



# Social assessment of conservation initiatives

A review of rapid methodologies



Kate Schreckenber, Izabel Camargo, Katahdin Withnall, Colleen Corrigan,  
Phil Franks, Dilys Roe, Lea M. Scherl and Vanessa Richardson



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An output of the Social Assessment of Protected Areas (SAPA) Initiative

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# Acronyms

ARPIP	Action Research into Poverty Impacts of Participatory forest management
BIP	Biodiversity Indicators Partnership
CBD	Convention on Biological Diversity
CCB	Climate, Community and Biodiversity Alliance
CoP	Conference of the Parties
DAC	Development Assistance Committee
DFID	Department for International Development, UK
DPSIR	Driving forces – Pressure – State – Impact – Response
GEF	Global Environment Facility
IAIA	International Association for Impact Assessment
IBA	Important bird area
IFAD	International Fund for Agricultural Development
IISD	International Institute for Sustainable Development
INAFI	International Network of Alternative Finance Institutions
IUCN	International Union for the Conservation of Nature
MA	Millennium Ecosystem Assessment
MDGs	Millennium Development Goals
MPA	Marine Protected Area
NGO	Non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
PA	Protected Area
PAEL	Protected Areas, Equity and Livelihoods
PCLG	Poverty and Conservation Learning Group
PRA	Participatory Rural Appraisal
PSIA	Poverty and social impact assessment
PSR	Pressure – State – Response
REDD	Reduced Emissions from Deforestation and Forest Degradation
ROti	Review of Outcomes to Impacts
RRA	Rapid Rural Appraisal
SAPA	Social Assessment of Protected Areas initiative
SIA	Social Impact Assessment
SL	Sustainable Livelihoods
TNC	The Nature Conservancy
UNCTAD	United Nations Conference on Trade and Development
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre
WCPA-CEESP	World Commission on Protected Areas-Commission on Environmental, Economic and Social Policy
WCS	Wildlife Conservation Society
WDPA	World Database of Protected Areas
WB	World Bank
WHO	World Health Organization

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## Foreword by the SAPA partners

The 9th Conference of the Parties to the Convention on Biological Diversity (CBD) held in 2008 called on Parties to ensure protected areas contribute to the eradication of poverty and to sustainable development. Understanding the social effects of protected areas is a prerequisite for ensuring this contribution, but to date there is little data available to allow this. Some studies provide contradictory evidence from the same sites because they have been carried out with different methodologies or with different biases and assumptions. This not only makes it difficult for robust comparisons across protected areas but further complicates the task of addressing genuine concerns or of enhancing potential benefits. This issue is likely to become increasingly important as the pressure to protect land and natural resources escalates – for example under proposed schemes for Reduced Emissions from Deforestation and Forest Degradation (REDD).

The *Social Assessment of Protected Areas* (SAPA) initiative arose in recognition of the lack of a standardised, objective approach by which to qualify and quantify these impacts.

The term “protected areas” is traditionally associated with state-sponsored, formal efforts to conserve wildlife and natural habitats. But, as elaborated in a recent revision of IUCN’s protected areas typology, they take many forms – ranging from pristine natural habitats and cultural sites to multi-functional landscapes – and operate under widely different governance structures – from state-owned and managed national parks to natural or cultural sites that have been established and managed by indigenous and local communities. Moreover, sites/landscapes/seascapes that are identified as having potential to mitigate climate change – through REDD or other mechanisms – will become de facto protected areas because of the need to better protect resources within them.

This report is therefore of relevance to a wide range of situations where natural resources are under some kind of conservation or management regime, and where this regime may have consequences for local residents and other stakeholders. The majority of social assessment methodologies reviewed are not specific to protected areas and are likely to be just as valid for those seeking to undertake social assessments of any kind of natural resource management including rangeland, coastal resource management initiatives, and carbon initiatives.

This report is one output of the SAPA initiative. SAPA also aims to assist with indicators that can be linked to the World Database on Protected Areas – utilised for tracking progress on national and global conservation targets and providing critical insights for capacity-building – and to contribute to the social element of protected area management effectiveness assessments. The next phase of SAPA will tailor and test our framework methodology at a range of different

locations world-wide, and support capacity building in its application including the development of relevant guidance and training materials. In so doing SAPA is directly addressing one of the key gaps in implementation of the Programme of Work on Protected Areas of the Convention on Biological Diversity.

*Colleen Corrigan, Phil Franks, Dilys Roe and Lea M. Scherl*

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## Executive summary

Land, seascapes and natural resources are increasingly being set aside for protection in response to various drivers: to tackle biodiversity loss, to prevent deforestation as a climate change mitigation strategy, to restore declining fisheries. Within the biodiversity conservation sector, the impacts (positive or negative) of protected areas on local and indigenous communities have generated a lot of debate and discussions – and this discussion is escalating as other protection schemes come into play – for example Reduced Emissions from Deforestation and Forest Degradation.

Despite widely voiced concerns about some of the negative implications of protected areas for resident and neighbouring communities, and a growing interest in ensuring that they fulfil a range of social objectives as well as their more conventional conservation objectives, no standard methods exist to assess the social impacts of protected areas. This paper is intended to be the first step in addressing that gap.

There are a number of challenges associated with assessing social impacts of protected areas. One of these is *attribution*, namely how to determine whether observed impacts are related to the protected area as an institution, the ecosystem being managed or some other factors unrelated to the protected areas. Another challenge concerns the assessment of impacts that are relatively *intangible*, such as changes in attitudes and cultural practices, but may be as important as more tangible impacts in determining the perceived success of a protected area. A third challenge lies in ensuring that the impacts on *different local and more distant stakeholder groups* are captured. This report reviews around 30 tools, methods and methodologies that have been used for assessing social impact with a view to understanding how different researchers have tackled these challenges and how this experience can inform a more standardised process of methodology design.

A **conceptual framework** can be helpful in defining the key issues that need to be considered within an impact assessment. The most frequently used conceptual framework amongst the studies reviewed was the *sustainable livelihoods framework*. Its multi-dimensional approach to livelihoods reflects a general understanding that poverty is a dynamic and multi-faceted concept. Another group of methods used a *causal* or '*theory of change*' model to outline the expected (usually positive) changes resulting from a project intervention. Such methods are particularly useful at the outset of a project (e.g. establishment of a protected area) to develop monitoring and evaluation systems, as well as for impact assessment at an early stage when medium- and longer-term impacts might not yet be visible and assessments need to look for the expected intermediate stages. Several studies had no explicit conceptual model but rather used various participatory research tools to scope out key positive and negative issues for more in-depth assessment.

Having prioritised key issues or relationships for assessment, the next step in developing a methodology is to define appropriate **indicators**. These may be qualitative or quantitative, internally or externally defined and positive, neutral or negative. To be useful, indicators need to be clearly defined, relevant, transparent, variable across space and time and cost-effective to measure. Those specified in the studies reviewed ranged from highly quantitative and easily standardised indicators defined by external processes (such as the Millennium Development Goals) to very qualitative and locally specific indicators defined through participatory processes. Some indicators were applied at household level (and sometimes even with individuals) while others were more appropriate at community level and at the level of whole protected areas.

Based on the nearly 200 different indicators recorded from the studies reviewed, there was a clear preference for *quantitative* indicators relating to financial, physical and human (education and food security) aspects of livelihoods. There was a very evident gap at both household and community level in terms of *indicators of political impact*. This is surprising given the concern that some impacts of protected areas (such as restrictions on harvesting of wild products or creation of employment in tourism) may lead to power changes within households as well as between different groups in communities. Another gap related to *socio-cultural impacts*, which were assessed almost exclusively by qualitative indicators that are more difficult than quantitative ones to aggregate and transmit to higher decision-making levels.

Following the selection of indicators, the design of an impact assessment methodology requires a degree of **compromise** between the types of information to be collected (and the desired levels of certainty) and the resources available in terms of time, skills, secondary data and money. Resource constraints may determine how far the net is cast in terms of assessing impacts on groups (and sub-groups) within, close to and distant from the protected area. Resource constraints may also determine how an assessment deals with the issue of attribution, in particular whether data are collected from control communities or not. Even where resources are available, the use of control communities may not be possible for other reasons (e.g. difficulty of finding appropriate controls), or not desirable either for ethical reasons or because doubts remain about the degree to which they solve the attribution problem. In such cases, some studies have instead used '*before and after*' comparisons either by reconstructing baselines from secondary data or by asking respondents to recall the situation prior to the establishment of the protected area. Other studies have resorted to '*reflexive comparison*', which poses direct questions about the impacts of a protected area and relies on the respondents' ability to imagine a non-protected area scenario.

The level of resources also determines the **research tools** that can be employed to collect information. The most commonly used research tools were *household surveys* and a range of tools associated with *participatory rural appraisal*. Most of the longer methodologies took a phased approach using tools such as focus groups to scope out key issues and then probing these in more depth with additional tools (including household surveys). In general the focus was on applying tools at either household or community level with very little attempt to detect intra-household variation in perceived impacts.

A general and significant weakness in almost all the studies reviewed was a focus on data collection rather than on *how the resulting evidence would be analysed and used in learning processes*. If impact assessment is to result in improved implementation – to increase positive impacts and minimise negative impacts – then much more emphasis is needed on understanding and working with the *processes of policy change*. This is as true at local level where it is important to ensure that local (formal and informal) decision-makers are fully on board prior to initiating an assessment as it is at national level where it is essential to have a good grasp of the channels by which evidence can influence policy.

Linked to this latter point is another weakness observed in the studies, namely a *lack of capacity for upward aggregation*, with very few studies discussing how data can be combined and presented in such a way as to be useful at decision-making levels above that of the individual protected area. A further weakness is the lack of attention paid to the potential *negative impacts* of protected areas, particularly but not exclusively by causal model-based approaches.

