

Are Central Africa's Protected Areas Displacing Hundreds of Thousands of Rural Poor?

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Abstract

An ongoing debate over the impacts of protected areas on rural communities in central Africa has become increasingly polarized in recent years, even as definitions of displacement have shifted from outright expulsion to economic dislocation precipitated by lost access to natural resources. Although forcible removal of communities to make way for the creation of National Parks has certainly occurred in the past in some parts of the world, we contend that not a single individual has been physically removed from any of the protected areas created in central Africa over the past decade, despite claims to the contrary of hundreds of thousands of "conservation refugees." Furthermore, we recognize that a scarcity of data precludes impartial evaluation of the potential impacts of economic displacement of local communities living adjacent to protected areas, and we call for a concerted effort by conservationists and the social scientists who criticize conservation efforts, in order to measure the effects of protected areas on livelihoods, and to work towards a more socially responsible conservation paradigm.

Keywords: biodiversity conservation, Central Africa, displacement, protected areas

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INTRODUCTION

In the past several years, a small but highly productive body of researchers have published extensively on the involuntary displacement of local communities living in or around protected areas in general, but particularly with regard to Central Africa (Schmidt-Soltau 2003; Brockington 2004; Brockington & Igoe 2006; Brockington *et al.* 2006; Cernea & Schmidt-Soltau 2003a, b, 2006; Schmidt-Soltau 2005a, b; Schmidt-Soltau & Brockington 2007). These papers challenge the purported practice of sovereign states, often supported by conservation NGOs, to designate protected areas without

discussion with or providing compensation to people living nearby, which they maintain leads in some instances to the forcible eviction of communities. Along with forcible removal from protected areas, the negative economic effects, caused by loss of access to forest resources, is also cited as a form of displacement (Cernea 2005). These restrictions are then translated into economic losses, or more seriously, local impoverishment (Schmidt-Soltau 2003; Cernea & Schmidt-Soltau 2003a, b, 2006; Schmidt-Soltau 2005a, b; Schmidt-Soltau & Brockington 2007). As these studies perhaps amplify each other, they have found more traction and their discourse increasingly has resulted in 'displacement' as being the major

issue that characterizes conservation in Central Africa (Hutton *et al.* 2005; Nelson 2004).

The examination and mitigation of restrictions imposed by protected areas is a laudable ethical objective. The papers cited above provide a compelling case against forced conservation-related resettlement and the economic implications of lost access to forests and land resources and, historically, these assertions are not without merit (Bonner 1993; Adams & Mulligan 2003). There is little doubt that the creation of protected areas will inevitably have some negative impacts on some individuals living nearby; we do not dispute this premise, and recognize that there are inherent trade-offs between biodiversity conservation and economic development (Sunderland *et al.* 2008), although evidence clearly exists to show that these outcomes are not mutually exclusive (Kareiva *et al.* 2008).

However, to date there have been few long-term studies of the effectiveness of protected areas for biodiversity conservation, nor their impact on local societies (Newmark & Hough 2000; Brooks *et al.* 2005; Robinson 2006; Agrawal & Redford 2007; Ferraro 2008). Even advocates of the displacement theory at the heart of this debate also recognize that 'our knowledge base is still weak' (Schmidt-Soltau & Brockington 2007: 2187), and this criticism applies to most conservation projects; poor systems of monitoring and evaluation mean that it is extremely difficult to assess the long-term impacts of project implementation and protected area management, both for societal impacts and biodiversity conservation (Sayer & Campbell 2004). Ongoing studies of the human welfare impacts of national parks in Gabon (Wilkie *et al.* 2006) and Costa Rica (Ferraro 2008) will soon provide us with just such information.

Hence, the assertion that national governments and conservation organizations have willfully dispossessed 'upwards of 120,000 conservation refugees, plan to re-settle 170,000 more due to the increase of the number and extent of protected areas in the region and that 250,000 people will have to host these refugees in Central Africa' (Schmidt-Soltau 2005a: 1) is difficult to reconcile with what we see is actually happening on the ground. These figures, and the use of such terms as 'cleanse' (Schmidt-Soltau 2005a: 2) in the context of protected areas and in relation to suggested dispossession serves only to further polarize a debate which appears to pit national governments and conservation NGOs against the social advocacy community (Wilkie *et al.* 2006).

It is also somewhat misleading to suggest that conservation projects are the only cause of potential displacement in each of the countries cited by Schmidt-Soltau (2003) and subsequently Cernea & Schmidt-Soltau (2006). Only 8% of the State land in Central Africa is covered by protected areas (Minnemeyer 2005) and, of these, only a few can be said to be effectively managed (Wilkie *et al.* 2001; Hayes 2005). A significant majority of land in the region is actually allocated to logging concessions (41%), and hence reserved for the purpose of timber production, while the remaining land (51%) is outside both concession forests and protected areas (Minnemeyer

2005) and is primarily subject to customary control. Hence, conservation often occurs in complex landscapes with convoluted tenure and access arrangements (Minnemeyer 2005); an issue that has been studiously disregarded in the papers we discuss here (e.g., Schmidt-Soltau 2003; Cernea & Schmidt-Soltau 2006).

Clearly, conservation is rarely an issue of black or white, right or wrong, yes or no (Wiens 2007). The social and the political implications of biodiversity conservation through PA establishment within the larger landscapes in which they occur are inherently complex (Brechtin *et al.* 2002; Adams & Hutton 2007). However, it should be stated that there has been a considerable paradigm shift in how conservation is implemented in recent decades (Ghimere & Pimbert 2000; Hulme & Murphree 2001). Many conservation activities are inextricably linked with economic development and attempts at poverty alleviation, and conservation projects have transformed from the 'fines and fences' approach (Hutton *et al.* 2005) to a range of integrated or community-based methods where there is an explicit link between conservation of biodiversity and poverty alleviation, albeit with varying degrees of success (Alpert 1996; Adams & Hutton 2007; Chomitz *et al.* 2007). This conservation-poverty linkage has been a requirement for donors for at least the last 15 years, and the international conservation organizations have consistently refocused their activities in this regard (Sayer & Campbell 2004).

