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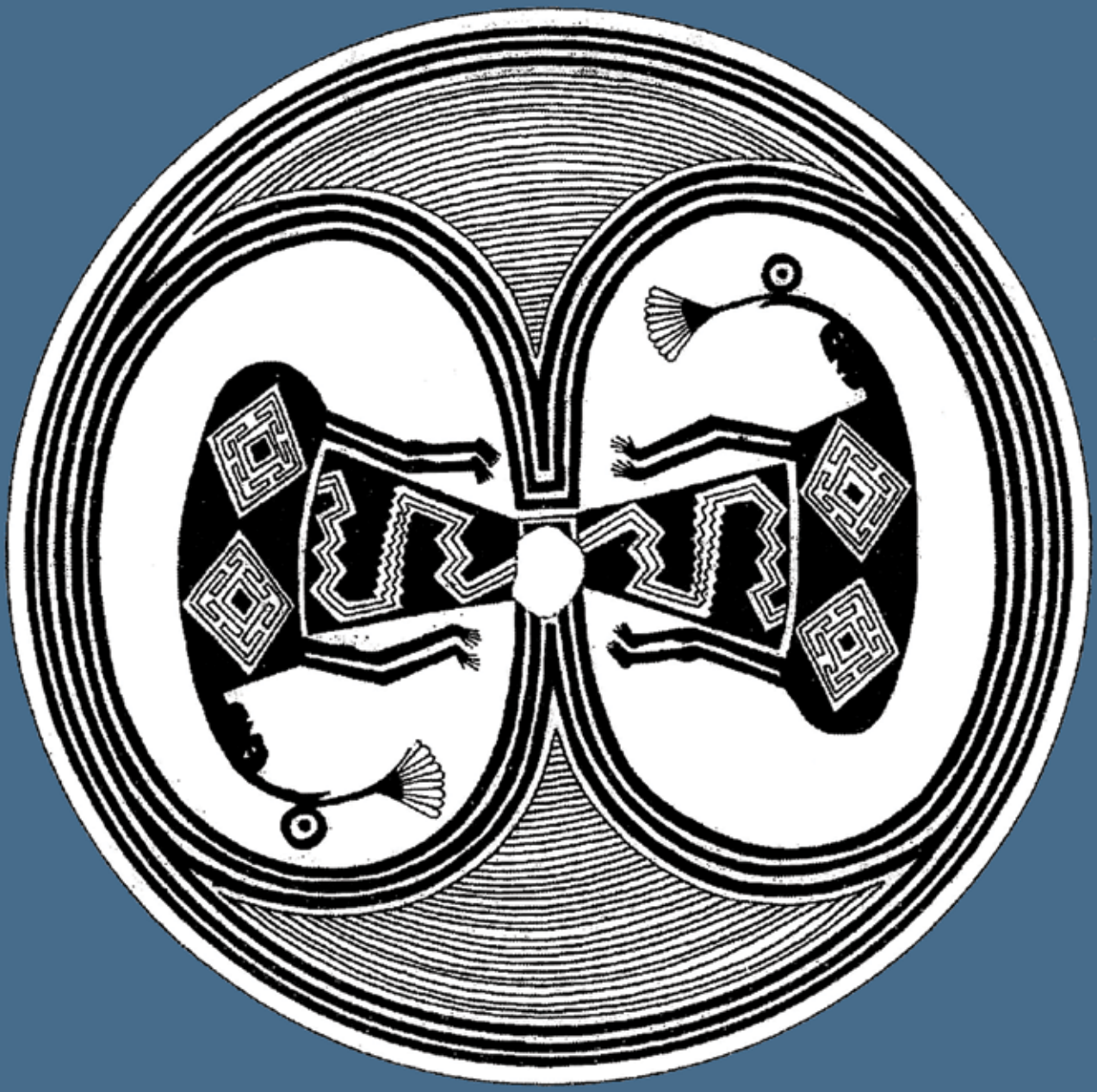

WILDLIFE CONSERVATION SOCIETY

PROTECTED AREAS AND HUMAN DISPLACEMENT: A CONSERVATION PERSPECTIVE

Edited by Kent H. Redford and Eva Fearn

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The Wildlife Conservation Society (WCS) saves wildlife and wild lands around the world. We do this through science, conservation, education, and the management of the world's largest system of urban wildlife parks, led by the flagship Bronx Zoo. Together, these activities inspire people to imagine wildlife and humans living together sustainably. WCS believes that this work is essential to the integrity of life on earth.

Over the past century, WCS has grown and diversified to include four zoos, an aquarium, over 100 field conservation projects, local and international education programs, and a wildlife health program. To amplify this dispersed conservation knowledge, the WCS Institute was established as an internal “think tank” to coordinate WCS expertise for specific conservation opportunities and to analyze conservation and academic trends that provide opportunities to further conservation effectiveness. The Institute disseminates WCS' conservation work via papers and workshops, adding value to WCS' discoveries and experience by sharing them with partner organizations, policy-makers, and the public. Each year, the Institute identifies a set of emerging issues that potentially challenge WCS' mission and holds both internal and external meetings on the subject to produce reports and guidelines for the institution.

The WCS Working Paper Series, produced through the WCS Institute, is designed to share with the conservation and development communities in a timely fashion information from the various settings where WCS works. These Papers address issues that are of immediate importance to helping conserve wildlife and wildlands either through offering new data or analyses relevant to specific conservation settings, or through offering new methods, approaches, or perspectives on rapidly evolving conservation issues. The findings, interpretations, and conclusions expressed in the Papers are those of the author(s) and do not necessarily reflect the views of the Wildlife Conservation Society. For a complete list of WCS Working Papers, please see the end of this publication.

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INTRODUCTION

Decisions that affect how people use land are among the most fraught that any enlightened society has to grapple with. Those decisions are responsive to historical precedence, the relative power and economic influence of different interest groups, ethical and moral considerations, as well as the greater aspirations of that society. There are those that argue that the economic needs of the nation state, especially in the developing world, should always take precedence in determining land use. Others argue that land use should be determined by the legal land owner. More egalitarian arguments promote the greatest good for the greatest number, while others argue to prejudice land uses towards the most marginalized and disenfranchised people. Stressing historical precedence, some argue that indigenous or traditional claims to land use have greater standing. Finally, stressing humankind's stewardship obligations, still others argue that where nature is threatened, the best use consists of setting areas aside for non-human species.

Two claims that typically come out on the short end of the land-use debate are the claims of indigenous people and claims for non-human species. Sometimes claims for indigenous people are generalized to include economically marginalized and politically disenfranchised people, and even to local rural people writ large. Claims for non-human species are sometimes extended to include those people who benefit (economically, intellectually, socially, or politically) from the establishment of parks and protected areas, locally and/or globally. It is ironic that some of the most heart-felt disagreements in recent years have been between these two claims – who generally have the weakest political and economic standing and tend to lose out to industrial users and more powerful immigrants.

The Wildlife Conservation Society (WCS) is a conservation organization whose mission is to save wild lands and wildlife, and we work in parts of the world were the human footprint is lightest – areas where the forces of globalization, economic development, and land transformation are less felt. These areas are the last bastions for the survival of many species, and they are frequently areas inhabited by the rural poor, by marginalized and disenfranchised people, or by long-term traditional, indigenous inhabitants. We are thus confronted and challenged by opposing claims for different land uses in the areas where we work.

As part of a broader effort to engage with this issue, we convened a meeting in May 2006 at the White Oak Conservation Center that brought together WCS field-based staff, other WCS staff with strategic and policy responsibilities, representatives from other conservation organizations, and social scientists. We wanted to avoid the sterile arguments of whether people are a part of nature or extrinsic to it, whether "wilderness" exists outside of the human context, whether traditional management benefits biodiversity or not, or whether human presence is always detrimental to certain species. Instead we focused on the impact of conservation areas on local people.

Are parks and protected areas of benefit to local people, or are they costly to them? WCS is keenly aware of the cresting wave of sentiment concerning the attributed role of protected areas in causing human displacement. We wanted to evaluate the situation in our own field programs and discuss some of the larger questions that face the conservation community: What has been the history of protected area establishment on local people? What is the current nature of this impact – positive and negative? How is it possible to evaluate the nature of costs and benefits? If there are benefits, how should they be allocated? If there are

costs, especially if people are relocated, who is responsible for addressing those costs? What should WCS' institutional response be? How are other institutions, both governmental and non-governmental, responding?

Historically, many protected areas were created as recreational areas for elites, but modern conservation has, for the most part, argued that there was a natural alliance between local people and conservationists, especially in the face of external threats to local livelihoods, cultural traditions, and wildlife conservation. Protected areas are portrayed as sustaining local livelihoods and promoting national development. In addition, a pragmatic argument advanced by some conservationists is that in most parts of the world, in the absence of good governance at the national level, effective protected area management *requires* the active participation and support of local people. These notions have been challenged in recent years by the argument that biodiversity conservation is not always concordant with economic development and by statements that conservation areas disenfranchise local people from land and resources, leaving them without compensation or alternatives. But what is striking is how little scientific information is available to refute these competing pronouncements, and how much of the discussion is purely emotive. We wanted this meeting to be the first step in a more considered and rational engagement.

In those cases in which protected areas *do* negatively impact local people through either active displacement or through the denial of access to resources, we asked participants to consider what policies conservation organizations (and specifically WCS) should assume towards local people. Rarely do conservation organizations make actual land-use decisions, but they frequently advise or assist local and national authorities in making decisions about access to land and natural resources. As such, conservationists must also face the ethical and moral questions involved in balancing the needs of conservation and the needs of people, and they ought to incorporate the local and national constraints and opportunities in their analysis. These constraints include working with the varied constituencies in rural settings with differing claims to resources, claims to legitimacy, and political power. Favoring one constituency will invariably disfavor another. Conservation organizations must navigate these shoals within the context of their own missions.

The conservation community is seeking to clarify general ethical and moral standards that should influence an organization's policies in those cases where conservation actions negatively affect local people. Such standards might include: seeking to ensure that governmental authorities, when making land-use decisions, obtain free prior informed consent from all people denied access to land or resources; and working with authorities to ensure that local people are provided with viable or equivalent access to land, resources, or opportunities if they lose legitimate access. And if an organization is not convinced that the minimum standards are met, then perhaps it should not participate in the conservation effort.

The pursuit of equitable balances between different human constituencies, and between people and the natural world, has to be grounded in the realities of specific places, peoples, histories, and opportunities. The chapters in this volume provide a set of rich and varied perspectives that show how complicated is this pursuit. They help to lead us to a greater understanding of the relationship between protected areas and local people, and towards policies that are informed and appropriate.

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PART 1
AN OVERVIEW

1.1 Conservation and Displacement

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Contemporary efforts to protect biodiversity internationally are beset by multiple problems. Growing consumption pressures are contributing to ever faster declines in species and the systems they depend on. Available funds for conservation have declined. High visibility issues such as global climate change have attracted significant attention in the past decade, and perhaps contributed to lower interest in biodiversity conservation. Accusations regarding a lack of synergy between conservation and other social goals such as poverty alleviation, disease eradication, economic growth, and social equity have been advanced by many different scholars.[1]

Faced with these constant challenges, the response of international conservation organizations has been to try to occupy a higher ground by arguing, among other things, that biodiversity conservation is an ethical necessity (Angermeier 2000; Ehrlich 2002); that the operational obstacles the above threats pose to conservation need to be addressed by sharpening the message of conservation and persuading others of the importance of biodiversity (Balmford and Whitten 2003; Perrings et al. 1992); that conservation can be accomplished together with poverty alleviation (Wells and McShane 2004); that biodiversity conservation is important in utilitarian terms for human well being in the long run (Burton et al. 1992); and that an exclusive concern with human development often leads to undesirable impacts on biodiversity conservation (Redford, Robinson, and Adams 2006). These protestations vary in the evidence, conviction, and passion with which they are made.

The criticism that blunts the moral and ethical focus on biodiversity conservation is that which highlights the misery conservation programs impose on people. If conservation strategies distress human populations, especially those who are less powerful, politically marginalized, and poor, little that conservationists argue on behalf of biodiversity makes sense.

A spate of recent publications appearing in both the academic and the popular press overwhelms conservation precisely on this ground (Chatty and Colchester 2002; Choudhary 2000; Geisler 2003a, 2003b; Geisler and Letsoalo 2001; Pearce 2005: 16). Conservation, the argument goes, has led to the displacement of tens of millions of people who formerly lived, hunted, fished, and farmed in areas now protected for wildlife, watersheds, reefs, forests, or rare ecosystems. The critiques compare the magnitude of human evictions and suffering to that caused by civil wars, mega-development projects, and high modernist state interventions (Schmidt-Soltau 2005; Brockington et al. 2006: 250; West and Brockington 2006: 613). These types of articles began to appear in the late 1980s and early 1990s (Albert 1992; Brechin and West 1991; Peluso 1993), but recent accusations are more assured, more caustic, and more sweeping. Perhaps as they amplify each other, they have found more traction (Adamson

2006; Dowie 2006a, 2006b; Lal 2003; Schmidt-Soltau 2003; Veit and Benson 2004).

Despite these damning accusations against the widespread strategy upon which much conservation work is based – protected areas – it is remarkable that none of the major international conservation organizations has formulated a coherent, systematic, and/or effective set of guidelines to address conservation-induced displacements. This gap between the severity of accusations and the lack of response stands in stark contrast to similar arguments in relation to development-induced displacement. Major development-focused international organizations such as the World Bank (IBRD), the Asian Development Bank (ADB), the Inter-American Development Bank (IADB), and the Organization for Economic Cooperation and Development (OECD) have each formulated some set of guidelines to shape their actions in the face of development-induced displacement, although several have done so only in the past few years (Thomas 2002).

This paper examines displacement in a historical light and compares conservation-related displacements to human displacements caused by development projects. It examines some of the justifications advanced in favor of displacing humans for conservation, and the extent to which these justifications survive in the face of vociferous human rights criticisms. It ends with a review of the different potential responses conservation organizations can adopt in the face of what is one of the most critical problems confronting conservation worldwide, especially conservation that relies on territorial set-asides, and at a critical time in global conservation.

What is Displacement? Nature, Scope, Impacts

A large number of words signify the physical dispossession of peoples from their lands: displacement, dislocation, eviction, exclusion, and involuntary resettlement are routinely used. Analogously, other terms have been used to describe the loss of access to resources that accompanies physical displacement, but which can, of course, occur without physical dispossession. "Displacement" has been used as an omnibus term to cover a range of phenomena in the literature on displaced peoples, including loss of access or restrictions on livelihood opportunities or future income related to environmental resources (Cernea 2005). Such an expansive meaning actually obscures the plight of those who are physically separated from their land and homes. Indeed, the dictionary meaning of displacement, "removal of a thing from its place, putting out of place," (OED 1989) corresponds closest to the idea of physical removal of people from a place. Here we use "displacement" to signify the involuntary physical removal of peoples from their historical or existing home areas as a result of actions by governments or other organizational actors. We use "exclusion" or "loss of access" to denote the restriction of access to resources that may occur even without physical removal from place.

Development and Displacement

Even if the more familiar images of involuntary refugee-style displacement and resettlement are associated with conflicts and natural disasters, it is large development projects that have led to the most human displacement.[2] In the case of international movement of refugees, the United Nations High Commission for Refugees estimates their numbers to be around 14 million in 2000, of which six million are Palestinians (UNHCR 2001). Another 30 million people have been displaced within national borders (Robinson 2002). In contrast, displacement because of development interventions – typically related to infrastructure proj-

ects such as dams, which flood massive areas, roads, state-owned plantations, mining, pipelines, and urban reconstruction – is estimated to be between 100 and 200 million people since 1980,[3] and continues to be in the neighborhood of an additional ten million people annually. It is likely true that the reasons for development-induced displacement may be changing: from being related primarily to the construction of dams and in rural areas to other high-technology infrastructure projects (Koenig 2002: 2; see also Baviskar 2003, Bunnell 2002). But the violence development projects inflict upon people continues to be stunningly commonplace (Morvaridi 2004).

The juxtaposition against displacement by development projects can inform the ethical, socio-political, and economic analyses of conservation-related displacements and resettlements. For one, studies of development-associated displacement and compensation for the displacees have been growing for three decades: contrast this to work on conservation-related displacement, which is far more recent and sparse.[4] There is greater historical detail and accuracy in studies of internationally-funded development-induced displacement, and more evolution of consideration of harm and how to mitigate it. There is also better quantitative information and qualitative knowledge about the scope, nature, and impacts of displacement induced by development – not true for conservation-related displacement.

Large development projects typically generate winners and losers on a significant scale, especially in countries such as India and China and countries in Southeast Asia. But even in smaller countries where fewer people are displaced, the proportionate impact on the population can be significant (Rew et al. 2000, cited in Koenig 2002: 2). The usual defense of displacement lies in arguments about how critical those projects are to national economic growth. Progress in achieving economic growth is viewed as capable of generating a sufficient surplus for the entire population that will offset losses by those who are displaced. Such faith in the capacity of project planners is especially likely to be displayed by project authorities and government officials, and likely was more assured two decades ago than it is today.

The human rights and displacement debate is fuelled by the devastating impacts of some mega-development projects and the increasing evidence that economic redistribution and adequate compensation seldom occur. The majority of those displaced by development projects fare badly long after such projects are launched, as do the minority who officially received compensation. As Cernea puts it, the idea that "full compensation for losses would be adequate to…restore the incomes and livelihood of those displaced and relocated…is unwarranted and unproven. It is in fact contradicted both by logical and historical analysis…and by massive bodies of empirical evidence" (2003: 39). Indeed, the continuing destitution of millions upon the pillory of development projects is striking (World Commission on Dams 2000).

The policy response to development-induced displacement and resettlements is depicted well in what Cernea (2000) calls his "Impoverishment, Risks, and Reconstruction (IRR) Model."[5] Building upon earlier work by Chambers (1969), Nelson (1973), and Scudder and Colson (1982), Cernea identifies eight sources of risks – primarily economic in nature – that contribute to the impoverishment of displaced people. Cernea locates the possibility of reconstruction to address each of the eight risks and argues strongly against a program of rehabilitation based on compensation.[6] Cernea's analysis has four different functions: predictive, diagnostic, problem-resolution, and research.

Two important gaps can be noted with respect to his framework. In viewing each source of risks as independent of other sources, the framework lacks a con-

certed approach to reconstruction. Thus the analysis hints at but is ultimately silent on how a focus on land, or health, or assets can affect outcomes related to other sources of risks, or strategies to address risks. Additionally, in focusing primarily on economic risks to livelihoods it fails to consider the political and ethical context within which displacement occurs. It can appropriately be classified into a "reformist-managerial" mode of responses to displacement rather than a "radical-movementist" set of responses (Dwivedi 2002).

The first gap is in part addressed, at least in terms of policy responses, by Kanbur's proposal in favor of generalized social safety nets in addition to project-specific safety nets. Since it is unlikely that compensation to the poor and marginalized displaced households will address the adverse impacts of a development project (Heming and Rees 2000), Kanbur suggests that project-specific compensation should be supplemented by social safety nets designed to address the plight of those people likely to be affected by development projects: "small farmers, rural landless, urban informal sector, etc." (2003: 33). However, Kanbur does not outline how such social safety nets might be constructed and implemented, and indeed, one must question the practicality of such options given the competing demands on the budgets of most developing countries.

The distinction that some have drawn between the managerial and the social movement response to development is in part a recognition of the fact that even a painstakingly planned and sincerely implemented compensation package will never be equal to the task of ensuring that those displaced by development projects end up "no worse off" than their situation before the project was implemented (De Wet 2001). But it is also the result of the suspicion that mega-development projects, especially large dams and infrastructure projects, are undertaken because of their positive outcomes for a select few rather than their aggregate benefits for the national society.[7]

Scholars focused on the human rights of the displaced and the accountability of the corporate and state actors who allow that displacement tend to reject the developmentalism inherent in Cernea's assumptions, and focus instead on grassroots organization, mobilization, and resistance to displacement-in-the-name-of-development (Dwivedi 1999; Escobar 2003; Routledge 1993). Their vision of just development focuses instead on concrete examples of successful or quasi-successful efforts to undermine development policies leading to displacement. As Dwivedi (2002: 710) argues, the 1980s were the decade of displacement, but the 1990s were the decade of popular resistance to displacement!

Conservation and Displacement

Displacement is a consequence of conservation projects because conservation, like development, is inherently spatial. Conservation of species and ecosystems requires restrictions on human influences – local, state, and corporate – in areas where species or ecosystems are to be conserved.[8] The most popular strategy is protected areas. However, the global picture about the size and complexity of protected area classification and the impacts of different types of protected areas on human activities is at best unclear.

The number and total area of protected areas has grown enormously in the postcolonial period: more than 105,000 listed PAs covering approximately 20 million km^2.[9] Of these, terrestrial protected areas cover 15.3 million km^2, or over 10% of the land surface of the planet.[10] The growth rate of protected areas has been steady over the past five decades, with faster growth in the 1990s (Naughton-Treves et al. 2005). Some of the growth in the area under protection may reflect better reporting and record keeping and the inclusion of areas that are semi-protected.

Most protected areas fall under six different IUCN categories corresponding to specific management objectives that permit increasing human use – from Category Ia and Ib (strict reserve) to Category V (managed resource use). The actual presence and influence of human beings in a given protected area location depends on the extent to which management objectives and laws assigned to that category are put into effect (Ravenel and Redford 2005: 387; West et al. 2006).

Indeed, the tension between human presence/use and conservation success means that the management objectives associated with particular classifications and their translation into practice are deeply contested. This uncertainty, and lack of systematic data about what actually happens in particular categories of protected areas, is relevant for five reasons: 1) we do not know how particular management objectives translate into practices that lead to displacement; 2) the magnitude of displacement consequent upon the creation of protected areas – particularly Categories Ia and Ib to IV – is unclear;[11] 3) the social impacts of displacement, clearly negative and highly significant, are known specifically only in the case of a few detailed studies; 4) there is no systematic evidence of the extent to which governments and other agencies have attempted to address the condition of those who have been evicted; and finally, 5) existing knowledge about the extent to which such efforts at redress have been successful is astonishingly poor.

What knowledge we do have regarding these five issues is based mainly on more or less informed speculation and case studies. Nearly all of what we can say about the overall magnitude of conservation-induced displacement depends upon heroic extrapolation. Typically, such speculation suggests that the magnitude of conservation-related displacement is lower than what has been produced by development projects, and is possibly in the neighborhood of ten to twenty million people.[12] But given the major gaps for even basic information in the World Conservation Monitoring Centre (WCMC) database, we simply do not know how many people have been displaced as a result of the establishment of protected areas.[13] Certainly, there has been no attempt to build a picture of the magnitude of conservation-related displacements using micro-level data (but see Brockington and Igoe 2006 for a significant start), and any attempt to do so will flounder upon the shoals of spotty and unreliable generalizations inevitable in case-based studies.

Our knowledge about these questions is based primarily upon case study evidence. In an extensive review of the impact of protected areas on people, West et al. (2006) suggest that somewhere around 50 to 60 studies provide some careful information about the impact of some protected areas upon the livelihoods of people living within them, and displaced since their establishment. Many of these studies are geographically clustered, with better information being available for some protected areas in India, Nepal, southern and East Africa, and the United States than for most other protected areas, and most other parts of the world.[14] What these studies do tell us about the economic and social impacts of eviction from protected areas is limited but in consonance with the far larger literature on the social, economic, political, and cultural effects of development-induced displacements.

Because the provisions relating to particular categories of protected areas are applied unevenly even within a country, residents of protected areas (or those who utilize the protected areas' resources) face uncertainty as to whether, when, and how they will be displaced, and with what effects. Emblematic of such uncertainty are loud headlines in newspapers that announce the potential eviction of four million people in India as a result of amendments to and pos-

sible enforcement of protected areas policies (Sekhsaria and Vagholikar n.d.). We also know that the use of force is typically critical to displacement from protected areas and that displacement has caused impoverishment, social disarticulation and political disempowerment.[15] Few of the displacees have been compensated (Schmidt-Soltau 2003) and, in many cases, displacements are not legally recognized despite being pursued both under the authority of law and through the use of extra-legal force.[16] Given the limited base of information about the process of displacement, its impacts, and compensation policies, the absence of knowledge about whether compensation produces sustained positive effects is not surprising.

The consequences of displacement on human welfare are difficult to state with precision even though they can be inferred. By the same token, it is also difficult to know exactly how much the setting aside of protected areas has contributed to biodiversity conservation. Various studies of protected areas provide general indications of their effectiveness. But this general conclusion hides a wealth of details and variations that prevent precise statements about the marginal gains from strict conservation, gains from partial protection, and how such gains can be balanced against the losses to those displaced from protected areas (Hayes 2006). For example, some quantitative studies covering a significant number of protected areas focus more on conservation of forests rather than wildlife (Naughton-Treves et al. 2005). Many other studies focus more on the extent to which existing protected areas represent biological diversity rather than the actual effective protection.[17] Analogously, there are few established metrics on the basis of which the management effectiveness of protected areas can be compared (Chape et al. 2005). A large number of studies point to the numerous threats to protected area effectiveness (Bruner et al. 2004; Struhsaker et al. 2005), including the fact that many established protected areas are expected to contribute to poverty alleviation (Naughton-Treves et al. 2005). And finally, a large number of conservationists agree that effective biodiversity conservation must include conservation outside the boundaries of protected areas, especially in the case of marine biodiversity (Allison et al. 1998).

It is clear that international conservation organizations must choose to act in relation to displacement in a relative vacuum of reliable information. At best, we can infer from the limited evidence that the people displaced as a result of conservation projects are as poor or marginal as the ones displaced by development projects. Conversely, it is also likely that policies designed to address the plight of displacees (or the potential protests and mobilization that might emerge among them) may be similar for both types of displacement.

On the other hand, the extent to which the protected areas responsible for displacement have reliably contributed to biodiversity conservation gains is also uncertain. Lack of systematic information about how management objectives associated with particular categories of protected areas are translated into practice, cross- and intra-state variations in the implementation of protected area provisions, paucity of quantitative or broadly comparative studies that provide information on actual effectiveness of protected areas, and lack of consensus on the metrics along which conservation effectiveness should be compared across sites means that it is impossible to balance the human costs and conservation benefits associated with protected areas in a global sense.

Justifications and Counter-Arguments

The core arguments for biodiversity conservation are its ethical necessity and its critical importance for future sustainable survival. Even if one general measure of biodiversity decline – species extinction rates – is not well established, most

observers believe it to be orders of magnitude – 100 to 1,000 times greater than pre-human rates.[18] Soule and Wilcox underline the exceptional ethical stakes involved in biodiversity conservation when, referring to species extinction, they say, "Death is one thing; an end to birth is something else" (1980: 8). Analogously, Myers argues for the economic importance of conservation in suggesting that the treasures of biodiversity "can make a significant contribution to modern agriculture...medicines and pharmaceuticals, and to industrial processes...especially in the advanced world with its greater capacity to exploit genetic resources" (Myers 1976: 119). More generally, attempts to put a value on biodiversity suggest that the economic costs of extinction may be astronomical (Edwards and Abivardi 1998; Losey and Vaughan 2006; Pearce and Moran 1994).

But the extent to which these important arguments justify human displacement is unclear. To become relevant in the context of displacement, they need to be coupled with two assumptions: that human presence has a negative impact on conservation, and that there is a calculus of gains and losses through which the worst effects of involuntary displacement on humans can be balanced by gains for conservation through displacement (see below).

In addition to these core arguments for conservation, some conservationists hint at other justifications of displacement – that there is a lot of injustice in the world, and conservation-related injustice is mild. These justifications are merely rationalizations and fail to address the significant ethical and rights-based criticisms, sidestepping them instead. If conservation-related displacement is an injustice, its character doesn't change simply because there are other greater injustices in the world. Whether only a few people have been displaced because of conservation projects is an empirical question. The evidence necessary to answer it has not been collected either by critics of conservation, nor by conservationists themselves.[19] The inability of conservation organizations to provide clear answers regarding the magnitude of displacement even in the case of specific protected areas can be contrasted with development projects. Most major development projects that might lead to displacement are now preceded by social impact assessments and cost-benefit analyses. Whatever one might think of these methods and their utility, they are at least an integral component in assessing the feasibility of development projects.

The most important critique against displacement is the injustice involved in the involuntary removal of disadvantaged peoples from their homes and lands: Few elite or rich households have been displaced because of protected area creation. If conservationists do not attend to this, then they strengthen the perception that conservation is a concern of the wealthy and the powerful (see Brosius in this working paper). Such justice-linked criticisms undermine the moral high ground that conservationists attempt to occupy. There is a vast incongruity in the position that simultaneously attempts to protect non-human life and ignore the livelihoods of humans. Critics of conservation can emphasize the unethical basis of conservation simply by pointing to the incongruities related to displacement. Indeed, the increasing emphasis on poverty alleviation among international donors and aid organizations has often come at the expense of a concern with conservation. In any direct confrontation between poverty alleviation and biodiversity conservation, this tension suggests, advocates of poverty alleviation are likely to get greater attention.

Critics of conservation and displacement gain further ammunition for their arguments from studies that attempt to demonstrate the historical structuring role of people in natural landscapes (Barthel et al. 2005; Gajaseni and Gajaseni 1999; McSweeny 2005; Sponsel et al. 1996). If certain small-scale human

actions have contributed to biodiversity conservation, the reasoning behind protected areas that exclude all human presence is demonstrably flawed, according to these arguments. However, such counter arguments favoring human residence in protected areas need to be more precise about the limits within which human actions can coexist with biodiversity, and the means through which such limits on human actions can be ensured – a free-for-all of human use is generally not compatible with biodiversity conservation.

Finally, other scholars argue that conservation projects that lead to displacement are likely to create anger and bitterness that lead to conservation failures (see Bodmer in this working paper). Displaced peoples have strong incentives to destroy the wildlife and resources within protected areas. Given the limited capacity of most governments in developing countries to enforce existing regulations, especially in the peripheral locations where many important protected areas are located, conservation success is likely dependent on local acceptance or resistance. Ultimately, it is an empirical question, but it is quite likely that a conjunction of strong local resentments caused by displacement or restrictions, feeble enforcement capacity, and organized poaching pose major obstacles to conservation.[20]

A Program of Action for Conservationists and Conservation Organizations

Conservationists and conservation organizations have four broad potential courses of action open to them in relation to ongoing displacements of human populations. We denote them as negative, neutral, positive-future, and positive-historical. These are not mutually exclusive and different courses of action may be chosen by the same conservation organization in different situations.

A negative program of action signifies a more aggressive pursuit of conservation through protected areas, especially those in IUCN Category Ia. Efforts to increase the size of protected areas and the rigor with which they are protected would likely result in even higher rates of displacement than is the case at present.

The neutral course of action would simply change nothing in the way conservationists currently create protected areas, and do nothing about displacement that may or may not ensue.

A positive program of action would address the core criticisms of conservation-induced displacements. It would focus on specific examples in which displacement-related grievances are addressed in an exemplary manner, adopt a policy to avoid involuntary displacements as far as possible, convert involuntary displacement into voluntary agreements to move, and where such options are impossible, design compensation packages that would ensure that those suffering displacement are left "no worse off" as a result of protected area creation.

Such a positive course of action could be more or less expansive in its coverage. If the focus were primarily on displacements that would occur in the future, then conservationists would need to identify the distribution of interests among those likely to be displaced, work with national/local governments and human-aid agencies to create appropriate compensation packages for those who might get displaced, and involve local populations to determine a balance between compensation and concessions concerning the strictness with which conservation objectives would be enforced.[21] There is no ethically satisfactory way to address the needs of those who are likely to be displaced by conservation projects if their voices and needs are not included in a consultative manner.[22]

The fourth avenue – positive-historical – would be a more comprehensive effort to address displacement not just in future cases, but also to retroactively

cover and compensate for past conservation-induced displacements. This option would necessarily mean that negotiations would cover many more people, and in many cases the best that conservation organizations could do would be to offer compensation to the displacees. (Actually returning physically displaced peoples to protected areas would likely be difficult.) Under this option, conservationists may also consider whether it is reasonable to convert some protected areas out of strict protection so that their resources become available for development. If some protected areas are redundant in terms of the biodiversity conservation they provide, de-gazetting them may result in better allocation of the scarce funds available for conservation, or even make them available for constructing compensation offers.

Choosing among the four outlined options requires striking a balance across: a) ethical appropriateness, b) monetary costs, and c) political feasibility. It appears relatively easy to rank the options along the first two criteria: The first, negative course of action is ethically the least attractive option. It countenances displacement in the belief that the interests of non-human species deserve greater recognition than is currently the case. Option 2, the neutral course of action, is a little better, but perhaps only marginally. Option 3, which focuses on future cases of displacement, is ethically laudable. Option 4, under which retroactive compensation is coupled with a commitment to address all future conservation displacees, is easily the most attractive option for critics of conservation-induced displacement.

The ranking of these four options is also straightforward with regards to their costliness. Option 2 – neutral – is perhaps the least costly of the four because it merely assumes the status quo. Option 1 is likely to be costlier than option 2, because conservation organizations will have to spend more resources expanding and enforcing protected areas. Depending on the numbers of those who have been displaced, options 3 and 4 are likely to be costlier still, in that order, but by how much is difficult to assess. But the cost of option 4, even if the lower bound on the number of current conservation displacees (ten million) is close to accurate, may easily run upwards of 5 billion dollars (assuming an average compensation amount of $500 per displaced person).[23]

While ranking these four options on ethical and monetary criteria is easy, the difficulties are greater in assessing their political feasibility. Even option 2 – maintaining status quo – faces no small difficulties, as suggested by current controversies and critiques on the issue. It is, however, politically feasible in the short run. The ranking feasibility turns on the question of the ease with which coercive conservation can continue. Although some have argued that coercive conservation is resilient in the face of numerous challenges (Brockington 2003), the political landscape has already changed compared to the 1990s, and seems especially inhospitable to conservation displacement today. In a news article, Dowie (2005) writes, "It's no secret that millions of native peoples around the world have been pushed off their land to make room for big oil, big metal, big timber, and big agriculture. But few people realize that the same thing has happened for a much nobler cause: land and wildlife conservation. Today the list of culture-wrecking institutions put forth by tribal leaders on almost every continent includes not only Shell, Texaco, Freeport, and Bechtel, but also more surprising names like Conservation International (CI), The Nature Conservancy (TNC), the World Wildlife Fund (WWF), and the Wildlife Conservation Society (WCS). Even the more culturally sensitive World Conservation Union (IUCN) might get a mention" (Dowie 2005). One must ask by what alchemy have the names of those who see themselves as the defenders of the planet's biological heritage come to be linked in the same breath with the names of those who are more appropriately seen as its degraders.

Dowie is not alone in these sentiments. An increasingly vocal group of authors will likely continue to rake international conservation organizations over the coals for their alleged indifference to the plight of human beings, particularly those humans who already face the dust heap of history. Consider the following testimony from Joy Ngoboka: "We were chased out on the first day...the police ran into my compound. They all had guns. They shouted at me, told me to run. I had no chance to say anything…I was frightened for the children…but we just ran off in all directions. I took my way and the children took theirs. Other people were running, panicking, even picking up the wrong children in the confusion. I lost everything. I had 31 cows and some goats and hens. They were killed – 20 cows were killed and the rest taken. They burned everything, even the bed and furniture and the kitchen. We're poor now" (cited in Ozinga 2003). If one did not know that this woman was displaced by the Kabile Game Corridor, one might believe this was a testimony from a refugee displaced by war.[24]

What emotional testimonies like these suggest is that determining the precise numbers of displaced peoples is not the most important issue. Larger numbers simply indicate that displacement-related injustices are common, but whether the number is a million or ten million is less important. But the identification of striking negative images with conservation is highly prejudicial for conservation organizations from a public relations perspective. The storyline in reports on conservation-related displacements is especially juicy because it focuses on the underbelly of what is mostly seen as a noble cause – the preservation of species and landscapes. It allows an unlikely combination of actors – left-wing intellectuals, conservative economists, and populist politicians, each for very different reasons – to unite against wildlife and biodiversity conservation.

In light of the above discussion, we suggest that option 1 (pursue conservation more aggressively) may be the least politically feasible course of action available to conservationists. Options 3 and 4 (more or less comprehensive compensation to those who are displaced) are both ethically and politically more attractive because they show the willingness of conservationists to do something. Option 2 (maintain status quo) is likely the one with the lowest monetary costs, at least in the short run. For that reason it may appear quite attractive because it does not deviate from current conservation strategies. But it should be viewed as politically the least feasible for the long term. Indeed, a different, more compensatory choice will ultimately be forced upon conservationists if they do not respond to concerns about displacements.

This quick thought experiment shows the range of currencies – ethical, monetary, and political – that need to be integrated in order to assess these four options. A global integration across all three is complicated, though it suggests that option 3 would be most likely in most cases.

The example of large dams and development-related displacements is instructive in this regard where after years of doing nothing, all major international donor organizations have been forced to adopt a policy on how to address the needs of those who are displaced by their funded activities. Large dams are far more attractive to national governments and often have a significant constellation of politically potent economic actors in their favor. Nonetheless, because of human rights claims, it has become trickier to construct large dams in the past decade. It has become incumbent upon governments and relevant international actors to carry out studies that incorporate costs of displacement and compensation as part of the project. If conservationists are unwilling to go where their moral compass should take them, their political future will drive them there.

A Summary by Way of Conclusion

A review of existing writings and available evidence suggests that there is no easy way for conservation professionals and organizations to defend conservation when it leads to forcible displacement of humans from areas that are to be protected, even if it is to stave off extinction of several species. Although there is clear evidence that the establishment of protected areas has been critical to the conservation of rare species and endangered habitats, there are very few studies that establish a relationship between the displacement of humans from the protected areas and the *marginal* gain such displacement confers on biodiversity conservation. Arguments in favor of displacement are built upon the assumption that human presence *invariably* impacts wildlife and biodiversity negatively. But studies have seldom focused on the extent to which this assumption is systematically correct. Therefore, generalizations asserting an inescapable conflict between biodiversity conservation and human presence in protected areas are no more accurate than those that suggest that a harmonious and sustainable relationship can and will prevail.

If the scientific basis for displacing all humans from protected areas on conservationist grounds needs additional work, the impact of images showing humans being displaced by conservation projects has undeniable negative impacts. The ethical grounds for displacement, whether pursued in the name of a larger national interest or a general social good, have always been specious. The history of development-induced displacements is a useful guide in this regard. Rather than studying the negative social impact of protected areas on displaced peoples only once the political pressures for doing so makes it unavoidable, conservation organizations can take the lead in setting the agenda on how to address conservation-induced displacements, and by doing so follow the path that is both ethically appropriate, and good for conservation in the long run.

[1] As Sanderson (2002: 162-63) puts it, "Global losses in biodiversity and wild places are not the stuff of environmental alarmism; they describe our world today, as detailed in volumes of hard scientific evidence… All these impending losses have a human origin. Economic expansion, population growth, urbanization, and development lead to greater consumption. In turn, growing consumer demand fires competition for fresh water, energy, arable land, forest products, and fish. And globalized production permits the harvesting of nature at ever more rapid rates." See also Chapin 2004, Sanderson 2005.

[2] It is also worth noting that "unlike some of the effects of natural disasters or wars, displacement undertaken for development purposes is always permanent" (Brand 2001: 962). The permanency of displacement is also equally true of conservation-related origins.

[3] Cernea (2000: 6) estimates the total number of people displaced as a result of development-related projects between 1980 and 2000 to be close to 200 million. Others have provided numbers that range closer to 100 million (Koenig 2002; McDowell 1996).

[4] For a recent important set of cases and reflections, see the 2003 special issue of the *International Social Science Journal* 55(1).

[5] Cernea's model might more appropriately be viewed as a framework for analysis. Ostrom (1999: 39-40) distinguishes among frameworks, theories, and models. Frameworks identify the elements and relationships among elements for guiding analysis; theories specify the important assumptions for answering questions related to relevant phenomena; and models state the precise relationships among the variables that lead to outcomes. In many ways, Cernea's framework for analyzing displacements does little more than state the relevant elements that affect impoverishment. It fails to provide much insight into how these different elements may themselves be related, or the extent to which their impacts on poverty depend on varying contextual conditions, despite Cernea's recognition that the context plays an important role.

[6] The impoverishments risks, according to Cernea, are landlessness, joblessness, homelessness, marginalization, food insecurity, morbidity and mortality, loss of access to common property and services, and social disarticulation. The strategy to address each risk is to counter it specifically – provide land to those rendered landless, create jobs to deal with joblessness, construct homes to remove homelessness: the prescription has a directness in relation to the diagnosis that is immediately pleasing in relation to policy. See also Cernea 1999.

[7] For an especially cogent articulation of this position, see Roy 1999.

[8] The literature on this theme is so complex as to brook no easy summary. For a relatively rosy assessment of the ease with which humans and wildlife species can coexist and prosper, see WWF 2006. Agrawal and Redford's (2006) survey of 37 projects attempting joint achievement of biodiversity conservation and poverty alleviation finds little systematic evidence in favor of synergies between these two goals.

[9] For details, see http://sea.unep-wcmc.org/wdbpa/. The official classification and information in the World Conservation Monitoring Center (WCMC) database does not include areas covered by private and informal arrangements for wildlife protection that are common in many parts of the world.

[10] (Ravenel and Redford 2005). Chape et al. 2005 estimate that close to 12% of the land surface of the planet is covered by more than 100,000 protected areas. It is worth noting that this proportion is already beyond the target of 10 percent of land surface proposed more than a decade ago at Caracas during the fourth World Congress on national parks and protected areas (World Conservation Union 2003).

[11] Category V permits sustainable use of protected area resources, and is the least likely of the six IUCN categories of protected areas to lead to displacement.

[12] One such example is representative. Geisler (2003) arrives upon a figure of 8.5 to 136 million humans displaced as a result of conservation projects by taking the total area of protection under different IUCN categories (8.5 million square kilometers), and multiplying it with an assumed population density of 1 to 16 persons per square kilometer. Using this procedure, Geisler's estimate today would have ranged between 10.8 million to 173 million. Others have taken Geisler's estimates of 1 to 14 million displacees for Africa, and asserted a figure of 14 million displaced peoples in Africa as fact (Dowie 2005).

[13] The WCMC database lacks size information on 12 percent of the listed records, and the establishment date for 35 percent of them (West et al. 2006).

[14] See, for example, the essays by Rangarajan and Shahabuddin (2006), Redford and Sanderson (2006), Goodall (2006), McElwee (2006), and Brockington and Igoe (2006) in a recent special issue of the journal *Conservation and Society*. The absence of studies from many regions may be interpreted as the absence of significant displacement in understudied regions, but it would be equally easy to suggest that the absence of evidence is not evidence of absence.

