The Environmental Risks of Conservation related Displacements in Central Africa

“The forest does not belong to us, we belong to the forest. Mó-bele created it as our home. If we live outside the forest, mó-bele becomes angry because it shows that we do not love mó-bele and his forest.”

Kpokpo - a Baka elder from Bongo (CAR)

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Abstract: The protection of unmodified natural communities through the creation of national parks all over the world is still seen as an effective conservation method. In Central-Africa, the 1999 Yaoundé summit declared the creation of more national parks to be a necessity for the survival of mankind. In a survey of 9 national parks in 6 countries, it became clear, that all have displaced people. The social impacts of these displacements – utilizing the Impoverishment Risk and Reconstruction model developed by Cernea – as well as the ecological impacts on forest and wildlife will be outlined in the paper. On the basis of the documented risks, guidelines for livelihood restoration and impact mitigation will be elaborated.

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Conceptual framework

This paper is a chapter of a forthcoming monograph on “the sustainability of displacements resolving from conservation projects” (scheduled for 2003). Due to that certain key-elements are not touched here. I do neither discuss the theoretical, political, social and economic justifications for the concept of national parks as areas without people nor the perceptions and conceptualisations of the various stakeholders in the resettlement process (international conservation agencies & donors, national governments, and effected people (displaced population & hosts). One could understand this “missing” part as reflection on displacements from protected areas at an abstract-level, while the following paper focuses on the internal discussion of these displacements. In the following, six countries in Central Africa, whose environmental details are outlined in Table 1, will stand in the limelight.

<table>
<thead>
<tr>
<th>County</th>
<th>Total Area</th>
<th>Original Tropical Forest in km²</th>
<th>Remaining Tropical Forest (1992) km²</th>
<th>Forest Loss (%)</th>
<th>Remaining wildlife habitat (1995) km²</th>
<th>Habitat loss (%)</th>
<th>Protected Forest (1999) km²</th>
<th>Protected Forest (2002) % of remaining forest</th>
<th>Population Density (1995) people/ km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cameroon</td>
<td>475,440</td>
<td>376,900</td>
<td>155,330</td>
<td>59</td>
<td>192,000</td>
<td>59</td>
<td>11,339</td>
<td>26,135</td>
<td>16.8</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>622,980</td>
<td>324,500</td>
<td>52,236</td>
<td>84</td>
<td>274,000</td>
<td>56</td>
<td>4,335</td>
<td>4,335</td>
<td>8.3</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>28,050</td>
<td>26,000</td>
<td>17,004</td>
<td>35</td>
<td>13,000</td>
<td>54</td>
<td>3,145</td>
<td>8,295</td>
<td>48.8</td>
</tr>
<tr>
<td>Gabon</td>
<td>267,670</td>
<td>258,000</td>
<td>227,500</td>
<td>12</td>
<td>174,000</td>
<td>35</td>
<td>17,972</td>
<td>23,972</td>
<td>10.5</td>
</tr>
<tr>
<td>Nigeria</td>
<td>910,770</td>
<td>421,000</td>
<td>38,620</td>
<td>91</td>
<td>230,000</td>
<td>75</td>
<td>2,162</td>
<td>2,162</td>
<td>5.6</td>
</tr>
<tr>
<td>Republic Congo</td>
<td>341,500</td>
<td>341,500</td>
<td>212,400</td>
<td>38</td>
<td>172,000</td>
<td>49</td>
<td>12,106</td>
<td>27,136</td>
<td>12.8</td>
</tr>
<tr>
<td>Total/Average</td>
<td>2,646,410</td>
<td>1,747,900</td>
<td>703,090</td>
<td>26</td>
<td>1,055,000</td>
<td>51</td>
<td>92,035</td>
<td>50.2</td>
<td>13.1</td>
</tr>
</tbody>
</table>

Tab. 1: General data on deforestation and level of protection in the research region.


Between 1996 and 2002, I carried out surveys in nine protected areas and national parks (listed in Table 2) in these six countries. Some visits resulted from consultancy contracts directly related to resettlement, dislocation and questions of landownership, others were official or private project visits.

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Total Area in km²</th>
<th>Year of visit 1997-2002</th>
<th>Impact on local populace</th>
<th>Compensation</th>
<th>Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korup National Park</td>
<td>Cameroon</td>
<td>1,259</td>
<td>1997, 2002</td>
<td>Resettlement of villages</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Expropriation” of traditional land use titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Lobek National Park</td>
<td>Cameroon</td>
<td>4,000</td>
<td>1999, 2002</td>
<td>Expulsion of Pygmy-bands</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Expropriation” of traditional land use titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dzanga-Ndoki National Park</td>
<td>Central African Republic</td>
<td>1,220</td>
<td>2000, 2002</td>
<td>Expulsion of Pygmy-bands</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Expropriation” of traditional land use titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nsoc National Park</td>
<td>Equatorial Guinea</td>
<td>5,150</td>
<td>1998</td>
<td>Expulsion of settlements</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Expropriation” of traditional land use titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gamba Protected areas complex</td>
<td>Gabon</td>
<td>7,000</td>
<td>1997</td>
<td>Expulsion of settlements</td>
<td>Partly</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Expropriation” of traditional land use titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ipassa-Mingouli Biosphere Reserve</td>
<td>Gabon</td>
<td>100</td>
<td>1997</td>
<td>Expulsion of Pygmy-bands</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Expropriation” of traditional land use titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Expropriation” of traditional land use titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noubale Ndoki National Park</td>
<td>Republic of Congo</td>
<td>3,865</td>
<td>1999, 2001</td>
<td>Expulsion of Pygmy-bands</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Expropriation” of traditional land use titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odzala National Park</td>
<td>Republic of Congo</td>
<td>13,000</td>
<td>1996</td>
<td>Expulsion of Pygmy-bands</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“Expropriation” of traditional land use titles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>36,514</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tab. 2: List of the protected areas covered in this study.
The environmental risks and possible ways of reconstruction

Displacements from parks have become common phenomena in Central Africa, but also in other parts of Africa and the world as such. The 1999 Conference “Displacement, forced settlement and conservation” organised by the Refugee Study Centre in Oxford has set a landmark in the study of the ‘victims of conservation’. Nevertheless, none of the papers presented at the conference did focus on Central Africa (see: Chatty & Colchester 2002 & bibliography of this paper).

While an analysis of methods utilised by conservation agencies and governmental institutions to drive people from their land is one pair of shoes, the question whether there are better ways to resettle people from parks, is another. To provide safeguards to mitigate undesired impacts is considered as key-element for a successful involuntary resettlement in development induced resettlement projects (Cernea 2000, 2002). In view of the claimed importance of protected areas for the overall aim of biodiversity conservation (Furze et. al. 1996) it seems important not only to review past experiences, but also to discuss possible ways to mitigate the various risks.

The paper will focus on the environmental risks. The meaning of ‘environment’ arises from the work of René Descartes, who differentiated between the world of mind or ‘thinking substance’ (res cogitans) and the world of matter (res extensa) (Descartes 1985). Einstein is reported to have defined environment in accordance with Descartes as “everything that is not me” (Einstein quoted in O’Riordan 2001: 250). Indeed, “environment is a metaphor for the enduring contradiction in the human condition: the power of domination yet the obligation of responsibility; the drive for betterment tempered by the sensitivity of humility; the manipulation of nature to improve the chances of survival, yet the universal appeal of sustainable development; the individualism of consumerism and the social solidarity of global citizenship” (O’Riordan 2001: 250). While the conservation projects can be considered as an ‘exteriorisation’ of man – like all other development projects - the environmental risks can be considered as its impacts. In general the literature differentiates between social and biological impacts (Munn 2002), but it can be questioned if in the case of displacements from national parks, this differentiation makes sense. In contrast to those, who displace people to establish “Eden” as an incarnation of nature in a world created by man, the inhabitants of the forests of Central Africa conceptualise themselves as “people of the forest” (Turnbull 1962). For them, men and nature are one. If they differentiate between people and forest, it is the forest, which owns the people and not the people owning the forest.

Nevertheless, to structure the discussion, I will discuss the two sides of live (man and nature) as separate entities to outline the environmental risks of displacements from national parks. Since an analysis of environment risks assesses the twilight zone between pragmatic caution and fearful guilt, I will use data collected in the 9 case studies as well as a theoretically elaborated best practise of resettlement from parks. As one of the ‘best practices’ available – based on many lessons learned - one could see the World Bank Policy on Involuntary Resettlement (Operational Policy 4.12; World Bank
It covers among other cases “the involuntary taking of land … and the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons” (World Bank 2002, 2).