Conservation takes place largely in isolated, rural areas where the incidence of poverty is highest (Sunderlin *et al.* 2007), yet low population densities in remote areas mean that the absolute numbers of the poor are relatively small (Chomitz *et al.* 2007). Remote 'low-access' forests (i.e., contiguous forest areas of at least 1,000 sq. km) unbroken by public roads (Minnemeyer 2005) are where the majority of protected areas are located. Hence PAs that are the focus of outside interventions that attempt to mitigate the supposed negative impacts of conservation through community development or other economic activities related to conservation projects have been found to actually attract large-scale migration as access and livelihood opportunities in such rural areas increase (Oates 1999; Scholte 2003), directly contradicting the 'displacement theory' and ultimately highlighting the paucity of clear and unambiguous data related to the negative impacts of PA establishment and management.

This paper questions the veracity of the data presented relating to conservation-induced 'displacement', whether physical or economic, from a number of case studies in six Central African countries; these data were collected and first reported by Schmidt-Soltau (2003). These same data subsequently have been used in multiple papers (Schmidt-Soltau 2003; Cernea & Schmidt-Soltau 2003a, b, 2006; Brockington 2004; Schmidt-Soltau & Brockington 2004; Schmidt-Soltau 2005a, b; Brockington *et al.* 2006) to support the authors' arguments relating to the human welfare costs of protected area establishment. The sites concerned range from protected areas established in colonial times to new ones established in the past decade.

In previous debates, the definition of ‘displacement’ was a direct reference to the physical removal of people from areas where development was to take place (Guggenheim 1994; Cernea 1997). More recently, the literature concerning this subject uses a broader definition, including to ‘restrict access to an area’ (or to resources), even if people never lived in the areas from which they may now be restricted (Cernea 2005: 23). This includes, of course, not only displacement linked to protected areas, but also to all forms of development, such as road creation, dam construction, etc. which incidentally have created many more environmental refugees than attempts at biodiversity conservation (Agrawal & Redford 2007).

THE SITES AND RESEARCH METHODS

The data in question are presented in detail by Schmidt-Soltau (2003) and subsequently used by other authors relying on their veracity to underpin their discourse (Cernea & Schmidt-Soltau 2003a, b, 2006; Brockington 2004; Schmidt-Soltau & Brockington 2004; Schmidt-Soltau 2005a, b; Brockington *et al.* 2006). These papers have also echoed in the bibliographies of other workers who have accepted the conclusions, and figures, in good faith (e.g., Nelson 2004; Hutton *et al.* 2005). However, given the seriousness and implications of the impacts of conservation, it is unfortunate that most data on displaced peoples ‘are rough estimates based on published and unpublished data’ (Cernea & Schmidt-Soltau 2003b: 8, 2005b: 285), and all subsequent estimates of the value of lost access to natural resources, the cost of compensating displaced people and so forth is based on these ‘rough estimates’ with little or no empirical data collection (shortfalls in the reliability of the data collection process are further elaborated by Maisels *et al.* 2007). Here, we discuss in detail some of the protected areas (Figure 1) cited by Schmidt-Soltau (2003, 2005a) and Cernea and Schmidt-Soltau (2003a, b, 2006). We maintain that the figures originally mooted as those dispossessed, either economically or physically, are based on very cursory survey methods and are, as such, unreliable. In addition, certain ‘factual’ statements made in many of the site level observations are also questioned. It should be noted here that only two of these sites have what has been referred to as a ‘re-settlement policy’ (Schmidt-Soltau 2003; Cernea & Schmidt-Soltau 2006): Korup National Park (KNP) in Cameroon and the Cross River National Park in Nigeria. The other protected areas do not have such a policy for one obvious reason: despite the assertions to the contrary, resettlement has not happened, nor is it planned, in any of these sites.

Korup National Park, Cameroon

The KNP 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,

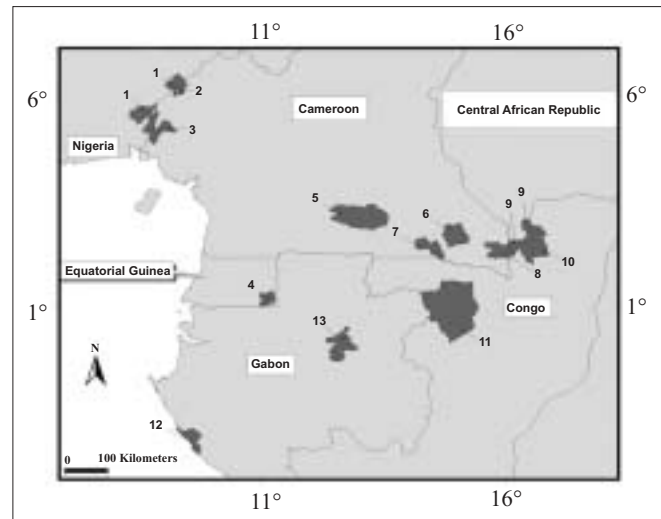


Figure 1: Central African Protected Areas: 1. Cross River NP (Nigeria), 2. Takamanda NP (Cameroon), 3. Korup NP (Cameroon), 4. Altos de Nsok NP (E. Guinea), 5. Dja Reserve (Cameroon), 6. Nki NP (Cameroon), 7. Boumba Bek NP (Cameroon), 8. Lobeke NP (Cameroon), 9. Dzanga Ndoki NP (CAR), 10. Nouabale Ndoki NP (Congo), 11. Odzala NP (Congo), 12. Loango NP (Gabon), 13. Ivindo NP (Gabon)

and the collection of food materials and palm products. By 1980, the Korup Forest Reserve had been adopted as an official project of WCI (Wildlife Conservation International, 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 villages involved well before the Korup Forest was decreed a national park in 1986. With reference to a previous article, Schmidt-Soltau (2003) states that in the case of KNP, the prospective re-settlers barely negotiated or defended their interests at all; that the inhabitants of the park agreed to resettle voluntarily without a written agreement or compensation. However, Schmidt-Soltau (2003) 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 negotiated (Malleon 2000). Assessments were also carried out by government officials to calculate appropriate 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; Malleon 2000).

In 1986, KNP 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 the KNP was accompanied by increased funding for the Korup Project from a variety of sources, including the European Union (EU).

Concerns over the issue of resettlement were hotly debated by project staff, and some of the consultants advising the project raised concerns over this issue (Devitt 1988; Ruitenbeek 1988). Nevertheless, the resettlement of park inhabitants remained central to Korup Project implementation plans.

