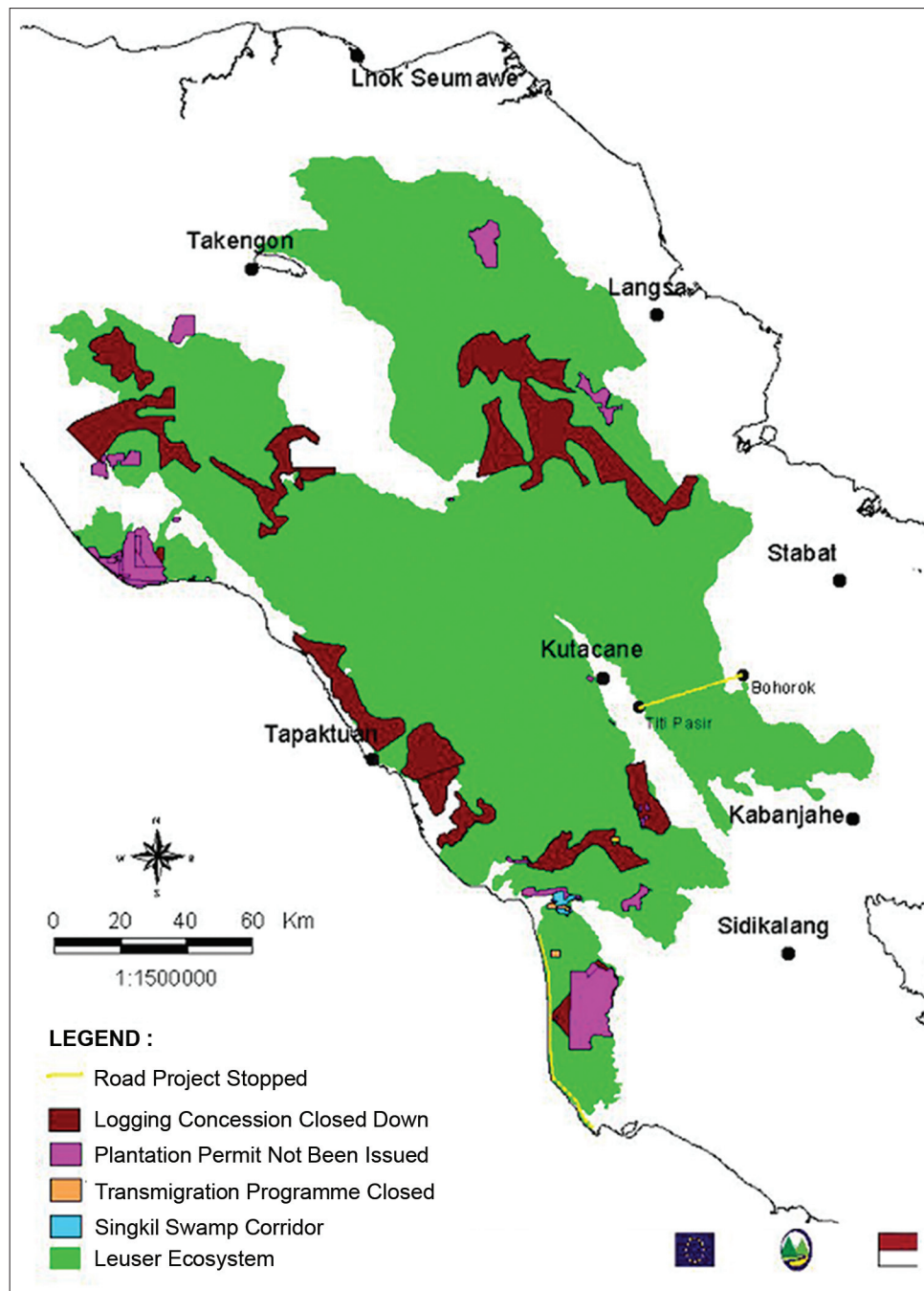


Figure 2

Inappropriate plans within Leuser Ecosystem defeated (and addition of the Singkil Swamp Corridor) due to LDP (MacKinnon et al. 2004; Annex 12.5)

the progenitors of the LDP found that there was not much of a relationship between the village development activities and the conservation goals of the project. They concluded that seeing local communities and individuals as the problem was a “misidentification of the threat to conservation”²⁸ and instead focused on addressing larger governance issues such as state policy, regional spatial planning, public investment decisions, and development coordination (McCarthy 2006), as well as corruption within the institutions meant to protect biodiversity. Following the LDP, the LIF continued to work with communities in and around the Park regarding

conservation, but replaced development projects with meetings and consultations²⁹.

Much of the strategy of the ICDP was focused on improving conservation governance through coordination among various stakeholders to resolve conflicting plans of different constituencies, including central and provincial governments, universities and schools, the military, the private sector, NGOs, and villagers, as well as donor agencies and international parties (Monk 2001). One major avenue for doing this was through strengthening communications between conservation organisations, and regional planning and development

agencies (*Bappeda*) and improving the integration of ecological awareness into development processes (Rijksen and Griffiths 1995). It was this central focus on governance, communication, and integration (rather than on village development projects) that lead to significant conservation achievements in Leuser. However, the LDP could potentially have been more effective with proper support from government, although this may have further undermined its legitimacy in the eyes of villagers.

