

Appendix 9. Views Synthesis

Chapter Four: Qualitative synthesis of people’s views about living in or near protected areas

This review synthesizes people’s views about their experiences living in or near PAs. It also draws on the perspectives of other stakeholders relevant to those experiences. A total of 29 relevant studies were identified. This chapter presents the synthesis of findings from these studies within a conceptual framework that was informed by conservation policies and refined by the emerging research literature (Figure 1).

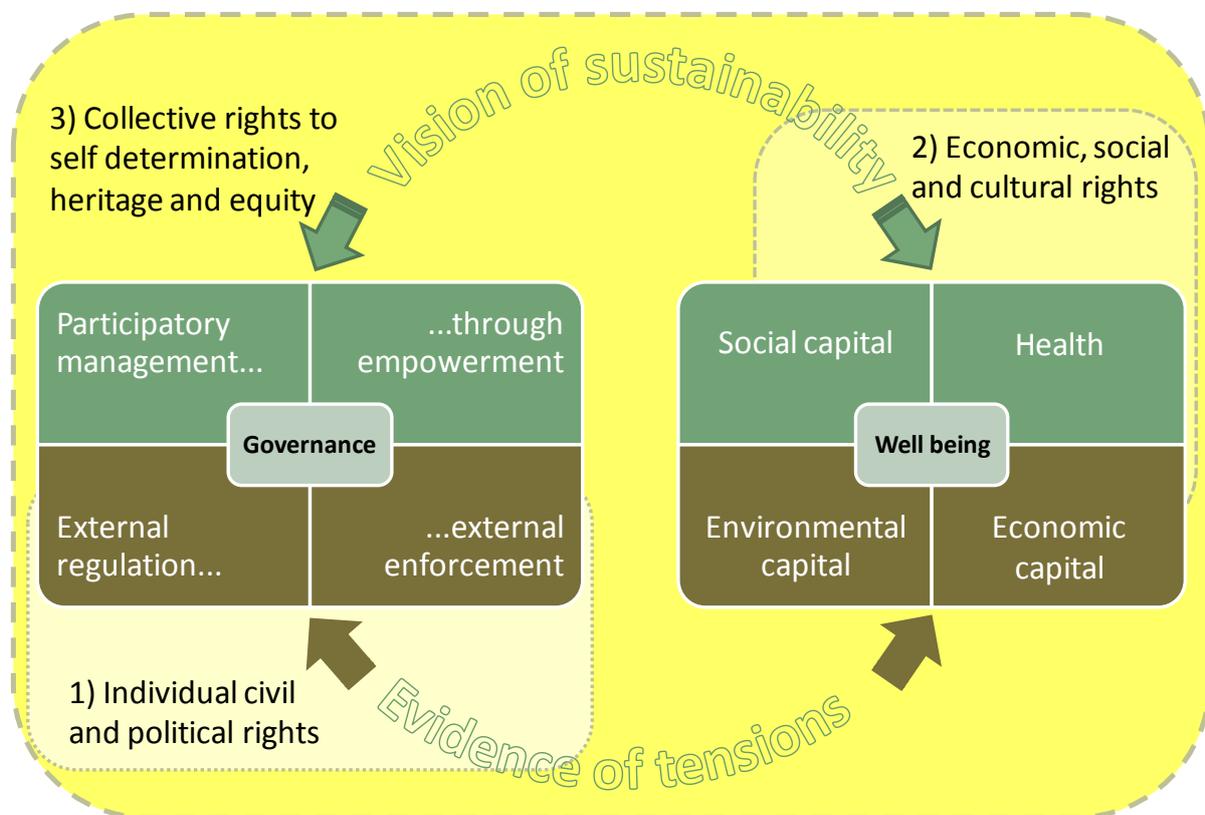


Figure 1: Conceptual framework for structuring the synthesis of people’s views about living in or near protected areas

This framework illustrates two contrasting approaches to terrestrial PAs. The first is governance models that are imposed and enforced by external authorities, and the second is participatory approaches such as community-based natural resource management (CBNRM). The latter has been developed in response to tensions raised by restrictions and resettlement having a deleterious impact on economic and environmental capital (agriculture, logging, tourism) and social well-being. Participatory approaches, within a regulatory framework, seek a vision of sustainability through building on social capital and good health. That vision of sustainability may be on a small scale, such as with IUCN category VI PAs, where the aim is sustainability within the boundaries. Alternatively it may be on a wider scale, across IUCN

categories I or II and the wider area. These models are set against a backdrop of an evolving consensus about human rights that began with protecting individual civil and political rights, followed by the support for economic, social and cultural rights and then setting these rights within a broader framework to harness the combined efforts of individuals, states and other bodies to build collective rights to self determination, heritage and equity (Vasak 1977). This synthesis aims to assess the extent to which these models and their anticipated impacts are supported by perceptions of impact on human well-being held by people living in or near protected areas and others working alongside them.

Twenty nine studies met the inclusion criteria. Of these, 25 were authored by academics. Three were authored by non-governmental organisations (Almudi et al. 2010; Diaw 2010; First People’s 2006); the study by Almudi et al. (2010) also had academic authors. One study was authored by an academic and a community development coordinator for a commercial organisation, an Ecotourism lodge with funding from the Critical Ecosystem Partnership Fund (Stronza and Gordillo 2008). The author of one study was a social scientist who also had responsibility for promoting a Biosphere Research project to local farmers (Gerritsen 2002).

The findings of these studies are presented below in sections that match the conceptual framework. For each section, summary findings are followed by the contextual details of each study described in terms of: IUCN Category, the date the PA was established, date of current PA status being assigned; time between current status being assigned and data collection. This presents a coherent narrative which explores key themes within governance (source of authority and nature of implementation) and then considers the impact on health and well-being in terms of environmental, economic and social capital.

4.1 Governance

There are four types of governance for protected areas: governmental managed (state governance), cooperatively managed (shared governance), privately managed (private governance) and community conserved (community governance) (Borrini-Feyerabend 2007). These do not distinguish in principle areas in which governance emphasises human rights and empowerment from those that do not. State governance can be delegated to private managers, the community, or NGOs. Shared governance can include government agencies, NGOs, local communities or the private sector. Private governance applies to land privately owned by individuals, cooperatives (such as a whole community), corporate bodies, or NGOs is set aside for conservation purposes. Community governance applies in areas in which the natural and cultural resources are managed by local communities and indigenous people for ecological, cultural, and economic benefit. All four types of governance were found within this set of studies (table 4.1).

Table 4.1: Types of governance applied to protected areas of different categories

	State governance	Shared governance	Private governance	Community governance	Information not found
Ib	1	0	1	0	1
II	10	6	3	2	14
IV	3	0	2	3	6

V	1	1	0	0	3
VI	3	0	1	1	0
Total	18	7	7	6	25

All four types of governance were found in studies of IUCN category II areas; three types of governance were found for IUCN categories IV and VI. Rich qualitative studies of these different approaches to governance are also even split between those collecting their data before and after the Durban accord (table 4.2).

Table 4.2: Types of governance investigated before and after the Durban Accord

	Date of study 1992-2003	Date of study 2004-present
State governance	9	9
Shared governance	4	3
Private governance	4	3
Community governance	2	3
Information not found	16	9

Most studies offer data about livelihood strategies (26 studies), environmental capital (21) and governance (21). Fewer studies offer data on social capital (13), human rights (12), wildlife conflict (8), empowerment (7), physical health (4) and safety (2), and mental health (1). Studies collecting data before and after the Durban Accord are fairly evenly split across these topics, although fewer post-Durban studies focus on environmental capital or human rights (Table 4.3).

This diversity provides a set of studies for seeking evidence about how governance is implemented in practice. To facilitate the recognition of any associations of governance with health and well-being, throughout all tables, studies are listed in order of: IUCN and date of data collection; where data were collected after the Durban accord, text is in bold.

Table 4.3: Data collected before and after the Durban Accord

First author	Governance				Capital	Economic capital			Health		Social & cultural rights	
	Pre Durban	Post Durban	Protected Area Governance	Empowerment		Environ-mental	Livelihood strategies	Wildlife conflict	Safety	Physical health	Mental health	Social capital
All studies			21	7	21	26	8	2	4	1	13	12
Pre-Durban studies	17		11	4	13	15	5	1	3	0	8	10
Post-Durban studies		15	12	4	9	14	4	1	3	1	6	4
Allendorf et al. (2007)	✓		✓	✓	✓		✓				✓	✓
Bolaane (2004)	✓		✓		✓	✓					✓	
Diaw (2010) ²	✓		✓		✓	✓						
Gerritsen (2002)	✓		✓		✓	✓					✓	
Herrold-Menzies (2006)	✓		✓		✓	✓						✓
Mbaiwa (2005)	✓		✓	✓		✓			✓		✓	✓
Nguiffo (2001)	✓		✓		✓	✓					✓	✓
Ormsby and Kaplin (2005)	✓		✓		✓	✓						
Slater (2002)	✓				✓	✓	✓					✓
Sletten et al. (2008)	✓		✓			✓						
Songorwa (1999)	✓			✓	✓	✓	✓				✓	✓
Spenceley (2007)	✓				✓		✓					
Stone and Wall (2004)	✓				✓	✓		✓				✓
Stronza and Gordillo (2008) ¹	✓			✓	✓	✓					✓	✓
Keskitalo and Lundmark (2010)	✓	✓	✓			✓						
Ogra (2008)	✓	✓			✓	✓	✓		✓			✓
Torri (2011)	✓	✓	✓		✓	✓			✓		✓	✓
Almudi and Berkes (2010) ³		✓	✓	✓		✓						
Bedunah and Schmidt (2004)		✓			✓	✓	✓					
Bruyere et al. (2009)		✓	✓			✓					✓	
Castillo et al. (2005)		✓	✓		✓	✓						
Davis (2011)		✓	✓		✓	✓						
First Peoples (2006) ²		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Hartter (2009)		✓				✓	✓					
Hoole and Berkes		✓	✓		✓	✓						

(2010)												
Lunstrum (2008)		✓	✓	✓		✓					✓	✓
Mehring et al. (2011)		✓	✓		✓						✓	
Milgroom and Spierenburg (2008)		✓	✓		✓	✓	✓				✓	
Yasuda (2011)		✓	✓			✓						

¹ conducted by a commercial organisation ² conducted by an NGO

³ conducted by an NGO with academics

4.1.1 External regulation

Evidence of people's attitudes towards external regulation was a focus of the findings of seven studies and can be summarised as:

- Residents' dissatisfaction with the external imposition of regulations was evident in protected area IUCN categories II, IV and VI; evidence relating to IUCN II was collected both before and after the Durban Accord
- Even when residents support conservation regulations, they objected to experiencing adverse consequences
- Regulations were imposed or 'negotiated' with locals lacking accurate information or understanding of the consequences
- Residents were often confused or unaware of externally imposed regulations, some of which were poorly crafted
- Residents were disappointed with informal communication processes
- Residents felt cheated or resigned into accepting externally imposed regulations; or powerless and resentful in the face of a corrupt government
- Externally imposed regulations were inconsistent with traditional regulations and did not take into account local variation
- Residents were reluctant to enter collaborative agreements with governments they mistrusted.

Table 12. Summary of findings of people’s views about regulations associated with PAs.

ICUN category	Pre-Durban Accord	Post-Durban Accord
Ia		
II	<p>Lack of success with a ‘fine and fence’ policy led to more participatory efforts... Authorities outlined in advance what was (non)negotiable... Community representatives were chosen for their age, wealth, education and position rather than practical relevant knowledge... Converting staff from law enforcers to community collaborative workers was difficult...Maps and by-laws in legal documents were inaccurate... People were characterised by their resource use not socially relevant criteria such as their ethnicity, kinship, location or wealth... Staff need socio-cultural skills... Misuse and corruption remained (Sletten et al. 2008).</p> <p>Support for government policy could be sincere, positive and respectful, or arise from feelings of powerlessness and resentment towards a government seen as corrupt (Allendorf et al. 2007)</p>	<p>Indigenous people respected their own traditional informal rules that suited traditional use rights and sanctions at the village level... New regulations about forest land and products drawn up by the mayor and customary organisation were neither written down, nor completely implemented... More prosperous and ethnically diverse villagers, growing more cash crops, referred not to traditional institutions but to economic power structures, where there was a widely spread laissez-faire attitude to resource use... Effective village sanctions were considered important, but confusion about when to apply them appropriately arose from discrepancies between state rules and local institutions. Migrants struggled to implement traditional informal rules, and indigenous people failed to obey state-induced laws. Some of these difficulties were attributed to the government’s indifference to cultural and social diversities when managing the Park... The village leadership was active in the negotiations... [but] many ordinary villagers had never heard of the agreements... Respect for the rules was greater where they were ‘more practical’ having been locally adapted, and allowed income-generating possibilities. (Mehring et al. 2011)</p> <p>Management of Kenyan national reserves is delegated to county councils. Even with management delegated to a local level, and rangers and wardens claiming to initiate and maintain dialogue, residents are disappointed with the processes of communication (Bruyere et al. 2009).</p>
IV	<p>[Residents of the Moremi National Park] were inaccurately perceived as nomadic by dominant ethnic groups and colonial officials. They forfeited their homes and offered their local knowledge to help establish the park, but without public recognition for their contributions. [They] felt coerced and cheated of their rights. (Bolaane 2004)</p>	

V	<p>'Traditional' hunting is allowed for personal use, but is poorly defined. Indigenous people who lost their land to forest protection, find themselves landless amongst other ethnic groups who claim ownership outside through long residency outside the protected area (Nguiffo 2001)</p>	
VI	<p>[Following limited participation], regulations for core and buffer zones created a sense of insecurity amongst farmers... because many of them did not understand the exact nature of the reserve's rules... The formal rules are generic and do not take into account local variation in natural resource management. These mismatches create feelings of frustration. (Gerritsen 2002)</p>	

In Nepal, 1997, residents of the Royal Bardina National Park, Nepal (ICUN II) supported the government policy of protecting forests (Allendorf et al. 2007).

“Open forest would be finished in one day. Now it is closed. People steal, but, at the same time, they are afraid [to steal].”

However, they would also like to see the government mitigate the adverse effects on residents:

“Animals and people are equal. The government must take care of wildlife, and it must also take care of us people”

Support for government policy from some residents was sincere, positive and respectful, but support from others arose from feelings of powerlessness and resentment towards a government seen as corrupt.

In Mount Elgon National Park, Uganda (ICUN II), as in other African countries, a similar ‘fortress management’ or ‘fine and fence policy’, based on systematic evictions, exclusions and prohibition of using natural resources, met increasing resistance. This lack of success prompted greater participation of local people in management and changes in regulations to legitimise sustainable use. Sletten et al. (2008) critically assessed the process and consequences of establishing Collaborative Resource Management agreements as a model of ecological modernisation in the Mount Elgon National Park. Their primary data, collected from household and key informant interviews and informal discussions with local people, park staff and IUCN personnel, were complemented by data drawn from relevant policy documents and reports. Although the findings were reported in detail, the voices of respondents were rarely reported directly.

Sletten et al. (2008) found that two-thirds of the communities participated (more men, and more education people), having heard of meetings from fellow villagers. Most (71%) attended only a maximum of three out of ten meetings, and 16% attended four or more, therefore limiting opportunities for information exchange between villagers and authorities. Most listened or answered questions; 5% had a more active role. The authorities had outlined the collaborative agreement in advance, including areas that were either non-negotiable or well below original levels of consumption, including access to some resources and harvest methods. Allowing villagers to choose which weekdays were named as legal collecting days was claimed by park rangers as proof of participation. Community representatives were chosen for their:

age, wealth, education and positions and not necessarily [for their] practical and relevant knowledge for the issues in question, as many of them [did] not even collect resources themselves... Moreover, the ordinary collectors [tended] to be less active in the process, as the ones most heavily relying on the resource [were] the ones least empowered and often also the ones that [believed] that they are not important in the making of the agreement (Sletten et al. 2008; p32-33).