It is incorrect to say that park inhabitants failed to defend their interests (Schmidt-Soltau 2004). 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 [not the 1,465 individuals cited by Schmidt-Soltau (2003)], officially, and voluntarily, moved to a new site outside the park (Tiani & 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 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 other five targeted villages, and from 2001 all further resettlement was suspended and is unlikely to be revisited. 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, despite a claim to the contrary (Schmidt-Soltau & Brockington 2007). 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 & Schmidt-Soltau 2006: 1819), the authors stress the need to assess the predisplacement 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, detailed household census and income data were collected from all the villages to be resettled as well as the villages within 4 km of the park boundary in 1988 (Devitt 1988; Infield 1988; Ruitenbeek 1991). Unfortunately, no reference to these works is made by Cernea & Schmidt-Soltau (2006).

Schmidt-Soltau & Brockington (2007) made a number of erroneous statements with regard to the resettlement of Ekundu Kundu I which need to be further clarified here. When the Korup project was closed in 2004, the villagers who had moved to the new site outside the NP did not immediately relocate back to the old site. As the structures of the original community were of mud and thatch construction, they had deteriorated significantly and become uninhabitable. By the time the former park advisor Andrew Dunn visited the site in 2003, only one structure remained intact and was being used as a forestry post. Using an argument that the new village site was unsuitable, which led to people returning to the old site, Schmidt-Soltau & Brockington (2007) suggest that there were water shortages during his time there (2000–2003). Dunn disputes the fact that any transportation of water to the new village location took place as they suggest; this would be hard to imagine in a region with more than 3,000 mm of precipitation per annum. To further support their argument, the claims of ‘increased morbidity’ (Schmidt-Soltau & Brockington 2007: 2197), which were a direct result of re-location, would need hard data to be provided in order for this to be substantiated. In addition, in spite of the statement that ‘*the rules and regulations [have ended] after the end of funding from the EU [are] no longer enforced or respected*’ (Schmidt-Soltau & Brockington 2007: 2197) is also not factual. The KNP is assisted in its management by WWF with financial support from the German Development Bank (KfW), and 20 game guards remain (one of whom, Simon Awoh, is the chief of Ekundu Kundu I) and continue to patrol the park regularly, so law enforcement efforts are in fact being made (Albert Kembou, park conservator, *pers. comm.*).

Cross River National Park, Nigeria

Cross River National Park was established by presidential decree, along with many other parks in Nigeria, in 1991. A WWF organized and European Development Fund financed feasibility/planning study (1988–1990) suggested the most appropriate boundaries for the park, which included the setting aside of a ‘traditional use zone’ to provide adequate forest lands for those affected by the NP (Oates 1999: 158). 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 nonreserve 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 gazetted as 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 the Boshi Extension (for its gorillas) in 1958. Farming had therefore been restricted in these forests for a long time, but gathering of non-timber forest products (NTFPs) and hunting continued at high levels. The total area of the park is not well understood, nor is 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). However, the rough estimates in terms of extent are Oban Division (3,000 sq. km), and the Okwangwo Division (640 sq. km), for a total of about 3,700 sq. km.

A larger number sometimes appearing for Okwangwo (920 sq. km), which is quoted by Schmidt-Soltau (2003), was the *proposed* rather than actual area. This proposed area included the two enclaved communities of Okwangwo (26 sq. km) and Okwa (28 sq. km), plus Balegete, which was left out of the original boundary but is sometimes referred to as an ‘enclave’ (Caldecott *et al.* 1990). These areas cover a total of 80 sq. km, which were not, in the end, added to the park. In addition, the proposal included the Obudu Plateau (100 sq. km) and the Mbe Mountains (100 sq. km) that were also never gazetted as part of the park. Although hunting may have been theoretically curbed, in practice it has largely carried on as before due to low levels of law enforcement.

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. That noted, these enclaves were known to support upwards of 2,500 people in the early 1990s (Oates 1999), and as a result the idea of resettlement has certainly been given a lot of thought. The settlements have grown, and their farm area has now spilled beyond the enclave boundaries (Slayback 2003), such that the Okwangwo Division of the park is threatened with being divided into two. Without a collaborative management approach this portion of the park will simply cease to exist as a functional protected area. Aside from agricultural encroachment, the people of Okwa and Okwangwo hunt inside the park with few if any constraints, so even the claim of ‘dispossession’ (Cernea & 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, [authors’ emphasis] 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 voluntary resettlement of the three enclaves.

Takamanda National Park, Cameroon

The Takamanda National Park was created by Decree No. 2008/2751/PM on 21 November 2008, and not in ‘2003’ as erroneously reported by Schmidt-Soltau (2005a). The management framework of the Takamanda National Park, drafted in 2006, includes rights of access, nondestructive harvesting of nontimber forest products, and the continued presence of legally enclaved communities, so the livelihoods of those reliant of high value forest products will not be deleteriously affected by this new classification. Despite the assertion to the contrary (Schmidt-Soltau 2005a), there was extensive consultation with local communities during the NP creation, and formulation of a legislative framework to respect usufruct rights was integral to the re-classification process. Coincidentally, in conjunction with the creation of the new NP, increased market access through recent road development has led a number of communities to adapt their livelihood strategies away from forest product collection to the cultivation of cash crops, notably oil palm and cocoa. This supports a general trend that as market access increases, livelihood strategies adapt and change, following a development trajectory from forest resource use to agriculture and ultimately wage income. This shift away from subsistence, forest-based livelihood strategies to wider integration into the market economy has been well recorded in Indonesia, for example (Levang *et al.* 2007), as well as Cameroon, Ghana, and Nigeria (Malleon *et al.* in press).

Dja Biosphere Reserve, Cameroon

Dja, which covers an area of 52,600 ha, was first gazetted in 1950 as a wildlife and hunting reserve (Betti 2001). In 1981, it was named as the Dja Biosphere Reserve and in 1987 it was designated as a UNESCO World Heritage Site. With one of the lowest population densities in Cameroon, there are few villages within the reserve and about 50 small villages within a kilometer of the reserve limits (ECOFAC GIS database). The presence of villages within Dja clearly suggests that no people were physically resettled to create the reserve; in fact, the Forest Peoples Program (FPP), a group not generally known for its support of conservation, has noted that ‘there has never been official resettlement of indigenous peoples by government’ for any protected areas in Cameroon (FPP

2008: 8). The management plan for the reserve allows for considerable resource use in the buffer zone, and there are 10 community forests in its vicinity representing an area of 29,782 ha (MINFOF 2004). There are also 12 allocated forestry concessions representing 721,056 ha within 30 km of this buffer zone (MINFOF 2004); an area much greater than that set aside for conservation or community forestry.

