

# **Towards an integrated system for measuring the social impact of Protected Areas**

## **A discussion document**

**Poverty and Conservation Learning Group  
TILCEPA**

**UNEP-World Conservation Monitoring Centre: Vision 2020  
WCPA/CEESP Taskforce on Protected Areas, Equity and Livelihoods**

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### **1. The challenge**

One of the desired outcomes of protected areas should be to improve or at minimum 'do no harm' to the livelihoods of local people living near the protected area (IUCN World Parks Congress 2003). Despite various reviews and the favourable political environment provided through the CBD's Programme of Work on Protected Areas (PoWPAs), rather little data have been collected in a systematic way to test whether protected areas are making a positive or negative contribution to the livelihoods of people living immediately adjacent to the protected area, or further away from it. As this is such an important issue, various agencies and individuals have started to develop or adapt methodologies to test the livelihoods impacts of protected areas. However, at present there is no standardized methodology or approach for undertaking these kinds of assessments. This has been noted as a challenge that needs to be addressed by the WCPA/CEESP Protected Areas, Equity and Livelihoods Task Force (PAEL) (under the Strategic Direction of Governance, Equity and Livelihoods cross-cutting two technical IUCN commissions), by the UNEP-WCMC Vision 2020 project which, *inter alia*, seeks to expand the World Database on Protected Areas to cover socio-economic issues; and which was the subject of a working session of the Poverty and Conservation Learning Group (PCLG) 2007 Annual Symposium..

### **2. Ten problems with assessing social impacts**

1. There are many potential entry points to this discussion depending on what the intention of the work is.
2. There are a number of possible benefits and costs that can be measured and there is no agreement on what is a sensible list to measure to avoid the task becoming impossible to undertake.
3. Some methods use a "scientific" methodology and collect numerical data using trained scientists, whereas others might work with local expertise, focus on oral testimonies and local perceptions of change, and be undertaken by local people. There is no agreement as to whether the impacts can be scored qualitatively, or

whether they need to be turned into monetary values or whether a combination of both is required.

4. There are many definitions and dimensions of poverty and what is measured on the ground is defined to a large degree by the definitions being used; the particular dimension of poverty being measured (including income, nutritional status, child mortality; political empowerment); and the perceptions of the individual or organization doing the measuring as to what is important (eg financial impacts over resource access and control).
5. Some would argue that reliable data can only be collected from communities after a long period of working with them, and hence that rapid assessment tools are not useful. This has not been tested by any comparison studies though as far as we are aware.
6. There are a number of existing methodologies, often wedded to a single organization and little standardization or agreement between these agencies.
7. There are often no baselines or controls (i.e. before the PA was established, without PA, different possible PA management regimes) against which to measure the social impacts of the protected area.
8. The community is not a homogeneous entity and measuring a positive social impact of a protected area for one part of the community, does not necessarily mean that all parts of that community are benefiting. It is often the case that the poorest of the poor seem to lose out, even if richer members of the community are benefiting. Approaches that capture this diversity are needed. Whether impacts are disaggregated by different social grouping within communities (eg. by wealth, ethnic groupings, gender), i.e. to look at distribution of benefits and costs within communities.
9. Local people, especially indigenous groups who are not consulted or involved during the establishment of the protected area, lose their traditional land and resource rights, are excluded from all decision making processes, and do not subsequently benefit from the protected area. This makes the issue of costs and benefits of protected areas established on land where there have been long established indigenous groups particularly problematic. Few assessment methodologies take existing or historical land and resources rights into consideration.
10. Other problems include those of undertaking economic cost-benefit analysis in terms of valuing opportunity costs and assigning monetary values to non-monetary livelihood indicators. It is also hard to value the importance to livelihoods of traditional/cultural values, empowerment, existence values, social cohesion, etc and no reliable methods exist for doing many of these things.