Through the seven-year conservation concession from the Minister of Forestry, beginning in 1995, the LIF was responsible for the management of the conservation area³⁰. However, this was really only possible through coordination with governmental institutions at multiple scales, since the NGO was not able to conduct law enforcement activities, and the LIF never had sufficient support from the bureaucracy³¹. This left the LMU in the difficult position of being very constrained in its ability to employ authority tools, while witnessing the failure of incentive tools to gain the support of villagers. This failure stemmed both from the inadequacy of the incentives as well as the association of the LDP with the corrupt and locally unpopular state park management bureaucracy. The reliance on state authority for law enforcement undermined the legitimacy of the LDP for many locals (McCarthy 2006: 227).

This weakness in the design of the LDP and its conservation concession model illustrates a larger quandary for conservationists operating in places with authoritarian or dishonest governments. Conservation projects often aim to protect PAs which have been created under colonial or repressive regimes, and may currently be managed by an oppressive government. But if a conservation organisation wishes to protect the biodiversity there, they must work with the existing regime to do so. The original plan for the LDP, as conceived by the LIF, wished to actually replace the state management structures through the concession model. Instead, the LMU and the LIF were forced to co-exist with, and rely on, those institutions, despite their lack of support for the LDP, which undermined both optimal law enforcement levels and LMU relations with villages (McCarthy 2006: 225). However, the LIF continues to thrive and advocate for regional conservation, despite political struggles. They have provided continuity to the LDP goals with new funding from other large donor agencies, continued to recruit interns globally, send units into the field, map the region with a well-funded GIS office, and negotiate with communities and governments.

The GIS office of the LIF (in collaboration with other organisations such as *BPKEL*) creates maps based on satellite imagery of the Leuser Ecosystem, and calculates the area of forest lost over time (See Figure 3). According to this data, the cumulative percentage lost in Leuser between 1973 and 2010 was approximately 13%. When compared with data for Sumatra as a whole, or even just Aceh (see Pravettoni 2011), the charts show that deforestation rates in Leuser have been less severe than elsewhere in Aceh and the rest of Sumatra. Although the percentage of Aceh deforested between 1985 and 2007 is less than half the Sumatran average (see Pravettoni 2011), it is still roughly 150% of the total for the Leuser

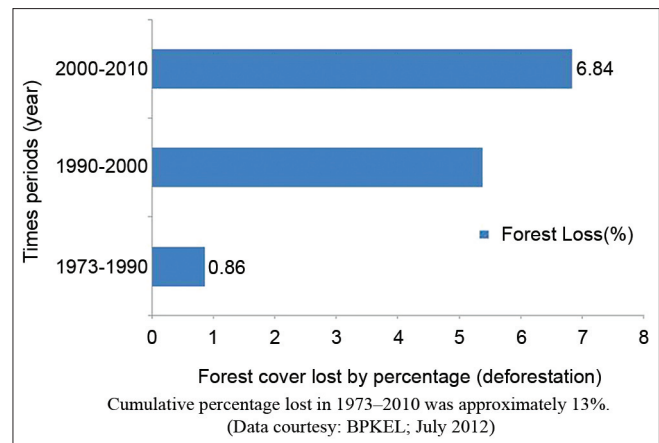


Figure 3
Percentage of total forest cover lost within the portion of the Leuser Ecosystem that is in Aceh

Ecosystem within Aceh³². While deforestation trends in Leuser have increased over time, they are lower than areas outside of the Leuser ecosystem, even within Aceh, suggesting that protection efforts over the years in Leuser have been relatively effective. However, this does not account for potentially confounding variables, such as the presence of rebels in the forests during part of the time periods studied.

Based on my own experience in the field, the LDP does seem to have facilitated a lasting conservation consciousness in Aceh, which is now upheld by other organisations, and even championed by the government and politicians in Aceh³³. The idea of *Ekosistem Leuser* and the PA as the “lungs of the world” was disseminated into the general public³⁴. This suggests that environmental education has been a useful tool in informing many communities in the region about the importance of ecological integrity.

Analysis of results: Lessons from Gunung Leuser

I draw three main conclusions about the accomplishments, strengths, and weaknesses of the ICDP in Gunung Leuser. Firstly, this case study shows the potential value of prioritising the creation of multiscale governance networks for conservation and capacity building. The innovative institutional experimentation of the network implementing the project resulted in a unique and contextually appropriate conservation legacy that has endured beyond the end of the project, despite lack of support from local government agencies. Secondly, these networked actors were able to identify larger threats to conservation than local communities posed, and push for a mixture of authority and incentive-based policy tools (Schneider and Ingram 1990; McCarthy 2006) to address these threats. Thirdly, the project shows the importance of adaptive management and planning for continuity.

The LDP addressed conservation governance by aiming to establish a context better suited to conservation. Bold actions contributing to this included: confronting law enforcement problems and corruption within various levels of government, establishing the Leuser Ecosystem surrounding the park and

integrating its new boundaries into regional and national spatial plans³⁵. The design and implementation of the LDP is an example of an early attempt to create a multi-layered conservation governance network within an ICDP context. The LDP aimed to integrate multiple scales of governance—from the local to the global—and include a diverse network of organisations in policy making to improve transparency, oversight, institutional accountability, and outcomes. It was both locally tailored and globally connected.

LDP leaders identified larger threats to conservation than local communities posed, and pushed for a mixture of authority and incentive-based policy tools (Schneider and Ingram 1990) to address these threats. The final project evaluation observed that “many objectives could never be achieved without a higher level of law enforcement than has proved possible”, and noted the lack of success of the provision of development assistance to win the support of local communities (MacKinnon et al. 2004: 1). The role of the incentives in the form of development projects was not perceived to be significant to conservation outcomes, although environmental education seems to have been relatively useful.