As we have no direct experience working in this protected area, we cannot comment on the figure of 7,800 displaced (either physically or economically) peoples (Schmidt-Soltau 2003), although the Dja's status as a biosphere reserve and the typically lenient law enforcement in Cameroon's protected areas makes it difficult to believe that this many people have been adversely affected. It is not clear whether this displacement refers directly to the Dja Biosphere Reserve itself, or to the timber concessions in its immediate vicinity. Betti (2005) suggests the major concessions in the vicinity of the Dja Reserve have had a much greater impact on the livelihoods of both Bantu and Baka groups than the reserve itself, and points out that the allocation of forestry concessions has resulted in major losses of faunal resources through uncontrolled commercial hunting, often coordinated by outside interests. He concludes that the majority of the available forest resources are within the reserve itself (Betti 2005). Interviewed in 2000, the conservator of Dja actually admitted that extractive activities were informally tolerated by authorities, with a 10 km buffer from the boundary into the reserve being considered acceptable (Lescuyer *in litt.* 30 November, 2008).

Nguiffo (2001) discusses how Baka Pygmies have experienced a perceived loss of access to the Dja Reserve, yet uses the example of a sedentarized group that was re-settled by the government in the 1960s, supported by the development intervention of missionaries (Graziani & Burnham 2005). However, he then admits that, as they see other stakeholders not adhering to regulations, they do not follow the rules set out in the reserve's management plan in any case (Nguiffo 2001). It is difficult to reconcile this purported loss of access with such obvious local noncompliance to conservation regulations. A study discussed by Colchester (2006: 20; see map) that included a participatory mapping component of the Dja Biosphere Reserve, clearly shows how much penetration into the conservation area there is, thus contradicting Nguiffo's claims. Colchester (2006) also makes a valid recommendation that the Dja management plan be revised to reflect the ongoing and accepted access in the reserve by pygmy hunter-gatherers.

Lobeke, Boumba-Bek and Nki, Cameroon: 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 these parks for shrimp fishing, and the harvesting of bush mangoes, wild yams, and other valuable forest products other than wildlife. Fourteen community hunting territories have been established with technical assistance from

GTZ (Gesellschaft für Technische Zusammenarbeit—German Development Aid) 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, including in response to concerns raised by rights-oriented NGOs about conflicts between park management and community use activities (Nelson 2003, 2004). There have been no involuntary physical evictions in Lobeke, Boumba-Bek or Nki, as there were no permanent residents in these protected areas to begin with.

A recent WWF report has called for the respect of access by Baka pygmies to forest resources in southeastern Cameroon, which includes all three of these protected areas (Njounan *et al.* 2008). Working with the FPP and other local NGOs, WWF concluded that the Baka pygmies do not recognize any limits related to the harvest of forest resources and carry out extraction activities both in and around the parks, and recommended that this right of access should be respected (Njounan *et al.* 2008).

Lobeke National Park, Cameroon

Various citations (Cernea & Schmidt-Soltau 2003b, 2006; Schmidt-Soltau 2005a) report the displacement (or 'expulsion', according to Schmidt-Soltau 2005b) of approximately 4,000 people caused by the creation of Lobeke National Park (2,178 sq. km) in southeastern Cameroon. Ironically, population figures for the area are actually higher (see below), based on detailed household census information. However, during the period that the Wildlife Conservation Society (WCS) worked in this area there were no permanent human settlements in the park and, almost without exception, communities are concentrated on the main road between Moloundou and Yokadouma (Curran 1993).

Teams from WCS spent four years (1992–1996) working in the forests and the villages of 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 (Curran 1993). 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 (2005b). In fact, WCS focused its social science work in the nine villages (and the associated Baka 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 undertaken indicated that with the exception of some dry-season fishing spots, people had no need to go to the proposed protected area. Therefore, in the absence of updated detailed household survey data, we are not sure how the Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau

(2006) 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 & Tshombe 2001: 526). And indeed, this is precisely what has happened with the creation of Lobeke National Park, buffered by an area gazetted for local community resource extraction which is actually larger than the park (WWF is finalizing plans for 400,000 ha of community hunting areas which have been defined in collaboration with villagers). Focused development activities for pygmy groups have been led by the FPP, in collaboration with WWF (Nelson 2003, 2004).

Boumba-Bek National Park, Cameroon

Boumba-Bek National Park (BBNP) was created in 2005 and covers 2,382 sq. km. In 1995, the Boumba-Bek-Nki Essential Protection Zone was created. Between 1996 and 2000, the national forestry authority and its partners carried out biological, ecological, and socioeconomic studies to collect information for the gazettelement 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 organized a series of meetings between 1999 and 2001 with the local populations of about 30 villages around BBNP. These meetings were to inform the villages about the protected area, 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 km. User rights of the local populations were defined according to the existing legal texts which apply countrywide (for example, Décret No. 2005/3284/PM of 6 Cct. 2005).

The Baka populations continue to have access to parts of the Park for subsistence activities. Because the Baka are often marginalized in village consultations, additional efforts to safeguard their customary rights (by ensuring that those rights are explicitly protected in the management plan for the Park, for example) are also now underway. WWF, FPP and some local NGOs are facilitating a participatory mapping process and are undertaking studies on the spatial patterns of resource use of the Baka in the Boumba-Bek region (Mulvagh *et al.* 2005). This process is leading to a greater understanding and recognition of Baka rights of access which are in the process of being formalized (Njounan *et al.* 2008).

Dzanga-Ndoki National Park, Central African Republic

This site is a multiple-zone protected area (Dzanga and Ndoki National Park sectors, surrounded by the Dzanga-Sangha Special Reserve) gazetted in 1990; WWF and GTZ have been active there since 1988, helping the CAR government to manage an integrated conservation and development project (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 people, depending on whether the sawmill is in operation; it has opened and closed several times since the park was gazetted. Each closure of this sawmill leads to increased pressure on local wildlife as people search to compensate for their unemployment. In fact, it is difficult to consider many of these people as truly 'local', as most have come from outside in search of the economic opportunities presented by logging or diamond mining. The 2005 census data from Bayanga (Kamiss 2006) showed that of a total population of 3,295 individuals, 87% (all Bantu, since no Baka are living in Bayanga) were not native to the area. The same holds true for Babongo, a village linked to diamond mining in the north of the special reserve, where 92% of the total population of 448 come from outside the region. As such, if free and uncontrolled access to the natural resources is granted to the 'local' population, it is the truly indigenous inhabitants, whose livelihoods depend on access to the forest, who will suffer in the long term.