### **3. What sorts of social impacts are we talking about?**

At the last World Conference on Protected Areas (Durban 2003), protected area networks and their management agencies have been asked to show the world that their

reserves at least 'do no harm' to local surrounding communities. Ideally they should also be delivering benefits to local people, but this is often not possible. Hence, the impacts we are talking about relate to questions of whether protected areas are actually 'doing no harm' and/or delivering benefits to the people living around them. There is also an important issue of human rights where protected areas should not be established in ways that damage the rights of existing communities. The importance of human rights, especially the rights of indigenous peoples, has also been recognized in the Durban Action Plan, the CBD Programme of Work, WWF Principles, IUCN WCC Resolutions, and elsewhere.

There is an important additional goal for protected areas as their benefits have traditionally been measured against the metric of conserving biodiversity (a global or national benefit) or providing important ecosystem services (such as carbon storage for the nation and global community, or hydrological services for downstream beneficiaries). These national and global benefits can have considerable financial value at their point of consumption, but this is not typically at the level of the park-adjacent communities

Significant attention has already been paid to social impacts of protected areas – for example there is a body of literature on the key impacts of protected areas – which can be negative (eg physical displacement, reduced/lost access to land and resources) or positive (eg income from tourism, enhanced conservation of essential resources, improved recognition of community conserved areas). The literature is, however, often anecdotal; often based on assertions about specific protected areas or types of protected areas and then generalized to encompass ALL protected areas; often context specific. Furthermore, many of the recorded impacts, when considered at a larger scale, may often be limited in scope, scale or distribution.

There is, thus, a great need to pull together the evidence for and against impacts of protected areas on local people, in a systematic and entirely objective way. This would give a basis dispelling some of the myths, challenging some of the received wisdom, and open paths to more fruitful interaction between protected area advocates and protagonists.

#### **4. How are social impacts currently assessed?**

We have identified a number of components to the task of measuring social impacts:

##### **a) Frameworks**

There are a number of existing assessment frameworks that help clarify what needs to be measured and the kind of information that needs to be collected. Examples include:

##### Sustainable livelihoods framework

This broad framework measures various forms of social assets that include Human (e.g. health, education); Financial (e.g. income (stored as livestock, planted trees or money)); Social (e.g. kin, associations); Physical (e.g. schools, roads and irrigation infrastructure); and natural (e.g. forest, rivers and water).

### State-Pressure-Response framework

This approach recognizes three themes against which data can be collected, the state of the habitat/human system, the pressures that this system faces and the human response to that framework. Included within the framework can be questions related to human livelihoods.

### Social impact frameworks

There are frameworks and general guidance for undertaking social impact assessment (SIA) within the large body of work on environmental impact assessment (EIA). Some major agencies include SIA as a part and parcel of EIA - but this is not necessarily specific to protected areas or even to conservation.

## **b) Indicators**

One of the first stages of any form of social impact study is the selection of relevant indicators that can be used to measure the changes that are regarded as important. Indicators will be linked to the context and aims of the work being undertaken, in this case related to protected areas. There is a huge literature on appropriate indicators for particular tasks, and there are also many discussions of the best indicators for measuring natural resource values and biodiversity on one hand and poverty and livelihoods on the other. Work has also been done trying to define poverty-environment indicators that aim to provide a way to measure both issues. This approach tries to bring together the most useful of poverty and environmental indicators to measure changes in this complexity of issues that are important for ensuring human wellbeing in the developing world.

## **c) Approaches and Tools**

### National Statistics

Various forms of poverty statistics are collected by governments, for example household budget surveys, livestock surveys, health surveys, education surveys, etc. These are for a variety of purposes, and in developing countries are often linked to reporting against Millennium Development Goals, or the requirements of Poverty Strategy Reduction Papers, etc. The field data collection methods can vary from information compiled by technical officers at local or national governments, through to complete or stratified random household surveys across the entire country. These approaches are used in global indexes such as the UNs Human Development Index, or the World Banks World Development Report.

*Limitations.* In general these approaches are hard to use to measure livelihoods impacts of protected areas as the sampling is not designed in that way. However, there are data collected by the governmental systems that can be used to assess impacts.

