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Poverty Risks and National Parks: Policy Issues in Conservation and Resettlement

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Summary. — Is the conflict between biodiversity conservation and poverty reduction, which frequently arises in park creation programs, insoluble? The authors report empirical evidence from 12 case studies from six countries, which are analyzed through the conceptual lens of the *Impoverishment Risks and Reconstruction Model for Involuntary Resettlement*. The research concludes conservatively that parks in the Congo basin have already displaced and impoverished about 120–150,000 people and that more will be displaced if this approach continues, despite its deleterious outcomes. The authors argue that the park-establishment strategy predicated upon compulsory population displacement has exhausted its credibility and compromised the cause of biodiversity conservation by inflicting aggravated impoverishment on very large numbers of people. They recommend that the concerned Governments should desist using the eviction approach. The alternative course, proposed by the authors, is to replace forced displacements with a pro-poor strategy that pursues "double sustainability," to protect both the biodiversity and people's livelihoods at the same time.

Key words — Africa, conservation, displacement, resettlement, poverty, protected area

1. INTRODUCTION

One of the core strategies for protecting biodiversity is the establishment of national parks and other protected areas. Yet some key aspects of this strategy are causing increasing criticism from social scientists—particularly sociologists, geographers, and anthropolo-

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gists—as well as from the civil society at large. We focus in this article on one of its instruments—the forced displacement of populations, examine its risks and outcomes, and recommend that forced displacements be discontinued as a policy or strategy for park establishment, given their impoverishing and overall destructive effects. Conservation can and must be accomplished with other instruments and strategies.

Responding to concerns about the negative effects of forced displacements from parks, the 2003 World Park Congress called for improving "the knowledge and understanding of . . . the impacts of protected areas on the livelihoods of the rural poor" (WPC, 2003). In turn, the convention on biological diversity (CBD) has called for the recognition of "the economic and socio-cultural costs and impacts arising from the establishment and maintenance of protected areas, particularly for indigenous and local communities, and (an adjustment of) policies to ensure that such costs and impacts—including the cost of livelihood opportunities forgone—are equitably compensated" (CBD, 2004). Following this call, we examine the specific case of conservation-induced population displacement to highlight such impacts and to search for solutions for pursuing sound conservation by ensuring a "double sustainability": that is, the sustainability of people's livelihood and the sustainability of biodiversity.

2. KNOWLEDGE ASYMMETRY AND THE "DOUBLE SUSTAINABILITY"

The conflict between biodiversity conservation and poverty reduction is neither new nor easy to solve. Calling it a "vexing dilemma" has now become an overused mantra. But rehashing the mantra is not equal to solving the conflict.

Empirical knowledge has not been equally available about both aspects—the social and the bio-physical—of this dilemma. Biological sciences have devoted a broad and deep research effort to understand what is happening when biodiversity is lost and how loss occurs. Social scientists have not been absent from the debate, but their analyses of livelihood issues in parks and buffer zones have been less systematic (mostly through case reports, but with little synthesis). Even though the literature on the social impacts of displacement for conservation is growing, social research has not developed a cogent *generalized* argument at the same higher policy levels at which biological sciences research had succeeded to articulate and place their concerns.

The upshot of these informational and analytical asymmetries is that the solutions proposed on either side of the dilemma are, in turn, one-sided as well. They tend to be clearer and directly prescriptive on the biological side, and fuzzier, less imaginative and little tested on the social side. Further, the biological concerns have gained policy backing and financial resources toward their practical implementation (park establishment), while the recommendations made by sociological and geographic research remained both under-designed and under-resourced. Some examples are given below:

—Since at least the 1993 World Park Congress in Caracas, the scientific community has known and has recognized that the mostly poor local populations bear major costs of conservation, while the main benefits occur globally (Amend & Amend, 1995; Wells, 1992); this truth was again acknowledged, and more forcefully, by the conservation community during the 2003 World Park Congress.

—While the Global Environment Facility provides a body for collecting, assessing and utilizing environmental data for biodiversity conservation, no similar structure exists for social data on the impacts incurred by local populations.

—While the CBD and the Forest Law Enforcement and Governance process (FLEG) are major arenas of global politics, no such institutions have been established to protect the rights and interests of local rural communities in the same areas, including the indigenous populations.

—International conservation organizations such as the IUCN (International Union for the Conservation of Nature), CI (Conservation International), WWF (World Wide Fund for Nature), and WCS (Wildlife Conservation Society), all of which lobby for more protected areas, are provided by the public with more than one billion US dollars per year. At the same time, those trying to work in support of forest populations, such as Cultural Survival and Forest Peoples Project, are small organizations based mostly on voluntary services from activists (see Chapin, 2004).

—None of the transnational conservation organizations that promote park establishments has until now adopted and published explicit policies and formal safeguards for the displacement and resettlement of populations from parks on protected areas.

This imbalance is increasingly being realized by policy makers and by the civil society. The task to pursue is achieving *double sustainability*, because real sustainability must be *concomitantly* social *and* ecological. The World Park Congress (WPC) has stressed that biodiversity conservation and protected area management must be socially sound, that is, "must strive to reduce and in no way exacerbate poverty" (WPC, 2003). Yet this is far from what is happening in practice.

In this article, we address this challenge by focusing on the most controversial aspect of biodiversity conservation: the forced displacement of rural populations for purposes of biodiversity conservation. While forced displacements have been long criticized because of their damage to the locally rooted existence and identity of indigenous groups, this article brings into central focus the issues of their *decapitalization and impoverishment through displacement*, offering a multidimensional analysis of the core features of such impoverishment. Analyzing the induced impoverishment and de-capitalization of people already below poverty level is especially important because the users of displacement strategies regularly tip-toe around the disastrous socio-economic effects of displacement on people. They have drawn a curtain of complacent tolerance and silence around the practices of forced displacement, avoiding an objective consideration of the empirical evidence.

3. RECENT POLICY CHANGES

Some two–three decades ago, forced displacements were regarded as accidental and benign side effects of development. In the last three decades, their regularity and aggregate size have vastly grown while their negative economic, health, and socio-cultural effects have become much better understood. This awareness has led to the adoption of formal policies aimed at avoiding, minimizing and/or mitigating coerced displacement, and—when displacement is unavoidable—at providing material resources for the reconstruction and improvement of resettlers' livelihoods. The minimal international policy standards for preventing and mitigating displacement are defined in the World Bank's policy on involuntary resettlement, a policy which has been gradually emulated and embraced in similar policy guidelines adopted by the bilateral aid agencies of all 25 member countries of the OECD (Organization of Economic Cooperation and Development), by AfDB (African Development Bank), ADB (Asian Development Bank), IDB (Inter-American Development Bank), EBRD (European Bank for Reconstruction and Development), and by 35 transnational private sector banks.

Current standards define development-caused displacement as the compulsory removal process initiated when a project's need for "right of way" is deemed to override the "right to stay" of the inhabiting populations. As a result, local dwellers are forcibly evacuated, and lose their lands and/or their houses are expropriated. Furthermore, in an economic and sociological sense displacement occurs not only when land takings compel *physical* relocations, but also when a particular development or conservation project introduces restricted access to cultivatable lands, fishing grounds and forests, even if the traditional users are not physically relocated but are administratively prohibited from using the natural resources.

Aiming to reduce the severe deprivation effects of protected areas on their inhabitants, the World Bank recently introduced a major conceptual and operational change in its policy (World Bank OP 4.12). This new provision defines the introduction of "restricted access" as a form of involuntary displacement even when people are not physically removed. This re-definition is intended to change both policy and the design of project operations. In the recently revised Bank policy, displacement is re-defined as "the involuntary taking of land resulting in ...loss of income sources or means of livelihood, *whether or not the affected persons must move to another location*" (World Bank, 2001, our emphasis). This new policy position requires therefore to channel to the "restricted" inhabitants of protected areas, virtually the same kind of material resources and entitlements as prescribed by the policy for people *physically* displaced by development projects. It is noteworthy that the Bank's new policy recognizes and openly states now what many conservation projects have long been silent about, verbatim: "The involuntary restriction of access to legally designated parks and

protected areas is resulting in adverse impacts on the livelihoods of the displaced persons'' (World Bank, 2001).