[15] Some of the worst, and long-recognized, impacts of the creation of protected areas concern the adverse effects on the incomes of those who are displaced, even if they live within or in the vicinity of newly formed protected areas. Numerous studies have documented significant direct losses to livelihoods and agricultural incomes, human-wildlife interactions, and indirect losses because of loss of access to areas set aside for conservation (Ghimire and Pimbert 1997; Hulme and Murphree 2001; McLean and Straede 2003; Rao et al. 2002).

[16] Much of the case work on this aspect of conservation-induced displacements is only available in the gray literature rather than as published materials. See, for example, the report on coercive conservation practices prepared by Hebert and Healey (n.d.) for the International Human Rights Advocacy Center, and reports published by the Legal and Human Rights Center on the Serengetti killings (http://www.humanrightstz.org/humanrights/serengeti_reports, accessed on April 20, 2006).

[17] The well received studies by Parrish et al. 2003 and Rodrigues et al. 2004 constitute important illustrations of this assertion.

[18] Balmford et al. 2003; Hughes et al. 1997; Pimm et al. 1995. See Colwell and Coddington 1994 and Purvis and Hector 2000 for different assessments and measures of biodiversity. McKinney 1997 reviews lessons from writings on theories of extinction.

[19] As the recent Tiger Task Force Report argues in relation to tiger conservation efforts in India, "there is virtually no compilation of data on firstly, the number of habitations within these [tiger] reserves or on the fringes of the reserves; and secondly, the impact of these habitations on the tiger population" (GOI 2005: 89). Similar complaints about the lack of any reliable data are voiced by West and Brockington (2006).

[20] One of the most striking illustrations of the adverse impact of the conjunction of these three forces in recent times is surely the extinction of the Indian tiger from the Sariska Wildlife Sanctuary as reported in major Indian newspapers and summarized and analyzed in a report by the Tiger Task Force established by the Government of India (2005).

[21] The kind of private contracts between governments and individual households described by Frank and Muller (2003) are unlikely ever to be the main mechanism for ensuring voluntary participation in conservation in the developing world. It is far more likely that conservation organizations would create schemes for compensation in consultation with government agencies rather than deal with specific landowners or local residents individually.

[22] For a discussion that depicts the complexity of involving those displaced by development projects in discussions related to compensation, see Garikipati (2005). Further, even if conservation organizations create compensation mechanisms that appear satisfactory to them, their plans will always be open to criticisms if they are not formulated in consultation with (potential) displacees.

[23] This is not considered an excessive dollar amount even in a poor country such as India (GOI 2005).

[24] A description of displacement provided by Fred Pearce (2005) in the *New Scientist* is equally distressing.

PART 2
LATIN AMERICA

2.1 Working with Local People to Conserve Nature in Latin America

Avecita Chicchón
Wildlife Conservation Society

Despite many years of trying to promote informed participation of indigenous peoples in the management of protected areas, there is still a big gap between conservationists and indigenous peoples in Latin America. To a large extent, this gap is due to different values and cultural and social characteristics that guide how conservationists and indigenous peoples engage with each other. The history of physical displacement of local people and/or the curtailment of their participation in decision making regarding the land contributes to this gap in understanding.

People have been forcefully displaced from their land by wars and resource scarcity throughout history. For example, the Incas forced the resettlement of local peoples that could rebel against them through the establishment of the *mitimaq,* or permanently resettled worker groups (Rostorowski 2001). When the Incas took over Cochabamba in Bolivia, the locals where displaced, and mitimaq established in the town. The Saraguros from Ecuador were originally mitimaq from Southern Peru. As the Spanish consolidated their rule in the Americas in the 1500s, indigenous peoples who lived in scattered areas were concentrated in *reducciones,* or settlements that became the basis of peasant communities (Marzal 1989). Indigenous people lost access to the most fertile valleys as rich resources were awarded to the new Spanish elite. The properties were handed over from one generation to the next for centuries, even after countries became independent from Spain and Portugal.

It was only in the early 1900s that social movements began to succeed in claiming land reforms. The Mexican Revolution in 1910 focused on the re-distribution of land from the wealthy to the poor and became an example for the rest of Latin America (Sanderson 1981). After 1917, *ejidos* (collective farms) became the basis of agricultural development for the rural poor. The process of land re-distribution intensified between the 1950s to 1970s as a response to social unrest and recommendations from multilateral agencies. Agrarian reforms transformed the access and control of natural resources, but local peoples did not necessarily benefit from these changes (Stavenhagen 1973).

In some countries, agrarian reform was coupled with the colonization of wilderness areas, particularly in Brazil, Peru, and Ecuador in the 1980s (Schmink and Wood 1984). Land conversion policies were based on the notion that wilderness areas were empty spaces that could provide a development opportunity for the poor and dispossessed. New settlements pushed indigenous peoples away from their original territories and constricted them in smaller areas. In Peru and Ecuador, native communities were officially established in the Amazon and included agricultural land but not traditional hunting or fishing territories. In Bolivia and Brazil, larger collective territories were established as "nations"

within a larger nation, causing management challenges for the central government but better opportunities for indigenous self-determination.

As newcomers expanded the agricultural frontier into wilderness areas, they displaced indigenous peoples. In Latin America, the creation of protected areas was a relatively minor problem for indigenous people faced with ineffective land reform. As a result, the late 1980s and early 1990s became a critical time for alliances between indigenous peoples and conservation advocates as both groups were interested in maintaining wilderness areas, albeit for different long-term purposes (e.g., COICA-Coordinadora de las Organizaciones Indígenas de la Cuenca Amazónica). Some alliances succeeded, but most did not.

We examine causes of failure and success to learn from the past and build for the future. When developing alliances for conservation, it is critical to begin by understanding the interests and value system of each stakeholder group. At the heart of the relationship is the understanding that no social group wishes to be "displaced" – neither physically excluded from a familiar place nor excluded from the decisions on natural resource allocation. The challenge of achieving biodiversity conservation in tandem with social justice is complex due to the varying meanings of social justice in different contexts. In remote places, where no government or development organization is present, conservation organizations have been pressed not only to fulfill their conservation mandate but also to advocate for disadvantaged people. Over the years, the Wildlife Conservation Society's Latin America Program has tried different models to achieve conservation, and those that have been more successful and long-lasting in remote areas are those that combine local peoples' interests with sound resource-use planning.

Partnerships with Indigenous Peoples

WCS currently works with indigenous peoples in many projects across Latin America with a varying degree of engagement and impact. For example, we work in the small community of Puerto Edén, located within the large O'Higgins National Park (3.5 million hectares) in southern Chile, with 240 inhabitants from the Kaweshkar (Alacaluf) and Huilliche-Mapuche indigenous groups. We also work with the Isoseño-Guaraní organization, CABI, that represents 9,000 people and has management control of the Kaa-Iya National Park (3.4 million hectares) in Bolivia. In almost every case, the relationships with indigenous groups have developed in the context of mutual respect following an initial stage of mistrust. Mistrust was usually overcome by making the conservation objectives explicit and making sure that the indigenous perspectives were incorporated in biodiversity conservation efforts through land/resource-use planning. Overcoming mistrust can take a long time or it can happen overnight. We advocate transparent partnerships and we realize that they have to be nurtured and often re-negotiated. The terms of the partnership need to be re-assessed, for instance, when the larger social context changes, or when new indigenous representatives are elected. WCS commits to specific landscapes for the long term and our indigenous partners recognize this dedication.

While at early stages, scientists considered indigenous people mainly as informants or guides because of their knowledge of the wildlife, the relationships between WCS scientists and indigenous people gradually evolved into true partnerships. Small scientific projects grew into comprehensive conservation programs, and alliances were established in order for them to be more effective. It became clear that it is not enough to document biodiversity and its use; it is also important to contribute to the empowerment of the direct users to manage biodiversity in sustainable ways.

In Bolivia, WCS has worked closely with the Isoseños-Guaraní in the Gran Chaco since 1991 and with the Tacana in Madidi since 1999. In both cases, partnerships were developed from the outset with the legitimate representatives of these indigenous groups (see Arambiza and Painter 2006). Throughout, WCS has supported the Guaraní and the Tacana in securing legal rights over their indigenous territories which buffer the core protected areas. Both groups have a subsistence economy based on small-scale agriculture, hunting, fishing, and gathering. They have been in contact with the national society and have maintained a distinct social organization and culture. When the Kaa-Iya National Park was created, the Guaraní were key players in drawing the boundaries of the Park, and this protected area is now under their direct management. The Guaraní have a clear mandate to manage the Kaa-Iya National Park. The Tacana participate in the management of the Madidi National Park through the *Comité de Gestión* (Management Committee), a recently developed governance structure that allows local stakeholders to recommend best practices to Park officials. Each group aims to achieve an adequate standard of living, health, shelter, and education based on access and control of resources. Conservation, as Western society understands it, is a foreign concept to them, so it was important to clearly establish the terms of partnership and goals. As a conservation organization, WCS does not and cannot have human welfare as its primary goal. Nevertheless, conservation of natural resources ultimately contributes to quality of life locally, so it was important to agree upon this with the indigenous partners at the outset. The partnerships focus on the common aspects of conserving natural resources, and one of the main tools offered by WCS is scientific information for better management of wildlife resources.

In the case of the Guaraní, the partnership with WCS has been beneficial when the Guarani were negotiating with corporations that sought to develop their land for the Bolivia-Brazil gas pipeline. The partnership successfully negotiated with the pipeline sponsors to ensure that environmental and socioeconomic impacts were minimized. The agreement included the establishment of a trust fund as a permanent source of revenue for the protected area (Redford and Painter 2006).

In 2000 WCS started monitoring wildlife populations in Yasuní Biosphere Reserve in Ecuador. The two main indigenous groups in that region, the Kichwa and the Huaorani, were not fully consulted when the Yasuní National Park was created in 1979. At that time, the Huaorani, a hunter-gatherer group that functions in family groups, received an indigenous territory, the Huaorani Ethnic Reserve. Some Huao did not have contact with the outside world until the late 1980s, then spurred when Texaco opened the Via Auca road into their territory for oil extraction (Cabodevilla 1999).[1] There are still two Huao clans that have remained isolated. The Huao formed a representative organization to deal with the impact of oil companies and they are currently dealing with the company Repsol that controls Via Maxxus, a road crossing Yasuní National Park and extends into the Huaroani Ethnic Reserve.[2] It has been more challenging to work with the Huao as those communities are dependent on oil revenue and many Huao distrust outsiders. We aim to work more closely with the group of Huao women who have expressed interest in sustainable development activities.

The Kichwa, who migrated to the Upper Amazon from the Andes hundreds of years ago, have been in contact with Ecuadorian society for a while. Their subsistence is based on agriculture, hunting/fishing, and gathering, and they effectively negotiate with officials through their representative organiza-

tions. WCS has developed a solid partnership with six Kichwa communities to develop wildlife management plans. WCS advises them on how to use biological indicators to monitor the impact of oil development.

Looking at the whole picture in Latin America, human displacement due to the creation of protected areas is small compared to the magnitude of the displacement by infrastructure and industrial development in natural areas. In fact, in several cases, the creation of protected areas has benefited indigenous people because they have established alliances that have brought more national attention to their situations. In many cases the creation of protected areas has allowed for better ecological zoning, the development of conservation-based income-generating activities, and has attracted international attention and funding that have benefited indigenous and local people. WCS has contributed to help title indigenous lands, support sustainable wildlife use, and generate information for sound development activities, all of which provide a political advantage to indigenous and local people when they negotiate with other international entities.

Admittedly, WCS and conservationists have stumbled along the way, but we are learning and incorporating more social science in our work. We now incorporate a stakeholder analysis in any new conservation initiative, realizing that some stakeholders may be more powerful (corporations), some may be absent (uncontacted Indians), and others are transitory (squatters). Indigenous peoples and those local people that have strong ties to the land are the best allies for conservation as they will stay in the region. The "human footprint" left behind by indigenous peoples is much less than environmental impacts left by other groups. Most indigenous groups understand that their way of life depends on maintaining the services that their ecosystems provide.

The challenge remains in finding the long-term balance of biodiversity conservation in partnership with the state while making sure not to negatively affect indigenous access to and control of the territories in which they live. A necessary change for the future would be a comprehensive land/use reform allowing indigenous people to gain access to productive agricultural land. A focus on effective land-use planning in several countries in Latin America would allow for both protected areas and for indigenous and local people to have access to natural resources. Conservation organizations have the funding and connections to facilitate and implement comprehensive land/resource use plans at specific locations. In the future, we have the responsibility to include indigenous and local peoples as equal partners in conservation.

[1] Unlike other countries, Ecuador allows the exploitation of underground resources in national parks. Oil development has been a major threat to biodiversity conservation in the Ecuadorian Amazon for the last 50 years, despite the opposition of indigenous peoples and conservationists. The case in Yasuní is particularly delicate because it is the only protected area in Ecuador that contains a formal 'core protected area' (zona intangible), and the conservation community does not want the special status of this area to erode.

[2] The Huaorani Ethnic Reserve is surrounded by the Yasuní National Park (created in 1979); together they make up the Yasuni Biosphere Reserve which was created in 1989.

2.2 The Maya Biosphere Reserve and Human Displacement: Social Patterns and Management Paradigms Under Pressure

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Conservation Setting

At 2.11 million hectares, the Maya Biosphere Reserve (MBR) is one of Mesoamerica's largest protected areas, and has been internationally recognized as part of the Mesoamerican biodiversity "Hotspot,"[1] and as a "Last Wild Place."[2] It is Guatemala's largest reserve, spanning 19% of the nation, and 58% of the surface area of the northernmost department of Petén. The Guatemalan protected areas legislation classifies the "Core" zones of the reserve as analogous to IUCN Category Ib, and the "Multiple-use" zone as analogous to IUCN Category VI.[3] The MBR has a high concentration of endemic species and retains an intact suite of large mammals and birds extirpated in much of the rest of Mesoamerica. Some notable wildlife in the reserve include Baird's tapir, white-lipped peccary, jaguar, puma, ocelot, margay, Mexican black howler monkey, Morelet's crocodile, orange-breasted falcon, and Guatemala's last wild population of scarlet macaws. Due to its size, topographic variation, and geographic context, the reserve has varied annual precipitation and altitudinal gradients within it. The MBR is the largest and most intact portion of the tri-national Maya Forest that spans Guatemala, Belize, and Mexico, and is an important segment of the Mesoamerican Biological Corridor. It is also a prime example of sustainable development strategies.

As shown in Figure 1, the MBR's management zones include "Core zones" (767,000 ha; 36%), a "Multiple-use Zone" (848,440 ha; 40%), and a "Buffer zone" (497,500 ha; 24%). Conservation management is effectively absent in the Buffer zone. As of 2006, 66% of the surface area of the Multiple Use Zone (MUZ) has been granted in concessions for timber and non-timber forest product (NTFP) extraction, and 3% in community polygons for limited agriculture.[4] Forest concessions include 12 community-based concessions[5] spanning 400,918 ha of the MUZ (47.3%), and two industrial concessions (15.6%). The remaining 37.1% of the MUZ has not been formally granted as concession and approximately half of this area is reserved within two biological corridors.

Within the Core zones, 16 communities (eight of them with community polygons covering 32,000 hectares) obtained specific agreements effectively allowing temporary residence and use of natural resources.[6] Thirteen of the agreements were a result of the massive influx of migrants into Laguna del Tigre National Park in 1996-97.[7] The agreements evolved as part of the institutional strategy of Consejo Nacional de Areas Protegidas (CONAP) to resolve social conflicts over land in the hope that new settlers would collaborate with existing conservation objectives. While opinions on the wisdom and effectiveness of this strategy are mixed[8,9], one thing is clear: while these community agreements have reduced socio-economic tensions, they have also reduced effective conservation.[10]

Even though specific, separate zones in the MBR were established for biodiversity protection, regulated multiple-use, and economic development, numerous factors continue to threaten the ecological integrity and wildlife of the region. Approximately 10% of the reserve's original forest cover has been lost since establishment. Habitat loss has isolated Sierra del Lacandón

National Park in the west from the large block of intact forest in the central and eastern parts of the reserve (Figure 2). While community and industrial forest concessions have been less prone to fire and deforestation than the western parks, recent trends indicate that some community forest concessions will lose extensive areas to colonists and pastoral activities soon. In short, the reserve is rapidly approaching a crossroads, requiring new management and conservation paradigms to ensure its biodiversity for the future.

Human Populations and Resource Use

Prehistory

The human population in the lowland Maya forest during the peak of the Classic Period ranged from several million to as many as 14 million people.[11] The area that is today the Maya Biosphere once contained the epicenter of the ancient Maya civilization, including the civilization of El Mirador that flourished from 200 BC to 150 AD (Diamond 2005). Later Maya city-states, such as Tikal, Rio Azul, El Perú, Piedras Negras, and Uaxactún, controlled extensive areas within the current MBR during the Classic Period (300-900 AD). Each of these centers had up to 50,000 inhabitants, and it is likely that sections of the MBR were deforested for agriculture and settlement during this time. War, disease, drought, and deforestation may all have contributed to the eventual disappearance of civilizations from this landscape, a collapse that either occurred at once or in a number of staggered collapses.[12, 13] Environmental stresses linked to high human consumption in the lowland Maya area have remained central to explaining the precipitous decline of the civilization and the massive population reduction[14] from 850-1,000 AD.

Spanish conquest and settlement through Maya Biosphere

During the nearly 1,100 years following the collapse of ancient Maya, much of the Petén had no human settlement and the lowland Maya forest recovered ecologically. Nevertheless, some important populations remained in the area, foremost the Maya-Itzá of the central Petén, the largest indigenous group at 25,000-40,000 people (Schwartz 1990). Other groups included the Mopan Maya (10,000-20,000 people) in south-central and eastern Petén (outside of the future reserve); and the Cehach (< 10,000 people) in the northwestern Petén (within the future reserve). Western Petén was occupied by 30,000 Chol and Choltí speakers, who were decimated by war with the Spanish, disease, and famine between 1559 and 1721 (Schwartz 1990). The remnants of this group were later joined by refugees of the Yucatec, Itzá, Cehach, and others to become known as the Lacandon – a group that survived by scattering into the forest to avoid contact with the Spanish. The Q'eqchí' may have been moving into southern Petén prior to Spanish conquest but they were not a significant cultural group in the area. The total human population of the Petén immediately prior to Spanish contact exceeded 100,000 people.[15] Indigenous groups established within the area of the future MBR were the Itzá, primarily within the municipality of San José in the areas near Lake Petén-Itzá, the Cehach in the swampy areas of Laguna del Tigre, and the Lacandón in the west.

In 1697 the Spanish conquered the last Maya kingdom – the Itzá ruled by Rey Canek from Tayasal, known today as Flores. The period of Spanish domination spanning the 16th and 17th centuries was marked by the decimation of native peoples and the establishment of state *haciendas*, or ranches, charged primarily with the production of cattle for the Spanish crown. By 1778, the population of Petén consisted of 1,604 adults, 1,158 of whom were indigenous, 67 were Ladino (people of mixed Indigenous-European ancestry), and only 45

Figure 1: Management zones of the Maya Biosphere Reserve

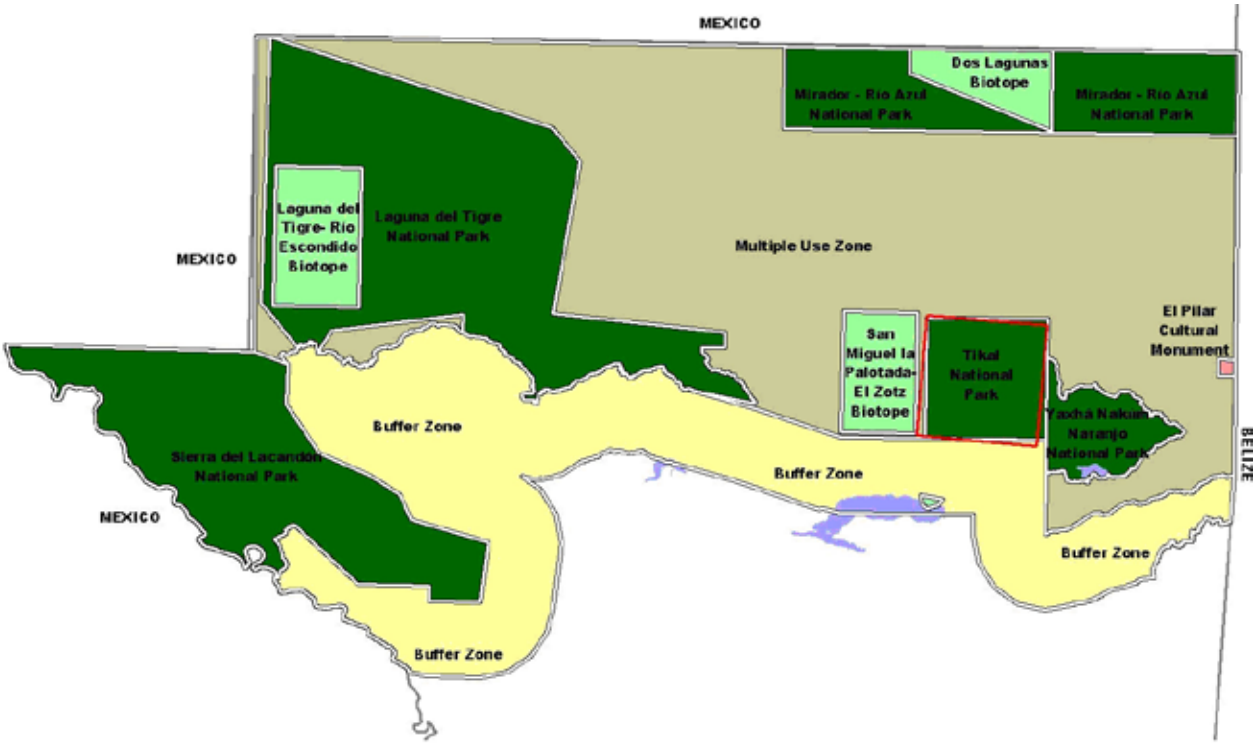
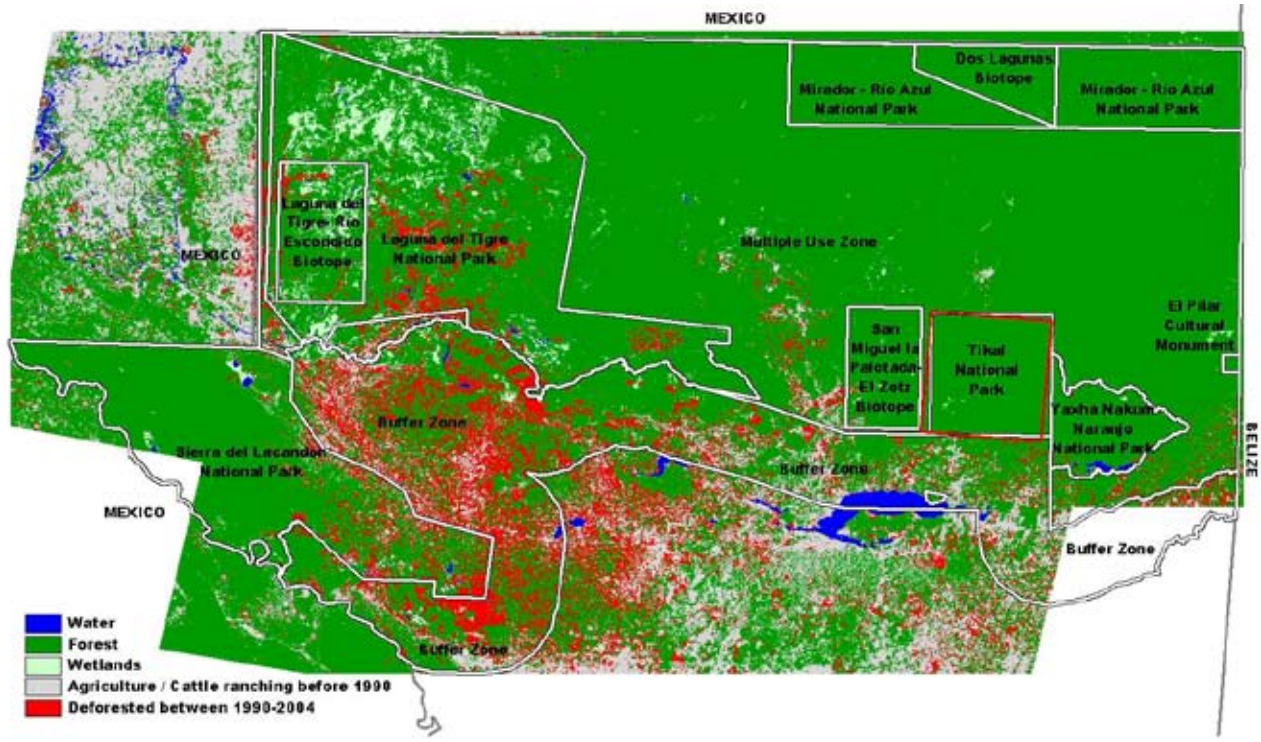


Figure 2: Map of deforestation within the MBR, 1990-2004



were Spaniards (Schwartz 1990). The decimation of native populations over this period allowed for the Petén to evolve into a rural department dominated by Spanish-speaking Ladinos (also known as Mestizos).[16]

Chicle extraction

The history of human access to and habitation in the Maya Biosphere Reserve is punctuated by the chicle trade, the tree-tapping industry that provided the main ingredient in chewing gum until the advent of substitutes after World War II. During the 1880s US companies expanded the chicle trade into Petén from Veracuz, Mexico, stimulating the migration of Mexican chicleros to the productive forests in Petén. By the 1920s the chicle trade employed over 1,000 chicleros, and accounted for as many as 5,000 jobs. Approximately half of the chicleros were seasonal migrants arriving from other areas. This pattern of migration continued after the establishment of the Maya Biosphere Reserve in 1990 despite a waning chicle market.

In the early part of the 20th century, the forest villages now known as Carmelita and Uaxactún were established. An archaeological exploration by the Carnegie Institute (1904-1937) established the village of Uaxactún, previously *Bambunal*, a chicle camp. These and other forest communities were isolated from economic centers and therefore lived by extraction, management and harvest of forest products, supplemented by small-scale agriculture. These traditional "forest communities," of which only Carmelita and Uaxactún remain, were thus established well before the existence of significant state control over a vast majority of the Petén.

Human population growth

Despite the boom of the chicle trade in the 1940s, the wave of human migration into Petén swelled in the 1970s. By 1986 an estimated 300,000 people inhabited the department.[17] Though an official census of the population of Petén reported 366,735 people in 2002, a more precise figure may be 550,000 reported for 2000 (Grandia et al. 2001). If we accept the latter figure, the population of Petén in 2006 may be over 600,000 people. Within the Maya Biosphere Reserve, the estimated population in areas outside urban/semi-urban settings was 58,781 in 2001 (Ramos et al. 2001). The greatest challenge to current conservation paradigms comes from the region's population growth rate of 10%, one of the fastest growing areas in Latin America (Fort and Grandia 1999), due in part to Guatemala's fertility rate of 4.6 (estimated for 2000-2005), the highest in Latin America (CEPAL 2005).

Ethnicities of MBR residents include Ladinos (80.8%) and Q'eqchí´ (15.6%), with a majority of the remainder belonging to other Maya tribes (Ramos et al. 2001). Colonists are composed of people from all over Guatemala, with some migrants from other Central American states.

Empresa Nacional para el Fomento y Desarrollo del Petén (FYDEP)

Prior to the establishment of the reserve, a majority of the Petén was managed by the Guatemalan government agency Empresa Nacional para el Fomento y Desarrollo del Petén (FYDEP). Established in 1959, FYDEP was a military-controlled governmental institution dedicated to developing Petén, with full control of all the territory above parallel 17°10´ (Arrivillaga 1997), including approximately 68% of the area within the current Maya Biosphere Reserve. FYDEP's mandate over the area meant that no private titles to land were granted in areas above 17°10´, despite previous habitation and natural resource use within the area.[18]

Human Displacement

The Maya Biosphere Reserve was established in 1990 to conserve Guatemala's biological and cultural heritage while also improving the livelihoods of local inhabitants. Below is a consideration of various types of displacement since the creation of the reserve and other protected areas (i.e., Tikal) incorporated during its establishment.

Displacement of economic activities

The establishment of the Maya Biosphere Reserve: 1) prohibited chicle and other non-timber forest product extraction[19] in Core zones (*zonas núcleo*) beyond Tikal[20] and the Biotopes,[21] and 2) extended the jurisdiction of FYDEP over most of the Petén, thereby undermining tenancy claims from families who had lived on that land for decades. Community forest concessions established within the reserve restricted access to migrant, non-native *chicleros*. Interestingly, the reserve closed most sawmills that had been operating on contracts with FYDEP. In fact, due to the complex history of the reserve, it is often the case that institutions designed to facilitate access to the forest have contributed to the displacement of human activities.

Displacement from Core zones

Displacement by the Maya Biosphere Reserve includes two broad categories of displacement: 1) people and institutions physically displaced upon the establishment of the reserve,[22] and 2) people denied access or whose access was severely limited. Those that were outright displaced from the Core zones of the reserve numbered approximately 1,000 individuals, which is modest given the size of the area. A notable case is that of the *Comunidades Población en Resistencia* (CPR), a faction[23] opposing the Guatemalan government during the 36-year internal struggle. Toward the end of that conflict, the CPR sought refuge in Sierra del Lacandón, and, after the 1996 Peace Accords, the 300 members of the CPR relocated onto *fincas* acquired by the government. Support was provided to the new communities, including basic housing and assistance with developing livelihoods. As far as access to resources is concerned, the establishment of the Core zones immediately displaced non-timber product harvesters[24] (chicle, xate, allspice), and timber operators and their employees. This totalled approximately 1,000 jobs, including workers linked to these industries outside the reserve. Other types of displacement from Core zones include limitations of extractive, agricultural, and pastoral activities of colonists.[25] The Core zone also restricts access to subsurface resources (i.e. petroleum[26]) and the building of roads.[27](These activities are not specifically prohibited in the Multiple-use Zone.)

The displacement of colonist migrant groups who arrived after the reserve was created is difficult to assess but their displacement is ongoing. Numerous "invasions" by migrants into fully protected areas (and concessions in the Multiple-use Zone) have seriously challenged the conservation objective of the MBR. To date, approximately 10,000 migrants exist in the reserve; some have formal agreements, others have informal agreements or stay by the use/threat of force, while some have been evicted from the park.

Displacement from the Multiple-use Zone

Multiple-use zones were designed for the sustainable use of natural resources, but their establishment actually displaced several other forms of resource use. After 1990, private land holdings within the MUZ could not be legally titled,

with the exception of the *ejido* (farming cooperatives). Since that time, the government's ability to adequately address land tenancy issues within the MUZ has been frustrated by numerous illegitimate claims to ownership and falsified titles.

From 1993-2005, 14 forest concessions in the MUZ were approved, facilitating access for the groups owning the concessions, but at the same time prohibiting others access to these areas. The Peace Accords of 1996 ushered in a new focus on "human rights" which limited the government's application of the Law of Protected Areas in cases of illegal human colonization. The Peace Accords also initiated the community-based forest concessions by stipulating that "100,000 hectares within the Multiple-use zone be provided to legally organized *campesinos* to meet the objectives of sustainable forest management, protected area administration, ecotourism, protection of watersheds, and other activities compatible with the sustainable use of the natural resources of the area." These community concessions prescribe guidelines that prioritize conservation and thereby limit free access to natural resources. Interestingly, the government itself experienced displacement from some of the community concessions: When the government planned to explore for oil and gas in the MUZ, managers of local concessions resisted and the plan was dropped.[28]

Responses to displacement

Responses to displacement have varied significantly. On the one hand, the CPR resettlement out of Sierra del Lacandón National Park was generally accepted. On the other hand, many illegal colonists have resisted displacement by threatening to use force,[29] by repeatedly re-colonizing areas, and by using ecological sabotage (setting fire to the reserve in order to render conservation pointless). An important note is that the Guatemalan government has historically been less effective at evicting *terratenientes*, or wealthy landowners. A majority of the area within the MBR for human use is dedicated to extensive cattle production in *fincas*. *Fincas*, rather than small-scale *campesinos,* dominate the region due to a common practice where *campesinos* are employed by an absentee land "owner"[30] to clear and farm that land. After a few years, the "owner" places cattle on the *finca*.[31] In this process, conservation objectives are lost to cattle production and the comparatively wealthy people benefit, while those most in need of farm land obtain merely transitory access to the land. Part of the irony is that in most cases small land holders manage the land in a more sustainable way, using fallow cycling and leaving intact forest areas. Conversion to cattle ranches, however, generally eliminates most of the area's biodiversity. Small land holders often decry that their impacts on the land are minimal, suggesting that evictions should begin with the wealthier ranchers. As a result, the government's hesitancy to apply the law against the more powerful[32] land "owners" promotes a general disregard for rules regarding the protected area.

Given this exceedingly complicated social scenario within the Maya Biosphere Reserve, diverse stakeholders have suggested the following types of changes:

a) Eliminate the Maya Biosphere Reserve
b) Re-designate "failing" Core zones as forest concessions
c) Increase access to some renewable resources within Core zones
d) Develop the archaeo-nature tourism model (developing another "Tikal")
e) Develop "conservation incentives" for local employment in management
f) Strengthen forest concessions (to ensure their persistence)

g) Grant concessions to Multiple-use zone areas still retained by the government
h) Resettle communities impacting areas of high biological importance

Conclusions

In the future, conservation efforts in the Maya Biosphere and across Guatemala are likely to be shaped by the dramatic population expansion in the country. Although currently Ladinos constitute the vast majority of new colonists arriving to the Biosphere, at some point, modern Maya may want increased access to the land, posing new challenges for management paradigms developed during the last century. In addition, increased governance will be essential to integrate development and improve living and working conditions for the significant percentage of the population living in poverty. Because many types of national and international investment stand to be threatened by a continued lack of governance, the broader conservation community should integrate conservation concerns within the dialogue about the sustainability of all management and development initiatives.

In view of the complex social history of the space now known as the Maya Biosphere Reserve, the future management of the area will require monitoring key social variables as well as biodiversity indicators. Although Guatemala has nearly twice the population of the next most-populous Central American nation, it still contains the greatest amount of intact habitat in the region – largely as a result of the visionary establishment of the Maya Biosphere Reserve. In this sense, Guatemala is uniquely positioned to benefit from the development of new, socially viable strategies that advance conservation over the long-term, and provide a model for other nations bound to encounter similar challenges in the future.

[1] Conservation International
[2] *State of the Wild* 2006, eds. Wildlife Conservation Society
[3] Personal communication, Carlos Albacete, Trópico Verde-Parkswatch
[4] (i.e., Cruce dos Aguadas)
[5] In general, community-based forest concessions are permitted access to non-timber forest products including subsistence use of game species, whereas the two industrial concessions in the MBR (La Gloria; Paxbán) only have rights to timber. In this regard the industrial concessions have not displaced collectors and local industries harvesting there prior to concession establishment.
[6] *"Acuerdos de Intención"* include three models of agreements: Cooperation (permanence), Cooperation-Relocation, and Possible Relocation (FIPA/USAID, 2002). Agreements allow occupancy of a Core zone area, in some cases with individual plots identified, but the government reserves the right to withhold title (the granting of title being illegal within MBR Core zones), often including the option to relocate colonists in the future. Agreements typically also included language as to the government's responsibility to provide social services such as education and medicine. Provision of such services in the remote parts of the MBR has been inconsistent at best, permitting a number of the communities with "*Acuerdos*" to conclude that "the government had defaulted on its promises, so we too will not be bound by previous agreements." In fact, most communities that received agreements have grown significantly.
[7] Primarily in Laguna del Tigre Nacional Park and Sierra del Lacandón National Park.
[8] Based on remote sensing of deforestation, illegal colonization of the MBR did in fact drop between 1998 and 2002 after a seven-year surge in colonization ending in the big push into Laguna del Tigre in 1996-97. By 2003, however, colonization had spiked again at an even higher level than in the mid-1990s (CONAP 2006). This trend continues.
[9] Critics of the strategy suggested that agreements with colonists within Core zones would only provide the opposite effect of that desired, namely that they would provide an incentive for colonization to continue (domino effect) based on precedent. Supporters of the strategy generally believed that resolving the conflicts of 1996-97 by signing agreements would help gain support for CONAP and lessen the likelihood of wide scale ecological sabotage via fire, thereby helping to conserve areas remaining intact. Supporters also believed that the Guatemalan government was not prepared to use force to evict illegal colonists. (Note: the Peace Accords ending Guatemala's 36-year civil war were signed in December 1996.)

[10] A complete review of the topic is provided in: FIPA/USAID (2002). *Evaluación del impacto y sostenibilidad de los acuerdos de cooperación y de reubicación para la conservación de los recursos naturales en la RBM*. FIPA/IRG/USAID.

[11] Diamond (2005) mentions these figures for the Central Petén area, an area approximately 25% of the area of the "lowland" Maya Forest. Coe (1984) mentions a figure of 8-10 million people living during the population peak in the lowland areas. Culbert and Rice (1990) and Sharer (1994) mention 3 to 13 million.

[12] Regarding this topic, Mann (2005) states "we now know that the fall was not quite as rapid, dramatic, and widespread as earlier scholars believed. Nevertheless, it was an extraordinary event: the disintegration of an entire social order, followed by a massive emptying-out of a once-populous and once-prosperous land. Rare is its equal in world history." In contrast, Diamond (2005) stresses that a number of different "collapses" occurred as civilizations overreached their carrying capacities, leading up to the final Diaspora from the southern lowlands in the 9th century AD.

[13] Jared Diamond (2005) discusses in detail why scholars are now moving away from theories that focus on one monumental "collapse," instead trying to understand how numerous collapses occurred across time and space, and indeed how some of the areas increased in population while others disappeared.

[14] The populations of the southern Maya heartlands were reduced by 75% in the 100 years that followed 869 AD (Mann 2005).

[15] Diamond (2005) mentions the more modest figure of 30,000 people living in the Central Petén when the Spanish arrived, a figure that corresponds reasonably well with Schwartz's estimate of the Itzá in Central Petén.

[16] For example, native Itza speakers now number no more than 100, and are generally limited to the municipality of San José, on the northern shore of Lake Petén-Itza. In the 1990s the Itzá were, however, able to obtain a 3,550 ha municipal reserve.

[17] However, figures cited by Schwartz (1990) for the two latest dates are roughly twice the size of those provided by Arrivillaga (1997), who estimated Petén's population to be 64,503 in 1973, and 162,874 in 1982.

[18] Personal communication from Carlos Albacete, Trópico Verde. Nevertheless, inhabitants of villages such as Carmelita, Uaxactún, and more recently other villages with legal recognition within the reserve are able to obtain security for their homestead plots (only), consisting of non-transferable "*derechos de alquilamiento*," or renter's rights. Also, a number of "landowners" have come forth in recent years claiming to have received "rights" to areas during the time of FYDEP's administration.

[19] To a great extent, the same effect of MBR establishment befell the "*xate*" palm industry that was first established in Petén in the 1960s and continues today as one of the most important sources of income for rural MBR communities.

[20] Tikal National Park was created by IDAEH (Guatemalan Institute for Anthropology and History) in 1955. In the 1970s, a majority of Tikal's inhabitants (>200) were peacefully resettled to the village of Ixlu prior to the park's inscription as a UNESCO World Heritage Site.

[21] "Biotopes" are fully protected areas that were established by the University of San Carlos in 1986, and incorporated into the MBR as "Core Zones" with its creation in 1990. USAC's Center for Conservation Studies (CECON) remains co-responsible for the management of these areas.

[22] In most cases the effects of this displacement manifested as late as 1994-1995.

[23] CPR members in many cases were women and children, seniors, and others unable to fight in the struggle. They took refuge in Sierra del Lacandón due to its challenging topography, abundance of caves and fresh water, expansive intact forests, and its proximity to Mexico.

[24] Nevertheless, "illegal" NTFP harvests continue in all Core zones, primarily xate, and secondarily chicle and allspice.

[25] While this analysis is based on a legal interpretation of the Law of Protected Areas, the reality in many cases has been quite the opposite. For example, 10% of the surface area of Laguna del Tigre National Park is now occupied by pastoral and agricultural activities. Although illegal, many colonists have been able to obtain standing in Core zones due to their willingness to use force, their capacity for resistance, and in some cases due to the signing of "*Acuerdos de Intención*" that permit their presence in Core zones.

[26] Nevertheless, in 1992, the Guatemalan government extended new "exploration concessions" within Laguna del Tigre National Park – from 1997 on, the Guatemalan government received significant criticism from activists for extending concessions within the Laguna del Tigre Core Zone after MBR establishment. Note: Guatemala's most productive oil field, Pozo Xan, also located within Laguna del Tigre, was awarded as a concession prior to the MBR's establishment.

[27] In practice, however, a number of new informal roads have been constructed in the MBR's Core zones, primarily Laguna del Tigre National Park.

[28] A broad social movement against the Arzu government's proposal to develop petroleum concessions across the MBR Multiple Use Zone effectively blocked this activity in 1997-98-99. Interestingly, once community concessions began to be approved, many local people living within the reserve raised their voice against petroleum concessions, fearing the destruction of the natural resources they had fought so hard to control. In this sense then, the establishment of the MBR had the counter effect of "displacing" the government's intention of developing petroleum, despite the activity being within the boundaries of the law (within the Multiple Use Zone only).

[29] In some cases such threats have indeed been carried out. In addition, governmental, national, and NGO conservation projects have been forced to abandon areas at different points in the history of the reserve: WCS-CONAP-IDAEH personnel were taken hostage and later abandoned the area of eastern Laguna del Tigre in 2005; CECON-USAC was forced to abandon installations in Rio Escondido Biotope, part of Laguna del Tigre National Park in 2004; CONAP-Defensores de la Naturaleza has evacuated personnel from El Porvenir several times since 2000; ProPetén/Conservation International's biological station was burned in 1996.

[30] "Owner" is not used in the literal sense, as true titles to these areas do not exist. Nevertheless, clearly a well organized market for land within the Maya Biosphere Reserve exists, especially within Laguna del Tigre National Park and to a lesser degree within three forest concessions.

[31] In this sense, in many cases landless or wage-based *campesinos* are used as "fronts" for the objectives of *terratenientes* looking to expand their access to land.

[32] However, it is important to note that in June 2006, the Guatemalan Government and CONAP exposed a massive network of falsified "land titles" within the MBR Core zones of Laguna del Tigre and Sierra del Lacandon. All of these were claimed by "*terratenientes*" identified by the national press as powerful *Narcotraficantes*.