## Spatial mapping

Poverty mapping is the 'spatial representation and analysis of indicators of human well being and poverty'. These approaches take data from a variety of sources – typically those gathered for national statistics and map it using GIS systems. This tool is becoming increasingly important for governments, donors, and NGOs to improve targeting of public expenditure, to implement development interventions, and in emergency response. These approaches are now being picked up by conservation scientists who are increasingly experimenting with techniques to look at poverty in relation to mappable attributes of biodiversity – for example hotpots; protected area locations; ecosystem services.

*Limitations.* Spatial poverty mapping is a tool to display data, so the use for measuring the social impacts of protected areas will depend on the types of data that it displays and how they have been collected.

## Sites and Landscapes

Because protected areas are sites, often embedded within defined landscapes, methodologies have been developed or adapted that relate to collecting information on costs and benefits of protected areas at that scale. Because assessing livelihood impacts of protected areas at the level of the site involves collecting data from, and talking with local people, parks managers, officials, NGOs and donors the methodologies being proposed are all participatory in nature. There are a large number of agencies doing this kind of work and we offer here a snap-shot of what is being done.

### **1) CARE/ IUCN/WWF 'Assessment of Protected Area Costs and Benefits'**

This group of NGOs has developed a set of tools that can measure protected area costs and benefits at local, national and international scales. The approach contains two main elements: The first is a rapid social impact assessment (RSIA) tool. This aims to identify which PA-related costs and benefits are most significant to local communities, and to which socio-economic groups within the community. The second is a form of economic analysis (EA), which aims to put a value (in US dollars) on the most significant costs and benefits, looking at three discrete levels: Local level; National level; Global level. These approaches also take consideration of the governance type of the reserves – ranging from a) state management with no significant community participation in management and decision-making, b) Collaborative management/co-management where communities have significant to substantial influence over management and decision-making, c) Community-based management where the community has full authority over the PA (using the term in its broadest sense to include areas that are not formally gazetted).

*Limitations.* Has not been widely applied outside a few project sites.

### **2) IUCN/WWF/CIFOR landscape tracking tool**

This method has developed and field trialed as a tool that aims to collect data against the various assets of the sustainable livelihoods framework. It is designed to capture the data on Excel tables which can then be displayed in terms of a star diagram that

illustrates the various assets diagrammatically. The approach is also amendable to monitoring impacts over time as the various assets can be re-assessed in the future. The methodology has been applied in some landscapes around the world and a paper has been produced writing up the method.

*Limitations.* This method has only been used in a few sites as a demonstration of concept.

### **3) WWFs Benefit Assessment Tool**

The Benefit Assessment Tool is a protected area tracking tool that aims to assess the benefits being derived from that protected area. It does not assess costs or other negative impacts. The tool consists of two worksheets. The first is a background datasheet that contains the name, IUCN category, location etc, along with an opportunity to identify key management objectives and to make a value judgement about how much the protected area contributes to wellbeing. The second sheet captures the values and their benefits to protected area stakeholders. Values are broken down into the types of values; who they are important to; and qualitative information about their level of importance, their relationship to the protected area and the times of year in which they are important.

*Limitations.* The main limitation of this tool is that it only records benefits and not costs.

### **4) WCS Parks and People approach**

The Wildlife Conservation Society has developed a detailed research programme in Gabon that is tracking social issues in 1,000 households close to newly established protected areas and 1,000 households that are not adjacent to these areas. Quantitative surveys of each household, built on the World Bank Living Standards Measurement Study, can be used to assess (1) demographic attributes of the household (age and gender composition, ethnicity, education level); (2) short-term health, proxied by body-mass index and mid-upper-arm circumference of all family members; (3) household wealth, proxied by the value of a standard basket of assets and the quality of house construction; (4) household income, assessed as all sources of labor, trade, exchange, and remittance revenue generated by all family members in the previous month; and (5) consumption of natural resources, agricultural products, and manufactured goods, based on variable time-period recall

*Limitations.* This is a detailed study and will provide excellent data on the poverty impacts of these protected areas, but it is an intensive effort and will not be suitable for use across a very large sample of protected areas globally.