In turn, and in remarkable consensus with this new World Bank position, the Asian Development Bank and the African Development Bank recently modified their policies in the same sense (AfDB, 2003; ADB, 2003).

Restriction of access inevitably causes impoverishment as long as alternative income generating options are not provided. Such restrictions are very widespread and may occur under many types of programs in the public or private sectors. A recent survey only of World Bank assisted projects has identified no less than 120 projects with restriction of access, including projects co-financed by the Global Environmental Facility (GEF-ME, 2005).

Field research on the history of park-induced displacements abounds in descriptions of their de-capitalization effects, deflating the myth that this category of displacement has only benign effects (Risby, 1997, 2002; Rudd, 2004). Brockington (2002) has documented in much detail the displacement and social impacts of the displacement of 5–10,000 people in creating the Mkomazi National Park in Tanzania and Neumann (1998) has written a theoretically rich account of displacements from Arusha National Park. Patricia Feeney has documented the violent displacement of about 35,000 people from Uganda's Kibale Game Corridor [1] and Forest Reserve, carried out under a project sponsored by the European Commission. She describes in detail how the European Union financed the eviction of tens of thousands of Bakiga and Batoro people in 1992 without providing compensation. This action substantially disrupted local livelihoods, caused large scale loss of land, homelessness, food insecurity, loss of lives, and increase in morbidity (Feeney, 1998). As Colchester (1997) and Chatty and Colchester (2002), and other researchers repeatedly point out, the vulnerable rural populations are the primary victims. In turn, Brockington and Igoe (2005) have recently conducted a survey of over 220 books, studies and articles which touched upon the issue of evictions from protected areas, reporting, among other findings, high aggregate numbers of park-displaced people. Researchers emphasize effects and numbers, as Geisler (2003a, 2003b) rightly observed, because these are arguments which might spur greater public accountability from Governments and park promoters for this kind of economic and human rights abuses.

4. BIODIVERSITY AND FOREST CONSERVATION IN CENTRAL AFRICA

In Central Africa—the area of this study's empirical investigations—governmental institutions, conservation NGOs, bilateral and international agencies have embraced the goal of protecting as much forest areas as possible (Weber, White, Vedder, & Naughton-Treves, 2001). The aggregated data of Table 1 support the estimates by IUCN, WWF, and others on the urgency of counter-acting forest degradation and shrinkage: on average, 60% of the tropical forests have been destroyed.

At the same time, the number of protected areas (PAs) has grown at an accelerated pace during the last decades, increasing from about 600 PAs established during 1900–50 to no less than 10,000 in 1955 (roughly 5% of the earth surface), to 30,000 PAs in 1977 and to over 102,500 PAs in 2003 (Oliver-Smith, 2005). Figure 1 depicts this history along the 20th century, revealing the very steep increase during its last three decades. Presently, over 19.6 million km^2—11.5% of the land surface of the earth—are protected (WDPA, 2005). The majority are located in developing countries.

Responding to advocacy and financial incentives from international NGOs such as the WWF and WCS, by 2002 the Central African heads of state had fulfilled the promises made in the 1999 Yaoundé Declaration and nearly doubled the surface area of protected forests in the region (The Post, 1999, p. 7). Very often, international financing is provided for park creation. However, such financing has a basic shortcoming: it does not earmark explicitly a part of resources for safeguarding/creating alternative livelihoods, and is not accompanied by effective monitoring to protect affected people's livelihoods. This inconsistency has created one-sided incentives. While the 2002 World Summit on Sustainable Development in Johannesburg maintained the goal that 10% of all land should be protected, in the same year the heads of states in the Central African subregion volunteered to reach an even higher threshold, coming up with the plan that in 10 years time no less than 30% of the landmass of their states will be protected (COMIFAC—Commission en charge des forêts de l'Afrique centrale, 2002).

A major question arises: will this new extension of protected areas in Africa be again predicated on the forced displacement and further impoverishment of resident and mobile people

Table 1. *Deforestation and protection indicators in the Congo basin countries*

Country	Total area (km^2) (a)	Population density (people/km^2) (a)	Original tropical forest in km^2 (a)	Remaining tropical forest (km^2)	Forest loss (%)	Protected forest (2002) (km^2)	COMIFAC goal (>30% of land protected) (f)
Cameroon	475,440	28.4	376,900	239,000 (b)	36.6	26,135	46,599
Central African Republic	622,980	5.3	324,500	40,000 (c)	87.7	4,335	15,671
Equatorial Guinea	28,050	14.3	26,000	17,000 (a)	34.6	8,295	8,295
Gabon	267,670	5.1	258,000	229,570 (d)	11.0	23,972	68,250
Nigeria	910,770	122.7	421,000	56,000 (e)	86.7	2,162	11,586
Republic of Congo	341,500	7.6	341,500	227,600 (c)	33.4	27,136	63,720
Total/average	2,646,410		1,747,900	809,174	53.7	92,035	214,121

Source: (a) Naughton-Treves and Weber (2001, pp. 31–33); (b) Laporte *et al.* (1998); (c) IUCN (2005); (d) Christy *et al.* (2003); (e) Mayaux *et al.* (1998); (f) COMIFAC (2002). Remote sensing, which is the basis of all estimates on surface areas covered by forests, is a quite new approach. Since satellite images are only available for the last 20 years, the data on the area covered originally by rainforest are very much in the discussion. Wilkie and Laporte (2001) document a variation of up to 50% in the estimates of the various organizations working on that subject.

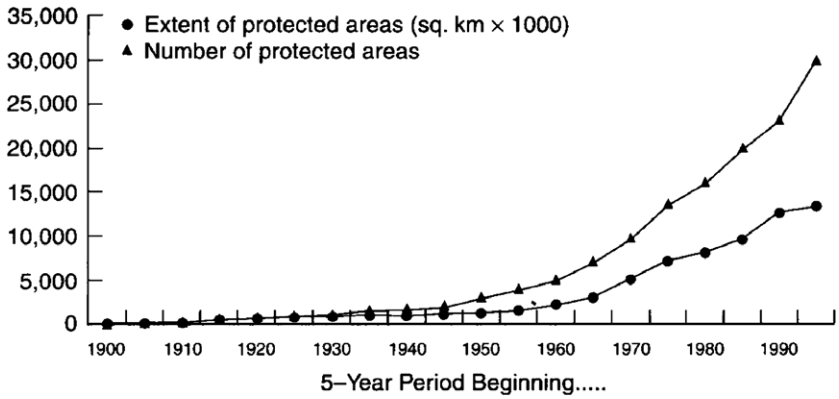

Figure 1. *Number and size of protected areas (1900–2003). Source: Mulder and Coppolillo (2005, p. 30).*

living in the areas stated to become parks? This legitimate concern is triggered by the fact that no explicit policy, guidelines or strictures against forced population displacements (physical or economic) have been adopted by any of the Governments in the region nor by the international NGOs promoting the extension of protected areas (WCS, WWF). None of them has expressed yet a commitment to adopt such formal and transparent social policies to legitimize the creation of new parks in Central Africa. [2]

5. THE IMPOVERISHMENT RISKS AND RECONSTRUCTION MODEL AND CONSERVATION-INDUCED DISPLACEMENTS

Over a decade ago, a landmark volume by sociologists and geographers (West & Brechin, 1991) on "resident people and national parks" called for the elaboration of a *predictive theoretical model* apt to anticipate the *cumulated* social and economic impacts of displacement, to be applied *before* the decisions to displace people are made. They wrote:

> "What is too little understood, both by professionals and scholars alike, is the *social impact of displacement and relocation.* When resident people are forced to move, certain general impacts can be expected but the *collective social impact on the community* differs widely from case to case; to date, *no model exists to predict the cumulative effect* . . . (T)he concern here is the negative effects it can have on the rural poor . . . In addition to concerns of human rights, conservationists need to be aware of the effect that protected-area establishment, subsequent relocation, and denial of access to resources might have on the attitudes of local people towards the protected area itself" (Brechin, West, Harmon, & Kutay, 1991, p. 17, our emphasis).