Interestingly, LDP designers consciously aimed for continuity between preparation and implementation phases, and rejected blueprint planning in favour of an adaptive management approach. The implementation of the ICDP was more ‘top-down’ than project designers had originally intended. Both the chaotic political context and the complex logging networks linking communities to corrupt officials and unscrupulous investors proved to complicate the concept of working with communities more than originally envisioned. The accomplishments of the LDP are all the more impressive given the institutional and contextual obstacles, as many of these are the same problems that plagued the Kerinci ICDP and led to project cancellation there.

DISCUSSION

Biodiversity conservation governance lessons from ICDPs

The lessons learnt from these case studies led me to focus on the role of governance in biodiversity conservation planning, because it emerged from my research as a key factor. Tsing et al. (2005: 31) have observed that “all conservation programs are necessarily projects in politics and governance.” However, not all conservationists have fully come to terms with this, preferring to utilise simpler, more seemingly generalisable terms of incentives or communities. Incentive tools will generally not be adequate to support conservation (Gibson and Marks 1995; Newmark and Hough 2000) or sustainable development—especially when these incentives are aimed only at local villagers, who will maximise net benefits in an absence of rule enforcement rather than limiting themselves to a tradeoff (Gibson et al. 2005).

Early ICDPs were frequently based upon the assumption that local communities were the biggest problem facing parks.

While this may be true in some places, it is certainly not true for all parks (Wells et al. 1999). Conservation plans usually do not conduct adequate research on social contexts, which is particularly problematic in the case of ICDPs (Newmark and Hough 2000: 589), since development can only take place within a social context. Attention to the socio-political (as well as the ecological) landscape seems to be foundational to the viability of conservation programs (and sustainable development efforts).

Dietz et al. (2003: 1907) have astutely recommended four promising strategies for creating ideal governance conditions: ongoing dialogue between all parties; “complex, redundant and layered institutions; a mix of institutional types;” and adaptive management. I posit that the key element associated with conservation efficacy is a focus on governance and institutions at multiple scales, particularly law enforcement, capacity building, and long-term partnerships within the context of adaptive, context-specific conservation networks. Below I reflect on these observations.

Law enforcement and rule of law

Barrett et al. (2005: 195) observed that “it matters less *which* rules a community or country adopts than *how well* they monitor and enforce the rules they set.” Whether rules are formal (laws) or informal (community-based), those who enforce them must be perceived as effective and legitimate (Dietz et al. 2003). These (and other) Indonesian case studies illustrate why law enforcement and some other important elements of state governance and rule of law are required for park protection³⁶, such as co-operation among government agencies, functioning checks and balances, and judicial oversight. A necessary foundation for effective law enforcement is inter-agency cooperation, such as between local judicial systems and law enforcement agencies. In Indonesia, the pendulum of decentralisation has begun to come back to a point of equilibrium from the chaos of the early *reformasi* era, but there is still much work to be done to coordinate the central and regional governments, and reign in corruption.

Knowing that belief in panaceas is problematic (Ostrom et al. 2007), Gibson et al. (2005: 273) show that at least one factor—regular monitoring and “rule enforcement—is a necessary condition for successful resource management.” These rules need not be imposed on people by governments in a hierarchical fashion. In fact, resource conservation is far more successful when communities have a leading role in setting and enforcing the rules governing resource use (Hayes and Ostrom 2005). This is what the ICDP designers in Kerinci were trying to achieve. However, there are specific characteristics shown to be associated with communities that can successfully manage their resources (Ostrom 1999; Dietz et al. 2003), which many of the Sumatran communities around PAs do not currently possess (although it may be possible to foster them).

Institutional capacity building

Conservation of global biodiversity will require strong and resilient institutions. There is an urgent need for institutional

strengthening and capacity building for PA management. Agrawal and Gibson (1999) recommend that conservationists focus more on the role of institutions than communities. But the imposition of externally conceived plans and rules by outsiders will be less likely to lead to a sustainable conservation endeavour than local ownership of conservation goals (Hayes and Ostrom 2005; Ostrom and Nagendra 2006), provided that there is adequate rule monitoring and enforcement (Gibson et al. 2005).

This need for institutional capacity building offers a welcome entry point for expertise and financing from global organisations and agencies for international assistance. This could be in the form of educational and experiential training and consulting, or perhaps the provision of supplies or direct funding (such as long-term salary supplements). Strengthening local institutions should involve supporting coordination between NGOs, communities, park offices, and various parts of local government (like planning and development agencies), to facilitate landscape planning that prioritises conservation needs while respecting the needs of local people and any effective existing sets of rules used by these communities. Institutional capacity building should be viewed as development, as it is an essential component of sustainable development.

Institution building for successful conservation governance requires time and commitment. While the ICDP in Kerinci did some important and valuable capacity building with the park staff and headquarters, this was partly undermined by the sudden deleveraging of the project. In Gunung Leuser, the capacity of the LIF was strengthened by the LDP despite constraints, such as the short-term usage of foreign experts³⁷ to manage the project. Most ICDPs aim to leave behind a positive conservation legacy, yet often have not invested enough in building local conservation institutions or improving overall governance, as well as communication and collaboration among key local and regional actors. These projects have often failed to create any real lasting change.