In the following I will first try to adapt the Impoverishment Risk and Reconstruction model (IRR, Cernea 1999, 2000), which is also the theoretical background of the World Bank policy on involuntary resettlement, to the situation in the Central African rainforest, before focusing on the biodiversity risks. In general, the paper can be seen as an answer to Cernea’s request “to monitor forthcoming forestry related programmes in African countries for their displacement implications and to develop alternative strategies” (Cernea 1997, 34).

Before focusing on the various impoverishment risks it seems necessary to discuss the question, who is facing these risks and how many people are effected in total? Only for two of the cases studied – the two with an official resettlement programme – detailed census data are available. Some of the figures in the literature are surprising. According to them, the population density in the Dzanga-Ndoki National Park was only a tenth of the population density in the neighbouring Lake Lobewe National Park and Noubale-Ndoki National Park. If one memorises, that only a shallow river divides the three protected areas, it can be questioned if these data are correct. Since I did neither have the mandate, nor the time to conduct census data in all protected areas, I had to use the data available. The total number of displaced people from the 9 parks surveyed is estimated to be 51,150 individuals. Based on the overall average population density in the study region, it can be presumed, that these figures are a very conservative approximation.

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Total Area in km²</th>
<th>Population</th>
<th>Density (people/ km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korup National Park</td>
<td>Cameroon</td>
<td>1,259</td>
<td>1,465 (1)</td>
<td>1.16</td>
</tr>
<tr>
<td>Lake Lobewe National Park</td>
<td>Cameroon</td>
<td>4,000</td>
<td>~ 3,000</td>
<td>~ 2.3</td>
</tr>
<tr>
<td>Dzanga-Ndoki National Park</td>
<td>Central African Republic</td>
<td>1,220</td>
<td>350</td>
<td>0.25 (4)</td>
</tr>
<tr>
<td>Nasso National Park</td>
<td>Equatorial Guinea</td>
<td>5,150</td>
<td>10,197</td>
<td>1.98 (5)</td>
</tr>
<tr>
<td>Gamba Protected area Complex</td>
<td>Gabon</td>
<td>7,000</td>
<td>~ 12,600</td>
<td>~ 1.8 (6)</td>
</tr>
<tr>
<td>Ipassa-Mingouli Biosphere Reserve</td>
<td>Gabon</td>
<td>100</td>
<td>~ 110</td>
<td>1.1 (7)</td>
</tr>
<tr>
<td>Cross-River NP Okwango Dv.</td>
<td>Nigeria</td>
<td>920</td>
<td>2,876 (2)</td>
<td>3.13</td>
</tr>
<tr>
<td>Noubale Ndoki National Park</td>
<td>Rep. of Congo</td>
<td>3,805</td>
<td>~ 5,902</td>
<td>~ 1.5 (8)</td>
</tr>
<tr>
<td>Odzala National Park</td>
<td>Rep. of Congo</td>
<td>12,000</td>
<td>9,750</td>
<td>0.75 (9)</td>
</tr>
<tr>
<td>Total/Average</td>
<td></td>
<td>36,514</td>
<td>51,150</td>
<td>1.40</td>
</tr>
</tbody>
</table>


Beside of the people directly displaced by conservation projects, a significant number of people are facing impoverishment risks, because they are forced to be “hosts” of the resettlers. Since all but two of the national parks have expelled the inhabitants without providing new settlement areas, the total number of people acting as hosts against their will is difficult to assess. In 2001/2002 a research on subsistence farming in one of the remotest areas of Cameroon was carried out. On the basis of 239 measured farms, we came to the conclusion that on average one individual utilises 14,547±10,693 m² for pure subsistence farming (Schmidt-Soltau 2002b: 10). Since slash and burning
agriculture makes it necessary to allow farms to “rest” for a certain period, the ratio
between this space and the total space utilised per person in the slash and burning circle
was surveyed to be 1:5.2+2.1 (Schmidt-Soltau 2002b: 11). On the basis of these data,
one could assume that on average an individual would need 75,644 m$^2$ = 7.6 ha = 0.076
km$^2$ for pure subsistence. But the real figures available offer different results. While
the absolute minimum of farmland would lead to an average population density of 13.2
people per square kilometre after resettlement, the two sets of data available document a
lower population density.

<table>
<thead>
<tr>
<th>Name</th>
<th>Total Area km$^2$</th>
<th>Displaced Population</th>
<th>Density after resettlement (people/ km$^2$)</th>
<th>Resettlement area km$^2$</th>
<th>Host population (people)</th>
<th>Resettler Host Ration (Resettler = 100 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korup National Park</td>
<td>1,259</td>
<td>1,465</td>
<td>3.94 (1)</td>
<td>372</td>
<td>1357 (1)</td>
<td>92.6</td>
</tr>
<tr>
<td>Dzanga-Ndoki NP</td>
<td>1,220</td>
<td>350</td>
<td>2.7 (2)</td>
<td>130</td>
<td>~ 200 (2)</td>
<td>57.1</td>
</tr>
</tbody>
</table>

Tab. 4: Available data on pre-post displacement ratio
Sources: 1 = Estimate on the basis of the pilot village. 2 = Noss 2001:330.

Due to the huge differences it is not possible to extrapolate these data in the scientific
sense. If the resettlers would end up having just enough land for subsistence, they would
theoretically ‘displace’ 8000 hosts, which can be seen as an absolute minimum. It is
more likely that the resettler-host ratio varies between 2:1 and 1:1. That would mean
that between 25,000 and 50,000 people in the study region are forced to be hosts,
because forced migration does not embody the chance to say no: neither for the
displaced nor for the hosts.

Despite the fact, that the data on the affected host population is only a very rough
estimate, it can be presumed that between 190,000 and 250,000 people are affected by
conservation projects in Central Africa - and this in an area, where most states – beside
of Nigeria – have hardly more than 10 Million inhabitants. Conservation forces a
significant number of people to face impoverishment risks. In the following these
impoverishment risks will be discussed in detail. In discussion with managers of
protected areas they often questioned the concept of risks, which in their view is too
abstract to suit the situations in ‘their parks’. It might be useful to refer here to Beck,
who outlined that ”risks are at the same time ‘real’ and constituted by social perception
and construction; their realities spring from the impact of ongoing industrial and
scientific production and research routines. On the other hand their knowledge, quite
differently, springs out of the history of symbols and one’s culture (the understanding of
nature, for example) and the social fabric of knowledge. This is one of the reasons why
the same risk is perceived and handled politically so differently throughout Europe and
other parts of the globe” (Beck 1999: 75). It is quite important to memorise, that not
only planners and managers perceive risks differently from those people who are facing
the risks, but also that different people could be differently affected by certain impacts
and due to that perceive the risks in different ways. While urban dwellers are more
concerned about the risk of losing jobs or other sources of cash income, the land as
source of subsistence and cash income is central to forest dwellers and agriculturists.
The discussion will develop from the 9 dimensions of impoverishment risks outlined by
Cernea (2000) on the basis of a review of nearly all documented resettlement case
studies. The nine risks of impoverishment are:
• **Landlessness** (expropriation of land assets and loss of access to land)
• **Joblessness** (even when the resettlement creates some temporary jobs)
• **Homelessness** (loss of not merely the physical houses, but of the family and communal home and cultural space, with resulting alienation)
• **Marginalisation** (social, psychological and economic downward mobility)
• **Food insecurity** (malnourishment, etc.)
• **Education Losses** (a new category among the major risks – Cernea 2002)
• **Increased morbidity and mortality**
• **Loss of access to common property** (such as forests, bodies of water, wasteland, cultural sites, customs and traditions)
• **Social disarticulation**

  a) **THE RISK OF LANDLESSNESS**

In the Central African rainforest, land embodies beside its economic value as source of livelihood a social dimension, but already the economic aspect appears as ambush. Small hunter-gatherer bands can be in extreme cases - like the Northern Congo - traditional owner of ~1000 km² of first class primary forest, valued in Million US $ for timber only. But is this a real value or a hypothetic sum? They will never have a chance to cash this natural wealth, since all territories, which are not utilised for agricultural production or officially demarcated as private property, are - by law - government land. Based on this legal argument, conservation projects in the region refuse to consider traditional land titles as land ownership and based on that all claims for a proper resettlement procedure. In contrast, the World Bank recommends a resettlement policy framework for all cases of displacement, which “ensure that the displaced persons are

(i) informed about their options and rights pertaining to resettlement;
(ii) consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives; and
(iii) provided prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project.” (World Bank 2002, 3).