Partly in response to this need for a "cumulative model," as well as in addressing other issues of development-induced displacements, during the early and mid-1990s one of the authors of this paper, Cernea, has developed a conceptual model of the risks of impoverishment intrinsic to processes of state-induced forced resettlement of populations. This model of *impoverishment risks and reconstruction (IRR)* was first used on a large scale in a World Bank study of some 200 of its financed development projects that entailed involuntary displacement, leading to significant findings (Cernea, 1997a, 1997b, 2000; Cernea & Guggenheim, 1996).

The origin of the IRR model is both empirical and theoretical. Empirically, the model is distilled from the vast accumulation of research findings by anthropologists, geographers, sociologists, environmentalists, and others during the last three decades in many developing countries. Theoretically, it builds upon the state-of-the-art of both resettlement research and poverty research. Based on a large number of documented resettlement case studies, the model unveiled the intrinsic interdependence between displacement and impoverishment, distinguishing the following eight common fundamental risks embedded in the very nature of forced population displacements: landlessness; joblessness; homelessness; marginalization; food insecurity; increased morbidity and mortality; loss of access to common property; and social disarticulation. Resettlement also contains development potentials and benefits (new

Table 2. *Protected areas in Central Africa analyzed in this study*

No.	Name (a)	Country	Promoter (b)	Existence of resettlement policy	Total area in km^2 (c)	Impact on local populace (d)	Population (e)	Density (people/km^2)	Compensation (l)	Success? (l)
1	Dja Bio. Reserve	Cameroon	ECOFAC	Partly	5,260	Expulsion of Pygmy-bands Dispossession	~7,800	1.5 (f)	No No	No No
2	Korup NP	Cameroon	WWF	Partly	1,259	Involuntary resettlement of villages Dispossession	1,465	1.16	Yes No	No No
3	Lake Lobeke NP	Cameroon	WWF	Absent	2,180	Expulsion of Pygmy-bands Dispossession	~4,000	~2 (g)	No Partly	No No
4	Boumba Beck NP	Cameroon	WWF	Absent	2,380	Expulsion of Pygmy-bands Dispossession	~4,000	~2 (g)	No Partly	No No
5	Dzanga-Ndoki NP	CAR	WWF	Partly	1,220	Expulsion of Pygmy-bands Dispossession	~350	0.25 (h)	No Partly	No No
6	Nsoc NP	Equatorial Guinea	ECOFAC	Partly	5,150	Expulsion of settlements Dispossession	~10,000	1.98	No No	No No
7	Loango NP	Gabon	WWF	Absent	1,550	Expulsion of settlements Dispossession	~2,800	~1.8 (i)	Partly Partly	No No
8	Moukalaba-Doudou NP	Gabon	WWF	Absent	4,500	Expulsion of settlements Dispossession	~8,000	~1.8 (i)	Partly Partly	No No
9	Ipassa-Mingouli	Gabon	Rainforest	Absent	100	Expulsion of Pygmy-bands Dispossession	~100	1.1 (i)	No Partly	No No
10	Cross-River Okwangwo Div.	Nigeria	WWF	Partly	920	Involuntary resettlement of villages Dispossession	2,876	3.13	Yes	Has not started
11	Nouabalé Ndoki NP	Republic of Congo	WCS	Absent	3,865	Expulsion of Pygmy-bands Dispossession	~3,000	~1.5 (j)	No Yes	No Yes

12	Odzala NP	Republic of Congo	ECOFAC	Partly	13,000	Expulsion of Pygmy-bands Dispossession	~9,800	0.75 (k)	No No	No No
	Total				41,384		~54,000	∅1.3		

Sources and definitions: (a) Some of these parks do not have clearly defined names, like Nsoc in the south east of Equatorial Guinea. (b) A "Promoter" is an organization which appealed to and assisted the national government in the implementation of the specific national park. (c) *Source*: Sournia (1998) and IUCN *et al*. (2005). (d) While "involuntary resettlement" is used to describe an organized approach in which the local population is relocated with assistance by the national government and/or the promoter, the term "expulsion" is used for forced displacement imposed without significant assistance and regulated compensation. "Expulsion of pygmy-bands" refers to the forced displacement of "pygmies," which do not utilize permanent settlements. Dispossession refers to cases in which the national government/promoter did not recognize and compensate for compensation common law ownership and/or usufruct rights. In contrast to development-induced displacement, land taken for conservation is still accessible for the displaced population. But each entry is now illegal and can be prosecuted following the forestry laws, and sometimes puts even the life of the intruder at risk. Since it is unacceptable to expect that people base their livelihood on illegal activities, this illegal utilization is a non-solution. The same is true when settlements are temporarily left in protected area, not yet physically uprooted but already restricted from access to resources, and at risk of being also physically evicted any time. In some of the new parks in Gabon, for instance, not all settlements have been burned down, and are still in use, but these settlements are now illegal as well as the livelihood of there inhabitants. (e) *Sources*: These data are estimated on the basis of field visits and backed up by estimates in published studies or grey literature: (f) Abilogo *et al*. (2002, p. 10) and FPP (2003). (g) PROFORNAT (2003, p. 521); Curran and Tshombe (2001); FPP (2003). (h) Noss (2001, p. 330). (i) MDP (1994); IFORD (2003). (j) PROECO (1997). (k) Joiris and Lia (1995, p. 41). (l) We evaluate a displacement as success, when all parties involved reported their satisfaction with the outcomes during our assessment.

A partial compensation refers to compensation for some but not all of the assets taken away or for damage inflicted. Potentially affected villages/mobile groups were identified during literature review and the impact was verified/assessed during field work using focus group discussion and snowball sampling methods. The criterion used was the dependence on the natural resources and land within the national parks. As it became clear that in a good number of cases also people from distant places (>20 km away from park boundary) used to some extent the natural resources of the park settlements, three sub-groups were formed: (a) those villages and groups depending to 100% on the natural resources of the park; (b) those villages depending between 50% and 99.9% on the natural resources of the park; and (c) those villages depending to less than 50% on the natural resources of the park. On the basis of a list of affected villages/groups, an estimate of the affected population has been elaborated by using (a) own census data (Site 2, 6, 10), (b) project data (Site 3, 4, 5, 11, 12), or (c) national census data (Site 1, 7, 8, 9). If more than one source was available or in cases where one source was incomplete (which occurred regularly with case b), other sources were used to complete the data sets. As especially case c data were often quite old, all data older than five years were updated according to the most detailed demographic trends for the region. We had in most cases access to the raw census and economic data at village level from the national census and national household surveys. As these data are the property of the governments and restricted in all research countries, we are referring—following the request of the authorities—in the tables to average population densities for the given area and not detailed village and population lists. The figures in the table reflect the different levels of dependency of the various villages. Villages of group a are to 100% considered as being affected, villages of group b as to 75% and villages of group c as to 25%. In three cases (2, 6, 10), we were able to confront our estimates with detailed household data and census data. The difference was in these cases less than 4%, which supports our assumption that this methodology leads to solid results.

infrastructure, income opportunities, etc.), but research has documented that when displacements are not accompanied by a targeted counter-risk strategy, as outlined in the reconstruction part of the IRR framework, the "impoverishment risks" become reality and lead to pauperization which in most cases reduces and compromises the project's benefits and development potentials. The IRR model has been embraced and tested in numerous international studies, including in the World Commission of Dams' report (WCD, 2001), in Brookings Institution-sponsored research (Courtland Robinson, 2003), in numerous resettlement studies and monographs in India, China, Africa, United States of America (Mahapatra, 1999), and is prescribed now operationally as an analytical tool by major development agencies (AfDB, ADB, IDB, the World Bank, IFC).