2.3 Impacts of Displacement in the Pacaya-Samiria National Reserve, Peru

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The Pacaya-Samiria National Reserve is the largest protected area in Peru spanning over 2,000 km² of tropical rainforest. The Reserve is a truly exceptional wilderness area. It is a unique flooded forest that has some of the greatest diversity of animals and plants found anywhere on Earth (INRENA 2000). It is at the point where the Amazon River begins its long journey to the Atlantic Ocean, passing through parts of Peru, Colombia, and Brazil. The two major rivers that border the reserve are the Ucayali and Marañón rivers that originate in the Andes and join to form the Amazon proper. The huge floodplains of these rivers have produced the low-lying flooded forests of the reserve. The rivers are rich in sediments, which are deposited on the forest floor and the water becomes infused by dark tannins from the leaf litter when it flows out of the forest.

The aquatic and terrestrial wildlife of the Pacaya-Samiria National Reserve basin has recovered significantly over the past decade (Bodmer et al. 2004). The river has a particularly large population of river dolphins and is the last remaining refuge for the Amazon manatee. Giant river otters are also returning and every year more are sighted in the rivers, lakes, and channels. There are 12 species of primates in the reserve. Macaws and wading birds are abundant, as are game birds. Peccaries, deer, tapir, and capybara are also on the increase. The caimans and turtles have rebounded and are now common.

The Pacaya-Samiria National Reserve has approximately 95,000 people living in villages and towns along its boundary (INRENA 2000). Some of the villages lie just inside the reserve but there are no human settlements within the core area. Most of the inhabitants are Cocama-Cocamilla Indians (Puertas et al. 2000) who still live as they did centuries ago: They fish and hunt, collect forest fruits, and have small slash and burn gardens. They travel in small dugout canoes and live in thatched roofed houses made from trees and palm fronds from the nearby forest. The Cocama-Cocamilla people are renowned for their mobility: Families move continually between villages (Newing and Bodmer 2004). They have always adapted to other societies and integrated well with the influx of European customs brought by missionaries and the rubber boom.

The Pacaya-Samiria National Reserve is an excellent case study for understanding the displacement of human settlements in protected areas and the importance of local communities to wildlife conservation.

History of Human Populations and Displacement in the Area

In 1880 the geographer Antonio Raimondi produced a detailed map of the area that now encompasses the Pacaya-Samiria National Reserve. In the late 19th century there were several Indian groups living along the Samiria and Pacaya Rivers, including Cocamilla, Conibos, Chamicuros, Aguanos, and Puinaguas (Raimondi 1880). Indian villages were distributed throughout the two river basins, inside what is now the core area of the Reserve. In addition, recent archaeological finds within the interior of the reserve confirm the presence of human settlements prior to the establishment of the protected area (Morales Chocano 2002).

When the protected area was initially established in the 1940s during the Pardo government, settlements within the interior of the Reserve were relocated to the reserve boundary. This displacement of people probably disadvantaged them because the interior of the Reserve has higher levees that rarely flood, whereas lands at the Reserve boundary are low-lying and flood. When the Reserve was established, the Regional Director of Fisheries planned to use the area as a fisheries reserve for the state, with an emphasis on the large freshwater fish, especially the *Arapaima gigas*, locally known as paiche in Peru and pirarucu in Brazil. Informal conversations with local elders reveal that the Regional Director of Fisheries sent barges with military personnel into the Reserve to forcefully relocate villages to the boundary. Fisheries stock was to be sold in Iquitos for profits to the state – appropriate for a "national reserve": an area managed by the state for the benefit of the state.

History of Resource Restrictions

The Reserve initially included only the Pacaya river basin. In 1942, it was expanded to include the Samiria river basin (*Plan Maestro de la Reserva Nacional Pacaya-Samiria* 2000). In 1972 the area was decreed as a National Reserve covering 1,478,790 ha and in 1982 the Pacaya-Samiria National Reserve was expanded to its current size of 2,000,080 ha. The Peruvian Ministry of Agriculture under the *Dirección Forestal y de Fauna* (now INRENA) became the major governmental institution responsible for management (*Plan Maestro de la Reserva Nacional Pacaya-Samiria* 2000).

During the first Management Plan period between 1986 and 1992 the Reserve was funded in large part by World Wildlife Fund (WWF). A system of park guards was implemented and a set of strict controls on local people was developed. During this period the actual enforcement of rules was limited due to a lack of financial resources and capacity. Local people were allowed to use fish and wildlife resources in restricted areas. Poaching or the illegal extraction of natural resources was frequent and involved the local communities living around the boundary of the Reserve. A game of cat and mouse developed between the poachers and the park guards.

In 1992, The Nature Conservancy together with US Agency for International Development and ProNaturaleza began a well funded project as part of the Parks in Peril program. This project reinforced the park guard system and worked with local communities on rural development. Parallel to the Parks in Peril program was the WWF-funded program that focused on local community participation in the Reserve and the acknowledgement of indigenous communities of Cocama-Cocamilla origin. The top management of the Reserve experienced frequent turnover until a strict protectionist was hired, and he implemented a system of rigid control of access to the Reserve. By then, the park guard system was relatively well established with help from the Parks in Peril program.

The authors were involved with both the Parks in Peril program and the WWF projects. We conducted census work of mammals throughout the Samiria river basin and set up participatory programs with local people to evaluate the use of wildlife resources by local communities (Aquino et al. 2001; Puertas et al. 2000). During the census work many poachers hunted within the Reserve and it was clear that animals were being hunted in "no-use" zones (Bodmer et al. 1999). Poaching was rampant and local people developed a sophisticated system to avert park guards. This was relatively easy in the flooded forest ecosystem, because there are innumerable access points through the abundant

water channels. Local people in small canoes could easily travel through the landscape and during park patrols poachers would sink their canoes and products underwater and hide within the forests.

The park guards confiscated any products, guns, fishing nets, supplies, and even the canoes. Park guards, however, do not have the power to make arrests, and need to call the Peruvian National Police to actually arrest poachers. During this period, the tension escalated between the Reserve management and the local people. In November of 1997, a group of local fishermen had their nets confiscated. This had a major economic impact on them, since they had borrowed money to purchase the nets. In retaliation, the fishermen attacked a park guard station, armed with machetes. The attack resulted in the killing of the two young biologists at the station and one park guard. The news made national headlines and the situation clearly required attention by INRENA.

Shortly after the attack on the guard station, the head of the Reserve was replaced by a new leader, who began to involve local people in the management of the Reserve. This included setting up management groups with responsibility for a lake or area of the Reserve. These groups are allowed to use a limited amount of natural resources, including hunting, under approved management plans. At the same time, the groups are responsible for helping to control poaching in that area. While not all of the management groups have been successful, it was an important change for the Reserve.

The Pacaya-Samiria National Reserve has seen several types of displacement. Initially, the displacement included the physical removal of entire villages to the boundaries of the Reserve. Later, the displacement included the prohibition of using natural resources from the Reserve by local communities and the local indigenous organization (AIDECOS) still claims that the entire Reserve belongs to the Cocama-Cocamilla ethnic group and that the Reserve should be annulled and converted to an indigenous territory.

Impact of Displacement

The information below on the displacement during the 1990s, when access to the Reserve was strictly controlled, is based on both the attitudes of the communities and the impact that regulations had on wildlife. During this period of strict control, the local people stated that they had no long-term vision for the Reserve and feared that the reserve administration would implement ever-stricter measures in the future. This encouraged them to hunt as much as possible in the near-term since their future was uncertain. As a result, most community members supported or abetted poaching activities.

When the park administration changed and the Reserve began to incorporate the local communities in management, attitudes of the local people changed (Puertas et al. 2000). Many local people began to see the long-term benefits of the Reserve for them and their communities. Many local people now recognize the socio-economic benefits of the Reserve and are helping to conserve the area. Hunting has decreased substantially because ownership of management has reduced incentive for poaching and because local people protect their areas from external poachers. For example, in the community of San Martín de Tipishca, Samiria River, a 1997 assessment recorded 115 animals hunted whereas in 2004 it was only 42.

Animal censuses were conducted during the shift in management policy of the Samiria river basin. Censuses were compared between 1995 and 2005. (The 1995 data correspond to the period of strict control by the Reserve administration, whereas the 2005 data correspond to the period of local involvement in

Reserve management.) In both periods hunting was not allowed in the Reserve, but in the 1990s there was severe poaching.

Results of animal censuses in the Samiria river basin clearly show a general increase in animal densities between the period of strict control and the period of local community involvement. White-lipped peccary, howler monkey, woolly monkey, lowland tapir, and agouti densities have shown increases between 1995 and 2005, whereas collared peccary densities have remained stable (numbers for white-lipped peccary [Figure 1] and howler monkey [Figure 2] below). The abundances of giant river otters, Amazon manatees, and black caimans have also shown increases between similar periods.

The wildlife census shows that animal populations in the Samiria river basin recovered in the period that incorporated local people in Reserve management. While this is only a correlation, we feel that the cause and effect can be justified by the changes in attitudes of local people between these two periods. In the period where management incorporated local people in management groups, local people were (and are) permitted to hunt a set number of animals if their management areas fall within the "use" zone of the Reserve. These quotas are set in the management plans by the management groups. There is no hunting permitted in the 'core' area of the Reserve, as this area acts as a source area for wildlife populations and is fully protected.

It is likely that the success of management changes is related to the Cocama-Cocamilla culture, which is known for its adaptability to changes. They adapted well during the rubber boom period between 1890 and 1912, and during other socio-economic periods of the 20th century (Newing and Bodmer 2004). This made it easier for them to socially and culturally withstand the initial relocation to the border of the Reserve and the period of strict control of access to natural resources. They have adapted rapidly to the new management system and now generally do not have negative views of the Reserve administration, despite historical conflict. This has permitted them to change their views of the reserve and move from being poachers to managers.

The Pacaya-Samiria Reserve still has conservation problems: Over the past five years, illegal extraction of mahogany timber has been prevalent. Most of the illegal loggers are not from communities around the Reserve but are contracted from other areas. Local communities have been involved with confiscating illegal timber, but their ability to stop the extraction is limited. As yet, the illegal timber operations have not had a noticeable impact on wildlife populations. We believe this is because the timbermen rely more on fish than on terrestrial wildlife for food, and many use axes to fell trees. Illegal timbermen avoid the use of shotguns and chainsaws in order to reduce the level of noise and in turn the chances of being detected by park guards or patrols by local management groups. The impact of the illegal timber operations affected broader conservation of the region of Loreto. Indeed, the regional government has used the argument that illegal timber extraction in the Pacaya-Samiria National Reserve proves that protected areas do not function, and is therefore reluctant to support new protected areas.

Figure 1: White-lipped peccary

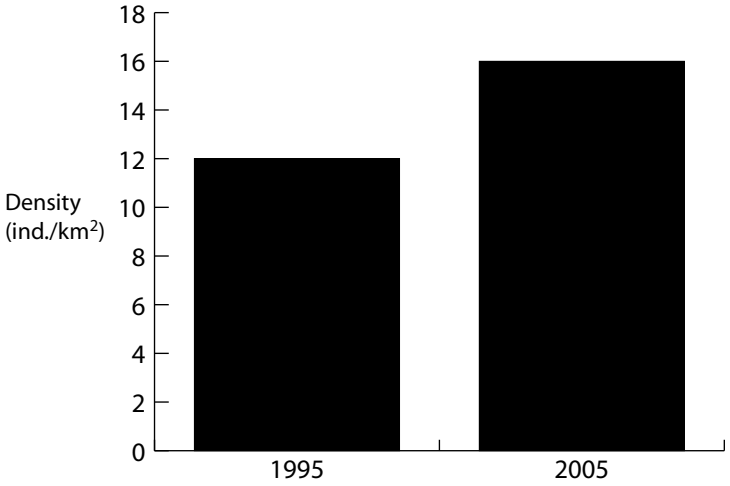
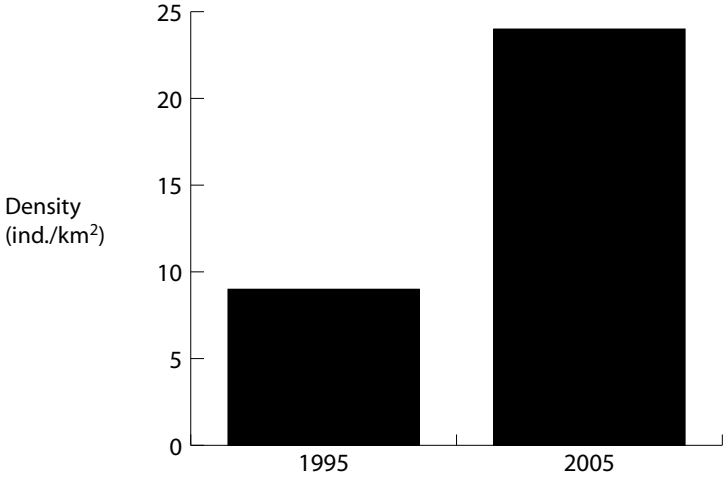


Figure 2: Howler monkey



2.4 Multiethnic Dynamics, Protected Areas, and Human Displacement within the Kaa-Iya Greater Landscape, Bolivia: Indigenous Peoples, Building Alliances, and Governing and Managing Protected Areas

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The Kaa-Iya Greater Landscape is located in the Department of Santa Cruz, Bolivia. This extensive area of approximately 80,000 km^2 within the Gran Chaco ecoregion is an important complex of habitat systems that include:

- Gran Chaco Wilderness Area (60,000 km^2), which includes the Arid Chaco (Boreal Chaco) and Humid Chaco sectors (transition to Pantanal). The Kaa-Iya National Park and Natural Integrated Management Area (KINP) provide protection to 34,000 km^2 of the core wilderness area, including the Bañados de Izozog-Río Parapetí and Salinas de San José/Palmar de las Islas Ramsar wetland sites, the TCO Isoso Indigenous Territory (19,000 km^2), and the Yembiguazu Immobilized Indigenous Area (10,000 km^2).

- Amazon plains and basin transitional zones (10,000 km^2). North of the Gran Chaco, this region includes the plains between the Río Parapetí Bañados-Laguna Concepción hydrological corridor and the Rio Grande Basin. The intensive agricultural frontier of Santa Cruz is in this area.

- Chiquitano Forests and Eastern Andean Piedmont transitional zones (10,000 km^2). The Piedmont region has no protected areas. This area is sparsely populated with indigenous and *mestizo* communities settled along the railway line, gas pipelines, and the recently paved highway connecting Santa Cruz and Argentina. Land use in the Piedmont has traditionally consisted of livestock grazing. This narrow strip of land will experience the greatest change due to highway and natural gas development.

The core of the Kaa-Iya Landscape includes 1) the Kaa-Iya National Protected Area (3.4 million ha) created on November 1995 by presidential decree, and 2) the indigenous territory Tierra Comunitaria de Origen (TCO) Isoso (1.9 million ha), or Aboriginal Common/Community Land declared in October 1996.

The National Protected Areas System of Bolivia (SNAP) was created by the Environmental Law #1333 in 1992. The law's rationale declares that protected areas are created "under state protection, with the purpose to protect and conserve the wild fauna and flora, genetic resources, natural ecosystems, hydrographic basins as well as scientific, aesthetic, historic, social and economic values;…to conserve and preserve the natural and cultural national patrimony." Between 1994 and 2002 additional laws and regulations configured conservation and property regimes that delineate access to natural resources and land. The Kaa-Iya Landscape represents an array of units that are under different conservation and property rights and use systems. Consequently, the Landscape requires multiple management structures and a broad array of actors in order to effect long-term conservation.

Bolivia: Protected Areas and Indigenous Peoples Territories

Most protected areas in Bolivia are a combination of conservation (all IUCN categories) and management regimes that range from strict protection to the open "Natural Integrated Management Areas." However, even the most restricted areas recognize the rights of itinerant indigenous groups, such as the Totobiegosode clan of the Ayoreode people who have chosen to remain in voluntary isolation from the national society and spend time in the Kaa-Iya National Park.

Table 1: Protected Areas and Conservation Units

Conservation Unit	IUCN Categories	Governance Structure
Kaa-Iya National Park (34,000 km^2)	This national protected area includes: 1) Strict protected areas corresponding to IUCN Categories Ia, Ib, II 2) National Park for ecosystem protection and recreation and cultural significance corresponding to IUCN Categories II and III 3) Integrated Management Areas corresponding to IUCN Categories IV and VI	1) Capitania de Alto y Bajo Isoso (CABI)[1] is the administrative, financial and institutional manager of the protected area through a Co-Administration Agreement with the Ministry of Sustainable Development. CABI's role includes constructing alliances for financial sustainability of the area. 2) Management Committee (MC). CABI leads the Kaa-Iya's MC which includes representatives of municipalities, the departmental government, indigenous organizations, and the National Park Service (SERNAP).[2]
Laguna Concepción Departmental Protected Area	A set of zones under IUCN Categories Ia, Ib, and Ic	An environment management unit of the Santa Cruz government responsible for general administration and financial management.
Ramsar Sites: Bañados de Isoso/Río Parapeti Ramsar site	Protection and use according to the RAMSAR Wetlands Convention	This site extends over parts of the Isoceño TCO Indigenous lands, the Kaa-Iya National Park, private properties, and use concessions such as the Bolivia Brazil Gas Pipeline.

Table 2: Indigenous Territories[3] (TCO)

Indigenous Territories	Relation to Protected Areas	Governance Structure
Isoceño TCO 1.9 million ha	Adjacent to the Kaa-Iya National Park along its western border	The Great "Capitania" (Chieftain) Assembly
Ayoreode TCO: Santa Teresita and Guidaichai, Poza Verde communities	The Ayoreode indigenous territory is on average 20 km from the eastern border of the Kaa-Iya National Park. The Ayoreodes use portions of the protected area for hunting and gathering.	Council of family clan leaders
Yembiguazu Immobilized[4] Reserve	Adjacent to the eastern border of the Kaa-Iya National Park. This is a multiethnic area (Ayoreode, Guarani, Chiquitano) and also includes private land owners (ranchers) and a portion of the Bolivia-Brazil gas pipeline.	None
Ayoreode Clan Totobiegosode	This is part of an Ayoreode clan that remains in voluntary isolation from the national society. One part of this clan decided to join a colony sponsored by evangelical churches. Based on testimonies, the remaining clan has about 40 to 60 members and uses part of the southeastern zone of the Kaa-Iya National Park.	Clan leaders council

Table 3: Private Properties, Concessions

Private Units	Relation to Protected Areas	Governance Structure
Private Properties	Private properties ranging from big ranches (5,000 to 30,000 ha) to medium ranches (2,500 to 5,000 ha) for an estimated total 50 properties covering 300,000 ha inside, overlapping, and adjacent to the Kaa-Iya National Park. They make use of the PA resources and services (hunting, grazing, water).	Ranchers' Association, organized at the municipal and departmental levels.
Bolivia – Brazil Gas pipeline	The Right-of-Way of this gas pipeline is a transect 30 meters wide and crosses 161 km of the Park	1) Trans Bolivian Gas (Gas TransBoliviano, S.A., or GTB) manages the pipeline. 2) The Kaa-Iya Foundation[5] provides a "governance structure" to address the long-term environmental and social impacts of the gas pipeline.

Principal Land Uses in the Landscape

The Kaa-Iya National Park was created with the purpose of protecting and conserving the wild fauna and flora, including endemic and endangered species such as the Chacoan peccary, Chacoan guanaco, jaguar, white-lipped peccary, blue-fronted Amazon parrot, and genetic resources generally. It was also created to protect natural ecosystems, hydrographic basins, and the environmental services that they provide, such as watersheds for the Parapeti River, Bañados de Isoso floodplain, and Palmar wetland. On a social side, the park was created to protect social and economic values, to support livelihoods of indigenous and local people, and to protect the natural-cultural heritage, such as the Yandeyari sacred spiritual site for the Isoseño Guaraní.

In the Kaa-Iya National Park, biodiversity and ecosystem conservation accounts for approximately 93% of the area. Principle land uses in the protected areas are ranching (3%), while other subsistence uses (hunting, fishing, gathering) cover 3% of the land and concessions for the pipeline constitutes about 1% of the land. In the TCO Isoso indigenous territory, land uses include ranching (approximately 55%), agriculture (3%), and subsistence uses (16%). The TCO Isoso sets aside 29% for conservation.

Human Populations and Relationship to Resources

The multiethnic dynamics of indigenous peoples prior to 1900 included a diversity of territorial ethnic groups that ranged from small nomadic groups to complex federations of clans (such as the Guaranís and Isoseños). In the middle range were groups such as the extinct or assimilated Chanés and the Chiquitanos.

Guaraníes: Ava, Isoseños and Chanes

The Guaraní (Chiriguano) had dominion over Cordillera, Chaco, and the eastern plains, and became the most powerful indigenous people in this period. They subjugated Arawak groups (Chanés) and alternately negotiated and warred with the Colonial and Republican systems. In 1890 the messianic leader Apaguayqui Tumpa led a rebellion against the Republic which was defeated, and the Chiriguanos were reduced to religious missions, ranches, and military camps.

Chiquitanos

The Chiquitanos group was an invention of the Jesuit–Franciscan (1600-1870) Mission community model of territorial productive organization and popular religion, which transformed more than 40 diverse groups into the Chiquitanos. Despite sporadic resistance to the advance of the Spanish conquest and colony, the Chiquitanos were considered allies and fought alongside Spanish forces.

Ayoreodes

The Ayoreode clans chose to stay in the forests, avoiding permanent contact for 400 years.

Colonial Society: Caucasians and "Mestizos"

Cities like Santa Cruz de la Sierra became political, economic, social, and administrative centers for the region, promoting a web of small cities and villages in the Chaco and Chiquitania sub-regions. Between 1900-1960, highway and railroad development dramatically changed emigration and occupation of indigenous territories.

The Guaraníes were defeated militarily and faced a new pressure: the expansion of the "hacienda system," which fragmented and weakened their traditional systems of organization and authority. The Chiquitanos increasingly migrated to areas near railroads, abandoning their traditional lands and losing these areas to later immigrants. The Ayoreodes were reduced and incorporated into missions as "child-persons," while some clans among them stayed in the forest in isolation. Added to this was a new phenomenon: the immigration of Andean peasants from highlands to join "*Sindicatos and Cooperativas de Colonos Campesinos*" (peasant cooperatives and syndicates) to access land.

After 1960, the combination of infrastructure and urban development, ranching expansion, and the beginning of migration from the Aymara-Quecha Andean regions caused massive displacement of the indigenous groups. The relatively successful Isoseño group managed to retain 50,000 ha of their original domain of 3 million ha. The Ayoreode were reduced to three community lands (5,000 ha). The Chiquitanos were reduced to the conditions of small individual proprietors with an average of 25 ha per family.

After the Creation of the Protected Area

A fundamental departure from the history of displacement came in the process of creating the protected areas in Bolivia (16 million ha), and the recognition of lowland indigenous peoples' territories (11 million ha). In particular was the Kaa-Iya National Park, as it is under the administration of indigenous people.

Indigenous Peoples

The largest group, the Isoseño-Guaraní, have about 10,000 members. They administer Kaa-Iya NP, are employed as park guards, and pilot tourism efforts.

(They hunt, gather, and farm in neighboring Isoso TCO.) Their claim to the resources is based on historical occupation, indigenous people's identity and cultural values, and livelihood dependence on natural resources.

The next largest group, the Chiquitano, at 5,000 people, also claims rights to the land based on historical occupation and livelihood dependence on natural resources. They are employed as park guards and in tourism, and they hunt, gather, and farm in neighboring community-owned lands.

The smallest indigenous group, the Ayoreo, has approximately 100 members. They hunt and gather in areas between Paraguay and Bolivia. Settled families from this group hunt and farm in Santa Teresita TCO and on the outskirts of Kaa-Iya NP. Almost all their livelihood comes from natural resources.

Non-indigenous residents include the approximately 7,500 mestizo proprietors and Mennonites. They use the protected area for ranching, agriculture, hunting and gathering, and benefit from its environmental services, such as water. Their claims on the resources are based on economic development and laws protecting private property. Other non-indigenous groups who do not currently use much of the resources from the protected area, but are poised to use the resources, are peasant organizations. Their claims to the land are based on their historical displacement from elsewhere and human rights. Finally, residents in nearby municipalities are poised to access environmental benefits from the NP in the near future (water, timber, etc.).

Conservation Action

Resource Restrictions

For the Ayoreodes, Isoseño-Guarani, and Chiquitano, the resource restriction posed by the National Park is minimal and is felt mainly in the form of restricted commercial hunting, which affects a handful of would-be commercial hunters. The majority of traditional uses are protected. The restrictions were established by CABI and indigenous community leaders and are compatible with their traditional use of wild resources. Private landholders are restricted from commercial and sport hunting, and some ranching, reducing potential income. Peasant groups are restricted from hunting, converting or living on land in the National Park, which limits their access to livelihood resources and is a significant disappointment to them. These restrictions are established and enforced by CABI, INRA, and the Departmental government. The gas pipeline owners and builders are restricted only in that they are asked to account for their environmental impacts, affecting the GTB and sub-contracted firms, who do not seem burdened by the requirements.

WCS Landscapes

WCS activities are concentrated in two main regional areas: the Madidi and Kaa-Iya landscapes. In both, WCS has maintained strategic long-term commitments.

Both landscapes represent a critical stronghold for biological diversity representative of entire ecoregions: Amazonia, Andes (eastern), Chaco-Chiquitanía and their respective transition zones. They also represent a scale of work that allows our teams to take responsibility for bringing together the multiple elements (e.g., scientific knowledge, individual and institutional capacity, long-term financial strategy) required for successful conservation interventions. WCS has achieved a strong record of building alliances and partnerships with local and national groups to create synergies and multiply the conservation impact of conservation programs. Our experience demonstrates the critical role that

site-based programs play in turning concepts into results. This positions WCS to work in partnership with local people to respond to the threats from highway and hydrocarbon development, and to conserve the region's unique biological diversity and build a local constituency based on enhanced, sustainable livelihoods.

WCS:

- Supports our partners to conduct applied research to improve land management;
- Develops a broadly shared landscape conservation vision through the integration of improved planning and management at different scales and across different jurisdictions;
- Ensures the economic and environmental sustainability of conservation and development initiatives;
- Constructs a combination of partnerships, governance structures, technical and administrative capacities, and finance mechanisms that guarantee efficiency, transparency, and accountability over the long term for all participants in the regional programs;
- Monitors changing conditions, including the impacts of WCS activities, and makes appropriate adjustments in implementation.

WCS-Specific Activities in the Kaa-Iya Landscape

WCS' principal strategic partner in the Kaa-Iya Landscape is CABI. WCS provides support to CABI in institutional strengthening, applied research, and environmental education to promote the sustainable use of natural resources (wildlife, fish, forestry resources, water resources, rangelands), land-use planning, and generating conservation alliances that will favor long-term conservation across the Kaa-Iya Landscape. An important new partnership between CABI and the gas pipeline company GTB has created the Kaa-Iya Foundation to support conservation actions in and around the Kaa-Iya National Park. WCS also supports training and capacity building, particularly through CABI and the Natural History Museum.

WCS research focuses on landscape and endangered species, including jaguars. WCS is evaluating the conservation value of private reserves and certified forestry concessions in the region through research on jaguars and white-lipped peccaries, and is developing bi-national conservation initiatives (with Paraguayan counterparts) that focus on biological and cultural corridors and on the endangered Chacoan guanaco.

Besides WCS, other organizations working in the landscape include The Nature Conservancy, World Wildlife Fund, the Noel Kempff Mercado Natural History Museum, the Chiquitano Forest Conservation Foundation, and the Desdel Chaco Foundation. They are working to expand and maintain the full range of protected areas (international, national, departmental, municipal, communal, and private) as a benefit to the population in general, as well as to strengthen the rights of indigenous peoples in order to prevent their displacement.

Future Developments

WCS focuses on necessary bi- or multinational initiatives toward effective cross-border coordination on the range of issues that shape biodiversity conservation and sustainable land use. WCS has been forming alliances to address challenges at this broader dimension: 1) Madidi-Manu complex initiative integrating

environmental and social actions between Bolivia, Peru, and the areas of Brazil articulated by the biocenic transport corridor; and 2) The Chaco and Dry Chiquitano Forest, the Gran Chaco Ecoregional Assessment, led by TNC, and currently the Regional Public Goods Initiative for the conservation of the Gran Chaco, supported by the Inter American Development Bank (awarded to the consortium of TNC, WCS, Desdel Chaco Foundation-Paraguay, and Fundacion Vida Silvestre Argentina).

Bolivia is undergoing a dramatic juncture in defining the structure of its government as it transitions to a nationalist government. The changes in the constituent assembly and other processes pose political and social tension regarding ownership, management, and use rights of land. In this climate of change, governments and groups are vying to protect their "rights" over these lands and natural resources.

Non-indigenous residents such as the peasant organizations of the Aymara and Quechua peasants and "*Sin Tierra* Movement" have announced their plan to occupy "free lands" within protected areas and TCOs in the region. These settlements' legitimacy, sustainability, and effect on indigenous populations are of concern. Other organizations which may displace local use of the National Park and TCO in the near future are land speculators and the military.

[1] Capitanía de Alto y Bajo Isoso, Captaincy of Upper and Lower Isoso. Indigenous organization representing the Guaraní people of Isoso, or Isoceños.

[2] SERNAP is Servicio Nacional de Áreas Protegidas, or National Protected Area Service.

[3] TCO – Tierra Comunitaria de Orígen, or Aboriginal Common/Community Land. Official term used in Bolivia to refer to indigenous territorial claims.

[4] Immobilized refers to the fact that the government has recognized that there is a legitimate indigenous land claim for this area. Until the documentation has been reviewed, and the rights of the indigenous claimants and private landowners have been established, the area has been immobilized; that is, no land may be bought or sold in the area until the boundary definition and titling process required by law have been completed.

[5] The Kaa-Iya Foundation has GTB and CABI (an indigenous organization) representatives as the two founding members and directors, with the mission to ensure the long-term conservation and sustainable use of the Kaa-Iya Greater Landscape.

PART 3
ASIA

3.1 The WCS Cambodia Program in the Seima Biodiversity Conservation Area (SBCA)

Tom Evans
Wildlife Conservation Society Cambodia

The WCS Cambodia Program works at six main sites. This account focuses on one, the Seima Biodiversity Conservation Area (SBCA), which covers 305,000 ha in Mondulkiri and Kratie Provinces, bordering Vietnam. The SBCA lies in the southern foothills of the Annamite mountain range. The southeastern part is hilly terrain at 100-700 m, grading into plains and low hills to the north and west. There is a complex mosaic of evergreen, semi-evergreen, mixed deciduous, and deciduous dipterocarp forest types. Most of the forest is in intact condition although there has been selective logging in some areas. Other habitat features include extensive bamboo stands, upland grasslands, numerous seasonal pools, and concentrations of mineral licks important for wildlife (Walston et al. 2001).

SBCA is classified as production forest since it lies within a logging concession. Following the withdrawal of the concessionaire, the site was established as a Biodiversity Conservation Area (the only one of its kind in the country) by Ministerial Declaration. SBCA is probably closest to IUCN Category VI (managed resource protected area). There is a proposal to declare the site a Conservation Landscape which would involve cancelling the concession, reclassifying approximately 2/3 of the area to Protection Forest and introducing management that emphasizes conservation and local livelihoods. If the proposed Conservation Landscape were established, large sections of the area would remain IUCN Category VI (managed resource protected area) while sizeable core areas would be established analogous to IUCN Category II sites (national park). To date 46 vertebrates of conservation concern (IUCN threatened, near-threatened, and data deficient) have been recorded in the SBCA. The large mammals are exceptional for Indochina, including substantial populations of rare ungulates (Asian elephant *Elephas maximus*, gaur *Bos gaurus*, banteng *Bos javanicus*, Eld's deer *Cervus eldii*), large carnivores (including tiger *Panthera tigris*, leopard *P. pardus*, clouded leopard *Pardofelis nebulosa*, dhole *Cuon alpinus*, and two bear species), and primates (eight species, including probably the most important populations in the world of two threatened species, black-shanked douc langur *Pygathrix [nemaeus] nigripes* and yellow-cheeked crested gibbon *Nomascus gabriellae*). The tiger population is currently low but is believed to have a high potential for recovery under long-term management. Three critically endangered bird species occur in small numbers (giant ibis *Thaumatibis gigantea*, white-shouldered ibis *Pseudibis davisoni,* and white-rumped vulture *Gyps bengalensis*). SBCA is one of the most important protected populations globally of both green peafowl *Pavo muticus* and orange-necked partridge *Arborophila davidi*. The most significant and threatened botanical communities at the site are the evergreen and semi-evergreen Annamite lowland

forests, which have high species diversity and are expected to contain high levels of endemism.

The SBCA was established in 2002. WCS works at the site in a long term partnership with the management authority, the Forestry Administration (FA). Approximately 2/3 of the proposed Conservation Landscape will be protection forest with conservation as a primary goal. The remaining 1/3 would remain as production forest for use in sustainable timber harvesting, tree plantations, etc. Both of these broadly defined zones contain enclaves of settlement and cultivation and large areas that support livelihoods based on the collection of non-timber forest products (NTFP). The NTFP areas have been recognized and will likely be incorporated into the new zoning appropriately.

Human Populations and Resource Use

Prior to 1900, there is sparse data, but it is thought that the upland ethnic minorities occupied northeast Cambodia for at least 2,000 years (White 1996) and that these groups lived at low densities and practiced a traditional lifestyle of shifting cultivation and harvesting forest products.

During the French colonial era in the early 1900s and in the early post-independence period (1954 onwards) Mondulkiri remained sparsely populated and experienced little development, with few large plantations and only one trunk road (Meyer 1979). Livelihoods remained based on shifting cultivation and forest products. There was some armed resistance to French control in the region and the local ethnic group, the Phnong, developed a warrior-like reputation (White 1996) with ambushes, after which the French lost control over parts of what is now the SBCA during the period 1914-1933 (M. Guerin, pers. comm., 2002). The French and later the independent Sangkum Reastr Niyum regime operated a gradual policy of assimilation ("Khmerisation") with the Phnong and other groups (Meyer 1979; White 1996; Melville 2000). This included sending over 250 Khmer families to settle in Mondulkiri (White 1996).

Human population in the region seems to have always been small with several shifts in the main centers of population. French military censuses during 1937-1942 found about 1 person/km^2 in the Poste Gatille area, the core of the current SBCA (M. Guerin pers. comm. 2002). Around the time of independence and following, government policy prescribed moving forest-interior villages to nearby main roads to improve government control and ease the provision of services. Through the late 1960s, the area became increasingly affected by the conflict in Vietnam, experiencing bombing and land incursions. Khmer Rouge revolutionaries took over the province in the early 1970s and shortly after came to power nationwide. The future SBCA area was almost totally depopulated as most inhabitants were translocated to another district to attempt collectivized farming. In 1979 the Khmer Rouge were ousted and people were allowed to return home. Many former Phnong village sites were reoccupied, often by the original residents or their children, but in some cases returnees chose new sites. Due to security problems the return was slow and many home sites were only reoccupied in the mid-1990s (Evans et al. 2003).

In 1995 Samling International, a Malaysian logging company, was issued a large timber concession extending from the future SBCA to the Mekong River. Between 1997-1999, Samling built a new road and logged most of the evergreen forest areas along it. They targeted *Dipterocarpus alatus,* a species whose liquid resin provides income to most local communities: In many villages 20-30% of tapped trees were lost (Evans et al. 2003). Due to widespread village protests and donor pressure, all logging concessions nationwide (including Samling's

Mondulkiri operation) were suspended in 2000-2001. At the time of writing the suspension continues but the concession has yet to be officially cancelled.

After the Creation of the Protected Area

The (re-)establishment of Phnong villages has slowed but migration into the area continues. Between 2001-2006 there was heavy in-migration of ethnic Khmer and Cham people from other provinces to the O Am area. Most settled along the road that forms the SBCA boundary or just inside Snuol Wildlife Sanctuary. Over 1,000 families arrived, causing over 25 km^2 of deforestation in building and clearing (Evans and Delattre 2005). Inside the SBCA, migration and consequent settlements have slowed due to improved law enforcement but it continues in the Snuol Wildlife Sanctuary.

There are two distinct groups: indigenous ethnic groups and recent Khmer and Cham migrants. The principal indigenous people are the Phong with small numbers of Stieng. Due to recent upheavals, many individuals in this group have only come to live in the area in the past decade, but as a group they are generally accepted as having a long-standing claim to live in the area. Most Khmer and Cham villages, as well as a few Phnong villages near roads or markets, concentrate on family-scale cash crop production (cashew, cassava, and soy), supplemented by wage labor, rainfed lowland rice production, and some NTFP collection. Most other Phnong communities rely on subsistence rice cultivation plus intensive resin-tapping and a little income from other NTFPs, livestock, or daily wage labor. These villages are adopting cash crops, which may reduce the importance of forest products over time.

As yet the indigenous groups remain poorly organized and have not been effective in defining or negotiating their claim to land and resources. The 2001 Land Law recognizes the right of an indigenous community to gain collective title to its house plots, gardens, agricultural fields, fallows, and probably small burial forests or spirit forests. Subsistence usufruct rights exist for the extensive forests and upland grasslands between villages under Article 40 of the 2002 Forestry Law, but, interestingly, the lands and trees are owned by the state. This situation is more progressive than in some neighbouring countries (e.g., Thailand) but more restrictive than in various Latin American countries where extensive forests are recognised as part of indigenous territories. No village in Cambodia has yet been issued collective titles to forest land as the legal instruments are still being piloted.

Recent Khmer and Cham immigrants have weaker legal standing on paper but have strong *de facto* claims to the land they now occupy. The recent immigrants harvest forest products, and their subsistence usufruct right is protected under the Forestry Law, as for indigenous groups. Many of them are on land within the Permanent Forest Estate which has already been illegally logged. These large new settlements are implicitly recognized by the local authorities via registration of their residents. The political and logistical challenges to reclaiming land that was illegally cleared are too great and the settlers will remain, but will probably be unable to obtain official land titles.

Benefits

The protected area currently provides major benefits by protecting existing land- and forest-based livelihoods. This is true for both indigenous and recent immigrant groups, but more so for indigenous groups as they have a greater dependence on forest resources. Forest-based activities (resin, NTFPs, fishing, and hunting) are a major source of livelihoods in many villages. Resin alone accounts for over 40% of livelihood turnover in some villages (McAndrew

2003) and is the only significant source of cash in many (Evans et al. 2003). These benefits are maintained by the protected area since it is able to exclude large-scale immigration of other forest users, large-scale logging operations, large-scale forest conversion for plantations and mining. In addition, this prevention of forest destruction likely leads to an improved resource base for fisheries and some NTFPs. Cambodia is in a period of intense competition for natural resources and many comparable communities elsewhere are experiencing severe declines in availability of such resources (see e.g., NGO Forum 2006). Pressure to develop forested areas is real, and many proposals for development projects have been refused because of the SBCA's protected status.

Land alienation – the illegal sale of communally-held farmland – causes serious welfare problems in similar communities in other provinces and poses a threat to indigenous communities in the SBCA as well (CBNRM-LI 2005). The protected area greatly reduces this threat because of legal enforcement and improved land tenure. As one benefit, communities that have clear land tenure are also much more likely to capture other non-land-based income, such as tourism.

Finally, there is potential for increased future benefits for selected villages near a protected area in the form of sustainable logging, tourism, direct payments for conservation, conservation-linked employment, or agricultural assistance. The scale of these benefits is not yet well known but has the potential to be long-term.

Conservation Action and Types of Displacement

Natural resource use at the site is governed by the Forestry Law and Land Law. Officials of the FA conduct regular patrols in association with Military Police and Border Police. Significant problems are addressed off-site through liaison with elected Commune Councillors and senior officials of the armed forces. Since the establishment of the SBCA, there has been little reduction of pre-existing uses by local communities except for some forms of hunting and logging. Restrictions on expanded forest use in the future will likely pose a significant challenge given the increasing local population.

Settlements

No existing settlements have been displaced by the protected area. Several attempts by incomers to establish new settlements have been blocked since 2002.

Farmland

Since the SBCA was established, no established farmland has been reclaimed by the state, except for some small areas of recent illegal clearing. In immigrant-dominated areas, Forestry Law aims for zero new clearance of forest. This causes some complaints since the law is inconsistently enforced across the country and migrants from elsewhere arrive believing that they have the right to clear land wherever they settle. In indigenous villages shifting cultivation is permitted. However, fresh shifting cultivation in intact forest is not allowed, a rule that is difficult to enforce consistently and so leads to complaints of unfairness. Village land-use planning agreements are being developed with zones for expansion of swidden, which helps alleviate the concern that future development has been excessively restricted by the protected area.

Forest Products

Restrictions are most significant on hunting and some specific NTFPs, the collection of which is either forbidden or requires a permit. The Forestry Law

assumes that any NTFP can be collected, consumed or sold in small quantities[1] unless specifically forbidden. Rules apply equally inside and outside protected areas, but are very rarely enforced anywhere. Where enforced they remove sources of income (e.g., logging, wildlife trade), but because these activities are illegal, the impact is hard to quantify. In general these illegal activities have not been core activities for significant numbers of people in the SBCA but may have provided important supplementary income to some.

In SBCA trade in wildlife was common before protection began, with many people hunting occasionally and perhaps 0-2 people per village (Evans et al. 2003) relying on large-bodied species as their major income source. In 2002/2003, before hunting controls were fully in place, McAndrew et al. (2003) found that reported income from hunting accounted for about 6% of total income in one commune.[2] Current regulations in the protected area allow hunting for family consumption, which means that lost income is probably less than 6%. However, given the fact that wildlife populations were collapsing prior to the establishment of the protected area (Walston et al. 2001) income from hunting was likely to have been short-lived. Furthermore, much of the income from the wildlife trade reportedly went to powerful outsiders (soldiers, etc.).

Widespread logging prior to the protection of the area was dominated by outsiders, with local indigenous groups working as guides and laborers. However, in one ethnically Khmer sector where protection efforts are very low, recent surveys suggest that more than 10% of the families own chainsaws and so probably still derive substantial income from illegal logging (Tropical Forest Trust unpublished data). Logging for family house construction is still allowed under permit.