Long-term partnerships

Continuity and commitment are key factors in conservation. The establishment of long-term partnerships are therefore likely to be more fruitful than 'projects' as a model for conservation efforts³⁸. Projects are unsustainable, by definition. Conservation is a long-term process, not a product that can be delivered by a project, because conservation is never finished. It seems short-sighted and even ironic to attempt to create something sustainable with a project format. The normal project cycle (3–5 years) is particularly unsuited to ICDPs (Wells et al. 1999; Newmark and Hough 2000).

Rather than financing projects, donors should focus on nurturing "deliberative global policy networks" (Duffy 2007), building local capacities through global information flows and provision of expertise and training, and strengthening ongoing relationships. Commitment to particular places is important because every place is unique, with complex social and historical contexts. Often there are subtle forces at play that are not visible to outsiders. The LIF offers an example of long-term

commitment and partnership with local communities, state and regional government institutions, and global organisations³⁹.

The message here for donors and NGOs is the importance of long-term commitment rather than short-term projects. There is an urgent need in conservation for ongoing partnerships with communities over the long term. This style of implementation requires adaptive management, which is increasingly being utilised.

Multilayered governance and innovative, tailored, adaptive institutions

A combination of the elements described above would yield long-term global conservation partnerships supporting adaptive co-management and effective law enforcement while building the capacity of locally situated institutions. Multiscalar approaches are more likely to be successful in such an endeavour (Barrett et al. 2005). The design model that emerges from this is a heterogeneous network of agents representing communities, governments, international and local NGOs, multilateral organisations, and academia all working together to negotiate consensus and to reach common goals. The design of LDP offers an example of an early attempt to create this type of network that can coordinate amongst scales and diverse actors to support lasting and accountable local conservation institutions. Truly integrated multiscalar conservation networks would ideally develop innovative, tailored and transparent institutions to combat corruption, coercion and complacency.

Case study discussion

In both case studies, some aspects of the project were more effective than others in reaching project goals. In Kerinci, the ICDP was effective at strengthening the local park office and supporting the establishment of, and planning for, park management. In Leuser, their fresh, innovative approach to park governance was locally rooted but well-connected and adaptive. In neither case did the village development projects contribute meaningfully to conservation. The ICDP that focused on multiscalar governance structures and processes was more effective, while the one that did not place enough emphasis on creating lasting institutions for sustained coordination with the larger context was largely a failure. Table 2 breaks down the criteria for success on which I have evaluated these two case studies, based upon project goals, designs, and outcomes.

Nellemann et al. (2007) assessed the threats of illegal logging and poaching to several important parks on Sumatra and Borneo, and found that Leuser faced higher levels of threats than Kerinci. If their assessment was accurate, then higher levels of threats were not a predictor of project failure.

It is also interesting to compare deforestation rates for the two parks. Looking at the period between 1973 and 2010 (see Figure 3), the average annual deforestation rate for the Leuser Ecosystem within Aceh was approximately 0.35%. Although this is slightly higher than the rate of 0.28% reported for Kerinci between 1972 and 2002 by Linkie et al. (2008),

several factors must be taken into account for such a comparison. First, the Kerinci figures do not include the period between 2002 and 2010. This period of time saw some of the highest rates of deforestation in Leuser according to the data in Figure 3, so it would be important to look at that period as well for Kerinci, even though the ICDP ended in 2002 there. Secondly, the rates for Leuser include the Leuser Ecosystem, which includes the massive buffer zone around the park created and institutionalised by the LDP. In contrast, Linkie et al. (2008) note that the lack of inclusion of the “buffer” of rapidly disappearing forest around Kerinci is likely to be a key reason why deforestation levels in the Kerinci region were so low compared with the rates of deforestation in unprotected areas of Sumatra. Analysis of a slightly longer time frame and larger area bordering Kerinci would likely show higher rates of loss.

The Kerinci ICDP is widely perceived as a high-profile failure, despite some quiet successes upon closer inspection. The project was relatively weak in all four of the governance areas I emphasise. There should have been a more enduring commitment from the World Bank and more emphasis on networking between governance scales (such as multilayered law enforcement coordination). Both might have contributed to the creation of lasting institutions and bolstered the capacity of these to be more effective. The poor communication between ICDP components exemplifies the failure of project managers to properly emphasise coordination among parties. It also required better social and anthropological research to truly understand the macro context.

The ICDP in Gunung Leuser stands out as a resilient ICDP, winning against the odds. Despite a turbulent political context and lack of support from local governments and park management agencies, the determined leaders of the LIF and the LDP were able to greatly enhance park governance anyway. Project strengths included their steadfast attention to multiscale networking and capacity building, as well as enhancement of law enforcement and longer-term planning for conservation of the Leuser Ecosystem.

These two case studies show some challenges of designing and creating ideal institutions to govern PAs, especially in turbulent contexts. The global conservation pendulum swung from a ‘fines and fences’ style of governance embodied by simple state authority to a model focused on virtuous communities and incentives. Now that we can see the flaws of both extremes, it is essential to “take a more encompassing view” of the ways in which state and community actors “interact with emergent clientelist socio-legal orders” that shape resource access (McCarthy 2006: 241).

The next challenge is to create hybrid, multiscale, adaptive institutions that have the capacity to respect people’s needs and foster the creation of effective conservation rules, despite the weakness of the *existing* institutions (including states, communities, and markets) in so many of the developing states of the tropics (Barrett et al. 2001). The role of conservation donors in “the necessary rehabilitation of institutions in tropical countries and of effective coordination among them” is essential, if not cheap or simple (Barrett et al. 2001: 497).