### **5) BirdLife's IBA monitoring methodology**

For some years BirdLife worked towards developing a framework to monitor the contribution that its conservation work in Important Bird Areas (IBAs) has on human wellbeing. A framework was developed characterised by the following main phases: first, PPA (Participatory Poverty Assessment) are used to identify poverty indicators relevant

to local people; second, the poverty indicators thus identified are grouped under a set of composite 'indicator classes'; finally, the composite indicators are classified under one of the OECD DAC core dimensions of poverty (economic, human, political, socio-cultural, and protective capabilities). BirdLife used this tool in a number of IBA sites around the world. However, BirdLife has more recently changed back to project and site specific monitoring due to difficulties of collecting data and difficulties of having a single approach that suited all situations.

*Limitations.* This methodology has only been applied at some IBA sites and BirdLife currently considers that a general tool will be hard to develop and apply across the world.

## **6) TNC's Conservation Action Planning**

The Conservation Action Planning approach is used broadly by The Nature Conservancy in its work to manage protected sites. This methodology is also a part of the toolbox of methods within the WWF networks programme standards for conservation planning. TNC is working to develop a methodology for assessing social impacts to be included within CAP. A document that summarises their approach will be available at the end of November 2007.

*Limitations.* Not known as the document was not available at the time of this review.

## **7) Others**

We are aware that methodologies exist or are being developed by CSIRO in Australia, Conservation International in the USA (also to be used by projects funded by the Critical Ecosystem Partnership Fund) but no details were available in time to include them in this snapshot

### **d) Field-based Tools and Methods**

Within many of the above approaches are a set of field tools and methods that collect the actual data. Most of these are broadly similar and have been developed by development experts to assess detailed aspects of community life. They are typically not specifically designed for the issue of communities living around protected areas, but they gather data that can be used for that purpose.

*Household surveys.* Many field approaches use household questionnaires to gather basic data on demography, wealth, social structures, health, etc. These forms of data gathering techniques form the basis of many national surveys, such as those on household incomes, livestock, etc.

*Participatory wealth ranking.* Participatory wealth ranking exercises aim to define four well-being categories, i.e. very poor, poor, rich and very rich. They are normally done with village leaders to provide some context to the exercise, and to set criteria for the divisions. After setting criteria, each household in a village list extracted from the village register was assigned to a wealth class. This list serves as a sampling frame for a stratified random sample of the different wealth classes.

*Participatory rural appraisal (PRA).* These tools are used at village meetings held in each village, with women's, men's and youth groups conducting separate exercises where appropriate. Groups consist of around 10-12 persons each. Exercises are typically conducted over a three to four day period in each village. During meetings, resource maps are drawn and discussions held with groups selected from the village.

*Household economic survey (HES).* The household economic survey methodology establishes values for costs and benefits that can be valued based on market prices. The survey focuses on the most significant effects that are considered to have greatest impact on household well-being (positive or negative), and does not consider other minor issues. Although in some cases questions have been added to gain a broader understanding of household livelihood security and the relative significance of PA costs and benefits, the household economic survey is not intended to be a comprehensive study of household economics.

*Participatory Environmental Valuation (PEV).* PEV is essentially a participatory rural appraisal (PRA) scoring exercise in which people estimate the value of a cost or benefit by assigning scores in relation to known costs/benefits. PEV may be conducted with groups or with individuals. In this methodology it is used with individuals as part of the household economic survey. In the specific context in which it is being used here the costs and benefits are usually an annual stream of cost or benefits. The PEV will focus primarily on costs and benefits that cannot be valued by more standard methods based on market prices, but where feasible will also include the costs and benefits that have already been valued through market price-based tools so as to "calibrate" the tool and provide triangulation. In some cases a "numeraire" may also be used which provides calibration against a non-PA related item of known value (e.g a goat) but this is only essential where no other known cost/benefit is included.

*Transect walks.* This method involves walking around the village, its land, or the protected area and asking questions that provide information on natural resource use/livelihoods issues.