Following this argument, one has to ask: what are the “full replacement costs” for not recognised land titles? The World Bank takes that into consideration, by clarifying that besides of people, who have a formal landholding, also “those who do not have formal legal rights to land but have a claim to such land or assets and those who have no recognizable legal right or claim to the land they are occupying” are entitled to receive at least resettlement assistance (World Bank 2002, 6). The Bank recommends that if the displacement of indigenous people is not feasible to avoid, preference should be given to land-based resettlement strategies (World Bank 2002, 4). But what does that mean? Since there was no unoccupied land in the first place, it is logic, that the conservation projects will not be able to provide an adequate piece of land without affecting the livelihood of other people. To be frank, one has to confess, that it is impossible to compensate “equally” in these particular cases. Whether the compensation in cash or kind is considered high or low, life will never be the same for the displaced people. I do
not have any illusions about the life of hunter-gatherers, they are not the noble savages (Hladik et al. 1993), but how can one quantify their livelihood?

Based on several discussions with park managers, I received the impression, that those conservation projects, which refused to compensate indigenous forest dwellers in the sub-region, did so, because they thought a recognition of traditional land titles would put an end to their resettlement schedules, since it is obviously impossible to refund the “losses” of the inhabitants “equally” in cash or in kind. The logic of the projects is to refuse legal recognition to avoid endless discussions on compensating the un-commensurable. This is highly dangerous: dangerous for the conservation goals and the well being of the rural population.

In the following I will try to assess the level of land losses the rural population has to face due to rainforest conservation. As one can see in table 5, the land loss between the two cases varies between 70 % and 90 %. As to be expected the organised resettlement programme of Korup National Park offers more land to the former inhabitants of national parks than the unorganised expulsion of the inhabitants of Dzanga-Ndoki National Park.

<table>
<thead>
<tr>
<th>Name</th>
<th>Land before km²</th>
<th>Affected Population</th>
<th>Density before (people/km²)</th>
<th>Density after (people/km²)</th>
<th>Increase in Density in %</th>
<th>Land after km²</th>
<th>Land loss in km²</th>
<th>Land loss in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korup NP (1)</td>
<td>1,259</td>
<td>1,465</td>
<td>1.16</td>
<td>3.94</td>
<td>339</td>
<td>372</td>
<td>887</td>
<td>70.5</td>
</tr>
<tr>
<td>Korup Hosts (1)</td>
<td>791</td>
<td>1,357</td>
<td>1.71</td>
<td>3.24</td>
<td>189</td>
<td>419</td>
<td>372</td>
<td>47.0</td>
</tr>
<tr>
<td>DzangaNdoki (2)</td>
<td>1,220</td>
<td>350</td>
<td>0.25</td>
<td>2.7</td>
<td>1080</td>
<td>130</td>
<td>1090</td>
<td>89.4</td>
</tr>
</tbody>
</table>

Tab. 5: Available data on land losses Sources: 1 = Estimate on the basis of the pilot village 2 = Noss 2001:330.

The assessment of those values, which cannot be realised due to the creation of a national park (opportunity costs), can be seen as a method to establish an estimate of the “full replacement costs”, which are seen as a necessary element for a successful resettlement. The two values that constitute the opportunity costs are lost stumpage values and lost forest use. The lost forest use will be assessed under the risk of joblessness, since the forest is the only source of income for the inhabitants of national parks. The lost stumpage value is then associated with commercial clearing of timber in an alternative development scenario. In contrast to the declaration of conservation agencies, land surveys concluded, that the terrain of the case study areas does not lend itself well to commercial logging and that the number of commercial species is limited. If the forest would be more valuable - in the meaning of commercial logging – they would not have been allocated for conservation. Nevertheless, the rainforest can still be exploited, even if it is not profitable today. Because of the marginal nature of land and the existence of better tracts elsewhere it can be assumed that the clearing would not commence in the next years. This also coincides with the deforestation trends documented above and might result in better prices for timber in the future. To estimate the net standing value of timber in the protected areas of Central Africa one can utilise the current average export prices of lumber products. This is said to be on average Euro 120,-/m³ with non-labour inputs comprising Euro 60,-/m³ to bring the products to the export point (PC Mersmann). The average yield of commercial logging is 5 m³/ha = 500 m³/km² (PC Mersmann & Götz). As said before the yield in the national parks
would be significantly lower, but hardly below 2 m³/ha = 200 m³/km². Based on these figures, the lost stumpage value would be Euro 120/ha = 12,000/ km². Table 6 documents the financial losses the rural population is facing due to the establishment of national parks. These losses are somehow shared between the resettlers and the hosts, but they are forced upon one of the poorest population in the world.

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Total Area in km²</th>
<th>Value of timber per capita loss</th>
<th>GNP per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korup National Park</td>
<td>Cameroon</td>
<td>1,259</td>
<td>15,108,000</td>
<td>10,313</td>
</tr>
<tr>
<td>Lake Lobéle National Park</td>
<td>Cameroon</td>
<td>4,000</td>
<td>48,000,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Dzanga-Ndoki National Park</td>
<td>CAR</td>
<td>1,220</td>
<td>14,640,000</td>
<td>41,829</td>
</tr>
<tr>
<td>Nsoco National Park</td>
<td>Equ. Guinea</td>
<td>5,150</td>
<td>61,800,000</td>
<td>6,061</td>
</tr>
<tr>
<td>Gamba Protected area complex</td>
<td>Gabon</td>
<td>7,000</td>
<td>84,000,000</td>
<td>6,667</td>
</tr>
<tr>
<td>Ipoua-Mingouli Biosphere Reserve</td>
<td>Gabon</td>
<td>100</td>
<td>1,200,000</td>
<td>10,909</td>
</tr>
<tr>
<td>Cross-River NP Okwangwo Division</td>
<td>Nigeria</td>
<td>920</td>
<td>11,040,000</td>
<td>3,839</td>
</tr>
<tr>
<td>Noubale Ndoki National Park</td>
<td>Rep. Congo</td>
<td>3,865</td>
<td>46,380,000</td>
<td>7,994</td>
</tr>
<tr>
<td>Odzala National Park</td>
<td>Rep. Congo</td>
<td>13,000</td>
<td>156,000,000</td>
<td>16,000</td>
</tr>
<tr>
<td>Total/Average</td>
<td></td>
<td>36,514</td>
<td>438,168,000</td>
<td>8,566</td>
</tr>
</tbody>
</table>


Without being a lawyer, the policy to expropriate the rural population without compensations applied by conservation agencies and national governments seems to violate several international laws and conventions. The ILO Convention 169 is said to offer the best mechanism for complaints related to the forced displacement of indigenous groups as it specifically addresses this issue. Unfortunately, no African state has ratified this Convention. One may argue, that these international conventions do not suit the Central African realities, but one can hardly ignore the fact that all but two of the nine national parks surveyed violate the African Charter on Human and Peoples’ Rights which was adopted on 27 June 1981 by the Assembly of Heads of States and Government of the Organization of African Unity (OAU) and came into force on 21 October 1986. It states:

- **Article 21:** (1) All peoples shall freely dispose of their wealth and natural resources. This right shall be exercised in the exclusive interest of the people. In no case shall a people be deprived of it. (2) In case of spoliation the dispossessed people shall have the right to lawful recovery of its property as well as to an adequate compensation.