Conservation planning in Indonesia

Based on research sponsored by the World Conservation Union, the World Bank, and the UNESCO (IUCN and WCPA 1999; Wells et al. 1999; UNESCO 2007), as well as the findings of this research, the GoI is not currently able to provide the level of protection necessary to the globally important PAs within their jurisdiction. Involvement of international organisations is, and has been, necessary to help address this crisis of governability faced by the GoI. Democratisation, decentralisation, and the emergence of civil society organisations in Indonesia has allowed for the involvement of communities in the official governance and management of PAs—a new chapter in Indonesian history. ICDPs were first implemented on the cusp of this transition, and improvements seem likely to continue, especially with ongoing partnerships.

Poor park law enforcement was a key obstacle in both case studies, and these law enforcement problems continue to hamper biodiversity conservation throughout Indonesia. Political will (*kebijakan politik*) is a major prerequisite for adequate law enforcement⁴⁰, just as adequate rule enforcement is a major prerequisite for successful conservation efforts. Illustrating this, when President Yuhoyono issued a Presidential Instruction⁴¹ in 2005, which specifically directed 18 Ministries in the central government (including the national police forces and national army, the Attorney-General, and the head of national intelligence)⁴² to crack down on illegal logging, park law enforcement was markedly improved⁴³ in many places (UNESCO 2007).

There are also some overall problems with conservation planning in Indonesia⁴⁴. These issues could potentially be addressed by multiscale governance networks, especially through continuing partnerships (as in the Leuser Ecosystem). First, a recognition that roads are a primary threat to PAs, a strong national commitment to control road-building, and the creation of roadless areas would be very positive steps in the direction of conserving areas⁴⁵. Second, the jurisdictional overlap between *Kabupaten* and the Park is problematic from both institutional and spatial perspectives, and might be addressed by excising parks from district boundaries.

Third, the *PHKA* is within the Ministry of Forestry, which controls logging and palm oil concessions as well as forest conservation. These goals are conflicting, and conservation often loses. A powerful new Ministry of Conservation would show that Indonesia is serious about forest protection. Finally, the corruption, clientelism, and bureaucratic inertia leftover from decades of authoritarian rule negatively impact the possibilities for conservation of the Indonesian rainforests. A continued focus on eliminating corruption related to illegal logging networks should be a top priority for the Indonesian government.

ACKNOWLEDGEMENTS

Many thanks to everyone interviewed during this research process. I also appreciate the comments from T.O. McShane and

two anonymous reviewers on an earlier draft of the manuscript that greatly improved the final document.