Before Collaborative Resource Management agreements existed, reducing access prompted anger and deep resentment amongst local people who had perceptions of their traditional rights of access to the forest. A ban on resource use was widely flouted and led to civil disobedience. Residents were less concerned about the forest than lack of land, land disputes,

conflicts over grazing animals, drunkenness and social problems and health, theft and general poverty. Establishing the agreements was difficult even with guidelines and training for park staff; converting staff from law enforcers to community collaborative workers was difficult. Nevertheless, meeting locals and getting to know them improved relations. Some local people acknowledged that their initial reluctance lessened as they met staff and learnt more about the resource base; while a third did not participate at all. (Sletten et al. 2008; p32-33)

Once established, the agreement provided greater clarity over rights and duties, and opportunities for long term planning about livelihood strategies. However, as a legal document, the agreement was flawed as it failed to refer accurately to maps or related by-laws, statutes or other documents. (Sletten et al. 2008; p32-33)

Subsequently people were more positive towards the park, its resources and staff. However, as the focus was on the park rather than the community, people were sometimes organised according to what resources they collected, rather than by other socially relevant criteria such as ethnicity, kinship, location, wealth etc. Contrary to tradition, only people living on the park borders were given rights of access. The new outsiders were required to pay the 'insiders' for access, even though half the insiders thought outsiders should have equal rights of access. Conflicts arose from this situation and threatened the agreement's endurance. In such sensitive situations, staff need the socio-cultural skills to understand, interpret and interact with local people about livelihoods, conflicts and challenges in appropriate ways. Reports of misuse and corruption remained common. Nevertheless, collaborative arrangements improved relations and benefited biodiversity and livelihoods. (Sletten et al. 2008; p32-33)

The authors recommended an improved participatory process: (Sletten et al. 2008; p32-33)

- Facilitating long term social change where conflicting interests are addressed through existing local institutions and arenas
- Explicitly aiming to increase incomes and reduce costs for those involved
- Building on existing institutions, styles of thinking, sanctioned social relationships and experience based knowledge
- With public bodies and officials having better understanding and skills about institution building, local participation and working with complex processes of social change
- With a strong public acceptance in order to relinquish authority, resources and control to local bodies and civil society.

The Lore Lindu area in Indonesia was established as a UNESCO Biosphere reserve in 1977 and a national park (ICUN II) in 1993. Since then participatory approaches have been advocated for managing Biospheres (UNESCO 1996) and protected areas more widely (World Parks Congress 2003). Between 2006 and 2008 Mehring et al. (2011) interviewed Lore Lindu farmers, village authorities, members of non-governmental organisations and the National Park authority to investigate regulations and their consequences for conservation. They concluded that the state imposed regulations had not been successfully implemented in the past. Indigenous people respected their own traditional informal rules that suited traditional use rights and sanctions at the village level. Immigration was discouraged, and recent, poor immigrants were given small plots of land and no opportunity to adopt positions of leadership. Mehring et al. (2011) investigated regulatory institutions in two villages. In one, new regulations about forest land and products drawn up by the mayor and the

traditional customary organisation were neither written down, nor completely implemented. Although the regulations allowed the collection of forest products only for household use, some poorer households collected rattan to sell as a major source of income. There was inadequate monitoring and sanctions were rarely enforced. Elsewhere, more prosperous and ethnically diverse villagers, growing more cash crops, referred not to traditional institutions but to local market forces, where there was a widely spread laissez-faire attitude to resource use. With forest resources and agricultural land in short supply, villagers had no alternative to using the Park to extend their land. The State's formal rules interacted with traditional informal rules, leading to confusion and conflict. There was support for state zoning of the Park to allow traditional access to the forest for local people, but disagreement about the zone boundaries. Effective village sanctions were considered important, but confusion about when to apply them appropriately arose from discrepancies between state rules and local institutions. Migrants struggled to implement traditional informal rules, and indigenous people failed to obey state-induced laws. Some of these difficulties were attributed to the government's indifference to cultural and social diversities when managing the Park.

In the late 1990s, the Lore Lindu Park Authority, NGOs and village representatives began to negotiate Community Conservation Agreements. Within designated zones, village conservation councils were the bridge between the Park authority and the community for planning, implementing, evaluating and reporting the results of the Agreement. Despite the village leadership being active in the negotiations, and communication between the Park authorities and the whole community was poor, so many ordinary villagers had never heard of the agreements. The Agreements covered use of forest products and land and the village conservation councils were responsible for monitoring activities. The council could employ punishments or sanctions, which were usually based on village traditional rules. Insights into this system came from NGO interviewees. A collaborative management approach aimed to minimise the gap between the park management and the people, through participation of local inhabitants and integration of local rules. Respect for the rules was greater where they were 'more practical' having been locally adapted, and allowed income-generating possibilities.

Management of Kenyan national reserves is delegated to county councils. In the Buffalo Springs Nature Reserve, Kenya (ICUN II), even though management is delegated to a local level, and with rangers and wardens claiming to initiate and maintain dialogue, residents are disappointed with the processes of communication (Bruyere et al. 2009). Most of the protected area staff considered their informal word of mouth network sufficient for communicating with local communities about important management decisions.

“Of course we cannot conserve this wildlife without the help of these communities. There must be that, a good relationship between the park and the community. So we normally go to the [homes and villages], we have meetings with them, tell them that these resources are also theirs, these are their resources.” (Park ranger, p55)

In contrast, most community members thought that communication between the reserves and communities was limited or non-existent, where decisions were made without opportunities to provide input or ask questions.

Through interviews with local communities in the Moremi National Park, Botswana (ICUN IV), Bolaane (2004) constructed a history of settlements before the establishment of the park. For over two centuries BaSarwa communities had been cut off from their traditional land by other ethnic farmers, conservationists and mining companies. Although they evidently settled

in the area that later became Moremi National Park, they were perceived as nomadic by dominant ethnic groups and colonial officials. They forfeited their homes and offered their local knowledge to help establish the park, but without public recognition for their contributions. The BaSarwa people felt coerced and cheated of their rights.

“We agreed to move not because we were happy to move but were rather scared of the law... We lacked knowledge that we could refuse as we do at the moment.”

Villagers felt their negotiator:

“was cheated... No one could read and write at that time... If [he] was literate, he could have written down our agreement and that would have been testimony for our young generation.”

They did not realise that restrictions on hunting would require them to move out of the area, yet they were moved twice, which created great resentment.

“1964 brought changes and problems started, they took all our rights over wildlife. In 1969... we were told we can only have access to wildlife through paper [special game licence], this paper gave 10 kudu, 10 duiker, 10 wild pig, 10 impala, etc. for a whole year of subsistence. We were also told not to use traps nor wire but could use digwele [ropes] or rifles for hunting. We were told some hunting methods subjected animals to pain. Then the 1970s we saw Ramsden, the Game Warden, paying visits to our homestead, pretending to be our friend while he was assessing poaching. This led to more changes after his report that BaSarwa were finishing wild animals. The use of ropes for hunting was forbidden. Ready-made laws were imposed on us.”

“The animals now belong to the government, the trees, and all the land. We have to get paper to cut a tree down, and these things burden us.”

They subsequently accepted limited job opportunities within the tourist industry, and sold thatch to tourist lodges or baskets and other curios to tourists. In the mid 1990s the government established Joint Venture Agreements with tourist operators and local communities who were willing to sub-lease their hunting area and sell their hunting quota to a commercial safari operator. However, two villages held a profound mistrust of the government and resisted the offer. They feared the Joint Venture Agreement would not offer them greater autonomy or control over productive use of their natural resources, and the government was unwilling to encourage a different community wild-life based model.

In the Dja Wildlife Reserve, Cameroon (ICUN IV) a forestry policy was adopted in 1993 based on community participation in management with residents being entitled to personal, but not commercial, use of all forest products except protected species. A case study drew on interviews with residents, a review of the legislation and the author's observations to understand how residents perceive the constraints imposed by living near a protected area (Nguiffo 2001). Living and hunting was forbidden within protected areas, even by indigenous people who, in practice, continued to live semi-nomadic lives within some of them. ‘Traditional hunting’ was still allowed in the territories outside protected areas so long as the products were for personal use, and not sold. However, whether ‘traditional’ hunting referred to the people involved, the weapons employed, or some other characteristic was not clear. Only allowing ‘traditional’ weapons, depending on the definition, might outlaw common

traditional practices such as the use of snares (metal wire), arrows (steel tipped) or rifles. These regulations were incompatible with local custom, which not only allowed hunting, but revered elephant hunting. Similar contradictions between modern and customary law arose over land rights. Customary law recognises virtual ownership through use, but according to modern land tenure law, all land that is not held privately, belongs to the state. Thus, some indigenous people lost their land to the protected area and were obliged to move to areas where they found others who had existing customary claims.

Since the mid-1980s farmers in the Mexican Sierra De Manantian Biosphere Reserve, (IUCN VI) have only used forest products for domestic purposes, partly because of their bad experiences of commercial forest exploitation, and partly because of regulations associated with the biosphere reserve (Gerritsen 2002, p160). They actively manage natural resources, protecting trees to maintain water holes and irrigation for cattle, and maintaining a diversity of products. Although participation is considered key to the success of bio-reserves, there was no farmer participation for the first decade of the reserve's existence, and it remained limited or distorted by other interests. Few have been involved and only through consultation and implementation. Regulations for core and buffer zones created a sense of insecurity amongst farmers, with respect to accessing resources, because many of them did not understand the exact nature of the reserve's rules and regulations, which overlap with existing customary tenure regimes. Several farmers fear their land being confiscated, especially where it lies within the core zone. Very few farmers apply for resource use permits because the formal biosphere rules compete with customary rules. The formal rules are generic and do not take into account local variation in natural resource management. These mismatches create feelings of frustration:

“The reserve is like a beautiful woman whom you cannot touch. It does not do you any good. The hills are rich, but a poor man stays poor” (Gerritsen 2002, p205).

4.1.2 Enforcement

Evidence of people's attitudes towards the enforcement of regulations was found in eight studies (table 13) and is summarised as:

- Evidence of conflict over how regulations were enforced was collected from IUCN categories II and V, both before and after the Durban Accord
- A deep seated tension exists between conservation authorities and livelihood strategies for local residents
- This tension is exacerbated by the use of excessive force, corruption and discrimination
- Enforced migration has been justified by flawed economic arguments, and has coloured responses to subsequent invitations to join a community approach to wildlife management
- It has been achieved through burning homes and suspending all social services such as water supply, health facilities, shops, schools and communication services
- Relationships between authority staff and residents are damaged by absenteeism, lack of interaction with community residents, lack of staff training and unclear job expectations, and socioeconomic imbalance

- Problems were compounded by the lack of information about the conservation projects objectives and requirements with many of the local people's misunderstanding the restrictions
- Even basic human rights were contravened where self-interested authorities favoured their own ethnic groups and wealthy or powerful residents
- Informal contact between authority staff and residents is important for reducing mistrust

Table 13. Summary of studies presenting evidence of people's views about enforcement of PA regulations

ICUN category	Pre-Durban Accord	Post-Durban Accord
Ia		
II	<p>Forced migration and a violent confrontation prompted villagers to accept resettlement outside familiar territories, against the recommendations of earlier research... Economic arguments favouring resettlement were flawed, with excessively strong assumptions about tourism benefits, flood control, forest use, research discoveries, soil fertility and agricultural productivity. Enacting laws to drive resettlement closed down public debate. The integrated conservation and development plan failed. Villagers were left bitter and sceptical (Diaw 2010)</p> <p>Residents appreciated the forest protection and additional security and help offered to residents. Nevertheless they disliked being punished for entering or extracting resources from the park. They described fines, imprisonment, beatings and rape. Guards discriminated between residents, being more lenient with offenders whom they knew or with whom they felt an affiliation, such as ethnicity. Corruption was common. (Allendorf et al. 2007)</p> <p>Absenteeism, lack of interaction with community residents, lack of staff training and unclear job expectations and socioeconomic imbalance all damage staff relationships with residents... Informal contact is important in reducing mistrust. (Ormsby and Kaplin 2005)</p>	<p>A deep seated tension existed between those banning the cultivation of protected land and prioritising 'wildlife over people' (e.g. conservationists, researchers, and national park authorities) and the need to generate a livelihood.... Lack of clarity about where responsibility lay contributed to residents' anger, frustration and overall mistrust of authorising bodies in charge of conservation policies. (Davis 2011)</p>
IV	<p>When Botswanan communities were invited, in 1995, to take part in a new Community Based Natural Resource Management initiative in Moremi National Park, (ICUN IV), their response was coloured by their resettlement experiences when the Park was first established (Bolaane 2004).</p> <p>Their relocation had been against their will and their huts were burnt down as they got loaded into trucks for relocation outside the reserve. Residents were forced to relocate (for a second time) by the suspension of the provision of all social services such as water</p>	

	supply, health facilities, shops, schools and communication services (Mbaiwa 2005).	
V	The ban and uncertainty surrounding (poorly defined traditional) hunting led to tension and mistrust between locals and conservation agents... Problems were compounded by the lack of information about the conservation projects objectives and requirements with many of the local people's misunderstanding the restrictions. (Nguiffo 2001)	Conflict between fishers and park authorities were frequent and involved both violence and resource (Almudi and Berkes 2010)
VI		

In Nepal, the Royal Nepalese Army is responsible for guarding the Royal Bardia National Park, (ICUN II) and enforcing its rules and regulations (Allendorf et al. 2007). Residents are in favour of such protection, but would like to see improvements in enforcement. would like to see it done better. They also acknowledge the additional security and help offered to residents. This positive attitude is tempered by residents' dislike of being punished for entering or extracting resources from the park. They described fines, imprisonment, beatings and rape. Guards were seen to discriminate between residents, being more lenient with offenders who they knew or with whom they felt an affiliation, such as ethnicity.

“The... police consider [people in their own ethnic group]... People they know they try to let go, otherwise they take them [to the guard station].”

Residents believed that the government only listened to those who were wealthy and have power. As one man said,

“The government doesn't look after the poor, it has bad eyes.”

Corruption was common, with residents resenting park staff who export lumber for personal gain, while residents themselves are prohibited from collecting dead and fallen wood for household use.

“Everyone watches his or her own stomachs. The leaders only look out for themselves; they don't look out for the villages.” (Resident p37)

Ormsby and Kaplin (2005) identified four factors that negatively influence the relationship between the residents and park officials in the Masoala National Park, Madagascar (ICUN II): i) staff not being at their posts; ii) lack of interaction with community residents, iii) lack of staff training and unclear job expectations and iv) socioeconomic inequity. The socioeconomic differences between staff and residents were considered to be a direct result of the lack of employment opportunities in the area. For many residents the role of the park staff remained ‘unclear, misunderstood’ and ‘frequently perceived or actually functioning as law enforcers’ (p.162) leading the authors to stress the importance of positive interactions between park staff and local residents.

“At Masoala National Park, residents who were more familiar with Park staff viewed the staff as well as the Park more favourably than residents who were unaware of staff or who had had negative interactions with Park agents. Even informal contact has been found to be important in reducing mistrust between local people and PA managers” (Author conclusions, Ormsby and Kaplin 2005, p.162).

They make the following recommendations to help ensure the effectiveness of PAs

- Encourage ‘the highest level of community participation’ to include and go ‘beyond participation simply for material incentives’.
- Ensure ‘park goals are clear and that realistic benefits from the PAs are known by community residents’.
- Enable park staff to ‘have regular non-enforcement interactions with community residents’.

- Ensure park managers are ‘aware that stochastic environmental events may cause periodic increases in natural resource demands’. (p. 163, author conclusions, Ormsby and Kaplin 2005)

In Cameroon, the government attempted a forced migration when Korup forest became a National Park, (ICUN II) in 1985 (Diaw 2010). Plans for resettling villagers elsewhere were a pre-condition for ‘integrated conservation and development’. Although research had concluded that negotiations with hunters were required, that neither forced migration nor compensated migration would be ideal, and that partial resettlement should be achieved incrementally, the subsequent policy, based on ‘selective reading of the socioeconomic studies’, was for total resettlement without compromises. A violent confrontation prompted securing the agreement of villagers to early resettlement outside familiar territories, against the recommendations of earlier research. When their urban chiefs or elites were eventually involved, their resistance was overcome by agreeing on the sites preferred by the communities, but this was never implemented. Energy for resettlement dissipated and ultimately only the residents of one small village were moved. The experience was unsatisfactory all round, for the project, the government and villagers, and a later review questioned the evidence of the hunting threat.