In spite of the difficulties involved, avoiding the issue of how to assess social impacts is not an option given the general global trend towards increased monitoring of the effectiveness of interventions (of all kinds) and the specific context of the Convention on Biological Diversity requiring parties to the Convention to monitor the impacts of protected areas on communities and indigenous people. A compromise, therefore, is to use a standardised decision-making process to design locally appropriate assessment methodologies. This would include a number of critical steps:

1. Define and prioritise the key questions to be answered. This would depend on a number of factors – the likely end users; the objectives, and the key issues to be assessed.
2. Define the geographical and time limits of the protected area and its impacts. Clearly defining the scope and scale of the impact assessment helps to design a methodology that makes the most effective use of available resources.

3. Identify and prioritise key indicators for each question/issue. Important elements are the need to prioritise the issues to be assessed and focus on defining appropriate indicators that can address negative as well as positive impacts.
4. Determine experimental design – including sampling design and types of research tools to be used. This will depend on the resources (money, time, skills) available; the level of differentiation required – from individuals to communities to the whole protected area system; the attribution approach – whether the study includes ‘control’ communities or households; and the level of statistical certainty required.

Underlying the whole process is the need to engage from the start with the end users and processes of policy change (at various levels) to ensure that the information produced is actually used to influence decisions that might improve implementation.

# Introduction

## 1.1 The need for methods to assess social impacts of protected areas

The links between protected areas and their impacts (positive or negative) on local and indigenous communities and their contribution towards poverty reduction have generated a lot of debate and discussions (Scherl *et al.*, 2004; Wilkie *et al.*, 2006; Richardson, 2008). It is becoming more widely accepted now that biodiversity conservation and protected areas should at least 'do no harm' to local and indigenous communities and where possible contribute to poverty reduction. At the 9th meeting of the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD), participants were therefore encouraged:

*to ensure that conservation and development activities in the context of protected areas contribute to the eradication of poverty and sustainable development and ensure that benefits arising from the establishment and management of protected areas are fairly and equitably shared in accordance with national legislations and circumstances, and do so with the full and effective participation of indigenous and local communities and where applicable taking into account indigenous and local communities' own management systems and customary use.*<sup>1</sup>

Much of the concern about the social impacts of protected areas has been raised in relation to displacement of local people from land or resources. Only the most strict of the International Union for the Conservation of Nature (IUCN) protected area management categories (Table 1) is expected to be 'significantly free of human presence' (Borrini-Feyerabend *et al.*, 2004) but social impacts – positive and negative – can occur in a diverse range of contexts.

However, to date there is still little empirical evidence to assess the social, cultural and economic impacts of protected areas. Studies exist from individual protected areas but, in the absence of a standardised methodology that is considered objective and sufficiently rigorous, they frequently arrive at different conclusions. This not only makes it difficult for robust comparisons across protected areas but further complicates the task of generating the consensus and political will needed to address genuine concerns related to the social impacts of protected areas, and enhance the potential social benefits.

The lack of a standardised methodology reflects the varied nature of protected areas and the different information needs (and information-gathering resources available) of stakeholders ranging from protected area managers to national authorities and international conservation and social advocacy non-governmental

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1. COP 9 Decision IX/18, Bonn 19–30 May 2008

**Table 1.** The IUCN protected areas management categories

Category		Management objectives	Objectives in relation to human livelihoods
Number	Name		
Ia	Strict Nature Reserve	Managed mainly for science	Should be significantly free of human presence and capable of remaining so.
Ib	Wilderness Area	Managed mainly for wilderness protection	Indigenous human communities may live in low density and in balance with the available resources.
II	National Park	Managed mainly for ecosystem protection and recreation	Should take into account the needs of indigenous people and local communities.
III	Natural Monument	Managed mainly for conservation of specific natural features	Should deliver benefits to any resident population.
IV	Habitat/Species Management Area	Managed mainly for conservation through management intervention	Should deliver benefits to people living within and near the designated area.
V	Protected Landscape/Seascape	Managed mainly for landscape/seascape conservation and recreation	Should bring benefits and contribute to the welfare of local communities, e.g. through the continuation of traditional uses, building practices and social and cultural manifestations.
VI	Managed Resource Protected Area	Managed mainly for the sustainable use of natural ecosystems	Should conserve biodiversity while meeting community needs through a sustainable flow of natural products and services. Requires that two-thirds of the area be kept in natural condition.

Source: Based on Borrini-Feyerabend *et al.* (2004)

organisations (NGOs). As more protected areas have begun to incorporate multiple objectives, including social, cultural and economic objectives, different organisations have begun to test different methodologies for assessing the resulting social impacts. The main challenges faced in assessing social impacts, many of which are not unique to protected areas, have been rehearsed elsewhere (see Box 1).

Particularly troublesome is the issue of how specific impacts (both positive and negative) can be reliably attributed to the existence and current form of management of a particular protected area rather than to other factors (such as the mere existence of the ecosystem being protected or various government policies). In the case of a forested protected area, for example, a comparison



of a community bordering the protected area with one further away might reveal benefits such as better water flow or costs such as the existence of more crop predators in the community bordering the protected area. These might be attributed to the existence of the protected area but are more likely to be due to the existence of the forest ecosystem, the protection of which could feasibly have been assured by other management institutions. Attribution is not made any easier by the fact that the impacts of a protected area may often be quite small in comparison with other factors affecting livelihoods.

The overall aim of this report is to contribute to increasing the positive impacts (and reducing any negative impacts) of protected areas on human well-being by increasing capacity to conduct unbiased monitoring and measuring of social impacts as a basis for improved protected area policy and practice.



Photo: Colleen Corrigan

**Coastal community conservation in action, Southern Belize**

### **Box 1.** Ten challenges in assessing social impacts of protected areas

1. Many potential approaches depending on the intended users of the information, from assessments designed to improve management of specific PAs to system-wide assessments designed to prove the beneficial social impacts of PAs.
2. No agreement on which of the many benefits and costs to measure.
3. No agreement on whether methods should be quantitative and/or qualitative, and participatory and/or expert-based.
4. What is measured depends on the definitions of social impacts and poverty being used by a person/organisation.
5. While there is increasing recognition of the intangible impacts of PAs (e.g. on social cohesion, empowerment, human rights), these are particularly difficult to assess.
6. Some methodologies are associated with certain agencies, with no standardisation between them.
7. There are often no baseline data for the PA or non-PA areas against which to measure social impacts, making attribution difficult.
8. Approaches must be able to capture the different impacts of the PA (in terms of both benefits and costs) on different social groups (e.g. by wealth, gender, ethnic group).
9. Assessment needs to take account of historical land and resource rights, particularly where indigenous people are involved.
10. Impacts may differ over time and over space (e.g. within and outside a PA, and at different distances from a PA).

Source: Summarised from PCLG *et al.* (2007)

## **4**

### **1.2 Structure of this report**

The next two sections of this report present the background to this study followed by the methods used to carry out this review. This is followed in Section 4 by a discussion of the different conceptual frameworks used in the methods reviewed for this study. Section 5 discusses the different types of indicators used while Section 6 analyses the strengths and weaknesses of the different methods in relation to their potential use for assessing the social impacts of protected areas. In Section 7, some of the elements of a design process for a rapid assessment methodology are outlined followed by a brief conclusion in Section 8.

## Background to the study

This study contributes to a process of deliberation involving individuals<sup>2</sup> in a range of organisations interested in developing effective methods for assessing the social impacts of protected areas (the SAPA Initiative, see Appendix 1). The goal of the overall SAPA process, as defined by a workshop held at UNEP-WCMC in May 2008, is to:

*identify/develop and evaluate a range of methodologies and tools for assessing the social impacts of protected areas that enable conservation policy and practice to better adhere to the globally accepted principle that protected areas should strive to contribute to poverty reduction at the local level, and at the very minimum must not contribute to or exacerbate poverty. (Anon, 2008)*

The objectives of the present study<sup>3</sup> are to:

- Review social impact assessment methodologies relevant to protected areas and livelihoods.
- Produce a framework for livelihoods impact assessment that contributes to a global analysis of the costs and benefits of protected areas.
- Prepare a draft framework for designing a rapid assessment of social impacts of protected areas.

It is intended that this report will act as a working document for a workshop that will aim to develop draft guidelines for the rapid assessment of the social impacts of protected areas. Funding permitting, this would be followed by field-testing of the rapid assessment methodologies starting with a training workshop for the lead researchers or principal investigators from each participating site. It is understood that such a rapid assessment methodology could not deliver on all needs and objectives and that there is a need for a more comprehensive impact evaluation methodology to be developed in parallel.

The rapid assessment methodology is expected to be simple and low cost, relatively quick and easy to replicate (Anon, 2008). While two methodologies for assessing the impacts of protected area *systems* have been reviewed, the focus has been on social impact assessment of individual protected areas. Similarly, although a few methods for use *ex ante* (before protected area establishment) were assessed, the main focus was on methods for assessing impacts of well-established protected areas.

2. The process has involved a range of individuals but the present report has been backstopped particularly by (in alphabetical order) Colleen Corrigan (UNEP-WCMC), Phil Franks (CARE International), Luis Pabon (TNC), Dilys Roe (IIED) and Lea M. Scherl (IUCN).

3. The study has been funded by two separate contracts with CARE Denmark and TNC.

Table 2 lists a range of potential users of methods to assess social impacts of protected areas, including their main areas of interest and possible methodological concerns. A subsidiary interest of this study is to reflect on how information from the protected area level could be aggregated to national or international level, thus feeding into global level assessments and informing development of social indicators. This is of particular interest, for example, to the World Database of Protected Areas ([www.wdpa.org](http://www.wdpa.org)), a foundation dataset to support conservation decision-making at the global, regional and national levels.