*Key informant interviews.* Interviews with key players in the village provide additional information that can be used to cross check information on livelihoods obtained from other sources.

## **5. Conclusions**

This brief review outlines the strong need for gathering reliable data on the livelihoods impacts of protected areas, and illustrates some of the approaches being taken. These are many and various and operate at a variety of scales and for a variety of purposes, using both top down, bottom up data gathering approaches or a combination of both.

The review identifies that the question of social benefits of protected areas for local people is only a part of the issue at hand. There are also social benefits and costs at national levels and even at global levels. Benefits might be considerable for downstream users of water flowing from a park that has made local people very poor. Ecotourists may be deriving great benefits at the global scale from the survival of Giant Panda, Mountain Gorilla or other charismatic species – and feeding these benefits on to television companies, tour operations, airplane operators, and national tax offices – but

again the local people may be impoverished. Tracking these costs and benefits at multiple scales is possible, but very hard.

This review also outlines the challenges that this work faces and the fact that there is currently no agreed framework, approach, set of methods, or field tools for undertaking the required work to assess the social impacts of protected areas. Nor is there any funding to tackle the problem systematically, beyond agency specific or study specific financing and projects. As this is such an important issue for the protected area community – and links to several international agreements and the poverty elimination agenda, this is surprising.

As we've already noted, a common problem with the studies that have been undertaken to date is the fact that they lack adequate controls to convincingly demonstrate either positive or negative outcomes for local populations. Showing that local people around parks and reserves are often poor and marginalized from national society says little about the role of parks in their poverty and marginalization. The status of these people may simply reflect the fact that protected areas are often established in the most remote regions within countries where resources may be less abundant or productive and where households rarely have access to markets and are the last to be provided with social services. Furthermore, longitudinal studies have not been conducted that track changes in human welfare indicators over time within the same households local to a protected area. Finally, the welfare of households that traditionally have claims on park resources has never been compared concurrently with the welfare of "control" households that do not. Consequently one cannot assess whether changes in the welfare of park proximal households over time result from the establishment of the protected areas or from other exogenous factors such as a change in currency or commodity values that are likely to affect the welfare of all households within a nation.

Given the complexity, lack of coherence in the literature, and sometimes antagonism between protected areas advocates and social development specialists, some might argue that developing a social tracking tool for protected areas is impossible. We have chosen to adopt a more positive approach and below we outline a possible way forward, based upon discussions at the 2007 meeting of Poverty and Conservation Learning Group (PCLG) in London, and exchanges of emails and phone calls since that time.

## **6. A Way Forward?**

We propose the following steps to look at the issue of social tracking of protected areas:

- 1) A formal literature review of all the relevant scientific and grey literature on protected areas, their social costs and benefits. This has been partly completed, but further work is required. A useful report could be produced.
- 2) A formal assessment of the available literature against a set of questions/criteria developed by the PAEL Task Force that scores each study in terms of :
  - a. Conceptual framework used
  - b. Field methodologies used
  - c. Presence of controls
  - d. Spatial scale of data gathering

- e. Period of data gathering
  - f. Institutional approach or scientific case study
  - g. Degree of mainstreaming/embedding within long term mechanisms
  - h. Type of agency or partnerships of agencies doing the work
- 3) A formal assessment of the existing approaches, tools, methodologies against a set of questions that aim to elucidate the following:
- a. Top down, bottom up data approach or a combination of both
  - b. Benefits assessed (need a list)
  - c. Costs assessed (need a list)
  - d. Tradeoffs assessed (need consultation)
  - e. Types of questions that can be addressed
- 4) A proposed general framework and set of tools (tool) that can be put forward for discussion and endorsement by the WCPA PAEL and the CBD. Before getting to this stage significant consultation would be required, not least with the development and poverty specialists working on these issues but ideally through exchanges between such specialists and social scientists, economists, etc.. working with environmental and conservation issues.