A participatory ecological assessment in Korup National Park by Diaw (2010) refuted the official description of the villagers as hunter gatherers who were depleting the forest, and they concluded that the economic argument favouring resettlement was based on excessively strong assumptions about tourism benefits, flood control, forest use, research discoveries, soil fertility and agricultural productivity. Enacting laws to drive resettlement closed down public debate and resulted in an integrated conservation and development plan that failed. Villagers were left bitter and sceptical:

“We wanted to support the KNP, because we had seen that they would bring development. According to the Master Plan, they have failed us. We have no water, no light, no road; we have only one thing, a community hall. They promised a school, teachers, but nothing! They had a generator in 1991, but it lasted only one week. We also have street lamps since 1991, but they have never been functional. There is no structure, nothing!... We are praying that God Almighty will help us.”

“We are dying here with empty bellies, while we are the custodians of this forest. If it was the [Cameroon Development Corporation, founded in 1945 to develop agro-forest plantations,] which had entered here, we would have been better [off]. So, I don’t know why Korup is disturbing us, disturbing our peace. They don’t employ our children. Even their porters, they bring them from elsewhere, from the roadside. Give a little bit of respect to the owner of the house. Would you want someone to come and humiliate you in your own house? We have surrendered a thing to you, why can’t you develop us? I am developing you, why can’t you develop me?”

“Even if we accept resettlement, we will get no land. The land is already occupied... To move to a new land, you cannot move your property; it is too heavy. We prefer that you divide the land. The government takes its part; we take ours.”

When Botswanan communities were invited, in 1995, to take part in a new Community Based Natural Resource Management initiative in Moremi National Park, (ICUN IV), Bolaane (2004), their response was coloured by their resettlement experiences when the Park was first

established (Bolaane 2004). Their relocation had been against their will and their huts were burnt down as they got loaded into trucks for relocation outside the reserve. Residents were forced to relocate (for a second time) by the suspension of the provision of all social services such as water supply, health facilities, shops, schools and communication services (Mbaiwa 2005).

Davis (2011) conducted her research in 2006, during a time when, although loosely enforced, farming was banned in the Simanjiro plains of the Tarangir National Park, Tanzania (IUCN II). Group interviews with residents living in the region revealed a deep seated tension between those identified as responsible for banning the cultivation of protected land and prioritising 'wildlife over people' (e.g. conservationists, researchers, and national park authorities) and the need to generate a livelihood.

"We are standing up alone... we are many. They [the leaders] are few. So we can all be together. We don't want this. But it's hard because we think they've already sold our village." (Maasai elder woman, interview, Simanjiro).

"I heard the head of the district coming. Do you know why and what can he do? We the women are going to stand up and tell him "Do not sell our land!" "

The author indicated that it was not clear to residents who was enforcing the ban on farming with some seeking to lay responsibility with "local governments for 'selling their land to greedy higher-ups'" of that the letter informing them of the ban had in fact come from conservation organisations and not regional government. This lack of clarity was seen as contributing to residents' anger, frustration and overall mistrust of authorising bodies in charge of conservation policies.

The ban and future uncertainty surrounding whether the local community of the the Dja Wildlife Reserve, Cameroon (IUCN IV) can hunt game has led to tension and mistrust between residents and the reserve's conservation agents in Cameroon (Nguiffo 2001). Again, similar to previous studies, there is the threat of being caught engaging in illegal activities.

'At present it's difficult to hunt game there. If the agents catch you in the forest with bags, they search you, and if they see you've got meat, they arrest you'." (p208).

"When I go to Mabé, it takes me about two or three days to walk there. There is a big river. I cross it to hunt the buffalo. I must also watch out that the project agents do not catch me' (Nkoumto Emmanuel)." (p209).

These issues, according to the authors, have been compounded by the lack of information about the conservation projects objectives and requirements with many of the local people's misunderstanding the restrictions. For example some report 'that hunting is forbidden in the reserve', while 'others say it is access to the reserve that is forbidden' and others still, report that "hunting is forbidden 'everywhere' and that 'if you are seen with game, it'll be taken off you" (p.207). Report cases of meeting enforcement agents on patrol in the forest which culminated in locals having their cargo searched only reinforces "the belief that their future is under threat" (p.208) which in turn, "reinforces their belief that everything that happens does so with the support of the local authorities" (p.208).

Almudi and Berkes (2010) reported conflict between fishers and park authorities in Brazil's Peixe Lagoon National Park (IUCN V) were frequent and involved both violence and resource loss. The fishers explained that,

“the enforcement staff used to arrive already pointing guns towards us” (Middle-aged fisher, representative of his village).

“Park creators arrived here like you... saying they were just doing research... when we realized, officials appeared saying that a Park had been created” (Middle-aged fisher from a beach village).

The authors recommended that to avoid this kind of conflict and violence between park authorities and local people ‘participatory structures should ideally be established at the planning stage’ (p.226) of establishing protected areas.

4.1.3 Empowerment

Evidence relating to people's perceptions of empowerment was found in twelve studies (Table 14) and is summarised as:

- Evidence of empowerment, or more the lack of it, was collected from IUCN categories II, IV, V and VI
- Successful examples of empowerment were found in category V and VI parks which benefited from NGO financial support, both before and after the Durban Accord
- In one community based wildlife management park, only 1% felt empowered and free to air their views; in another, discrimination was common
- Residents have local knowledge and problem solving skills that are valuable for shared governance
- Working around existing kinship networks led to higher states of economic development
- Culturally sensitive external support extended communities' skills and knowledge and income generating strategies and ability to share new skills and knowledge with the next generation and other residents
- Residents have learnt the value of self-dependent communities through working together, rather than relying on outside organisations or the government
- Transformation from conflict to cooperation is dependent on external funds from NGOs and donors, which raises questions about the project's sustainability
- Where financial support was used as a temporary inducement raised expectations were not met and community interest was lost; elsewhere residents were misled about the purpose of a programme
- A lack of empowerment comes from insufficient support for developing community organisational capacity and leadership; and a lack of basic knowledge on laws and rights
- Community management may not be sustainable in the context of financial and political instability

Table 14. Summary of articles presenting evidence of people's views about empowerment related to PAs.

ICUN category	Pre-Durban Accord	Post-Durban Accord
Ia		
II	<p>Residents who have participated in community groups learnt from NGOs the value of self-dependent communities through working together, rather than relying on outside organisations or the government (Allendorf et al. (2007).</p> <p>Community development was seen as essential for encouraging care of the environment, but it is not clear whether these were the intangible benefits of community development or the material benefits (Ormsby and Kaplin 2005)</p>	<p>The authors of the case study of the Batwa people evicted from the Mghinga-Bwindi park reported that successful transition from forest to farmland largely depended on the level of culturally sensitive support from external agencies that took into account the particular pressures on a people forced into a new lifestyle of settled farming communities. Communities supported by external agencies reported extending skills and knowledge and income generating strategies and transferring new skills and knowledge to the next generation and other residents (First Peoples 2006)</p>
IV	<p>A community owned wildlife hunting and photographic safari camp was established with a quota system for game hunting entitled local communities to manage and utilize wildlife for their benefit. Immigrants were attracted by employment opportunities through safari companies and a market for baskets. Government officials endorsed a deed of trust once it was agreed that all communities living in or near the Park were entitled to become members of a Community-based Organisation (Bolaane 2004)</p> <p>Where residents were neither informed of nor invited to participate the authors conclude that the opportunity was missed to include them as co-partners in the management of the conservation and make use of their knowledge of the reserve and its surrounding areas to monitor the activities of outside agents within the reserve (e.g. in the fight against poaching and illegal logging. (Nguiffo (2001)</p> <p>In a community based wildlife management, decisions were made democratically at village assemblies, by traditional chiefs or on the recommendation of donor agencies... Incentives such as meat, employment help with small start projects were inducements or 'door openers'... Communities were more interested in benefiting from natural resources than in conserving them... Lack of interest</p>	

	<p>resulted from raised expectations not being met, more costs than benefits associated with the programme and lack of trust... One percent believed it had empowered them and their households as they now felt free to air their views (Songorwa 1999)</p> <p>Slater 2002 raised questions about the sustainability of community management where there were disagreements within the community, financial instability within the park management organisation and political instability more widely.</p> <p>Mbaiwa (2005) saw promising signs for community management where community control was delayed until the government conditions of ensuring equity amongst different ethnic groups were met.</p>	
V	<p>Land-poor farmers struggled with nature reserve managers over rights to land, fishing and hunting; they protested and were violent towards reserve employees. The arrival of western donors and NGOs in 1993 changed the focus from enforcement of resource regulations towards small-scale community development and outreach programmes. Farmers now work cooperatively with the reserve to seek resolutions to their own problems, sometimes taking the initiative to raise issues about road construction, sanitation improvements, and agro-forestry projects. The transformation from conflict to cooperation has been dependent on funds from NGOs and donors, which raises questions about the project's sustainability (Herrold-Menzies 2011).</p>	<p>Fishers' lack of empowerment was due to a lack of: assistance for developing community organisational capacity and leadership; and basic knowledge on laws and fisher rights. (Almudi and Berkes 2010)</p> <p>Empowerment could be derived from land titles where land values increased exponentially, on a park's margins, benefitting residents materially and empowering them by the process of acquiring land titles and setting boundaries (Lunstrum 2008).</p>
VI		<p>Empowerment for the Awa people proved to be a double-edged sword, at once instilling pride and a sense of ownership but also a new knowledge of the commercial value of the forest which led to some covert dealings with industrial loggers for short term gains. Awa people who participated in non-forestry courses such as legal and constitutional rights, effective leadership and conflict resolution reported a sense of heightened confidence in their abilities First Peoples (First Peoples 2006)</p>

Residents who have participated in community groups convened by NGOs recognised that such groups have benefited in meaningful ways from the establishment of Royal Bardia National Park, Nepal (IUCN II) (Allendorf et al. 2007). They learnt from NGOs the value of self-dependent communities through working together, rather than relying on outside organisations or the government.

Masoala National Park (IUCN II) was established in Madagascar as an integrated conservation and development project (ICDP), with several NGOs involved in park research and conservation initiatives and a development NGO overseeing park management, particularly community development efforts. Residents were confused by the different NGOs' responsibilities and changing priorities. A park manager and a local town official both considered community development as essential for maintaining a protected area. There was local support for protecting the park by providing community benefits through alternative livelihoods (Ormsby and Kaplin 2005).

'If people don't have benefits, they won't change their behaviours' (town official)

However, it is unclear from this whether the benefits essential for behaviour change were the intangible empowerment benefits of community development, or the material benefits.

The authors of the First People's Batwa case study describe the experiences of the local people of the Mghinga-Bwindi National Park (IUCN II), Uganda following their eviction. Just over half of the families who were evicted were awarded alternative land due to a shortage of government funds and those that were lucky enough to be awarded land were not awarded title to it. Authors report that the people who were supported from their transition from a hunter gatherer to a settled farming community in a culturally sensitive way were more likely to report satisfaction and personal efficacy. Training and capacity building by charities and NGOs led to an increase in skills and knowledge and new income generating activities. Two NGOs working with local people helped to organise efforts around existing kinship networks and this community reported the highest states of economic development compared to other communities. At the other end of the scale these communities were willing to sacrifice their land claims to join relatives in other areas and access charitable projects there leaving the settlements struggling to maintain a viable community. The Landless fared less well and were forced into day labour, often in exchange for food and restricting their ability to cultivate their own land.

A Community-Based Wildlife Management programme was recommended to the Tanzania government following the failure of the fences and fines approach which aimed to stop the problem of poaching which had become rampant across Tanzania, however it failed to take into account the interests of the rural communities (Songorwa 1999).

The programme was implemented in the Selous Tiger Reserve (IUCN IV) and reasons for joining the programme varied across the communities. Whilst some decisions were made democratically at village assemblies, others were made by traditional chiefs and some were made on the recommendation of donor agencies. In cases where communities were suspicious of the programme, incentives such as meat, employment help with small start projects were all offered to encourage them to accept. Interviews with villagers revealed that the communities were more interested in collecting revenues from wildlife and other natural resources and having legal access to them than in conserving them (Songorwa 1999).

This view was backed up by interviews with programme officials who revealed that it was easy to get the communities to accept the programme with such incentives and that they were only to be a “door opener” meant to win confidence from the communities:

“After all at that time the village was very small, so when the programme came to the villagers knew it was a good opportunity for them” (Songorwa 1999 p.2066).

“When we saw that our objective had been achieved and that the people trusted us, understood the aim of the programme and had started being confident and carried out their responsibilities, we decided not to continue with that component” (Songorwa 1999 p.2066).

However, some staff admitted that local residents did not understand the purpose of the programme:

“They know the programme is about their development”

“They think that this is a source of income”

“The villagers do not know but they are ready to accept what they are directed to do. At this stage many of them knew that this programme is for them to get meat, that is all”

“Many think it is a cropping programme... I mean they do not know the objectives of the programme:

“You cannot give [a villager] a goal to protect the [Park]. He will not understand you.”

The authors concluded that major decisions were made without full participation of the relevant communities and that encouraging villagers’ misconceptions about the programme was a deliberate ploy. They saw residents’ decision-making powers restricted in areas of justice, the scouting patrol programme, projects’ banking and access to land. They anticipated the programme failing in light of unfulfilled promises, costs to the community, lack of ensuing benefits, declining government financial support and increasing poverty.

Findings were mixed with regard to whether the communities supported the decision to have a wildlife conservation project. In areas where education and mobilisation campaigns had been conducted and benefits were beginning to be derived; findings suggest that the majority of villagers supported the project. This was also a view shared by some program staff members. However there was some opposition mainly in those areas where villagers were still engaged in poaching and benefiting from it. Also, some officials and program staff believed that only a minority supported the program. The majority did not care and did not participate as evidenced by the poor attendance at program-related village meetings. An official reported:

“{there] are those who say ‘let them do whatever they want but in the end they will leave and I will continue with my business” (Songorwa 1999 p.2067).

This lack of interest resulted from raised expectations not being met, more costs than benefits associated with the programme and lack of trust. Villagers reported that the programme had brought no benefit at all and that the program failed to deliver what it had promised. Only one percent believed it had empowered them and their households, as they now felt free to air their views (Songorwa 1999).

The case study of the creation of the Dja Wildlife Reserve (IUCN IV), Cameroon revealed that the local people “were neither informed of nor invited to participate” (p.208) in their village becoming part of a protected area. Nguiffo (2001) “They also maintain that they were informed later (without being able to give a precise date) of the existence of a conservation initiative by the authorities and the Central African Forestry Ecosystems project personnel. (p208)”. The authors conclude that the opportunity to include the villages living inside the PA as co-partners in the management of the conservation was a missed opportunity that could have ensured the success of the project, including making use of the villagers’ knowledge of the reserve and its surrounding areas to monitor ‘the activities of outside agents within the reserve (e.g. in the fight against poaching and illegal logging” p.210)

What we know about the establishment and management of the Moremi National Park (IUCN IV), Botswana comes from two studies: a history of settlements around the Moremi National Park (Bolaane 2004) and a document analysis and household survey (Mbaiwa 2005). A predominantly foreign owned tourist industry grew around the park from the 1980s and conflicts arose as local residents yielded little benefit from its establishment. In 1995 an invitation was issued to local communities to take part in a new Community Based Natural Resource Management initiative. The programme had the dual aim of reducing poverty among rural communities and encouraging wildlife conservation. The entire region was divided and then subdivided into small administrative units, and a quota system for game hunting entitled local communities to manage and utilize wildlife for their benefit. Some groups distrusted the government in light of their resettlement experiences when the Park was first established (Bolaane 2004) (see above, in section on regulation). Immigrants were attracted by employment opportunities through safari companies and a market for baskets. Divisions between different groups seemed to become more pronounced with the inflow of money from tourism. One ethnic group attempted to secure exclusive rights to land through a deed of trust, but government officials would only endorse the agreement once it was amended to recognise that all communities living in or near the Park were entitled to become members of a community-based organisation. Some groups feel they have been discriminated against, especially in access to land, which has since been leased to white operators, generating a large amount of money for the government. Moreover, some safari operators have a history of not treating particular local casual labour well, simply because they want to exclude the people from the land.