The SAPA initiative is not alone in showing an interest in measuring the social impact of conservation (and other) interventions. In particular, the growth of carbon markets and the interest in opportunities arising from Reduced Emissions from Deforestation and Forest Degradation (REDD) projects to sell carbon credits, is also leading to the development of certification standards for the social impacts of forest carbon projects, notably the Climate, Community and Biodiversity Alliance (CCBA) standards.

Besides other initiatives that are reviewing impacts of protected areas, there are opportunities to use these methodologies and overall process to evaluate the relationship between protected area impacts and other conservation regimes, such as indigenous areas or locally managed areas.

**Table 2.** Summary of main potential users of protected area social impact assessment method

Primary users	Purpose	Main focus	Key methodological considerations
Community-based organisations	Lobby for equitable sharing of costs and benefits; improve PA management for social sustainability	Costs of lost access; level of contribution to social development and distribution of costs and benefits	Cost, complexity
PA managers (site level)	More effective management, build local support	Identify needed mitigation measures	Low cost, conflict sensitive, makes use of available staff
PA management (HQ level and parent ministry)	Inform strategic planning and resource allocation, demonstrating compliance to international conventions	Who is negatively affected, what are possible benefits, indicators relevant to national PRSPs or other strategies for economic growth	Inter-sectoral coordination, better reporting to international conventions
Social advocacy NGOs	Advocacy, representation of affected communities in PA decision-making	Human–wildlife conflicts, impacts on traditional access rights	Cost, cultural norms, social differentiation (particularly gender)
Conservation NGOs	Designing better conservation projects	Overview of all types of impact	Rigour and reliability of results
Project implementing and donor agencies	Monitor adherence to conventions and contribution to corporate/govt policies and goals, decide on future funding for PAs	Distribution of costs and benefits, potential impact on poverty	Scientific rigour, systematised methods
UNEP-WCMC	To inform the World Database on Protected Areas ( <a href="http://www.wdpa.org/">http://www.wdpa.org/</a> )	Distribution of costs and benefits	Results that are comparable, reliable and easily aggregated

Source: SAPA workshop, UNEP-WCMC, 15–16 May 2008



Photo: Colleen Corrigan

Selling seafood products to make a living in Ha Long Bay, Vietnam

## Methods used in this study

### 3.1 Data collection

A snowball technique (in which one reference or comment leads to another) was used to identify literature for this review, beginning with the literature reviewed by Richardson (2008) and supplemented by suggestions from the donor and core group of the SAPA initiative. More information was obtained from email discussions with experts on monitoring and evaluation or those interested in impact assessment of conservation initiatives<sup>4</sup> as well as through the usual web-based searches. The intention was to include research that:

- was relatively recent (as Richardson's thesis covered the pre-2008 period);
- described a tool or methodology with enough detail to be able to assess its merits and demerits;
- included impact assessment of marine and freshwater protected areas; and,
- went beyond impact assessment of protected areas to include the broader range of social impact assessment methodologies that could inform work on protected areas.

In this way, over 30 different tools and methodologies (many described by more than one reference) were identified in addition to general literature dealing with the issue of impact assessment. These were reviewed systematically using a series of common descriptors (Box 2) and the reviews were then assessed to determine whether:

- a) we had enough information to assess the relevance of the tool or methodology;
- b) the documented tool or methodology (on its own or in combination) might have a role to play in assessment of social impacts of protected areas; and,
- c) the tool or methodology could be part of a rapid assessment.

On this basis, 20 tools and methodologies (see Table 3 below for a summary list and Appendix 3 for the 2-page descriptions) were retained as providing particularly useful insights for this study. Seven of these reported on experiences from protected areas (though some of these could also be used in non-protected areas), while the remainder were from other areas.

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4. We are grateful to the following for their inputs: Caroline Ashley, Brian Belcher, Charlotte Boyd, John Claussen, Louise Glew, Natasha Grist, Irene Guijt and Michael Richards.

## Box 2. Descriptors used to prepare 2-page summaries of impact assessment methods

- Name of tool or methodology (as applied by case study author)
- Objectives (of the tool or methodology as used in the particular case study)
- How is it used?
- What is assessed? (costs, benefits, dimensions of well-being)
- Potential scales of assessment (individual/household/community/national/global)
- Level of differentiation possible (e.g. by gender, age, wealth, ethnic group, etc.)
- How is attribution of the impact to the initiative being investigated (e.g. the PA) assessed?
- Who has used it? Where? When?
- Feasibility issues (time, cost, skills)
- Other notes (e.g. similarities to other tools or methodologies)
- Summary: Main merits
- Summary: Main disadvantages
- Key case study references

### 3.2 Tools, methods and methodologies retained for detailed review

Although the use of the terms 'tools', 'methods' and 'methodologies' is not consistent between authors, the most common definitions are:

- Tools: specific data gathering instruments/exercises.
- Methods: sets of tools of a certain type, e.g. Participatory Rural Appraisal.
- Methodologies: overall package of experimental design and information gathering tools.

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The distinction is not hard and fast, however. An activity such as the index-based Basic Necessities Survey, for example, is considered a stand-alone methodology by its developers but it could also be used as a component tool within a longer methodology. In this report, therefore, we use 'methods' as a shorthand when discussing the full range from tools to methodologies, but use 'tools' and 'methodologies' where referring to specific cases.<sup>5</sup>

The methods reviewed ranged from those that consisted essentially of a single tool (e.g. Basic Necessities Survey, Coping Strategies Index, Protected Area – Benefit Assessment Tool) to those that comprised a large number of different tools (e.g. Participatory Impact Assessment, Household Livelihood Security Assessment). The latter were useful in that many provided guidance on how to think through the steps of undertaking an impact assessment as well as giving clear instructions on how to implement individual tools.

Although the focus of this report is on methods to assess impacts of existing protected areas, several methods (Outcome Mapping, Participatory Impact Pathways Analysis, Socio-Economic Assessment Toolbox) were included that are intended to be used prior to or at the very start of an intervention. Some

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5. In general, we apply the term used by the developer of the method concerned.

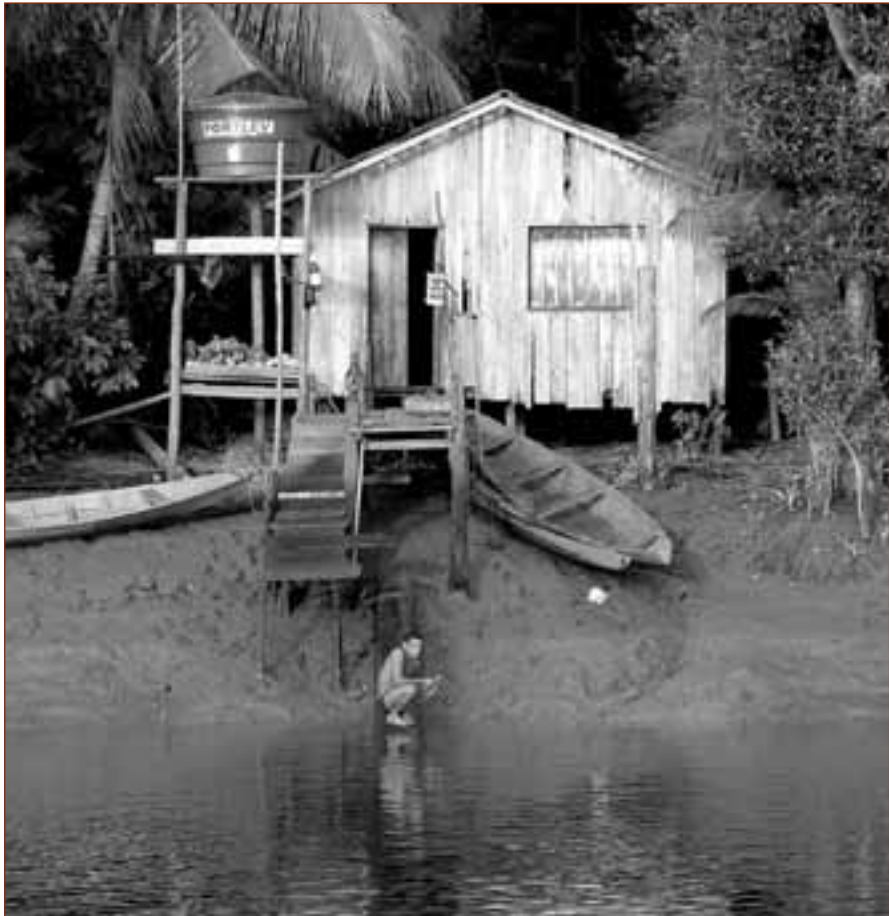


like Outcome Mapping and Participatory Impact Pathways Analysis are used to develop causal models, based on which monitoring and evaluation systems can be developed. Others like the Socio-Economic Assessment Toolbox are intended, amongst other things, to develop a baseline against which later monitoring can be carried out. These methods were included in case elements could be adapted for use in situations where a protected area already exists, e.g. to develop a causal model post hoc.

The further analysis – based primarily on the retained tools and methodologies but also on the general literature consulted – consisted of three parts:

- noting the conceptual framework, if any, used by the tools/methodologies;
- noting the types of indicators used; and
- analysing the strengths and weaknesses of the different methods in relation to their use in assessing social impacts of protected areas.

These issues are discussed in Sections 4, 5 and 6 respectively.