It is hard to know how Schmidt-Soltau (2005b) arrived at the figure of 350 people 'expelled' from the park. 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. Indeed, the importance of addressing the needs of the local population is anchored in the law on the creation of the Dzanga Sangha Special Reserve (Loi N° 90.018 de 29 Décembre 1990 Portant création d'une Reserve Spéciale de Forêt Dense Dzanga-Sangha), stipulating that one of the aims of the creation of this multiple-use zone is the *'satisfaction of local demands in accordance to the principles of conservation'* (i.e., sustainable use of natural resources, excluding the hunting of protected animal species). The national park thus acts as an area where the wildlife is protected and can proliferate, allowing for nonprotected species to be hunted in the surrounding areas. It can be argued convincingly that the park allows the Baka people to pursue their traditional way of life, as without the total protection afforded there, wildlife densities in the reserve would very likely have decreased significantly as in other parts of the country.

Furthermore, in order to compensate the local communities for the loss of territories traditionally used for hunting and gathering, a communal hunting zone was established in 2004 between both sectors of the national park (Arrêté N°057/MEFCP/CAB/SG/DGSR). Covering a total area of 58,726 ha, this communal hunting zone is in fact larger than the Dzanga National Park sector (49,756 ha). Hunting

is allowed with traditional methods only (no guns or cable-snare traps are permitted), in order to protect the hunting rights of the indigenous people (mainly Baka, Sangha-Sangha, and Ngoundi), but is also open to residents from other parts of the country. In addition, many fishing camps exist along the Sangha River. Besides fishing, even subsistence agriculture is tolerated in the vicinity of these camps, and no involuntary displacements have been made since the park was created. The only fishing camp where people have been displaced recently (August 2008) is Nyangoute, which was established after the park was gazetted, and is therefore by definition an illegal settlement. This camp is located in the heart of the Ndoki NP sector, and has been associated with the poaching of elephants and gorillas since it was created. Nevertheless, the displacement has been voluntary, involving two families (about 20 people) who were compensated with housing, fields, and funds for small livestock breeding.

Altos de Nsok National Park, Equatorial Guinea

The source of the data published in Schmidt-Soltau (2005b) is cited as 'Schmidt-Soltau, unpublished data'. These data come from one of his 'unofficial or private visits', and one can therefore assume that no research permission was secured to undertake any official assessment relating to the creation of the Altos de Nsok National Park. The year of his visit is cited as 1998 (Schmidt-Soltau 2003; Cernea & Schmidt-Soltau 2006). Perhaps, this explains why there are discrepancies in estimates of area and human population. For example, although the area of this site is quoted as 5,150 sq. km (for example in Cernea & Schmidt-Soltau 2006), the area on available maps (Larison 1999; ECOFAC GIS database) is just over 1,000 sq. km, and was cited at only 700 sq. km by Machado *et al.* (1998), Pérez de Val (2001), and most recently by the WDPA (2005).

Cernea & Schmidt-Soltau (2006) give a population density of 1.98 people per sq. km 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 Nsok area is 2,000. The difference between these other published data and those of Schmidt-Soltau (2003) is not explained.

Although identified as a possible protected area in 1988, Nsok 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 & Schmidt-Soltau 2006b: 1814) and suggests that some in-depth research is needed.

Nouabalé-Ndoki National Park, Republic of Congo

Cernea & Schmidt-Soltau (2003b: 8; 2006: 1814) claim that there was 'expulsion of Pygmy-bands and dispossession/expropriation' when the park was created in 1993, without any citation to support this. In fact, there are no signs of recent permanent human habitation within the area of the park. Analysis 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 & 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 for reasons currently unknown.

Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006) suggest that 3,000 people in 'pygmy-bands' were expelled when the park was created. It is impossible to understand where this number comes from. When Schmidt-Soltau visited northern Congo in 1999 and 2001, there were only 280 people living within a distance of 25 km of the Nouabalé-Ndoki National Park (NNNP) boundaries (all in the small village of Bomassa-Bon Coin) (WCS annual census data, based on Eves & Ruggiero 2000). There were at most 4,000 people living within 50 km 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 with a logging company. Despite the fact that, with the exception of a few villages and camps, a 'total census' (Eves & Ruggiero 2000: 433) of the area likely to be affected by the national park and its buffer zone was undertaken, it is unfortunate that such robust studies were not referred to by Schmidt-Soltau (2003) or Cernea & Schmidt-Soltau (2006).

Under the claim relating to the risk of food insecurity, the NNNP is again cited as a case study. Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006) state that the villagers living around the NNNP receive subsidized food from the conservation project as 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 & Schmidt-Soltau 2003b: 17).

Firstly, because the villages are not, and never have been, settled in the national park (Eves & Ruggiero 2000), 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 NNNP project (Ruggiero 1998), 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 consumed by the community (Eves & Ruggiero 2000). Hence, it is difficult to understand how this has led to an increased risk of food security.

Based on extensive long-term household surveys of villages at varying distances from the NNNP, Eves & Ruggiero (2000) calculated the per capita economic benefit from national park employment in those closest to the national park (so-called ‘conservation villages’). Per capita income was calculated at US \$15 per month compared to the benefits from hunting alone (US \$0.54). Hence claims of economic displacement made by Cernea & Schmidt-Soltau (2006) are hard to substantiate, particularly given the high employment figures related to the logging concessions surrounding the national park.

Odzala National Park, Republic of Congo

Schmidt-Soltau (2005b) and Cernea & Schmidt-Soltau (2003b) claim that when Odzala National Park was created, there was ‘*expulsion of Pygmy-bands and expropriation*’. In a footnote, 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 & 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 to 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 people who now live in the main villages 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, b, 1999; Lia & 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.