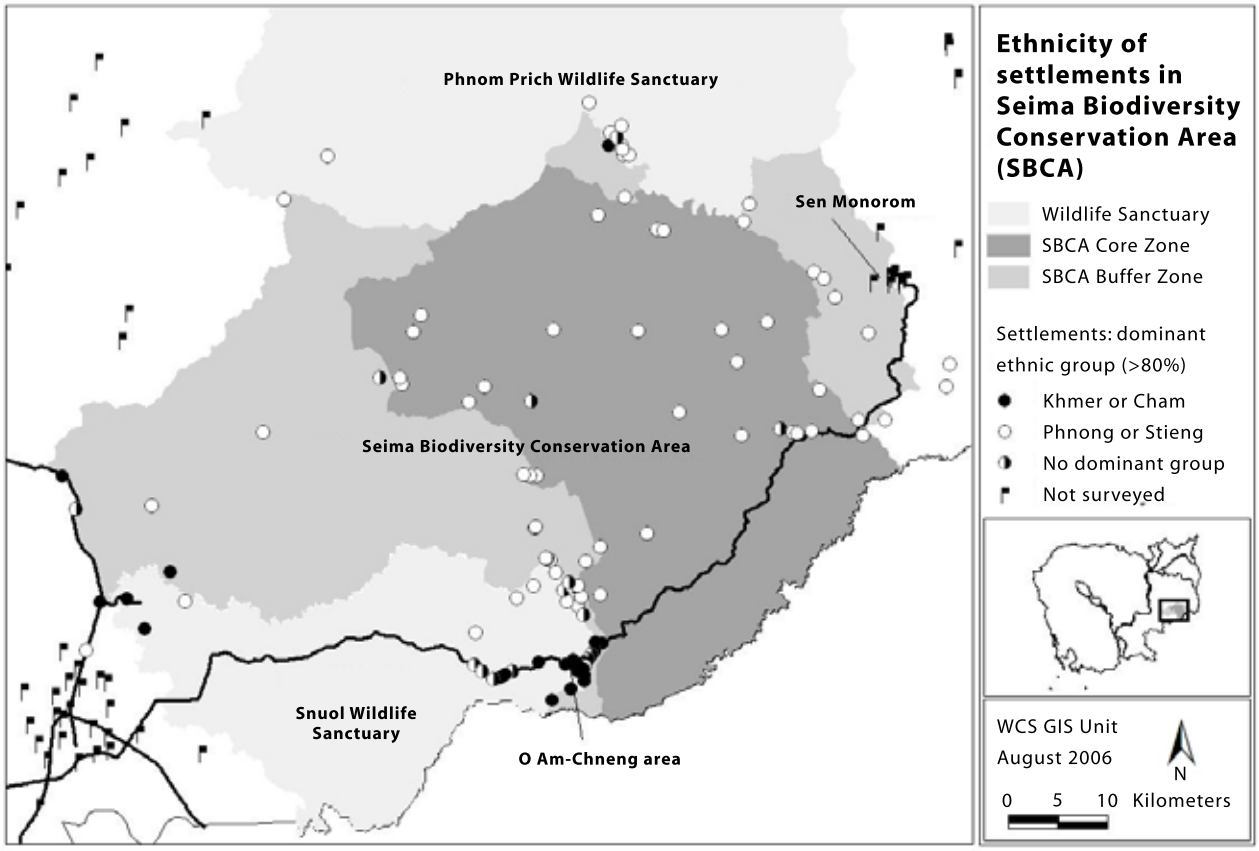
For species/products that are not banned and do not need permits, there is still a discretionary right for forestry officials to reduce or stop any harvest activities that are considered unsustainable or damaging. This has been applied several times, notably for bamboo (harvests perceived to have damaging side-effects), sleng fruits (*Strychnos nuxvomica*, which are felled to collect the fruit), and charcoal production. Each of these restrictions has probably reduced the supplementary incomes of rural families, probably numbered in the tens or possibly low hundreds.

There is currently no major criticism of SBCA protection policies from local communities or from external stakeholders. There are continuing minor concerns, including a claim that bamboo harvest restrictions in one sector are too severe and that rights to clear swidden fields are arbitrarily restricted. These are not significant critiques for the larger landscape but are important to the families/villages involved and need to be resolved equitably. There is also the question of how well existing communities will be able to satisfy their development aspirations in the long term with a finite land supply.

The biggest current pressure to change SBCA rules comes from outside, since many companies wish to see the area opened up for exploitation. There is also some pressure to open the forest for settlers from more crowded parts of Cambodia. Both these changes are broadly opposed by local indigenous communities. This raises the question of how existing residents' rights (and the society-wide values that the protected area provides) are weighed against external and more lucrative demands.

WWF works in two neighbouring protected areas with both the FA and MoE. Their approach with both partners is similar to that followed by WCS/FA, and is not leading to significant displacement.

Figure 1: Seima Biodiversity Conservation Area showing dominant ethnicities



[1] At "traditional family scale," often defined in practice as transport on a motorbike or smaller vehicle.
[2] After inputting cash values for all subsistence activities.

3.2 Free to Move: Conservation and Voluntary Resettlements in the Western Ghats of Karnataka, India

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Beginning with the movement of primitive *Homo sapiens* out of Africa 50,000-100,000 years ago, people have moved across the earth, driven either by the hope of a better life elsewhere or by the risk of staying at a place. As economic developments unfold in the future, human "displacements" of these two kinds will increase at all scales: local, regional, and global. Therefore, conservation strategies must function with an understanding of human movement. This paper examines this conservation dilemma in southern Asia where "intact natural landscapes" comprise less than 5% of total land area, leading some conservationists (Sanderson et al. 2002) to abandon this region. This densely populated, poverty-ridden region has 25% of the earth's six billion humans packed into less than 10% of its land, and is experiencing rapid technological and economic growth. Given the region's overall demographic and economic growth rates, humans will move or be displaced at scales witnessed in other developing countries. It is likely that displacement to protect biodiversity will be a miniscule proportion of all human displacements in the region.

Key drivers of massive biodiversity decline in South Asia include habitat fragmentation (Barve et al. 2005; Das et al. 2006; Kumar and Shahabuddin 2006; Yadav and Gupta 2006), hunting (Madhusudan and Karanth 2000, 2002), and human-wildlife conflicts (Saberwal et al. 1994; Mishra 1997; Karanth 2002; Madhusudan and Mishra 2003; Madhusudan 2004). Current conservation initiatives are not adequately addressing these threats. On the other hand, changing land-use practice (e.g. crops that do not attract wildlife, electric barriers), economic development (e.g., availability of affordable poultry protein, new job opportunities), and cultural changes (e.g., watching television instead of recreational hunting) provide some hope for reducing pressures on nature reserves. Nevertheless, impacts of human settlements inside conservation areas pose difficult problems and will likely not be ameliorated by these new trends. Conservationists in South Asia do not often have recourse to "human-wildlife coexistence" and "sustainable forest use" that help reduce pressure in some conservation contexts in Africa, Latin America, or Southeast Asia (McNeely 1994). Rather, conservationists are being compelled to consider the relocation of human settlements to arrest fragmentation.

It is therefore necessary to examine voluntary resettlement as a conservation option for saving endangered species in the Western Ghats region of Karnataka State in India. This includes long-term qualitative case studies from three nature reserves that represent a range of ecological and social variations. The analysis provides scope for addressing gaps in past resettlement efforts. In fact, incentive-driven resettlement projects offer a valid alternative to coercive displacement. Given the present social-ecological context of the region, incentive driven resettlement is the only remaining option to conserve several endangered species, mitigate human-wildlife conflicts, and at the same time improve human livelihoods.

Ecological Context

The Western Ghats of southern India (Figure 1; 8° N to 20° N; 160,000-km^2) are a global biodiversity, hotspot with high levels of biological productivity, species diversity, and endemism (Myers et al. 2000). The Ghat forests occur as a fragmented strip within a larger landscape matrix consisting of crops and tree plantations. The natural vegetation includes evergreen, moist-deciduous and dry deciduous forests, and montane grasslands (Pascal 1988). Fauna in this region represent 30% of all Indian mammal and bird species (Das et al. 2006). There are several larger vertebrate species of global conservation significance due to their rarity, endemism, habitat-specificity, susceptibility to commercial exploitation, or proneness to come into conflict with human societies (Table 1). Although traditional sacred groves in the region have been promoted as a solution to achieving balance between people and nature (Gadgil and Guha 1992; Bhagwat et al. 2005), they occupy less than 1% of the overall landscape, and typically are small, occur in tiny fragments, and their contribution to sustaining biological diversity is relatively small.

Nature reserves in the Ghats cover only 12% of total area and average reserve size is 243 km^2 (Das et al. 2006). Increasing densities of people and livestock, local to global market pressures, and expansion of human activities have placed these reserves in an extremely vulnerable position. Some reserves are additionally under threat from large-scale development activities (mines, dams, roads). The 14 legally protected areas cover a total of only 6,400 km^2. People living in these areas have also suffered significant livelihood losses. Given this context, preventing (rather than mitigating) human-wildlife conflict, and reducing negative human impacts on wildlife merits serious consideration (Treves and Karanth 2003; Karanth and Gopal 2005; Karanth 2006).

The study sites for this analysis include Nagarahole, Bhadra, and Kudremukh – all three reserves have ongoing resettlement projects to protect wildlife. Importantly, these resettlement projects were initiated at least partially by demand from local people. Details on the location, size, ecology, and conservation history of these sites is in Table 2. These case studies clearly demonstrate the challenges as well as opportunities for understanding human displacement and conservation.

Historical and Social Context

This region has a history of human occupation by aboriginal groups going back 50,000 years (Wells 2002), followed by successive waves of colonization by different cultures (Thapar 2003). The seasonal (3-4 months/year) heavy rainfall (1500-6000 mm/year), benign temperature (15°C-35°C), and fertile soils promoted settled rice agriculture as the predominant land use. From historical records, we know that the movement of people, involving periodic depopulation or re-colonization of large tracts of forest, was common (Ribbentrop 1900; Thapar 1990).

British administrators established full political control over the region in the early 1860s and created "reserved forests" to ensure sustained timber supplies, halting the massive conversion of forests to agricultural land (Brandis 1897; Stebbing 1921). These forests became the network of nature reserves a century later. As human populations increased, slow encroachments by homesteads into the reserved forests were legally sanctioned (Stebbing 1921).

The Ghats were sparsely populated and agriculture was restricted to lowland areas until the late 19th century when commercial coffee plantations replaced some of the upland forests. In the post-colonial period (1947-1970), the national policy to "grow more food" encouraged colonization of forests by external settlers responding to land grant incentives. The forestry department intensified exploitation of timber and the emergence of the paper and plywood industry in the 1950s created a demand for bamboo and softwoods. Forestry policies increased logging in interior areas and encouraged migrant laborers to move in and cultivate in these areas. Subsequently, the human settlements in interior forests increased dramatically. Hunting of wildlife also increased in scale, intensity, and impact due to availability of firearms and improved road and motorized access (BNHS 1934; Karanth 2002). Weak wildlife protection laws failed to arrest the sharp decline of tigers, dholes, and elephants.

In the 1960s wildlife conservationists (Gee 1964; Schaller 1967) highlighted the perilous status of wild nature in India and in 1974, the Indian government enacted the Wildlife Protection Act that prohibited hunting and "commercial" exploitation of nature reserves. In 1980, the government's Forest Conservation Act prevented the diversion of reserved forest land for agriculture or developmental projects. These laws slowed the legalization of forest settlements (Karanth 1998; Karanth 2002).

Conservation Issues

Habitat fragmentation at landscape scales

Nagarahole, Bhadra, and Kudremukh were all established and managed under the above-mentioned legal framework. Despite nominally strong legal protection, homesteaders gradually encroached onto land in these three reserves a few meters at a time (Karanth 1982, 1992, 1998, 1999, 2002; Karanth 2003, 2006). All three reserves are under pressures from commercial development, particularly iron-ore mining at Kudremukh and Bhadra (Krishnaswamy et al. 2006), highways and road development in Nagarahole and Kudremukh (road construction is now a heavily funded activity of national priority), and windmills in Bhadra. Additional proposals to construct irrigation reservoirs, river diversions, and power plants threaten the integrity of these reserves.

Impacts of fire and biomass extraction on habitat quality

Several recent studies have examined the negative impacts of human activities on wild animal and plant communities inside reserves. These activities include biomass extraction, livestock grazing, deliberate arson, and removal of wood (Barve et al. 2005; Madhusudan 2005; Karanth et al. 2006). In Bhadra, Karanth et al. (2006) estimated that these combined human activities had directly affected 8 to 10% of this sanctuary by altering 23.7 km^2 of the forest near the villages.

Livestock grazing is widespread in these reserves and increased livestock densities have reduced forage availability, degraded forest vegetation, changed plant composition, and led to declines in wild herbivores due to competition in Bhadra and Bandipur (Mishra et al. 2001; Madhusudan and Mishra 2003; Madhusudan 2005).

Forest products and fuel wood are collected in all reserves (Madhusudan and Karanth 2002; Karanth et al. 2006). In Bhadra, all households collected fuel wood from the forest and quantities ranged from 2,190 to 22,140 kgs/ per week (Karanth 2003). This local scale collection of plant parts has directly affected food availability for wildlife as well as regeneration and recruitment of plant species (Hiremath 2004; Shahabuddin and Prasad 2004).

Impacts of illegal hunting at local scales

Large mammals that provide meat and valuable commercial products (ivory, skins, horns, antlers) are vulnerable to illegal hunting as are some smaller mammals, reptiles, and birds. An assessment of hunting in Kudremukh and Nagarahole found that densities of several large mammal species were substantially depressed in parts of the reserve with high human presence (Madhusudan and Karanth 2000; Madhusudan and Karanth 2002). Local hunting threatens long-term viability of species and sometimes causes local extirpations.

Human-wildlife conflict

People living in these reserves face intense human-wildlife conflicts that result in loss of livestock and crop destruction (Karanth 2002; Karanth 2003; Madhusudan 2003, 2004, 2005; Madhusudan and Mishra 2003). In Bhadra, 73% of households living in the park prior to resettlement regularly lost 15% of their annual harvest to crop-raiding elephants and ungulates (Karanth 2003). The Bhadra households also lost 11 to 25% of their livestock to carnivores (Karanth 2003; Madhusudan and Mishra 2003). Retaliatory killing of elephants and big cats is a serious conservation problem.

Case Studies of Resettlement

During the 1950s-1960s the Karnataka Government's unwritten policy was to generally ignore homesteaders who illegally encroached on forest lands and the Forest Department (the state Ministry of Forests) had legal power to "regularize" such encroachments. This political and administrative process usually took a decade but was liberally employed for electoral gains. Cultivators from farming castes and migrant laborers with political backing became landowners from such regularizations.

Tribal groups such as *Jenu Kuruba* (whose ancestors may have been hunter-gatherers) tended to move around rather than settle down to cultivate land. They did not have strong cultural notions of owning land. Tribal people were poorer, had little education, ranked low in social power, and were unable to become landowners unlike the farming castes and migrant labor. Nevertheless, tribal inhabitants were granted large areas of government-owned "revenue" land outside the reserved forests in parcels of four acres per homestead. These people were ill-equipped to establish themselves agriculturally, and much of the land given to them was taken over by higher caste groups through money or coercion and thereafter the tribal people became "forest encroachers."[1]

The enactment of strong wildlife protection laws in the 1970s ended the "regularization" of forest encroachments. Officials in charge of nature reserves became accountable for recovering "encroached areas." This led to many cases of forced evictions or coercive displacements. Encroachers challenged evictions through support of local politicians and through interventions of local courts. However, the Forest Conservation Act of 1980 made it legally impossible for forest encroachers to get titles. Below are accounts of key issues relating to resettlement and displacements at the three sites.

Nagarahole

During the 1950s-1960s external peasants as well as tribal people cultivated rice in low-lying areas in 10% of Nagarahole. In the 1970s, most non-tribal cultivators were evicted from the reserve and given land outside it (Lakshmana 2001). With increasing restrictions on hunting, protecting agriculture became impossible inside Nagarahole. Consequently, tribal people gave up agriculture

and moved into larger settlements within the forests. Their chief sources of livelihood came from intensified logging and plantation work within forests, growing employment in coffee plantations outside, and illegal hunting and collection of forest products. In the 1980s logging was reduced and employment opportunities inside forests shrank.

The first impetus for voluntary resettlement came in 1991 when a group of tribal people met the chief minister of Karnataka State and demanded services like agricultural land, roads, hospitals, and schools inside the park. In a series of meetings that followed, a consensus was reached and they agree to relocate and resettle in areas outside the reserve and be compensated (Table 3). However, a substantial section of the tribal people initially resisted the resettlement incentive and insisted on being provided all amenities inside Nagarahole. Due to the presence of advocacy groups supporting both factions, the resettlement work progressed slowly and only about 50 families moved out in 1997.

Almost concurrently, the GEF-World Bank funded an Integrated Conservation and Development Project in Nagarahole. It progressed slowly, bringing little development, because the Bank-GEF group was reluctant to fund a reserve that was implementing voluntary resettlement. In 2003, this project was terminated due to corruption and inefficiencies.

Gradually, the perception of resettlement among local people changed. By 2006, more than 250 families had moved out into the resettlement colony at Nagapura. There appears to be an increasing preference among the 1,300 families still living inside the reserve for an acceptable compensatory package. Intensive grassroots level work by NGOs (Living Inspiration for Tribals [LIFT) and Wildlife First) committed to both tribal development and wildlife conservation appears to have successfully supported this attitude change. However, a recent unilateral decision by the Federal government's Project Tiger to reduce the land allotments from five to three acres per family may hinder resettlement progress.

Bhadra

In the early 1900s, the Bhadra sanctuary had "a village with 88 people and 186 cattle occupying an area of 4.19 km^2" (Anonymous, unpublished report 1917). Development halted when the Bhadra reservoir was built in the 1950s and 1960s. This reservoir isolated the settlements in the sanctuary, limiting infrastructure development. Although Bhadra was legally a nature reserve, human population continued to grow.

Official attempts to impose conservation regulations on the villagers against illegal hunting, grazing, and timber removal caused great resentment. Villagers systematically and deliberately used arson as a weapon in their conflict with forest authorities. In the 1970s, some villagers in the most inaccessible locations began pleading with political leaders and officials for resettlement. In 1987, a preliminary survey of households eligible for resettlement was conducted. In 1992, the state Forest Department drafted the plan for land acquisition and resettlement and in 1996 requested funds from the Central government. In 1998, the project began with the involvement of forest and revenue departments, village representatives, and NGOs (Bhadra Wildlife Conservation Trust, Wildlife First). Initially some villagers opposed the resettlement and initiated a court case that was later dismissed. The compensation package and perceived benefits of relocation (better facilities, heath care, schools) convinced others to resettle. Some of the land set aside for resettlement was encroached by others so additional land was acquired in a second village. During 1999-2002, all 419

families from 11 villages moved to the two resettlement villages at M.C. Halli and Kelaguru. People have cultivated crops and have ample access to electricity, water, schools, markets, health care, and education (all of which were absent when they lived in the sanctuary). Households in M.C. Halli have cultivated crops and established themselves. Households in Kelaguru (who received land suitable for growing coffee) are taking longer to settle (Karanth 2006). The Bhadra project is clearly one of India's better planned and executed resettlement efforts.

Kudremukh

In 1987, based on the discovery of a large population of the endemic lion-tailed macaque (Karanth 1985) the process of establishing Kudremukh nature reserve was initiated. Due to initial procedural lapses and insensitivity on the part of forest officials, the notification process increased anxiety among the 40 legal settlements in the area. Subsequently, there were sharp divisions among them on the issue of resettlement; a substantial number were willing to relocate in exchange for an adequate resettlement package, while others, influenced by social advocacy groups, demanded total de-gazetting of the nature reserve. The emergence of a small-armed Maoist guerrilla group in the region after 2000 has created additional complications. The government has announced a resettlement package (without any committed funding) and has promised to relax conservation laws to permit more "development" in the settlements.

Given this uncertain political context, conservation groups (Wildlife First, Kudremukh Wildlife Foundation) have tested privately-funded voluntary resettlement efforts, since a government sponsored full-scale resettlement effort would involve entire villages and take years to materialize. Therefore, the NGOs have focused on identifying smaller settlements located deep in the reserve whose relocation would successfully consolidate large blocks of wildlife habitat. Negotiations began with eight families, all of whom were illegal encroachers in the nature reserve. After identifying suitable alternate agricultural land at locations of their choice, these families were financially compensated and moved out in 2003. Such low-key efforts have subsequently progressed with more families who volunteered to resettle in 2006.

Lessons Learned

The first author has visited these three sites since the 1970s and conducted ecological research there since the 1980s. He is a scientific advisor to Wildlife First, a conservation NGO that has promoted the voluntary resettlement efforts in all three reserves. The second author examined the impacts of villages on biodiversity in Bhadra and is tracking the resettlement effort and its impact on relocated people (2002-2006). Based on our collective experience, we present the following insights which we believe capture key "lessons learned" from these real world experiments in displacement for achieving conservation. Our analysis is empirical and qualitative but may still have some value given the scarcity of rigorous studies in this arena.

1. Given the rapid rate of economic growth in the Western Ghats region, conservation-related resettlements are a very small fraction of overall human movement and displacement driven by development. We estimate that all potential conservation related relocations would comprise less than 1% of all relocations going on now in the region.

2. The process for identifying areas for relocation must be a careful scientific exercise that leverages maximum conservation effect to reduce fragmentation. Conservation managers often use existing administrative boundaries or other convenient markers for selecting resettlement targets, resulting in relocations that may not derive maximum conservation impacts.

3. Many people living in remote forest areas of the Western Ghats are attracted by the modern amenities, better opportunities and incomes, and easier lives that people enjoy in more developed areas. Modern communication tools, such as radio, television, and the near 100% literacy rate in the region intensify this attraction. The proliferation of cheap poultry meat and other protein sources has rendered subsistence hunting irrelevant to human welfare and illegal hunting is becoming too risky to be attractive.

4. These combined factors provide conservationists with new opportunities to arrest habitat fragmentation in reserves through pro-active, fairly compensated and voluntary resettlements. However, the potential for such solutions are not clearly perceived by many. Still rooted in the experience of coercive displacements, social advocacy groups and reserve managers fail to perceive significant emerging opportunities to promote human welfare based on genuine aspirations of local people to change their circumstances. Such ideologically based opposition to relocation may contradict what a substantial proportion of these people want and may in fact be a curtailment of their freedom to move.

5. The resettlement process should be incentive-driven, generous, fair, and, importantly, it must be understood as being fair by all potential stakeholders. In the case studies, frequent funds shortage and administrative inefficiencies caused delays in implementation, particularly in Nagarahole. Creating appropriate institutional structures is the key to promoting successful and acceptable resettlement: The implementation of resettlement projects is best achieved by specialized agencies set up for that purpose with full involvement of conservation and social NGOs and family and village representatives.

6. Opposing the argument that satisfactory resettlement is prohibitively expensive (TTF 2005), we argue that if future costs of delivering social services to remote areas are considered (Karanth 1998), the cost of resettlement is reasonable (Karanth 2006, unpublished). Such investment would require specific re-allocation of funds from developmental budgets (rural developments, roads, power transmission) to a resettlement agency. However, government bureaucracies holding such funds are unlikely to yield them. Therefore, it may be necessary to establish a specialized new funding agency exclusively for this purpose. Possibly multilateral aid organizations currently sinking substantial funds into unviable conservation projects could instead fund voluntary resettlement projects (with grant conditions that ensure truly voluntary, fair, incentive-driven resettlement).

7. A key feature of the resettlement efforts at Nagarahole and Bhadra was that democratically elected representatives from the area were engaged in the process. After initial lack of enthusiasm, a majority of them began to support the resettlement projects since these projects were generally perceived as having improved the lives of the beneficiaries. At the same time, NGOs that had opposed the resettlement efforts (in Nagarahole) gradually lost their hold among the people. These advocacy groups initially gained some international publicity. Interestingly, after the World Bank-GEF disengaged from the Integrated Conservation and Development Project in Nagarahole, the attention of these remote players subsided.

8. Slow and inefficient project implementation and the resulting frustration can still derail the resettlement project in Nagarahole. No surveys have been undertaken to assess attitudes of the beneficiaries. However, given that very few if any of the beneficiaries have chosen to return to their original locations inside the park, it could be considered at least a tentative success. Tracking the resettlement effort in Bhadra (2002-2006) most people have been able to establish themselves and they perceive the project positively (Karanth 2006). Yet, the general human tendency to complain makes it difficult to objectively measure whether the resettled people are "happier and more satisfied," a criterion used by social advocacy groups to test resettlement success.

9. If the government were to dismantle all conservation laws and reserved forests (25% of the area) and nature reserves (12% of the area) in the Western Ghats region, it would likely be supported by the majority of the people living in the region. However, such a policy would destroy biodiversity and likely not lead to wise and equitable development.

10. If voluntary resettlement schemes are not implemented as a strategic conservation initiative in the Western Ghats soon, then a significant component of the vulnerable species will be lost forever. As a "wildlife conservation organization," WCS has no other option but to seriously explore appropriate opportunities for supporting voluntary resettlement. Such work would be in full compliance with India's national conservation policy (TTF 2005).

WCS (and perhaps other conservation NGOs) can advance rational arguments for promoting incentive-driven resettlements as a part of sustainable development programs. However, demonstrating to potential beneficiaries that they are free to move out of nature reserves to achieve a better life is the task of Indian institutions, the governmental and non-governmental sectors. The key to getting started appears to be committed conservation leaders catalyzing such institutions through informed advocacy.

Figure 1: Maps of area

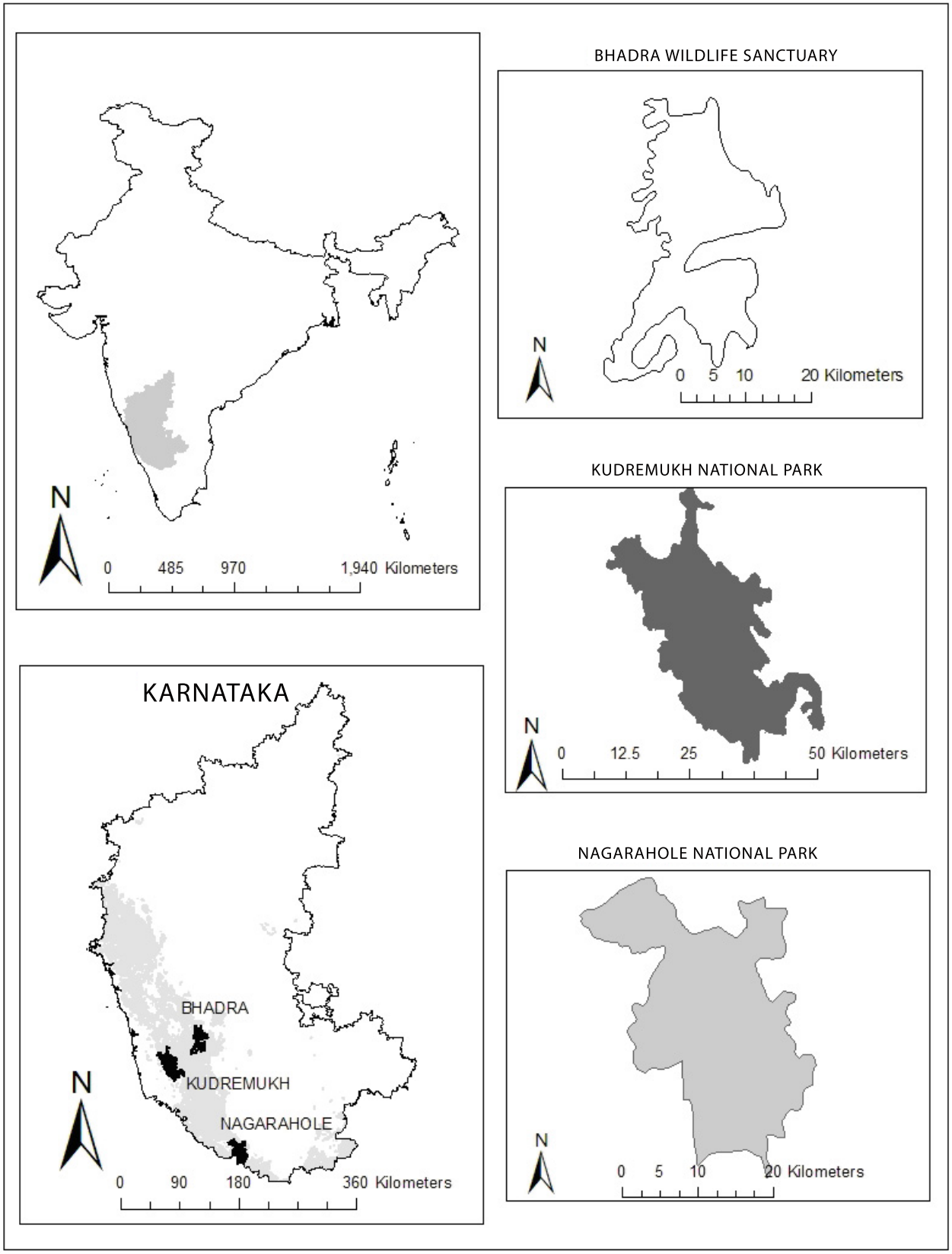

Table 1: Threatened and Endemic Species in Western Ghats

Common Name	Scientific Name	IUCN and Endemic Status
Birds		
White-naped Tit	*Parus nuchalis*	VU and Endemic
Crimson-backed Sun Bird	*Nectarinia minima*	Endemic
Nilgiri Flycatcher	*Eumyias albicaudata*	Endemic
Lesser Florican	*Sypheotides indica*	EN
Indian Vulture	*Gyps indicus*	CR
Green-billed Coucal	*Centropus chlororhynchus*	VU and Endemic
Red-faced Malkoha	*Phaenicophaeus pyrrho-cephalus*	VU and Endemic
Malabar Trogon	*Harpactes fasciatus*	Endemic
Jerdon's Nightjar	*Caprimulgus atripennis*	Endemic
Mammals		
Lion-tailed Macaque	*Macaca silenus*	EN and Endemic
Nilgiri Langur	*Trachypithecus johnii*	VU and Endemic
Nilgiri Tahr	*Hemitragus hylocrius*	EN and Endemic
Dhole	*Cuon alpinus*	EN
Tiger	*Panthera tigris*	EN
Rusty-spotted Cat	*Prionailurus rubiginosus*	VU
Small-clawed Otter	*Amblonyx cinereus*	VU
Smooth-coated Otter	*Lutrogale perspicillata*	VU
Nilgiri Marten	*Martes gwatkinsii*	VU and Endemic
Malabar Civet	*Viverra civettina*	CR and Endemic
Brown palm Civet	*Paradoxurus jerdoni*	VU and Endemic
Stripe-necked Mongoose	*Herpestes vitticollis*	VU and Endemic
Wroughton's Free-tailed Bat	*Otomops wroughtoni*	CR
Malabar Giant Squirrel	*Ratufa indica*	VU and Endemic
Travancore Flying Squirrel	*Petinomys fuscocapillus*	VU and Endemic
Reptiles		
Malabar Pit Viper	*Trimeresurus malabaricus*	Endemic
King Cobra	*Ophiophagus hannah*	
Beddome's Keelback	*Amphiesma beddomei*	Endemic
Travancore Tortoise	*Indotestudo forstenii*	Endemic
Cane Turtle	*Geoemyda silvatica*	Endemic
Amphibians		
Malabar Tree Toad	*Pedostibes tuberculosus*	EN and Endemic
Black Microhylid	*Melanobatrachus indicus*	EN and Endemic
Indian Green Frog	*Euphlyctis hexadactylus*	Endemic

Table 2: Details on Selected Protected Areas in the Western Ghats

Protected Area	Bhadra Wildlife Sanctuary	Kudremukh National Park	Nagarahole National Park
Location	13°25' to 13°50' N and 75°15' to 75°50' E	13°9' to 13°19' N and 75°5' and 75°15' E	11°5' to 12°15' N and 76°0' to 76°15' E
Area	492 km^2	563 km^2	644 km^2
History and Year of Establishment	1. Reserved Forest between 1912-1950 2. Game Sanctuary in 1951 (parts) 3. Bhadra Wildlife Sanctuary in 1974	Reserved Forest between 1891-1986 Kudremukh National Park in 1987	1. Reserved Forest between 1890 – 1954 2. Game Sanctuary in 1955 (parts) 3. Nagarahole N P in 1974
Current Classification	Wildlife Sanctuary	National Park	National Park
Major Vegetation Types	Dry and moist deciduous forests(bamboo), evergreen, montane grasslands, teak plantations	Evergreen forests, montane grasslands	Moist and dry deciduous forests, teak plantations

Table 3: Details on Resettlement Projects

Protected Area	Bhadra Wildlife Sanctuary	Kudremukh National Park	Nagarahole National Park
Villages/ Settlements	13 Villages	40 villages (divided into 90 hamlets)	55 villages
Villages Relocated	11 complete	None	1 complete, 8 partial
Total Number of People/	4000	6241	6500
Cultural Composition	Agriculturalists	Agriculturalists and Tribals	Tribals
Total Number of Households	457 (419 selected for relocation)	1299 (201 voluntarily requested)	1550
Relocation Proposed	Proposed in 1974, 1992. Re-proposed in 1999 Resettlement package announced in 2001.	Proposed in 1999. Resettlement package announced in 2005.	Proposed in 1991-1992 and 1996-1997.
Implementation	1998 – 2002	Not Implemented	1999 - Ongoing
Number of HH Relocated	419	8 (through private initiatives)	250
Number of HH/People yet to Relocate	Complete; Discussion to relocate the two remaining villages	1291 (201 families have applied for rehabilitation package)	1300
NGOs involved	Wildlife First, Bhadra Wildlife Conservation Trust, Nature Conservation Guild	Kudremukh Wildlife Foundation, Wildlife First	Living Inspiration for Tribals,Wildlife First

[1] Among our study sites, tribal groups are numerically dominant only in Nagarahole and tribal groups form a very small fraction of the population in the entire Ghats region to the north of Nagarahole.

PART 4
NORTH AMERICA

4.1 Aboriginal Peoples and Protected Areas in Canada: Implications for Achieving Conservation

Justina Ray and Donald Reid
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Most Canadians live within 500 km of the United States border, in the St. Lawrence/Great Lakes corridor, the southern prairies, and southern British Columbia. Although the footprint – industrial development (forestry, oil and gas, and mining) and associated road corridors – extends further, there are significant tracts of intact forest and arctic eco-regions in the northern half of the country. In many such areas, aboriginal people comprise the absolute majority and are increasingly at the forefront of decision-making regarding the nature of land uses (including protected areas) in their traditional areas. Development pressures in much of the northern boreal forest and tundra regions are enormous and much attention is focused on how and where development will take place. The fact remains, however, that the Canadian North has some of the largest tracts of intact ecosystems on the planet, translating into tremendous conservation opportunities and possibilities for proactive conservation-based planning.

This contribution covers Canada as a whole to highlight the legacy of varying forms of historical displacement from protected area establishment and follows the evolution of legislation as it addresses aboriginal interests. It explores the ramifications of historical and legislative conditions on the future of protected areas and provides a more detailed case study on the province of Ontario.

Cultural Setting: History of Aboriginal Peoples and Treaties and Land Claims in Canada

Aboriginal peoples in Canada number about one million and are comprised of First Nations, Inuit, and Métis (mixed aboriginal and Caucasian) peoples. Unlike the United States, native peoples in Canada were never formally conquered, a distinction that has played out in vastly different ways. Over the centuries since Europeans first came to North America, aboriginal peoples did, however, lose control of land by: 1) legal concessions through treaties (in which their title to land was "extinguished" in return for rights to use that same land); 2) ties of dependency through fur trade; 3) loss of people through disease and general demographic inundation with new immigrants; and 4) Canadian federal government policies of assimilation (Booth and Skelton 2004).

The first treaties between Europeans and First Nations were "Peace and Friendship Agreements," which essentially called for assistance from aboriginal people in wars against other adversarial colonial powers. These were followed by treaties where large regions of traditional aboriginal occupancy were exchanged for a combination of "reserve" lands (small parcels which aboriginal people owned outright), the right to hunt and fish on surrounding lands, small

cash payments, and annual payments. The issue of aboriginal rights and title re-emerged only in the early 1970s, following a landmark court decision referring to King Charles' Royal Proclamation of 1763. This court decision stated that unless a title had been explicitly extinguished by treaty, aboriginal title still exists on the lands. The implication was that aboriginal title had never actually been extinguished in major areas of Canada, particularly in the North. This started the process of land claim settlements, which are essentially modern-day treaties or social contracts between First Nations governments and the government of Canada. The new formal government-to-government relationship that developed emphasized co-management of lands and resources, local economic development and self government for the purposes of creating sustainable aboriginal societies.

In 1982, the Canadian constitution went a step further by stating that the existing aboriginal and treaty rights (rights to land use) of the aboriginal peoples were recognized and affirmed. As a result, aboriginal peoples are the only members of Canadian society that have constitutional rights to harvest fish and wildlife.

History of Protected Area Establishment and Aboriginal Peoples in Canada

In the late 1800s, federal and provincial governments did not acknowledge aboriginal rights when establishing protected areas or parks (Morrison 1997; Hrenchuk 1993; Gladu et al. 2003). In some cases, First Nations were displaced from park boundaries and/or prohibited from hunting and fishing in their traditional use areas. In the 1970s, after First Nations title was reaffirmed and hunting and fishing rights restored, First Nations perceived the stated purpose of most protected areas as hostile to or unaligned with their concepts of traditional use (Gladu et al. 2003). A notable exception is Wood Buffalo National Park on the border between Alberta and Northwest Territories: It has accommodated the traditional use activities of native communities residing inside and outside the Park since its creation in the 1920s (Nepal 2000).

The history of land use designations in the Northern Territories is relatively recent, and has paralleled the evolution of aboriginal rights in Canada. A progressive National Parks Act passed in 2000 entrenched consideration of aboriginal rights in the process of new park establishment. As such, aboriginal peoples have significant park planning and management roles in new northern parks (Sherry 1999; Usher 2003). On provincial land, the approach to accommodating the needs of aboriginal peoples is more *ad hoc* in nature, settled on a case by case basis rather than through comprehensive legislation or policy (Coyle 2005). Nevertheless, it is fair to say that aboriginal rights and interests are recognized as a *de facto* necessity for the successful establishment and planning of protected areas, and governments actively seek the co-operation and agreement of the relevant aboriginal groups before proceeding with protected-area designation.

In Canada, it is generally impossible to separate issues of aboriginal rights from title. Aboriginal title is a right to the land itself, while aboriginal rights refer to using the land, i.e., customary traditions, hunting, fishing, and gathering. Today, title cannot be extinguished except through treaties or land claims; the right to use the land can never be taken away from the original inhabitants. The challenges and opportunities regarding conservation and management and aboriginal participation or land vary considerably between the three types of land title:

- *Settled treaties*: Up until 1930, treaties did not explicitly recognize aboriginal rights in governing parks and protected areas. There is also no comprehensive legislation to address aboriginal use rights on provincial land. A lack of comprehensive legislation limits the opportunities for meaningful protected area co-management with First Nations. This, combined with the legacy of displacement, deepens aboriginal mistrust towards the motiviations behind protected areas, rendering them unattractive land use options. With no framework for government-to-government negotiations, effective and sustained capacity building for land-use planning and management is limited.

- *Settled land claims agreements*: By contrast, the modern land claims settlements have provided ample opportunity for aboriginal involvement in the creation and management of protected areas. New protected areas can be established as part of the settlement, and indeed this occurred recently in the Yukon and Nunavut. (Parks in the north have been established more for wildlife and ecological purposes than tourism or recreation as was the tradition in parks further south.) Integrating protected area designation as part of the land claims settlements offers more opportunities and tools for both stakeholder groups at the outset. While the legacy of displacement still prevents protected areas from being fully embraced, the enhanced opportunity for co-management has increased their acceptability among aboriginal communities. The negative side is that the process of co-management adds layers of administrative burden that are foreign to resource managers and First Nations governments alike. Co-management can also risk conservation effectiveness if the decision-makers on the First Nations side strongly desire revenue from mining, oil/gas exploration, and forestry.

- *Unsettled areas:* Areas where aboriginal communities have not yet settled land claims are ambiguous. Nevertheless, numerous protected areas have been established in these regions with varying levels of endorsement from aboriginal peoples. For example, in British Columbia and the Northwest Territories many First Nations have actively participated in comprehensive land-use planning processes, sometimes including government-to-government negotiation, similar in process to land claims settlements (above). However, the long-term results for secure land designations and future protected area co-management remain unclear, and perhaps contingent on a final settlement of aboriginal title.

Case Study: Northern Ontario

Ontario is a province of over 1 million km^2 in size. The northern half of the province, characterized by lowland boreal and taiga forest habitats, is largely undeveloped, with forestry and accompanying road construction not currently permitted north of the "Cutline" at approximately 51^o north latitude.

Human populations and resource use

The northern part of the province is home to 28 First Nations communities, with populations ranging from several hundred to a few thousand, totalling approximately 10,000 inhabitants in 450,000 km^2. They are mostly fly-in communities, with ground transportation only possible by winter ice roads, open 3-12 weeks each year. Mining interests are increasing exploration in the north and permits for a diamond mine were granted recently. The Ontario provincial government initiated a land-use planning process for forestry and protected areas covering ten million hectares north of the cutline, which intersects with

the traditional use areas of nine First Nations communities, and these communities are in various stages with regard to planning and pursuit of commercial forestry licenses. Other planned and potential land uses in the region include development of hydro corridors transporting electricity from neighboring Manitoba, coal-bed methane, all-weather roads to connect northern communities, and nuclear waste disposal.

All northern communities are Ojibwe and Cree First Nations who, until about 40 years ago, engaged in traditional land use patterns of small family groups staying in one place nine months of the year and congregating at lakes during the summer. In the 1960s, the Ontario government evacuated aboriginal peoples from their traditional use areas and re-settled them in permanent communities for centralized education and employment opportunities. This, followed by the advent of snowmobiles and satellite television, entrenched the process of settlement, with more than 80% of residents now dependent on government welfare since employment did not materialize. Population growth in aboriginal communities is high, offset somewhat by migration to urban centers. The younger generation is losing ties to the land and natural resources.

Conservation action

Protected area designation in the southern half of Ontario has proceeded without regard to First Nations rights. In the north, several large "wilderness" and "waterway" parks were established in the 1970s and 80s, including Polar Bear Provincial Park (2.3 million ha), established to protect polar bears. In many protected areas, First Nations were forcibly removed by gunpoint from the park; elsewhere they were banned (as was everyone) from hunting and fishing within protected area boundaries.