The IRR model has been employed for the first time on park-caused displacement as analytical framework during the elaboration of our study on Central Africa parks. This particular class of conservation-caused displacements may also display specific risks, additional to the general IRR model. It is important to understand the identified risks as a *system of risks*, as they are in real life, not discrete threats but risks that are interconnected and mutually reinforcing: the displaced people have no option but to face them as a *system of compounded dangers*, thus more difficult to struggle with. Planners and managers tend to perceive risks very differently than those people who are actually facing the threat of expulsion. Also, different sub-sets of people can be differently affected—more or less severely—by the same risks. The immense literature employing the IRR model which emerged in the last decade in Asia and Africa documents that it has became an effective tool to identify, analyze, and evaluate the social impacts of involuntary resettlement.

This study of displacements from parks under the lens of the IRR model, as reported in this paper, was carried out in 12 protected areas and national parks in six Central African countries (Table 2) by Schmidt-Soltau during 1996–2005 (Schmidt-Soltau, 2000, 2003). He and his various local research teams have spent in each site between 10 and 100 days cumulating up to 440 days of fieldwork. The field visits were carried out during 1996–2005: Cases 1 (2003), 2 (1997–2004), 3 (1999, 2002, 2005), 4 (2000, 2002, 2005), 5 (2000, 2002), 6 (1998), 7 (1997, 2005), 8 (1997, 2005), 9 (1997), 10 (2001, 2002), 11 (1999, 2001, 2005), 12 (1996). Some of the research visits resulted from consultancy contracts (cases 1, 2, 3, 4, 6, 10 in Table 2), while others were research visits (5, 7, 8, 9, 11, 12). In cases 2, 3, 4, 6, 9, 10 all villages have been visited, while in the other cases a representative sample has been drawn.

Data and findings reported below have been gathered with the following methods and instruments:

—Repeated and detailed literature reviews of published and unpublished data sources; for example, census data (which can be extrapolated), maps (documenting the number and spatial position of settlements), data on similar areas, regional market data (to examine lost trade following eviction), bio-monitoring and forest inventories (to calculate the lost stumpage value), correspondence of relevant governmental departments (to reconstruct the process of displacement from trip reports, etc.), etc.

—Detailed interviews with displaced populations (utilizing the snowball sampling method) to establish population lists, land use maps (to identify affected populations and the extent of their land losses), detailed descriptions on the non-monetary social costs (especially for risks 4–8 in the IRR model), and assessments of livelihood changes based on oral history, local records, and comparison with similar livelihoods in places which have not experienced displacement.

—While detailed assessments of the economic value of land exist for most parts of the world, the land in the case study areas is not a market good. The costs therefore had to be estimated via a projection of the benefit that the area under research would offer, if used for the most economic utilization (World Bank, Nature Conservancy, & IUCN, 2004). These cost assessments were supported by an evaluation of the costs necessary for acquiring land for the affected groups, on which they could adequately practice their livelihood. It might be unlikely that mobile and indigenous populations, even in a no-park-situation, would have the opportunity to capitalize the land they utilize, but even if it is common to not recognize the customary rights of local people, it is not justified to refuse to assess and quantify, and to fairly compensate their losses.

The IRR framework and other methods tested in this initial study are being used now also for a new research project of the IUCN Commission on Environmental, Economic and Social Policy, which assesses the social impact of protected areas at a global scale (Schmidt-Soltau & Brockington, 2004); some of its preliminary field-findings are also incorporated here.

Table 2 provides general information on the surveyed cases, the number of affected people, the impacts, the existence or absence of compensation schemes. It also indicates whether or not policy guidelines for population relocation exist, either policies of the national state or/and of sponsoring international organizations. Of the 12 protected areas, eight do not fall under any guidelines at all, while in the four cases sponsored by the European Union, the implementing agency (ECOFAC—Conservation et utilization rationelle des ecosystems forestiers en Afrique Centrale) is in principle accountable to the OECD guidelines on involuntary displacement (OECD, 1992). The Central African Republic had adopted in 1979 a law on involuntary resettlement (Cernea, 1997b), but during our two visits to Bangui the government was unable to find this law, which was unknown to the governmental structures and the donors supporting Dzanga-Ndoki National Park. Furthermore, despite the frequent discourse on collaborative management, none of the surveyed protected areas has adopted a formal strategy to integrate local inhabitants into park management. Since only two parks (Korup National Park and Cross-River National Park) have an explicit resettlement component, all others do not have an

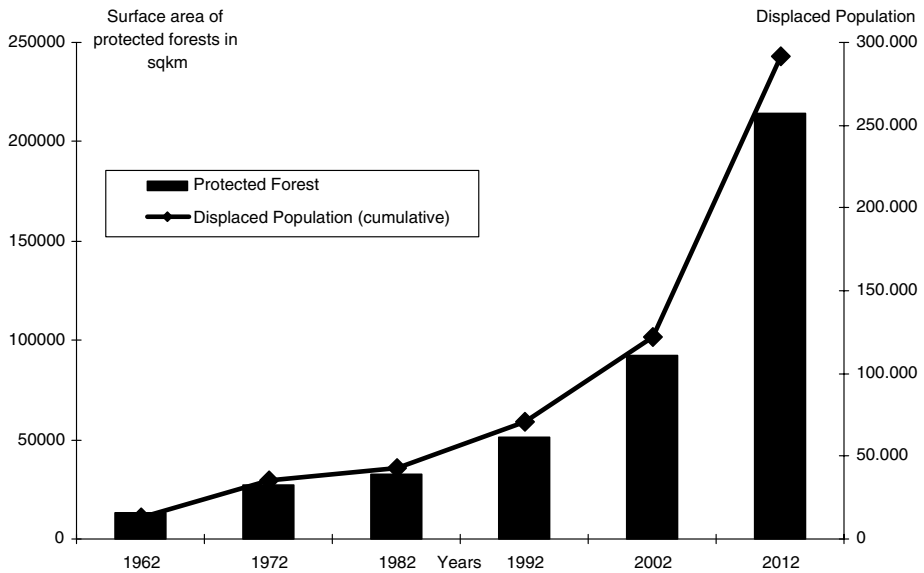

Figure 2. *The surface area of protected areas in Central Africa and the number of people displaced from these areas. Source: The studied sites constitute 45% of the surface area under protection in the six research countries. To expand the research areas, reduce costs, and save time, some field studies were carried out along with other operational assignments; thus the group of 12 cases is a random set rather than a statistically a priori-selected sample. Nevertheless, surveys and policy documents from Cameroon (MINEF, 2003) and Gabon (MEFEP, 2005a, 2005b), which have assessed all protected areas of these countries, surveys by other researchers on other parks in the six study countries (see bibliography), and a wealth of published studies on other parts of Africa (see bibliography) document that our 12 cases are neither the worst, nor the best cases, but rather reflect the average situation on the ground. The demographic data for those areas not surveyed (55% of the area under protection) and the 2012 projections were computed by extrapolating the average population density of the case study sites of one country (see Table 2) to all protected areas of this country. The ratio (project affected people per hectare) is very similar for all protected areas in each of the countries. Due to that, it is in our view possible to extrapolate the case study data to national and regional level. Our impact assessment takes as starting point the year in which the park has been created (IUCN et al., 2005; Sournia, 1998) and our prognosis for 2012 is based on the assumption that the countries fulfill their conservation objective (30%) by 2012.*

institutional framework to deal with the resident and mobile people within the parks. This widespread practice of doing nothing is considered the worst possible option from the social science perspective (Suárez de Freitas, 1995) as well as from the perspective of biodiversity conservation (Terborgh & Peres, 2002). "Policies which ignore the presence of people within national parks are doomed to failure" (McNeely, 1995, p. 23).

The rural populations affected by impoverishment risks through PA-caused displacement can be divided into: (a) people affected by either direct land taking or by restrictions of access—that is, those who are *displaced* physically or restricted economically; and (b) the populations who own/use the land where the displaced people relocate. The number of displaced people from the 12 parks surveyed totals an estimated 54,000 individuals (Table 2). Given the documented population density in the study regions, these numbers are rather conservative estimates; full censuses are not done in these areas, and the real numbers may be much higher. With two exceptions, all the national parks studied have expelled the inhabitants *without* explicitly assigning them new settlement areas. Therefore, the total number of people acting as hosts against their will is also difficult to assess. The resettler–host ratio varies in the 12 protected areas surveyed between 2:1 and 1:1. That would mean that between 27,000 and 54,000 people in the study region are transformed into reluctant "hosts." State-imposed forced displacements do not leave any option to say no, neither to the displaced nor to the hosts.