Bolaane (2004) questioned the sustainability of this policy and recommended community participation in wildlife utilisation of the reserve itself. Mbaiwa (2005), however, saw promising signs in the area where the programme had been delayed until the government conditions of equity amongst different ethnic groups were met. In 1998, before the implementation of the programme, 94% of households noted that they had no role in policy making with regard to wildlife use and management and so felt no need to conserve local wildlife. At the same time, 72% would not promote tourism because they saw no benefit to themselves, only to safari operators and central government. Two years later 61% of households supported the existence of local wildlife resources; and they saw a role for themselves in decision-making about wildlife use and tourism. Indeed, 84% supported

tourism because of the economic benefits of meat, income and employment from the community-based tourism initiatives.

After studying the impact of regulations imposed by the establishment of Qwaqwa National Park (IUCN IV), South Africa, on households and livelihoods, Slater (2002) raised serious doubts about the potential for sustained participatory conservation. The park had been established for the purpose of ecotourism; however, this did not suit the livelihoods of stockholding families and others would have preferred the land to be subdivided for agriculture. Amongst all this disagreement, some residents were better able to make their voices heard. Moreover, there was financial instability within the Park management organisation and political instability during South Africa's transition to democracy. No stable, democratic and participatory solution for managing the Park was in sight.

In a study entitled 'From adversary to partners', Herrold-Menzies (2011) chronicled the fate of Chinese peasants through an ill-advised draining of a lake, the loss of rich agricultural land as it was partially reinstated without warning and the subsequent declaration in 1985 of Caohai Nature Reserve (IUCN V), China for the protection of black-necked cranes. Although people were allowed to remain, their economic activities were restricted and practices that helped to sustain livelihoods were criminalised. Land-poor farmers struggled with nature reserve managers over rights to land, fishing and hunting; they protested and were violent towards reserve employees. The arrival of western donors and NGOs in 1993 changed the focus from enforcement of resource regulations towards small-scale community development and outreach programmes. These included small grants and a micro-credit programme for farmers to start up microenterprises in the hope that they would be less reliant on the reserve's natural resources, infrastructure development, environmental education, a community based natural resource management programme, and school fees for girls from poor families. This involved two employees who had extensive prior experience of working with farmers, and required extensive training in community development, gender issues and a variety of participatory methodologies. The result was many fewer hostile confrontations between local people and nature reserve managers, the participation of local people in conservation activities and farmers contrasting the nature reserve's concern for local people with the indifference of corruption of other government agencies. Many residents said that the only government meetings people bother to attend are those convened by the reserve.

“We can speak honestly and openly with the nature reserve, but not with government”. (p48).

Farmers now work cooperatively with the reserve to seek resolutions to their own problems, sometimes taking the initiative to raise issues about road construction, sanitation improvements, and agro-forestry projects. The transformation from conflict to cooperation has been dependent on funds from NGOs and donors which raises questions about the project's sustainability should funding cease.

Another successful example of cooperative management was on the boundaries of Limpopo National Park (ICUN II/V), Mozambique park where land values increased exponentially. With the support of an NGO residents thrived, benefitting materially from land titles, revenues and empowered by the process of acquiring land titles and setting boundaries (Lunstrum 2008). (For more details see the section on access to land below).

Almudi and Berkes (2010) investigated the relationship between a local fishing community and officials responsible for the creation and maintenance of Brazil's Peixe Lagoon National Park. They took a particular interest in the factors that could empower local fishers to 'defend their rights to remain physically within the park and politically in the conservation policy process' (p.220).

When exploring the fishers' experience of the Peixe Lagoon Fishing Forum, an arena designed to 'facilitate dialogue between fishers and National Park administrators' (p.224) they found that fisher communities struggled to participate in discussions essential to securing their 'long-term access to the resources for their livelihoods or to trigger the development of a PA co-management arrangement' (p.225). The following quotes were provided as examples of the fishers experiences:

"There is nobody to help us make our points; there is not much we can do by ourselves... we go to the meetings but it is like when a bad team plays against a good... you already know who will win even before the match starts" (Middle-aged fisher from a beach village).

"it all depends on what the big guys decide" (Elder fisher member of the Labour Union administration) and one of their lies is worth a hundred of our truths" (Middle-aged fisher from Tavares city).

"Our representatives are just like any of us, they don't have the skills to negotiate with people... They can't do much, but I understand it is not their fault. . . They are big, we are small." (Middle-aged fisher from Tavares city).

The authors summarised two of the main barriers contributing to the fishers' lack of empowerment as: weak assistance for developing community organisational capacity and leadership; and lack of basic knowledge on laws and fisher rights. They recommended replacing politicians, who had been acting as representatives for fisher in negotiations with the National Park, with leaders from the communities to enable mobilisation around common goals e.g. long-term access to resources, participating in fisheries management and rights to transfer fishing licenses to children. This was also expected to 'enhance organisation, leadership and a sense of community cohesion necessary for collective action to achieve such goals' (p226). They also recommended ensuring that appropriate bodies and institutions inform local communities and share relevant information on 'environmental issues and sustainable use practices' (p.226) including how fishers can improve their market opportunities.

The First People's case study of the Awa People Forestry Programme described a project designed to give control over forest resources to the communities living in the Awa Forest Reserve (IUCN VI), Ecuador and limit the activities of the industrial loggers in the area. While the Indigenous people were able to take control of the assets of the forestry programme and reported a sense of pride and ownership as a result; many were frustrated over the slow pace of the project, the high start-up costs involved and the lack of increased income that was expected This frustration led to an unintended consequence of some members resorting to selling timber to industrial loggers outside of the community for short term gain. This no doubt contributed to the increased knowledge of the commercial value of the forest, a change in the Awa's cultural view of the forest as an insurance policy against

emergencies. The real costs of empowerment (control of the forest assets) were deemed to be too high or poorly understood.

“Of every \$1 brought in by the sale of our wood, 50 cents of it goes to the [community federation] Why don't they just give us the resources we need to prepare our own [forest harvesting] plans to do it ourselves”

4.2 Well-being

UNEP's interest in well-being is articulated as socio-economic assessments, livelihood strategies, social capital, and access to ecosystem services and natural resources essential for well-being. These are addressed within our framework first as part of the governance framework, where basic individual political and civil rights intersect with authorities' framing and enforcement of regulations, second as part of health and environmental, economic and social capital.

4.2.1 Environmental capital

Appreciation of the environment:

Evidence of people's appreciation of the environment was found in seven studies (Table 15) and is summarised as:

- Appreciation of protected areas other than for economic benefit was found in IUCN categories II, IV and VI; including both before and after the Durban Accord
- Communities in Mexico and Nepal appreciate protected areas for their aesthetic, environmental products, economic opportunities and spiritual values
- Communities feel a strong affinity to the land, and conservation measures can be perceived as a threat to their environmental capital
- Conservation competes with livelihoods, and residents can feel threatened
- It was promises of socioeconomic benefits that motivated participation in that motivated participation in a Community-based Wildlife Management Programme
- Resettlement has been perceived as unnecessary and detrimental to the community with some resettlement policies

Table 15. Summary of articles presenting evidence of people's views about appreciation of the environment

ICUN category	Pre-Durban Accord	Post-Durban Accord
Ia		
II	<p>The 'integrity' of the park was the highest value in the eyes of the conservation biologists who made the policy... For the people, the highest value was social continuity and integrity of social identities. A resettlement policy was driven by scientific myths of a pristine forest whose protection was incompatible with indigenous residents. Yet historical analysis shows that the forest had been sustained for centuries (Diaw 2010)</p> <p>Residents recognised that conserving the park and wildlife is valuable on an individual, local, national and global scale for economic, educational, recreational, aesthetic and environmental reasons, and for future generations. However, they lament the economic limitations imposed by restrictions on access, extracting resources and grazing, and the dangers of wild animals. (Allendorf et al. 2007)</p> <p>In Madagascar, residents valued the forest as a source of water for growing rice (Ormsby and Kaplin 2005).</p>	<p>Indigenous residents identify with the National park culturally and spiritually, and value the protection it offers against flood and erosion. The immigrant population values the land for its cash crops. Nevertheless, it is poor indigenous residents who sell their land outside the park to migrants and wealthier indigenous residents, then clear the forest within the park for themselves (Mehring et al. 2011)</p>
IV	<p>It was not an interest in conserving wildlife that motivated participation in a Community-based Wildlife Management Programme but promises of socioeconomic benefits (Songorwa 1999)</p>	<p>Mexican families favoured nature conservation for its aesthetics, balance of nature, future business opportunities and for future generations. However, these positive attitudes were lost when ecosystem conservation competed with productive activities such as cattle ranching or growing imported varieties of fruit, or with personal safety.</p> <p>They would have liked the biological research station to address local problems and were unclear about the purpose of the NGO administering the PA. They were critical of a programme for promoting economic activities (particularly tourism) whilst maintaining ecosystems. They thought a consultation ignored local people's ideas because policies favouring tourism and rich land owners had already been decided (Castillo et al. 2005)</p>

V		
VI	A range of Mexican farming styles have developed along the spectrum of reciprocal relationships between man and nature (co-production) between wilderness and urbanisation. The farmers value the land for its provision of food, water, wood and other products. (Gerritsen 2002)	

Appreciation of the natural world and attitudes favouring conservation have been heard from communities living in or near PAs categorised as IUCN II, IV and VI. Allendorf et al. (2007) explored the relationship between residents and Nepal's Royal Bardia National Park (IUCN II). Residents recognised that conserving the park and wildlife is valuable on an individual, local, national and global scale for economic, educational, recreational, aesthetic and environmental reasons, and for future generations.

“Tomorrow's generation will not be able to see wildlife that we can see now. How many animals are already finished? Let us talk about rhinos. We know how rhinos look, we have seen them, but in our children's time, how will they know how rhinos are? They will not know except from books.” (p36)

However, they lament the economic limitations imposed by restrictions on access, extracting resources and grazing, and the dangers of wild animals.

“The only problem is that [wildlife] eat fields here. Otherwise, the park is good. It is good to take care of the wildlife. Different types of animals are here, which we can see them. It is good. The park has done nothing to us and jungle is everywhere. We have firewood, we have everything. For bathing, there is the river. The park is not difficult for us, except that the rhinos are nearby and come to eat the fields.” (p.36, Resident)

“The park is the Government's, People can't kill wildlife... I love the animals... However, there is damage to fields [from wildlife]. We should be far away so that we do not disturb the animals.” (p37 Female resident)

Analysis of an abandoned resettlement policy in Korup National Park (IUCN category II), Cameroon (Diaw 2010) found that cultural ideologies and clashes of values were the crux of the problem.

“The ‘integrity’ of the park was the highest value in the eyes of the conservation biologists who made the policy... For the people, the highest value was social continuity and integrity of social identities” (Diaw 2010, p235).

The main impacts of the policy were the ‘high financial costs and dramatic erosion of social capital’. Diaw (2010) concluded that the resettlement policy was driven by scientific myths of a pristine forest whose protection was incompatible with indigenous residents. Yet historical analysis shows that the forest had been sustained for centuries. In the words of community leaders:

“We have clean water, no epidemic, no type of disease because of the way we managed our forest”.

“The clans know their boundaries; boundaries you can't cross. Sometimes, you have a pool full of fish; people make the commitment not to fish for a certain period, until [the fish] is big enough. Even the animals, not all are hunted; there is a period for hunting. They have nets; when you make a capture, a share is given to everybody. All these things were done. People had the mango, the njansang... All were protected by users”.

In Madagascar, residents valued the forest as a source of water for growing rice:

‘the Park is important because rain comes from there and arrives in the rice fields, but only when the forests are not cut down.’ (Ormsby and Kaplin 2005).

People living near a wildlife reserve in Kruger National Park (IUCN II), South Africa considered the benefits were not sufficient to offset their costs, and certainly not sufficient to encourage conservation of wildlife or the protected area in question. Rather than environmental benefits, they would have preferred socio-economic benefits such as employment, money, compensation for damages, more tourists and improved communication with protected area stakeholders.

Lore Lindu National Park in Indonesia was studied by Mehring et al. 2011. Its indigenous population traditionally see the forest as ‘a part of their social life’ (NGO interviewee). They identify with the National Park culturally and spiritually, and value the protection it offers against flood and erosion (National Park Authority interviewees). The Park also has an immigrant population who value the economic benefits of the land in terms of cash crops. However, these differences are not reflected in the behaviour or practices of the local people. Despite expressing strong traditional ties to the forest, and being aware of the protective value of the forest against landslides and floods, indigenous farmers continue to convert forest into arable land. This arises as migrants and some wealthier indigenous households buy land from poorer local households outside the Park. The landless households in turn acquire new land by illegally clearing primary forest within the Park.

Castillo et al. (2005) studied the interaction of rural Mexicans in El Vizcaino Biosphere Reserve (IUCN IV). A structured questionnaire developed from semi-structured interviews with six key informants was conducted amongst residents whose productive activities were predominantly cattle raising or agriculture, provision of manual labour, commerce and tourism. Families tended to favour nature conservation for its aesthetics, balance of nature, future business opportunities and for future generations. However, these positive attitudes were lost when ecosystem conservation competed with productive activities such as cattle ranching or growing imported varieties of fruit, or with personal safety.

Local people recognised the value of the biological research station in principle. In practice, they would have liked to see its efforts applied to local problems. They were unclear about the purpose of the NGO which administered the PA. They were critical of a programme for promoting economic activities (particularly tourism) whilst maintaining ecosystems. They thought the programme was designed by distant academics who mounted a consultation that ignored local people’s ideas because policies favouring tourism and rich land owners had already been decided (Castillo et al. 2005).

Perceptions of ecosystem services gathered from interviews in a cattle raising village were compared with those in a fishing village. There was frequent mention of life-fulfilling services such as aesthetic appreciation, provision of tangible goods such as food and medicines. Intangible goods such as opportunities for agriculture and cattle raising, and provision of shade and ‘environmental freshness’, had a higher profile in the cattle raising area than the fishing area. There was less appreciation of regulating processes such as erosion control, oxygen maintenance or soil fertility (Castillo et al. 2005).

An assumption lying at the heart of Community-Based Wildlife Management (CWM) approaches to conservation is that communities are interested and willing to conserve wildlife on their land because it is in their own interest to do so. Songorwa (1999) set out to explore this assumption. The underlying theory is that the rural communities have been alienated from a resource they should rightfully control, manage and benefit from, and the mechanism through which this is achieved is via a bottom-up participatory approach, which uses people's behaviours and practices as a vehicle for achieving a conservation goal. Communities recruited by the Selous Conservation Programme in the Selous Game Reserve, Tanzania (IUCN IV) contradicted the programme's assumption that community participation in the programme was based on an interest in conserving wildlife on their lands. The evidence showed that they were generally not interested and their decision to accept and join the programme was largely influenced by promises of socioeconomic benefits (Songorwa 1999).

Mexico has a long history of biodiversity conservation policy; first strict protection and later, in the 20th century, a mix of conservation and development (Gerritsen 2002, chapter 7). In his study describing the range of farming styles that have developed along the spectrum of reciprocal relationships between man and nature (co-production) between wilderness and urbanisation, Gerritsen (2002) elicited, through key informant interviews, farmers' views of the conservation and associated regulations in the Sierra De Manantlan Biosphere, (IUCN VI). The farmers value the land (in or near the biosphere) for its provision of food, water, wood and other products:

“Well, the trees give fruits and wood when we need it. Besides, they retain the water, which we need for irrigating the plants in the dry season. [...] The trees give shade to the animals when they are eating the *rastrojo* [i.e. crop residues]. And when one needs a pole for fencing, or for one's house, one cuts a tree.”