Despite all legal arguments, the stakeholders have to achieve a “fair” compensation, if they want to be successful, because – as we will document later – conservation projects do not benefit in the long run, if they free ride the rural population. Here the next problems arise: Who are the stakeholders or their legal representatives respectively? Are the replacement costs, or - to stay within the logic of the best practice - the guidelines for livelihood restoration negotiated between individuals and the state, the state and the international community, or between settlements and the promoters of conservation? The case of Korup National Park (Cameroon) narrows the options available, because it became clear, that the prospected settlers were hardly able to defend their own interest and needs. The inhabitants of the park agreed to resettle “voluntarily”, without any written agreement or compensation (Schmidt-Soltau 2000). One can question the
legality of these agreements (Schmidt-Soltau 2000), but it remains obvious that without technical, legal and organisational assistance, most inhabitants of national parks, are hardly able to defend their interests in discussions with governments or international conservation agencies. While it seems impossible, that any of the other stakeholders (conservation projects, donors and governmental agencies) could represent the rural population, since they would always have a conflict of interests – or at least it could be argued like that, national or international human right NGOs in close collaboration with the rural elite, financially supported by the promoters of the national parks and the resettlement programme, could be possible spokespeople for ‘underdeveloped’ resettlers. But, conservation projects in the region are trying to avoid contacts between anthropocentric organisations (cf. Charancle 1997) and humans in the way of conservation, since they fear ‘unrealistic’ requests for compensation (PCs). This view is easy to understand if one takes the moderate estimate for property losses due to conservation activities outlined in table 6 into consideration and remembers, that the displacement of indigenous people from their land was criticised by some human rights groups as “genocide” (ICIHI 1987). It is not surprising that neither the ‘lords of conservation’ like WWF and WCS, nor the national governments are enthusiastic to work with people, who are criticising their activities or try to force them to spend more than 1.1 Billion Euros to compensate the rural population for their land-losses. Nevertheless, the fact that conservation agencies do not mind that national governments are breaking binding international laws to establish protected areas as cheap as possible is unacceptable – whether it saves the money of their members and taxpayers from Europe and North America and impoverish the rural population or not. It remains the duty of the international community and the donors to safeguard that the inhabitants of protected areas receive the best possible assistance to bargain for the best possible compensation, discussed between equal partners. The justified compensation of forty thousand Euros per capita will not be able to reduce all negative social impacts, but it would offer the inhabitants of the Central African rainforests at least some form of compensation for their losses. The only way to reduce the risk of landlessness is an open and well-facilitated discussion between all stakeholders (or their trustful representatives) resulting in written and legal contracts, including viable benefits for everybody. It is intolerable to force the local population to be nobler towards nature, than landowners in Europe or North America.

Beside of the social risks arising from land losses, the process of sedentarization - and forced sedentarization in particular - embodies several risks for the biodiversity, because it opens up the canopy of the forest and establishes deforested islands in the middle of the rainforest. While one can identify settlements of hunters and gatherers after two years of abandons only by a higher biodiversity – including non-indigenous crops such as bananas and plantains – the ecosystems of abandoned permanent settlements will only regenerate after hundreds of years.

b) THE RISK OF JOBLESSNESS: RISK OF LOSSES OF INCOME AND SOURCES OF SUBSISTENCE
It seems obvious that the risk of losses of sources of livelihood is mostly related to those activities, which resulted in the plan to resettle people from protected areas in the first place.

To establish a pre-conservation picture of the various economic activities, I will here refer to a livelihood survey, carried out in one of the remotest regions in Cameroon - the Takamanda forest reserve area - in 2000/2001 (Schmidt-Soltau 2001). In contrast to its name, no conservationists or state agents had penetrated this area before the survey. In fact, our team, which embodied officials from the Cameroonian Ministry of Environment and Forest (MINEF), was the first governmental team seen in the region within the last 30 years. Before discussing the risks in detail, one has to focus again on the legal argument. Due to the recommendation of international conservation agencies and donors, the Cameroonian forestry law prohibits all hunting, gathering, fishing and logging activities without a governmental permission and beside of “subsistence hunting and gathering with traditional methods” (MINEF: 26). It is also ‘illegal’ to own fire-weapons, as long as no licence has been issued by the governmental services (MINEF: 29/30). In the un-conserved research area, which covered nearly 15,000 people, nobody had a ‘permission’ to make his or her life from the forest or applied for a licence for their riffles. No wonder: it is unrealistic to expect hunter-gatherers to travel for days to the next sub-divisional capital to apply in writing for permissions or licences to survive in as much as to expect that nowadays anybody does not use cheap and effective hunting methods such as wire traps. Nevertheless, all hunting with modern methods (wire traps, guns and poison) has to be considered - according to the forestry law - as poaching. All gathering has to be considered – in face of the law – as larceny. Conservation projects in all six countries studied utilise these legal ‘absurdities’ to refuse any legal discussion on compensations for the losses of hunting, gathering, logging and fishing income. This argument seems hypocritical, if one considers the fact, that governmental agencies are hardly executing these laws in the remote areas. But in front of the law, hunter-gatherer-societies are utilising a certain area for thousands of years today without a legal basis for their livelihood. Beside of the pure economic impact on their livelihood, the psychological effect is disastrous. “The project treats us as beggars”- without a legal right for compensation. It is not surprising, that these displaced forest-dwellers do not respect the boundaries, laws and regulations of national parks created on their former land. A conflict - useless as anything - arises and results in imprisonment and increased hunting. It is mostly this miss-conceptualisation, which results in the fact that most "eviction from traditional lands has been typically disastrous to those effected" (Cernea 2000, 27). The problem is not, that conservation projects do not want to assist the displaced population with alternative income generating activities (Weber et al. 2001), but the mode of realising it, which causes the problem. In discussions, those who sign responsible expressed their fear, that legal discussions are endless and not productive for their aim, the conservation of nature. It seems obvious, that the individual balance of conservationists should not be at stake in the process of resettlement. Organised resettlement programmes can fail, but experience proofed, that resettlement without a legal procedure, including the attestation of ownership and
traditional land use rights (whether these are covered by laws or not), are doomed to failure (cf.: McNeely 1995).

In the following, the different economic activities, their importance for the livelihood and the options for a socio-economic development after resettlement are discussed.

The greatest single cause for the depletion of natural communities and wild species has been the desire to use land for more productive purposes. This has led to extensive clearing of forests and savannas, burning of vegetation, and the cultivation of previously undisturbed land for crop production. While hunter-gatherers hardly establish permanent plots, farming is the main source of livelihood for their more resident neighbours (30.4 % of the cash income is produced here on average). The challenges for a resettlement of non-sedentarised people do not arise from a lack of available land to establish farms for subsistence but from the farming patterns itself. As said before, a resettlement of semi-permanent farmers and hunter-gatherers forces them to change their lifestyle. A resident way of live also requires resident farming skills. Even though they can still continue with slash and burn farming, resident farmers can hardly afford to use a piece of land behind their houses only once in their lifetime and move on to new plots. Here, the technical skills of conservation projects are requested to assist and not only for one year as it was offered in the Korup National Park resettlement programme (Schmidt-Soltau 2000). Since farming also has to cover cash losses resulting from reduced hunting, gathering, and fishing, the establishment of a long-term sustainable marketing system, financed by the promoters of resettlement, should receive the same level of attention as the pure farming aid. The people displaced from the sanctuary areas in the Gamba Protected areas complex (Gabon) were assisted in producing tons of Cassava each year, but the output never reached the markets due to infrastructural constraints and reduced tremendously after the project stopped to pay subsidised prices (Lahm 2001).

Such as farming the gathering of Non-Timber-Forest-Products (NTFP) is carried out for subsistence as well as for generating cash-income. It represents the most important source of cash income (33.4 %, Schmidt-Soltau 2001: 51) for the inhabitants of primary
rainforests. Especially the intensive gathering of leaves, barks, fruits, etc. for cash is considered as ill-treat for the integrity of the ecosystem, while most forests can cover the outtake for subsistence as long as the population is low (~1 inhabitants per km²). Here, the flexibility of conservation projects is requested, since it would be wise to offer the resettled villages a certain area of primary rainforest for the sustainable use as source for the subsistent supply with NTFP. This could be integrated into the buffer zone management of the national park. It could result in a better understanding of the needs for protection among the resettlers as well as it becomes a safeguard for the overall concept of conservation. The problem arises from the fact that the carving of a gathering zone for the resettlers out of the land occupied by other villages will result in the need for assistance for these host villages, similar to those offered to the former inhabitants of the national park. This will increase the costs and will force the governmental services to consider traditional land titles as legal titles, since it will be an absolute necessity to secure the land use rights of the resettled people for all times.