If one extrapolates the findings from the 12 parks—which constitute around 45% of the overall area presently protected in those countries—based on the assumption that other protected areas in the same country would have the same average population density, it can be estimated that about 120,000 have already been displaced. If the COMIFAC proposal to put 30% of each of the countries under protection (Table 1) is implemented, another 170,000 will be displaced without any social guidelines. In addition to these 290,000 people who have been displaced or who will be displaced if no change in policy occurs (Figure 2), another 150,000–300,000 people have been or will be forced to be hosts against their will. At the end, it turns out that the establishment of protected areas negatively affects large numbers of people in one of the poorest and remotest part of the world.

These findings are strongly consistent with other researchers' macro-assessments of displacement from national parks: they estimate that globally "at least 8.5 million people have been displaced by conservation" (Geisler, 2003b, p. 71; Geisler & de Sousa, 2001).

Exposing large numbers of people to grave impoverishment risks places the obligation on the shoulders of park promoters to examine those risks in detail, ahead of time and one by one, and to responsibly counter-act them with feasible risk-prevention and risk-mitigation integrated measures. In the 12 cases studied in Central Africa, neither the government nor the promoters of protected areas have done this.

6. SPECIFIC IMPOVERISHMENT RISKS AND PROCESSES

(a) *Facing the risk of landlessness* [3]

In the rainforest of Central Africa, land embodies economic and social values. While the social dimension will be addressed later, the focus here will be on the economic value of land. Small hunter-gatherer bands can be in some cases the customary "owner" and user of very large territories, valued in million US$. But one has to ask whether this is a real value or a hypothetic sum. Displacees are unlikely to have a chance to cash this natural wealth. In the Congo basin, for instance, all territories not utilized for agricultural production or customarily utilized but not titled as private property have been decreed as government lands.

Based on this questionable legal argument (long contested by many in the legal and development communities), conservation projects in the region do not recognize customary land rights and try to reject claims for a proper resettlement procedure. This, we must stress, is in profound contrast with World Bank policy stand, by now widely accepted internationally, which recognizes customary land rights and requires that the displaced persons be "provided with technically and economically feasible resettlement alternatives; and (with) prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project" (World Bank, 2001, p. 3).

The World Bank policy specifies that these equitable standards apply also to "those who do not have formal legal title to land but have a customary right/entitlement to such land or

assets'' (World Bank, 2001, p. 6). The inhabitants and users of areas which have been demarcated or designated as national parks have to be considered as entitled to receive resettlement assistance and in most cases, since their tenure is confirmed by their neighbors, compensation at full replacement cost.

Furthermore, the Bank recommends that if the displacement of indigenous people cannot be avoided, preference should be given to land-based resettlement strategies. What does that mean? Since hardly any unoccupied land remains, [4] it is logical that the conservation projects will not be able to provide an adequate piece of land without similarly affecting the livelihood of other people. Realistically, therefore, it seems to be rather impossible to *equally* compensate in such cases, which should therefore preclude and prohibit displacement. Otherwise, without land to hunt, gather, or cultivate, the displaced indigenous groups become—as indeed we will see later—totally destitute and poorer than they were before.

The result of park creation is that inhabitants and users are made landless. Their access to vast areas is restricted with no replacement assets or sources of livelihood. For instance, the populations of Odzala National Park lost access to a vast area of over 13,000 km^2 and the Dzanga-Ndoki population lost access to over 1,000 km^2. The lost stumpage value associated with commercial clearing of timber in an alternative development scenario reaches an average per capita loss of the equivalent of 9,100 Euros. Each individual expelled from the scarcely populated Dzanga-Ndoki National Park lost forest with a value of 42,000 Euros per person and even in the crowded Cross-River National Park, an individual faces a loss of 4,000 Euros per capita. These de-capitalizing losses resulting from national park creation, shared between the resettlers and the hosts, are forced upon some of the poorest populations in the world. But in contrast to international standards, their losses are neither compensated nor replaced by any alternative income source as part of a post-displacement reconstruction strategy.

While the general argument for conservation projects accepts that they must not externalize the costs of establishing a protected area, in conservation practice many such projects take a ''free ride'' at the expense of the area's poorest populations. The displaced populations in all case studies are presently living without any legal title on the land of their hosts. They commonly express the view that conservation has taken their forest and forced them into poverty.

It is an important aim to make biodiversity conservation less costly. But the fact that some conservation initiatives and some national governments are bypassing accepted international standards for adequate compensation and livelihood reconstruction clearly adds to the scourge of world poverty. This is unacceptable.

(b) *Facing the risk of joblessness (loss of productive work, income and subsistence)*

To measure the income loss of people resettled out of protected areas, one needs to assess their pre-displacement income. Park authorities, which have displaced the rural population without an organized resettlement procedure, did not collect data on pre-displacement income levels. This research has reconstructed the pre-conservation income based on a livelihood survey in one of the remotest but un-conserved regions in Central Africa (Schmidt-Soltau, 2001). Table 3 estimates the loss of income (subsistence and cash) by comparing this un-conserved area with the available data for the two organized resettlement schemes. If one considers the fact that the inhabitants of the Central African rainforests generate 67% of their total income from hunting and gathering and only 33% from agriculture, labor and formal employment, it becomes clear that these populations are very vulnerable to all changes in their access to forests. They are not only vulnerable but also very poor. The average total production (subsistence and cash) with 161 Euros per capita per year is less than half of the poverty line of one dollar per day. In fact, the people displaced from parks are among the poorest populations in Africa and the world.

But while international standards require that the ''displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher'' (World Bank, 2001, p. 1), on the ground, these poor people are expelled from their source of livelihood and further impoverished.

Most of the displaced people are now working as laborers on small scale plantations or depend on insufficient plots of agricultural land donated by their hosts, who are also very poor and are further impoverished themselves

Table 3. *Income loss estimates as effects of resettlement*

Name	Total area in km^2	Population	Estimated annual income loss from hunting/gathering in Euros		
			Per capita in cash	In cash	Total
Dja Biodiversity Reserve	5,260	~7,800	69.82 (c)	544,596	956,103
Korup National Park	1,259	1,465	76.02 (a)	111,369	195,522
Lake Lobeke National Park	2,180	~4,000	69.82 (c)	279,280	490,309
Boumba Beck National Park	2,380	~4,000	69.82 (c)	279,280	490,309
Dzanga-Ndoki National Park	1,220	~350	69.82 (c)	24,437	42,902
Nsoc National Park	5,150	~10,000	69.82 (c)	698,200	1,225,772
Loango National Park	1,550	~2,800	69.82 (c)	195,496	343,216
Moukalaba-Doudou National Park	4,500	~8,000	69.82 (c)	558,560	980,618
Ipassa-Mingouli	100	~100	69.82 (c)	6,982	12,258
Cross-River NP Okwangwo	920	2,876	158.96 (b)	457,169	802,614
Nouabalé Ndoki National Park	3,865	~3,000	69.82 (c)	209,460	367,732
Odzala National Park	13,000	~9,800	69.82 (c)	684,236	1,201,257
Total/average	41,384	~54,000		4,049,065	7,108,612

Sources: (a) Schmidt-Soltau (2004). (b) Schmidt-Soltau (2001). (c) In the absence of specific detailed data, we utilized the average per capita income of 2,400 households in 68 settlements in un-conserved forest in a remote location (Schmidt-Soltau, 2001).