The National Parks of Gabon

It is worth mentioning here that the national parks of Gabon were designed specifically to avoid including villages inside

their boundaries. Between 1998 and 2002, a series of ecological and socio-economic surveys were undertaken in the most isolated areas of the country, with the intention of minimizing the impact of potential protected areas on rural communities (Wilkie *et al.* 2007). It is worth noting that the rural population of Gabon is declining by 2.5% per year, and is almost entirely concentrated along the major roads and navigable rivers, or in urban centers. As a result, large areas of Gabon are absent of human settlement (Wilkie *et al.* 2007).

It is therefore surprising that a consultancy report by Kramkimel *et al.* (2005) makes demonstrably misleading claims regarding displacement purportedly caused by the creation of the new national parks, citing that an estimated 14,000 people would be affected. Based on a relatively short study (compared to the one undertaken by the Government of Gabon and WCS), it is difficult to see how such numbers were generated, especially as in an earlier version of the report (accessed on 26 February 2008) the authors say that ‘*for now it is not possible to specify exactly how many people will be affected in the form of physical and/or economic displacement*’ as ‘*these impacts will result from management plans which will determine the level of activities still allowed in the national parks and buffer zone*’ (Kramkimel *et al.* 2005: s.n.). As the management plans have yet to be elaborated for many of the parks, these figures have to be based on considerable guesswork. When challenged on the veracity of these figures, Dr. Schmidt-Soltau, a co-author of the report, 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, as is the figure of 7,000 people cited by Brockington & Igoe (2006). Again, there is no indication of how these figures have been calculated. To date, not a single individual has been physically displaced by the creation of any of the parks, which, as noted earlier, were designed specifically in order to avoid conflicts with communities. Furthermore, there is no resettlement policy or compensation plan in place, as no displacement is intended at present.

DISCUSSION

Wider issues related to economic impacts and ‘impoverishment’ due to restrictions in access to land and forest resources, coupled with the challenges of effective law enforcement, further question the conclusions of Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006) and their co-workers. Methodological problems related to the data presented are also discussed in more detail below.

Issues of economic loss, ‘impoverishment’ and ‘displacement’

The economic analysis provided by Cernea & Schmidt-Soltau (2006: 1820, Table 3) rests on a single livelihood survey undertaken in 2000–2001 in and around what was then the Takamanda Forest Reserve in SW Cameroon (now the

Takamanda National Park). 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 (Malleon-Amadi 1993; Sunderland *et al.* 2003). 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. Maisels *et al.* (2007) discuss in further detail the methodological issues related to these surveys (Schmidt-Soltau 2003) and highlight other factual inconsistencies related to his field work in Takamanda.

For each of the sites examined by Schmidt-Soltau (2003), long and detailed household surveys would be obligatory in order to accurately calculate economic loss from restricted access to forest resources (see Cernea & Schmidt-Soltau 2006). What is essentially required is a published comparison on the welfare of households that traditionally have claims on park resources with 'control' households that do not. This type of study demands a large sample size, with 'before' and 'after' scenarios. These would demand considerably more time investment in empirical data collection than reported by Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006). At least one full year of surveying would be necessary to adequately capture seasonal variations, and multiple years of work would be required to understand annual differences in the contribution of forest products to the household, compared to other sources of income and subsistence (including NTFPs, meat, and fish) (Malleon *et al.* 2008; see also details on the global Poverty and Environment Network of CIFOR that is conducting 38 individual long-term household surveys in 26 countries to determine the contribution of forest products to rural livelihoods. URL: http://www.cifor.cgiar.org/pen/_ref/home/index.htm). Furthermore, using incomplete data for subsequent comparison with baseline household income from elsewhere (in this instance Takamanda) to extrapolate both levels of loss and number of those 'dispossessed' highlights some major concerns about the veracity of the data.

To ensure that variations within and between settlements at each site are also recorded, sampling would have to occur across an entire site. In the instances described by Schmidt-Soltau (2003) in particular, none of these standard means of evaluating household incomes were undertaken. Hence, ultimately, the numbers related to economic dispossession presented by Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006) cannot be validated.

Homewood (2005), in the concluding chapter of a book on 'Rural resources and local livelihoods in Africa' makes some useful observations about the utility of the type of rapid consultations described by Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006). Although she acknowledges that participatory methods using rapid versions of long-established techniques can be of some value, they can also be misleading, 'as the reliance on speed inevitably limits the possibilities

for developing an in depth background knowledge and for the cross-checking and validation that longer-term research should allow' (Homewood 2005: 200). She also suggests that rapid assessments often project the agendas of research, development, or conservation agencies onto rural communities. There are also problems of dealing with 'sensitive issues such as income or wealth, or issues related to access to resources, where these are contested', or that 'local people being interviewed will ultimately second-guess ulterior motives, real or perceived, underlying questions and provide answers' (Homewood 2005: 201). Her subsequent point that 'local stakeholders may be straightforward about their grievances against other stakeholders while being economical with the truth about dubious activities in which they themselves may be involved' (Homewood 2005: 201) sums up our methodological concerns related to the data collection process reported by Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006).

Additional discrepancies in the use and interpretation of household data from Takamanda, and misunderstandings of the livelihood strategies of the people in and around many of the protected areas which are discussed in detail by Schmidt-Soltau (2003), Cernea & Schmidt-Soltau (2006), and Brockington & Schmidt-Soltau (2007) are summarized by Maisels *et al.* (2007) and do not need to be further elaborated upon here.

Additional concerns relating to these studies (Schmidt-Soltau 2003; Cernea & Schmidt-Soltau 2006) regard the lack of acknowledgment of the economic losses accrued by communities through land and access lost by logging and safari hunting concessions (Betti 2005; Lescuyer *et al.* 2008). The decentralization process in most countries on Central Africa is designed such that a proportion of taxes paid by loggers and safari hunting businesses is paid at the local level and is intended to 'compensate' communities for the loss of resources due to such activities (Oyono 2005). However, in some instances, funding allocated for local conservation and development activities through tax collection is misappropriated by local elites (Fritzen 2007; Ribot 2007), and this is certainly the case for much of Central Africa (Nelson 2004; Lescuyer *et al.* 2008). In many of the sites described above, the restrictions imposed by such concessions far outweigh those from conservation-related zoning, both in terms of their geographical extent and the ability to enforce regulations related to access (Lachio & Defo 2006). Given this inequitable distribution of legitimate income for rural communities, with an example highlighted by Graziani and Burnham (2005), it is surprising this issue is neither addressed nor discussed by Schmidt-Soltau (2003) or Cernea & Schmidt-Soltau (2006), nor in any of the other related papers.