“There are people who protect trees for their freshness and for the water. In our field, we have a water hole, there below those trees. So you have to protect it. [...] There are people who cut trees because they interfere with ploughing or harm the *milpa* [i.e. maize field]. But there must always be a reason, you must not cut for no reason.”

“What we have [i.e. natural resources], we have because we have looked after it for those who follow [i.e. the new generations]. [...] It is important to protect the trees, as they give freshness and water. Here in our field, there is a water hole. So you have to protect it, because the water is for irrigation and for our cattle. [...] There are people that cut trees as they interfere with ploughing, or with the *milpa*. But there is always a reason. You should not cut just like that.”

Forest resources are also part of the community's heritage, pleasant for picnics and providing species for indigenous religious feasts.

Access to land

Evidence of people's views about access to the land was found in nine studies (Table 16).

Summary:

- Evidence was collected from IUCN categories II after the Durban Accord, and from categories V and IV before the Durban Accord

- Restrictions had implications for grazing cattle, hunting, collecting natural products and building homes
- Relocation and loss of control over land and resources has resulted in resentment, poaching and antagonism
- Where land values increased exponentially, on a park's margins, residents thrived, benefitting materially from land titles, revenues and empowered by the process of acquiring land titles and setting boundaries

Table 7. Summary of articles presenting evidence of people's views about effect of PAs on access to land.

ICUN category	Pre-Durban Accord	Post-Durban Accord
Ia		
II		<p>Resource use and potential lack of access to land was a deep concern... Changes to land status were not explicitly communicated to residents. Mistakes in park boundaries were made which led to accusations that residents were living in the park when they were not. Perceived threats to environmental capital outweighed any potential economic benefits of living near the national park (Davis 2011)</p> <p>Local people would like grazing rights in the park, especially during drought, and an involvement in joint tourism ventures. They would also like re-settlement in traditional areas, fences to protect the school hostel and yard, ability to visit traditional areas and burial areas, and the translocation of some park animals for community use and generating income. (Hoole and Berkes 2010)</p> <p>Staff were mostly concerned about illegal grazing; they would commonly impound livestock, and fine owners or refer them to a local judicial ward. Most community members felt the harsh environment justified grazing cattle in protected areas. (Bruyere et al. 2009)</p> <p>Residents were portrayed as poor and unable to develop themselves inside the Park. Outside the Park they felt they would not have access to resources so far essential to their livelihoods: access to agricultural land, forest resources and grazing land... Wealthy cattle owners were even less disposed to moving. Cattle would need to compete for food and water with host villages, and cattle theft was more common outside of the park... Resettlement was 'induced'. (Milgroom and Spierenburg 2008).</p>

		<p>Meanwhile, land values increased exponentially along the edge of the park, and communities were given land titles. Residents were overwhelmingly supportive in light of revenue spent on the schoolhouse and anticipated benefits of easier access to cleaner water. Some residents also found the process of setting boundaries and securing land rights empowering as it increased their knowledge of land rights. (Lunstrum 2008)</p> <p>Batwa experienced a dramatic change of life from that of hunter-gatherers in the forests to settled communities. Some but not all communities were supported by external agencies in this transition. Only half of the intended beneficiaries received land because of a shortfall in government funds, leaving some of the Batwa ethnic group, cut off from their previous life in the forests, landless and reliant on paid labour. (First Peoples 2006)</p>
IV	<p>Areas within the park were previously hunting and gathering grounds. Relocation and loss of control over land and resources has resulted in resentment, poaching and antagonism... Tourists can enter for a fee, creating greater conflict. Local people did not have a role in the management of the reserve or a share in the revenue. Subsequently areas around the park were zoned and locals allocated a controlled hunting area where there was free movement of wild animals between the reserve and their allocated zone, thus allowing them to benefit indirectly from the wildlife resources from the park. (Mbaiwa 2005)</p> <p>Longstanding residents, past farm labourers on white owned farms, had no land rights. Restrictions led to overcrowding of livestock and homes (Slater 2002)</p> <p>Only older residents who benefited from pensions, and remembered cruelty under the former white farmers, felt life was better in the park. Others would have liked the land which</p>	

	<p>had earlier been owned by white farmers to be given to the current black farmers. They felt they were valued less than the animals. (Slater 2002)</p> <p>It was difficult to convince the Baka that their traditional [forest-based] activities are illegal, particularly when other community members (e.g. loggers) ‘using the forest and its resources act with impunity’ ... Accessing the forest is important in order to obtain resources to support local people’s livelihood and for feelings about the forest, as ‘theirs’. (Nguiffo 2001)</p>	
V		
VI		

In Tanzania, attitudes towards conservation were more muted, and contingent on continuing opportunities to farm. Davis (2011) conducted an ethnographic study to explore what it means to 'live on the border' of Tarangire National Park (IUCN II), Tanzania and the impact this can have on movement 'into' and 'away' from PAs. Interviews were conducted with residents from four study sites. The findings indicated that resource use and potential lack of access to land was of deep concern for many of the local population living near the National Park, with environmental capital "perceived to be 'threatened' through conservation-related activities' (p.28). One response from groups of residents was to attempt to occupy and make use of land through farming in order to ensure that it cannot be claimed for conservation' (p.28) and to meet their subsistence needs. Davis (2011) documents the historical push for these 'pastoralists' to move to 'land use' practices within the wider context of government promotion of agriculturalism. However the need for land to generate a livelihood has been an ongoing issue residents. Female residents expressed their concern;

"...where will I be able to farm again? Then, what will I eat?" (p.27 Maasai resident)

"we don't want our land sold for wildlife ... we're told we can't farm because of wildlife, we now have ugomvi [a conflict] -- so where will we farm?" (Maasai resident p.27)

In another site despite the introduction of 'Wildlife Management Areas', which seek to create PAs separate from villages, it appeared that the changes to land status were not explicitly communicated to residents. This led many of them to express views such as:

"I'm Iraqw, and access to land is not available in this village" (p.29, Iraqw resident).

"Population/people increase but land doesn't increase... Kids stay with parents, depend on parents, (with) no way to get land, parents didn't leave them any, (they) must look for work or employment elsewhere... Parents may only have 3 acres, ha! You can't divide that any more" (p.30, Older Iraqw residents of Mwinkants).

"Water is the biggest problem, we don't have any..." "What is development without water?" (p.29 Iraqw resident in an Mbugwe village)

Issues were further compounded in another village when mistakes in park boundaries were made which led to accusations that residents were living in the park when they were not. Park authorities began to patrol the area, identifying and arresting people for illegal land use. The author reported that "people in the village spoke about the dispute with frustration: 'Our only problem – our only thought now is this land dispute, our farms, everything else, those are just daily thoughts' (p.31). Residents from the village were also said to be "'fearful of further 'encroachment' and land acquisition" (p.31). However, migration from the park was a questionable option. As one resident stated:

"If (the) park moves us where will we go? We are looking for what rights we have."

"There will come a date when they will say to move – and where will we go? We are very, very much worried about this ..." (p.31 Gijedabung resident, Mwinkants)

Farmers also expressed uncertainty regarding how much of the land "was tied up in 'conservation' that was not for themselves or for their children to inherit" (p.30). Overall, the

perceived limits placed on land and resource use was considered to be a major deterrent to the migration of people to villages near PAs. The author's exploration about the risks of living near PAs leads her to conclude that perceived threats to environmental capital outweighed any potential economic benefits of living near the national park (Davis 2011).

Participant observation, semi-structured interviews with key informants, and in-depth structured interviews with villagers from Etosha National Park (ICUN II), Namibia revealed the long-standing, deep relationship that communities feel for the land of their origin (Hoole and Berkes 2010). Villagers were chased out of their homelands in the 1920s when Boers were offered the opportunity to re-settle in Namibia. Wildlife harvesting continued to be tolerated in the historical game reserve areas until Etosha National Park was fenced in the 1970s. Villagers tried to return to their homelands in the 1960s, but were prevented by government authorities.

“Their traditional territory within the park boundaries was profoundly valued for its grazing areas, sacred ancestral burial sites, birthplaces of family members and natural resources... There was a strong sense of a need for the community to re-couple with its ancestral territory and cultural heritage inside the park” (p312).

When asked what people do in the park today, the vast majority (83%) said that they did ‘nothing’. When asked what benefits they received from the park 88% said none, and 10% noted there were some jobs in the park.

“We cannot even bury our dead there any more”

“The fence defines our relationship. We cannot go past it.”

“The colonial system gave a lot of pain. We had hoped with the new government after Independence that we might get some rights but nothing has come. We are still crying from the past until now”.

The benefits local people would most like to receive from the park are grazing rights, especially during drought, and an involvement in joint tourism ventures. They would also like re-settlement in traditional areas, fences to protect the school hostel and yard, ability to visit traditional areas and burial areas, and the translocation of some park animals for community use and generating income.

“I want to be in the area that we were in and the fences to be taken away so that we can move up and down and the wild animals can move where they are supposed to move (p313)”

The authors proposed a system of localised fences and traditional kraals to help serve community schools, boreholes and livestock to re-couple communities to their home land.

The decision to establish the Limpopo National Park (ICUN II), Mozambique was made in 2001, when the government and donors maintained there would be no forced resettlement. However, Milgroom and Spierenburg (2008) concluded that:

“the pressure created by restrictions on livelihood strategies resulting from park regulations, and the increased presence of wildlife has forced some communities to ‘accept’ the resettlement option” (p 435).

The park was divided into the tourism zone, the wilderness zone and the support zone, where 20,000 people were living. Resettlement was proposed to avoid: competition with animals for land, water and forest resources; human wild-life conflict; and poaching. Economics argued for allowing animals into the park, by cutting fences bordering the neighbouring Kruger National Park, to provide a 'wilderness' experience to attract tourists. Residents were portrayed as poor and unable to develop themselves inside the Park. However, the residents felt that outside the Park they would not have access to resources essential to their livelihoods such as access to agricultural land, forest resources and grazing land:

“When there is no rain and we cannot produce our maize, we will die because we won't know where the trees are that have fruits. When we get sick we will suffer because we won't know where the medicine trees are.” (p440).

Wealthy families were even less disposed to moving; especially those owning many cattle. Working for money was not an attractive alternative. Grazing cattle would need to compete for food and water with host villages, and there were concerns for cattle theft which was more common outside of the park.

“My children will have to stop studying because they will have to look after the cattle. Here we just let the cattle free for days at a time without having to watch them”

Although few residents wanted to move, there was a gradual acceptance.

“We cannot live here with elephants. We plant our corn to feed the elephants and then we suffer

It was no longer possible to cope with drought through subsistence hunting; hunters were seriously punished. Successful yields of maize attracted elephants. There were increasing complaints about lions attacking livestock. Fears for themselves and their children discouraged women from collecting fruit or cultivating certain areas.

“Whenever we report damage to our crops and the loss of our cattle to the people from the park nothing is done, but whenever we try to defend ourselves against the wild animals they are there within a minute to arrest us.”

Although labelled as 'voluntary', because the term 'involuntary' is politically problematic nationally and amongst international donors, the resettlement was widely recognised as 'induced'. Although consulted about resettlement, residents' views were then disregarded.

“Since the park was made we were supposed to leave. Since they said that, people don't construct houses, we don't plant trees. This house was built in 2000 but it was never really finished because the park came. There were trees but we stopped planting and the old ones died. [papaya]. No one is investing, not to do things for nothing. Even now that we have accepted to leave, the park does nothing.” (p443).

This decline inside the Limpopo National Park contrasted with major collaborative development immediately outside of the Park which was made possible by land law reform in 1997, possibly designed to attract investment (Lunstrum 2008). Land values increased exponentially along the edge of the park, and the new law was used to provide communities there with land titles. A Swiss NGO worked with residents near the park to map the

boundaries and legally secure the community's land rights, before building a tourist lodge. Financed by international aid, the lodge was entitled to the residents. The vast majority of the 70 residents interviewed in 2004-5 were overwhelmingly supportive in light of revenue that had been spent on the schoolhouse. Residents anticipated further benefits such as easier access to cleaner water. Some residents also found the process of setting boundaries and securing land rights empowering as it increased their knowledge of land rights.

Some Kenyan communities from the Buffalo Springs Nature Reserve (ICUN II) were economically and culturally dependent on livestock, yet lands they had access to outside the protected areas had little viable vegetation during the six month dry season (Bruyere et al. 2009). For this reason they would graze their cattle in the protected area even though staff would commonly impound livestock and fine owners or refer them to a local judicial ward.

Another example of community decline was in the Qwaqwa National Park (IUCN IV), in South Africa. Conflict began when the park was established in 1992 without any formal recognition of the long standing residents, whose families had largely been employed for many generations as farm labourers on white-owned lands until the land was purchased by the South African Development Trust (Slater 2002). Some residents said that they had never been consulted, and others suggested that they had been guaranteed secure tenure and grazing rights by the local government. They were not amenable to imposed changes:

We are relying on our stock because the park is doing nothing to assist us. So if you have no stock then you can't do anything and some people had to abandon the land and move away. The park makes it difficult for us to keep stock. But they haven't been able to do anything because even if they try and chase us away we will continue to occupy and to stay with our cattle. (Resident)

Limited access to land created overcrowding of livestock and of family homes.

“The main issue is that we have lots of cattle and they will eat all the grass and they may make erosion so the park management prioritises nature on top of the people”.

No new dwellings were allowed to be built; homes became overcrowded and encouraged internal conflict. Only older residents who benefited from pensions, and remembered cruelty under the former white farmers, felt life was better in the park. Others would have liked the land which had earlier been owned by white farmers to be given to the current black farmers. They felt they were valued less than the animals.

“The problem here is that we need land to work on. If we had sown maize, then we could take it to feed the chickens but because we are not allowed to cultivate we have to go and spend money to get food for the chickens.” (p126).

“We are ill-treated by the park because the best thing is to make [the land] back into farms so we can go back to the old plots that people had before.” (p126).

The objective of the study by Nguiffo (2001) was to gain an understanding, using a single case, of how local communities perceive the constraints imposed upon them by the presence of a conservation project near to their territory. The study was based upon data collected from a village situated on the southern periphery of the Dja Wildlife Reserve (IUCN IV),

Cameroon. Interviews with residents from the village camp revealed their views on the rights to access the reserve.

Attitudes towards the Dja Wildlife Reserve differed among the local peoples of village (Nguiffo 2001). These differences centred on who is (Baka only) and is not allowed to enter the reserve to hunt game. Regardless of these difference, the majority of people agreed that they owned their forest and were ‘opposed to restrictions on their usage rights’ (p.212). They stated that ‘to be Baka is to hunt. So, what do they expect us to do? (p212). The authors found that it was difficult to convince the Baka that their traditional [forest-based] activities are illegal, particularly when other community members (e.g. loggers) ‘using the forest and its resources act with impunity’. (p212)

Similar to other studies, the data of Nguiffo (2001) highlights the importance of accessing the forest in order to obtain resources to support local people’s livelihood and reveals feelings about the ownership of the forest, as ‘theirs’.

“Mabé is where we come from, and it is also our forest. We have to go there to look for fruit, vines, game and other products because the forest is very rich there” (p 208).

“We still have to go to Mabé to find fruit, vines, honey and other products that we need in the village, because that is our forest” (p.208).

“Some of the village members felt that they had been ‘dispossessed of their forest’. The ban on entering the reserve has limited the movement of the Baka within the forest. In Baka tradition, the forest is the symbol of freedom. For the Baka it is the ultimate refuge from the constraints of village life. (p208, author description of findings)”

The authors also report that, whereas in the past, the Baka would have been able to claim traditional rights over their land, the introduction of ‘permanent forest’ areas are now subject to a law which prohibits the creation of ‘community forests’ and thus, the pygmies living there who no longer have customary land rights cannot develop their own community forest activities (Nguiffo 2001).