Hunting (including fishing), whether carried out by resident societies or hunter-gatherer bands, is considered as serious danger for the biodiversity especially since most hunting is nowadays carried out for sale and no longer for subsistence, which was said to be sustainable. Its relevance for the cash income seems with 21% (Schmidt-Soltau 2001: 51) important enough to be resistant against all forms of environmental education. The relevance of hunting as source of cash income increases even with the level of deforestation and conservation, since prices are increasing. While in some areas elephant-meat is the cheapest meat, in other areas it is considered as delicacy – and the price is 5 times higher than the one of cow meat. All over Africa, the idea to introduce the rearing of chicken and goats as replacement for bush-meat has failed and it would be unrealistic to presume such a change in the diet of the resettlers. Since hunting for subsistence can be sustainable as long as there is enough land available and endangered species are not hunted, it seems advisable to offer a hunting zone to the former inhabitants of the national park, which can also be used for gathering and fishing. Most risks and recommended reconstruction requirements, which were made for gathering activities, also occur here. A common argument of conservation projects to ban all kind of hunting is related to the fact that wire traps also kill endangered species. Again flexibility is requested. Following the examples of eastern and southern Africa it should be possible to negotiate with the rural population an agreement, that they do not hunt certain endangered species, which do not represent a significant percentage of the total cash income in non-conserved areas (Chimpanzee 1.6 %, Drill 1.5 %, Gorilla 1 % and Elephant 0.5 %), in exchange for the right to hunt legally not endangered species, which are also the main source of cash income (porcupine 26.1 %, blue duiker 13.9 % and bush pig 7.8 %; Schmidt-Soltau 2001). Since wire traps do not differentiate between endangered and not-endangered species, a selective hunting would also require a legalised access to riffles and ammunition. While it is understandable from the individual perspective, that a conservationist has problems to hand out riffles to hunters, it is the only way to link conservation with the needs of the rural population. As long as the resettlers are not able and encouraged to select their game according to the guidelines of sustainable hunting, nobody wins. Neither the rural population, which has
to fear law enforcement, nor the conservation project, because an unorganised hunting on limited space most of the time is unsustainable. Especially in concern of hunting, it remains an obligation to legalise these forms of livelihood in order to control them. It would also reduce the negative perception of the rural population towards resettlement and conservation as such, since it is a common fear among inhabitants of protected areas, that a resettlement would extradite them to laws – like the forestry laws -, which are unknown to them and due to the remoteness of their land not executed. Protected area managers argue, that it is contrary to the aims of their projects to assist anybody to hunt, gather, fish or log in the rainforest, but to expose the resettlers at the mercy of laws unknown to them is resulting at least in a loss of confidence and rises suspicion.

<table>
<thead>
<tr>
<th>Name</th>
<th>Total Area in km²</th>
<th>Population</th>
<th>Estimated annual income loss from h + g in Euro</th>
<th>Per capita in cash</th>
<th>In cash</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korup NP</td>
<td>1,259</td>
<td>1,465</td>
<td>76.02 (1)</td>
<td>111,369</td>
<td>95,521</td>
<td></td>
</tr>
<tr>
<td>Lake Lobele N°</td>
<td>4,000</td>
<td>~8,000</td>
<td></td>
<td>328,261</td>
<td>99,617</td>
<td></td>
</tr>
<tr>
<td>Dzanga-Ndoki NP</td>
<td>1,220</td>
<td>350</td>
<td></td>
<td>24,837</td>
<td>42,902</td>
<td></td>
</tr>
<tr>
<td>Nsoco NP</td>
<td>5,150</td>
<td>10,197</td>
<td></td>
<td>241,954</td>
<td>1,240,920</td>
<td></td>
</tr>
<tr>
<td>Gamba PAC</td>
<td>7,000</td>
<td>12,600</td>
<td></td>
<td>879,732</td>
<td>15,444,73</td>
<td></td>
</tr>
<tr>
<td>Ipassa-Mingouli</td>
<td>100</td>
<td>110</td>
<td></td>
<td>7,680</td>
<td>13,484</td>
<td></td>
</tr>
<tr>
<td>Cross-River NP</td>
<td>920</td>
<td>2,876</td>
<td>158.96 (2)</td>
<td>457,168</td>
<td>802,614</td>
<td></td>
</tr>
<tr>
<td>Oloango Div.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nsokale Ndoki</td>
<td>3,985</td>
<td>~3,802</td>
<td></td>
<td>405,095</td>
<td>711,193</td>
<td></td>
</tr>
<tr>
<td>Odzala NP</td>
<td>13,000</td>
<td>9,750</td>
<td></td>
<td>680,745</td>
<td>1,195,128</td>
<td></td>
</tr>
<tr>
<td>Total / Average</td>
<td>36,514</td>
<td>51,150</td>
<td>Extrapolation figure: 69.02 (3*2)</td>
<td>3,836,742</td>
<td>6,750,354</td>
<td></td>
</tr>
</tbody>
</table>

Tab. 7: Details on financial implication resolving from this displacement Sources: 1 = Schmidt-Soltau 2000; 2 = Schmidt-Soltau 2001; 3 = un-conserved forest in a remote location: Schmidt-Soltau 2001.

To establish the necessary measurements of income restoration, it seems necessary to assess the pre-displacement income. As to be expected, those national parks, which have displaced the rural population without compensation or an organised resettlement programme, did not have data on the cash income, which the displaced population were able to generate before the creation of the park, or at least they did not make them available. Table 7 estimates the loss of cash income on the basis of an un-conserved area as outlined before. If one remembers the fact, that the inhabitants of the Central African rainforests generate 67% of their total cash income – in total Euro 161 per capita (Schmidt-Soltau 2001) - from hunting and gathering, it becomes clear, that we are talking about one of the poorest population in Africa and the world as such. These income losses have to be compensated on top of the establishment of farmland through alternative income generating activities, because in the resettlement areas hunting and gathering are not only prohibited by written laws, but it is also unlikely, that the increased population density allows a sustainable off-take above subsistence level. It is not the fault of the displaced population, that they were living before the establishment of national parks in areas beyond the reach of the post-colonial states – due to that, income losses, which result from their involvement into the state territory have to be at least compensated through an income restoration programme. The World Bank even further and suggests, 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 2002).
Conservation projects are aware that they have to offer alternative forms of income generation to protect the parks, because in contrast to the savannas in East Africa, conservation through law enforcement is nearly impossible due to the nature of forests. The idea to compensate the BaAka ‘pygmies’ in the Dzanga-Ndoki National Park and in the nearby Dzanga-Sangha Dense Forest Reserve (both Central African Republic) - even without an official resettlement programme - for their income losses (incl. the losses in hunting and gathering for subsistence) and their loss of land, through alternative income generating activities, such as farming, livestock breading, eco-tourism etc. was well justified by theory (Carroll 1992, Noss 2001). But if one travels to Bayanga, one notices the miserable permanent plots of the BaAkas’ settlements, where alcoholism and diseases are ruling (see: Sarno 1993). It becomes obvious, that a change in lifestyle, which took other societies thousands of years, could not be implemented over night or even within one generation. The difficulties to implement alternative income generating activities as trade offs for the income losses arising from conservation, also underlines, that the idea of cash compensation is not an option for hunter-gatherers. It is unlikely, that all people displaced from national parks are able to invest possible ‘cash-compensation’ wisely.

Beside of the outlined problems, it can be questioned if there is any opportunity existing, which allows the former inhabitants of national parks in Central Africa to share the project benefits. One must be quite a cynic to declare - like the conservator of Korup National Park (Cameroon) - that “everybody benefits from a national park, which is a place for hiking, camping, game viewing, photography and scientific research” (WWF 1991: 11). How many villagers will appreciate these opportunities? The popular argument on posters and leaflets, that it is important for mankind and future generations to save this or that animal, does not count for those affected. In Equatorial Guinea, the spokesman of a group of unofficially displaced villagers stated, that “the whites and the animals are against us, we have to fight back”. Conservation projects prattle away nineteen to the dozen, when it comes to possible benefits from tourism. Jack Ruitenbeek – an internationally well-known consultant with WWF – made a cost benefit analysis for the Korup National Park, which is still quoted with sympathy in the literature (Perrings 2000: 37). In his argumentation the benefits of resettlement cover the social and economic costs by far. The problem lies in his anticipation of future gains. Central Africa is not the Serengeti and hardly anybody wants to hike through the rainforest only to see – well, what can you see – trees. Ruitenbeek estimated in 1988 that 1000 tourist will visit Korup National Park a year, each staying seven days, which would result in 7000 overnight stays a year. On top he expected an annual increase of 10 % (Ruitenbeek 1988: 20). In 1999 Korup National Park had 300 overnight stays, in 2000 240 and in 2001 290, including everybody who entered the park (PC von Loebenstein). I am registered in the books with more that 90 days spent in the park – even though it was not me paying the park, but the park paying me. I could claim to be the tourist of the year, but my stay did not have direct financial benefits for the displaced population. It becomes obvious, that tourism is for now and for the near future no source to generate benefits and due to that, other sources have to be found.
Even if one recognises the fact, that the guidelines of the World Bank, which try to guarantee a complete income reconstruction, are not binding for projects not funded by the World Bank, one should remember that forced displacement without compensating the income losses can be seen as a violation of article 2(1) of the *Convention on Civil and Political Rights*, which state: “All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic cooperation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.” Forced displacement also seems to violate the *Convention on Permanent Sovereignty over Natural Resources*, which guarantees the right of natural resources to peoples and nations. The governments covered in this study have signed the two conventions. In general it seems obvious that without a legalised and transparent process, facilitated with care and mutual understanding and assisted by trustful representatives of the interest of the local population, the best intentions will miss their goal. It is not the generosity of a conservation project to assist the former inhabitants of a national park at their new location – it is their responsibility.