The figures cited in the introduction of this paper of 'upwards of 120,000 conservation refugees, plans to re-settle 170,000 more due to the increase of the number and extent of protected areas in the region and that 250,000 people will have to host these refugees in Central Africa' (Schmidt-Soltau 2005a: 1) seem to refer mostly to physical displacement (which the use of the word 're-settle' appears to confirm) of people

from protected areas, yet other papers (Cernea & Schmidt-Soltau 2003b, 2006) present figures that include ‘economic displacement’. Hence there are major inconsistencies in both the numbers of ‘dispossessed’ and the distinction between physical and economic displacement throughout these publications, again raising a question with regard to their reliability.

The challenges of law enforcement

Despite the fact that there are now more than 100,000 protected areas in the world, representing 12% of the Earth’s total land surface (Chape *et al.* 2005), very few of these parks have anywhere near the institutional, infrastructural, or financial support in place to undertake the minimal amount of law enforcement required to relocate communities or restrict access to forest resources (Wilkie *et al.* 2001; Hayes 2006; Caro & Scholte, 2007). These are the so-called ‘paper parks’ (Brandon *et al.* 1998), a common entity in Central Africa (Minnemeyer 2002). Even where there is a modicum of park infrastructure, local resistance to conservation regulation, often underscored by inadequate enforcement, characterizes many PAs (Holmes 2007). Often, human impacts continue relatively unabated, and noncompliance to local or national regulations is customary (Robbins *et al.* 2006). Although there are few empirical studies that explicitly highlight the linkages between corruption and conservation (Smith *et al.* 2003; Ferraro 2005), law enforcement and thus PA management are significantly compromised by corruption and private settlement (Wright *et al.* 2007). Thus the implications of the claims of dispossession, either physical or economic, by Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006) require a tacit acknowledgement that, in Central Africa, law enforcement is nowhere near effective at any of the sites described above. Many of the national parks and other protected areas do not have enough capacity for even the most basic law enforcement. Even in ‘well-protected’ national parks, poaching occurs and access is often unhindered (Caro & Scholte 2007). At Dzanga Bai (Dzanga-Ndoki National Park in CAR), a popular tourist destination with a full-time research presence supported by armed game guards, three elephants were killed in early 2008 (Turkalo, *pers. comm.* June 2008). The fact that during his ‘mega-transect’ Mike Fay reported in National Geographic (October 1999) the presence of hunting camps in the NNNP suggests that there remains constant access and illegal activity in the park.

In this instance, there is a fundamental paradox in the discussion of how law enforcement restricts access and hence contributes to local impoverishment. Some of the very authors who suggest that there exists over-regulation of indigenous access rights to land and resources then go on to discuss in detail how illegal commercial hunting is the main driver of biodiversity loss (e.g., Nelson, 2003). How is it, then, that conservation projects are allegedly unable to stop the main poaching activities that are often led by outside interests, but are able to restrict the far less conspicuous activities of small-

scale subsistence hunting by roaming bands of indigenous groups? Essentially, the reality is that due to the constraints described above, both groups continue to remain active in the forest, including inside some protected areas, and their activities often continue unabated. This disjunction between established regulations and actual implementation suggests there is a policy vacuum with respect to setting aside sufficient land for local utilization in the face of ‘dispossession’ under the concept of State ownership (which, in the main are areas reserved for timber production). In this regard, the formalization of community forestry, particularly in Cameroon, should have filled this void [an issue studiously avoided by Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006)]. Were community forests not intended to create economic alternatives to otherwise titled land such as protected areas and logging concessions? If so, they have fallen way short of doing so (Oyono 2005). As such, it is then surprising that Cernea and Schmidt-Soltau (2006) and Schmidt-Soltau & Brockington (2007) do not mention this at all, especially as the 25 year leases offered to communities as a form of community tenure have ‘excluded hunter-gatherers’ (Colchester 2006: 6). On a related issue, in the ‘Risk of Joblessness’ discussion, Schmidt-Soltau (2003: 537) suggests that ‘*it should be possible to negotiate an agreement with the rural population that they do not hunt certain endangered species*’. Indeed it should be possible, as there has been a significant paradigm shift in conservation in recent years; there is considerable evidence that fecund forest-dwelling and secondary forest species can be hunted on a sustainable basis (Cowlshaw *et al.* 2005). Because of the need to focus scarce management resources on endangered species, sustainable bushmeat hunting to support local livelihoods has been advocated widely in Central Africa (Bennett *et al.* 2007; Nasi *et al.* 2008) although, admittedly, not in legally protected areas. Conservationists generally do not have a problem with local communities hunting to feed themselves; it is the unsustainable commercial enterprise which cannot be allowed to continue unchecked without risking the long-term livelihoods of these communities.

Restriction of Access of Indigenous Groups

Underpinning many of the papers we have cited here are claims that indigenous groups (or pygmies) are being ‘expelled or dispossessed’ (e.g., Cernea & Schmidt-Soltau 2006: 1814). While there may be instances where enforcement does extend to indigenous groups, and there may indeed be some discrimination based on a long-standing system of patronage between sedentary Bantu and indigenous groups (Joiris 1998), in general most conservation projects and protected areas are forced to operate based on field realities rather than well crafted regulations.

Reinforcing this point, we highlight a statement by John Nelson of the FPP, who is otherwise critical of pygmy loss of access to forest lands. He concedes that ‘most conservation managers in the region agree that subsistence hunting by Baka in and around the protected areas of South East Cameroon does

not pose a serious threat to biodiversity. The current consensus of conservation actors in Cameroon is that commercial hunting, especially for bushmeat, presents the gravest threat to endangered species, and legal and illegal logging poses the greatest threat to rare or endangered habitats' (Nelson 2003: <http://www.wrm.org.uy/bulletin/67/Cameroon.html>). This pragmatic view is shared by conservation managers throughout the region, and is reflected in their prioritization of enforcement activities towards commercial bushmeat poaching in particular. Nelson (2004) also acknowledges that conservation projects are 'working to protect forests that indigenous communities undoubtedly cherish' particularly when external forces are contributing to unsustainable logging activities and commercial poaching of game (http://www.forestpeoples.org/documents/africa/cefdhac_5_ip_rights_biodiversity_may04_eng.shtml).