In the north, the remoteness of the parks has generally precluded active management by provincial government authorities and First Nations rights have been better recognized. The only imposed restriction has been in the case of Polar Bear Provincial Park, where members of Peawanuk First Nation were not permitted to build their winter road through the park, and instead had to route the road a considerable distance around the park. Recently, however, they have requested to re-route the road through the park which will likely be approved.

Ontario was the first Canadian province to formally acknowledge the relationship between province and First Nations in August 1991 in a "Statement of Political Relationship." This was a political agreement recognizing the equal status of aboriginal governments necessary to undertake government-to-government discussions. There is still no Ontario government policy or law to protect First Nations activities on their traditional lands or to protect treaty rights across the province (Coyle 2005). Despite the harvesting rights mentioned in historical treaties, the Ontario government has passed several game and fish laws that do not acknowledge these treaty rights. First Nations have challenged these in court. Additionally, the number of unresolved land claims has risen dramatically in recent years and as of late 2005, several hundred "specific" land claims against Canada and/or Ontario have been filed, with only a fraction settled. One recent case became confrontational when the Chippewa people from Kettle and Stony Point First Nation occupied Ipperwash Provincial Park in 1995 arguing that the park, once part of their traditional lands, contained sites that were sacred to their people. The resulting confrontation with the police ended up with one native protestor killed and two wounded.

In the late 1990s, the province of Ontario undertook a land-use planning process known as Lands for Life. South of the Cutline, this process sought public consultation on the fate of unallocated public lands. The process resulted in

a fairly positive conservation outcome and increased protected area allocation. However, the prevailing view of First Nations was that they were effectively shut out of the process by the government's refusal to work with First Nations on a government-to-government basis, and the fact that individual First Nation "representation" failed to provide an aboriginal voice in the negotiations. There is also the perception that environmental non-governmental organizations did little to support First Nation involvement.

A new Ontario Parks Act was passed recently with no mention of aboriginal involvement in parks creation and management. Although the act is progressive in conservation terms, an absence of the aboriginal component hampers the legislation's effectiveness in setting aside "no-go" zones to protect far northern areas from industrial development.

Policy Implications for WCS

The history of displacement, the lack of legislative and policy tools regarding potential First Nation roles in the creation, planning and management of protected areas, and the negative experience of the Lands for Life process, have collectively tarnished the protected areas for Ontario First Nations. The risks for conservation include the potential erosion of integrity of existing parks by renegotiation of relationships, and an unwillingness to create new parks in the absence of effective co-management.

What are the ramifications of this? It will not be enough to deal with the issue of displacement of aboriginal peoples from protected areas without grappling with the global issue of aboriginal rights in general. Indeed, at least one major conservation organization in Canada (Canadian Parks and Wilderness Society) has a stated policy on hunting in parks (affirming treaty rights), and it is not uncommon for one to be asked for an organizational policy on hunting by aboriginal peoples in protected areas. WCS is not widely known in Canada and has not had to publicize a policy on this issue, but increased WCS presence in the future and continued work with First Nations will make a policy perspective necessary.

PART 5
AFRICA

5.1 Protected Areas and Displacement: Okapi Faunal Reserve in the Ituri Forest, DR Congo

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The Ituri Rainforest is centered on the upper watershed of the Ituri River and is bordered by savanna in the north and northeast and the Western Rift highlands to the east and southeast. The Ituri Forest is of particular interest for conservation because it probably contains the greatest diversity of mammalian fauna of all forests in the Democratic Republic of the Congo (Curran 1992; Wilkie et al. 1998). The Okapi Faunal Reserve (OFR), which covers 1,372,625 ha and represents about 18% of the Ituri Forest, was created in 1992 in recognition of its biological significance and in response to increasing threats to its integrity. The Okapi Faunal Reserve is situated within a much larger area referred to as the Ituri-Epulu-Aru Landscape (approximately 3,600,000 hectares). The most diverse habitat in the OFR is mixed moist semi-evergreen rain forest. The Reserve also comprises of moist evergreen rain forest dominated by *Gilbertiodendron dewevrei* (Caesalpiniaceae), secondary forest, swamp forest, and grass-topped inselbergs. Vertebrate species of conservation concern in the OFR include the okapi (*Okapia johnstoni*), an endemic forest giraffe with a distribution centered in Ituri. The OFR contains at least 17 species of primates (the highest diversity known from a single site in Africa), two species of forest pigs, ten species of forest antelope and the forest buffalo, and it provides refuge for one of the largest populations of elephants in DRC. A large mammal inventory conducted in 1994-1996 suggests that the OFR contains approximately 4,000 okapi, 7,500 chimpanzees, and 5,000 elephants (Hart and Bengana 1997). In addition, over 300 species of birds and 500 species of butterflies have been identified in the central sector of the OFR. The Ituri Forest is also rich in plant diversity, including many valuable timber tree species such as African mahogany (*Khaya* and *Entandrophragma*) and Iroko (*Milicia excelsa*).

The Okapi Faunal Reserve is an IUCN Category VI: managed resource protected area. According to that definition, it is an area "containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs." The national designation for the OFR is a *Réserve naturelle intégrale* (Ministry Decree No. 045/CM/ECN/92 of 2 May 1992) meaning that provisions of the 1982 hunting law No. 82-002 apply to it (Article 14, Chapter II, section 1, Law) A *Réserve naturelle intégrale* is defined as "an area under public control in which any kind of hunting, fishing, any kind of timber, agriculture or mining exploitation, any excavation, prospecting, sampling, earthworks or construction, all works that can modify the ground or the vegetation; any action that can destroy or perturb fauna as well as flora; any introduction of zoological or botanical species…all strictly forbidden; and in which it will be forbidden to enter, to circulate or to

cut without a special written authorization from competent authorities and in which scientific research will be conducted only with permits."

However, it was obvious at the time of the creation of the Okapi Faunal Reserve that some accommodation of the needs of the human population would be necessary if the Reserve was to ultimately succeed in conserving wildlife. As a result, the Ministry Decree No. 045/CM/ECN/92 of 2 May 1992 lifted certain restrictions that usually apply to *Réserves naturelles integral*. It allowed hunting of partially protected animals such as small duikers (*Cephalophus silvicultor*, *Cephalophus monticola*, etc.), human settlement, and gardens in the Reserve. It is the responsibility of the Institut Congolais pour la Conservation de la Nature (ICCN) to regulate access and resource use within the Reserve.

Principal land uses within the area and approximate percentage of the area to be used is as follows:

- Agricultural zones surround villages and are defined in consultation with the local population. Logging, construction, and hunting are permitted. Agricultural zones will account for 10-15% of the Reserve once final zoning is completed.

- Hunting zones extend beyond agricultural zones. Logging and agriculture are not allowed but hunting, fishing using traditional technology, and the collection of plant products are permitted. Hunting zones will cover 50-60% of the Reserve once final zoning is completed.

- Conservation zones prohibit all forms of hunting and fishing. Conservation zones will cover 20-30% of the Reserve once final zoning is completed.

Human Populations and Resource Use

The Ituri Forest has, until recently, been one of the longest inhabited, and one of the most sparsely occupied forest blocks in northeastern DRC. At the time of the first European arrival in the late 19th century (and the first written historical records), the Upper Ituri Forest contained only scattered small settlements. Indeed, the first expedition through the region in the late 1880s, which supplied itself from the settlements in the area, found so few settlements that they nearly starved to death. The ravages of the slave trade and the Arab-western confrontation in the region in that time period may have reduced what was already a very low human population in the forest. In any case, the forests of the upper Ituri Basin were clearly more sparsely occupied than forest areas to the immediate west and the savanna biome to the east and north.

The first known inhabitants of the Ituri Landscape are thought to be the Pygmy peoples, represented today by the Mbuti and Efe, whose population in the landscape is estimated at about 30,000, and who remain in large measure strongly attached to their traditional nomadic hunting and gathering life styles. Recent archaeological evidence suggests they arrived at least 40,000 years ago. Furthermore, debate continues about whether these hunter-gatherers occupied the forest interior independently of, or in conjunction with, the arrival of forest-adapted shifting cultivation in the region, thought to have occurred two to three millennia ago.

The Ngwana people arrived in the landscape with the advent of Arab trade in the 19th century. Beginning with the colonial period, the numbers and diversity of newcomers expanded, but was dominated by the Nande from the eastern uplands, and the Budu from the densely settled hinterlands to the north and west.

1900-1960

The most significant of the traditional forest cultivator groups of the Ituri Landscape today include the Bila, Ndaka, Lese, Mbo, and Mamvu. Their main occupation is subsistence farming based on shifting cultivation methods on the marginally fertile forest soils, fishing, and hunting.

Human settlement of the Ituri-Epulu-Aru Landscape grew during the colonial period as roads opened and mining and plantation agriculture developed in the region. Within this period, major movements of immigrants came to occupy portions of the landscape. The colonial administration moved people from the forest to roads for taxation and labor. As villages grew along main roads, the Mbuti moved away from areas near these villages. This resettlement had a major impact on the way people perceived themselves and/or were perceived by others. From that time, cultivators became "villagers" whereas the Mbuti remained "forest people" (Peterson 2000). This distinction between villagers and forest people has led NGOs, ICCN, and researchers to draft policies that separate the Mbuti from their associated cultivators. Thus, in the Okapi Faunal Reserve, cultivators have been prevented from staying in forest Mbuti camps based on the assumption that cultivators are not forest people. This has become a permanent source of conflict between local people and the Reserve.

Post-1960 and before the creation of the protected area

The unequal distribution of land in North-Kivu has been identified as the major factor which pushed people to move from their highly populated native home lands (more than 100 pers/km^2) to the sparsely populated Ituri Forest (< 2 pers/km^2) (Peterson 1991). The Institut National des Statistics (INS) data show that between 1970 and 1994, human density in North-Kivu steadily increased, whereas in the Ituri Forest the human density was stable for the same period. A major factor attracting landless people to the Ituri Forest was the presence of family members who had been moved there by the colonial administration to work in gold mines. In addition, weak and unclear land tenure policies among Ituri forest tribes rendered the occupation of land easy. Today, most of the settlements in the landscape are ethnically mixed.

After the creation of the protected area

A 2003 census reported 17,000 people occupying the Reserve area (about 1.2 inhabitants per km^2). An additional 37,000 people live within 15 km of the Reserve borders. Immigration into the landscape continued, even during DRC's internal conflict from 1996 to 2003 and despite militias occupying the landscape during that period. While some immigrants arrived in the landscape fleeing even greater insecurity elsewhere, the major driving force of immigration was perceived economic opportunity. These opportunities included access to land for agriculture, employment in artisanal logging and mining, and income from small-scale commerce.

One would assume that political instability makes large-scale capital investment in resource extraction risky. However, threats to the forest and its resources have never been greater. Illegal artisanal mining of gold and coltan (colombo-tantalite) is growing. Internally displaced people seek refuge in the forest from conflict in the east. Although these people mainly relocate to the east and south of the Reserve, some take to mining opportunities within the Reserve, particularly if they are landless. Their settlements border the Reserve and have increased deforestation. Increased permanent settlement in the Reserve and on its perimeter is a terrible result of the current conflict as it could

cause an increase in the exploitation of lands for agriculture and wildlife for the bushmeat trade.

Conservation Action

The Okapi Faunal Reserve's special status as a *Réserve naturelle intégrale* with exceptions for human activities gives the Reserve authorities a mandate to regulate access to the natural resources. This puts a tremendous amount of power in the hands of the Head Warden and his team of ecoguards, who unfortunately are generally poorly trained, ill-informed of people's rights of access to resources, and vastly underpaid. In reality, the present lack of capacity of this agency (ICCN) to enforce Reserve rules means that people who harvest Ituri's flora and fauna (as opposed to illegal gold and coltan mining) have experienced only marginal restrictions. Nonetheless, the capricious interpretation and enforcement of laws and isolated incidents between Reserve authorities and local communities has fostered conflict and a perception that the Reserve is detrimental to local people.

In terms of land ownership, there remains considerable ambiguity as to who has what rights and what authority under both customary and state laws. If land use and conservation zones are to be established – and honored – land zoning agreements must be negotiated with individual families or villages. These locally negotiated zoning agreements should then be ratified by relevant levels of government that have jurisdiction over land ownership and land use. WCS is now in the third year of a zoning program using this approach, and has achieved "agreements" with local chiefs, ratified by the ICCN and the territorial administration, that establish agricultural zones and protected zones around specific villages within the OFR. Zoning for the communities along about two thirds of the east-west road has been negotiated. The eastern north-south road remains to be zoned. The WCS project is currently engaged in participatory mapping exercises aimed at defining traditional hunting territories for the Bambuti, with the ultimate goal of delineating hunting zones and strict conservation zones over the rest of the Reserve. The success of this project depends on it being integrated at all levels of government and an increased capacity within ICCN for working with local communities.

It is clear that human population has increased in the Ituri region. Many of the current villagers have moved into the region in the last few decades. Settlement to the northwest and southeast of the Okapi Faunal Reserve is independent of the war but linked instead to growing populations in eastern Congo and the search for natural resources in Ituri. Current political instability means that there is little direction or control of human migrations and opportunities are seized without regard to existing laws, as most laws can be easily circumvented. Means to control this unrestrained immigration and resulting deforestation are absolutely necessary and are a priority for the Reserve management team.

Any efforts to control immigration, or to limit resource exploitation through a program of zoning, are inevitably met with criticism from some opponents who believe the people should have the right to move wherever they wish, and that conservation projects simply do not have the right to restrict access to natural resources. WCS and its partners in the OFR believe that in order to protect the rights of long-term residents to continue to benefit from natural resources in Ituri, some controls on waves of human groups are required. We are committed to ensuring that these controls are developed in a socially responsible fashion, in collaboration with local communities, so that future generations may continue to use the flora and fauna of the Ituri Forest to their benefit.

Table 1: Most important groups of peoples present and the nature of their claims

Group	Main activities	Nature of their claims
Bambuti/Efe	Hunting with nets (Mbuti) and bows/arrows (Efe); NTFP collection; labor in gardens; exchange with Bantu groups	Traditional use rights on forest resources
Babila, Bombo, Bandaka	Small-scale agriculture; small-scale mining; exchange with Bambuti	Traditional use rights on land (agriculture) and on mining; maintain economic as well political ties with the Bambuti
Mamvu	Agriculture	Traditional use rights on land (agriculture)
Budu	Small-scale mining and hunting using snares	Traditional use rights on forest resources, especially hunting
Walese-Dese and Walese-Karo	Small-scale agriculture and NTFP collection; small-scale hunting using snares; exchange with Bambuti	Traditional use rights on land and on forest resources; maintain economic as well political ties with the Bambuti
Nande	Both extensive and intensive agriculture; trade; mining	Immigration and mining

Table 2: Nature and extent of benefits that the protected area provides

Group	Benefits received
Bambuti/Efe	Traditional use rights on forest resources protected, job opportunities, formal education, health care
Babila, Bombo, Bandaka	Traditional use rights on land (agriculture), job opportunities, improved agricultural techniques, environmental education, school furniture, improved health care
Mamvu	Traditional use rights on land (agriculture)
Budu	School furniture, environmental education
Walese-Dese and Walese-Karo	Traditional use rights on land and on forest resources, improved agricultural techniques, environmental education, school furniture
Nande	Job opportunities

5.2 Parks and People in Gabon

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In September 2002 at the World Summit on Sustainable Development in Johannesburg, President El Hadj Omar Bongo Ondimba of Gabon announced that the Republic of Gabon was creating a new national park system protecting 10.8% of the nation's forests and coastal zones (Figure 1) covering almost three million hectares. Gabon is a country of great importance for the conservation of biodiversity. Its forests are among the richest in Africa in terms of botanical diversity and endemism, and both marine and terrestrial ecosystems support intact and abundant assemblages of large mammals. Kingdon (1997) reports over 130 mammals species in Gabon. Its forests constitute 40% of the total range of western lowland gorilla (*Gorilla gorilla gorilla*) and chimpanzee (*Pan troglodytes troglodytes*) (Tutin and Fernandez 1984), support over 60,000 elephants (Barnes et al. 1995), and possibly the highest mammalian biomass of any tropical forest (White 1994). Gabon has more species and genera of plants than other West African forests (Wilks 1990) that cover over twice the area. Gabon's biological richness results in part because the Monts de Cristal, Monts Doudou, and the Massif de Chaillu served as "forest refuges" during the dry phases of the Pleistocene era, and because Gabon has historically had a low human population (Vansina 1990).

Though the 13 national parks are of great global and continental importance as strongholds of biodiversity, in Gabon they are also valued as a means to diversify the economy which relies heavily on petroleum. The parks' scenic beauty and spectacular wildlife offer tourism potential and could, with the right infrastructure and management, be an important source of revenue for Gabon.

In the late 1990s over 80% of the forests of Gabon were in concessions to private sector companies for timber. Only a relatively small percentage of these concessions had been logged and none had been clear cut. However, global demand for wood was increasing and the pace of logging in Gabon accelerated. This spurred Lee White and Mike Fay of WCS to begin discussions with the Government of Gabon about establishing a network of protected areas to conserve the nation's biological heritage and create a series of world class ecotourism destinations.

Selecting Sites to Maximize Biodiversity Benefits and Minimize Social Impacts

To ensure that the envisioned national park system represented the most intact, biodiverse, and spectacular terrestrial and coastal ecosystems in Gabon, with minimum impact on local communities, WCS, WWF, and the Government of Gabon completed a series of ecological and socio-economic surveys in the most isolated regions of the country between 1998 and 2002. The social science work was deemed particularly vital, as establishing and maintaining a protected area network can often cause lost access and natural resource use rights for nearby communities. Recognizing this, WCS and the Government of Gabon were keen that the proposed protected area network avoid conflicts with traditional territorial claims of rural Gabonese communities, and thus minimize restriction of their access and use rights. Claudine Angoué, a specialist in issues of resource

access and benefit sharing at the Université Omar Bongo in Libreville, and Sally Lahm, an anthropologist at the Institut de Recherche en Ecologie Tropicale at Makokou, organized teams of Gabonese social scientists to survey the distribution of human settlements and natural resource use in all areas visited by the ecological teams. These ecological and social science surveys were instrumental in determining the location and shape of the 13 protected areas so that they would maximize the biodiversity conservation and minimize conflicts over natural resource use with local communities.

Several circumstances made it possible to establish 13 national parks covering slightly over 10% of the nation and avoid resource use conflicts with local communities. Historically Gabon has always had a relatively small human population (Vansina 1990), and fertility rates are relatively low because of widespread fallopian tube occlusion associated with *Chlamydia trachomatis* infections (Collet et al. 1988). The Gabonese population was further reduced by the slave trade from the 15th to the 19th century, and by a series of famines that occurred during the 1920s (Pourtier 1989). In pre-colonial times people were distributed across the landscape in small founder family groups and communities, with typically 20-50 people per group (Pourtier 1980). Peaking during the late colonial period (1945-60), the government had a policy of coerced "*regroupemen*" of villages into larger settlements along major roads and rivers. The policy was intended to allow easier government control over the population and facilitate provision of social services. The movements were justified in terms of promoting "development" by making the country's labor force more accessible to logging and mining enterprises (Pourtier 1989). After independence, the state continued this policy for several years (Barnes 1992), so that between 1960 and 1970, the number of villages in Gabon fell from about 4,200 to 2,800 (Pourtier 1989). More recently the booming oil-based economy has caused rapid urbanization such that today, Libreville, the capital city, and Port Gentil, the oil industry center, have over 600,000 residents combined. Eighty-three percent of Gabon's estimated 1.4 million people now live in towns and cities (UNDP 2006); rural populations are declining at 2.3% per year and are now almost entirely concentrated along the major roads and navigable rivers. As a result, large areas of Gabon are absent of human settlements.

A Public Taking of Private Sector Rights

With the exception of Mayumba, Akanda, and Bateke Plateau, all lands used to create the national park network were state owned. However, all parks contained timber concession areas held by one or more private companies. Therefore, creation of the national parks system required an eminent domain taking of the concessionary rights of private timber companies, and significant debate continues as to whether and how much compensation timber companies should be awarded.

Assessing the Welfare Impacts of Establishing and Maintaining Parks

Even though the protected area network was designed to avoid restricting local peoples' resource access and use rights, WCS initiated, with the support of Gabon's new National Park Authority, a long-term study to empirically assess the welfare impacts caused by the national parks.

Demonstrating the impact of protected areas on the welfare of local peoples is difficult for several reasons:

First, the tangible value of natural resources to households varies enormously. For example, in a recent meta-analysis of 54 case studies of the value of forest resources to the rural poor (Vedeld et al. 2004), average annual household income from forest resources ranged from $0 to $3,458.

Second, studies assessing the impact of terrestrial protected areas on local people are either *ex ante* predictions of social impacts or *post facto* measures of present welfare and refer to no baseline data on local households prior to the establishment of the park. The primary problem with *post facto* assessments is that merely showing that local people around parks and reserves are often poor and marginalized says little about the role that park creation actually played in their marginalization. Rather, the status of these people may simply reflect the fact that protected areas are often established in remote regions where resources may be less abundant or productive, where households rarely have access to markets, and are the last to be provided with government- or NGO-sponsored social services.

Third, studies have not been conducted to track changes in human welfare indicators over time within the same households near a protected area.

And *finally*, the welfare of households that traditionally have claims on park resources has never been compared concurrently with the welfare of "control" households that do not have such claims. As a consequence, we are unable to assess whether changes in the welfare of households near the park over time result from the establishment of the park or from other exogenous factors, such as changes in currency or commodity values that affect the welfare of all households in the nation.

Research Sites

Of the 13 protected areas created by President Bongo we selected four (Birougou, Ivindo, Monts de Cristal, and Waka) because they: a) were not subject to prior conservation or development investments (as was the case with *inter alia* Loango, Moukalaba-Doudou, Minkebé, and Pongara) and b) differed in proximity to markets, human population density, ethnic composition of local communities, and habitat types. All sites are under the jurisdiction of Gabonese National Parks Authority (Conseil National des Parcs Nationaux – CNPN), are managed with the technical assistance of the Wildlife Conservation Society, and receive support from donors, most notably the USAID Central African Regional Program for the Environment.

Data Collection Approach

To ensure that the human welfare metrics assessed in this study (e.g., consumption, health, education, social relations, income and wealth, etc.) were valid and accepted by a broad constituency, we used World Bank guidelines for assessing impoverishment risks associated with projects (Cernea and McDowell 2000) and consulted a panel of experts drawn from cultural and economic anthropology (Drs. Katherine Homewood and Ricardo Godoy), household economics (Drs. Dean Karlan and Paul Glewwe), and public health (Dr. William Leonard).

Data are being collected at both the village and household level. Household level data include an extensive panel of 2,000 households and an intensive subsample panel of 576 households, equally divided between park-influenced and control families. (Control households were selected to match park-influenced households in terms of ethnicity, market access, and wealth.) Data are being

collected by teams of trained local language assistants led by Gabonese social scientists.

At the village level we are using participatory mapping and survey methods to gather data on the extent and spatial distribution of natural resource use, market access, access to social services, and commodity prices. We will use remote sensing analysis to estimate abundance and spatial distribution of natural and anthropogenic land-cover types within 5, 10, and 20 km of each settlement.

For the household level panel we are using ethnographic methods to create a narrative history of the family in the community and to assess self-perceptions of health, economic welfare, dietary sufficiency, family cohesion/conflict, and community cohesion/conflict. We use survey methods to assess: a) demographic attributes of the household – age and gender composition, ethnicity, and education level; b) short term health; c) household wealth, proxied by the value of a standard basket of assets and the quality of house construction; and d) household income, measured as all sources of labor, trade, exchange and remittance income generated by all family members in the previous month.

Extensive panel data will be gathered on 250 households that, based on the results of the participatory mapping, historically used park resources, and an additional 250 control households outside the influence of the park in each of the four research sites. Households will be surveyed in approximately 20 park-influenced and 20 control villages at each of the four sites. Data will be gathered on each household in 2005-2006 (baseline) and again in 2009-2010. During repeat surveys attriter households will be found, whenever possible, and interviewed to determine why they left their study villages.

As single surveys tend to provide unreliable or incomplete data on income and consumption we randomly selected 72 park and 72 control households from the extensive panel at each site to conduct more intensive analyses. For the intensive panel we collect data on each household during seven consecutive days, twice per year, with sample periods chosen to ensure that both rainy and dry seasons are covered. On the first day of each week-long visit demographic and short term health data are collected. On days 2-7, household income and consumption are assessed using a 24-hour recall survey.

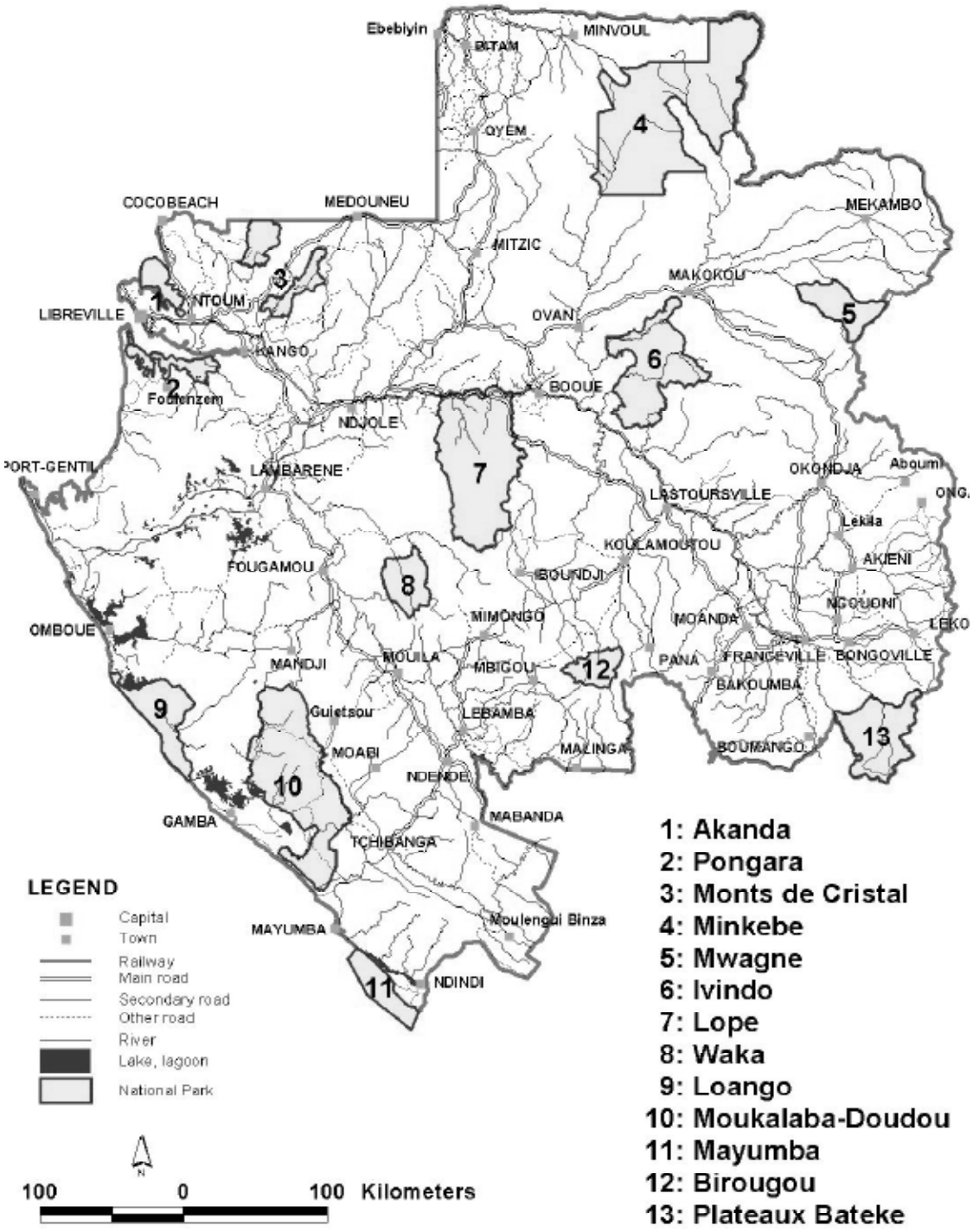
Data from the village level and extensive and intensive household panel surveys will allow us to: a) evaluate the relative contribution of natural resources to park-influenced and control household economies and to assess how this changes over time as park resource use regulations are formalized and enforced; b) evaluate the influence of market access, residence duration, access to health and education services, and ethnicity on household welfare; c) compare the sources and levels of income of park-influenced and control households over time; and d) assess (using the Gini coefficient) income, health, and consumption inequality within and across households in park-influenced and control communities, and track the level of inequality over time.

Results of preliminary comparisons of park-influenced and control households using the baseline data will be available by January 2007. Results of our longitudinal assessment of human welfare changes associated with the establishment of the parks will be available in 2011. All research protocols and blank datasheets are available, now, on request. Twelve months after completion of each survey the data, without personal identifiers, and with accompanying data dictionary, will be posted on a public access data archive such as the Data and Program Library Service at the University of Wisconsin-Madison (http://dpls.dacc.wisc.edu/archive.html) or the Internal-University Consortium for Political and Social Research at the University of Michigan (http://www.icpsr.umich.edu/org/index.html).

Implications of This Study for Protected Areas and Local Livelihoods

Results from this study will be the first to assess in a rigorous and controlled manner the impact of protected areas on household welfare. Understanding whether and how protected areas influence the welfare of households that reside close to parks and reserves is a critical first step in developing and implementing policies to address any adverse effects of parks on people, and identifying policy options that increase local benefits associated with parks.

Figure 1: New Protected Areas in Gabon



5.3 Central Africa's Protected Areas and the Purported Displacement of People: A First Critical Review of Existing Data

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In the past several years a large body of literature has been published on the involuntary displacement of local communities living in or around protected areas in Central Africa (Brockington 2004; Brockington et al. 2006; Cernea and Schmidt-Soltau 2003, 2006; Schmidt-Soltau 2000, 2001, 2003, 2004, 2005a, 2005b; Schmidt-Soltau and Brockington 2004; Schmidt-Soltau et al. 2001). These papers call into question what they see as the practice of biodiversity conservation projects to designate conservation lands without discussion with or compensation to these displaced people. They point out that people do not have to necessarily be physically displaced for their access to resources to be affected. Writ simply, they see the creation of certain national parks in Central Africa as reducing the standard of living of local communities, as they believe local people's access to their traditional lands has been restricted. These restrictions are then translated into economic losses, or more seriously, local impoverishment, caused directly by the creation of protected areas. We wish to make clear at the start that contrary to the conclusions of many of these papers, we can find no unequivocal evidence of people having been forcibly or involuntarily displaced from the protected areas cited by the authors. We will address the issue of what the authors define as economic displacement below, and we will demonstrate that the majority of the case studies are based on incorrect or inappropriate data, or at the least, data which have been interpreted incorrectly by people who have spent very little time at the majority of the protected areas in question.

The examination of restrictions imposed by protected areas is a laudable ethical objective, and the papers provide a compelling case against conservation-related resettlement. However, it should be noted that most conservation organizations have not neglected these issues. In fact, the codes of ethics of the IUCN and WWF clearly state that biodiversity conservation should be achieved in an ethical manner (IUCN 1996; WWF International 1996). Nonetheless, we would advocate that there are indeed instances where fully protected national parks may be necessary to ensure biodiversity conservation, for the good of local communities and the world at large, and that contrary to others (Schmidt-Soltau 2005b), unrestricted access to natural resources in all cases is neither sensible nor desirable over the long term. Any efforts to limit resource exploitation, even through collaboratively designed programs of zoning, are inevitably met with criticism from some individuals who believe that people should have the right to move wherever they wish, and that conservation managers simply do not have the right to restrict access to natural resources. Many conservation organizations believe that some controls on natural resource exploitation are necessary. Part of this reasoning is to protect local and indigenous communities as they continue to use and rely on those resources. Most conservation organi-

zations are committed to ensuring that these controls are developed in a socially responsible fashion and in collaboration with local communities. A discussion of who should be compensated, for what, can be found in a recent paper by Wilkie et al. (2007) which also examines how local people, communities, and governments have restricted access of others to natural resources in an historical perspective.

This paper examines the validity of data from the 12 case studies in six Central African parks cited by Cernea and Schmidt-Soltau (2003, 2006) and Schmidt-Soltau (2003). The same data are used for multiple papers to support the authors' arguments relating to the human welfare costs of protected area establishment, which is, in turn, being uncritically cited by others also questioning whether such trade-offs are acceptable (e.g., Hutton et al. 2005; Tiani and Diaw 2006). All the data were collected by Schmidt-Soltau alone. To avoid multiple citations of the same data in the various publications, we will refer to the data source as "Schmidt-Soltau." The sites concerned range from protected areas established in colonial times to new ones established in the last five years. These papers provide an overview of the surface areas of the different countries, area of original forest cover, rate and extent of tropical forest loss, and the extent of protected areas in each country. The data on the specific sites presented include: 1) park area, 2) whether there is a resettlement policy, 3) the population in or around the parks, 4) whether people were expelled from parks or denied access to previously used land, 5) whether there is a compensation strategy, and 6) whether there was any demonstrable "success."[1]

We echo the call of Wilkie et al. (2006) for the use of sound science to examine these issues, as the perceived conflict of poverty alleviation and biodiversity conservation is creating polarized viewpoints that are, at times, based more in the halls of academia than in real-life village and park situations. The presentation of detailed and accurate data is essential when constructing and testing hypotheses about cause and effect. In this paper the accuracy of the data presented in the Schmidt-Soltau articles is examined and found wanting in various ways; more precise data are offered instead to demonstrate a more accurate picture of what is happening on the ground, and in the communities around these protected areas in Central Africa.

Following is a review of definitions, background information, and park-specific data used by Cernea and Schmidt-Soltau.

Country Profiles and Forest Loss

For an overview of forest loss, rather than drawing on data from different years spanning 1998-2005, the authors would have been better advised to use Minnemeyer (2002), which summarizes data from all the Central African countries for present forest cover. Area data from the Food and Agriculture Organization (2003) are also standardized to a common year: the figures on the FAO website are arguably the most consistent. Even so, there are errors in the forest loss calculations. For example, the line concerning the Republic of Congo first quotes the surface area of the country as being 341,500 km^2, all of which is assumed by the author to have originally been tropical forest, and which has now, according to Schmidt-Soltau, been reduced by 38% (or by 33.4%, this figure varies within the various Schmidt-Soltau papers). According to Sayer et al. (1992), originally only about 65% of the Congo was tropical forest (the central area of Congo is a plateau of savannah and gallery forests). The figure that Schmidt-Soltau are probably citing is "*38% tropical forest loss in 1992*" from Davis et al. (1994), who estimated that this was what had been lost of the original 213,400 km^2 of forest by 1992.

The population of Gabon is estimated at 1.4 million, of whom 83% are urban (UNDP 2006). In other words, about 238,000 people live in the rural areas. Only 5% of the population is considered to be malnourished (UNDP 2006), in contrast with most of the rest of sub-Saharan Africa (30%). For food security, Gabon is on a par with, for example, Kuwait, Belize, and Mexico and better than that of several Eastern European countries (UNDP 2006).

Traditional Forest People: The Ba'aka

Throughout Central Africa, so-called "pygmies" or Ba'aka live in an uneasy partnership with Bantu villagers. For example, the Babenzelé live in the south of the Central African Republic and in northern Republic of Congo; the BaNgombe along the Sangha River and in eastern Cameroon; the Baka in the Dja, the Bakola live in Central Congo and eastern Gabon; the Babongo in south-central Gabon, and so on. Here we use the accepted collective term for these people, the Ba'aka.

The Sites and Research Methods

The data that are presented in the papers are cited as being collected as follows: *"Between 1996 and 2004, I conducted surveys in twelve protected areas and National Parks in six countries. Some visits resulted from consultancy contracts directly related to resettlement, dislocation and questions of landownership, others were official or private project visits"* (Schmidt-Soltau 2005: 283). More detail is given in Cernea and Schmidt-Soltau (2006: 1816): *"Some of the research visits resulted from consultancy contracts, while others were research visits. In cases 2, 3, 4, 6, 9, 10, all villages have been visited, while in the other cases a representative sample has been drawn."* An earlier paper, Cernea and Schmidt-Soltau (2003: 8) cites the methods as "*Some field visits resulted from consultancy assignments directly related to resettlement, dislocation and questions of landownership, others were official or personal research visits.*" The Schmidt-Soltau (2003) paper says essentially the same thing, only for eight of the sites: the Dja, Boumba-Bek, and two parks in Gabon (Loango and Moukalaba-Doudou) were added in later publications. It is unfortunate that the authors note that most data on displaced peoples "are rough estimates based on published and unpublished data" (Cernea and Schmidt-Soltau 2003b: 8; Schmidt-Soltau 2005a: 285), as all subsequent estimates of the value of lost access to natural resources, the cost of compensating displaced people and so forth are based on these "rough estimates." Finally, we find the practice of acknowledging the "contributions" (see footnote in Cernea and Schmidt-Soltau 2006: 1808) of people who were not aware they were participating in these "studies" and who certainly do not agree with the authors' conclusions, to be misleading. To look at these on a case-by-case basis, we drew on the published documentation, our own experience, and data gleaned from years of working in and around most of these protected areas.

Dja Biosphere Reserve, Cameroon

This protected area was first gazetted in 1950 as a wildlife and hunting reserve, and in 1981 was named as a Biosphere Reserve and in 1987 as a World Heritage Site. There are several villages within the Reserve and about 50 villages within a kilometer of the Reserve limits (ECOFAC Dja GIS database). The area of the Reserve cited by the Schmidt-Soltau series of papers is correct (5,260 km^2), but the population cited is the number of people living outside the Reserve, and therefore using a much larger area than the park alone. No people were resettled to create the park (R. Fotso, pers. comm.).

Korup National Park, Cameroon

This was originally established as the Korup Native Administration Forest Reserve in 1937. A series of enclaves were created for three of the villages within the protected area to allow the people to remain legally inside the Reserve. Permission was given for rights of way, fishing, hunting, and the collection of food materials and palm products. By 1980 the Korup Forest Reserve had been adopted as an official project of WCI (latterly WCS) and, some time later, WWF. From the early 1980s government officials and conservationists stressed that resettlement was inevitable, but that resettled villages would enjoy better facilities than they currently possessed once they were relocated.

The issue of resettlement was therefore discussed with the inhabitants of the settlements involved well before the Korup Forest was decreed a national park. With reference to a previous article, Schmidt-Soltau (2000; 2003) states that in the case of Korup National Park (KNP), the prospective resettlers barely negotiated or defended their interests at all: The inhabitants of the Park agreed to resettle "voluntarily" without a written agreement or compensation. However, Schmidt-Soltau fails to point out that from 1981 onwards, a series of meetings was held between governmental authorities, project staff and park inhabitants, where the issue of resettlement was discussed and negotiated (Malleson 2000). Assessments were also carried out by government officials to calculate compensation for resettling the villages. A dossier was then submitted to the Presidency but was rejected on the basis that there was no provision for compensation and no suggested alternatives to resettlement (Gartlan 1984; Malleson 2000).

In 1986, Korup National Park was gazetted and the boundaries of the Korup Forest Reserve were extended eastwards to include two more villages. The legal basis for the enclaves inside the Park was removed (MINEF 2002). This meant that the inhabitants of the Park had an ambiguous legal status. The creation of Korup National Park was accompanied by additional and increased funding for the Korup Project. Concerns over the issue of resettlement were hotly debated by project staff, and some of the consultants working there raised concerns over this issue in their reports (Devitt 1988; Ruitenbeek 1988). Nevertheless, the resettlement of Park inhabitants remained central to Korup Project implementation plans.

However, Schmidt-Soltau is wrong to say that Park inhabitants failed to defend their interests. In 1987, the people of Erat and Ekundu Kundu (both settlements located inside the KNP), as well as the people of Ekon 1 (located on the western periphery of the Park), appointed a lawyer to represent them over the issue of resettlement. Representatives of these three villages, along with the lawyer, visited the Secretary of State for Agriculture, the Secretariat General of Tourism, and the Presidency to express their concern over resettlement (Malleson 2000). In addition, two élites (one of whom was a retired government minister) submitted a resettlement proposal to the government and the Korup Project in 1987.

The original Master Plan produced for the Korup Project in 1989 (WWF 1989) reinforced the opinion that all Park villages should be resettled. It was stressed, however, that all resettlement should be voluntary, meaning that people move to a site of their own choice and at their own time. Due to lack of government capacity, responsibility for resettlement was left to the Korup Project. In 1994 funds were provided by the EU. Finally in February 2000 the first village (Ekundu Kundu I, with 189 people representing 23 households) was officially moved to a new site outside the Park (Tiani and Diaw 2006). However, questions were raised concerning the final cost and the benefit of resettlement; the cost was more than 360.000.000 FCFA, or about $506,000 at 2000 exchange

Table 1: Sites referred to in the recent literature and summarized in Cernea and Schmidt-Soltau (2006: 1814). Areas from WDPA (2005) apart from Gabon where data from CNPN (2002) is used.

Site no.	Name	Date of gazettement	Country	Total area (km^2)	Impact on local population claimed by Schmidt-Soltau	Population quoted by Schmidt-Soltau
1	Dja Bio-sphere Reserve	1950	Cameroon	5260	Expulsion of Pygmy-bands; Dispossession	7800
2	Korup NP	1937; 1986	Cameroon	1295	Involuntary resettlement of villages; Dispossession	1465
3	Lobeke NP	1974; 2001	Cameroon	2178	Expulsion of Pygmy-bands; Dispossession	4000
4	Boumba Bek NP	2005	Cameroon	2487	Expulsion of Pygmy-bands; Dispossession	4000
5	Dzanga-Ndoki	1990	Central African Republic	1143	Expulsion of Pygmy-bands; Dispossession	350
6	Nsork NP	2000	Equatorial Guinea	700	Expulsion of settlements; Dispossession	10,000
7	Loango NP	2002	Gabon	1550	Expulsion of settlements; Dispossession	2800
8	Moukalaba-Doudou NP	2002	Gabon	4495	Expulsion of settlements; Dispossession	8000
9	Ipassa-Makokou**	1971	Gabon	100	Expulsion of Pygmy-bands; Dispossession	100
10	Cross-River Okwango Div.	1991	Nigeria	640*	Involuntary resettlement of villages; Dispossession	2876
11	Nouabale-Ndoki NP	1993	Rep. of Congo	4190	Expulsion of Pygmy-bands; Dispossession	3000
12	Odzala NP	1935	Rep. of Congo	12882	Expulsion of Pygmy-bands; Dispossession	9800

* Erroneously called “Ipassa-Mingouli” by Schmidt-Soltau.
** The area is the same as the previous Okwango Forest Reserve.

rates, which equates to $22,000 per household. The average annual GDP per capita in Cameroon is about $2,200 (UNDP 2006). The remaining funds were insufficient for the resettlement of the remaining five villages, and from 2001 all further resettlement was suspended. Therefore the claim of Schmidt-Soltau that 1,465 people were resettled is incorrect, and that the resettlement was involuntary is also incorrect (Schmidt-Soltau 2000; 2003).