To move from cash income to total income, the overall average ratio between outtake for cash and outtake for subsistence (56.96:43.04) was used. The data were gathered by a research team (five Cameroonian assistants and KSS as supervisor) during a household survey in 87 settlements during 1999–2001. While the research was carried out in all villages (total sample), a third of all households were selected in each village for further interviews, utilizing the simple random selection method. 1,874 individuals from 840 households were interviewed—or 29.7% of the total adult (over 16 years) population. The methodology was quite similar to the one used for the 12 case studies and outlined in the introduction to Table 2 (see: Schmidt-Soltau, 2001). It has been documented that these data can be used as baseline data for un-conserved forest for the entire Congo basin (Schmidt-Soltau, 2004, forthcoming). For most of the case studies some economic data are available: ECOFAC has established livelihood data for case 1, which have not yet been published in total. The documented use value is similar to our 2001 data. Data for cases 2 and 10 have been elaborated with the same methodology and with more or less the same team. The data differ a bit from the 2001 data. This is no surprise as these are areas close to regional markets for bush-meat and NTFPs. The methodology has been used with a much smaller sample also in case studies 3, 4, and 6 and has provided similar results. The project team of case study 5 is presently carrying out an economic evaluation. Preliminary findings document a high similarity to the 2001 data. For case studies 7 and 8, WWF has established baseline data, but based on a quite different methodology and without transferring the off-take data into the economic equivalent, which makes it difficult to compare the data. CIFOR, which has a research station close to case study 9, confirmed that the off-take data are very similar to the 2001 data. GTZ had established baseline data for the area of case study 11 prior to the civil war in the Republic of Congo. As GTZ had stopped the project due to the civil war, the data were never published, but are available for interested researchers. WCS—the promoter of the park—has focused its research on biological research and the Japanese researchers, which had also worked on socio-economic issues, have stopped their work there due to conflicts with WCS. For case study 12 ECOFAC has estimated some data, but with a focus on the biological impact of human utilization. Due to that the data have not been transferred into monetary units and are presently only available as off-take in kg/ha.

through their uncompensated assistance to the displaced populations.

Conceptually, the conservation discourse recognizes that alternative forms of income generation, with genuine economic incentives, must be offered in order to protect the parks. The idea to compensate the Aka in the Dzanga-Ndoki National Park and in the nearby Dzanga-Sangha Dense Forest Reserve for their income losses (losses in hunting and gathering for subsistence and loss of land) through alternative income generating activities, such as farming and livestock breeding, was well outlined in theory (Carroll, 1992; Noss, 2001) but was not translated into practice. If one travels to Bayanga, one notices the Aka settlements, where alcoholism and diseases are rampant (Sarno, 1993). It becomes obvious that a change in lifestyle, which has taken other societies hundreds of years, cannot be imposed overnight. The difficulties in introducing alternative income-generating activities as tradeoffs

for the income losses caused by conservation also indicate that cash compensation is not an option for hunter-gatherers.

Without long-lasting training programs and adapted and realistic alternatives, it is unlikely that people displaced from national parks will be able to reconstruct their modest livelihood. Scudder was among the first to stress that not just any "alternative" would be suitable, and asked: "Can the alternative land-use systems support the existing human population which, after all, is the ecological dominant in the area?... Failure to ask this is not only morally indefensible, but is also apt to be politically unacceptable. In other words: a technical or ecological solution to problems of environmental degradation is useless unless it is understood and implemented by the relevant people at the local and national levels" (Scudder, 1973, p. 234).

In many biodiversity conservation projects, eco-tourism is held up as "the promise" for alternative income generation. However, protected areas very rarely generate significant benefits sufficient to back up ecotourism claims. Besides other research, the most recent GEF study has recognized (GEF-ME, 2005) about such assumed ecotourism benefits that "it is highly unlikely that revenue from wildlife and/or tourism will ever constitute a particular large source of income for all members of a community at household and individual level", except in rare cases (see also Schmidt-Soltau, 2004; Sullivan, 1999, p. 10; van Schaik, Terborgh, Davenport, & Rao, 2002; van Schaik *et al*., 2002; Wunder, 2003). Because of this, other solutions are needed either to prevent the income-impoverishment of those displaced, or to stop displacing people.

(c) *Facing the risk of homelessness*

In the region studied, the risk of homelessness appears in other forms than its primary meaning since huts of semi-permanent settlements as well as huts of hunter-gatherers hardly involve cash expenses and can be built without much effort. In most cases surveyed, the people expelled from a national park erected new huts in the old style near the village of their hosts. But habitations suitable for a hunter-gatherer lifestyle are not suitable for resident farmers, which is what the displaced are to become. This results in a decreasing health situation and a decreasing acceptance of the resettlement process. The risk of homelessness also means the loss of recognized and culturally accepted habitat, and this is fully happening to those displaced who are not recognized by their unwilling "hosts" as entitled to live in the new area, and define them as homeless "strangers." For good reasons the World Bank recommends in its policy that new communities of resettlers should receive housing, infrastructure, and social services (World Bank, 2001). Unfortunately, the empirical evidence from the 12 parks documents that this is not happening.

(d) *Facing the risk of marginalization*

The risk of increased marginalization results directly from the loss of traditional rights. It is also related to the status of park-displaced people and the geographical position of the new settlement area. When the new neighbors speak a similar language or belong to the same ethnic group, the risk that the resettlers "spiral on a downward mobility path" (Cernea, 2000, p. 16) was significantly lower than in other cases. Alienation and marginalization were found to be most severe where the new resettlers ended as strangers (without rights) among homogeneous neighbors from a different cultural, social and economic background. All studied hunter-gatherer societies expelled from nature reserves do not work any longer as independent groups. They slide into that strange "partnership" with their settled *Bantu* neighbors, which some interpret as a slavery (Turnbull, 1962), while others regard it as an intercultural partnership (Grinker, 1994). Yet without an option to "disappear" into the forests, the hunter-gatherers lose much of their economic and cultural independence.

(e) *Facing the risk of food insecurity*

We can report that, fortunately, this risk is mostly absent in the short run in displacements from national parks in Central Africa, but basically by default. In none of the research areas the forestry laws, which do not allow hunting, gathering, logging and/or fishing without licenses (difficult to obtain anyway), have been fully implemented. Due to this people are still able to hunt and gather at subsistence level, even if this is illegal. Another long-known argument stresses that the dietary diversity among hunter-gatherers and incipient horticulturalists is higher than that of settled agriculturalists (Cohen, 1989; Dewey, 1981; Fleuret & Fleuret, 1980; Flowers, 1983; MacLean-Stearman,

2000), which makes resettling hunter-gatherers into an agricultural environment an unhealthy option. Galvin and associates did document that the rural populations living near protected areas had a lower nutritional state than other people from the same ethnic background, with a significantly lower agricultural yield (Galvin *et al*., 1999).

In the long run, the lack of formal land titles and the denial of land use rights (discussed above) could also result in food insecurity for the resettlers, if the forestry laws and laws on individual property of land are implemented one day. The establishment of a legal title to a piece of land—big enough to provide a sustainable basis of livelihood—would help secure stable food supply and reduce the risks to the environment resulting from overuse. Yet, we found that none of the governments and none of the promoters of protected areas in the studied areas have implemented this mitigation strategy.

Another serious problem for farming activities arises from conservation itself. Around the Nouabalé Ndoki National Park the conservation project is forced to provide food from outside on a subsidized rate to the inhabitants of the nearby villages, since the increase in the elephant population, due to conservation, undermines efforts to establish farms (personal communication, Curran, 2000). At first glance this system, which both provides the rural population with food and secures the lives of protected species, seems to be acceptable. In the long run however, this system is uncertain because nobody can guarantee that the funding for that food supply will continue forever.

(f) *Facing the risk of increased morbidity and mortality*

Involuntary displacement and often violent uprooting cause shock and increased propensity to diseases (loss of life is explicitly reported from Eastern and Southern Africa) (Feeney, 1998). Exposure to more frequent interaction with out-of-the-forest life always brings multiple health risks (HIV, malaria) and a shift from foraging to farming may be accompanied by a decline in overall health (Cohen & Armelegos, 1984). However, compared to other impoverishment risks, we found in all cases surveyed that the new settlements are closer to formal health services and facilities than the original habitations deep in the forest, which is a specific and positive risk reduction factor and a significant benefit. The problem is that the loss of income makes it nearly impossible for the resettlers to pay for services and medicine, which for most people reduces the benefit merely to a potential benefit.