Graziani and Burnham (2005) provide an excellent account of pygmy (in this instance the Baka) social organization, with regard to their relations with their Bantu (in this case, the Nzime) neighbors. They describe a *'long standing inter-relationship between Nzime and Baka groups, based on clientelistic ties, which is rooted in the political ecology of the region, and of Equatorial Africa more generally. Nzime act as mediators for their Baka associates vis-à-vis the outside world'* (Graziani & Burnham 2005: 183). As such, the integration of Baka interests into mainstream decision-making concerning land and resource allocation is not taken into account, or when they are provided a forum for contribution, they lack the requisite skills to negotiate on a fair and equitable basis. This socio-political complexity, as pointed out by Graziani & Burnham (2005), is mirrored elsewhere in Equatorial Africa, yet the long recorded relationship between pygmies and their Bantu patrons is not touched on in any detail, if at all, in the key papers we discuss here (Schmidt-Soltau 2003; Cernea & Schmidt-Soltau 2006), despite the fact that this relationship has a significant bearing on supporting their argument. There is an implication that the sedentarization of pygmy 'bands' (Cernea & Schmidt-Soltau 2006: 1814, Table 2), a term that has no resonance in the current literature (Bahuchet & Leclerc 2000) has only occurred through protected area establishment. This is not the case (see Joiris 1998, for example), and sedentarization has been going on for many years, particularly through the provision of health care and education along the main highways, notably by missionaries (Graziani & Burnham 2005). In short, these 'bands' do not live in a social vacuum, but are part of a complex milieu of forest use, agriculture and trade with their Bantu associates (Bahuchet & Leclerc 2000). As there are no reliable estimates of the numbers of pygmy indigenous groups in Central Africa (Nelson 2004), and without taking into account the issue of mobility and sedentarization, it would take years of long-term and dedicated research to prove such massive 'expulsion' and dispossession of these people in such a short space of time. As we have seen from the site discussions, pygmy hunter-gatherers continue to have virtually unregulated access in many of the national parks in Central Africa, as they see the continuity of the forests and resources whether there is a man-made boundary or not (Njounan 2008).

CONCLUSION

If indeed there were hundreds of thousands of 'conservation refugees' in Central Africa, with the impending prospect of many more (Schmidt-Soltau 2005a), then there would be an obvious moral case to be made against conservation. However, it is clear that there were no detailed studies undertaken at most of the protected areas listed by Schmidt-Soltau (2003) and Cernea & Schmidt-Soltau (2006), and thus it is difficult to have confidence in conclusions drawn from brief visits to some of the sites. The unspoken suggestion that there exists some unseemly national government-conservation NGO coalition at work to protect animals, even to the detriment of local communities, ignores years of social science work undertaken with these communities in an effort to find compromises to resource use conflicts. It is time to abandon the idea that conservation projects are managed exclusively by biologists who don't understand people, or worse, which don't care about the consequences of creating protected areas as long as animals are saved. Protected areas will inevitably have impacts on some communities, and tradeoffs have to be recognized (Sunderland *et al.* 2008), yet it is misleading to suggest that every single individual living anywhere near a national park will become impoverished by its very presence. Until there is a better-researched and arguably, more objective, review of the possible impacts of protected areas on human welfare, based on substantiated (and substantial) site-by-site field visits and thorough data collection, the basis for the claims made by Schmidt-Soltau (2003) and the subsequent papers that cite his figures should be viewed with some skepticism for the reasons we outline above. Of particular concern is the level of traction the issue has had with regard to perceptions of conservation activities in Central Africa; perceptions that are very different from the day-to-day realities. Hence in this paper, we have attempted to provide an even and balanced version of conservation in the region and discussed why such large numbers of 'conservation refugees' have in fact not been created.

Unfortunately, the studies we discuss here (e.g., Schmidt-Soltau 2003; Cernea & Schmidt-Soltau 2006) have missed many other issues integral to the conservation-development debate in Central Africa, and their conclusions imply that 'conservation' occurs in a spatial, institutional, social, and cultural vacuum not part of an extensive and complex landscape level process of change that is rapidly sweeping through the region. Issues relating to the alienation of land due to timber and safari concessions are ignored, basic governance problems resulting in the inequitable sharing of legitimate benefits through logging taxes are not discussed, the failure of community forestry legislation (for Cameroon in particular) and the fundamental issues related to noncompliance which characterize many of the protected areas in Central Africa are either not understood or accepted without question. There is great potential for carbon finance to be an instrument for reducing deforestation and poverty (Chomitz *et al.* 2007), yet these innovative models of using the maintenance of ecosystem services to benefit both

conservation and rural livelihoods will be challenging as long as efforts related to conservation are unfairly pilloried as being particularly damaging to human welfare.

We would also advocate that there are indeed instances where fully protected national parks may be necessary to ensure biodiversity conservation and the provision of ecosystem services (Chan *et al.* 2006), for the good of local people and the global community at large, and that contrary to other advocates (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. However, many national governments and conservation organizations believe that some controls on natural resource exploitation are necessary. Part of this reasoning is to protect access for local communities as they continue to use and rely on those resources (in concurrence with Nelson 2003). It is not true to say (Schmidt-Soltau 2005a) that most conservation organizations do not have codes of conduct and policies related to pro-poor conservation (see Redford & Fearn 2007 and Guiliani *et al.* in press). Most conservation organizations are committed to operating in a socially responsible fashion and in collaboration with local communities. In areas where governance structures are weak, particularly in Central Africa, conservation initiatives would not function if they were capable and guilty of such persistent human-rights abuses.

In summary, the evidence necessary to answer the question as to how many people have been displaced or negatively affected by conservation is simply not there; it has not been collected either by those that criticize conservation, or by conservationists themselves. There is an urgent need to bridge the gap between these standpoints to take dialog forward and work together to objectively assess the real impacts of conservation, not only on local societies, but also on the conservation of biodiversity. However, this discourse must take place in with an acknowledgment to the wider institutional, political, and societal contexts in which they operate, not just of conservation alone. All parties to this debate have to accept that this requires acknowledgment that conservation is a political process, and unless each stakeholder stops barricading themselves from behind their own agenda and continue to distort the data available or argue the case without hard data for each specific case, then there is little hope for success. In this we must urgently identify common ground which will require long-term, multi-disciplinary, focused and objective studies undertaken by technically competent teams of researchers and practitioners.

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