Following the suspension of all further resettlement the long-term management options for those villages remaining inside the Park was evaluated (Diaw et al. 2003). Various solutions were presented including boundary modifications to excise some villages, the formal recognition of enclaves for other villages, and with resettlement recommended outright for only one small community. The Korup management plan (2003-2007) states that further resettlement is not realistic in the near future and that alternative arrangements for managing Park villages are required. It recommends that the usufruct rights of Park villages in the meantime can be accommodated through the establishment of *Temporary Use Zones* (MINEF 2002). These zones would temporarily legalize subsistence farming, fishing, and hunting activities within a prescribed area of the Park according to agreed regulations, rights, and responsibilities.

In the section on "joblessness" (Cernea and Schmidt-Soltau 2006:1819), the authors stress the need to assess the pre-displacement income of people to be resettled. In the case of KNP this was actually undertaken. In addition to the assessments that took place in the early 1980s, a detailed household census and income data were collected from all the villages to be resettled as well as the villages within 4km of the Park boundary in 1988. (Devitt 1988; Infield 1988; Ruitenbeek 1991.) No reference to these works is made in the Cernea and Schmidt-Soltau (2006) paper even though the authors could have been aware that the data exists.

Lobeke, Boumba-Bek and Nki: General

There is regulated access of indigenous peoples into Lobeke, Boumba-Bek, and Nki National Parks in southeastern Cameroon. An agreement was reached with local Bantu communities at large and Baka pygmies in particular on selected use zones inside the park for harvesting of bush mangoes, shrimp fishing, wild yams, and other valuable forest products other than wildlife. Fourteen community hunting territories have been established with technical assistance from Gesellschaft für Technische Zusammenarbeit – German Development Aid (GTZ) and WWF in surrounding forest areas of the three national parks. WWF and GTZ have been promoting integration and participation of Baka pygmy communities in overall natural resource management processes in southeast Cameroon. There have been no evictions in Lobeke, Boumba-Bek, and Nki.

Lobeke National Park, Cameroon

In various citations (Cernea and Schmidt-Soltau 2003b, 2006; Schmidt-Soltau 2005a), Schmidt-Soltau refers to the displacement of approximately 4,000 people caused by the creation of Lobeke National Park in southeastern Cameroon. However, the population estimates provided by Schmidt-Soltau appear to come from national level census figures for southeastern Cameroon (PROFORNAT 2003), which includes people who live many kilometers away from the Park, and are probably not even aware of its existence, let alone impacted by it.

Teams working for the Wildlife Conservation Society (WCS) spent years working in the forests and the villages in southeastern Cameroon in the prelude to the creation of the Lobeke National Park, specifically to ensure that impacts

of the creation of the protected area (which was originally proposed as a faunal reserve, and in fact was only gazetted as a national park in 2003) would have minimal impact on local communities. There are detailed demographic and socio-economic data available from this work (WCS 1996) which present a clearer and more realistic summary of the situation than that proposed by Schmidt-Soltau. In fact, WCS focused its social science work in the nine villages (and the associated Ba'aka camps) closest to the proposed protected area. In 1995 there were a total of just over 5,000 people living in those target villages. These villages were 20-40 km away from the proposed protected area boundary, and the lengthy socio-economic surveys and interviews and hunting studies indicated that with the exception of some dry-season fishing spots, they had no need to go to the protected area. Therefore, we are not sure how the authors arrived at their figure of 4,000 people displaced by this park (and a similar number for Boumba-Bek, which in fact has even fewer people living nearby, and no permanent villages inside: see next section). It is unfortunate as well that the authors appear not to have read in its entirety one of their own citations for this park, for they would have noticed that these villages were supportive of the creation of a protected area: "Many area residents have indicated that they would be willing to support total protection of a core area (even if their own activities were limited there) if an adequate amount of forest were also set aside for traditional subsistence and economic activities" (Curran and Tshombe 2001: 526). And indeed, this is precisely what has happened with the creation of Lobeke National Park, which is buffered by an area gazetted for local community resource extraction. Today, in Lobeke, the Ba'aka pygmy community is being assisted by technical partners to obtain 5,000 ha of community forest. The indigenous forest people may access certain forest areas to perform traditional rituals.

Boumba-Bek National Park (BBNP), Cameroon

Boumba-Bek National Park was created in 2005 and covers 2,382 km^2. In 1995 the Boumba-Bek-Nki Essential Protection Zone (ZEP) was created. Between 1996-2000, the national forestry authority and its partners then carried out biological, ecological, and socioeconomic studies to collect information for the gazettement of the protected area. Based on these studies, and on the 1995 Government of Cameroon Land Use Plan, the Government of Cameroon, WWF, and GTZ organised a series of meetings between 1999 and 2001 with the local populations of about 30 villages around Boumba-Bek. These meetings were to inform the villages, and to discuss and negotiate the future limits and user rights. At the end of the meetings, the limits that had been proposed in the original national land use plan were revised, and the surface area was reduced according to the wishes of the local populations. It is important to note that no village was within the final park boundaries, and that the mean distance between the villages and the park limits is about 20 kilometres in a straight line. User rights of the local populations were not prohibited. They were defined according to the existing legal texts which apply country-wide (for example Décree No 2005/3284/PM of 6 Cct. 2005).

Today as in the past, the Ba'aka populations of the region continue to carry out their traditional/ customary activities in the Park. In order to ensure these customary rights for the indigenous people (for example by integrating them in the management plan currently in preparation), WWF, Forest Peoples Project (FPP), and some local NGOs are facilitating a participatory mapping process and are undertaking studies on the spatial patterns of resource use of the Ba'aka in the Boumba-Bek region.

Cernea and Schmidt-Soltau (2003, 2006) cite Curran and Tshombe (2001: 521) with respect to population figures for Boumba-Bek National Park (also in southeastern Cameroon), despite the fact that this paper makes not a single mention of Boumba-Bek.

Dzanga-Ndoki National Park, Central African Republic

This site is a multiple-zone protected area gazetted in 1990 within which a WWF and GTZ project to help the government manage the area for integrated conservation and development has been active since 1988 (Blom 1998; Carroll 1998). The main settlement is the logging town of Bayanga, which has had a fluctuating population of between 1,500 and 5,000, depending on whether the sawmill is in operation; it has opened and closed several times since the Park was gazetted. It is hard to know where the figure of 350 people expelled came from. However, no people or settlements were moved when the protected area complex was created, and two-thirds of the area was left open for people to continue to hunt, fish, and collect forest products using legal methods: These details can all be found in the regulations of the protected area.

Altos de Nsork (or Nsoc) National Park, Equatorial Guinea

The source of the data published in Schmidt-Soltau (2005a) is cited as "Schmidt-Soltau, unpublished data." The visit was the first of one of the "unofficial or private visits," and in fact the year of his visit is cited as 1998 (Cernea and Schmidt-Soltau 2006; Schmidt-Soltau 2003). There are discrepancies in estimates of area and human population. For example, although the area of this site is quoted as 5,150 km² (for example in Cernea and Schmidt-Soltau 2006), the area on available maps (Larison 1999; ECOFAC GIS database) is just over 1,000 km², and was cited at only 700 km² by Machado et al. (1998), Pérez de Val (2001), and most recently by the WDPA (2005).

The Schmidt-Soltau papers give a population density of 1.98 people per km² and suggest that ca. 10,000 people had been affected by displacement or dispossession due to the creation of the national park in 2000. However, a researcher familiar with the area, Jaime Pérez de Val, states that "the human population within the Park is small, but probably exceeds 5,000 in the surrounding villages" (Pérez de Val 2001: 271). According to Machado (1998) the population of the whole Altos de Nsork area is 2,000. The difference between these other published data and that of Schmidt-Soltau's figure is not explained.

Although identified as a possible protected area in 1988, Nsork was only given legal status as a national park in 2000. Pérez de Val (2001:271) reported that until 2001 "no official protection measures have been implemented" and this has been confirmed by recent communication with national institutions (C. Obama *in litt* 2006). Given the disparity in population estimates coupled with a notable lack of protection measures it is difficult to accept that up to 10,000 people have been affected by "expulsion of settlements" and "dispossession" (Cernea and Schmidt-Soltau 2006b:1814).

Ipassa-Makokou Reserve, Gabon

The northern part of the Ivindo National Park in Gabon (gazetted, like all the other national parks of Gabon in 2002) overlaps with the Ipassa-Makokou Reserve (Okouyi et al. 2002) (not the "Ipassa-Mingouli Reserve" as cited by the Schmidt-Soltau series). This area has been heavily hunted for the last 25 years as the nearby town of Makokou and its associated bushmeat markets have grown. It is not clear where the data cited by Schmidt-Soltau on the number of people

nor on the expulsion of "pygmy" (sic) bands comes from. The Reserve was originally 100 km^2 and was later enlarged to 300 km^2, but no Bakota (Ba'aka) have ever lived in this area (J. Obiang, pers. comm.): Their territory is to the east and north of Makokou. Numerous Bakota, however, have their fishing camps all along the Ivindo River. This area is now inside the Ivindo National Park, gazetted in 2002. At present, these fishing camps are not considered to be illegal (even if their presence does violate the spirit of the national park model), and people have never been moved out of them.

It is worth mentioning here that the national parks of Gabon were designed specifically to avoid including villages inside their area in order to minimize conflict between local people and park authorities. Nevertheless, a recent unpublished study by Kramkimel et al. (2005) made demonstrably erroneous claims about displacement around the network of Gabon parks: This report claims that 14,000 people were displaced by the creation of parks in Gabon, a figure which has been completely discredited by the Gabonese National Park Service. The table on page 201 of this report details displacement numbers for the 13 Parks and then adds another line for "New Parks," but no new parks have been created since 2002. When challenged on the veracity of these figures, Dr. Schmidt-Soltau responded in an email (dated 6/6/2005): "*Le chiffre de 14.000 est une estimation. Pas plus pas moins*." (The number 14,000 is an estimate. Not more, not less.) And an erroneous estimate at that, considering that not a single individual has been displaced by the creation of any of the parks, which, as noted earlier, were designed specifically in order to avoid conflicts with communities.

Cross River National Park, Nigeria

Cross River Park was established by presidential decree, along with many other Parks in Nigeria, in 1991. A WWF-organized and European Development Fund-funded feasibility/planning study (1988-90) suggested the most appropriate boundaries for the Park. However, these recommendations were, in the end, not followed, and the existing forest reserves were declared a national park, as this was a much simpler political process and much cheaper than trying to negotiate for non-reserve land to become a protected area.

South of the Cross River, the Oban Hills Group of forest reserves became the Oban Division of Cross River National Park, and north of the Cross River, the Okwangwo, Boshi, and Boshi Extension Forest Reserves became the Okwangwo Division of the Park. Part of the Oban Hills had been made into a forest reserve back in 1912, one of the first in Nigeria, and additional areas were added later: Okwangwo was gazetted as a forest reserve in 1930, Boshi in 1951 and Boshi Extension (140 km^2) (for its gorillas) in 1958. Farming had therefore been restricted in these forests for a long time, but gathering of NTFPs and hunting continued at high levels. The area of the Park is not well-established, nor are its boundaries. Many current maps show the Park boundaries as recommended by the 1988-1990 WWF-EDF study, and are therefore highly inaccurate. The old Forest Reserve boundaries have not been resurveyed for a very long time and in some cases were only ever crudely mapped (as in the case of Boshi Extension). Rough estimates are: Oban Division: 3,000 km^2, and the Okwangwo Division: 640 km^2, for a total of about 3,700 km^2.

A larger number sometimes appearing for Okwangwo (920 km^2), which is quoted in the Schmidt-Soltau papers, was the *proposed* rather than actual area. This proposed area included the three enclaved communities of Okwangwo, Okwa, and Balegete (which cover a total of 80 km^2), which were never, in the end, gazetted. In addition, the proposal included the Obudu Plateau (100 km^2)

and the Mbe Mountains (100 km^2), that were also never gazetted as part of the Park.

When the Okwangwo Forest Reserve was gazetted in 1930, three villages/settlements were "enclaved" within it: Okwangwo, Okwa 1, and Okwa 2. At the time that the Okwangwo FR became part of the Cross River National Park it technically had no people living in it, because only the Forest Reserve legally became a park and the enclaves were not in the Forest Reserve. Therefore the human population in the Park when it was decreed was zero. There was never any suggestion that the people of Okwa and Okwangwo would be resettled "involuntarily." However, resettlement has certainly been given a lot of thought, because the settlements have grown and their farm area has now spilled beyond the enclave boundaries, such that the Okwangwo Division of the Park is threatened with being divided into two. The people of Okwa and Okwangwo hunt inside the park with few if any constraints, so even the claim of "dispossession" (Cernea and Schmidt-Soltau 2006: 1814) has no real validity. Early on in the planning of the Park, therefore, discussions were held with the people about a voluntary resettlement, and land to be settled was identified outside the Park boundary (south of Butatong). To quote from the WWF plan for developing the Okwangwo Division (Caldecott et al. 1990): "In the case of the three communities of Okwa 1, Okwa 2 and Okwangwo...it is necessary to recommend that they be invited to participate in a resettlement programme, and this should be implemented as early as possible in the Project...Since involuntary resettlement is disallowed, the onus of establishing compliance through a correct balance of incentives and disincentives will be firmly on Project management." People of course were not prepared to resettle unless they received compensation; terms of compensation were never agreed (and no willing donor found), so no resettlement occurred. However, prompted by the Governor of Cross River State, the Federal Government (Ministry of the Environment) is currently investigating options for the resettlement of the three enclaves.

Nouabalé-Ndoki National Park (NNNP), Republic of Congo

Schmidt-Soltau visited the Park headquarters, which is 20 kilometers away from the Park itself, on three occasions, including two short (social) visits. During these latter visits he stayed in the Park HQ as a guest of project management, aside from one afternoon trip lasting an hour or so, to the nearby village of Bomassa, and a trip inside the Park to a tourist facility. In his publications, Schmidt-Soltau writes that there was *"expulsion of Pygmy-bands and dispossession/expropriation"* (Cernea and Schmidt-Soltau 2006: 1814) when the Park was created, without any citation (unless the authors are referring to an acknowledgement of the "contribution" [Cernea and Schmidt-Soltau 2006] of the former Nouabale Ndoki Project Director, who in any case never suggested that anyone was forcibly displaced from the Park, because this did not happen). In fact, there are no signs of recent human habitation within the area of the Park. Analyses of oil-palm kernels found in the beds of streams throughout the area shows them to be between 900 and 2,300 years old, with the highest oil palm population dating from about 1,700 years ago (Fay and Blake 1998). There are no living oil palms in the Park today. This suggests that there were settlements there about 900 years ago, but that people left.

The Ba'aka peoples of the area are split into two main groups: the BaNgombe, who came from the Cameroon side of the Sangha and settled along its banks, and the Oubanguian Babenzelé people, who came from much further to the east and have settled in villages and camps up the Motaba and Mokabi watersheds, and across into the Central African Republic. None of these people

used the area that is now the National Park for any reason other than hunting elephants for ivory. This was a highly organized activity, carried out by Bantu or Hausa commercial ivory hunters, who had access to the financial resources required to buy a heavy-duty elephant gun (which costs at least $300), and commercially made slugs (about $7 each). These were lent to Ba'aka teams in the forest under the control of a Bantu leader or "manager" who ensured that there was a supply of manioc and other necessities, and who also ensured that ivory from the elephants killed by the band reached the owner of the gun. The Ba'aka were usually paid in kind (elephant meat, cigarettes) and given a small sum of cash ($5-10) in return for hunting expeditions lasting a few weeks. This sort of activity cannot be considered "use of a forest patch" by a "pygmy-band," as they reaped little reward for their efforts and most of the value of the ivory went to people outside the area and often outside the region. Most of the Ba'aka people living around the NNNP (and the contiguous Dzanga-Ndoki National Park in CAR) live in the existing towns and villages along the major rivers of the region (Sangha, Motaba, etc.) in an uneasy and subservient role to the Bantu living in those villages.

Schmidt-Soltau suggests that 3,000 people in "pygmy-bands" were expelled when the Park was created. It is impossible to understand where this number came from. When Schmidt-Soltau visited northern Congo in 1999 and 2001, there were only 280 people living within a distance of 20 kilometers (about two days walk there and back) of the NNNP boundaries (all in the small village of Bomassa-Bon Coin) (WCS annual census data). There were at most 4,000 people living within 50 kilometers of Park boundaries in Congo, mostly in the two logging towns of Kabo and Ndoki II (Government of Congo 2001), which are major poles of attraction in the region for people hoping for employment in a sawmill or with a logging company.

Under the section "*Facing the Risk of Food Insecurity,*" which is found in several of these very similar papers (e.g., Schmidt-Soltau 2003), the authors again use the NNNP as a case study. They state that the villagers living around the NNNP receive subsidized food from the conservation project, because crop raiding by elephants undermines the efforts to establish farms. It is true that elephants started coming to two small villages (total population 200+ people) in late 1998, after enforcement of existing Congolese law started successfully protecting them. The authors then state that "*during the 1999 civil war in Congo, the WCS team had to leave the country. Since the villagers did receive (sic) neither donated food, nor had farms for subsistence, they had to start re-hunting for cash (to buy farm products) and for subsistence…it seems obvious that the new generation, which does not have the skill to survive as hunter-gatherers is facing an increasing risk of food insecurity* (Cernea and Schmidt-Soltau 2003: 17)."

Firstly, because the villages are not, and never have been, in the National Park, the villagers had always hunted for subsistence: Most forest antelopes and monkeys are not protected by Congolese law, and it is perfectly legal to hunt them for family and local consumption. Most young men in the village have an excellent hunting skill set, as they hunt regularly for subsistence. In addition, since the promotion of "enlightened self-interest" policies by the project, where people no longer hunt commercially, the amount of wildlife available for subsistence hunting has greatly increased, allowing protein intake per capita to increase (meat is not being sent away from the village but is being consumed by the community). Thus there is no risk of food insecurity.

Secondly, the war in Congo was in 1997-1998, not 1999, and therefore pre-dated the elephant crop-raiding: There were still farms around the village,

and there was not yet the system of provision of subsidized food. Thirdly, WCS did not leave the country, but maintained a skeleton management staff together with the local Government Head Warden, who assured the continuation of the Park base and of salary payments to villagers employed by the project. Most other NGOs and bilateral agencies (including GTZ) did indeed leave Congo; many returned about six years later or have not yet returned.

Odzala National Park, Republic of Congo

The citation concerning the Odzala National Park (Republic of Congo) (Cernea and Schmidt-Soltau 2003b) claims that when the Park was created, there was *"expulsion of Pygmy-bands and expropriation."* In the footnote to this table, it is explained that the expulsion of pygmy-bands "*refers to the expulsion of 'pygmies' which do not utilize permanent settlements, from some parts of the forest utilized and inhabited by them on a temporary bases (sic)*" (Cernea and Schmidt-Soltau 2003b: 8). In fact, in Odzala, which is the oldest national park in Congo, villages (not pygmy-bands) were moved from within the protected area at its creation in 1935 during the colonial period, and were settled along the roads of the region. A further regrouping of villages in the whole country – completely unrelated to the protected areas – took place from 1968-1971 under the direction of the local administration, which again concentrated people along the roads (Hecketsweiler et al. 1991). The old locations of these villages can be clearly seen from the air as clusters of oil palm trees on hilltops, and some of these sites are still visited on ceremonial occasions by the villagers who now live in the main village of Mbomo and in nearby Mbandza. During the early part of the last century, the colonial authorities in general moved people out of the interior forests and onto the roads, chiefly for the purposes of taxation and control. Had the authors of the paper consulted some of the anthropological documents available from Odzala (e.g., Gami 1995a, 1995b, 1999; Lia and Gami 1995) this would have been clear. The numbers of people displaced are probably documented in the colonial literature and it would have been preferable to see a reference to one of these historical documents to support these figures. A good source of historical documentation of the Sangha region, for example, is the book produced in 1998 by the Yale group (Eves et al. 1998) which pulls together historical, biological, and social approaches of the various concessions, foreign powers, logging companies, and conservation organizations in the region over the last couple of centuries.

Risks of "Joblessness," "Homelessness," and "Economic loss"?

To date there has been no published comparison on the welfare of households that traditionally have claims on park resources with "control" households that do not. This type of study requires a large sample size, and "before" and "after" scenarios. However, a new MacArthur Foundation supported study of the human welfare impacts of national parks in Gabon will soon provide us with just such information (Wilkie et al. 2006 – see previous chapter).

The economic analysis of these Schmidt-Soltau papers *("Facing the risk of landlessness")* rests on a livelihood survey in Takamanda, in SW Cameroon, on the Nigerian border. It is stated that this is *"one of the remotest areas"* of central Africa (Schmidt-Soltau 2003: 535) whereas in fact there are former logging roads leading into this area that are maintained by local communities, and two new access roads currently under construction to the south and east of the present reserve, one of which has been motorable since 2000 (Sunderland et al. 2003a). The numerous rivers that characterize this area also provide boat access to most of the area and are a key evacuation route for many forest prod-

ucts, including timber. The author further states that *"no conservationists or state agents had penetrated this area before the survey"* (Schmidt-Soltau 2003: 535), so it must be presumed that the authors were unaware of the body of work carried out previous to their survey, and subsequently published both as grey literature and in a recent book (Comiskey et al. 2003). These documents include work carried out and reported on by WWF between 1997 and 2000 (Groves and Maisels 1999) and by previous researchers (Critchley 1968; Ifeka 1999; Thomas 1988). In fact, during the time of Schmidt-Soltau's socio-economic fieldwork, a large-scale, long-term (2000-2003) multi-taxa assessment of the Takamanda Forest Reserve was being undertaken with funding from the Smithsonian Institution (Comiskey et al. 2003) and longer-term livelihoods surveys were also being undertaken by a UK Department for International Development (DfID) funded research project from 2000-2005 (Sunderland 2006). During the period between 1999 and 2004, Takamanda was in fact the subject of considerable field-based scientific research. During his 2000 surveys, Schmidt-Soltau was often encountered by researchers in communities, so it is puzzling to know why he considered that there had never been previous work at the site and why he had not consulted the existing literature.

The claim that "*our team which included officials from the Cameroonian Ministry of Environment and Forests (MINEF) was the first government team seen in the region for thirty years*" (Schmidt-Soltau 2003: 535) is also incorrect and underplays the role of the Government of Cameroon in the region. Despite its relative isolation, vaccination campaigns bring government health workers to the area at least twice a year, visits that were noted by Schmidt-Soltau himself in his 2001 report (Table 10, page 28) making his claim of undertaking such pioneering work even less credible. Periodic visits by parliamentarians during elections also bring local government officials to the communities. Local MINEF staff, including the Chief of Section for Wildlife, were engaged by the WWF-funded gorilla surveys which began in 1996 as they were for the Smithsonian project. Finally, the GTZ project around Takamanda in 2000 – an initiative in which Schmidt-Soltau was engaged as a consultant – involved numerous pre-project missions to the area and visits from officials from both GTZ and the Government of Cameroon.

It is questionable that household income data from the Takamanda region can be extrapolated across the Central African region as claimed. Suggesting that it has been "*documented that these data can be used as baseline data for un-conserved forest for the entire Congo Basin*" (Cernea and Schmidt-Soltau 2006: 1820) is somewhat disingenuous given that this documentation relies on citations of his own work. Firstly, there are some inconsistencies in the way this economic data is presented in the various reports. For example, in the recent World Development paper (Cernea and Schmidt-Soltau 2006) Schmidt-Soltau uses the terms "settlement" and "village" synonymously, implying a higher sampling of independent communities than is actually the case. The original socio-economic report (Schmidt-Soltau 2001) provides some clarity, however. On the Cameroon side of the border, 43 villages and 87 settlements were surveyed: the difference being an arbitrary use of "settlement" to mean separate areas of the same village. Yet the data are consistently presented by each of the 43 villages; there is no distinction between villages and settlements. In addition, it is stated that "*the average per capita income of 2,400 households in 68 settlements*" were utilized (Cernea and Schmidt-Soltau 2006: 1820). Firstly, it is unclear what accounts for the discrepancy in number of settlements surveyed, and secondly the original socio-economic report refers to 2,827 households being visited for census purposes while only 840 "*granted an insight of their*

socio-economic reality" (Schmidt-Soltau 2001: 2). The figure (2,827) corresponds to the total number of households within and around the Takamanda Forest Reserve and, by his own admission, 12% of these were either absent or refused to cooperate during the Schmidt-Soltau one-off surveys. Unless further surveys were undertaken, Schmidt-Soltau's own reports contradict the data presented in later papers.

It should be remembered that although Takamanda may be remote by Cameroonian standards, Cameroon is the tenth wealthiest country in Africa (UNDP 2006) and economic analyses based on Cameroonian standards cannot necessarily be applied throughout the region. As an aside, the average GDP per capita in Cameroon is only a third of that of Gabon but over double that in Congo (UNDP 2006); so comparing even neighboring countries in the same region using Takamanda as the model is invalid. In addition, Takamanda runs along a highly porous international border with Nigeria, a voracious consumer of forest products including timber, NTFPs, and bushmeat. The economy in and around Takamanda benefits from these thriving markets and cross-border trade as forest resources in Nigeria continue to decline significantly (Malleson-Amadi 1993; Sunderland 2001; Sunderland et al. 2003b). Consequently, household incomes in Takamanda are significantly higher than they are in other remote areas elsewhere in Central Africa where there may be little or no market access and, as such, are not representative of the wider region. Based on an intensive three year study of 320 households which included a detailed baseline household survey followed by five recall surveys of the same households (to capture the effects and influences of seasonality), research funded by DfID found that the average per capita income for the inhabitants of Takamanda was 79.39 Euros (Malleson et al. 2006); higher, incidentally, than the figure cited by the Schmidt-Soltau surveys. The majority of this cash income is derived from the sale of forest products to Nigeria. These unique economic conditions are not present in the other survey sites in Central Africa and it is questionable whether it is appropriate to use such data for extrapolation. However, in order to calculate estimated income loss per capita from the supposed displaced peoples from each protected area in the analyses (a number which is vastly inflated), these unrepresentative figures from Takamanda are used – and multiplied together – creating unsubstantiated figures.

For Odzala National Park (Congo), the supposed economic loss caused by protected areas is calculated by the lost potential stumpage fees from logging. However, French colonial authorities established this park in part because of the low economic value of the forest area (low stem density) and none of the timber trees reach marketable densities (Maisels 1996). Hence, these extrapolations of data from other sites cannot be freely applied without knowledge of each forest.

The "Risk of Joblessness" discussion in the Schmidt-Soltau (2003: 537) paper suggests that "*it should be possible to negotiate an agreement with the rural population that they do not hunt certain endangered species*" by offering hunters guns instead of using wire traps. This suggestion demonstrates a lack of understanding of hunting practices in this area. Certainly in Korup and Takamanda areas, a significant proportion of hunting is carried out at night with the use of lamps. It is very difficult to distinguish the species being shot in the dark. This same recommendation was made in the hunting regulations of the buffer zones of the Nouabalé-Ndoki National Park, but with the stipulation that there be no hunting at night. In fact, the wildlife law of all Central African countries stipulates no night hunting (and no use of wire snares) anywhere in the country, inside or outside of protected areas.

Another significant criticism of Schmidt-Soltau's writings is his fundamental misunderstanding of the livelihoods of some of the groups of people he studied in Southwest Province, Cameroon (from the Korup and Takamanda areas). In his 2003 article, Schmidt-Soltau refers to his "livelihood survey" of the people in Takamanda and the challenge for the resettlement of "non-sedentarized people." In the Cernea and Schmidt-Soltau (2006) paper, several general references are made to the people as "hunter-gatherer societies" "incipient horticulturalists" and as going through "a shift from foraging to farming" (Cernea and Schmidt-Soltau 2006:1812). Whilst some of the cases he refers to may have once traditionally been "non-sedentarized hunter-gatherers" (e.g., Ba'aka) this is certainly not the case for the people of the Korup and Takamanda areas. The ethnic groups of these areas have been living in semi-permanent and permanent villages since at least the 16th century (Malleson 2000). Farming both for subsistence, for barter and cash income plays a significant role in the economy of these settlements. The inhabitants of the Korup Forest area have grown cocoa on their farms since the beginning of the 20th century. So to refer to these people as incipient horticulturalists or non-sedentarized people is misleading.

In Schmidt-Soltau's papers, the section "Facing the risk of homelessness" refers to "huts of semi-permanent settlements as well as huts of hunter-gatherers" that "hardly involve cash expenses and can be built without much effort." People of the Korup and Takamanda forest areas who live in what they regard as permanent structures with thatched or corrugated metal roofs with wooden window and door frames and wattle and daub, plank or cement block walls, would be appalled to read that their houses "can be built without much effort."

Summary

To summarize, in the series of papers based on Schmidt-Soltau's studies, it is difficult to accept their evidence as fact. *If* the facts were correct, then there is a clear moral case to be made. We have looked at a subset of the protected areas cited by Schmidt-Soltau, and of these, many of the facts presented are misrepresented or are incorrect and it is clear that there was no "detailed study" undertaken at certain sites. This does not bode well for the rest of the case studies presented. Until there is a better-researched review of the possible impacts of protected areas on human welfare, based on substantiated (and substantial) field visits and thorough data collection, the basis for the claims made by Schmidt-Soltau and his colleagues should be viewed skeptically by scholars both in the conservation and socio-economic/socio-political fields. Publications like those produced by Schmidt-Soltau influence decision-makers at the large donor agencies and within national governments. When the information on which it is based is poorly gathered and makes false assumptions, it can misinform policies, which can be detrimental for conservation but also redirect focus away from rural issues in Central Africa that really need attention. Despite this, the overall issue of displacement and its role in conservation remains a vital one for analysis and action by conservation organizations as well as others.

[1] Defined as a situation "when all parties reported their satisfaction with the outcomes during our assessment" (Cernea and Schmidt-Soltau 2006b: 1815).

PART 6
THE MARINE REALM

6.1 Displacement in Marine Protected Areas: Making Sense of Social Change

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In recent years, there has been increasing discussion of conservation interventions as both a vehicle for sustainable social development and as a source of social costs (Agrawal and Redford 2006; McCleave et al. 2006; Nagendra et al. 2006; Newing and Wahl 2004; Wilkie et al. 2006). Of particular concern has been the positive and negative social impact of parks and other types of protected areas. (Brechin et al. 2003; Colchester 1997; Stevens 1997). The physical, economic, and sociocultural displacement of local peoples from protected areas has generated especially intense discussion in the academic literature and popular press (Chapin 2004; Dowie 2005; Paddock 2006), as scholars and others have debated the concept of "displacement" (Cernea 2006), its extent and magnitude (Cernea 2000; Schmidt-Soltau 2005), and its moral or ethical appropriateness (Brockington 1999; West and Brechin 1991).

Like any protected area, a marine protected area (MPA) is a socially constructed set of rules that collectively governs human interactions within a spatially-defined area and, in so doing, allocates access to and use of natural resources among stakeholders (Mascia 2004). Because MPAs allocate access to marine resources – and the economic wealth associated with these resources – it is not surprising that MPA development, management, and reform are politically and socially contentious. Here we develop a conceptual framework for understanding different forms of displacement related to the establishment of marine protected areas, drawing upon the political economy literature to characterize the rights lost, retained, or gained. The reallocation of rights to marine resources directly and indirectly manifests itself in different social domains; across time; in space; and among groups.

Conceptualizing Displacement

Displacement has been defined in various ways by different authors. For some, displacement includes economic and social exclusion from resources (Cernea 2000), while others view displacement as physical exclusion, a phenomenon conceptually and morally distinct from the loss of economic or resource use rights. The concept of "displacement," however, focuses on just one side of the coin (the excluded). To understand the full empirical and ethical dimensions of (marine) protected area displacement, it is critical to consider both the "losers" of resource rights and the "winners" of these same rights, which provides insights into issues of power, equity, and justice. Are the powerful gaining rights? Are "winners" more marginal or impoverished than the "losers"?

Focusing on rights reallocation, rather than physical displacement, also allows us to differentiate between the process through which protected area

rights are reallocated and the substantive impacts of this reallocation. The structure of decision-making processes has a major impact on how rights are reallocated – and to whom (Ostrom 1990) – making it essential to examine the process through which protected areas are established. Procedural justice, however, is distinct from substantive justice (Stone 1988). Here we focus on the substantive impacts of MPA rights reallocation, which enables us to characterize the types of social impacts that follow the emergence and evolution of MPAs (which may be the product of either legitimate or illegitimate decision-making processes). Rigorous study of the substantive social impacts of protected area rights reallocation provides the basis for decision makers to develop appropriate policies, such as compensation for those experiencing negative impacts and taxation of those given economic windfalls.[1]

MPA Establishment and Rights Reallocation

All forms of "displacement" involve reallocation of property rights, but the specific types of rights lost, retained, and gained dramatically shape the magnitude, extent, and equity of social impacts. The most basic property rights that an individual may hold are the rights of *access* (Schlager and Ostrom 1992). *Access rights* are the rights to enter and to pass through a defined space. MPA access rights include rights of transit, the reallocation of which may prescribe how, when, and where individuals may travel in or through a MPA. Loss of travel rights may disrupt access to markets and social relationships among communities, as well as diminish sense of place (memory, history, and myth associated with location [Fortwangler and Stern 2004: 158]). Conversely, restrictions on certain forms of access (e.g., motor boats) may preserve cultural traditions and/or enhance other forms of resource use. Communities in Rarotonga, through reinstitution of traditional MPAs (Ra'ui), banned passage of jet and water skis in favor of other, less disruptive activities (Hoffman 2002).

Withdrawal rights are the rights to appropriate the flow of goods or resources generated by a natural or manmade resource system (Schlager and Ostrom 1992). Withdrawal rights, therefore, govern both consumptive (e.g., fishing) and nonconsumptive (e.g., scuba diving) forms of marine resource use. In MPAs and other natural resource systems, reallocation of withdrawal rights reshapes the manner in which resources can be exploited and, as a result, may have significant economic and social ramifications – particularly in resource-dependent communities. Researchers have documented both positive and negative impacts of MPA withdrawal rights reallocation on subsistence and commercial resource use patterns (Hoffman 2002; Ngugi 2001), traditional lifestyles (Fortwangler and Stern 2004; Gelcich et al. 2005), and cultural identity (Oracion 2005). Collectively, access and withdrawal rights are termed *use rights*.

Management rights are the rights to regulate resource withdrawal and to "transform the resource by making improvements" (Schlager and Ostrom 1992: 251). Thus, management rights confer the authority to determine what MPA resources may be exploited and when, where, and how such exploitation may occur. In countries with state-managed marine resources, the establishment of community-based and co-managed MPAs, for example, represent the partial (co-managed) or complete (community-based) transfer of state-held management rights to local resource users.[2] Devolution of management rights in the Moheli Marine Park (Comoros Islands), for example, led the local community to restrict certain types of fishing gear (Granek and Brown 2005). Significantly, management rights also include the rights to control resource transformation and improvement; in the case of MPAs, this includes installing mooring buoys to prevent boat anchor damage (e.g., Hol Chan Marine Reserve, Mascia 2000)

and adding fish aggregating devices to enhance fish catches (e.g., Miyako, Okinawa, Kakuma 2006).

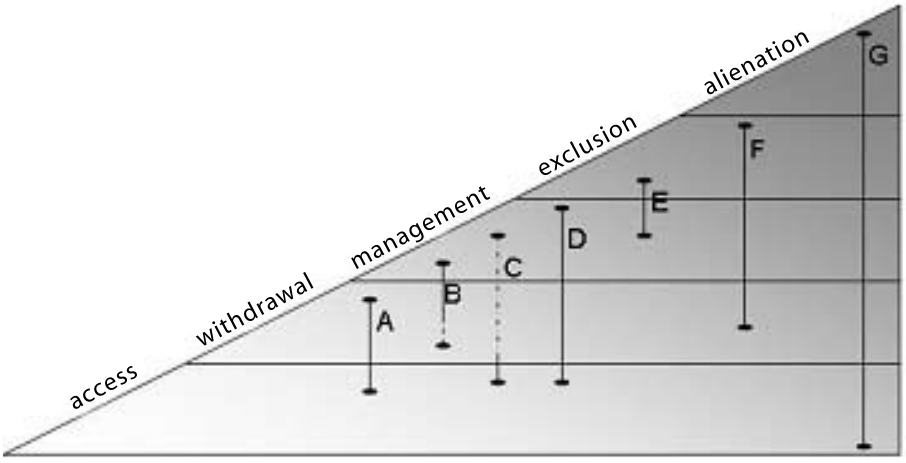
Exclusion rights, as the name suggests, confer the authority to exclude individuals from entering a defined space (Schlager and Ostrom 1992). Thus, while MPA management rights confer the ability to shape what MPA resources are exploited when, where, and how, exclusion rights confer the ability to determine *who* may engage in resource exploitation. In community-based and co-managed MPAs, local resource users ("insiders") gain or retain exclusion rights and may prevent "outsiders" (e.g., non-local fishermen) from accessing the MPA for *any* manner of resource use (e.g., Apo Islands, Philippines, Russ and Alcala 1999) or require non-locals to obtain a permit for entry, for which a fee is often required (e.g., Hol Chan Marine Reserve, Mascia 2000). These preferential resource use rights not only grant local users a greater share of the MPA resource benefit stream, but may also reduce local resource exploitation and create incentives for more sustainable patterns of resource withdrawal. Loss of exclusion rights, by contrast, transfers significant control over resource use to outsiders.

Alienation rights are the rights to transfer resource management and exclusion rights to another actor (Schlager and Ostrom 1992). The state generally holds MPA alienation rights, but there are situations in which alienation rights may be held by other actors or transferred as part of MPA establishment. In MPAs with terrestrial components, for example, local residents may hold rights of alienation to the land upon which they live, enabling them to sell or lease it to others. Similarly, fishermen and other resource users may hold the right to transfer rights of resource management and exclusion associated with marine territories or other marine resources. In the South Pacific and elsewhere, communities or kin-based groups often hold alienation rights over specific coral reefs or other defined marine features, which they may sell, lease, or rent to other users (Akimichi and Ruddle 1984; Ruddle 1996). In Belize, establishment of the Hol Chan Marine Reserve resulted in the reconfiguration of alienation rights; the authority to transfer lagoon fishing rights shifted from local fishermen (fishing territory "owners") to the co-managed MPA authority, which subsequently restricted the transfer of fishing rights to intra-familial transfers only (Mascia 2000).

MPAs usually reallocate bundles of these five types of rights (Figure 1). In Australia, for example, establishment of the Lord Howe Island Marine Park reallocated access and withdrawal rights: who could enter (residents), the type of gear that entrants could use (drop lines), and what entrants could do with their catch (consumption only on island) (Bishop et al. 2004). MPAs in the Philippines reallocated management, withdrawal, and use rights by involving local stakeholders in some management decisions (*how* the MPA would be used) and subsequently reshaping rules governing consumptive (seasonal restrictions on shellfish gathering) and nonconsumptive (dive operations) activities (Oracion et al 2005). Establishment of the Moheli Marine Park in the Comoros Islands led to significant reallocation of management rights; local ecoguards now monitor and enforce the decisions of local communities regarding withdrawal (such as location and method of extraction) and access rights (no motorized boats, Granek and Brown 2005). The reinstitution of Ra'ui on Rarotonga similarly reallocated some management rights (community meetings determined what uses would be allowed) along with withdrawal rights (all consumptive uses banned for months to years, particular recreation uses allowed, Hoffman 2002). In some cases, reallocation of exclusion and management rights does not impact withdrawal or access rights; establishment of the Marine Extractive Reserve of Arraial do Cabo, Brazil, led to reconfiguration of decision-making

organizations without substantively changing resource use (da Silva 2004). In its most extreme case of MPA rights reallocation, the full set of property rights may be transferred as part of MPA establishment (Figure 1, G).

Figure 1: Protected area displacement continuum (based on property rights framework developed by Schlager and Ostrom [1992]). Figure highlights different bundles of property rights reallocated through MPA establishment. Vertical lines represent the reallocated bundle of rights (solid lines = permanent reallocation; dotted lines = temporary reallocation). Establishment of the Lord Howe Island Marine Park (example 'A'), for example, reallocated withdrawal and access rights from one authorized claimant to another. A: Lord Howe Island Marine Park, Australia (Bishop et al. 2004); B: Mabini, Philippines (Oracion 2005); C: Rarotonga (Hoffman 2002); D: Moheli Marine Park, Comoros Islands (Granek and Brown 2005); E: Arrial do Cabo MR, Brazil (da Silva 2004); F: San Salvador Island, Philippines (Christie et al. 1994): G: reallocation of all rights. See text for further discussion.



Ripple Effects of MPA Rights Reallocation

MPA rights reallocation may impact the governance, wealth, health, education, social capital, and culture of resource users, local communities, and other social groups (Table 1, Khurshid and Mascia in prep.; Mascia 2004). As many have noted, MPA establishment may have negative impacts on those individuals and groups losing ownership and use rights, while those gaining corresponding rights may benefit accordingly (Mascia 2004). Wealth impacts may include change in income, consumption, and natural and material assets. Change in food security may be considered a wealth or a health impact. School enrollment rates and other educational variables may be shaped by MPA establishment. Less tangible (but no less important) MPA impacts on social capital and culture include shifts in trust, partnerships and alliances, identity, and sense of place.

The impacts of reallocating rights to MPA resources vary within and among social groups. MPAs often restrict fishing rights, for example, transferring these rights to others. In some instances, MPAs limit only certain types of fishing, transferring the benefits of resource extraction from one subgroup to another (e.g., net fishers vs. line fishers). In other cases, fishing rights are transferred from one community to another, as local resource users exclude fishers from outside the immediate community. In both of these cases, as well as in cases where all fishing is prohibited, limits on extractive resource use may create new economic opportunities for individuals engaged in dive tourism and other forms of non-extractive resource use. This reallocation of benefits may induce shifts in wealth, health, education, and culture, which can vary in accordance with the specific resource use and community, gender, class, religion, and age.

Table 1: Potential direct and indirect social costs and benefits of MPA rights reallocation. Categories adapted from Khushid and Mascia (in prep). Asterisked items (*) indicate items highlighted by Cernea's framework of physical displacement risks (2000).