Mbaiwa (2005) uses the concept of sustainable development to examine wildlife resource utilisation at the Moremi Game Reserve (MGR - IUCN IV) and Khawai community area in the Okavango Delta, Botswana. Following the establishment of the MGR in 1963, the residents of the Khwai community area were displaced from their lands and subsequently excluded from the tourism industry that had established itself in and around MGR. This marked the beginning of resource conflicts between Khawai residents and wildlife managers due to the limited benefits being derived from tourism by the Khawai residents. Interviews with elderly people in Khawai revealed that areas within the MGR were previously their hunting and gathering grounds and the loss of control over land and resources has resulted in resentment, poaching and antagonism. The relocation from the reserve hence affected the traditional hunting and gathering livelihood patterns.

MGR has become a tourist hub in Botswana and this has given rise to increased conflicts. Access into the reserve is restricted to tourists only who pay an entrance fee. This has led to negative attitudes of the Khawai residents who view the government as denying them use of resources they previously controlled for years and excluding them from the management

process. The local people do not have a role in the management of the reserve. They do not have a share of the revenue generated from MGR, particularly from entrance fees and employment opportunities in camps and lodges in the reserve. A community-based natural resource management programme (CBNRMP) was implemented as a strategy to address the problems of land use conflict, the lack of direct economic benefits from wildlife and the participation of local people in wildlife resource management. The implementation of the CBNRMP involved the zoning of an area around the MGR. As a result of this the people of Khwai were allocated a controlled hunting area where there was free movement of wild animals between the reserve and their allocated zone. This allowed them to indirectly benefit from the wildlife resources from MGR. Mbaiwa (2005) argues that this form of participation may well be a form of appeasement by the government to this community, i.e. a form of compensation for the land and wildlife resources they lost over four decades ago when the MGR was established.

Resource use

Evidence of people's views about access to resources was found in seven studies (Table 17) and is summarised as:

- Most of the evidence about resource use was collected before the Durban Accord
- It spanned IUCN categories II, V and VI
- Residents view protected areas as rich sources of food and other products
- Monetary or land compensation was not always seen as adequate
- Illegal resource use continued despite bans
- Controlled resource use can alter residents views from one of sustainable long term use of forest resources to short term commercial gain by raising their awareness of commercial opportunities

Table 17. Summary of articles presenting evidence of people's views about effect of PAs on resource use.

ICUN category	Pre-Durban Accord	Post-Durban Accord
Ia		
II	Residents valued the park for medicinal plants, firewood, leaves for roofs, honey and wood planks and, illegally, 'lemur hunting' and 'timber harvest'... Environmental damage (e.g. from hurricanes) to subsistence and cash crops increased the legal and illegal use of wildlife and plants from the park. (Ormsby and Kaplin 2005)	
IV	Residents living near PAs or fragments around PAs are susceptible to crop raids from wild animals leading to human-agriculture-wildlife conflicts, which the people are prepared to risk to access the resources they need. Pre-emptive attempts to reduce the frequency of crop raiding may alleviate immediate concern, but may also cause greater deprivation of food and habitat to the wildlife and resources to local people. (Hartter 2009) Residents cannot conceive of a balanced diet without animal protein' and protected area still seen as the ideal place to carry out hunting throughout the year (Nguiffo 2001)	Restricted access to the park was partially offset by providing new plots of land elsewhere, but these newly assigned plots had lower productivity due to poor soil conditions. Local communities were banned from collecting goods such as timber and fodder on a daily basis. Where villagers were permitted to collect wood and other forest products, restrictions were imposed on the type of wood they could collect, what they could use it for and the time year they could collect. (Torri 2011)
V	Where dependence on access to products is high, collection continues despite a ban; compensation is not always considered adequate (Stone and Wall 2004)	
VI	In Mexico, where conservation is widely valued, natural products are used in a sustainable way. (Gerritsen 2002)	The Ecuadorian forest management project managed the harvest, process and selling of timber. The high start up costs and slow, small gains in income caused some frustration leading to private sales outside of the community, negating some of the positive effects of community control of resources. (First Peoples 2006)

The study by Ormsby and Kaplin (2005) conducted semi-structured open-ended interviews in French and Malagasy with the aid of local translators to collect data on community resident views of Masoala National Park (IUCN II), Madagascar. They found that although residents knew the park had been designated a protected area many still considered it to be a useful resource now and in the future;

“if the forest disappears, there will not be any medicinal plants. If we do not have trees, there will be erosion” (p.159).

The authors observed that there was a ‘gap in residents’ perceptions and awareness of the conservation goals of the Park, and limited knowledge of the purpose and permanence of the Park boundary” (p.159). Residents who held more favourable views about the park were also more likely to be those who continued to have legal access to its resources.

“Several Mahalevona residents asserted that the forest was valuable to them, providing useful products such as firewood, leaves for roofs, honey and wood planks, resources that were difficult to find outside the Park. These interviewees also expressed support for forest protection so they could continue to collect resources;” (author description of findings p.160)

“However, the Park and its small remaining buffer zone areas were far from Ambohitralanana, and several other villages were closer to the resources. In contrast to the majority of Mahalevona residents interviewed, Ambohitralanana residents remarked that it was difficult to obtain the wood they needed. One Ambohitralanana resident remembered, ‘before the forest was close, you did not have to go as far to reach it.’”

‘ Residents saw some members of the community benefiting from lemur hunting and timber harvest, albeit illegally:

‘people [who] wanted easy money, especially the youth, so they went into the park to cut rosewood’ [p160].

However, much greater damage was done by industrial scale rosewood logging for international markets, and Park agents have limited legal powers over loggers.

“people from all over come to this area to cut rosewood, there is no other way to get money than from valuable wood” (Park resident p.160).

‘[international] demand is driving the outside buyers of rosewood, and this is a much bigger issue than lemur hunting.’ (Park Manager, p162)

The authors drew on other studies to explain that it is not the local communities that benefit from exporting rosewood (largely to China) but the Madagascan elites, foreign exporters and importers. Large scale industrial forestry concessions bring the greatest benefits at the national level but not the community level.

They also explained that environmental damage (e.g. from hurricanes) to subsistence and cash crops also increased the legal and illegal use of wildlife and plants from the park.

Natural resources within Kruger National Park (IUCN) in South Africa were also widely used by people living nearby (Spenceley and Goodwin 2005). Most community members (61% to 97%) could access natural resources within protected areas: bush-cleared wood, thatch and grass. Rather than allowing access to river water, and risk transmitting diseases between wildlife and domestic animals, pumps and pipes took water from the river to the community (although they were subsequently destroyed by vandals). Subsistence poaching consisted of snares and dogs to hunt wildlife, and fishing. Poaching of trophy species such as elephant for their tusks or rhinos for their horns was rare.

For the Baka people at Miatta, the lack of access to the forest in Dja Wildlife Reserve (IUCN IV), as a result of conservation means that they find themselves in a situation where their diet has become unbalanced. The authors report that ‘the Baka cannot conceive of a balanced diet without animal protein’ (Nguiffo 2001, p.208). Despite finding alternative means of nutrition by growing food crops, villagers ‘consider that their diet is poor because they lack game’. Concerns about their need for forest products for personal use seem minor compared with intensive industrial logging which opened up forest tracks and thereby provided access for well organised, commercial poachers to use the tracks for transporting their game to city markets (p212).

In addition, the forest they do have access to “cannot satisfy their hunting needs, because of its degradation due to the intensity of human activity” with protected area still seen as “the ideal place to carry out hunting throughout the year. (p208)”.

Semi-structured household interviews were conducted with local people living within a five kilometre perimeter around Kibale National Park in western Uganda (Hartter 2009). The forest fragments and wetlands outside of the national park had reduced in size and number but continued to serve as a ‘buffer’ to the residents of Kibale, providing resources that would normally be obtained from the park. These ‘fragments’ were known to be susceptible to crop raids from wild animals. Taking these issues into consideration the authors wanted to know, what problems, if any, ‘do households associate with wetlands and forest fragments around Kibale’ (p. 435) in particular people’s experience of human–agriculture–wildlife conflicts and how these vary spatially and demographically.

Quantitative findings from the study by Hartter (2009) indicate that conflicts with ‘wildlife are uniform across all demographics tested (ethnicity, wealth, gender) in the Kibale landscape’ (p.442). Residents explained that they were prepared to risk coming into contact with wildlife for the sake of ensuring they could obtain the resources they needed.

“we can do something about the wild animals ... we can guard ... but we cannot do anything about not getting firewood, poles, and other things. ... It is best to be close to those things and have them available.” (p.443).

The data from surveys also indicated that residents ‘are well aware of the conflict that they and their neighbours have with wildlife as a result of living near the park and fragments’ (p.443) often believing such conflict was directly related to their proximity to fragments. The response by some residents to reducing their vulnerability to crop raiding was to cut forests as a pre-emptive attempt to clear their habitat; thereby reducing the frequency of crop raiding events (p.443).

“If we cut down all the trees and cut the papyrus in the swamps, where will they [potential crop raiders] live? They will be forced to go back to the park,”

“Respondents expressed a common belief: by cutting and destroying fragments, they can better access resources (from harvested products), food for their families (from crops cultivated in converted forest land), and ultimately safeguard their crops by increasing the distance away from the threat and decreasing wildlife habitat” (p. 443, author description of findings).

However, the authors argue that long-term implications of the ‘pre-emptive cutting’ of the forest to reduce such crop raiding ‘may alleviate immediate local concern but protracted assaults may cause even greater ultimate deprivation of food and habit to wildlife and resources to people’ (p.443, Hartter 2009) and is a cause for concern for conservationists who wish to protect the biodiversity of the habitat.

Torri (2011) analyses the top down management of the Sariska Tiger Reserve (IUCN IV), India and documents the social consequences this approach has had on local populations, which include the reduction of traditional use and access rights and displacement of communities. Although a strategy had been put in place to reduce the impact of displacement on livelihoods by providing new plots of land elsewhere, these newly assigned plots had lower productivity due to poor soil conditions. A ban was also imposed on access to the new reserve, on which the local communities had previously relied to collect goods such as timber and fodder on a daily basis. Where villagers were permitted to collect wood and other forest products, restrictions were imposed on the type of wood they could collect, what they could use it for and the time year they could collect.

Dependence on natural resources was high in the Jianfengling National Forest Park and Diaoluoshan National Forest Park (both IUCN V) in Hainan Province, China and as a result of resource use restrictions illegal resource harvesting that had occurred in both parks (Stone and Wall 2008). Some residents did report compensation being provided, however there were differing views as to whether such compensation would be adequate enough to reduce illegal resource use (Stone and Wall 2008).

In the Sierra De Manantian Biosphere Reserve, (IUCN VI), Mexico, sustainable use of natural products comes from a long history of environmental conservation (Gerritsen 2002):

We maintain the species that are of service to us. [...] All trees that one sees and that are of some use, we leave [to stand in the field]. We protect those species that give fruits, but not those that do not. Well, sometimes we do, in order to have wood. [...] Nowadays, it is the big trees that one protects. Now that everybody gets [the wood] from his own [land], they do not let one take [wood] from other fields. Before, one could cut where one wanted, it has been different for some 10 years [i.e. since the late 1980s]. Nowadays everybody looks after their [part of the] hills.

The First People’s case study of the Awa Forest Reserve (IUCN VI), Ecuador described a community and stakeholder led project that placed control of forest resources in the hands of the indigenous community living within the forest, however, the high start up costs and disappointing returns left many of the participants frustrated. When profits were lower than they desired, some residents made covert deals with outside loggers who were eager to expand their zones of operation, which could lead, ultimately, to the loss of asset control and the depletion of their resources. (First Peoples 2006)

4.2.2 Economic capital

Evidence of people's attitudes towards economic capital in protected areas was found in eleven studies (Table 18) and can be summarised as:

- Most evidence was collected from mainly IUCN category II areas, both before and after the Durban Accord, and also Ib, V and VI
- Environmental protection is associated with lower levels of employment and production in commercial forestry
- Income through foreign aid has become expected
- Communities do not necessarily associate the benefits accrued through foreign aid with conservation efforts
- Benefits of tourism are seen as meagre, and distribution of revenues from protected areas is seen as inequitable
- Park staff tend to be wealthier than community residents
- Residents can have unrealistic expectations of the economic benefits derived from tourism and ecolodges
- The most positive findings came from authors associated with tourism
- The benefits of sustainable forestry production does not equate to higher incomes
- Local people are often overlooked for employment opportunities in favour of neighboring communities and those deemed amenable to new regulations

Table 18. Summary of articles presenting evidence of people's views about economic capital in PAs.

ICUN category	Pre-Durban Accord	Post-Durban Accord
Ib and II	<p>Forest workers and other stakeholders perceive the protection levels as excessive and the cause of decreasing employment levels in forestry. Politicians anticipate lower tax revenue and greater emigration. Other contributing factors to unemployment and emigration are globalization of the market, higher demands on economic competitiveness, and the extensive rationalizations and technological development in forestry (Keskitalo and Lundmark 2010)</p>	
II	<p>A commercial organisation studying its own ecolodges identified economic and learning benefits of ecotourism, such as a reliable income from direct employment (as managers, guides, housekeepers, boat drivers, and the like) or from sales of foods, handicrafts, transportation, or other services' (p.457) in addition to gaining the skills to pursue employment in other lodges. (Stronza and Gordillo 2008)</p> <p>Residents do not understand the link between the NGO and the protected area, and have come to see foreign aid as an entitlement (Allendorf et al. 2007)</p> <p>Residents living near a National Park reported problems of crop raiding by animals from nearby PAs with little recourse to compensation because ownership of wildlife is determined by the ownership of the land on which it is situated (Spenceley and Goodwin 2005).</p> <p>The authors attributed the increased competition for winter grazing areas to the lack of co-operation among herders and grazing associations since the collapse of the Soviet Union and Mongolia's move to a free market economy (Bedunah and Schmidt 2004)</p>	<p>Local villagers were employed by sports hunting tour operators in capacities ranging from trackers to trace animals (highly paid) to skinners to make trophies to road workers (lower pay). Tour operators have denied the local people their rights to graze, fish and cut down trees. Hunting by local people has also been strictly banned causing conflict between hunting operators and local people.(Yasuda 2011)</p> <p>Community members generally did not recognise or value the benefits from tourism: annual stipends for local priorities, tourist dollars spent on village visits and curio purchases, and tourists' donations. They saw limited employment of locals in the tourist lodges. A few mentioned intangible benefits such as nurturing pride and maintaining traditional practices through storytelling and cultural demonstrations; and none mentioned the benefits of tourism to maintaining wildlife habitats. (Bruyere et al. 2009)</p> <p>Economic losses result from damage caused by wild animals: crop damage, livestock predation, property damage, loss of food, increased workload and medical bills. (Ogra 2008 p.1415)"</p>
IV	<p>Residents of a community-based wildlife managed Tanzanian Park experienced economic hardship arising from conflicts</p>	

	<p>between protected wildlife and their farming (Songorwa 1999).</p> <p>Long standing residents felt ignored when they were overlooked for other employment opportunities while facing restrictions on keeping livestock cutting wood and collecting grasses and medicinal herb (Slater 2002)</p>	
V	<p>Despite little evidence or participating in planning and decision making, there was overwhelming optimism amongst residents and officials that tourism growth will eventually generate benefits for their communities. (Stone and Wall 2004)</p> <p>Investment in communities was mentioned by park staff and by residents. In each community, there is the perception among some that the park has had a positive influence on the local economy and roads. One official at DNFP indicated that they are trying to establish a special university training program to prepare students to fill key park management positions. (Stone and Wall 2004)</p>	
VI		

In the northern parts of Sweden, the protection of forestland is perceived by stakeholders to have had an impact on forest-sector employment. Forest workers and other stakeholders of National Parks¹ perceive the protection levels as being excessive and have caused employment levels in forestry to decrease. The author reports that despite increased logging, employment, wage earning and tax revenues from forest sector employment have halved in a ten-year period between 1986-1995 (Keskitalo and Lundmark, 2009 p. 155).