NOTES

1. The terms 'park' and 'protected area' are used somewhat interchangeably throughout this paper.
2. Which may include community management institutions that could obviate the need for state law enforcement.
3. In addition to the two examples given here, others include interviews with Rusdi Fahrizal and Alip T. Hartana (see below).
4. Interview: Moira Moeliono (Senior Associate, Forests and Governance Programme, Center for International Forestry Research) October 13, 2008, Bontang, Kalimantan Timur.
5. Interview: Agus Mulyana (Research Assistant, Forests and Governance Programme CIFOR) October 15, 2008, Bontang, Kalimantan Timur.
6. Interview: Debbie Martyr, Team Leader of Fauna and Flora International's (FFI) Tiger Protection and Conservation Units in Sumatra, September 23, 2008, Sungai Penuh. She also observed that one reason for increased encroachment during this time was the crash in the price of cinnamon, which meant that people would not be able to sell their harvests of cinnamon bark for as much as planned, and needed to supplement their income by clearing new farms for other plants.
7. Interview: Alip Tantan Hartana, S.Si, MT, MA. Kasi. Perlindungan, Pengawetan & Perpetaan pada Bidang Teknis KTN Balai Besar Taman Nasional Kerinci Seblat di Sungai Penuh. September 23, 2008.
8. Several of these points were supported by observations made by Debbie Martyr, FFI, interview September 23, 2008.
9. In Kerinci alone, there were at least five cases of attacks on or kidnappings of park rangers by illegal loggers between 1998 and 2007, according to Debbie Martyr of FFI.
10. Interviews: David, Head of Section (SH) Protection, Preservation and Mapping, PHKA, 22 September 2008, Sungai Penuh; and Debbie Martyr of FFI, September 23, 2008.
11. There were only 9 districts when the ICDP began.
12. Interview: David, SH Protection, Preservation and Mapping, PHKA, September 22, 2008, Sungai Penuh
13. Interview: Wira Wiryadi, GIS Team Leader, PHKA Kerinci Seblat National Park Head Office. November 11, 2007.
14. Interview: Alip T. Hartana September 22, 2008.
15. 71 villages actually served—some were terminated due to corruption (one Bappeda official was put in jail). Interviews: Emma and Hamdani Alwi of Lembaga Tumbuh Alami, September 24, 2008.
16. For an in-depth look at which types of community development activities were more sustainable than others in the Kerinci Seblat ICDP, see Syaf et al. (2008).
17. Interviews with Rusdi Fahrizal, Green Development Kerinci, September 23, 2008, Sungai Penuh; Emma and Hamdani, LTA, September 24, 2008.
18. Interviews: Emma and Hamdani, LTA, September 24, 2008. Specifically they said it should have been Asmeen Kahn's responsibility to explain the ending of the project to villagers.
19. For example, Alip T. Hartana of PHKA noted that due to the ICDP, the park had a sufficient budget and more power to coordinate with local governments and other institutions, which was particularly difficult during the early reformasi period. Additionally, staff had assistance from experts.
20. In calling for better evaluation of conservation programmes, Ferraro and Pattanayak suggest that the most important element to consider is the counterfactual, the outcome that would have happened without the conservation intervention. Although this is impossible to know, it does seem evident that Kerinci is better off because of the ICDP, especially due to Component A activities, but also others. Many bridges were built for villages, for example, which is likely to have positive water quality outcomes.
21. Mentioned in several interviews including: Sukianto Lusli, Executive Director, Birdlife Indonesia (November 21, 2007, Bogor); Debbie Martyr (September 23, 2008, Sungai Penuh).
22. Interview Rusdi Fahrizal, Green Development Kerinci, September 23, 2008, Sungai Penuh.
23. Interview Rusdi Fahrizal, September 23, 2008; also with Emma and Hamdani Alwi, LTA, September 24, 2008.
24. Interview Musnardi Monir, Alliance Konservasi Alam Raya (AKAR) Kerinci Seblat 9 November 2007, LTA, Sungai Penuh.
25. Interview Debbie Martyr, FFI, September 23, 2008, Sungai Penuh.
26. Interviews: Professor Suraya Afiff, Anthropology Graduate Program, October 21, 2008, University of Indonesia, Jakarta; also Mike Griffiths, Conservation and Rehabilitation Coordinator for the Leuser Ecosystem Management Agency (Badan Pengelolaan Kawasan Ekosistem Leuser or BPKEL), September 7, 2008, Medan.
27. Interestingly, Conservation International claims to have implemented the first conservation concession in Guyana in 2002. https://teamearth.com/SiteCollectionDocuments/CI_UECCfactsheet2007.pdf. Perhaps the model is slightly different, but the idea sounds quite similar to the LIF conservation concession in Leuser that started in 1995.
28. Interview: Mike Griffiths, BPKEL, September 7, 2008.
29. Interviews with LIF staff, September 17, 2008.
30. Although this time period was extended, Mike Griffiths noted that the authority of LIF was superseded by the creation of the Acehnes Leuser Ecosystem Management Agency, BPKEL after the peace accord in 2006
31. Interview: Mike Griffiths, BPKEL, September 7, 2008.
32. According to the data courtesy of BPKEL and LIF, thanks to Mike Griffiths and Agung Dwinurcahya, June 2012.
33. For example, see Aceh Green (www.acehgreen.or.id) or the conservation activities of Gov. Irwandi Yusuf.
34. I encountered locals who spoke of the concept in remote areas of Aceh (field notes Sept 12 2008). It was also used in regional newspaper articles (see McCarthy 2006: 185).
35. See Wells et al. (1999: 64-65) for a more comprehensive list.
36. At least in places like Sumatra, where park access is relatively easy by road, and parks are threatened by well-organised illegal logging networks embedded within institutions and communities. It would be difficult for a community alone to address such threats without help.
37. It is not my intention to condemn foreign consultants or expatriates working on conservation in the tropics, as their expertise is much needed. What is important is that these experts are imparting their knowledge to those who will remain on the ground in the name of conservation sustainability. Such side-by-side partnership can build needed capacity in institutions of the developing world. Better to leave behind a well-trained local than a stack of long reports.
38. An excellent discussion of problems with the project model is found in Sayer and Wells (2004).
39. Many of the original LIF team now work with the Acehnes government agency for protection of the Leuser Ecosystem, BPKEL.
40. Interview: David, SH Protection, Preservation and Mapping, Kerinci, PHKA, September 22, 2008.
41. Instruksi Presiden Republik Indonesia Nomor 4 Tahun 2005 Tentang Pemberantasan Penebangan Kayu Secara Ilegal Di Kawasan Hutan Dan Peredarannya Di Seluruh Wilayah Republik Indonesia.
42. The InPres also had special instructions for all Governors (Gubernur), Bupati and Mayors (Walikota). The cooperation of multiscalar law enforcement networks increased the capacity of PHKA rangers to apprehend illegal loggers. However, illegal logging remains a major problem, especially where the military and complex networks of power and interest have been involved (Dauvergne 1997; Hitchcock & Meyers 2006; McCarthy 2006).
43. Interview: David, SH, Protection, Preservation and Mapping, Kerinci, PHKA, September 22, 2008.
44. See Wells et al. 1999 for more thorough discussions of these.
45. Road building is a primary threat to Kerinci Seblat (as of 2008) according to Alip T. Hartana and Wira Wiryadi of PHKA.

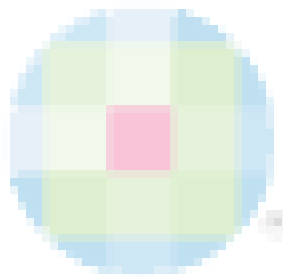
REFERENCES

- Abbott, A. 2004. *Methods of discovery: heuristics for the social sciences*. New York, NY: W.W. Norton and Company.