c) **The Risk of Homelessness**

In the research region this risk does not exist in its primary meaning. Personal houses of semi-permanent and permanent settlements as well as huts of hunter-gatherers do hardly involve any cash contribution and can be build without much effort anywhere else. That is what happened in most cases surveyed. The people expelled from a national park erected new houses in the old style at their new plot. But habitations, which are suitable for a hunter-gatherer lifestyle, are not suitable for resident farmers. This results in a decreasing health situation and a decreasing acceptance of the resettlement process. For good reasons the World Bank recommends in their operational directive 4.12 that new communities of resettlers should receive housing, infrastructure, and social services comparable to those of the host population (World Bank 2002). The example of Korup National Park (Cameroon) illustrates that the cooperation and discussion between the resettling agencies and the people to be resettled are the keystone. Korup Project constructed a town with 63 stone houses for a village with formerly 23 mud huts. The houses with roofing tiles and integrated kitchen reflect the European mode of housing, but do not suit the housing patterns of the new inhabitants, who are complaining to suffer of smoke, when cooking on open fireplaces in their kitchens (Schmidt-Soltau 2000). That participation is the key for success, becomes obvious if one remembers, that Guggenheim has documented, that resettlers in Mexico asked for zinc roofs instead of the provided thatched roofs, considered by planers to be more refreshing (Guggenheim 1993). There is not a global best solution for house construction. Only in the discussion with the effected population, planners are able to determine which kind of construction is suitable for a certain environment and for certain needs. A flexible agreement about the new settlement discussed between all stakeholders (or their representatives) with the chance to adapt to needs and wishes, which only arise after the final change of location, which might reduce all risks related to housing and personal infrastructure. To enjoy some advantages of their displacement, the facilitators of resettlement should guarantee...
that all children have an easy access to education and all people have reasonable access to health facilities in the new location. Nevertheless, it will not be easy for the displaced population to consider their new settlement as home. Elizabeth Colson establishes on the basis of several case studies “the overwhelming evidence that people resent uprooted, find it traumatic, and in the long run look back in grief and with an anger that lasts longer than the wars or the dams that forced them out” (Colson 1999: 28).

d) THE RISK OF MARGINALISATION

The risk of marginalisation is interrelated with the geographical position of the new settlement area. When the new neighbours speak a similar language, belong to the same ethnic group or are even the same, the risk that the resettlers “spiral on a downward mobility path” (Cernea 2000: 16) is relatively low. The alienation and marginalisation occurs especially in cases, where the new resettlers end as strangers (without rights) among homogenous neighbours from a different cultural, social and economic background. All studied hunter-gatherer societies expelled from nature reserves do not function as independent groups but live in that strange ‘partnership’ with their settled Bantu neighbours, which some interpret as a slavery (Turnbull 1962) or as an excellent intercultural partnership (Grinker 1994). This “partnership” existed for long, but without an option to “disappear” into the forests, the hunter-gatherers lose parts of their economic and spiritual power. Another aspect of the risk of marginalisation arises from the resettlement process itself. In the case of Ekundu-Kundu (Korup national park), the resettlers were the stars for several years. After the decision to resettle them as pilot village, government officials, ambassadors, scientists, foreigners and project employees visited the village, listened to their requests and left the people with the impression, that not only their resettlement, but also they themselves were important. It was obvious that this interest and interaction could not have lasted forever and the national park authorities decided one year after they had moved, that the village was not any longer to be “managed” as the resettlement village, but as one village among the 187 villages, with which the national park cooperates. It was quite a shock for the villagers to lose all their French benefits and attention (Schmidt-Soltau 2000). This psychological marginalisation risk, which often results in economic marginalisation and vice-versa, is difficult to mitigate, because without the establishment of a close interaction with the authorities the livelihood cannot be reconstructed. To prolong the period of special attention or special care is also risky, because this increases the envy and resentment among those neighbourhood communities, which are not involved in the resettlement programme. This problem is not limited to the displacement from protected area. On basis of several case studies of reservoir resettlement Mathur concludes “one unfortunate outcome is a feeling of alienation, helplessness and powerlessness that overtakes the displaced. This stems from the way in which the people are uprooted from homes and occupations and brought to question their own values and behaviour, and the authority of their leaders” (Mathur 1995: 18).

In general resettlement has in many cases resulted in something, which can be described by the French word ‘attentisme’: the people are waiting for assistance from outside to manage their daily live. In some cases a very limited assistance was described as the key to reduce the marginalisation risks (Roder 1994), while others propose, that “any special
requirement of a migrant community should be respected” (Pfister-Ammende 1973: 319). It has to be memorised, that “complex elusive tension exists between support and dependencies, accountability and dominance, good planning and cultural imperialism. Such tension, inherent in donor-donee relationship, may always remain unresolved, but it is minimised when the balance of power – real or psychological – between the two parties is relatively equal. When too much control rests on the donor side (either because the donor actually has such control or because it has been ceded by the donee) what should be a healthy partnership can become destructive” (Wright 1993:183/184)

There is no easy or general answer, how the risk of an increased marginalisation can be reduced, but acknowledging the risks arising from the resettlement process could at least help all stakeholders to be aware of it.

e) THE RISK OF FOOD INSECURITY

This risk can be considered as irrelevant for displacements from national parks in Central Africa in the first place, since in none of the research areas governmental services are able to execute their strict forestry laws. Nevertheless, it is known for long, that the dietary diversity among hunter-gatherers and incipient horticulturalists is higher than that of settled agriculturalists (Fleuret & Fleuret 1980; Dewey 1981; Flowers 1983; Haaga et al. 1986; Cohen 1989; MacLean-Stearman 2000). In the long run, the lack of legalised land titles and related to that land use rights (discussed above) could also result in food insecurity for the resettlers, if these laws are executed one day. The establishment of a legal title on a piece of land – big enough to provide a sustainable bases of livelihood – possibly secures the food supply and reduces the risks for the environment resulting from overuse. Another serious problem for farm activities arises from the conservation itself. Around the Noubale Ndoki National Park the conservation project is forced to provide foodstuffs from outside on a subsidised rate to the inhabitants of the nearby villages, since the increasing elephant population due to conservation undermines all efforts to establish farms. At first glance this system, which provides the rural population with food and secures the lives of protected species, seems to be acceptable. In the long run, this system is highly dangerous, because nobody can guarantee that the food supply goes on forever. During the 1999 civil war in Congo, the WCS team had to leave the country. Since the villagers did neither receive donated food nor did they have farms for subsistence, they had to start hunting for cash (to buy farm products) and for subsistence. They were still able to do so, since by that time the park only existed for a couple of years, but it seems obvious, that the new generation, which does not have the skill to survive as hunter-gatherer is facing an increasing risk of food insecurity resulting from food donations. Not only the missing sustainability of the conservation projects is risky for the rural population, the findings of Galvin (1992, Galvin et al. 1999) suggest, that conservation policy affects the availability of resources to people living near protected areas. This influences their nutritional status, especially of adults. While children tend to be better buffered from nutritional stress than adults, the rural population living near a protected area surveyed by Galvin et al. (1999) had a lower nutritional state than other people from the same ethnic background. Their agricultural yield was significantly lower (50 %; Galvin et al. 1999:4). Literature insists, that resettlements, which are unable to achieve
self-sufficiency have to be considered as failure. “Self-sufficiency is” according to Rogge (1987:87) “used to denote the subsequent attainment of complete independence from any form of external help, when people are not only self-reliant in their food production but are able to generate all their own infrastructural needs and requirements, so that settlements are fully self-contained units.” A self-sufficient agricultural system will not only reduce the risk of food insecurity, but also mitigate the risk of marginalisation, because it allows the resettlers to base their living on their own productivity.