“it has an impact on the local population” (p.153 Keskitalo and Lundmark, 2009)

Local politicians and business are also concerned about the impact environmental protection will have on migration trends. Perceived negative impacts on the municipalities include a decrease in tax-income and further out-migration. The concern is especially that forestry will in time become unviable at the local level:

“all of this focus on nature... if those demands become all too large it will also impact economic growth” (p.153, local politician Keskitalo and Lundmark, 2009)

“I am the first to agree that environmental considerations should be addressed but it cannot always be at the cost of... economic growth... if inflow is cut you will have no in-migration and no economic growth” (p.153, sawmill owner Keskitalo and Lundmark, 2009).

Environmental protection is thus largely connected to decreases in production, which interviewees view as potentially posing an immediate risk to their livelihood or employment. This study revealed limited evidence linking the decrease in forestry related employment to environmental protection. However, environmental protection is a relatively large concern among the local population as a potential cause of unemployment and out-migration. It is thought that other contributing factors are globalization of the market, higher demands on economic competitiveness, and the extensive rationalizations and technological development in forestry (Keskitalo and Lundmark, 2009 p.155).

In Nepal, income flows into the Royal Bardina National Park (IUCN II) through NGOs and foreign aid to such an extent that people had a sense of entitlement. Because residents did not understand the relationship between NGOs and the national park, they did not link the benefits of projects such as a health post, lumber for schools and bridges or community committees, with the national park. Rather, residents saw the preferential treatment that park management offers NGOs and hotels; for instance, being allowed to cut thatch before local residents, and to use wood from the park for their buildings. Moreover, they resented unevenly distributed benefits within the community and the high socio-economic status of project workers (Allendorf et al. 2007).

In the newly established market economy of Mongolia, pastoral families have begun to experience how the number of animals they have will determine their ‘ability to survive and to accumulate wealth’ (p.178). In study by Bedunah and Schmidt (2004) on the Gobi Gurvansaikhan National Park (IUCN II) individuals were asked about their experience of trading in a market economy, uncovering the following negative perspectives:

¹ Sarek National Park; Stora Sjöfallet National Park; Abisko National Park; Pieljekaise National Park; Vadvetjåkka National Park; Padjelanta National Park Haparanda-Sandskär Nature Reserve

“Pastoralists were dissatisfied with the trading opportunities and/or low prices for their goods” (p.178 author description of findings)

“A few families also voiced an apparent lack of desire to market livestock. The lack of interest in marketing animals was apparently associated with cultural desires to keep animals for a long time to fatten them and a reluctance to send animals to slaughter.” (p.178 author description of findings)

However, similar to the findings on access to land, the authors conclude that the issues and concerns raised by pastoralists living in Gobi Gurvansaikhan National Park are not attributable to the establishment of the park but the socio-economic changes occurring in Mongolia during this time.

A significant proportion of Mongolia has been placed under protected area designation since 1992 and by late 2000 protected areas accounted for 13 per cent of the country’s geographical landscape. The study by Bedunah and Schmidt (2004) investigated the impact of the Gobi Gurvansaikhan National Park (IUCN II), established in south central Mongolia in 1993, on families who rely on the park, when pastoralism is their main source of livelihood. They conducted field research between 1999 and 2000 which included interviews with pastoralists and a ‘rapid rural appraisal’ with small groups of herders to gather data on their perspectives ‘on grazing land conditions, their concerns about changes in their lives in general and, more specifically, their concerns about herding in the park’ (p.173).

The authors expected conflict to increase as the population of pastoralist households and livestock increase and if grazing capacity’ is limited (p.181). Grazing was defined broadly to include forage conditions and land-use management, water availability, and competition during critical periods. Interviews with herders revealed that there was a ‘strong sense of critical problems related to competition for winter and spring grazing areas’ (p.181) they also report that;

“the majority of herders are opposed to grazing controls, there is the recognition that government representatives... can exert control on grazing lands and certainly grazing controls were exerted [under and earlier regime]. This ‘acceptance’ of grazing control by government officials has decreased with time since grazing controls have been only very weakly enforced since 1992”. (p.182 author description of findings).

“Few herders thought there was a need to control livestock numbers, even though almost all herders recognized significant problems with the lack of winter and spring pasture”.

Herders were quick to explain that under the earlier regime they had been told when and where to move, and been supplied with transportation and a water supply. More recently a lack of water concentrated them and their animals around water sources and restricted movement. There was dissatisfaction with the trading opportunities and/or low prices for their goods, and they were apparently well aware of the market price of livestock products from radio reports. The authors concluded that the problems were associated with Mongolia’s transition to a market system and recent immigration into the area as well as the expansion of protected areas. Conflict over herding was not necessarily attributable to the park, but to the socio-political context.

Although the authors find opposition to grazing control and report that ‘zonation enforcement in the park would have direct impacts on some pastoral families as grazing is prohibited in certain areas’ they conclude there is a lack of evidence that the establishment of Gobi Gurvansaikhan National Park has had a negative influence on the use of communal land, particularly as livestock grazing in large areas is still permitted. Instead they attribute the increased competition for winter grazing areas to the lack of co-operation among herders and grazing associations, and the lack of management access to land since the collapse of the Soviet Union and Mongolia moved to a free market economy.

Stronza and Gordillo (2008) collected data through ethnographic methods from three community based, ‘ecolodge’ projects in the protected Amazon regions of Peru, Ecuador, and Bolivia as part of a wider study on the “Trueque Amazonico: Ecotourism Exchanges in the Tropical Andes”.² The idea behind the study was to pull together local perspectives on ecotourism to address two overarching questions: 1) “what kinds of changes—beyond or in addition to economic benefits—are introduced to local communities? And what are the implications of the array of changes for community institutions and long-term conservation and development?” (p450). The ecolodges were described by authors as “community-initiated and community-managed, though all began as partnerships between indigenous peoples, private companies, and/or nongovernmental organization (NGOs). In these partnerships, indigenous communities link their knowledge, land, labor, and social capital with the investment capital, business acumen, and managerial experience of outside tour operators and environmental NGO” (p452).

In all three sites interview respondents identified the ‘economic’ and ‘learning’ benefits of ecotourism, citing it as a direct way to generate a reliable income ‘either from direct employment (as managers, guides, housekeepers, boat drivers, and the like) or from sales of foods, handicrafts, transportation, or other services’ (p.457) in addition to gaining the skills to pursue employment in other lodges. Participants stated that;

“This allows us to save money for emergencies” (p. 457)

“I have money now to pay for water and electricity in town, and I don’t have to wait for months or a year” (p.457)

“Now that I know the lodge, I want to work for longer periods of time and learn more” (p.457).

However, participants from all three sites were concerned about the dependency on tourism income. “Some have misunderstood how much they were going to benefit, and so they do nothing”, others explained, “instead of tending to their farm, they are just waiting for tourism money” (p.459). For those who were generating an income from tourism, the profits were not necessarily enough to support families adequately. One participant argued that “Ecotourism is not a solution to our economic concerns... and it is not a panacea” (p.459). They were keen to assert that this was not a criticism of ecotourism in itself but the expectations of non-governmental organisations and conservationists.

² Kapawi Reserve in Bolivia; Madidi National Park in Ecuador; Bahujaja Sonene National in Peru

The authors conclude that the economic issues related to eco-tourism, such as ensuring it is sustainable and profitable, needs to take into consideration the 'larger political systems' impacting the ability of communities to 'control broader economic effects' and that communities with 'stronger networks and social capital may be better prepared to overcome these political challenges' (p.461, Stronza and Gordillo 2008).

In zones surrounding national parks it is often the case that borders between "human" and "wild spaces" become blurred, with wild animals and members of forest dependent villages coming into close proximity with each other. The resulting damage caused by wild animals entering into nearby villages can include crop damage, livestock predation, property damage and attack of humans. Villagers living at the border of the Rajaji National Park India reported crop raiding by elephants to be a severe problem for their households and the village as a whole. An immediate result of crop raiding is loss of food and the majority of villagers interviewed complained that crop raiding resulted in a decreased food supply in their households (Ogra 2008). Villagers also described economic hardship or increased workload as indirect effects of attacks by elephants. Injury to a household member impacts directly on the distribution of household labour, particularly if a women injured; families may struggle redistribute her workload (Ogra 2008). Medical bills are also incurred as result of attacks and can strain cash resources as one villager reports:

"...The elephant made my son's condition very serious by kicking him. My son was bedridden for three months... God saved his life. He is OK now.. but there is some problem with his walking... I have bills of 32,000 rupees that were spent on him (Ogra 2008 p.1415)"

Tourism as a source of income was the focus of a study in Buffalo Springs Nature Reserve (ICUN II), Kenya (Bruyere et al. 2009). Benefits from tourism included annual stipends for local priorities, tourist dollars spent on village visits and curio purchases, and tourists' donations. Most of the staff mentioned the stipends but many community members were unaware of them. Instead, community members mentioned the very limited opportunities for receiving money directly through craft sales and village visits. Few mentioned intangible benefits such as nurturing pride and maintaining traditional practices through storytelling and cultural demonstrations; and none mentioned the benefits of tourism to maintaining wildlife habitats. Community members most often raised the limited employment of locals in the tourist lodges.

"Like the employment.... the rangers that are employed, there are around 60 rangers but you will find (if you look at where they are from) you can hardly find 10 of them (that are from neighbouring communities)" (p56).

Another focus of discontent was the distribution of revenue generated by the protected areas.

"(The communities) are benefiting, although up to now, the benefit is minimal. Very minimal. Because the council shares revenue with them. I don't really say that is sharing because it's peanuts. Because when you are given one million per annum, and the council is getting between 70 and 90 million, then that is not sharing, that's just like a small grant" (p59).

The Northern province of Cameroon contained three national parks and 31 hunting zones for sport hunting in 2007. Hunting zones are situated outside the parks and local people can

reside within them. Yasuda (2011) explored the social and economic impacts of sport hunting on local people living in a hunting zone neighbouring the Benoue National Park, (IUCN II), Cameroon. Sport hunting had led to the creation of employment opportunities for the villagers and also a share of the revenue generated by tourism. Local villagers were employed by tour operators in capacities ranging from trackers to trace animals to skimmers to make trophies to road workers. Earnings from some of these positions would form a significant part of a villagers annual income allowing him to earn up to 85% of the annual household income in only a few months. However positions such as road worker work yield a much lower wage (Yasuda 2011).

Sport hunting around Benoue National Park (IUCN II), Cameroon, has also restricted villagers' access to land and natural resources. These hunting zones are leased out to tour operators who obtain the right to use and exploit the natural resources in that zone. These tour operators have denied the local people their rights to graze, fish and cut down trees. Hunting by local people has also been strictly banned causing conflict between hunting operators and local people. Villagers would regularly hunt for meat using tradition hunting methods. However current hunting methods using guns and wire traps are now considered illegal as it is carried out inside a hunting zone, which requires hunters to have a license and to pay taxes. Villagers are unable to meet such requirements and thus their activities are now considered poaching. Hunting operators claim that hunting by the local people is not sustainable and adversely affects the wildlife (Yasuda 2011 p.866). However, villagers claim that:

“[the] white man bought this land” (Yasuda 2011 p.866) and

“we just want the eat meat several times a week” (Yasuda 2011 p.866).

The author concluded that for sport hunting, conservation and local livelihoods to coexist social impacts and historical relationships between local people and sport hunting should be addressed (Yasuda 2011).

In practice, residents of a community-based wildlife managed Tanzanian Park (IUCN IV) also experienced economic hardship arising from conflicts between protected wildlife and their farming (Songorwa 1999). Villagers and programme staff noted growing numbers of wildlife and related crop damage, particularly by elephants; their observations were confirmed in official reports. Elephants became accustomed to blank and flare cartridges given to the villagers and damage continued to rise. Families had to live away from their homes, on their farms, most or all of the year to protect their crops, forcing children to walk long distances to and from village schools. The authorities responded to complaints by telling villagers to stop cultivating the deep, fertile soils of the river beds and move to the shallow, dry less productive uplands or ridges. However, there, their crops suffered from monkeys and baboons instead. Killing wildlife, especially elephants, was prohibited except with clear evidence of significant damage to human property or significant threat to human safety. In any case, there was no compensation. Goats, chickens and ducks were also prey to livestock. Around 40% of villagers had lost livestock in two years preceding a survey.

In a study of Kruger National Park (IUCN II) South Africa (Spenceley and Goodwin 2005), many (31% and 56%) interviewees living near the park reported problems with wildlife from the protected areas, such as elephants and baboons raiding their crops (particularly around harvest time); lion and hyena killing livestock; and disease transferred between wildlife and livestock. Very few obtained meat or money as compensation because ownership of wildlife

is determined by the ownership of the land on which it is situated; once wildlife has left a protected area it no longer belongs to that area.

Similar problems arose in Qwaqwa National Park (IUCN IV), South Africa (Slater 2002). When animals were introduced into the park, residents were required to reduce their stock animals to 15 per household to avoid soil erosion and other environmental problems. They were excluded from decision-making about the park, and their relations with the park management steadily declined. Household livelihoods were diverse, including wage labour (mainly a local water project), state pensions and livestock. Residents criticised the managers of the water project for employing outsiders instead of residents on longer contracts; and for employing preferentially people who were amenable to living within the new regulations. Families of people currently employed heard of new opportunities first. Families that were smaller or more dispersed were less likely to be employed. State pensions were the second most important source of income, wholly or partly supporting half the households. Distribution of pensions was irregular and collection problematic given poor roads and transport. Not only was livestock restricted, but so was wood cutting and collecting grasses and medicinal herbs.

“When I stopped cutting wood, I was highly affected because my life depended on wood cutting. But I know so many different kinds of jobs. I can make grass mats, brooms, African hats, cut wood and pottery. I make ashtrays.” (p124).

“We used to pick herbs freely but it is not possible now. Park management were at loggerheads with the Oldenburg people for picking up herbs. We are allowed to pick up herbs but only to a limited extent.” (p124).

Households were also heavily dependent on natural sources in China. Illegal harvesting was in the context of some residents having lost jobs or land so that making a living had become more difficult. It was there that Stone and Wall (2004) conducted a study assessing the current status of ecotourism in the Jianfengling National Forest Park and Diaoluoshan National Forest Park in Hainan Province, China. Amongst the study's aims were to examine the distribution of socioeconomic impacts at each site, through an evaluation of existing tourism-park-community relationships.

At the time of the study ecotourism was yet to be fully established and tourism had not yet generated revenues to be put forward towards conservation activities. The case studies revealed that most community members thought the park was a good thing overall and would welcome more tourism. However, despite the very limited community socioeconomic benefits there was an overwhelming optimism amongst residents and officials that tourism growth will eventually generate benefits for their communities (Stone and Wall 2004). However findings from the study revealed a number of important factors; weaknesses in the tourism-park-community relationships which stand to limit the ability of eco tourism to generate local benefits. Few tourists stopped in either community en route to the park, and there are few spending opportunities for tourists or locals “suggesting a significant potential for economic leakage” (Stone and Wall 2004 p. 19). Also, residents have not yet had the opportunity to participate in the planning process and decision-making, despite their optimism, which could have a detrimental effect on the resource bases and reduce tourism's potential to generate benefits. The generation of community benefits and positive attitudes towards tourism largely depends on local people's ability to participate effectively in the decision-making process (Stone and Wall 2004).

4.2.3 Social capital

Evidence of people's attitudes towards social capital in PAs was found in eight studies (Table 19) and can be summarised as:

- Ethnic tensions were exacerbated by preferential treatment of some ethnic groups by the authorities
- Development actors lack understanding of the tensions caused in attempting to change the future orientation of a people and did so in a way which was culturally insensitive
- Households configured themselves in a way to maximize livelihood diversification sometimes to the detriment of familial relationships.
- There is a direct link between livelihood diversification and changes in cultural traditions and traditional relationships amongst local people; both positive and negative.
- Communities rich in social capital may not only 'be better able to manage changes associated with ecotourism, but that such changes in social capital can 'collectively sustain local institutions, which in turn are critical to effective conservation'
- Social relations are an important survival strategy for local people whose strength is threaten by possible displacement.