**Riverine community in the State of Para, Brazilian Amazon**

Photo: Amilcar Carneiro

<b>Table 3.</b> Methods analysed in this study			
Method name	Acronym	Appendix 3 <sup>6</sup>	PA specific <sup>7</sup>
INDEX-BASED METHODS			
Basic Necessities Survey	BNS	2	No
Coping Strategies Index	CSI	5	No
Quantitative Participatory Assessment	QPA	17	No
TOOLS			
Participatory Economic Valuation	PEV	12	[Yes]
Landscape Outcomes Assessment Methodology	LOAM	7	No
Committee on Sustainability Assessment	COSA	3	No
Household Livelihood Security Assessment	HLSA	6	No
DETAILED METHODOLOGIES			
Parks and People	P&P	11	Yes
Participatory Impact Assessment	PIA	13	No
Protected Area – Benefit Assessment Tool	PA-BAT	16	Yes
Rapid Social Impact Assessment	RSIA	18a & 18b	[Yes]
METHODOLOGIES FOR PA SYSTEMS			
Comparison group approach	CGA	4	Yes
Matched method approach	MMA	8	Yes
METHODOLOGIES WITH INTERESTING ELEMENTS			
Appreciative Inquiry	AI	1	No
Most Significant Change	MSC	9	No
Outcome Mapping	OM	10	No
Participatory Impact Pathways Analysis	PIPA	14	No
Poverty Forests Linkages Toolkit	PROFOR	15	No
Socio-Economic Assessment Toolbox	SEAT	19	No
Socio-Economic Monitoring	SOCMON	20	Yes

6. For ease of reference, Appendix 3 contains the 2-page summaries in alphabetical order.

7. This column indicates whether the methods as reviewed were specific to protected areas ('Yes'), were reported from a protected area but could be used in non-protected areas ('[Yes]'), or were reported from non-protected areas ('No').

## Existing frameworks for assessing social impacts

Protected areas are extremely variable in the degree of change they lead to in the lives of local populations. This depends not only on the legal status of the protected area itself but also on the complex interactions between factors in its social, political, economic, cultural and environmental context. The list of potential positive and negative benefits (immediate and longer term) on populations within or outside (and sometimes quite distant from) the protected area is long. The choice of impacts to assess is primarily influenced by the needs of end users (who may be local communities or international NGOs; see summary in Table 2) – as well as practical considerations such as resources available – leading to the many different methods reviewed here.

One way of helping to organise potential impacts in a more consistent manner is through the use of a conceptual framework. The conceptual framework also determines which indicators are measured on the ground, for example by defining poverty more or less broadly. The studies reviewed took four main approaches:

- **No discernible framework.** This was the case for some of the index-based methods, such as the Basic Necessities Survey (#2), which develops a set of indicators on the basis of focus group discussions and then applies the same set of questions across many communities. The list of indicators could, however, be determined and organised with reference to a conceptual framework. Some of the longer methodologies, composed of many tools (e.g. Parks and People Approach, #11), also had no underlying framework, apparently relying on a wide variety of tools to capture impacts as broadly as possible. The two system-wide approaches (Comparison Group (#4) and Matched PAs (#8)) were constrained by data availability to a very limited number of indicators.
- **Sustainable livelihoods framework.** Several studies explicitly used the sustainable livelihoods framework (or modified versions) to help define indicators and organise questioning.
- **'Opportunities' framework.** A set of studies of marine protected areas and poverty reduction used the World Bank's definition of poverty as a lack of opportunities, empowerment and security as the starting point for a conceptual framework.
- **Causal models.** The remainder of the studies generally began by developing a causal model (or 'theory of change' model) of some kind on the basis of which indicators were defined. In some cases this was very explicit, while others used preliminary tools (e.g. focus groups or appreciative inquiry) to generate lists/categories of impacts.

Below we discuss in more detail the sustainable livelihoods framework, the World Bank's 'opportunities' framework and the causal model approach and also touch on some other approaches (rights-based approach, value chain analysis, the Millennium Development Goals and the Millennium Ecosystem Assessment) that may prove useful in specific conditions, before discussing some of the elements necessary for developing an overarching conceptual framework for assessing the social impact of protected areas.

#### 4.1 Sustainable Livelihoods Framework

The Sustainable (Rural) Livelihoods (SL) Framework was developed in the late 1990s (Carney, 1998; Scoones, 1998) and then widely promoted by the UK's Department for International Development (DFID). It quickly became widely used by all the major development organisations (Hussein, 2002). Responding to earlier narrow visions of livelihoods (focused on economic or, even more narrowly, on financial aspects), the SL framework defines a set of capabilities or assets, on the basis of which people construct their livelihoods (Figure 1). These assets and capabilities are commonly grouped under five headings:

- **Human**, e.g. education, formal and informal skills, health.
- **Natural**, e.g. natural resources such as farming and grazing land, forests and non-timber products, wildlife, and water.
- **Physical**, e.g. shelter, infrastructure such as roads and transport, buildings, irrigation systems, and productive assets such as seed, tools, livestock, fishing gear and other farm and processing equipment.
- **Financial**, e.g. cash income and remittances, credit, savings in kind and cash.
- **Social**, e.g. formal and informal institutions (including markets), associations (e.g. water users and savings and credit associations), extended families, and local mutual support mechanisms.

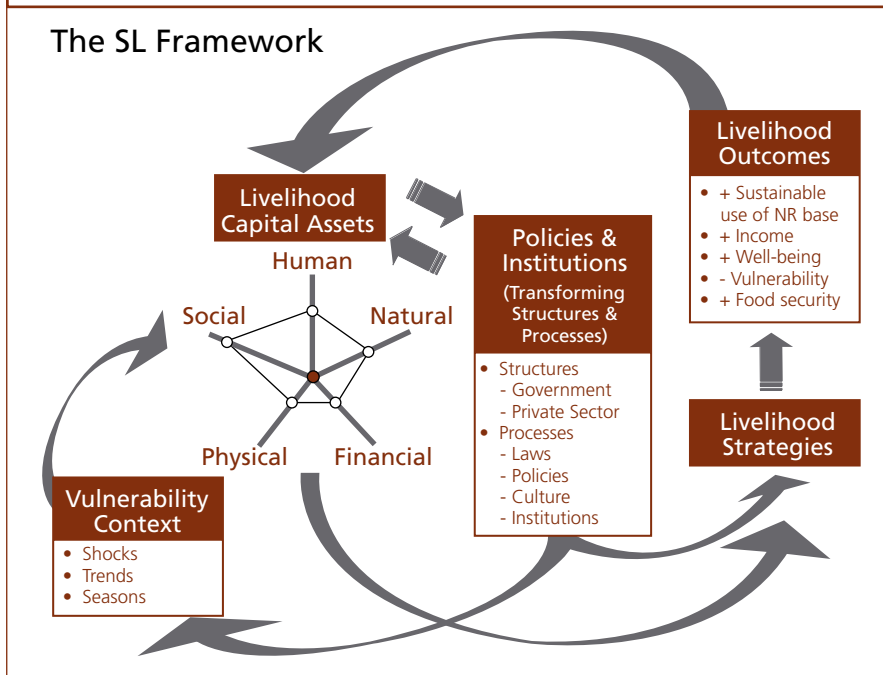
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A livelihood can be considered sustainable when it 'can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base' (Chambers and Conway, 1992). The framework highlights the potential impact of policies, institutions, structures and processes on a household's assets and its vulnerability context, thus determining the livelihood strategy and outcomes achieved by a household (or other unit of analysis).

Problems with the implementation of the SL framework have included:

- The five assets are intended to provide a multi-faceted view of livelihoods; however, many studies focus too much on collecting information for each asset at the expense of integrating the information (for which no agreed mechanism exists), resulting in a fragmented rather than a holistic understanding of impacts on livelihoods.
- Some users felt that certain aspects of livelihoods were not sufficiently captured by the five assets and added political, cultural, personal and/or organisational ones.

**Figure 1.** DFID's Sustainable Livelihoods Framework diagram



Source: <http://www.chronicpoverty.org/toolbox/Livelihoods.php>

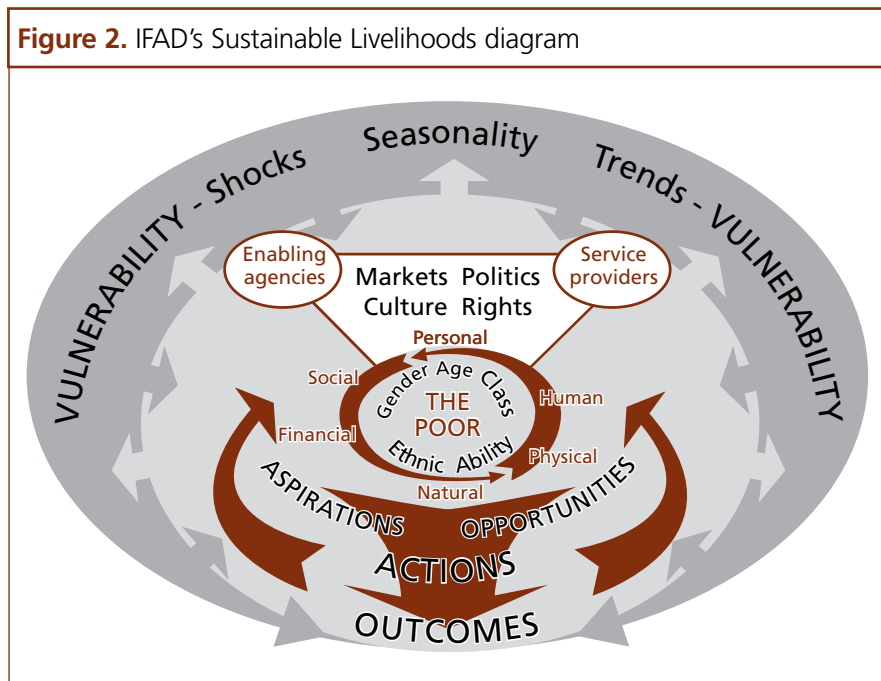
- The framework was originally designed for use at household level. It is now frequently also used at community level, which raises issues about how the 'assets' are defined at this level.
- Furthermore, how local-level processes are related to the national policy level is difficult to show using the framework.