f) **THE RISK OF EDUCATION LOSSES**

Beside of the quite obvious risk, that those children, who are attending school, are losing one year through the resettlement process (Cernea 2002), the major problem – in the study area – is not so much the formal education, but the loss of traditional knowledge. Since traditional knowledge is interrelated with the land, the resettlement process will affect this knowledge. Even if the national park authorities would allow the former inhabitants to visit the park for cultural reasons, the traditional knowledge - or at least some parts of it – will get lost in the long run, because it is no longer the key for the survival of the group. On the basis of several case studies Fabricius and de Wet summarised, that “much traditional knowledge has been lost because of forced removals, as people (especially the younger generation) became detached from natural resources and spent even more time away from rural areas as migrant workers” (Fabricius & de Wet 2002: 154). There is hardly any option for planners and people to mitigate this risk, but it seems useful if the conservation agencies would offer the possibility to document as much of the traditional knowledge as possible – not as information pool for scientists, but as a library for the future generations of the resettlers, who might be interested to consult their “former” traditional knowledge.

g) **THE RISK OF INCREASED MORBIDITY AND MORTALITY**

A changed environment and an exposure to a more frequent interaction with urban life always embody multiple health risks (HIV, etc.). Research also has determined that a shift from foraging to farming may be accompanied by a decline in overall health (Cohen & Armelegos 1984). On the other hand in all cases surveyed, the new settlements are closer to the existing health facilities than the original habitations deep in the forest. The risks for the life and health of the resettlers can be reduced with the assistance of all stakeholders. Especially the implementation of sanitary installations seems advisable in a permanent settlement. While in the forest, the BaAka pygmies used to change the site as soon as the settlement was considered dirty, they are now suffering from water-born diseases and sicknesses related to sand flies, which are related to their “relaxed attitude” to excrements etc. (Sarno 1993). Three activities seem to be appropriate to reduce this risk, a) an ongoing health education for the resettlers (incl. sexually transmitted diseases), b) legal access to sufficient areas for the collection of traditional medicinal plants, c) financial guarantees for health related infrastructures in case they become necessary (following the recommendation of the WHO).

h) **THE RISK OF LOSS OF ACCESS TO COMMON PROPERTY**
In the central African Rainforest there is hardly any difference existing between the risk of landlessness and the risk to lose the access to common property, since forest in its broader meaning is their only and common property. Even among resident farmers only the user rights for “farm plots” are owned individually (by the “house” or “household”), while all untransformed land is owned collectively. With the above outlined recommendations and an establishment of land titles, which are sound with the socio-cultural realities, it should be possible to minimise all risks of losing the access to common property.

i) **THE RISK OF SOCIAL DISARTICULATION**

Social disarticulation of resettled hunter-gatherer societies is not a risk but a fact. “When technological change comes too fast and too soon for a society, it makes stable adaptations difficult if not impossible to achieve without severe pain, emotional stress, and conflict” (Coelho & Stein 1980: 22) The forced change of lifestyle atomise all existing social links within the band and in their relation to others. The high prestige of the elders, resulting from their knowledge of the land, and the only social stratification has disappeared in all cases studied. The leading figures in the bands are now the youth, which have picked up some words of French or English and are able to express themselves in meetings with project staff. They are also the people, who have the force to explore their new environment and its hunting and gathering opportunities, while the elders are staying behind, complaining about the changes and the destruction of their world. The other problem arises from the complex interaction between the pygmies and the resident Bantu farmers. While anthropology utilises different models to describe this relation - ranging from slavery to equal partnership -, it is evident, that this relation is changing when the Pygmies have no longer the chance to “disappear” to the forest. The longstanding social interaction, which is based on the exchange of forest products for farm products, is collapsing with its economic bases.

Literature outlines, that a chance to mitigate the risks of social disarticulation could be the “re-establishment of shattered social geometries” (Downing 1995:12) and spatial memory studies (Marcus 1994). There is – at least to my knowledge – no concept existing to avoid this breakdown of society, but the above-recommended implementation of a trustful spokesperson - until the resettlers are able to provide an own representative to defend their interests – could safeguard the process. These spokespeople should respect the customs and have a deep knowledge of the socio-cultural settings to advice the conservation project staff and facilitate the interactions with neighbouring societies. One has to consider, that the people are still the same, but their lives will never be the same again.

**THE RISK FOR THE BIODIVERSITY OF THE PARKS AND THE WORLD AS SUCH**

Conservation aims at protecting ‘wildernesses’ against the impact of mankind. Here is not the place to discuss in length, if ‘untouched nature’ can be found on this planet or if “the mythical pristine environment only existed in our imagination” (Pimbert & Pretty 1997:3). Research holds that there is no such thing as a pristine habitat in much of the tropical areas and that rainforest constitutes a cultural-natural mosaic (Jacorzynski...
Evidences from anthropological, human ecology and archaeological studies have also documented that most ‘wilderness areas’ had been modified or managed by humans at one point in time (Headland 1997, Sponsel et. al. 1996). Due to that, is it a common fear among those people who conceptualise forest as ecosystem for men and beasts that the biodiversity of the forest might change after the resettlement because the nature lacks the impact of human activity (Prance et al. 1987, Posey & Balée 1989, Meggers 1996, Reichel-Dolmatoff 1996). Some case studies have documented that over a 25 years period the biodiversity have decreased in protected areas (Nabham et al. 1991), but the reasons are uncertain. Some scientists stress the fact, that “there is a significant link between cultural and biological diversity” (Jacorzynski 1999: 2), but the existence of a link does not say anything about the relevance of this correlation. In the following I will try to examine the various biological risks directly related to the displacement of people out of national parks.

The displacement by conservation forces hunter-gatherers to become farmers, because there is no unoccupied forest available to replace the land taken for conservation. Even if displaced people would be allowed to use certain parts of the forest for subsistence hunting and gathering, their sedentarization is a fact and has certain negative impacts on the environment:

- **Increased communication and trade**

It has been documented that “the expansion of national parks, game reserves and protected habitats - freed from human presence - has generally been accompanied by a declining of wildlife” (Galaty 1999:1). In the research region, conservationists but also informants from the rural population explained this decline with the increasing involvement of the rural population into the market economy. Displaced hunters in Gabon saw their increased economic desires as ample justification for an increase in hunting. This seems logic since the forest - whether protected or not - remains the main source for cash income, which is than used to buy the products brought in by traders.

- **Increased population density**

While the ‘traditional forms’ of land-use in Africa are considered to be sustainable (McKey et al 1993, Dove & Kammen 1997), the post-resettlement land-use pattern seems unable to fulfill these criteria. On the basis of several case studies in South Africa, Fabricus 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. People’s expulsion from biodiversity-rich areas led to their attitudes to conservation and conservationists becoming increasingly negative, with measurable increase in poaching and unprecedented incidents of natural resources being vandalized, often accompanied by land invasions” (Fabricius & de Wet 2002: 152, see: Timmermans 1999). It is a common impression that the displacement results in environmental degradation through an increase of permanent settlements (Colchester 1997) especially if one considers that soil erosion is
often higher in permanently used agricultural plots than under shifting cultivation regimes (Duncan & McElwee 1999).

- **Increased reliance on agriculture**

Environmental scientists have documented that the forest ecosystems in Central Africa were utilised in a sustainable way before the colonial encounter (Nabhan et al. 1991, Oldfield & Alcorn 1991, Novellino 1998, Abin 1998). Even the often-criticised slash and burn agriculture is considered in the literature to be the only environmentally sound way to produce food in an inhospitable tropical environment (Conklin 1954, Thrup & Hecht 1997). The process of resettlement ends this adequate and sustainable land-use pattern. “The typical resettlement scheme introduces a relatively closed and mature pattern of cultural ecology. In the place of biotic and social diversity, the settlement scheme brings uniformity of product and uniformity of producer with the instability to be expected from a system of low diversity and a high rate of productivity to biomass” (Palmer 1974: 241). This leads to land degradation and erosion (Kibreab 1991).

- **Increased social stratification**

This social impact has biological implications, because it leads to an increased harvest of forest resources. In a more or less egalitarian society, most people do not utilise the resources for anything beside of their daily needs. An increasing social stratification results in the capitalisation of resource for the storage of money or as an indicator for status and prestige (Fratkin et al. 1999). The European lust for ivory, which has been copied by the individuals installed as ‘traditional leaders’, had resulted in an increasing internal demand for elephant-tusks as sign of power (Oldfield & Alcorn 1991). Nowadays, cars and television sets have taken over that position as sign of power and wealth, but the sources for their generation has remained the same.