To start this process off, we have included as an annex to this document a list of questions that might to be addressed as part of a standardized approach. The list is as exhaustive as possible – although please do let us know if there are any key issues we have overlooked - and we recognize that not all of this information will be relevant and/or possible to collect. We would therefore like to seek your feedback on which are the critical questions to ask so that we can develop a small subset that could form the core of a standardized approach

## **Acknowledgements**

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WE WOULD APPRECIATE YOUR FEEDBACK ON THIS DOCUMENT, INCLUDING FURTHER CONTRIBUTIONS OF ASSESSMENT METHODOLOGIES, LESSONS LEARNED AND SO ON. PLEASE POST YOUR COMMENTS DIRECTLY TO <http://www.dgroups.org/groups/oneworld/pclg/> OR EMAIL [pclg@iied.org](mailto:pclg@iied.org)

## Annex 1. Possible list of questions on benefits and costs of protected areas

### *Overarching questions (minimum information requirements)*

1. *Has the PA led to economic impoverishment or prosperity?*
2. *Has the PA led to political disempowerment or empowerment?*
3. *Has the PA led to socio-cultural disruption/ loss or enhancement?*

Protected Areas do no harm	Protected Areas do good	Specific
-	-	<p><b>Demography</b></p> <ol style="list-style-type: none"> <li>1. Number of people resident in the PA</li> <li>2. Number of settlements in the PA</li> <li>3. Number of people directly dependent on or culturally linked to the PA (including mobile/migrant populations)</li> <li>4. Major kinds of direct dependence and linkages to the PA</li> </ol> <p><b>Isolation</b></p> <ol style="list-style-type: none"> <li>5. Number of people resident within a 10 km radius</li> <li>6. Number of settlements within a 10 km radius</li> <li>7. Nearest settlement (km) if unoccupied.</li> </ol>
No impoverishment	Promote prosperity	<p><b>Benefits</b></p> <ol style="list-style-type: none"> <li>8. Are controls over resource use strengthened?</li> <li>9. How many people employed locally?</li> <li>10. Value of local service contracts annually.</li> <li>11. What services are paid for from PA revenues?</li> <li>12. How many people benefit from PA service provision?</li> <li>13. Expenditure per capita per year by PA on service provision.</li> <li>14. Value per capita per year of PA service provision.</li> <li>15. Number of people using resources within the PA.</li> <li>16. Value per capita per year of resource use within the PA</li> <li>17. Which groups use PA resources every day, seasonally, occasionally, and in times of hardship?</li> <li>18. PA tourists' expenditure per year.</li> <li>19. Tourists' expenditure as a proportion of area's GDP.</li> <li>20. Share of tourism revenue going to local communities, and its distribution within the communities.</li> <li>21. How do land and wildlife management inside the PA benefit local economies outside it?</li> </ol>

		<p><b>Costs</b></p> <ol style="list-style-type: none"> <li>22. Do the PA laws require eviction?</li> <li>23. Was eviction carried out?</li> <li>24. Number of people evicted?</li> <li>25. Was compensation offered?</li> <li>26. Damage suffered per capita?</li> <li>27. How voluntary was the eviction?</li> <li>28. Did people move back in after eviction?</li> <li>29. Number of evictees within a 10 km radius?</li> <li>30. Do laws require economic displacement?</li> <li>31. Is economic displacement enforced?</li> <li>32. Number of people affected by economic displacement?</li> <li>33. Costs per capita per year of economic displacement?</li> <li>34. Which groups used now prohibited resources used every day, seasonally, occasionally, or in times of hardship?</li> <li>35. How many complaints about damage causing animals are there each year? Is there an estimate of numbers of animal damage incidents that are not reported?</li> <li>36. Costs of damage by wildlife resident in the PA each year</li> <li>37. Are local rules and institutions governing resource use weakened by the presence of the PA?</li> <li>38. How do land and wildlife management inside the PA harm local economies outside it?</li> </ol>
<p>No increase in exclusion No increase in marginalisation</p>	<p>Promote good governance Empower rural communities, particularly marginalised groups</p>	<p><b>Ownership</b></p> <ol style="list-style-type: none"> <li>39. Is the PA a private PA, a Community Conserved Area or a State PA, or a collaborative PA (if the last, who are the collaborating partners)?</li> <li>40. If a State PA, is it managed by the central government, state government (federal systems), regional or local government? If a CCA, is it managed by a single people/community, or by multiple peoples/communities?</li> <li>41. Is the PA within the territory of an indigenous people(s), recognised by the state or claimed by the people(s), and does the PA deny or accept this status?</li> </ol> <p><b>Participation</b></p> <ol style="list-style-type: none"> <li>42. What is nature of local involvement in planning the PA (including formulating management plans, defining rules of access and resource use, etc)?</li> <li>43. What is nature of local involvement in managing the PA, including in enforcing rules?</li> <li>44. What is nature of local involvement in determining PA expenditure on local services and benefits, and sharing of revenues from these services/benefits?</li> <li>45. What is nature of the managing institution, and the nature of local involvement in this institution?</li> </ol>