In response to a view that the poor had actually been lost from view through too much focus on the asset pentagon, and a concern that the essential linkages between different elements of the framework were not represented effectively by DFID's diagram, the International Fund for Agricultural Development (IFAD) elaborated a new SL framework diagram (Hamilton-Peach and Townsley, 2004). Importantly, this also incorporated the aspirations of the poor and the opportunities they perceive for change, as well as indicating that 'the poor' are not a homogenous group, but differ by age, gender, class, etc.

While DFID itself no longer explicitly promotes use of the SL framework, many other organisations have adapted it or developed their own definitions and approaches, which can easily be mapped onto the SL framework. One of these is the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development's (OECD), which uses a definition of poverty that has five core dimensions: economic, human, political, socio-cultural

and protective capabilities. Similarly the International Association of Impact Assessment (Vanclay, 2003) provides some principles for social impact assessment (see Box 3) which, though making no reference to the SL framework, can be at least partially mapped onto the IFAD version of the SL diagram. Both these cases include an explicit focus on 'political' systems, which was subsumed under 'social' assets in the original SL framework. Overall, application of the SL framework currently ranges from a very simplistic reference to the five assets to attempts to engage with the more complex reality displayed in the IFAD diagram.

**Figure 2.** IFAD's Sustainable Livelihoods diagram



Source: Hamilton-Peach and Townsley (2004)

From the discussion above it is possible to identify a number of advantages and disadvantages of the SL framework in relation to rapid assessment of social impacts of protected areas:

- Recognises the complex reality of components of people's livelihoods that may be affected by a protected area.
- Variants of the original DFID framework are widely used and understood by different organisations.
- Difficult to integrate the different elements into one or more quantitative or qualitative measures that can be compared between sites or aggregated upwards as the weighting of the assets may be different in different sites, for different groups of people and at different times.
- May fail to capture intra-household equity issues.
- Attribution is not captured within the framework itself but it can be assessed by applying the framework repeatedly over space or time.

### Box 3. International principles for social impact assessment

A convenient way of conceptualising social impacts is as changes to one or more of the following:

- **People's way of life** – that is, how they live, work, play and interact with one another on a day-to-day basis.
- **Their culture** – that is, their shared beliefs, customs, values and language or dialect.
- **Their community** – its cohesion, stability, character, services and facilities.
- **Their political systems** – the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose.
- **Their environment** – the quality of the air and water people use; the availability and quality of the food they eat; the level of hazard or risk, dust and noise they are exposed to; the adequacy of sanitation, their physical safety, and their access to and control over resources.
- **Their health and well-being** – health is a state of complete physical, mental, social and spiritual well-being and not merely the absence of disease or infirmity.
- **Their personal and property rights** – particularly whether people are economically affected, or experience personal disadvantage, which may include a violation of their civil liberties.
- **Their fears and aspirations** – their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

Source: Vanclay (2003)

## 4.2 'Opportunities' framework<sup>8</sup>

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In its 2000 World Development Report, the World Bank proposed a more comprehensive approach to reducing poverty that addressed the needs of poor people in three areas (World Bank, 2000):

- **Opportunity:** Expanding economic opportunity for poor people by stimulating economic growth, making markets work better for poor people, and working for their inclusion, particularly by building up their assets, such as land and education.
- **Empowerment:** Strengthening the ability of poor people to shape decisions that affect their lives and removing discrimination based on gender, race, ethnicity, and social status.
- **Security:** Reducing poor people's vulnerability to sickness, economic shocks, crop failure, unemployment, natural disasters, and violence, and helping them cope when such misfortunes occur.

Based on this multi-dimensional understanding of poverty, several studies carried out by TNC in Fiji, Solomon Islands, Indonesia and Philippines (summarised in Leischer *et al.*, 2007) developed a simple framework (see Table 4) to assess the contribution of marine protected areas to poverty reduction (see Appendix 3, #18b for more details). The framework could be adapted to non-marine environments though no such examples were found during this review.

8. There is no formal name for this framework. We have used 'opportunities' as a shorthand name in recognition of its emphasis on process.

**Table 4.** Framework based on World Bank definition of poverty

Opportunities	Empowerment	Security
Income Housing Luxury goods Fish catch Education Alternative livelihoods	Governance mechanisms Community participation Benefits to women Access and rights	Health Social cohesion Cultural traditions

Source: van Beukering *et al.* (2007a, b, c, d)

While there are many overlaps with the assets of the sustainable livelihoods framework, particularly in the body of the table, this framework is focused more explicitly on understanding how a protected area contributes to the process of poverty reduction.

### 4.3 Causal models and ‘theory of change’

A causal model is a form of conceptual framework with a focus on describing cause–effect relationships. Also known as a ‘theory of change’ model, this is a ‘theory-based evaluation tool that maps out the logical sequence of means-ends linkages underlying a project and thereby makes explicit both the expected results of the project and the actions or strategies that will lead to the achievement of the results’ (GEF, 2009). The advantage of a causal model is that it explains how an intervention can give rise to specific outcomes and impacts, thus tackling the issue of attribution. Richards (2008) notes that causal models are commonly used in the microfinance sector, which has the advantage of being able to draw on a large body of econometric research showing how social outcomes are correlated with poverty reduction.

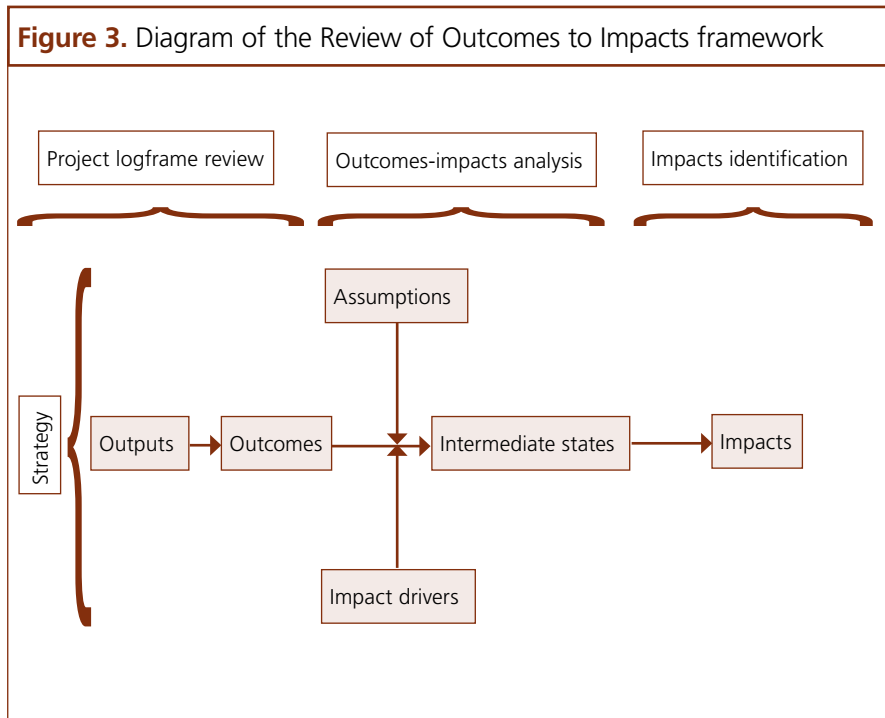
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The lack of similar evidence relating to the social impacts of protected areas means that there is no generic causal model available for defining indicators. A few of the reviewed methods specifically set out to develop project-specific causal models. These methods are typically used at project initiation (e.g. Participatory Impact Pathways Analysis (#14), Outcome Mapping (#10)) in order to establish frameworks that will facilitate later monitoring and evaluation. Both Participatory Impact Pathways Analysis and Outcome Mapping are quite involved and therefore less appropriate for a rapid impact assessment, particularly when carried out some time after establishment of a protected area. They might, however, be well worth considering for new protected areas.

One reason for using causal models is that, by outlining the process by which impacts are expected to be achieved, they can help to assess impacts of interventions that are too recent for long-term impacts to be evident. They are therefore potentially useful for environmental projects, the impacts of which occur slowly and may be difficult to measure directly. This is the case for many



Global Environment Facility (GEF) projects, leading the GEF Evaluation Office to produce a draft practitioner’s handbook (GEF, 2009) on what it terms ‘Review of Outcomes to Impacts’ (ROtI) (see Figure 3). The ROtI’s theory of change approach allows for an ‘assessment of the logical process linking outcomes to impact [which] is realistic to achieve during short evaluation missions, and provide[s] a potentially robust indirect measure of the ultimate impact’ (GEF, 2009).



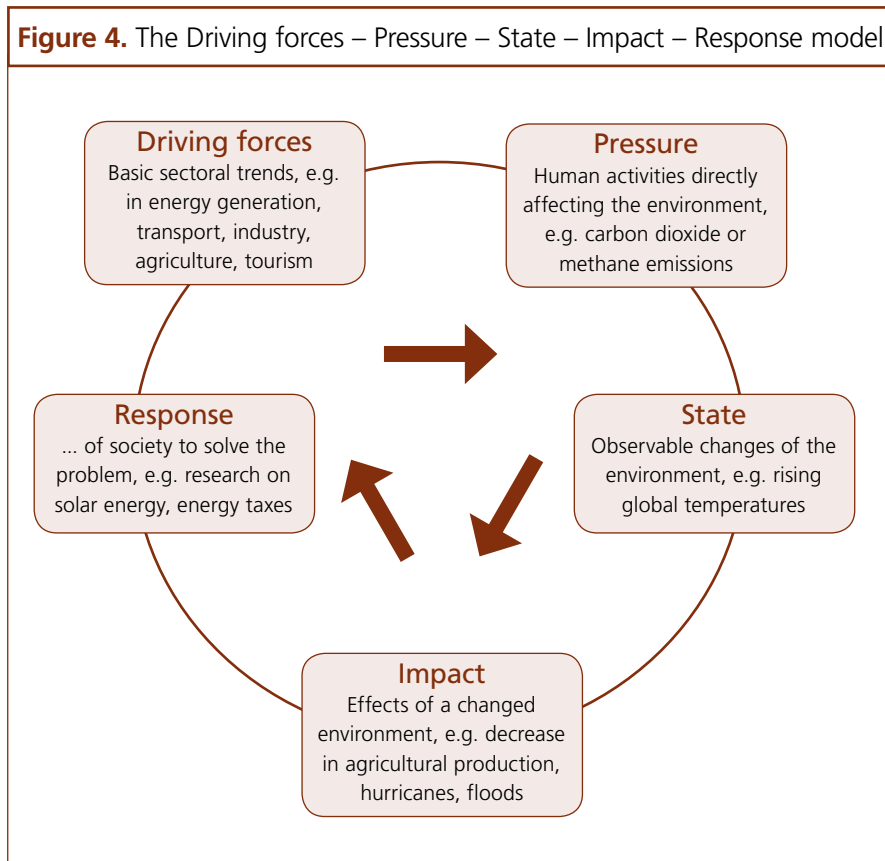
Source: GEF (2009)