(g) *Facing the risk of loss of access to common property*

The characteristics of the Central African Rainforest modify this important and widespread impoverishment risk identified in the IRR model. In the rainforest context, we conclude that there is hardly a substantive difference between the risk of losing land (or forest-land) and thus becoming landless, and the risk of losing the access to the common property resources from the forest, since the forest in its total meaning is both the "individual" and common property. Even among resident farmers only the user rights for farm plots are held individually (by the house or household), while all untransformed land is owned collectively (Delvingt, 2001). Apart from the few cultivated products on these house-plots, all other food products—roots and fruits, medicinal plants, fish from streams, etc.—come from the rich sources of the forest as common property.

Thus, separating and relocating resident communities out of the forest deprives them simultaneously of their ownership of the forest and of access to its resources as a common pool for all. This is not a potential "risk" of impoverishment; it is a real fact of impoverishment through prohibition of access. What for other communities may be experienced as two distinct risks of impoverishment is, in this case, virtually one merged risk—a structural process of resource-deprivation and de-capitalization, caused—without remedy—by current park-establishment practice.

(h) *Facing the risk of social disarticulation*

Social disarticulation of uprooted hunter-gatherer societies is not an impoverishment risk but an impoverishment fact. Politically weak and vulnerable communities are further dis-empowered by removal out of their habitat. The forced change of lifestyle atomizes the existing social links within the band and in its relation to others. The high prestige of the elders, resulting from their knowledge of the land, and the related social stratification have disappeared in all park-displacement cases we studied.

The practice of conservation-caused displacements reveals no effort by executing agencies to avoid or reduce the breakdown of the social fabric under the shock of displacement. In fact, there is not even an approved *code of procedures* as to how to conduct the logistics of relocation, nor are there accepted standards for compensation. Compensation of losses is either simply not paid or is much below inflicted losses, illustrating the general deficiencies of compensation for displacements (Cernea, 2002). Donors who finance park establishment do not provide investment resources for reconstructing the livelihoods of those displaced at the outside-the-park locations. Under-resourcing of resettlement is compounded by physical violence during displacements. Field accounts of physical violence abound and social disarticulation is often deliberately pursued as a means to inhibit people's active resistance to displacement. When the displaced people invaded the project offices of the Dzanga-Ndoki National Park in 2004, the WWF head office advised the field staff to call the army and was quite unhappy to hear that the field staff had negotiated higher rates for daily labor and more jobs for the affected population, which cooled down the conflict immediately (personal communication, Brückmann, 2004).

Many problems in the field result from in- adequate methods and relocation planning as well. Local officials, as well as some international experts, often confuse the mere removal to a new location with instant local integration of those displaced. Kibreab has de-constructed this confused interpretation with respect to Africa. He convincingly critiqued the "tendency among scholars and international agencies to use local settlement and local integration synonymously" and explained why "local integration and local settlements are two separate conceptual categories with different substantive meaning" (Kibreab, 1989, p. 468).

Overall, and most interestingly, we note that an independent research carried out by another researcher in parallel in a large East African Park, but with the same IRR methodology (Uganda's Bwindi Impenetrable Park), fully corroborated the impoverishment findings reported in this study. Rudd's monograph (2004) describes, risk by risk, the Batwa population's exposure to forced removal, confirming severe impoverishment along all risk dimensions, which also converted from potential risks into actual impacts. Over 80% of the displaced Batwa population, reports Rudd, uncompensated for loss of land, remained landless six years after displacement (when the field work took place), squatting without security on land owned by private individuals (66%), churches (8%), government (8%), etc. The child mortality rate was at 47.7%, meaning that almost half of the children born to Batwa women die before the age of five, a rate threefold higher than Uganda's national average of 14.1%. Several other convergent research projects along similar lines, likely to increase the evidence of pauperization through displacement without resettlement, were outlined at the 2004 IUCN congress. The displacement strategy in park creation is thus being increasingly discredited by the evidence of its impoverishment effects and human rights violations.

To sum up, the findings from the 12 national parks document that the *system of impoverishment risks* inflicted on "conservation displacees" indeed makes this most vulnerable category of forest dwellers—one of the world's poorest—even poorer, more vulnerable and destitute. These processes fly in the face of all policies and discourses focused on poverty reduction. Such park-related displacements are devoid of any systematic effort for reconstructing sustainable livelihoods.

7. NEW RISKS TO BIODIVERSITY: HOW DISPLACEMENTS BACKFIRE

While the poverty effects are in themselves unacceptable, our risk analysis would be incomplete without stressing that the removal of people also brings unanticipated risks to the biodiversity itself. This outcome is not envisaged by those who use displacement as strategy. But it is nonetheless real. It should give pause to park promoters on environmental, not only social, grounds. In short, socially irresponsible and often unnecessary displacements backfire in terms of long-range environmental impacts.

Displacement often forces hunter-gatherers to become cultivators and their relocation at park boundaries has negative impacts on both the park itself and on other segments of the environment. Displaced hunters in Gabon, for instance, have now increased incentives to intensify hunting by re-infiltrating into those areas wherefrom they were evicted. Without creating an economic basis for the sustainable livelihood of the resettlers at the relocation site, the very purpose of conservation by

resettlement is undermined and often annihilated, because in one way or another, the displaced people tend to return to the forest surreptitiously. Ninety percent of the hunters from the first village resettled from Korup National Park in 2000 stated, four years later, in 2004, that they have increased their hunting due to better access to markets and that they depend nearly entirely on the old hunting grounds in the national park; they do so in part because the land around the resettlement site is already used by their hosts' villages.

On the basis of several case studies in South Africa, Fabricius and de Wet concluded that "the main negative conservation impacts of forced removals from protected areas are that they contribute to unsustainable resource use outside the protected areas, because of increased pressure on natural resources in areas already degraded due to over-population" (Fabricius & de Wet, 2002, p. 152). It was repeatedly reported that displacements result in environmental degradation through an increase of permanent settlements (Colchester, 1997). Soil erosion tends to be higher in permanently used agricultural plots than under shifting cultivation regimes (Duncan & McElwee, 1999). Turton concludes that displacements from national parks "alienate the local population from conservation objectives and thus require an ever increasing and, in the long run, unsustainable level of investment in policing activities" (Turton, 2002, p. 97).

The risk also exists that some "protected" areas may de facto slide into a status of "open access" areas, a threat always present when former social arrangements break down (Bromley & Cernea, 1989). "There is empirical evidence in which the disruption of the traditional arrangements that had protected and regulated the use of common property resources... has led to the overexploitation of such resources because of their de facto conversion into open access" (Kibreab, 1991, p. 20). The WPC concluded that "if properly understood and adopted, co-management can lead towards more effective and transparent sharing of decision-making powers, a more active, conservation-friendly and central role of indigenous, mobile and local communities in protected area management, and a better synergy of the conservation capacities" (WPC, 2003).

In sum, research findings signal that the consequences of the displacement and resettlement process itself have in turn a set of degrading effects on forest ecosystems inside and outside the parks. They can be termed as a second generation of degrading biological impacts, if the presence of residents in parks is considered as the first generation. Evidence about second generation effects is reported also in publications on other geographical ecosystems (Black, 1998; Burbridge, Norgaard, & Hartshorn, 1988; Kibreab, 1996). Tradeoffs must therefore be considered between the costs of efforts to contain the first generation without resorting to displacement, and the danger of second generation assaults on the parks. It seems therefore reasonable to ask that all future conservation projects predicated on displacement provide donors and all stakeholders with a detailed *ex-ante* assessment of the impoverishment risks on people, the prevention of such risks, and prevention of the ecological risk-effects of displacement. In other words, only the wise and simultaneous pursuit of double sustainability—of people's livelihood and of precious biological resources—can offer a path to successful national park creation.