<p>No increase in conflict</p>	<p>Reduce conflict</p>	<p><b>46.</b> Does local participation (or the lack of it) enhance or reduce the exclusion of minorities?</p> <p><b>Security</b></p> <p>47. Is the PA a refuge for criminal groups?</p> <p>48. Is the PA a refuge for insurgent groups, or claimed as its territory by an insurgent group?</p> <p>49. Does the PA separate warring groups?</p> <p>50. Is the PA on an international boundary, or crossing it, and therefore subject to potential or actual international conflict?</p> <p><b>Law Enforcement</b></p> <p>51. What is the level of conflict or tension between the PA managers and others (number of physical clashes per year, number of civil society demonstrations or incidents of unrest targeted at the PA or PA managers, etc)</p> <p>52. How many park guards are killed or wounded annually while enforcing PA legislation?</p> <p>53. How many local people are killed or wounded in clashes with PA managers, poachers, or others (identify the 'others')?</p> <p>54. How many poachers are killed or wounded when caught flouting PA legislation?</p> <p>55. How many people were formally warned for breaches of PA regulations?</p> <p><b>56.</b> How many people were arrested for breaches of PA regulations?</p>
<p>No loss of cultural heritage No loss of cultural integrity</p>	<p>Enhance sense of belonging Strengthen cultures and cultural practices</p>	<p><b>Belonging and Identity</b></p> <p>57. Is the PA used for important cultural events?</p> <p>58. Was the PA used for important cultural meetings which are now prohibited?</p> <p>59. Are there important sites of historical, cultural or spiritual significance inside the PA, or is the PA as a whole a culturally important site or within a culturally important landscape/seascape?</p> <p>60. Which groups' cultural ties to these sites are strengthened by PA legislation, the PA management plan, or unofficial practice?</p> <p>61. Which groups' cultural ties to these sites are weakened by the same?</p> <p><b>62.</b> Is there a process of social recognition (including awards) to the PA managers, provided by larger society?</p>
<p>No loss of property rights, else fair compensation for lost assets</p>	<p>Strengthening of property rights</p> <p>Fair payment for effective stewardship of enhanced environmental services (where a degraded ecosystem is protected and recovers), else a sustained environmental services (where a healthy ecosystem is protected and remains healthy despite problems around it)</p>	<p><b>Rights</b></p> <p>63. Have property or usufruct rights been lost due to the PA's presence?</p> <p>64. Were losses adequately compensated?</p> <p>65. Are any such rights created or strengthened by the PA's presence</p> <p><b>Rewards for Stewardship</b></p> <p>66. Is the PA financially supported by a local NGO?</p> <p>67. Is the PA supported by a national NGO?</p> <p>68. Is the PA supported by an international NGO?</p>

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|  |  | <p>69. What is annual expenditure <i>per capita</i> by each NGO on local services?</p> <p>70. What is the annual value <i>per capita</i> of each NGO's expenditure?</p> <p>71. Are there local groups who do not benefit from the distribution of these resources?</p> |
|--|--|--|