While the causal models in the reviewed studies were all locally specific, there are more generic causal model frameworks. One of these is the ‘Driving forces – Pressure – State – Impact – Response’ (DPSIR) framework, an extension of the PSR (Pressure-State-Response) model, developed by Anthony Friend in the 1970s, and subsequently adopted by many European and international organisations for reporting on relationships between the environment and the economy (Yangang Xing *et al.*, undated). The DPSIR framework has been modified for use in the Millennium Ecosystem Assessment (MA) and has also been proposed to the UN General Assembly for the global reporting and assessment of the state of the marine environment, including socio-economic aspects (UNEP and IOC-UNESCO, 2009). The DPSIR framework is used for organising information about the complex chain of cause-and-effect in the interactions between society and the environment and consists of several components (see Figure 4).

*Driving forces* refer to economic, technological, social and even natural (e.g. temperature trends) factors that shape human activities exerting *pressures* on the environment. The *pressures* are the specific ways that human activities lead to changes in the *state* of the environment and *impacts* on valued parts of ecosystems or on society. Impacts may trigger *responses* from regulating authorities or the private sector (UNEP and IOC-UNESCO, 2009).

A DPSIR framework could be developed at the level of a protected area system or an individual protected area. As discussed above for causal models, a DPSIR cause–effect framework can be useful in helping to identify priorities and find the most efficient response measures. The attraction of the DPSIR is that it draws attention to drivers and pressures at various scales, including within and outside a protected area and might, therefore, assist in visualising the relative importance of the protected area versus other drivers and pressures affecting livelihoods in a locality.

**Figure 4.** The Driving forces – Pressure – State – Impact – Response model



Source: Modified from UNEP and IOC-UNESCO (2009)

As with the SL framework, it is possible to identify a number of advantages and disadvantages of a causal model in relation to rapid assessment of social impacts of protected areas:

- Can help to overcome the attribution issue by describing expected links between the protected area and specific livelihood (and other) outcomes and impacts.
- Highlights the external drivers and pressures that may contribute (possibly more than the protected area itself) to the perceived social impacts.
- Provides an understanding of the process by which particular impacts are achieved (and often the key actors involved), making it easier to identify interventions to achieve desired change.
- Focuses on intended impacts and may, therefore, not uncover unexpected impacts.
- Methodologies, such as development of logical frameworks or problem trees, require skilled facilitation if process is to be truly participatory and understood by local communities.
- Difficult to use in retrospect.
- Fairly broad-brush approach – not easy to determine socially disaggregated impacts.
- If locally specific, then difficult to compare between sites or aggregate upwards.

#### 4.4 Rights-based approaches

Given that ‘protected areas are socially constructed sets of rules that ... allocate access to and use of natural resources among stakeholders’ (Mascia, 2004, cited in Mascia and Claus, 2008), a rights-based approach may be particularly appropriate for assessing their impacts. However, not only do protected areas vary in size, resource type and age, but – more fundamentally – they differ in the way in which they impact on local people’s rights. Table 1 summarised the livelihood objectives of protected areas in different IUCN categories but no framework exists for assessing how the rights of local people are affected by different types of protected area. In part this is due to the many layers of rights that may apply, from those enshrined in international law (such as the Declaration of Human Rights or the 2007 United Nations Declaration on the Rights of Indigenous Peoples<sup>9</sup>) to those safeguarded only by customary law. A further complicating factor is the contested nature of many rights, e.g. while local people may feel that they have customary rights to the resources of a particular area of land, government may legitimately claim to be protecting the rights of society as a whole by declaring the land a protected area.

In spite of these difficulties, rights are at the heart of the ‘core values’ of the social impact assessment (SIA) community of practice (Vanclay, 2003), as outlined in Box 4. Consideration of some aspects of rights is an important part of a number of the studies reviewed (e.g. several studies have used methodologies that include specific questions relating to gender issues).

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9. For example, in Decision VII/28, the 7th Conference of Parties to the Convention on Biological Diversity took a legally binding decision that ‘the establishment, management and monitoring of protected areas should take place with the full and effective participation, and the full respect for the rights of, indigenous and local communities consistent with domestic law and applicable international obligations’.

#### Box 4. Core values of the SIA community of practice

1. There are fundamental human rights that are shared equally across cultures, and by males and females alike.
2. There is a right to have those fundamental human rights protected by the rule of law, with justice applied equally and fairly to all, and available to all.
3. People have a right to live and work in an environment that is conducive to good health and to a good quality of life and that enables the development of human and social potential.
4. Social dimensions of the environment – specifically but not exclusively peace, the quality of social relationships, freedom from fear, and belongingness – are important aspects of people’s health and quality of life.
5. People have a right to be involved in the decision-making about the planned interventions that will affect their lives.
6. Local knowledge and experience are valuable and can be used to enhance planned interventions.

Source: Vanclay (2003)

An important subset of rights relating to the management of natural resources have been distinguished by Schlager and Ostrom (1992) as the *rights to access, withdraw, manage, exclude and alienate resources*. Table 5 gives some examples of these, drawn from marine protected areas.

In their study of the changes imposed by six different marine protected areas on these five types of resource-related rights, Mascia and Claus (2008) highlight that rights can be gained (through creation of new rights or reaffirmation/securing of existing rights), but also lost or reallocated. Furthermore, they can be held

**Table 5.** Different resource-related rights in marine protected areas

Right	Definition (Schlager and Ostrom, 1992)	Examples from a marine PA (Mascia and Claus, 2008)
Access	Right to enter a defined area and exploit a specific resource	Rights (e.g. based on residence, or defined by a contract) to enter PA for fishing, diving or tourism
Withdrawal	Right to exploit resources for consumptive and/or non-consumptive use	Contract that specifies how many fish can be caught where, when and how. Note that the literature on impacts of participatory forest management (e.g. Schreckenberg and Luttrell, 2009) emphasises the need to distinguish withdrawal for subsistence and commercial use.
Management	Right to manage and improve a resource	Establishment of fishing regulations; introduction of buoys
Exclusion	Right to exclude potential users	Exclusion of non-local fishers
Alienation	Right to transfer management and exclusion rights to others	Transfer of lagoon fishing rights

by a range of (possibly overlapping) bodies, including individuals, groups (e.g. a community-managed marine protected area) and/or various levels of government authorities. Mascia and Claus (2008) argue that a focus on how rights are reallocated provides insights into issues of power, equity and justice, as well as emphasising the importance of the decision-making process. The impacts of this reallocation of rights can be assessed using indicators grouped into a number of categories (governance, economic well-being, health, education, social and cultural capital) that broadly fit within the sustainable livelihoods framework (Mascia and Claus, 2008).

Rights-based approaches also have a number of advantages and disadvantages in relation to rapid assessment of social impacts of protected areas:

- They explicitly tackle the issue of power, including the changes (both positive and negative) that may result from the establishment of a protected area.
- They make reference to universal standards (e.g. human rights, indigenous people's rights).
- While the rights-based approach is not yet a well-defined framework that can easily be translated into a field tool or methodology for protected area social impact assessment, aspects of it could help refine/underpin a conceptual framework.

#### 4.5 Value chain analysis

Value chain analysis was originally developed by Porter (1985) for understanding commodity supply chains and focuses on the structures and dynamics (relationships between different participants) of the chain. Recently, there has been growing interest in adapting it to understand not only how benefits (and costs) are distributed between people along the value chain but also how the value chain impacts on participants (e.g. producers or processors) and non-participants at specific points in the value chain (Bolwig *et al.*, 2008; Riisgard *et al.*, 2008). With its single product focus, value chain analysis is generally not a useful framework for analysing the impacts of protected areas. However, it is included here because of the growing body of work on the impacts of tourism value chains on the poor (Ashley and Mitchell, 2007; Mitchell and Ashley, 2009). For those protected areas that rely heavily on tourism for their income, it may be worth considering a value chain approach to understand how the total value of the chain is distributed between participants and non-participants, and to identify bottlenecks that may prevent certain groups from benefiting more (or at all) from the activity. Value chain analysis could also be useful if protected areas are the source of species with a particular trade value. Thus it is used as a tool by the Bio Trade Initiative of the United Nations Conference on Trade and Development (UNCTAD), which promotes sustainable biotrade in support of the objectives of the Convention on Biological Diversity.<sup>10</sup>