- Agrawal, A. and C.C. Gibson. 1999. Enchantment and disenchantment: the role of community in natural resource conservation. *World Development* 27(4): 629–649.
- Barber, C.V., S. Afiff, and A. Purnomo. 1995. *Tiger by the tail? Reorienting biodiversity conservation and development in Indonesia*. Washington, DC: World Resources Institute.
- Barrett, C.B., K. Brandon, C. Gibson, and H. Gjertsen. 2001. Conserving tropical biodiversity amidst weak institutions. *BioScience* 51(6): 497–502.
- Barrett, C.B., D.R. Lee, and J.G. McPeak. 2005. Institutional arrangements for rural poverty reduction and resource conservation. *World Development* 33(2): 193–197.
- Blouch, R. 2002. *Conserving Kerinci Seblat National Park: some encouraging results, but still much to do*. Sungai Penuh, Kerinci, Indonesia: Component A, Kerinci Seblat ICDP.
- Blouch, R. 2010. Zoning for people within Indonesia's Kerinci Seblat National Park. *Journal of Sustainable Forestry* 29: 432–450.
- Brockington, D. 2002. *Fortress conservation: the preservation of the Mkomazi Game Reserve, Tanzania*. Bloomington, IN: Indiana University Press.
- Brown, K. 2004. Tradeoff analysis for integrated conservation and development. In: *Getting biodiversity projects to work: towards more effective conservation and development* (eds. McShane, T.O. and M.P. Wells). New York, NY: Columbia University Press.
- Caldecott, J. 1996. *Designing conservation projects*. Cambridge: Cambridge University Press.
- Colfer, C.J.P. and I.A.P. Resosudarmo (eds.). 2002. *Which way forward? People, forests, and policymaking in Indonesia*. Washington, DC: Resources for the Future.
- Component A: Park Management. 2002. *Management framework for Kerinci Seblat National Park 2002-2006*. Sungai Penuh, Kerinci, Indonesia: Balai Taman Nasional Kerinci Seblat.
- Dauvergne, P. 1997. *Shadows in the forest: Japan and the politics of timber in Southeast Asia*. Cambridge, MA: MIT Press.
- Dietz, T., E. Ostrom, and P.C. Stern. 2003. The struggle to govern the commons. *Science* 302(5602): 1907–1912.
- Duffy, R. 2007. Peace parks and global politics: the challenges of global governance. In: *Peace parks: conservation and conflict resolution* (ed. Saleem, A.H.) Cambridge, MA: MIT Press.
- Feldman, M.S., K. Sköldborg, R.N. Brown, and D. Horner. 2004. Making sense of stories: a rhetorical approach to narrative analysis. *Journal of Public Administrations Research and Theory* 14(2): 147–170.
- Ferraro, P.J. and S.K. Pattanayak. 2006. Money for nothing? A call for empirical evaluation of biodiversity conservation investments. *Public Library of Science Biology* 4(4): e105 (0482–0488).
- Gibson, C.C., J.T. Williams, and E. Ostrom. 2005. Local enforcement and better forests. *World Development* 33(2): 273–284.
- Gibson C.C. and S.A. Marks. 1995. Transforming rural hunters into conservationists: an assessment of community-based wildlife management programs in Africa. *World Development* 23: 941–957.
- Griffiths, M., C. van Schaik, and H. Rijksen. 2002. Conserving the Leuser ecosystem: politics, policies, and people. In: *Making parks work: strategies for preserving tropical nature* (eds. Terborgh, J., C. van Schaik, L. Davenport, and M. Rao). Washington, DC: Island Press.
- Hayes, T. and E. Ostrom. 2005. Conserving the world's forests: are protected areas the only way? *Indiana Law Review* 38(3): 595–617.
- Hitchcock, P. and K. Meyers. 2006. *Report on the IUCN-UNESCO World Heritage Monitoring Mission to the Tropical Rainforest Heritage of Sumatra, Indonesia*. Gland: World Conservation Union, World Commission on Protected Areas, UNESCO. <http://whc.unesco.org/archive/2006/mis1167-2006.pdf>.
- IUCN (World Conservation Union). 1999. *Threats to forest protected areas: summary of a survey of 10 countries*. Gland: IUCN and World Bank/WWF Alliance.
- Leuser Management Unit. 2002. *Leuser Development Programme Overall Workplan 10 November 2002 to 9 November 2004*. Medan: Leuser Development Programme.
- Lin, A.C. 1998. Bridging positivist and interpretivist approaches to qualitative methods. *Policy Studies Journal* 26(1): 162–180.
- Linkie, M., R.J. Smith, Y. Zhu, D.J. Martyr, E. Suedmeyer, J. Pramono, and N. Leader-Williams. 2008. Evaluating biodiversity conservation around a large Sumatran protected area. *Conservation Biology* 22(3): 683–690.
- MacKinnon, J., J. Bompard, M. Merkle, and A. Oosterman. 2004. *Final report: technical pre-completion evaluation and review. Mission of Leuser Development Programme. Project No. ALA 94/26*. Jakarta: European Commission.
- McCarthy, J.F. 2006. *The fourth circle: a political ecology of Sumatra's rainforest frontier*. Redwood City, CA: Stanford University Press.
- McShane, T.O. and M.P. Wells (eds.). 2004. *Getting biodiversity projects to work*. New York, NY: Columbia University Press.
- McShane, T.O., P.D. Hirsch, T.C. Trung, A.N. Songorwa, A. Kinzig, B. Monteferri, D. Mutekanga, et al. 2011. Hard Choices: Making tradeoffs between biodiversity conservation and human well-being. *Biological Conservation* 144: 966–972.
- Monk, K.A. 2001. The evolution and scope of ICDPs: the example of the Leuser Ecosystem, Sumatra, Indonesia. *Parks* 11(2): 33–40.
- Nellemann, C., L. Miles, B.P. Kaltenborn, M. Virtue, and H. Ahlenius (eds.). 2007. *The last stand of the orangutan*. Norway: United Nations Environment Programme, GRID-Arendal. <http://www.grida.no/graphic.aspx?f=series/rr-orangutan/figure08.jpg>.
- Newmark, W.D. and J.L. Hough. 2000. Conserving wildlife in Africa: integrated conservation and development projects and beyond. *BioScience* 50(7): 585–592.
- Ostrom, E. 1999. *Self-governance and forest resources*. Occasional Paper No. 20. Bogor: Center for International Forestry Research.
- Ostrom, E., M.A. Janssen, and J.M. Anderies. 2007. Going beyond panaceas. *Proceedings of the National Academy of Sciences* 104(39): 15176–15178.
- Ostrom, E. and H. Nagendra. 2006. Insights on linking forests, trees and people from the air, on the ground, and in the laboratory. *Proceedings of the National Academy of Sciences* 103(51): 19224–19231.
- Pravettoni, R. 2011. Orangutans and the economics of sustainable forest management in Sumatra. UNEP/GRID-Arendal. http://www.grida.no/graphicslib/detail/forest-loss-from-1985-2007-for-sumatra_b5ca.
- Robertson, Y. 2004. *End of assignment report of the PMU Manager, 10th November 2002 to 9th November 2004. Project No. ALA/94/26*. Medan: Leuser Development Programme.
- Rijksen, H.D. and M. Griffiths. 1995. Leuser Development Programme Masterplan: integrated conservation and development project for lowland rainforest in Aceh. Netherlands: European Union Institute for Forestry and Nature Research.
- Salafsky, N. and E. Wollenberg. 2000. Linking livelihoods and conservation: a conceptual framework and scale for assessing the integration of human needs and biodiversity. *World Development* 28(8): 1421–1438.
- Salafsky, N. 2011. Integrating development with conservation: A means to a conservation end, or a mean end to conservation? *Biological Conservation* 144: 973–978.
- Sayer, J. and M.P. Wells. 2004. The pathology of projects. In: *Getting biodiversity projects to work* (eds. McShane, T.O. and M.P. Wells). New York, NY: Columbia University Press.
- Scherl, L.M., A. Wilson, R. Wild, J. Blockhus, P. Franks, J.A. McNeely, and T.O. McShane. 2004. *Can protected areas contribute to poverty reduction? Opportunities and limitations*. Gland: IUCN.
- Schneider, A. and H. Ingram. 1990. Behavioral assumptions of policy tools. *Journal of Politics* 52(2): 510–529.
- Sunderland, T.C.H., C. Ehringhaus, and B.M. Campbell. 2008. Conservation and development in tropical forest landscapes: a time to face the trade-offs? *Environmental Conservation* 34(4): 276–279.