- **Breaking down taboos against hunting & gathering of certain species**

Resettlement from national parks “will 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 1999: 1). The reason for that can be seen in the fact, that the rural population can hardy see the ‘reason’ not to hunt key species such as elephants and gorillas, if they are no longer in direct ‘spiritual’ contact with them. In Equatorial Guinea, displaced people explained their increasing involvement in gorilla hunting with a reduced fear, that the evil spirit of the killed gorilla would search revenge at night, because the eviction from the park placed them outside the forest, “where the spirits can not rule” (PC).

- **Breaking down the system of traditional hunting & gathering territories**

As long as “wildlife is permitted to contribute meaningfully to their welfare people will not be able to afford to lose it in their battle for survival. If wildlife does not contribute significantly to their well-being, people will not be able to afford to preserve it“ (Child 1995: 232). The decision, whether one capitalises the wildlife dead or alive, is very much interrelated with the documentation of this relation. Even if the resettlers would
be ‘compensated’ for their reduced hunting, they will hardly see a need to follow the laws and regulations as long as the value of the wildlife and plants are not documented in detail.

Another factor is the missing control of areas, which do not belong to individuals or groups, but to abstract entities such as the state. People, who are using a certain area as source for their living, are quite concerned if outsiders start to hunt or gather there as well. Villages involved in community based conservation projects conceptualise themselves quite often as the ‘more effective rangers’ (Western 2002).

- Decreasing hunting & gathering zone rotation

“There is empirical evidence in which disruption of traditional arrangements that protected and regulated the use of common property resources, either by land reform or by extension of state ownership over previous ‘common’ resources have led to overexploitation of such resources because of their de facto conversion into open access” (Kibreab 1991: 20, see: Jodha 1986, Shepherd 1989). At first glance, this statement does not seem to make sense, but the bio-monitoring of several unprotected areas has documented, that the rotation stimulates wildlife and NTFPs to increase its productivity (Bennett & Robinson 2000). In their summary on sustainable hunting methods, Bennett and Robinson (2000) come to the conclusion, that ‘traditional’ conservation methods of rotation of harvest zones – supported by a scientific bio-monitoring, which establishes sustainable off-take levels – is seen as a more effective method of conservation of endangered key-species, than the ‘creation of unmanaged wildernesses’.

In general, it seems as if the resettlement process itself contributes significantly to the degradation of forest ecosystems. This is in line with publications on other ecosystems (Fabricius & de Wet 2002, Black 1998, Kibreab 1996 a+b). Whether the unavoidable biological impacts of resettlement have to be considered as tolerable side effect of conservation, or as impacts, which jeopardize the conservation goals is difficult to judge without further research. On the basis of a first glance at the biological impacts of resettlements from parks in Central Africa, it seems as if conservation and state agencies did underestimate the biological impacts. Due to that, it seems advisable to include something like a biological cost-benefit analysis into the planning of future conservation projects to provide all stakeholders with a detailed knowledge of the biological ‘risks’ of resettlement as conservation instrument besides of its social ‘risks’.

Conclusion

The paper has discussed the various risks resolving from the resettlement of inhabitants of national parks in Central Africa and has tried to establish some specific guidelines, how these risks can be mitigated. One can discuss the recommended rehabilitation measurements, but all parties involved have to accept, that all national parks in Central Africa have displaced or are displacing people. All stakeholders have to accept, that this displacement is by scientific and legal standards an involuntary resettlement and that the decision whether a resettlement is voluntary or involuntary is not related to the
existence of legal titles of landownership or land-use, but to the question, if the resettlers had the option to stay. In none of the case studies the inhabitants of protected areas had this chance to resist.

“Conservation is about controlling people and their environment. It is about exercising power over how people use land, and how they change their land use and how they lobby their government to allow them to change their practices. There may be powerful ethical reasons to try to make this process as inexpensive as possible, but it may be a project for which there are unavoidable expenses to be paid.” (Brockington 1999: 20/21) In the end the conservationists may say, that the costs arising from resettling inhabitants of national parks according to the proposed guidelines are too high, but it is unacceptable by all moral and ethical standards to free ride on the ‘underdeveloped’, ‘underprivileged’, ‘underrepresented’ inhabitants of the Central-African rainforest. While the inhabitants of natural parks agree in general to the principles of sustainability, their question is whether the costs are equally shared. Nobody beside of the inhabitants of national parks is forced to change his lifestyle for the “survival of mankind” and start a new life from scratches, but their requests for their share of development remain unanswered. As long as the costs are not equally shared, nobody can question their fundamental right to resist.

Despite their fundamental right to resist, it can be questioned if resistance leads to successful and sustainable solutions. To avoid lose-lose situations it is necessary to secure the well being of the people and the conservation of the rainforest ecosystem. Guidelines such as the World Bank Operational Directive for involuntary resettlements and the various procedures for impact assessments could possibly reduce the social and biological costs of individuals and groups and distribute the costs equally among all stakeholders. Whether the benefits are than still considered to be able to trade-off the costs is a political decision. The proof of the pudding will be in the eating.

Notes:

1 Earlier versions of this paper were presented at the International Symposium on “Multidimensionality of Displacement Risks in Africa” (Centre for African Area Studies, Kyoto University, Kyoto, Japan), November 23, 2002 and under the title “Environmental and Social Risks arising from Conservation related Resettlement Programmes in Central Africa” at the “International Symposium on Resettlement and Social Development” (Hohai University, Nanjing, P.R. China) May 12-14, 2002.

2 Remote sensing, which is the basis of all estimates on surface areas covered by forests or serving as wildlife habitat, is a quite new approach. Due to the fact, that satellite images are only available for the last twenty years, the data on the area covered originally by rainforest is 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. In the line of the work of Fairhead & Leach (1996) some scientists even raised the question, if the search for an ‘original forest’ is not a useless exercise, since the forest is at least to some extent the result of the human utilisation of the area.

3 It seems necessary to explain the categories utilised in table 2. I understand a displacement as success, when all parties involved are satisfied with the outcome of the displacement and the change of land-use patterns. Since the creation of national parks is considered to be an important contribution to the survival of mankind, the effectiveness of protection is as important as the well
being of the displaced population.

Toledo (1995) has calculated that an average peasant family in a rainforest area needs about 10 ha for subsistence.

This study covered 40 % of the total area under protection in the study region. The extrapolation presumes that on average the other protected areas have about the same social impact.

The total of table 6 is extrapolated on the basis of the surface area ration (study area : total protected area).

It seems necessary to mention that Igor de Garine (1993: 564) established on a survey of the time spend for the various economic activities among 3 ethnic groups from southern Cameroon (Yassa, Mvae and Kola) on the basis of 592 day observation the following distribution of time for food production: Farming 36.9 %, Hunting 36.5 %, Gathering 8.5 % and Fishing 18.1 % (my calculation on the basis of the published figures).

To transfer this cash income into total income, one has to include the quantity of game and NTFPs, which are used for subsistence. The ratio between outtake for cash and outtake for subsistence was assessed to be 56.96 : 43.04 (Schmidt-Soltau 2002).

Despite the problem to extrapolate on the basis of only three data sets available (all from the western part of the research region), I still do so, to give at least some estimates of the expected income losses. The problem already becomes obvious within these three data sets. The average per capita income from hunting and gathering of the inhabitants of Korup and Cross River National Park are higher than the average per capita income from hunting and gathering of inhabitants of the un-conserved Takamanda forest. This is related to the fact, that based on the shortage of NTFPs in Nigeria, the prices realised are more than 5 times higher than those realised in the un-conserved area. I will still employ the data set from the un-conserved area, because it seems more realistic for other remote areas far away from the ‘good’ markets in Nigeria.

Beside of the fact, that tourism is not as likely to be successful as tourism in East Africa with its open plains, also the missing infrastructure, starting from hotels & roads and ending with trained staff & security, is a hindrance for the establishment of tourism as income generating direct benefit from conservation activities. The political instability contributes to the disinterest of the international tourism industry to invest in the region, because “investments in tourism typically take 25 to 30 years to realise returns” (Fabricius & de Wet 2002: 158; see: Magome et al. 1999).

“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.” (Sullivan 1999: 10; see also Patel 1998).

“In the 70ties the wildebeest population in Tanzania increased due to conservation activities from 240,000 to 1,600,000 and became the biggest challenge to the Maasai livelihoods” (McCabe 1999: 12).

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