10. <http://www.biotrade.org/index.htm>



Photo: Lea M. Schert

**Woman weaving a matt from natural leaves in a community near the Arnavons Marine Conservation Area, Solomon islands**

#### 4.6 Millennium Development Goals (MDGs)

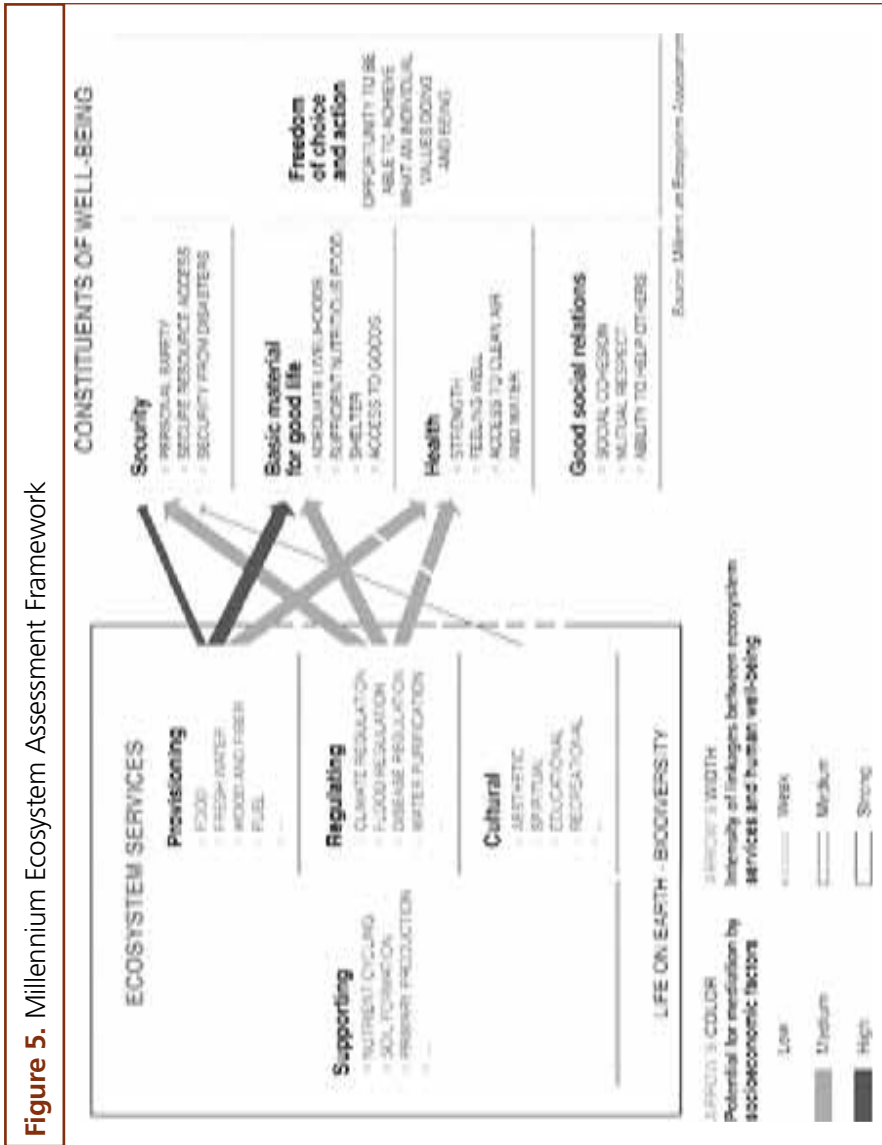
The MDGs are not a conceptual framework but are included here because they are the most visible international framework against which national governments are seeking to report change on many fronts. The extent to which protected areas can be shown to contribute (or not, as the case may be) to the achievement of the MDGs may be an important determinant of the political support and hence funding they obtain. At national level in particular, therefore, it is in the interest of protected area authorities to use indicators that can be directly linked to individual MDGs.<sup>11</sup>

#### 4.7 Millennium Ecosystem Assessment framework

Another conceptual framework of relevance for the current discussion is that developed by the MA. As shown in Figure 5, it splits ecosystem services into supporting, provisioning, regulating and cultural services and then indicates how these four attributes relate to different aspects of human well-being. Well-being is defined as having 'multiple constituents, including basic material for a good life, freedom of choice and action, health, good social relations, and security' and

11. See <http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm> for the list of MDG indicators.

**Figure 5.** Millennium Ecosystem Assessment Framework



being 'at the opposite end of a continuum from poverty' (Millennium Ecosystem Assessment, 2005). While there is a clear overlap between protected areas and ecosystems in the services they provide, protected areas with their associated management and governance structures and arrangements and cultural institutions are more than 'just' ecosystems. The MA framework, therefore, is unlikely to be sufficient to examine fully the social impacts of a protected area. But it may be particularly useful, in combination with a livelihoods framework, as a means for taking a more detailed look at impacts on different aspects of natural assets.

## 4.8 Components of a draft conceptual framework to assess the social impacts of protected areas

It is beyond the scope of this study to develop a generic conceptual framework for the assessment of social impacts of protected areas. Nevertheless, the studies and literature reviewed do allow us to suggest some necessary (or desirable) components – in no particular order – for a useful framework to guide impact assessment as the SAPA initiative progresses.

- **Consideration of end-user information needs.** As outlined in Table 3, there are many potential users of information derived from assessing social impacts. While a locally specific conceptual framework may be most useful for local communities and protected area managers, the use of a more widely recognised format (such as the sustainable livelihoods framework) may facilitate communication of results to other users. Being able to present data at the national level in a way that corresponds with national reporting requirements, for example under the Millennium Development Goals or the Convention on Biological Diversity, may also be important.
- **A multi-dimensional understanding of poverty.** All the reviewed frameworks are taking a more differentiated and critical look at poverty. Whether defining it in terms of assets or opportunities, there is a general understanding that 'poverty' is a multi-dimensional and dynamic concept, often perceived very differently by local people and external stakeholders. Any framework needs to capture the impacts of the protected area on the different facets of poverty as experienced by different groups of 'stakeholders' (local/distant, men/women, old/young, etc.).
- **Consideration of the impacts of protected areas on rights.** A common factor is that protected areas can affect the rights (both positively and negatively) of local people with respect to access and/or control over the protected natural resource, and related benefits. This suggests that an important early step in defining a conceptual framework is to understand the various property and other rights as defined by different stakeholders (including overlaps and existing or potential conflicts) with further discussion about how these rights are affected by the protected area. A question for discussion and further research is the extent to which protected areas in different IUCN categories might have common impacts on particular types of rights. Thus protected areas in category Ia (strict nature reserves) are more likely than those in other categories to affect the rights of local communities to continue to reside in and use the resource. However, as Borrini-Feyerabend *et al.*, (2008) point out, there are *many governance types* for protected areas (e.g. governance by government, shared governance, private governance, governance by indigenous peoples and local communities), none of which are specific to particular IUCN categories. It is not clear, therefore, whether the impacts on rights of different categories of protected areas are sufficiently similar to allow for the preparation of different conceptual frameworks for each IUCN category.



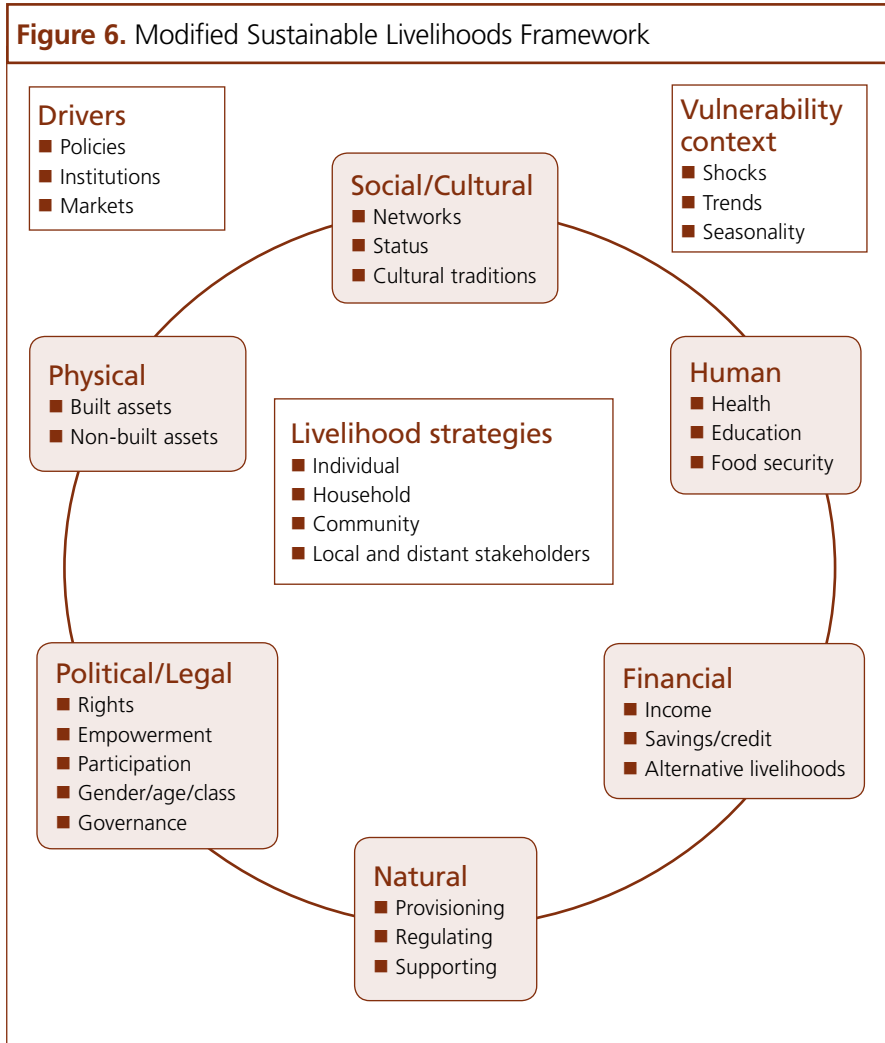
- **Some understanding of drivers both related and unrelated to the protected area.** The generic conceptual framework needs to include space for consideration of driving factors (e.g. government policies, natural disasters) that are physically outside of, or outside the control of, the protected area, as well as those more directly related to it.<sup>12</sup> This could be particularly helpful when trying to attribute identified impacts to protected area activities. Reference to a generalised causal model like the DPSIR framework may help to retroactively identify cause–effect pathways that can support claims of causality.