8. POLICY IMPLICATIONS: WHAT REMEDIES TO DISPLACEMENT ARE FEASIBLE?

Four overall conclusions emerge from the detailed examination of 12 national parks in six countries:

—First, that forced and violent displacements have been used widely as the "technique" for expelling people from areas converted into parks, rather than being isolated instances.

—Second, that their major impact is the aggravated impoverishment of the affected people, with similar pauperization characteristics as development-caused displacements.

—Third, that the perpetrators of coerced displacements do not concomitantly promote and implement equitable planning for sustainable resettlement, compensation, and recovery.

—Fourth, that displacements and their impoverishment effects occur largely *because* of a policy vacuum in the relevant countries and conservation-promoting NGOs—that is, the absence of a firm set of provisions *integral* to conservation policies that would prevent economic destitution and prohibit human rights abuses or violent forms of uprooting.

The ''do nothing'' attitude *vis-à-vis* induced pauperization represents the path of least resistance. It currently leaves without any assistance people who lived and/or utilized these areas as source of livelihood before the arrival of the conservation project.

It must also be remembered that policies to expropriate rural populations without compensation, planning, and restoration violate several international laws and conventions, including the ILO Convention no. 169, which addresses among others the issue of forced displacement of indigenous people. Unfortunately, no African state has ratified this convention. While the World Bank's policy standards for involuntary displacement have been essentially adopted by all OECD countries and by some developing countries, these policies are usually transgressed in the *practice* of conservation projects. Finally, while IUCN recommends to its members that ''where negative social, cultural, and economic impacts occur as a result of protected area creation or management, affected communities should be fairly and fully compensated'' (World Conservation Congress—WCC, 2004), conservation organizations have not yet translated this recommendation by adopting consistent formal resettlement policies.

Government officials sometimes openly argue that the costs of resettling park inhabitants according to socially sound guidelines will be too high. This is a revealing argument, as it justifies in itself, and perpetuates the naked practice of externalizing the cost of park creation upon one of the poorest segments of the developing societies. This is unacceptable on all grounds—economic, moral, and ecological.

Although other public sectors (dams, highways) regulate their displacements much more tightly and gradually improve them, displacements in the conservation sector are often carried out in the absence of a resettlement policy. Yet this is not an excuse for practicing or for justifying unacceptable standards in conservation programs. In the current international debate, protected areas are not singled out for the critique of displacements. The critique is much broader. Yet it appears that in conservation programs the lack of any policy, mobilized institutional capacity, and financing for post-displacement reconstruction causes even worse effects than in some other sectors. The kind of displacements that destroy people's livelihood and trample on their human rights should not be done in the mainstream development sectors either. In conservation projects, the situation is aggravated by the remoteness of park areas, which obscures violence and lack of compensation from the public eye and scrutiny. The silence of key promoters of parks is very unhelpful and tolerates the intolerable. It must be replaced by a clear and principled position of opposing and pre-empting such violent displacements.

If resettlement would be feasible in park situations at standards which would consistently ensure decent relocation, equitable compensation, and sustainable reconstruction of people's livelihood, it could be used when other solutions are not effective. But as long as these basic conditions are not met, and are not likely to be met, it is contrary to donors' policies, to poverty reduction commitments and to morality to continue displacing and impoverishing weak and vulnerable populations.

There is no easy ''one size fits all'' solution. But it is clear that displacements have spectacularly failed, time and again, to achieve the balance between biodiversity conservation and poverty reduction—the double sustainability—and instead have created new impoverishment, which backfires on the environmental benefits. Not only is their failure documented, but they have also been proven to create a host of additional huge social, political, and economic problems—ranging from poverty disasters and rights-infringements to new negative environmental effects. Rather than lamenting about the ''vexing dilemma,'' sustainable livelihood and global conservation must be interlinked in what we call double sustainability. Mirroring the principle of environmental safeguards, which excludes any development projects lacking them from public funds, we propose that conservation agencies should not receive public financing for parks as long as they do not adopt and apply social safeguards for forced displacement from parks, consistent with resettlement principles and policies elaborated by the World Bank and OECD and adopted by all international development agencies.

We must also ask: is this course of action likely to take place in the immediate future? Objective assessments indicate that the prerequisites for it are most often missing. Therefore, work must focus on creating them, step by step. Such prerequisites are political will, expressed in adopting national policies, and legal frameworks for resettlement; adequate financing; and organizational/institutional capacity for creating alternative opportunities and fostering

resettlers' participation. From past and current experiences we must conclude that, realistically, such prerequisites could be hardly built in a short time, at least in the Central African countries which are object of this research.

Therefore, if this conclusion is correct, another immediate course of action appears indispensable: As long as restorative policies and laws are not enacted, forced evictions from parks must be stopped and discontinued as a regular strategy. Continuing to rely on displacements can only signify acceptance of the same type of outcomes as this approach has produced so far, analyzed here. Solid scientific evidence and the reasons embedded in current poverty reduction policies combine in firmly calling for desisting from displacement as a conservation strategy. Civil societies must be aware of and react when agencies, organizations, and conservation groups, which have predicated park creation on forced resettlement in the past, are not ready to agree to drop this approach in future conservation efforts and are not ready to commit to social safeguard policies.

Perhaps a responsible caveat may be warranted only for truly exceptional cases of unique biodiversity at imminent, immediate, and otherwise unavoidable loss danger, subject to rigorously defined assessments and legal procedures. Such exceptions could be accepted in unusual situations, if they would also reinforce the general rule and would be case based and closely monitored to implement social safeguards, as outlined above.

To conclude, the basic question examined in this article is not whether there should be an increase in biodiversity conservation, including a gradual increase in protected areas. There will be and there has to be. Nor is the question about whether people's livelihood and rights must be protected and enhanced: they have to be. Nor—least of all—is it a question of whether these two considerations are interlocked. They are. The solutions needed for the dilemma of protecting both biodiversity and livelihoods and achieving a double sustainability clearly revolve around the "how," not around the *whether*. We have examined the *how*, scrutinizing the effectiveness and ethics of displacements as means. Such old means are revealed to fail their goals and cause avoidable harm.

The case for de-legitimizing such practices is thus powerful. Accepting this case will also accelerate a more energetic search for sounder alternative means, such as realistically financed co-management of protected areas and benefit sharing schemes at international and national levels.

The responsibility, in our view, rests now

—upon major international NGOs concerned with conservation, such as IUCN, WWF, WCS, CI, and others, to genuinely distance themselves from displacement operations that impoverish people, to formally adopt transparent social safeguards regarding involuntary displacement, and to subscribe to pro-poor conservation;

—upon economists, sociologists, anthropologists, and geographers to intervene with a richer contribution and a stronger voice, helping re-balance the information asymmetry we signaled;

—upon the international community to establish "double sustainability" as an integrated equitable commandment: to search for pro-poor solutions that raise living standards, rather than impoverishing poor people further, and to reorient the conservation of biodiversity with a renewed understanding and definition of the twofold, intertwined objectives—objectives for conservation integrated with the objectives of enhancing local people's livelihoods.

NOTES

1. Kibale Game Corridor was classified as a game reserve and several surveys noted that people began cultivating inside the corridor in the 1950s and 1960s. Specialists advised against eviction as impractical and recommended degazettement as the best option. However, Uganda National Parks and the EU sponsored project went ahead with the eviction.

2. An exception is the Central African Republic, which adopted in 1979 a law on involuntary resettlement (Cernea, 1997b), but this law appears to be unknown to the current project managers, to the Ministry of Environment, Forest and Water and the promoters of protected area in the CAR.

3. One could ask why the term "risk" is being applied rather than talking about positive and negative impacts. The concept of risk refers to a *potential* outcome that should be avoided before it materialies into an *actual* impact. The term risk puts more emphasis on the fact that something needs to be done and could be done in order to cope with the documented problems inherent to resettlement from parks.

4. In the context of this study, we went to the remotest parts of the Congo basin and were still unable to find a piece of land on which nobody had a land claim, user right, etc.

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