Table 19. Summary of articles presenting evidence of people's views about social capital in PAs

ICUN category	Pre-Durban Accord	Post-Durban Accord
Ia		
II	<p>Working in eco-lodges was limiting traditional gatherings to complete community tasks. Eco-lodge employees tended to be charged more because they were richer – it was buying them out of their community responsibilities. Working in eco-lodges opened villagers' eyes to new opportunities and a wider social circle. This was at the cost of leaving their family and community. (Stronza and Gordillo 2008)</p> <p>The Village Scout scheme took young men away from their family and farming responsibilities, and put their families under pressure (Songorwa 1999)</p>	<p>Many of the Bawtwa who experienced a transition to a settled agrarian life reported a decrease in the traditional communal work ethic and less frequent use of Rutwa, the native language. First People's (2006) . The fact that extra funds and support have been made available to the involuntary displaced Batwa communities cause resentments in other ethnic groups in the area. (First Peoples 2006)</p>
IV	<p>Households could be separated geographically by livelihoods, or overcrowded because younger adults relied on the support of older adults claiming pensions (Slater 2002)</p> <p>It is difficult for residents to comprehend the restrictions imposed on their forest activities when, in their culture, no one other than the Creator owns the forest (Nguiffo 2001)</p>	<p>Villagers emphasised the importance of social relations as part of their survival strategy, particular important in times of struggle such as periods of drought and the risk of losing them as a result of displacement. (Torri 2011)</p>
V		
VI		<p>The community managed forests in Ecuador created new business relationships have improved social standing with other indigenous communities in the area. Working the forests for profit has changed the Awa people's attitudes of the interconnectedness of nature to something of commercial value (First People 2006)</p>

In the view of the study authors, the work of the Federation of Awa Centers of Ecuador in an IUCN VI protected area, attracted increasing social respect from others involved in forestry (First Peoples 2006). Their positive reputation attracted more funding from external agencies and was well respected as an example of stakeholder involvement in forest resource management, but this contrasts with a generally negative opinion of the programme of participating communities overall in terms of its objective in delivering sustainable employment and income.

The small returns from the sustainable managed forest projects and the redistribution of funds created by the FCAE sponsored project have not been so great as to create wealth disparities amongst the people, as experienced in other externally funded indigenous people development projects, but the people's current dissatisfaction at the level of income generated from managed forest and demands for higher incomes may change this state in the future.

Community development was a success where the supporting NGO involvement was organised around supporting existing kinship networks (First Peoples 2006). New skills and knowledge developed from livelihood projects were transferred to other residents, thereby increasing social capital within the kinship network. Batwa awarded land after displacement, reached out to welcome in landless Batwa

Community Development staff in the Mghinga-Bwindi National Park (IUCN II), Uganda reported residents eating seeds that were given to them for agricultural extension, and interpreted this as laziness. The authors, on the other hand, interpreted it as a response to hunger and poverty. (First Peoples 2006).

Teaching the Batwa to farm is at odds with them culturally and historically and also places additional pressures on other ethnic groups in the area, who are also poor. The remediation for the lack of funds to supply all Batwa with land can be seen as preferential treatment by other ethnic groups neighbours, exacerbating existing ethnic divisions and resentments.

Similarly, in the Dja Wildlife Reserve (IUCN IV), Cameroon, residents identify with hunting and consider it should be their right:

‘To be Baka is to hunt. So, what do they expect us to do?’ (Nguiffo 2001)

For them, the forest belongs to their god, the originator or Creator, rather than to people, so restrictions on their forest activities are incomprehensible. In their culture, hunting elephants (a protected species) is a particularly status-enhancing activity and every adult male aspires to kill at least one during his lifetime.

The case study of the Batwa ethnic group in Mghinga-Bwindi National Park (IUCN II), Uganda found that development groups were largely indifferent to the spiritual life of the Batwa following their enforced relocation and change of lifestyle from nomadic to a sedentary one (First Peoples 2006).

Rural households living in the in the Qwaqwa National Park (IUCN II), South Africa employed mixed livelihood strategies (Slater 2002). Households were configured to draw on wage labour and pensions, as well as subsistence agriculture. Household members moved weekly or daily between different dwellings that were geographically spread to match different sources of income. Young married couples who could not afford a home of their

own relied on the pensions or NGO wages of their parents or grandparents within the park. However, within the park erecting new dwellings was forbidden so homes became overcrowded and suffered internal conflict (Slater 2002).

Residents who moved their livestock in line with regulations saw their livelihoods gradually eroded. In contrast, larger households, with more members living nearby, were more successful in resisting stock restrictions and in time their herds grew, thereby increasing their assets. Being in a mixed rural economy, these larger households also had more members employed by the local NGO. Thus, inequalities increased. Most vulnerable were small, female-headed households who, for instance, had to juggle poorly paid domestic work with their agriculture-based livelihoods. (Slater 2002)

Key to the success (or otherwise) of community-based wildlife management in the Selous Game Reserve (ICUN IV), Tanzania) (described by Songorwa 1999) were the Village Scouts who, usually young and married, volunteered to go on patrol for at least ten days a month, carry out village quota hunting, sell meat, attend committee meetings and a 40-day training event. This arrangement put families under pressure as time spent as a Scout took them away from their family and farm responsibilities, leaving their wives to carry that burden. When a Scout was injured by a buffalo, not being employed, he could not claim compensation and became a further burden to his family. Scouts failed to see benefits for their families and most resigned.

A study of participants in the three IUCN II protected areas³ by Stronza and Gordillo (2008) made a direct link between working in the ecolodges and changes to residents' cultural traditions. For example, participants talked about the impact of new ways of working on traditional gatherings;

“I don't drink chicha or guayusa [traditional Achuar drink], and I don't hunt. Now I worry only about the lodge”(p.459)

“Before, mingas (traditional gatherings of the Achuar to complete a community task) were more common among the Achuar, but now people want money for community work” (p.459)

The authors observed that changes in traditional relationships, previously based on ‘cooperation and reciprocity’, appeared to ‘be even more pronounced among lodge employees’. Findings from a focus group indicated that “because they [employees] work at the lodge, people believe they are richer, and so they get charged more for things” with some resident trying to “buy out” their communal work obligations leading to feelings of resentment and relative lack of cohesion (p.459).

Previous to the introduction of ecotourism, participants were either former hunters, farmers or fishermen who now lead tourists as birding and wildlife guides, sell handicrafts to tourists, or supplement their incomes by driving tour boats. This has led to a number of positive and negative social changes in local people's lives.

“I've become more responsible... working in the lodge wakes you, opens your eyes to a new vision for conservation and for my family” (p.458)

³ Kapawi Reserve in Bolivia; Madidi National Park in Ecuador; Bahuaja Sonene National in Peru

“I feel stronger. I get along better with my family. Through contacts I have with people from Lima and other places outside the community, I have a bigger social circle. I’m learning, re-making myself” (p457).

One woman said, “Working in tourism has given me strength in knowing that women can get ahead alone. We don’t have to depend on men” (p457).

The negative impact of livelihood diversification since the introduction of the ecolodges included leaving the family and local farms, potential loss of connections with the community, leaving and having restrictions on resource use.

“Now, I relate better to people from other places and other levels, but I miss hunting and fishing” (p.458)

“Now I can buy whatever I want, but I don’t get to see my kids as often” (p.458).

The authors conclude that communities rich in social capital may not only ‘be better able to manage changes associated with ecotourism’ but that such changes in social capital can ‘collectively sustain local institutions, which in turn are critical to effective conservation’ (p460, Stronza and Gordillo 2008). Although the findings suggests that ‘substantial community involvement has seemed to foster greater levels of trust, leadership, and organization, thus expanding social capital in each site’ (p.462), a lack of evidence remains on ‘the conditions under which ecotourism leads to stronger or weaker local institutions’ (p.462) leading the authors to recommend further research on the casual mechanisms contributing to the benefits of ecotourism, local institutions and conservation (Stronza and Gordillo 2008).

Using a community-based approach, Torri (2011) documented the consequences of the incorporation of forests into the Sariska Tiger Reserve (IUCN IV), India. Most residents interviewed from the Sariska Tiger Reserve refused to move out of the reserve or to negotiate conditions for displacement (Torri 2011). Some residents did not see displacement as a long term solution; they anticipated little benefit to tigers and other wildlife, and thought that traditional practices, beneficial to forest diversity, would be lost. They preferred the security and protection of the original homes and were concerned that social ties would be lost. Others were concerned about their safety in the reserve and would prefer a quick relocation. Shepherds thought their herds would not survive relocation. A few were aware of traumatic experiences others had following relocation. Consequently, villagers also missed out on social services which would only be made available outside the protected area. Children, particularly girls who were kept close to the village, missed out on their education. Others suffered through lack of convenient health services.

Villagers emphasised the importance of social relations as part of their survival strategy and expressed apprehension about the weakening and possible disappearance of these linkages as a result of displacement. These relations were particular important in times of struggle such as periods of draught. As one villager reported:

“ Sometimes it happens that, we the villagers in the Sariska region, help each other by lending money money to but fodder for livestock in case of necessity. Who will help us during the hard times is we are far from Sariska?” (Torri, 2011 p.60)

Investment in communities was mentioned by park staff and by residents. In each community, there is the perception among some that the park has had a positive influence on the local economy and roads. One official at DNFP indicated that they are trying to establish a special university training program to prepare students to fill key park management positions. (Stone and Wall 2004)

4.2.4 Health

Evidence of people's perceptions of health and protected areas was found in five studies and is summarised as: (Table 20).

Summary

- Changes in lifestyles to protect the environment have exposed communities to new diseases
- Isolated villages suffer from lack of health services
- Crop raiding by elephants has increased workloads and heat exhaustion, reduced food supplies to which women were particularly vulnerable, and damaged water supplies thereby forcing women to collect from more dangerous sources
- Women's safety was compromised as men worked further afield, and as women were drawn out of their homes for new roles as well as erosion of kinship ties that might offer some protection from male sexual aggression

Table 20. Summary of articles presenting evidence of people's views about the relationship between health and PAs.

ICUN category	Pre-Durban Accord	Post-Durban Accord
Ia		
II	Crop raiding by elephants lead to food shortages and greater workloads, especially amongst women who suffered more from insect-borne diseases and heat exhaustion. When elephants had damaged water pipes, women risked drowning when collecting water from unsafe sources (Ogra 2008)	People who had no land after relocation complained that time spent away from their fields labouring for others meant less food for them. In their transition from hunter-gathering to farming the Batwa had become exposed to new diseases. Diseases not previously present in the forest, such as Malaria, had seriously affected the Batwa, particularly children. The Batwa's forced transition to an agrarian society has cut them off from their access to and knowledge of traditional medicinal plants they previously used to stay healthy. Women experienced harassment and attack when required to work further from home (First Peoples 2006)
IV	Residents suffered from snakes and ostrich attacks (Slater 2002) Women also experienced injuries from wildlife (Songorwa 1999)	Villagers reported the lack of access to basic health services. Child mortality was high in isolated forest villages, where common illnesses that could easily treated given basic medical facilities could lead to death (Torri 2011)
V		
VI		

The study conducted by First Peoples (2006) examined the outcomes and impacts of different indigenous development interventions or ethno-development projects in Bwindi Impenetrable National Park and Mgahinga Gorilla National Park Conservation, Uganda and Ecuadorian Awa Territory, Ecuador. The two case studies contrast in their forms of governance – in that Bwindi Impenetrable National Park and Mgahinga Gorilla National Park Conservation was centrally funded and administered while the Awa project involved various key stakeholders.

The Batwa were split amongst those that had received land after expulsion and those that had not. Landless Batwa were forced into day labour, who reported that every hour spent away from their fields labouring for others meant less food for them.

“We would not be so thin if we had access to the forest.” P51

Health and safety were reported to be the most problematic issues experienced by the Batwa ethnic group following the establishment of the Mgahinga-Bwindi Impenetrable National Parks. In their transition from hunter-gathering to farming the Batwa had become exposed to new diseases. Diseases not previously present in the forest, such as Malaria, had seriously affected the Batwa, particularly children (First Peoples 2006). The Batwa’s forced transition to an agrarian society has cut them off from their access to and knowledge of traditional medicinal plants they previously used to stay healthy.

The increasing sexual exploitation experienced by the Batwa women have also led to fears of an outbreak of HIV and AIDS which has also began to appear.

Infant mortality rates were reportedly lower in the Batwa groups that received land settlements compared to those who did not.

Using a community-based approach, Torri (2011) documented the consequences of the incorporation of forests into the Sariska Tiger Reserve (IUCN IV), India. Villagers reported the lack of access to basic health services, which was situated far away and reaching them involved walking for long distances. Torri reports that rates of child mortality are high in those communities living in the isolated villages in the forest. Such deaths are reported to be caused by common illnesses that could easily be treated given basic medical facilities.

Ogra (2008) examined the growing problem of human-wildlife conflict for communities located at the border of Rajaji National Park (IUCN II), India. She identified ‘visible’ and ‘hidden’ costs associated with such conflicts. Visible costs resulting from crop-raiding by elephants included an immediate loss of food, which often led to a series of ‘hidden’ health costs commonly overlooked. Villagers in the study reported increased workloads resulting in increased physical risk.

Ogra reports that “women... (and in particular poor women) disproportionately carry the burden of the indirect effects of human wildlife conflict including increased workloads, decreased food resources and decreased physical well being” (p.1414). Women become particularly exposed to physical risk as a result of reduced food supplies due to crop raiding. Additional demands are placed upon them as the men are forced to work outside the village. Activities involving the removal and replanting of crops have led to a greater risk of heat exhaustion and exposure to insect-borne disease than their male counterparts (Ogra 2008). During her fieldwork in 2003-4 Ogra (2007) observed women serving what food was available to others first and then privately eating what remained after the others had finished.

Women also reported that in times of food shortage, they would often “stretch” the remains of a meal, by adding water, to feed themselves.

“Women just do the adjustment... This happens and it is very normal”.

Harassment and molestation against women have also been reported as they are drawn out of their home and into new roles which pose risks to their safety. First Peoples (2006) reports that Batwa women returning home from work in neighbours’ fields were now at greater risk of sexual and physical attacks. Such incidences went unreported for fear of being locked up for false accusation. As a result of crop damage caused by animals, women in the Rajaji National Park were having to spend more time in the forest gathering materials for repairs. This led to increased encounters with forest guards who would harass the women (Ogra 2008).

“in the forest there is also the danger of the two legged animal” (p.1413)

“Earlier they would snatch our sickles and gathered fodder, and just throw them into the canal” (p.1414).

Physical injury and death were commonly reported by people living in or near protected areas, particularly where human-wild life conflict existed. In Ogra’s study (2008) villages reported deaths and injuries as a result of encounters with elephants. A less direct risk arises when elephants have damaged pipes leading to the village in the summer months. Until the pipes are repaired women fetch drinking water from a hydroelectric canal and occasionally fall into the fast moving water.

Songorwa (1999) reported high numbers of deaths and injuries in the Selous Game Reserve (IUCN IV), Tanzania a result of encounters with wildlife.

“See [showing her leg] the elephant has broken my leg. Four years back. We were bringing wood from the forest. The elephant was standing at the turn and I screamed on seeing it, and he came after me... Then I fell on the ground and he kicked me and went” (p.1415).

Poor women were also at increased risk when collecting fuelwood or fodder. When encountered by an elephant they were sometimes forced to abandon their bundles. For those women they can simply return to the village and purchase fuelwood, however for poor women they must return to the forest and risk another encounter (Ogra 2008)

Amongst the ‘hidden’ costs identified by Ogra of elephant attacks on villagers was a growing fear of leaving the village boundaries and entering the forest to gather sustenance (Ogra 2008). Women in the Selous Game Preserve were afraid to fetch water because of a fear of being attacked by buffaloes (Songorwa 1999).

In the category IV National Park of Qwaqwa in South Africa, residents felt unprotected (unlike the animals) (Slater 2002):

“The park seems to be doing nothing about the grass surrounding people’s houses. It causes the problem of snakes but we are not allowed to kill them. (p126)

The wild animals are very dangerous. My wife is a victim of an ostrich attack and it can be dangerous for the children who are coming home from school. It seems that we are getting trapped on all sides by animals.” (p126).