Social cost	Social benefit
Governance	
Decreased resource control Property lost* Use rights lost Conflict resolution mechanisms weakened	Increased resource control Property gained Use rights gained Conflict resolution mechanisms strengthened
Wealth	
Employment lost* Income lost* Assets lost* Consumption reduced	Employment gained Income gained Asset gained Consumption increased
Education	
Public services lost* Human capital lost* Education opportunities lost	Public services gained Human capital gained Education opportunities gained
Health	
Health diminished* Food availability reduced* Nutritional status diminished Psychological well-being diminished Health services reduced	Health enhanced Food availability increased Nutritional status enhanced Psychological well-being enhanced Health services increased
Social capital	
Social networks degraded* Social status lost* Partnerships/alliances lost Trust lost	Social network increased Social status gained Partnerships/alliances increased Trust gained
Culture	
Cultural space lost* Local knowledge lost Sense of place diminished Norms and values undermined	Cultural space gained Local knowledge gained Sense of place enhanced Norms and values reinforced

MPA rights reallocation may also have secondary social impacts. Users whose rights are restricted within a MPA may migrate to exploit natural resources in adjacent areas, creating new social challenges (e.g., resource conflict) and opportunities (e.g., novel management practices) for existing resource users and others in these new host communities. Simultaneous with this out-migration, those who gain rights may physically migrate to a MPA to take advantage of new opportunities, inducing change in their communities of origin and creating new challenges and opportunities in the MPA community.

MPAs not only reshape resource governance, but, through this process, induce changes in resource use patterns and in the resource system itself. Limiting consumptive resource use within MPAs generally leads to increases in the populations of fish and other species targeted by fishers (Halpern 2003; Halpern and Warner 2002). As these populations increase within the MPA, fishers with limited rights within the MPA may get better catches of fish. Furthermore, fish adults and offspring may "spill over" into adjacent waters outside the MPA; this spill over of both adults and larvae may increase catches in adjacent waters, compensating for the loss of fishing access within the MPA (Alcala and Russ 1990; Russ et al 2004). The positive externalities generated through this MPA spill over dynamic may create incentives for resource users to restrict their own behavior.[3] These spill over benefits may accrue to resource users across oceanographically-connected seascapes 10s-100s of kilometers wide. Research suggests that the initial biological benefits of MPAs appear within several months after MPA establishment (Halpern and Warner 2002), though it may take several years for the full benefits to accrue (Galal et al. 2002; Roberts et al. 2001; Ward et al. 2001).

Conclusion

Protected area "displacement" touches upon numerous conceptually distinct and socially charged issues. Effective resolution of these legitimate procedural and substantive concerns requires us to disaggregate these issues, so that we may better understand each of them and the collective relationships among them. An explicitly property rights-based approach to understanding the social impacts of protected areas provides us with a fine-grained analysis to examine not only displacement, but the full range of positive and negative social impacts. Research demonstrates that MPAs have varied positive and negative impacts on local communities, depending upon how the MPA is designed and implemented. To date, however, scientific discussion of spatial, temporal, and cross-MPA variation in the magnitude and extent of these social impacts remains largely unexamined. A critical next step in conservation social science research, therefore, is to document and explain variation in the impacts of MPAs on governance, wealth, health, education, social capital, and culture.

[1] Focusing on the process through which protected area rights are reallocated allows us to better identify illegitimate decision-making processes (which may have either positive or negative substantive impacts) and design appropriate procedural reforms. Discussion of procedural aspects of protected area decision-making processes has focused on stakeholder participation and free prior informed consent (Dearden et al. 2005; Lepp and Holland 2006; McNeely 1999).

[2] Recent trends towards decentralization and devolution of marine resource management rights (often in the form of MPAs) (Johannes 2002) have reversed a centuries-old trend of state appropriation of marine resource management rights from resource users (Johannes 1978; Ruddle 1996).

[3] While MPA biological success and subsequent spillover creates incentives for resource users to restrict use and to comply with rules, the biological success of a terrestrial protected area may create negative externalities (e.g., crop-raiding wildlife) that create incentives to break 'no hunting' rules and limit spillover/conservation effectiveness.

PART 7
INTERNATIONAL POLICIES

7.1 Protected Areas and Human Displacement: International Conventions, Policy, and Guidance

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Conservationists have demonstrated that people living around protected areas may receive direct and indirect benefits from those areas, including, for example: access to wildlife that leaves the protected area and becomes available to hunt in the buffer zone; watershed protection; local climate buffering; employment in ecotourism. However, there clearly are instances when local communities lose access to land, forest resources, and development opportunities when strict protected areas are established. In these cases, conservationists face both moral and practical dilemmas in balancing competing claims between the public good and individual or community economic and cultural losses. This paper will briefly discuss the issue of equity as it relates to costs imposed on local communities, whether through restriction of access to resources, or actual translocation, and the attempts of multilateral institutions to develop policy guidelines that can assist conservationists in cases where conservation activities may result in some form of displacement.

The past half-century has produced a large and increasingly sophisticated set of international instruments and guidelines governing issues of equity and the rights of local and indigenous people. Land rights have been central to this discussion. The issue of displacement of local people from existing or proposed protected areas shares many characteristics with displacement caused by development, urban renewal, or energy generation and even armed conflict. The development of international human rights law surrounding displacement (or forced evictions or involuntary resettlement) in these contexts, and the adoption of corresponding policies and guidelines by a broad range of institutions that may directly or indirectly be responsible for such displacement, provides WCS with the framework for developing its own policy for fair, transparent, and positive interactions with local and indigenous peoples who may live in or near conservation sites. This policy context also provides a lens through which to evaluate past conservation practices and the criticisms that have sometimes been leveled at them.

Treatment of Displacement in International Human Rights Law

Principles of land rights for local and indigenous people are derived from broader concepts of universal human rights – rights that should be granted to the individual regardless of the legal jurisdiction in which he may find himself.

The rights identified in the UN Charter were further delineated in the non-binding Universal Declaration on Human Rights in 1948,[1] which in turn served as the foundation to the International Covenant on Civil and Political Rights[2] and the International Covenant on Economic, Social and Cultural Rights, both negotiated in 1966.[3] Together, these documents establish the widely accepted

international norms on individual land rights, cultural rights, rights to movement, information, and other protections for indigenous peoples upon which much interpretation on forced evictions and resettlements is based.

On the basis of these agreements, the Committee on Economic, Social and Cultural Rights, a treaty-authorized adjudication body, concluded that "[f]orced evictions constitute prima facie violations of a wide range of internationally recognized human rights," including the rights to freedom of movement, to choose one's residence, to personal security, to work, to information and popular participation, and even family life. Evictions "can only be carried out under exceptional circumstances and in full accordance with relevant provisions of international human rights law."[4, 5]

Signatory states to human rights conventions (i.e., most countries) are legally bound under international law to ensure the internationally recognized human rights, and are responsible for displacement that is illegitimate or in violation of these agreements. States are obligated to apply appropriate penalties against any entity that carries out extra-legal displacement, including international organizations that sponsor or implement projects that contravene international protocols.[6]

Principles of Eminent Domain and Protected Areas

Eminent domain has a long history derived from English feudal property laws, and is the only legal means by which private land rights can be usurped by the state. Nearly every country has legislation describing when and how private property might be taken by the state, and what compensation is required, although they vary in specific procedures, in the strength of their protections for private rights, and in compensation. These laws are frequently subject to capricious interpretation and application, and remain the subject of judicial interpretation, even in countries with well-developed legal systems (cf. Kelo v. New London in the United States).

To the extent that protected areas are established by governments, the taking of land or access to resources for the protected areas is governed by the relevant eminent domain laws of that country, and the state bears ultimate responsibility for the fair application of its laws, and for preventing forced evictions, no matter who may be driving that policy.[7] A taking that does not adhere to eminent domain laws of a country is by definition illegal. This, however, should not allow non-state actors such as NGOs or corporations the room to abrogate responsibility for outcomes that may harm local people; non-state partners in the creation of protected areas (or in any sphere) expose themselves to criticism on human rights grounds if their protected area establishment is expedited as a result of lax government enforcement or improper application of eminent domain in a country.

Conservation Community Response

Traditional use rights and the protection of indigenous people have been on the radar screen of the major conservation NGOs for several decades.

IUCN – World Conservation Union

Conservationists have not been idle spectators in the human rights debate on displacement. Despite the criticisms leveled at conservation organizations for their disregard for local communities, the conservation world has often found itself in alliance with indigenous and local groups in efforts to avoid displacement due to development projects. IUCN has consistently taken the view that conservation goals are rarely incompatible with traditional land uses. IUCN

policy has also been explicit in its support of efforts to integrate traditional peoples into conservation practice.

Nearly every IUCN Congress has endorsed one or more resolutions, supportive policies that safeguard traditional forms of sustainable use and eschew displacement. The 2003 World Parks Congress in Durban highlighted its commitment "to involve local communities, indigenous and mobile peoples in the creation, proclamation and management of protected areas." Of the major goals of the Action Plan negotiated at Durban was to secure the rights of indigenous peoples, including mobile indigenous peoples, and local communities in relation to natural resources and biodiversity conservation. Significantly, Durban also recognized the validity of applying a variety of protected area governance types (including community conserved areas) to all IUCN categories of protected areas.[8] Resolutions passed in Durban also strengthened IUCN policy against forced expulsions. The IUCN positions in some sense capture the "bigger picture" – that there are natural alliances between those who eschew diversity (cultural, biological, economic) and those who promote efficiency, market forces, and globalization.

Convention on Biological Diversity

The preamble to the convention notes the close dependence of traditional and local communities on biological resources. Article 8(j) of the Convention calls on parties to respect, preserve, and maintain traditional knowledge relevant for the conservation and sustainable use of biodiversity. With these emphases, the Convention has primarily concerned itself with securing the intellectual property rights of local and indigenous people (through coordination with and advice to the World Intellectual Property Organization)[9] and guaranteeing the inclusion of traditional knowledge in environmental impact assessments. The issue of displacement per se has not been significant within the CBD negotiations, as the treaty itself is weighted toward securing gains to local people from biodiversity.

Ecosystem Approach.[10] The ecosystem approach endorsed by the parties to the Convention implicitly recognizes that indigenous peoples and local communities are important stakeholders and are critical to the direct implementation of the Convention's goals. The CBD's guidance on sustainable use of biodiversity (the Addis Ababa principles[11]) promotes the needs of local people and implies they should be compensated for their efforts on behalf of sustainable use (including, presumably, uses foregone to enhance the prospects of long-term sustainability).

Global Environment Facility. The GEF, the financial mechanism of the CBD, was created largely in recognition of the unequal distribution of costs and benefits of biodiversity conservation. The GEF aims to cover the incremental cost to nations for securing the conservation and environmental benefits which accrue globally.

Program of Work on Protected Areas.[12] This program included specific actions toward improved governance, participation, equity, and benefit-sharing. The overarching goal of this program is to establish (by 2008) mechanisms to ensure equity of costs and benefits of protected areas. In practice, this requires signatories to assess the impacts of protected areas on local people and provide fair compensation for losses. Other targets require mechanisms to ensure the full and effective participation of indigenous and local communities in the establishment, management, and monitoring of protected areas.

Traditional Knowledge and Intellectual Property Rights. The CBD's focus on the preservation of traditional knowledge has led to extensive negotiation on the conduct of cultural and social impact assessments for any projects that will affect traditional lands, culminating in 2004 Akwé: Kon[13] guidelines, which suggest procedures.[14]

Development Agencies

Economic development agencies and financing institutions have much more experience than conservation organizations in tackling displacement issues. The construction of dams alone has resulted in the displacement of millions of people, and, unlike the rezoning of land for protected areas, the inundation of traditional lands for hydropower causes irreversible displacement and a drastic change in the landscape and its resources. Millions more have been displaced through the building of urban infrastructure, ports, mines, irrigation projects, large industrial facilities, and roads and railways. As a result, development agencies that finance projects that lead to human displacement have been leaders in developing the guidelines for mitigating the negative effects of displacement, which can serve as a useful model for conservation organizations.

World Bank Operational Guidelines.[15] Each of the multilateral development banks has instituted guidelines to govern treatment of indigenous and local peoples whose lands or livelihoods are impacted by development projects. World Bank Operational Policy (OP) 4.12 states that its involuntary resettlement policy cover any expropriation of land that results in "(i) relocation or loss of shelter; (ii) loss of assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location, or...the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons." A key footnote to the policy further clarifies that the definition of "displacement" includes restriction on the use of resources for people living outside the area, or for those who continue living inside the park after its creation. As the definition has been adopted, the world's major development agencies have moved towards policy consensus that restricted access is a form of displacement."[16]

Compensation. The World Bank requires that compensation measures to mitigate impacts of displacement be determined with the participation of affected people during the design of the project. This participatory process helps establish the criteria for eligibility of displaced individuals, and measures to assist them in their efforts to improve their livelihoods, while maintaining the sustainability of the protected area. The Word Bank also has an operational directive on indigenous peoples (OD 4.20) that instructs the bank to assist borrowers in helping to establish or strengthen traditional peoples' land rights prior to any project developments that may impact land titles.

The Organization for Economic Cooperation and Development (OECD),[17]Asian Development Bank,[18] Inter-American Development Bank,[19] the IFC,[20] and others have instituted similar guidelines for the protection of local and indigenous people.

Discussion

In conflict resolution, fairness of outcomes is mainly determined by the adequacy and perceived equity of the process by which those outcomes were achieved, and thus international guidelines on displacement focus on insuring equality of

stakeholder participation and requirements for free, prior, and informed consent of all participants in a conflict situation.

Conservationists have intrinsic motivation to support the fair distribution of costs and benefits of protected areas, as achieving this goal has both ethical and practical components for the implementation of conservation. Conservation organizations, as members or partners to IUCN, have implicitly endorsed the resolutions against physical displacement of local people except under the rarest exceptions and only after high standards of free, prior, and informed consent have been met. On the practical side, it is self-evident that protected areas should be easiest to manage when they have community support. It would therefore seem that conservationists have powerful, built-in incentives to avoid displacement, or at least to manage it with utmost concern for ameliorating local peoples' grievances.

In examining the repeated, increasingly emphatic and comprehensive resolutions, recommendations, and guidelines put forth by the international human rights and conservation communities, it is difficult not to conclude that conservationists have in fact been quite responsive to the concerns of indigenous and local communities; indeed, one could argue that conservationists have been natural allies with local people, at least through formal policy-setting mechanisms in IUCN and the CBD. Why, then, have these guidelines, some adopted decades ago, not been effective at deflecting criticism by local people, indigenous rights groups, and social scientists? If we accept as given that these criticisms and grievances have a legitimate basis, only three possible explanations remain: 1) The laws/guidelines are inadequate; 2) the guidelines aren't followed by practitioners; and/or 3) conflicts are real and intractable at some level and simply must be managed more effectively.

A significant shortcoming of international covenants of any kind is that all of the exhortations of the international community imply some foundation of good governance at the national level to provide for the impartial and equitable application of those covenants. Good governance relies on such factors as fairness and legitimacy of political actors, voice and participation by those closest to the resource (subsidiarity), the possibility of legal recourse, transparency, and accountability.[21] These characteristics are sadly lacking in many polities.

Implementation of best practices on displacement is also hindered by questions over land tenure and the need to determine the legitimacy of various claims as a prerequisite to even managing a fair participatory process. This issue extends far beyond the scope of conservation, but yet is integral to our work to establish fair and effective governance mechanisms for protected areas.

Despite the apparent policy consensus that the support of local communities is vital to the success of protected areas, in practice achieving this support is a substantial undertaking. At a minimum, success requires a legitimate participatory process in which all parties have the opportunity to defend their rights. Even after a decision is reached, ongoing accountability and transparency is necessary to provide community groups assurance that arrangements are being implemented as agreed. Monitoring and evaluation of management effectiveness, and of the long-term impact of restricted access, are important components, but are often overlooked in park management planning. Given these complexities, it would indeed be surprising to find a protected areas project that did not falter in some aspect, leaving some stakeholders dissatisfied and critical of the process. Land use policy clearly can sometimes bring parties into conflict that is not amenable to negotiation.

Resolving displacement issues has increasingly been seen by international development agencies as integral to their missions of development and poverty alleviation, rather than as just the sacrifice which can be mitigated by a cash payment.[22] This perspective may provide a useful model for conservation as well.

This is not to suggest that conservation organizations divert their mission to resolving poverty alleviation problems, but rather that working in partnership with indigenous and local communities to resolve the conflicts surrounding human access to protected area resources is inherent to the task of conservation and in fact provides a more relevant model for the future. At a time when 12% of Earth's land surface is already under some form of formal park designation, it is difficult to imagine a substantial expansion of the current state-managed protected areas portfolio. Displacement conflicts in the future are less likely to revolve around the establishment of new protected areas than around managing land uses more generally. Of greater potential interest is how to adjudicate "displacement" or "access" issues as they relate to zoning and other restrictions (e.g., hunting bans) on private lands, forestry concessions, or other multiple-use lands on which more wildlife-friendly policies might be suitable. In this context, managing "displacement" is just one aspect in development of a broader public policy consensus on the integration of conservation and development goals more generally. Significant opportunities for conservation organizations to influence this discussion exist at the local, national, and regional levels, but our influence in part depends on our ability to forge alliances with affected rural communities.

The development of new paradigms for governance and management of protected areas can help us negotiate these alliances. WCS has notable opportunities to provide input to international-level policies on governance in a way that supports our conservation goals while underscoring our common cause with local communities. WCS has already shown itself able, through various programs, to develop site-specific solutions to these inherent conflicts (c.f. McNab, Karanth, Castillo, this volume) With our deep commitment to sites and to science-driven conservation, we have both the local knowledge and the technical expertise to help convince a broad group of stakeholders of the value of conservation among competing claims at a site. Our effectiveness in this process may be aided by a more explicit institutional commitment to working with a broader range of stakeholders on the basis of principles established by a number of the international policy instruments noted in this paper.

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9 See, for example, Decision VI/10.

[10] Convention on Biological Diversity, Vth Conference of Parties, Decision V/6: Ecosystem approach. 2000. Available at http://biodiv.org/decisions/default.asp?lg=0&m=cop-05&d=06.
[11] Convention on Biological Diversity, Addis Ababa Principles and Guidelines - Full Text. 2003. Available at http://www.biodiv.org/programmes/socio-eco/use/addis-principles.asp#2.
[12] Convention on Biological Diversity, Conference of Parties, Decision VII/28: Programme of Work on Protected Areas. 2004. Available at http://biodiv.org/decisions/default.aspx?m=COP-07&id=7765&lg=0.
[13] Pronounced "agway-goo," a Mohawk term meaning "everything in creation."
[14] Secretariat of the Convention on Biological Diversity, Akwé: Kon Voluntary guidelines for the conduct of cultural, environmental and social impact assessment regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and water traditionally occupied or used by indigenous and local communities. CBD Guidelines Series. 2004, Montreal: CBD.
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PART 8
ACADEMIC PERSPECTIVES

8.1 From Displacement Conservation to Place-Based Conservation

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The viability of biodiversity conservation based on a model of protected areas is being questioned in the developing world, and new evidence is emerging on the social and ecological costs of displacing people in order to "impose wilderness" (Neumann, 1997; Igoe, 2004). At the same time, new data shows that certain forms of land use and tenure regimes can conserve most biodiversity, although there are tradeoffs in all forms of conservation land use. A vigorous debate that was frequently based on fragmentary data is giving way to a more nuanced appreciation of the costs and benefits of varying forms of land use and their benefits to conservation. This is greatly assisted by the maturation of models of community forest management such as for timber in Mexico and indigenous reserves in Brazil (Velásquez et al. 2004; Bray et al. 2005; Nepstad et al. 2006)

Strict protected areas or "parks" were a US creation, as in the iconic parks of Yellowstone and Yosemite, although it is now known more clearly that in both cases wilderness was created by banishing or placing under strict controls indigenous peoples who had managed the landscape for millennia. As the strict protected area model has vigorously expanded in the developing world over the last several decades, parks have commonly been created in areas where indigenous and local peoples are still resident, and where displacement, when attempted, receives a good deal more attention than it did in the 19th century US.

Human displacement for the creation of parks has a troubled history in the developing world. Despite some early examples, active displacement of long resident peoples in Latin America is rarely done (Bray and Anderson 2005). Displacement efforts are slightly more common when external colonization by land-hungry settlers overruns a protected area, but barely so, since even quasi-democratic governments prefer a few angry environmentalists over thousands of poor citizens. Active displacement does, however, continue to occur in other parts of the world. For example, an estimated 40-45,000 people were displaced from nine protected areas in six Central African countries (Cernea and Schmidt-Soltau 2003). This assessment estimated that as many as 250,000 may have been adversely affected by these displacements, largely without compensation. That these large-scale recent displacements take place in the some of the poorest societies and most authoritarian governance systems in the world should cause conservationists to question the defensibility and future of this strategy.

Overall protection strategies are shifting from strict protected areas to "people-centered protected areas" (Naughton-Treves et al. 2005). It has been estimated that only around 9% of the world's 98,400 terrestrial protected areas are in the strictest IUCN categories of I and II (Naughton-Treves et al. 2005: 231). Parks are bureaucratic top-down creations of central governments and

are thus dependent on the vagaries of public policy and unstable budgets, particularly if there have not been sustained efforts to co-manage them with local residents, as is normally the case. Given pressing economic problems, governments are unlikely to consistently dedicate adequate funding to biodiversity conservation. Recent experience in the US shows how shifts in public policy can quickly reduce protection on federal lands.

When public parks also alienate resident people or shut them out of decision-making, a crucial conservation opportunity is lost. People defend places from which they derive their livelihoods and their identity (Kates et al. 2001; Cheng et al. 2003). Long-resident local peoples may indeed contribute to biodiversity loss, particularly through subsistence and commercial hunting. But new efforts to combine traditional knowledge and scientific knowledge are emerging as indigenous people struggle with new constraints.

As well, long settled rural peoples are showing that even relatively intensive human use can be compatible with a substantial degree of biodiversity. Timber production has been heavily criticized (Rice etal. 1997; Rice et al. 2000) but there is evidence that many forms of selective logging have minimal effect on biodiversity (Putz et al. 2000). We are also at a stage of research into the relative effectiveness of various land tenure regimes for biodiversity protection. This allows for better data in the determination of what works effectively in different situations and the costs and benefits of different strategies. For example, Naughton-Treves et al. (2005) call for "expanding the frontier of research into protected area effectiveness and deforestation" and suggest more research on buffer zones. The most appropriate comparison by which to gauge protected areas is not "no protection" but community-based management (Bhagwat et al. 2001). This analysis can be made with the increasing emergence of community forest management in Mexico and Guatemala and the emergence of indigenous territories elsewhere in Latin America.

In Mexico, the presence of many large forest *ejidos* (common property land grants) have some similarities to indigenous or extractive reserves in other countries, although with a much longer history and more secure land tenure (Bray et al. 2003; Bray et al. 2005). Community forest enterprises (CFEs) are a mature social and economic sector which compare with protected areas in terms of the preservation of forest cover and other measures of biodiversity conservation (Antinori and Bray, 2005). Bray et al. (2004) found that a region of community forests managed for the production of timber had the lowest rate of land use change recorded anywhere in southeastern Mexico, and was lower than two other regions that had protected areas at their heart (see also Bray and Klepeis 2005). Duran et al. (2005) found that community forests in Quintana Roo and Guerrero, in tropical and temperate forests, had similarly low rates of deforestation to a national sample of 74 protected areas. In collaboration with the Wildlife Conservation Society, a study is underway that examines the conservation performance of community timber management with protected areas at the level of the Maya Forest, including the Petén of Guatemala (Bray et al. 2005). Early evidence suggests that community managed forests may be significantly superior at maintaining forest cover in the face of advancing agricultural frontiers, although both parks and community forests protect similarly in areas under less pressure. In both the Mexican and Guatemalan cases, multi-level forest governance institutions have been created by the communities, with both community level institutions and inter-community organizations, with forest extraction regulated by the state under its environmental laws. These institutions have as much chance of resilient and effective management as underfunded government bureaucracies.

But what is happening under the canopy in these timber-extracted community forests? WCS studies have shown that community harvest intensities in the Guatemalan Petén are among the lowest in the world and have little impact on biodiversity (although there is the long term and debated issue of mahogany harvest sustainability, see also Snook 2005). A recent study by Conservation International scientists found that mahogany logging in the southeastern Amazon Basin had little impact on small mammals, habitat structure, and seed predation (Lambert et al. 2005). Earlier studies showed that the community logging in Quintana Roo is "benign" to both migrant and resident bird species.

Many protected area advocates argue that only large uninhabited forests can preserve keystone predators like jaguars. However, Gerardo Ceballos, the head of the only large scale study of jaguar populations in Mexico, has compared jaguar habitat in both protected areas and community managed forests. He and his team noted that "in the Calakmul Biosphere Reserve, there have been invasions of *ejidos* all along its southern border, where several have penetrated the nuclear zone." Braking this accelerated advance of the agricultural frontier is the most important challenge to resolve in the next decades. The forest *ejidos* present a viable alternative in this sense. For example, in the *ejido* Caobas, in Quintana Roo, great has been our surprise to find a diversity of species, including jaguar, tapir, and white-lipped peccary, in logging areas (Ceballos et al. 2005). The forest of Caobas has been logged by the community for over 20 years (Wilshusen 2005). Large predators and managed human use *can* coexist on landscapes, just as they do with difficulty in the American West.

All of these experiences in conservation are based in places where people live and where they defend their livelihoods. In most of these cases, no one can talk about displacing them because they are the owners or have secure legal access. The emergence of "place-based" conservation that has little to do with so-called "integrated and conservation and development projects" is a new robust form of biodiversity conservation, and merits full inclusion as the second major pillar of biodiversity conservation (after protected areas). The emergence of community conservation economies can form part of landscape mosaics with stricter public protected areas in regions where they are accepted as part of broad consultative processes and supported by local stakeholders.

8.2 Reflections on Conservation, Displacement, and Exclusion

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[Before offering the following comments, it is important to note the social science position from which I write. First, as a long-time observer of indigenous rights movements, I view some of the contemporary challenges to conservation by local/indigenous communities in the broader context of these movements and their histories. Second, I write as one who has often written about conservation from a critical theoretical perspective. At the same time, I have also been challenged repeatedly by my students and others who are weary of critiques that speak only to academic audiences. They have convinced me that when analyzing conservation, if we don't have anything to say to the conservation community, our analyses are of limited value. Third, I write as one who has devoted a great deal of attention to analyzing tensions between conservation and the social sciences. Though a strong proponent of fostering more productive links, I believe social scientists have to aspire to something more than just being allies with the conservation community: Being liked and being effective in changing the world are not necessarily the same thing. Fourth, as an anthropologist, I think it is important to recognize that culture exists not just in out-of-the-way places, but also in places like Gland, Washington, DC, and New York. Institutional cultures guide the way conservation organizations do their work, and I believe most would benefit from institutional ethnographies. Finally, I write as somebody who has been a witness to logging and plantation development in Southeast Asia my entire professional career. Ecological degradation and loss of biodiversity are not abstractions for me, and I regard conservation as a fundamental value commitment. At the same time, conservation is not the only ethical proposition that we must consider in making decisions about particular places or about the future of the planet as a whole.]

Not only have conservation organizations been severely criticized in high profile publications, they are also the subjects of trenchant critiques by local/indigenous advocates, academics, and others. It is difficult to foresee the long term consequences of these critiques, but they could be very important for the future of conservation. In several contemporary forums, local community advocates have put forward propositions for organizing truth and reconciliation commissions to inquire into past injustices promulgated in the name of conservation, and the idea of restitution is receiving increasing attention.

A Confluence of Critiques

It is a rather striking development that conservation has now become one of the latest targets of the global indigenous peoples' movement. After all, this is a movement that began gaining momentum in the 1980s by mobilizing against extractive industries and national governments encroaching on their traditional territories. Today some in the indigenous peoples' movement have come to equate conservation with the extinguishing of rights, merely the latest in a long line of attempts to dispossess them. Whether this is justified or not is beside the point: Conservation organizations have entered a new era. The arguments indigenous advocates are making have gained a great deal of attention in

international forums such as the World Parks Congress, World Conservation Congress, and Convention on Biological Diversity Conference of the Parties meetings. They make persuasive demands that are continually gaining traction. If not addressed constructively, the consequences for global conservation efforts could be devastating. A constructive response is necessary, one that directly engages with indigenous and local critiques rather than responds defensively or without solution.

Indigenous and local communities are not the only ones that have developed trenchant critiques of conservation. In the last ten years or so, we have witnessed a remarkable proliferation of academic critiques of conservation, particularly from anthropologists and geographers. This trend is evident in the work of figures such as Jim Igoe, Roderick Neumann, Paige West, Kai Schmidt-Soltau, Janice Harper, Celia Lowe, and Peter Brosius. What accounts for this proliferation of academic critiques? Two factors might be suggested.

First, because of the nature of the work they do, anthropologists and geographers find themselves in or near protected areas. Some researchers have long histories of work in those places, long pre-dating the appearance of conservation initiatives. They speak local languages and have strong connections to the communities in which they have worked. They are thus highly sympathetic when they learn of hardships imposed on those communities that result from protected areas or resource restriction.

Second, many academics are drawn to the study of conservation through their interest in a series of theoretical trends that emphasize issues of power and knowledge. These academics tend to arrive at conservation sites after boundaries have been drawn. The perspective they bring to bear is often framed by colonialism and other forms of Northern domination of the Global South, and they trend to portray conservation organizations as powerful actors: agents of dispossession whose practices value nature at the expense of local communities. As Kent Redford (pers. comm.) has put it, such anthropologists might have their goal be to "bag a BINGO" in order to establish their research credentials (perhaps since development agencies and corporations have already been critiqued). Research done in this way rarely has any substantive effect in changing conservation practices, not only because it alienates practitioners, but also because it usually reaches only a small academic audience and it employs too much jargon.

Recent years have also seen the publication of a series of high-profile critiques in popular media, disseminated widely over the internet (for example, those of Mac Chapin and Mark Dowie). Unlike academic critiques, these reach large audiences and thus have a greater potential to impact the work of conservation organizations.

The question that confronts conservation organizations is how they should respond to all of these critiques. In their essay, Agrawal and Redford provide a series of response options (see first chapter), of which only a "positive program of action" would be viable and acceptable. On a philosophical level, one might allow that "aggressive conservation" may sometimes be justified. This, however, is the rare exception, and the burden of proof is great. On the alternate end of the spectrum, "aggressive compensation" may not be an adequate solution, because merely throwing money at a problem can create further problems. So what does a "positive program of action" entail? It would have three key elements: (1) engage with critics and their questions, (2) examine current conservation categories and knowledge-making practices, and (3) examine conservation legitimacy and moral authority.

Engaging with Critics and the Questions They Pose

Before one can adequately engage with critics, it makes sense to begin an assessment of the current situation, as was done at the White Oak meeting in May 2006. However, as this process of self-assessment progresses, it becomes necessary to engage more directly with critics.

However, at the White Oak meeting, there was little mention of engagement. At times it seemed that an attitude of pure empiricism prevailed; that is, that the primary challenge facing conservation organizations was to demonstrate that the claims of critics are inflated or inaccurate, and that if that could be demonstrated and truth prevailed, criticisms would evaporate. While such a strategy may assuage the concerns of some audiences, it is naïve to think it will have much effect in the long run. Serious engagement with key critics is imperative.

Who are these "key critics"? At the forefront of any such effort are indigenous actors. There is, of course, an intrinsic difficulty in defining such a program of engagement, given the variety and particularity of indigenous and local actors. However, there are a number of key nodes through which this engagement can begin: organizations that work with, or have credibility with, or represent indigenous and local actors. The Forest People's Programme is one such actor, but numerous other regional and global alliances exist as well.

Engaging directly with other kinds of critics, especially academics, may be even more difficult, but is just as necessary. It is difficult because academic critiques vary widely, and thus demand a variety of potential responses. Some academic critiques are firmly grounded in observation of local contexts, while others are motivated by conceptual concerns. It is also important to recognize that among academics who work on conservation there exist two broad ranges of opinion. On the one hand are those who believe that if academics want to have a place at the conservation table, they should learn to work in ways that deliver the social science that conservation actors say they need. Those in this category are concerned about the proliferation of academic critiques that may only serve to aggravate conservation practitioners, perpetuating a view that the social sciences have little to contribute to conservation. On the other hand are academics who believe they have something to contribute beyond helping conservation practitioners. This group is wary of participating in projects that they perceive to be about managing people and engineering consent. Further, they believe, the conservation community may not be asking the right questions. They believe that they have insight as to why conservation programs are not working. Some of those insights, they recognize, may not agree with the missions or practices of conservation organizations. Those who produce analyses of this sort do not believe that they should soften their critiques. At the same time, there is a group of influential academics who are weary of critique simply for the sake of critique. They are interested in serious engagement with the conservation community so that it understands the conceptual source of the questions being asked.

A second question pertains to the nature of engagement with critics of conservation. Two broad approaches are suggested. One approach is to debate a series of major questions: Is displacement of people ever justified? Who should determine conservation priorities in a world of trade-offs? However, this approach is rarely productive because it can only ever provoke categorical responses. Anthropologists and academics have the luxury of dodging the answers, but practitioners do not. These questions would serve to solidify a series of polemical positions that would continue to pit each viewpoint against the other to the detriment of conservation.

Another approach is to engage with a more modest set of questions or contexts. This is a much more promising approach. This means to focus on specific places. It might also mean to focus on narrower conceptual concerns; how specific social science approaches, for instance, can inform the practice of conservation. While there remains much potential for disagreement, such an approach also has a great deal of potential for progress through collaborative engagement and allows both sides to look at the highly variegated details of each conservation situation.

Categories and Knowledge-Making Practices

In their framing essay, Agrawal and Redford argue that the scientific basis for displacing people requires additional research. Indeed, there is a serious need to re-examine some of the categories that define what conservation actors do, and some of the tools that are used to produce information about places.

From a social science point of view, one of the most troubling developments in conservation has been the proliferation of rapid methods that are designed for the convenience of hypermobile expatriate experts. Such rapid methods are flawed not only because they mostly produce shoddy research, but also because they only serve to reinforce pre-existing assumptions and categories. This concern extends beyond the displacement issue, of course, and to other fields of international field research. However, there is a need for conservation organizations to take stock of the social science methods they use, or don't use, in conservation planning and implementation.

One area that deserves special attention is methods that address histories of land use in areas of conservation interest. Until recently much conservation thinking has been guided by the idea of wilderness: that the places most worth protecting are those that exist untouched by human presence. Humans have been viewed primarily as an invasive species, encroaching on otherwise pristine areas, their activities leading inexorably to the erosion of biodiversity. This assumption has had two major consequences for the practice of conservation. First, much conservation planning has mandated the exclusion of humans from biologically diverse landscapes, or the restriction of livelihoods of local people in such areas. Second, anthropogenic landscape processes have been viewed almost exclusively as threats to biodiversity. Conservation research has focused overwhelmingly on elements or patterns of biodiversity, while largely ignoring histories of land use in areas of conservation interest. As a result, the ways that previous generations of local peoples have shaped current patterns of biodiversity composition have been overlooked. As several researchers have demonstrated, actions taken in the past without thorough knowledge of historical patterns of land use have resulted in the exclusion of people from areas where human activity has shaped species composition and density over millennia. In short, the identification and creation of protected areas has not been much informed by an historical perspective.

In recent years, this assumption has been challenged on several fronts. First, a substantial body of critical scholarship has emerged challenging the idea of pristine wilderness on conceptual grounds. Second, archaeologists, geographers, and ecologists have produced empirical studies demonstrating the anthropogenic nature of much of what had been deemed "pristine" natural areas. Third, against the assumption that anthropogenic landscape modifications are inherently destructive, researchers have demonstrated that human modification of landscapes can actually enhance soil and water quality and maintain or increase levels of biodiversity, and that agroecological biodiversity as a result of landscape management by local communities may be an important means of *in situ*

conservation. Fourth, as noted, indigenous communities have challenged the assumptions of conservation practitioners that indigenous lands are *terra nullis*. Taken together, these studies and critiques have questioned the strict separation between pristine nature and humans, and argued for recognition of the role of human history in the creation of landscapes.

In spite of these challenges, few in the conservation community have responded to critiques of the wilderness concept or to empirical studies of biodiversity-rich anthropogenic landscapes. While conservation planners may recognize the anthropogenic nature of landscapes targeted for conservation, it does not translate into significant changes in conservation planning. Do conservation organizations, in planning conservation interventions, actually devote effort to a thorough assessment of the historical ecology of the places they are trying to save? Perhaps such knowledge would change the way that places are managed – or perhaps not -- but without this knowledge, conservation is foreclosing the possibility that human displacement or exclusion might not actually be best for achieving conservation goals.

There are, of course, many places where a recent influx of people is having truly devastating effects on wildlife, and where efforts to control this may be justified. But there are other cases where exclusion is undertaken without adequate justification. In such cases, displacement is part of a categorical inertia that reflects an historical legacy of simplistic assumptions that lead conservation practitioners to "misread" landscapes and threats. For instance, in Pulong Tau National Park in Sarawak, Malaysia, the government has decided to enforce strict protection with park boundaries rather than acknowledge long histories of use of forests in ways that are in no way contrary to conservation goals. In Nanda Devi National Park in Nepal, local communities were prevented from grazing their livestock within park boundaries, despite the fact that there was little evidence that grazing was a threat to biodiversity. Categories of protection themselves need to be challenged, because when these categories translate into actual regimes of management, they have real impacts on people's lives. The question is whether these categories can be reconfigured in light of recent research in ways that are less antagonistic to local livelihoods.

Legitimacy, Credibility, and Moral Authority

As the previous discussion illustrates, examining the categories we use and understanding how those categories are made is not just an academic preoccupation. There is a lot at stake in the categories used to guide decisions about conservation, and this question of categories is directly related to the topic at hand. When discussing the displacement or exclusion of people from protected areas, it matters whether it is framed as a matter of *livelihoods* or as a matter of *rights*. Of course, this distinction between livelihoods and rights is one that has received considerable attention. In making this distinction the bottom line is that a focus on livelihoods economizes the equation. The question for practitioners is limited to how people who are displaced can be helped to develop alternative ways of making a living, and what level of investment is necessary to accomplish that. On the other hand, a focus on rights introduces a moral or ethical dimension to the question of displacement: questions as to who has the standing or legitimacy to displace people, under what conditions is displacement justified, whether rights can be extinguished against the will of those who possess them, and whether they can be extinguished through monetary transactions. The discourse of rights is fundamentally about human dignity, about the exercise of power, and about a prior context of histories of marginalization.

When WCS or other conservation actors become involved in contexts which dictate the need for displacement or exclusion, their legitimacy becomes a key issue. Conservation organizations should not assume that rights-based arguments against displacement are softened due to the noble mission of conservation. As noted, to many protesters against displacement, conservation organizations represent the Global North, and bring to mind legacies of colonialism and exploitation. For all the talk of working with "local partners," many critics propose that conservation organizations have no legitimate role in making decisions about exclusion and displacement.

Often when faced with challenges of this sort, the response, regardless of their field of practice, is to advocate development of a code of ethics to guide their practice. While this may be a useful starting point, developing a code of ethics will probably not solve the problem. Many enterprises that are of questionable moral status – the PR and advertising industry being perhaps the best example – are bound by codes of ethics. Such codes may be a good starting point for defining responsible forms of practice, but they are nothing more than that.

This does not mean that the situation is hopeless and that conservation organizations should give up. There is a crucial role for organizations like WCS, WWF, TNC, and CI in those places where biodiversity is disappearing. And there may be limited cases in which displacement or exclusion is the only option for achieving biodiversity goals. One of the greatest challenges facing NGOs today is to take steps to maintain and enhance their moral authority and legitimacy, rather than undermine it.

First, it is imperative to recognize that legitimacy is plural and multidimensional. This questions actions premised on the assumption that legitimacy is unidimensional and is derived from those in authority: that if activities are regarded as legitimate by national governments, all potential challenges to legitimacy have been considered. Conservation organizations working in the context of authoritarian nations such as Burma should especially heed this warning. The legitimacy to act derives not only from "above," but from "below" as well. Conservation organizations need to do much more to enhance their efforts to establish their legitimacy at a number of levels, and at the local level most of all. Many of the ways in which conservation organizations work undermine that.

Second, like legitimacy, credibility is also plural and multidimensional. Much conservation practice is driven by an overriding concern that planning and implementation be based on credible scientific research. The flaw here is that such an assumption produces a form of conservation practice that only "looks up" to members of the scientific community. This is problematic. Credibility is first and foremost a form of relationship, premised on the trust that one set of actors has in the reliability of information provided by another. In the domain of conservation, organizations and practitioners are confronted by multiple regimes of credibility. Those who consider credibility as pertaining exclusively to the production of scientific information ignore or disregard forms of credibility that are important to other kinds of actors, including local communities. The goal of conservation organizations should be to establish credibility not only with the scientific community, but with as broad a range of actors as possible. Accepting this proposition exposes the limits of expert knowledge and recognizes that establishing credibility requires much more than just doing good science. All the expert knowledge in the world will not make rights claims disappear.

Third, when thinking about displacement, it is crucial that conservation organizations recognize the broader contexts in which they operate. That is

to say, one is judged in part by one's company, and associations may limit the issues that NGOs can legitimately address. Increasingly, conservation organizations have embraced big industry both because of the need to build larger conservation portfolios and because they believe (with perhaps a bit of misplaced idealism) that they may be able to influence industry for the better. The question to ask is whether institutional partnerships with industry reduces credibility in addressing the issue of displacement? Broadly speaking, when we look at contemporary sources of environmental degradation, we can recognize two primary causes: The practices of local people, perhaps farming or burning too intensively near areas of high biodiversity value,[1] and the practices of large, extractive industries – mining, forestry, and increasingly the plantation sector.

As conservation organizations have shifted to more strategic approaches to conservation planning – most notably ecoregional conservation and its entailments – they often get involved in developing conservation strategies and thereby engaged in regional or national land-use planning exercises. In the process, conservation organizations are involved in negotiating land-use trade-offs – this area for timber extraction, that area for conservation. All the while, local communities continue to be construed as threats or ignored while extractive industries are embraced as partners. This does not come without cost to credibility.

Some Final Points

First, on a specific note, what has been suggested here is that conservation organizations considering projects that may involve displacement need to significantly raise the bar on accountability and action. When is displacement really necessary and when is it merely convenient? At the very least, any decision regarding the possibility of displacement must be better informed by historical and ethnographic understanding.