- Syaf, R., Z. Warta, and P. Wood. 2008. *Report on a study of the sustainability of village conservation agreements in villages around the Kerinci Seblat National Park, Sumatra, Indonesia*. Bogor: Birdlife Indonesia.
- Tsing, A.L., J.P. Brosius, and C. Zerner. 2005. Introduction: raising questions about communities and conservation. In: *Communities and conservation: histories and politics of community-based natural resource management* (eds. Brosius, J.P., A.L. Tsing, and C. Zerner). Walnut Creek, CA: AltaMira Press.
- Unit Manajemen Leuser. 2001a. *Evaluasi kegiatan Program Pengembangan Leuser: Tahun 1995-2000 dan 2001 (sampai dengan Juni 2001) di Nanggroe Aceh Darussalam*. Medan: Leuser Development Programme.
- Unit Manajemen Leuser. 2001b. *Evaluasi kegiatan Program Pengembangan Leuser: Tahun 1995-2000 dan 2001 (sampai dengan Juni 2001) di Propinsi Sumatera Utara*. Medan: Leuser Development Programme.
- United Nations Educational, Scientific and Cultural Organization. 2007. *Mission report: tropical rainforest heritage of Sumatra (Indonesia) joint IUCN-UNESCO reactive monitoring mission*. Paris: UNESCO.
- <http://whc.unesco.org/document/8808>.
- Wells, M. and K. Brandon. 1992. *People and parks: linking protected area management with local communities*. Washington, DC: The World Bank.
- Wells, M., S. Guggenheim, A. Khan, W. Wardoyo, and P. Jepson. 1999. *Investing in biodiversity: a review of Indonesia's integrated conservation and development projects*. Washington, DC: The World Bank.
- Wells, M.P., T.O. McShane, H.T. Dublin, S. O'Connor, and K.H. Redford. 2004. The future of integrated conservation and development projects: building on what works. In: *Getting biodiversity projects to work: towards more effective conservation and development* (eds. McShane, T.O. and M.P. Wells). New York, NY: Columbia University Press.
- World Bank. 1996. *Republic of Indonesia Kerinci Seblat integrated conservation and development project: project document. 15124-IND*. Washington, DC: World Bank.
- World Bank. 2003. *Implementation completion report 25753*. Washington, DC: World Bank.

Received: June 2011; Accepted: August 2012



Announcement

iPhone App



Download
iPhone, iPad
application

FREE

A free application to browse and search the journal's content is now available for iPhone/iPad. The application provides "Table of Contents" of the latest issues, which are stored on the device for future offline browsing. Internet connection is required to access the back issues and search facility. The application is Compatible with iPhone, iPod touch, and iPad and Requires iOS 3.1 or later. The application can be downloaded from <http://itunes.apple.com/us/app/medknow-journals/id458064375?ls=1&mt=8>. For suggestions and comments do write back to us.