Second, on a more general note, conservation organizations, despite their rhetoric about engaging communities, tend to "look up" to the science community, to national governments, to donors, and to industry. One of the consequences of this tendency is that it has created a set of institutional practices of incredible complexity that, from "on the ground," looks like one big gated community, impenetrable to those on the outside. At the same time, seemingly incommensurable with the tendency to "look up," in assessing how or why conservation actions succeed or fail -- conservation organizations continually "look down," consistently directing their focus on specific sites of implementation.

These two seemingly incommensurable tendencies were clearly in evidence in the discussions at the White Oak meeting. In addressing the politics of displacement and exclusion, we heard constant reference to conditions on the ground, in actual places. What was not much discussed was the broader institutional context of how organizations do their work, make decisions and how institutional histories determine their partnerships and ways of working, or how the funding environment conditions their priorities. Part of the work of addressing displacement and exclusion, and positioning conservation organizations in a stronger, more legitimate, more defensible position in the years ahead, is to think about institutional contexts in more fundamental ways.

[1] Of course, one of the lessons of political ecology is that in analyzing the sources of environmental degradation caused by local actors, we need to pay attention to larger structural and institutional factors that drive local actions in the first place.

PART 9
PERSPECTIVES FROM OTHER INTERNATIONAL CONSERVATION NGOS

9.1 Perspectives on Protected Areas and Displacement from within Conservation International[1]

Katrina Brandon
Conservation International

The issue of human displacement has many sides to it, and touches upon many different policies and programs within Conservation International, including the policy, program, and research perspectives.

The definition of displacement used at the White Oak meeting is from the Asian Development Bank: *"displacement that includes individuals or communities who, through park creation, may lose land, means of livelihood, social support systems, or ways of life."* This broad definition, used by a multi-lateral development bank, helps to trigger "safeguards" policies and a more thorough review of a suite of possible actions. But it is worth considering what is really implied by this definition within the routine context of conservation activities in real-world settings. There are at least six separate concepts imbedded in the ABD definition:

resettlement, both voluntary and involuntary
ownership and governance over resources or land
access to or use of land or resources
livelihood means
social support systems – social structures and relationships among people and institutions
traditions and ways of life

It is essential to note that involvement with "resettlement" is negative whereas involvement with the other five concepts is generally viewed positively – conservation actions, for example, often help to clarify ownership, governance and rules of access; to identify alternative or sustainable livelihoods; and to strengthen social support systems and traditions. While this ADB definition triggers a safeguards policy for social assessment, the "flip" side is that it is likely that most conservation organizations spend a significant amount of money and effort supporting these five positive elements. For this reason, it is important to understand that the review that follows will exclude, for example, hundreds of site-based activities that are underway worldwide to enhance or support "social support systems." It will also not account for the millions of dollars that go from conservation into supporting sustainable livelihoods. These clarifications are needed, because otherwise it could be misconstrued that CI or other conservation organizations are not concerned with livelihood or traditions, when they are in fact the basis for a great deal of conservation action. Each of these concepts implies very different things in different social settings – as well as very different efforts within an organization, including social assessment, policies, and the people they affect.

Key Policies at CI

CI has no formal organization-wide policy on either displacement or resettlement, although there have been discussions about developing such a policy. CI has a policy on indigenous peoples and virtually all elements of that policy are closely aligned with the ADB definition of displacement. CI adopted a Policy on Indigenous and Traditional Peoples (ITP) in 1996, amended it in 2003, and the Board of Directors formally adopted it in 2004. The policy will be reviewed in 2007 to determine whether some components should be revised to reflect the Convention on Biological Diversity and UN Permanent Forum on Indigenous Issues, or the OAS draft declaration on the Rights of Indigenous People. There has also been discussion on whether the policy should be expanded, or a similar policy developed, to cover local and non-indigenous communities.

The ITP policy includes mention or directly addresses each of the six concepts included in the umbrella definition of displacement (see Annex 1). In particular, the policy strongly recognizes ownership, governance, and indigenous rights, and pledges that CI will: "…support legal designation and management authority over ancestral lands and their resources, while respecting issues of national sovereignty…Where overlap with legally designated parks and protected areas and lands customarily owned or used by indigenous peoples, we support collaborative management initiatives that recognize customary uses while ensuring that natural resources are not depleted and that actively involve indigenous communities in planning, zoning, and monitoring."

The policy recognizes the links between traditional knowledge, livelihoods, and territories and supports co-management where overlaps exist between protected areas and traditional territories. While the policy does not directly address resettlement, it insures that CI would not support involuntary resettlement, since the policy requires the "the informed consent of formal representatives of indigenous groups prior to undertaking any actions that are directly tied to indigenous peoples, their territories or natural resources."

One contextual issue that has been under discussion echoes discussions that took place within the multilateral development banks (MDB) in the 1970s-1980s concerning resettlement. In the MDB context, questions arose on how "direct" the MDB involvement had to be before safeguard policies for resettlement, indigenous people, or biodiversity were triggered. If there is a direct loan for a project, then safeguard policies are triggered. But what about sectoral loans – where the government is loaned money for activities within a certain sector (e.g., forestry) and the government begins an action that was not included in the proposals for sectoral reform? Or, what about funding for institution building? Suppose an institution undertakes actions that the MDB does not support? At CI, we face similar questions. As a direct implementer of projects, we do not support involuntary resettlement of indigenous or traditional peoples. But what happens if we work with a government on Park A but that government decides to displace people from Park B? Should we cease all work with that government, including financial and technical support? Or suppose we are working in Parks A and B – but are supporting research in Park B and the government resettles people. Do we continue research efforts in Park B? Or what if the traditional peoples had not resided in an area for 50 years but wished to reclaim land that was now already included in a protected area?

When such gray areas exist it can be challenging to say how a policy applies, or whether all funding should be withheld from a certain park, or whether relations with a particular authority should cease. On the other hand, it is seemingly straightforward to say that we would not support involuntary displacement of traditional peoples. The criticisms of conservation organizations, including CI,

rarely refer to cases where the situation is direct. In most cases, the social terrain is complex, changes quickly, and competing interests and information may be unclear. When such conditions exist and/or when CI's involvement is not direct, staff need better guidance on what to do. Furthermore, CI is moving from an implementing organization to one that tries to broadly leverage actions by others. In these cases it is important to have clear knowledge of circumstances on the ground and have the ability to conduct site-based and stakeholder assessments to better inform how we should act. To better understand CI's activities in these areas and to systematize our engagement, CI developed the Indigenous and Traditional Peoples Initiative, described below.

Key Programs at CI

CI is an organization that may be broadly summarized as:
1) science and research; 2) regional (field) programs and support; 3) conservation funding; and 4) international policy. Programs are briefly described below.

Science and Research

The Center for Applied Biodiversity Science (CABS) is the science and research program within CI where science and technology experts analyze and share data. Within CABS, two programs are relevant to human displacement: the Human Dimensions Program and the Indigenous and Traditional Peoples Initiative.

The Human Dimensions Program (HDP) was created in 2001 to explore the complex dynamic between people and conservation by assessing the current and historic impact of demographic, economic, and political trends on species and their habitats over time and by developing predictive models and long-lasting solutions for conserving biodiversity. Using social science expertise from a range of disciplines, HDP analyzes the threats to biodiversity at different scales and analyzes the strategies that support biodiversity conservation, ecosystem services, and human welfare. HDP has several efforts underway to understand displacement. We are in the preliminary stages of research on displacement across a sample of protected areas (PAs) throughout biodiversity hotspots and wilderness areas. Also, we are compiling all cases that we can find on displacement from protected areas within non-Brazilian Latin America, and mapping the cases to more fully understand the biological, social, and political context underlying controversy at these sites and the impacts of displacement. HDP is looking at ways that protected areas make positive contributions and is compiling cases where communities have asked to have their lands incorporated into a PA. Finally, HDP is producing what we understand to be the first comprehensive map of legally-recognized indigenous territories throughout the Americas.

The Indigenous and Traditional Peoples Initiative (ITPI) was created in 2003 to enhance CI's commitments to indigenous and traditional peoples and the vital role of their territories in conservation landscapes. More than 250,000 km^2 of critically biodiverse areas coincide with indigenous lands in the hotspots and high-biodiversity wilderness areas where CI works. ITPI's work began in Latin America's Andes region, responding to indigenous calls for collaborative conservation action. ITPI directly supports CI programs and partners, local indigenous leaders, communities, and other critical players to build a common agenda for conserving biological and cultural diversity. The program's activities strengthen the collaboration among these groups and their ability to effectively manage their lands and resources, maintaining their livelihoods and their natural and cultural patrimony. The ITPI is working with the rest of CI to develop

appropriate knowledge and resources to support CI, partners, and traditional groups.

Another aim of the HDP and ITPI is to ensure that CI's staff and partners are sensitive to the concerns and issues of indigenous peoples. Specific activities underway that relate to understanding displacement are mostly "internally" oriented: 1) identifying best practices among our field programs and partner organizations both in the field and globally (i.e., UNDP Equator Initiative); 2) systematization (database development and analysis of CI's work with indigenous and traditional peoples, beginning in the Andean region); 3) sponsoring events for discussion, dialogue, and exchange within specific regions. The results of these dialogues and consultations have helped identify issues of key importance to indigenous and traditional people in different regions. For example, in Guatemala the Ministry of Natural Resources was one of eight conveners of a dialogue to build a common agenda among ITPI and conservation; one result of the meeting catalyzed the launching of the indigenous advisory unit within the Ministry. ITPI also organized a seminar at the Society for Conservation Biology annual meting in Brasilia in 2005 that brought together indigenous representatives from the Kayapó of Brazil, the Macuna Peoples of Colombia, Asháninka of Peru, and Maya of Belize with professional conservationists to present their experiences on building conservation alliances in the Amazon. The symposium marked the first time that indigenous representatives formally participated in the Society for Conservation Biology meetings.

Regional Programs Division

The Regional Programs Division (RPD) oversees and provides support to CI's field implementation in the 28 countries where CI has offices and the 40 countries where CI works. All of the field offices should be aware of the Policy on Indigenous and Traditional People and the Initiative. Many CI field offices work extensively with and support indigenous peoples in gaining recognition for their lands and resources and provide support for monitoring and management. For example, CI has worked closely with the Kayapó Indians of Brazil[2] and with the government of Guyana in consultation processes with the Wai Wai that led to the ownership of 650,000 hectares of their ancestral land in 2003. In Ghana, CI teamed up with the indigenous Akan peoples to build a canopy walkway in Kakum National Park that has become one of West Africa's most popular ecotourism destinations. CI also worked with Ashanti clan chiefs to develop a campaign on the disappearance of symbolic animals or totems traditionally considered crucial to clan survival but threatened by uncontrolled hunting. In Asia, CI's China program works with the Tibetan Sacred Lands initiative, which is mapping sacred sites, assessing their biodiversity, and reviving traditional Tibetan land-management practices that focus on sustainability. Tibetan sacred sites have historically protected some of the most pristine natural environments in southwestern China, but are now facing threats from modern development and associated erosion of traditional cultural values. Tens if not hundreds of similar examples of partner projects can be cited.

Yet it is safe to assume that not all stakeholders are happy with all outcomes, since, in complex social conditions changes favor some groups over others[3]. Conservation actions resulting in displacement occur, but reports of conflicts at sites (Chapin, Bray, Dowie) rarely provide the full story. While conservation organizations are often criticized, in reality, the situation in the field is often complex with many more players and issues than are illustrated. This vastly oversimplifies the context at sites and fails to adequately represent positions of the many parties involved. By oversimplifying the real conditions it makes it

seem that there are clear "right" and "wrong" positions when the social reality is much more nuanced. Field programs and governments often need greater guidance, but such guidance will not always satisfy everyone. For example, if CI provides aerial photographs showing illegal settlements in an indigenous territory, and these settlers would be made to leave if the photos were handed over to the indigenous leaders, what displacement are we causing or avoiding?

Another example illustrates these complex relationships. CI was criticized by a reporter for supporting efforts to "remove Mayan communities" from the Montes Azules Biosphere Reserve (MABR) in Mexico. The areas in between the Montes Azules Biosphere Reserve in Mexico and Sierra del Lacandon National Park in Guatemala is the La Cojolita communal reserve, owned by three indigenous groups, the Choles, Tzeltales, and Lacandonas, who disagree on whether the reserve should be logged or preserved and who has what rights within the MABR. CI has worked with different communities in the Selva Lacandona forest region in Chiapas for 13 years, and denounced invasions of Montes Azules territory by recent outside settlers. In fact, a May 31, 2005 communique from Subcomandante Marcos of the Clandestine Revolutionary Indigenous Committee – General Command of the Zapatista Army of National Liberation -- thanked the national and international community for providing financial support to resettle seven Zapatista communities out of MABR.[4]

This brief description surrounding displacement in the Montes Azules Biosphere Reserve highlights some of the challenges. For the sake of demonstrating the complexities faced by field programs, following is a set of rhetorical questions based on the example above:

Resettlement: Do all indigenous groups have equal rights and standing? Would resettlement be inappropriate of indigenous groups that lived elsewhere, but found themselves landless so they claimed land in the park, even though it was not their traditional territory? If recent migrants enter a protected area and settle for a week/a month/a year before they are discovered, what compensation is due them? Will others who settle after them be entitled to this compensation?

Ownership and governance: The Mexican government is the owner of the reserve. How should ownership prior to reserve creation be judged if Mexican lands belong to the state? Should CI be held responsible for the creation or governance of the reserve if they only have project activities near the reserve? What about if there are only research projects underway? Who should pay for the process and lead the process of clarifying ownership and governance?

Access to or use of land or resources: Because Montes Azules is a Biosphere Reserve and people can live within it, should different rights be accorded to different groups within the zoning plan? Is it fair for one group to log and sell timber but another group not to? Should these concerns be tied exclusively to the degree of "indigenousness" of residents – e.g., forest peoples can't log but indigenous agriculturalists can? How is this to be overlaid with the biological zoning? What makes someone a biosphere reserve "insider" versus an "outsider"?[5]

Livelihood means: Is CI open to criticism for working with one indigenous group in the area and not all three? In considering the community reserve, would CI be acting in an inappropriate way if it supported the indigenous communities that did not want to log the community reserve because they felt the short-term revenue boom would bring social instability? Clearly there are issues of liveli-

hood raised here but what is the appropriate position in such a discussion? Is it wrong to get people to stop traditional practices that are unsustainable?

Social support systems: What consideration should CI give to these relations both inside and outside of the reserve? If CI supported voluntary resettlement out of the reserve and that was conducted by the Zapatistas, would CI then be seen as supporting the Zapatistas?

Traditions: If indigenous groups had traditions or beliefs that extinctions are not possible, would CI be wrong to introduce scientific evidence? Would supporting health clinics undermine traditional healers? Should the traditions or beliefs of peasants migrating from elsewhere (who may be indigenous but have retained less strong ties to culture and language) be counted less than of indigenous peoples who have retained more of their history and practice?

These questions are meant to outline the gray areas that are faced in one form or another by almost all conservation groups on a daily basis. An allegation such as the one above that simply says that CI (or any conservation organization) supports resettlement without describing even some basic contextual information seems designed to create an uninformed polarization. It fails to acknowledge the social reality and social science that makes up much of conservation action.

Critiques of conservation continue to claim that conservationists or biologists "don't get it." Yet conservationists are faced with the challenges of reconciling complex and competing interests on a daily basis and usually are *very* aware. The challenges lie in making decisions in an open and transparent way that will be agreed upon and accepted by all parties that, at a minimum, "do no harm" to anyone. Equally important, oversimplified critiques point the spotlight onto conservation organizations who are often bit actors in a much more complex drama. They shine the spotlight on us while distracting from greater problems that should be addressed by social scientists. In the case of Chiapas, these include unequal distribution of land and resources, income inequality, landlessness, poverty, development pathways, resource degradation, corporate interests, corruption, and civil conflict.

This highlights the challenge for CI to provide clear guidance to field programs. While the ITPI can help convene stakeholders when those involved are indigenous, in many situations it is even challenging to define who is indigenous or traditional. Developing the social assessment tools for the six concepts under displacement is relatively straightforward. Conducting research on the impacts of protected areas for these six categories is also relatively straightforward. Developing a policy that clearly lays out what is appropriate for each of the six concepts is more difficult. Providing guidance to field programs in a simple social context is relatively straightforward. But defining the right action and stance, and institutionalizing it, when there is disagreement among the advocates for different people, is challenging.

Conservation Funding

CI is increasingly moving from a model of direct field-based conservation to a model that is more closely aligned with that of a donor that can leverage funds and channel them to in-country partners while providing technical assistance. In FY 2005, CI awarded grants totaling 35% of the budget ($40 million) directly to partner organizations. Two larger funding programs – the Critical Ecosystem Partnership Fund and the Global Conservation Fund – provided $23.2 million

of the $40 million. CI's regional programs – largely the Centers for Biodiversity Conservation in the Andes, Brazil, Madagascar, and Melanesia – awarded $14.7 million to local groups. A third component of the Conservation Funding division is Verde Ventures, which invests in ecotourism and other businesses in key CI terrestrial and marine regions.

The Global Conservation Fund (GCF) has perhaps the greatest potential for funding activities that could lead to displacement. The GCF has been operating for five years with a mandate to support the creation of protected areas in Biodiversity Hotspots and High Biodiversity Wilderness Areas and has developed a portfolio of 86 projects. Notably, the fund has also supported the creation of Indigenous Reserves, Community Conservation Areas, and Conservation Concessions. Many of these protected areas were created by or in collaboration with indigenous groups and local communities, particularly in Latin America and Central Africa.

GCF encourages project applicants to include broad stakeholder involvement in protected area planning and all proposals are reviewed for impact on local communities. GCF rigorously scrutinizes any proposed resettlement activities, relying on the expertise of qualified organizations and individuals to ascertain whether a resettlement scheme will violate human rights, has undertaken the necessary consultative processes, and has been endorsed by all relevant national and local stakeholders. To date, GCF has not funded any projects involving resettlement, but there is the possibility that they could. For example, if the GCF was helping indigenous peoples claim and secure their territory, it is conceivable that a community of recent, non-indigenous migrants would have to be resettled. It is because of the possibility of such situations that within CI it is unwise to have a blanket policy on voluntary or involuntary resettlement. Instead, strong social assessment and stakeholder consultations are critical to inform appropriate actions.

Critical Ecosystem Partnership Fund (CEPF) has given more than $84 million to 900+ nongovernmental organizations, community groups, and other sectors of civil society in Africa, Asia, and Latin America to enable conservation action and build the capacity for sustainability. The information for prospective CEPF grantees says that "…funds may not be used for the purchase of land, involuntary resettlement of people or the alteration of any physical cultural property."[6] To date, this has not been an issue in CEPF projects and a significant amount of funding has been directed to activities that support indigenous and traditional peoples.

International Policy

Through the Indigenous and Traditional Peoples Initiative, CI has been actively engaged in monitoring global policy issues related to indigenous communities. Within that array of policy issues (which include protected areas, conservation, human rights, participation, access-benefit sharing, land tenure, etc.) is traditional knowledge. The major issues being addressed at UN conferences and forums, particularly the UN Permanent Forum on Indigenous People, include the need to: 1) have free prior informed consent; 2) develop unique and adequate intellectual property mechanisms by which to protect traditional knowledge; 3) design databases and registers for an international traditional knowledge protection system; 4) ensure equitable sharing of benefits associated with the use of traditional knowledge; 5) include traditional knowledge practices in project design and resource management; 6) establish culturally appropriate indicators to adequately assess traditional knowledge loss; 7) increase participation and involvement of indigenous organizations in global policy discussions. CI has

supported open forums for indigenous groups to share perspectives on global policy issues, has facilitated regional meetings with indigenous groups to share regional and local perspectives, and has provided funding of indigenous representative participation in international conventions and forums. We do not expect that the perspectives of indigenous peoples will always be aligned with those of the conservation community, but we believe that their participation in fora such as the World Parks Congress, World Conservation Congress, and the Convention on Biological Diversity is essential.

Conclusion

Much of the recent social science literature on displacement and conservation does a disservice both to conservation and social science fields. Numbers of people purportedly resettled for conservation are estimated in ways that are vastly overinflated. Conservation is blamed for many rural problems that conservation organizations have no impact on, and conservation organizations are easier to attack than development organizations, corporations, national governments, and international policy institutions. There is no doubt that colonial legacies influenced a great deal of conservation policy and action decades ago. But the assumptions that conservationists blindly want to push people off the land to have strictly protected areas everywhere is very far from the truth. The number of multiple-use protected areas that include human residence and use shows that conservationists are trying to figure out the pathways to sustainability.

Conservationists largely recognize that we must take on the challenges of both conservation and development (and the ones that don't tend to be either old or not "plugged in"). While there are many significant contributions from social science to conservation, unfortunately the critiques related to displacement overshadow them. The tremendous gains and partnerships being established in the field are largely ignored while controversy gets more attention. Where critiques are appropriate, and where there are problems, the full social complexity should be analyzed and presented. Was more information needed in local languages? Was there a lack of transparency? Did one group gain at the expense of another? Was that the "fault" of conservationists or were they manipulated? Was more social assessment needed? Would power-sharing work? Social science has immense opportunities in dual areas: identifying and addressing the root causes of rural poverty and biodiversity loss and giving advice on the "gray areas." Without this, the conservation community will do its best to actively engage and strengthen civil society, deal with what are largely development issues, and provide options for current and future generations through many different tools – among them, protected area creation and management.

[1] This paper reflects the views of the author and do not reflect any formal or informal positions of Conservation International, its staff, or its Board of Directors.

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[3] Brandon, K., K. H. Redford, and S. E. Sanderson, eds. 1998. Parks in Peril. People, Politics, and Protected Areas. Washington, DC: Island Press.

[4] http://www.eco.utexas.edu/~archive/chiapas95/2005.06/msg00044.html.

[5] Brandon et al. 1998 (op cit). See chapters 13, 14, 15.

[6] http://www.cepf.net/xp/cepf/home/faq/faq_about_cepf.xml?USE_TEXT_ONLY=true

9.2 Protected Areas and Local Peoples: The Experience of The Nature Conservancy in Latin America

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Since the early 1980s The Nature Conservancy (TNC) has been working in Latin America on different issues related to biodiversity conservation, particularly in protected areas. This work has been done through USAID and TNC-funded programs such as the Parks in Peril Program (PiP). Since the beginning of its work in protected areas, TNC has developed a close relationship with local communities because of their strong link with natural resources and biodiversity inside and outside protected areas. In some countries, the most important biodiversity areas are inside indigenous territories.

Protected areas in Latin America have a long history, Mexico being the pioneer with the creation of the Monte Vedado del Mineral El Chico National Forest in Hidalgo in 1899. Other countries followed the Mexican example by creating their first protected areas: Jamaica in 1907, Panama in 1917, Argentina and Belize in 1922, Chile in 1926, Cuba in 1930, Dominican Republic in 1933, Ecuador in 1934, Brazil and Venezuela in 1937, Bolivia in 1940, and Colombia in 1948.

Different to the United States where the creation of protected areas is linked to government-led land acquisition, in Latin America the most important areas for conservation are in private or communal lands, and protected areas have been created without the consent of the local inhabitants (often for centuries) in those areas. For instance, in countries like Costa Rica 54% of their national park system is on private lands and in Uruguay, 70%. Only five of the 41 protected areas in Colombia belong entirely to the government, yet in contrast, in other countries like Chile, 96% of the protected area system is government owned.

Generally, when a protected area is created there are no modifications to the land tenure, which is why constant land use and tenure conflicts between local communities and national park systems exist throughout the continent.

Despite the instability and permanent conflict in the history of creating protected areas in Latin America, there have been relatively few experiences of displacing local communities. Although in Latin America the general trend has been to promote the incorporation of local people in park management, what is yet to be fully explored is the economic consequence on local people when protected areas are created. Are protected areas contributing to poverty alleviation? Or are they making local social and economic conditions more difficult because access to natural resources is regulated? Are there experiences in Latin America of people forced to move out of parks once a protected area is created? We have not found in the literature any significant incidence, and there are none in those sites where TNC is working. It would be impossible to consider human displacement in countries such as Mexico where almost a million and half people live in protected areas; or in Brazil where nearly 280,000 indigenous people live inside protected areas; or in Peru where more than half of their protected areas have indigenous peoples.

Another important consideration to take into account is that almost all Latin American countries have signed different international agreements (Agenda 21, United Nations Draft Declaration on the Rights of the Indigenous Peoples,

The Inter-American Draft Declaration on the Rights of Indigenous Peoples, among others). One of the most important is the Convention No. 169 of the International Labor Organization on Indigenous and Tribal Peoples which emphasizes the respect for their specific identity "...and their right to participate in the decision-making process in all questions and programs directly affecting them, that is to say, to participate in the making of decisions and the determination of their own destiny." The Convention addresses issues of vital importance to indigenous and tribal peoples including the rights of ownership and possession over the lands they traditionally occupy, or have had access to (Article 14); the rights to natural resources including the right to participate in the use, management, and conservation of such resources (Article 15); displacement (Article 16); and land alienation (Article 17).

The Nature Conservancy and Local Communities

Although TNC does not have a specific policy with regards to human displacement and protected areas, the Conservancy has a profound recognition and total respect for local populations and the places where they live. For more than 50 years, The Nature Conservancy has developed partnerships with local communities to conserve some of the most biologically critical and threatened landscapes on Earth. Our approach is rooted in a "commitment to People" and based on "respect for the needs, values, and traditions of the communities in which we work." Our mission requires that we seek solutions that conserve biological diversity while enabling people to live productively and sustainably in the landscape.

Understanding the complexities of indigenous and traditional communities and incorporating their knowledge into conservation planning is a continuous process. It requires a long-term commitment to learning about community needs and concerns, building trust, and developing and refining joint solutions that integrate local knowledge, best conservation practices based on sound science, and lessons learned from our experiences working at sites around the world.

Examples of TNC Intervention with Local People

Bosawas, Nicaragua[1]

In the 1.8 million acre Bosawas Biosphere Reserve, TNC is helping the Mayangna and Miskito people address the threats of illegal settlement, unsustainable agricultural practices, and deforestation. TNC has assisted indigenous peoples in developing legal claims to their ancestral lands. Bosawas is the only case reported where a displacement process took place, although TNC was not directly involved.

Canaima National Park and the Pemon Territory, Venezuela

Work in Canaima National Park started with the exchange of concepts with the Pemon indigenous people to address what they understand as resources, management strategies, and use of space within their economic, social, and spiritual realms. To talk about conservation implies an alteration to social and cultural relations in an indigenous group, since there are two different visions of what "environment" means. Since there were conflicts between the Pemon and the agency in charge of protected area management, TNC served as mediator between the Pemon and the federal park rangers, and recently launched a conflict resolution project to help alleviate tensions between the two groups.

Amazon, Brazil
TNC has engaged in a participatory mapping process in which TNC staff and local communities map important areas for ecological and cultural value. These layers of information are digitized and returned to the communities where the maps are used as strategic tools for developing natural resource management plans. TNC is also helping to strengthen the capacities of indigenous groups to build a skilled cadre of indigenous environmental managers.

Sierra Nevada de Santa Marta, Colombia
The Sierra Nevada de Santa Marta in Northern Colombia is a 4.1 million acre reserve where TNC has worked with the Gondawindua-Tayrona Organization and local NGOs on the first co-management agreement between indigenous groups (Kogi, Wiwa, Armario, and Arhuaco) and the National Parks Management Unit. This project is supporting the indigenous peoples of the Sierra Nevada de Santa Marta to recuperate their ancestral lands.

La Amistad National Park, Costa Rica and Panama
In La Amistad, a 2.5 million acre bi-national protected area, TNC with support of USAID is working with four indigenous groups (Ngobe, Naso, BriBri, and Cabecar) as stewards of the park and leaders of activities such as ecotourism and environmentally friendly agricultural practices.

The Condor Bioreserve, Ecuador
This region is made up of seven protected areas and contiguous private lands. TNC and Fundación Antisana have worked with the Cofan indigenous group in Sinangoe for over 10 years, most recently on a food security project with the 18 families.

Other examples of TNC's work with indigenous peoples and local communities can be found in Alaska, Canada, China, Indonesia, Minnesota, Wisconsin, Montana, and Papua New Guinea.

Some Ideas to Improve TNC's Work with Local Communities

As mentioned before, human displacement from protected areas is not an issue in the areas where TNC works. However, working in park conservation with people living inside them requires constant innovations and long-term commitment for sustainable use. TNC has developed many tools and skills in our work with indigenous peoples that need to be systematized and analyzed.

Besides basically excluding human displacement from our scope of possible practices, The Nature Conservancy and all NGOs working with indigenous peoples should develop clear principles to work with local communities such as those developed by the World Conservation Union (IUCN) and WWF.

Recommendations

We suggest that TNC adopt the following:

1. Systematize TNC's work with indigenous peoples and local communities to gather best practices, learn from the lessons, and share it with our partners and other large NGOs.

2. Establish communication channels with NGOs with strong experience working with indigenous peoples and local communities to learn from their experience and build our own position.

3. Review IUCN/WCPA/WWF general principles to work with indigenous peoples and local communities and begin a discussion to adopt them or develop similar guidelines.

4. Develop policy papers on some sensitive issues regarding indigenous peoples and local communities and protected area management.

5. Participate actively in international fora regarding protected areas and human populations, such as the UN Permanent Forum on Indigenous Issues.

6. Develop internal networks to share best practices with indigenous peoples and local communities, and incorporate in the short term partners and allies.

7. Develop communication bridges with major indigenous organizations to develop and work in common conservation agendas.

8. Promote special units within large NGOs devoted to indigenous and community issues.

9. Work more closely with indigenous groups to reconcile their interests and conservation interests. Conservation projects should not put in danger their rights to livelihoods and development.

[1] Information provided by Edgar Herrera,TNC-Nicaragua.

9.3 Addressing the Social Impacts of Conservation: Strategies, Experience, and Future Directions

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As a social process involving decisions about access, use, and the long-term viability of the Earth's natural systems, conservation inevitably entails both social costs and social benefits. Benefits include clean air and water, the survival and growth of nature-based economies and ways of life, and the cultural and aesthetic values of wildlife. Costs include limitations on resource use for economic purposes as well as social change to modify human impacts over time.

Costs of some conservation strategies have the potential to be distributed very broadly – for example, the cost of reducing greenhouse gas emissions. In the case of protected areas, however, there is increasing recognition that "many costs of protected areas are borne locally – particularly by poor communities – while benefits accrue globally…" (IUCN 2005). Costs, particularly associated with stricter forms of protected areas, include physical displacement, restrictions on use of natural resources, restrictions on access for religious and cultural purposes, conflicts arising from enforcement activities, and human-wildlife conflict.

Concern with the social costs of conservation is not new. It has developed as part of broader concerns about social justice in conservation policy since the 1970s (Fortwangler 2003; Adams and Hutton 2005), and in practice since the 1980s through approaches such as integrated conservation and development projects (ICDPs) and community-based natural resource management (CBNRM). This paper argues, however, that analysis of this experience reveals a range of issues that need to be addressed through more explicit attention to social impacts in conservation planning, in organizational policies, and in conservation partnerships.

Definitions and Scope

In the context of development policy and, more recently in relation to conservation, concern about social costs has focused primarily on displacement, which was initially defined as physical relocation. However, in recognition of a wider range of social costs, definitions of the term displacement have expanded over time to encompass restrictions on resource access and use. In 2002, the World Bank formally revised the definition of displacement in its resettlement policy to include "involuntary restriction of access to legally designated parks and protected areas, resulting in adverse impacts on the livelihoods of the displaced persons" (Cernea 2006; World Bank 2002). This paper uses the term "social impacts" to encompass the broad range of costs and benefits associated with conservation and "social costs" for negative impacts, reserving use of the term displacement for physical displacement. While much of this paper focuses on social costs, a broader framework of social impacts is important to keep positive impacts within view, as part of a fuller understanding of the variable impacts of protected areas on different social groups (Mascia and Claus, this volume) and as a basis for attention to increasing positive impacts.

As regards conservation strategies, public protected areas have been a main focus of discussions regarding social impact because of the state's power of eminent domain in establishing them, situations of overlap and conflict with indig-

enous and community lands, and relatively greater restrictions on use within them. At the same time, the issue of social impacts is relevant to a broader set of conservation strategies.

Social and Conservation Impacts

Concern for social impacts in conservation has both practical and ethical foundations (Wilshusen et al. 2003; McShane 2003). Practical foundations stem from the linkages between social impacts and conservation impacts. These linkages operate in a number of ways. For example, it is widely recognized that where local people receive positive benefits from well-managed resources they are more likely to actively conserve them over the long term. Conservation and social impacts also are linked by the broader forces that threaten both biodiversity and social welfare of local people, such as commercial over-extraction of natural resources. These synergies and shared threats form the basis for collaboration between conservationists and indigenous and local communities, and are reflected in conservation policy through recognition of community stewardship and promotion of proactive collaboration to achieve conservation objectives. For example, WWF's Statement of Principles on Indigenous Peoples and Conservation commits to assisting indigenous peoples with organizational strengthening, recognition of lands and territories, conflict resolution, and their own conservation initiatives where these activities are consonant with conservation objectives (WWF 1996).

Ethical foundations of concerns regarding social costs stem from recognition of the rights of local people to protection against costs or, at a minimum, to compensation for them. These ethical dimensions rest on social justice values and legal human rights frameworks, and are not necessarily linked to conservation impacts. At the same time, negative social impacts can erode local support and global constituencies for conservation, making conservation more difficult and less sustainable over the long term. Ethical and legal foundations are reflected in conservation policy in the form of social safeguards, especially where these are grounded in recognition of rights. WWF's Statement of Principles on Indigenous Peoples and Conservation, for example, recognizes the right of indigenous peoples not to be removed from the territories they occupy, and adopts the principle of free, prior, informed consent as a requirement for WWF support of conservation or development activities in indigenous lands (WWF 1996). As indicated by these principles, safeguards have both procedural and substantive dimensions – that is, they seek to address rights and equity issues in relation to decision-making processes as well as in relation to impacts.

Conservation Strategies

As noted above, conservation practitioners have experience addressing the social costs of conservation, through at least three clusters of strategies – identified here by the shorthand terms of "ICDPs," "CBNRM" and "targeted compensation."

Integrated conservation and development projects (ICDPs) developed in the 1980s from the work of conservation agencies in protected areas, and – while taking a range of forms – have generally linked support for protected area management with community development initiatives in surrounding areas. While one aim of community development activities has been to reduce human impacts on biodiversity, another important aim has been to provide a form of compensation for reduced access to resources inside relatively strict protected areas (Larson et al. 1998; Brown and Wyckoff-Baird 1992). The term ICDP is

no longer widely used and project approaches are changing; however, the experience of these projects remains relevant for ongoing efforts to link alternative livelihoods with protected areas management.

As a means to address social costs, analysis of ICDPs indicates several limitations. One is that, in their association with relatively strict forms of protected area management, ICDPs have tended to pursue a strategy of compensating for social costs, rather than a strategy of preventing them. At the same time, a growing body of research has questioned the rationale, even in ecological terms, for displacements and restrictions on resource use (and the social costs they generate) in many places where they have been applied. Some critiques trace persistent images of "wilderness" through the history of conservation, and argue that resulting assumptions of a fundamental incompatibility of people and wildlife have driven actions to separate people from nature in particular places (Colchester 2004; Adams and Hutton 2005). Other critiques, deriving from practice, highlight problems of flawed or insufficient social analysis in project design (GEF 2006; Seymour 2004). This includes the tendency within ICDPs to focus on local problems and solutions (Larson et al. 1998), as a local focus risks exaggerating impacts of local use activities on biodiversity, and obscuring broader drivers and external factors. An overall implication of these critiques is that, even where the intention of ICDPs has been to address negative social impacts, the approach does not necessarily challenge assumptions about the incompatibility of people and nature that give rise to them.

Analysis of alternative livelihoods activities as a form of compensation reveals an additional set of limitations. One is that the link between benefits and costs has generally been vague; without concrete assessments of the nature and distribution of impacts of protected areas, compensation is less likely to be appropriate or directed to the most affected people. The sequencing of protection and development activities within ICDPs has also tended to be de-linked. Because increased restrictions on access and use of natural resources can be put in place much more quickly than benefits from enterprise-based development activities, benefits often have not started to flow until long after costs have been incurred. Of course, where flows of benefits have been limited or not realized, the compensation aim has also not been achieved. Finally, while the intention of ICDPs has been to generate social benefits, the accountability of implementing organizations to communities for these benefits – linked to defined and articulated costs – has tended to be limited.

Forming a contrast to ICDPs is an alternative cluster of strategies – various forms of community-based natural resource management (CBNRM) – that take as a starting point the connectedness of people, especially indigenous and traditional peoples, with their lands and resources. Seen in relation to social impacts, these "place-based" conservation strategies (Bray, this volume) tend to take an approach of preventing or avoiding negative impacts. While support for CBNRM strategies among conservationists also has a considerable history, interest and attention is increasing due to growing recognition of indigenous and traditional peoples as owners and managers of high-biodiversity areas, increased understanding of the role of humans in shaping ecologies and landscapes, shifts in conservation focus to larger scales and across broader landscapes, and lessons learned regarding the need to build local constituencies for conservation. CBNRM strategies recognize that not all human uses are ecologically sustainable, but seek to address sustainability through capacity building, support for protection against negative, external impacts, and support for key enabling conditions – such as secure tenure – for sound management.

A third cluster of strategies, termed here as targeted compensation, seeks to address conflicts between specific conservation objectives and particular aspects of human use. Examples include compensation to forgo specific types of hunting, harvesting, or cultivation activities (such as grazing or underplanting in forests) or payments for attacks on livestock by predator species of high conservation priority. Key elements are that both the specific conservation objective and the social impact are clearly defined, the form and extent of compensation is negotiated and accountability for compensation is clear.

New Directions

This brief overview of issues and strategies to address social impacts points to needs for future work in at least three areas.

One need is for more in-depth analysis, in project planning and monitoring, of how human activities affect specific aspects of biodiversity (positively and negatively) *and* how specific proposed conservation interventions are likely to affect local people (positively and negatively). To date, social research in the context of conservation planning has focused overwhelmingly on analyzing human impacts on biodiversity, especially those seen as having negative impacts. While efforts are underway (for example, Reed 2006), more work remains to ensure that strategies are grounded in concrete understandings of how human activities relate to specific conservation objectives (Agrawal and Redford 2006; Brockington et al. 2006), including with greater attention to the influence of broader policy and institutional factors.

A much larger gap is integration of analysis to understand how conservation interventions impact local people, comparable to Social Impact Assessment in the context of development interventions (Geisler 2003; GEF 2006). Within specific projects, lack of social impact analysis limits the ability of practitioners and affected people to define and develop appropriate responses – such as alternative strategies or compensation measures – to ensure against negative impacts or promote positive ones. Consistent integration of social impact analysis as part of conservation planning is therefore a critical need.[1] Impact analysis should be part of and, in turn, can strengthen and inform collaborative planning and decision-making processes with indigenous peoples and local communities.

As conservation organizations develop more rigorous systems to measure the conservation impacts of projects over time, social impacts need also to be integrated in these. At the project level, monitoring of social impacts provides a basis for changing course, where negative impacts arise, as well as for demonstrating – through better documentation of positive impacts – the relevance of conservation to the social agendas of broader constituencies. In the aggregate, documented experience can usefully inform broader policy debates over the social impacts of conservation strategies, particularly protected areas, where data is currently limited (Agrawal and Redford this volume; Brockington and Igoe 2006).

A second need is for clear institutional policies and positions regarding the social impacts of conservation. Institutional policies establish standards and provide guidance to field managers in ensuring social safeguards and contributing to positive social benefits from conservation. Relevant standards have been developed through a growing set of international instruments and in operational guidelines of development agencies (Krueger, this volume). While principles and standards related to indigenous peoples have been a focus of attention in conservation policy, social impact issues also need to be addressed in relation to non-indigenous communities and require relevant policy and guidance. In addi-

tion, there is a need to periodically evaluate policy implementation and ensure that policies are effectively integrated in practice through awareness and capacity building, guidance on implementation in different local situations, monitoring and adequate financial support (Springer and Alcorn, forthcoming).

Along with providing guidance for staff, policy communicates institutional values and commitments to others. This provides a basis for collaboration with others who share concerns for socially-equitable approaches to conservation and development. Policy also provides a clear statement to other potential partners regarding the terms on which the organization can engage in a partnership or activity, and the kinds of activities it cannot support.

The issue of conservation partnerships is especially important because conservation interventions often take place in contexts where basic conditions to guard against negative impacts – such as protection of human and civil rights, channels to participate meaningfully in decision-making, and rights to land and resources – are not secured. Collaboration with indigenous and local communities and their organizations is essential in order to hear their concerns, understand their issues in relation to the potential negative and positive impacts of a conservation activity, identify common interests, and resolve conflicts or differences as they arise. In the context of specific partnerships with governments and other powerful actors, conservation organizations share responsibilities for ensuring that social costs and benefits are equitably addressed. At the same time, it is much more difficult to undertake socially-sound conservation work in the context of constraining policy and institutions. Expanded alliances with peoples' organizations along with engagement with governments offer important opportunities to address broader policy issues that affect the linkages between biodiversity and social values.

[1] Relevant frameworks for social impact assessment in the context of conservation include the Akwé Kon guidelines (CBD Secretariat 2004), the World Bank's Impoverishment Risks and Reconstruction model (Cernea 1997), and Sustainable Livelihoods Analysis (DFID 2001; Igoe 2006).

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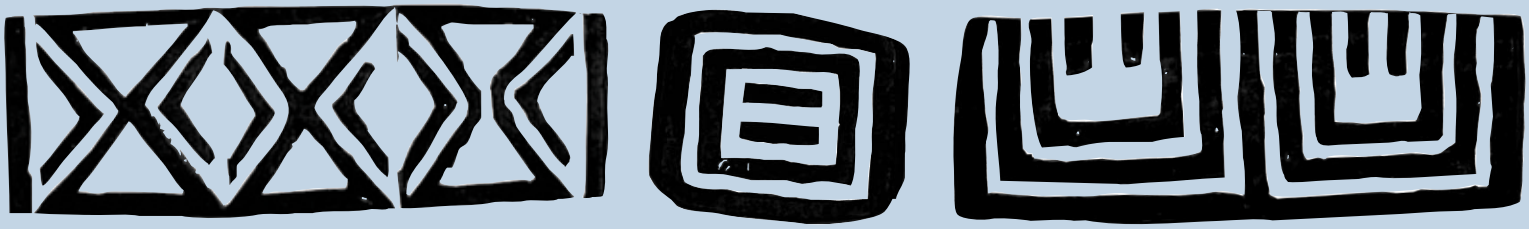

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