Based on the preceding discussion about conceptual frameworks, Figure 6 attempts to capture these issues in a slightly modified sustainable livelihoods framework. It includes the usual five assets of the original DFID version, with ‘natural’ assets being broken down (as in the Millennium Ecosystem Assessment) into provisioning, regulating and supporting services (cultural services – also included in the Millennium Ecosystem Assessment – are included under ‘social’ assets). Physical assets are broken down into built assets (e.g. housing) and non-built assets (e.g. the luxury goods included in the World Bank’s ‘opportunities’ framework). A sixth addition is the ‘political/legal’ asset, reflecting in part the focus on rights of both the rights-based approach and the World Bank’s ‘opportunities’ framework, as well as the latter’s focus on empowerment. The different sets of assets and related opportunities together help determine livelihood strategies taken by individuals, households and even communities. As in the original sustainable livelihoods framework, decisions are also influenced by the vulnerability context and by other external drivers such as policies, institutions and markets. Note that the diagram does not represent any causal relationships and is simply a check-list of issues to be considered when developing a conceptual framework.

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12. The sustainable livelihoods framework provides for this in its discussion of ‘vulnerability’ context and ‘policies, institutions, processes’ but these are often neglected in favour of a narrow focus on the five livelihood assets.

**Figure 6.** Modified Sustainable Livelihoods Framework



## Defining indicators

An indicator is a quantitative or qualitative factor or variable that provides a simple and reliable means to measure how well a desired outcome, value or criterion is being achieved or fulfilled (OECD/DAC, 2002). Indicators are widely used to measure and monitor performance, as well as to assess the current state or condition of the system, to compare different locations or situations and to monitor changes over time (Sayer *et al.*, 2007). As the International Institute for Sustainable Development (IISD) states, 'indicators quantify and simplify phenomena to help us to understand complex situations. Although indicators may be aggregates of raw and processed data, they can also be further aggregated themselves to form complex indices' (IISD, 2007). According to Clark and McGillivray (2007), the most influential and widely used composite index is the Human Development Index, which combines data on income, life expectancy, adult literacy and school enrolment.

As highlighted in Table 2, the World Database of Protected Areas (WDPA) is one potential 'user' of information from impact assessments. To ensure that different protected areas in this database are compared on the same basis, generic indicators are needed that are standardised across different sites. However, while indicators may be particularly useful for aggregating information from different sites and/or over time for communication to decision-makers outside the protected area, they may not portray the complex reality (and the interconnectedness of different variables) sufficiently well for protected area management. This illustrates the need to understand not only the information needs of the end users but also the best way of communicating with them, e.g. economists and planners may need information presented in the form of statistical data and aggregated indices whereas some decision-makers may be better persuaded through the use of stories or visual diagrams.

This section reviews the types of indicators used in the methodologies studied and discusses whether/how it might be possible to define a core list of indicators.

### 5.1 Types of indicators in the reviewed studies

All the indicators used in the methodologies reviewed are summarised in Appendix 4. This list is based on the reports available to us, some of which provided only examples of indicators used while others included comprehensive lists. For ease of reference, the resulting set of more than 400 indicators was cleared of duplicates (reducing the number to just under 200) and divided into those used (predominantly) at household, community, protected area and national levels, though these categories are not mutually exclusive. However, as noted in the descriptions below, some are more suited to particular timescales while others work well at certain geographical scales or to provide data suited to specific target groups.

## Output, outcome and impact indicators

Taken together, the outputs, outcomes and impacts comprise the results of a project. The individual terms designate results of a different timescale and type but actual definitions vary greatly between authors. Thus, for example, GEF (2009) clearly distinguishes outputs, outcomes and impacts, but Catley *et al.*, (2008) define outcomes as others would outputs and IFAD (2002) conflates outcomes with impacts. Based on a combination of these three sources, suggested definitions in this report are:

- **Outputs:** Immediate, tangible and intended goods and services. The protected area (or other intervention) has direct control over the delivery of outputs. Examples of output indicators might include numbers of jobs created, people trained or latrines provided.
- **Outcomes:** Intended or achieved short- and medium-term behavioural or systemic effects of an intervention's outputs that are designed to help achieve the project's impacts. These may also be influenced by factors outside the direct control of the intervention. An example of an outcome indicator (at community level) might be the adoption of alternative livelihood activities or (at household level) reduced effort expended by women to collect firewood or changed attitudes to particular issues.
- **Impacts:** Long-term fundamental and durable changes (positive and negative) in the condition of identifiable population groups and their environment produced by a development intervention, directly or indirectly, intended or unintended. Impact indicators could include conservation impacts (e.g. increase in numbers of key indicator species), improved environmental resilience or various measures of reductions in poverty, e.g. reductions in infant mortality or in the proportion of people living at below \$1 per day.

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Each of these three types of results clearly needs a different type of indicator. Comparison between different protected areas, particularly for longer-established sites, will tend to focus on the outcome and impact levels. There may be advantages, however, in focusing on short-term output indicators as attribution is less likely to be a problem. At outcome and impact level, the direct influence of the protected area may be increasingly difficult to distinguish from the influence of other factors in the area.

## Quantitative and qualitative indicators

Quantitative indicators are numerical (e.g. number of jobs created by a protected area) while qualitative indicators are described in text or visual form (e.g. the impact of a protected area on community cohesion). The advantage of quantitative indicators is that they are amenable to statistical analysis and can more easily be standardised and aggregated or compared across temporal and geographic scales. Qualitative indicators may be more descriptive and evocative and tend to be more locally specific. As shown in Figure 7, the majority of

methods reviewed for this report relied more on quantitative data and indicators. However, many of the more complex methodologies (such as the Household Livelihood Security Assessment and Rapid Social Impact Assessment) combined different data-collecting exercises resulting in a mix of qualitative and quantitative data. Combining qualitative and quantitative indicators is an area which, according to Clark and McGillivray (2007) still requires 'further conceptual and empirical work'.

Quantitative analysis methods can be used for qualitative data where there is a need to summarise data across many sites or to quantify the degree of confidence in research results (Abeyasekera, 2005). For example, an assessment of the impact of a protected area on community cohesion as being positive or negative can be scored on a numerical scale (e.g. from -2 to +2), while other data (e.g. relating to the range of impacts of a protected area) can be put in the form of ranks. Although ranked information is often easier to elicit than scored data, ranks give no idea of the 'distance' between the assigned numerical values (which are relative rather than absolute values) and cannot be analysed directly through quantitative means (Abeyasekera, 2005). Coding of repeated information (e.g. mention of feelings of happiness or worry) allows for the quantitative analysis of stories or other narratives that may result, for example, from the Appreciative Inquiry or Most Significant Change methods. Once such quantifiable information has been analysed, attention can be focused on the exploratory and explanatory aspects of the remaining qualitative data (Abeyasekera, 2005).

### Internally and externally defined indicators

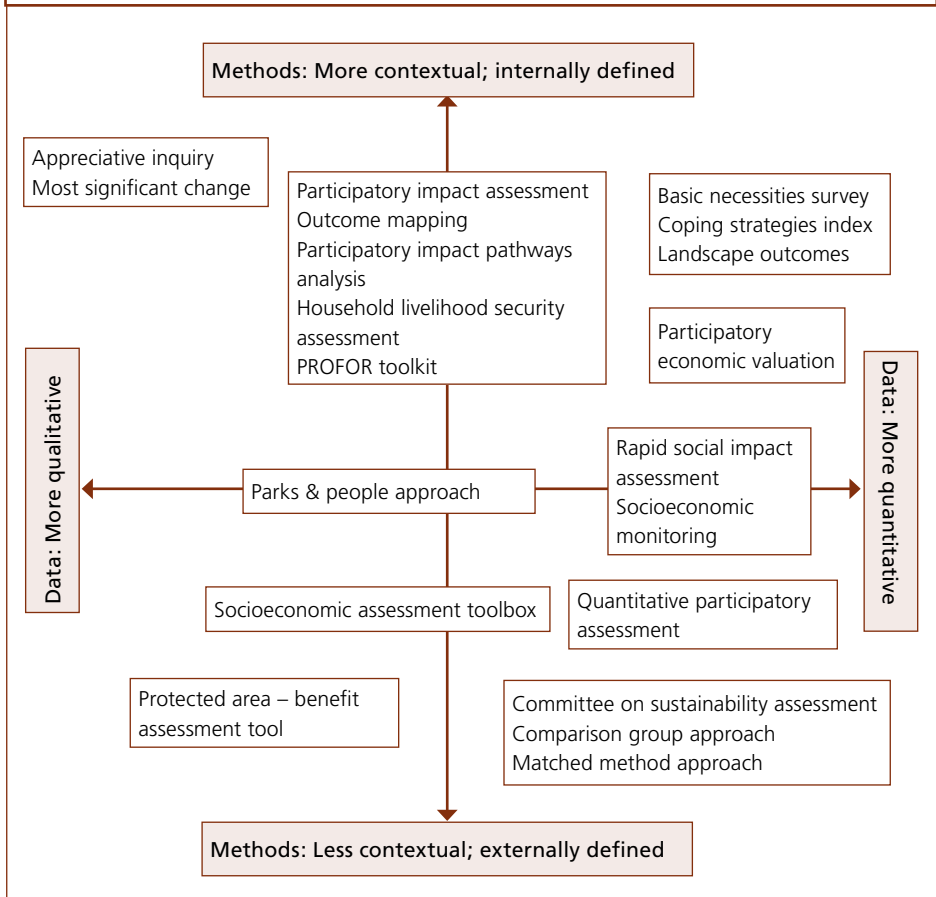
Both qualitative and quantitative indicators may be internally or externally defined. Internally defined indicators are created by local stakeholders,<sup>13</sup> according to their own objectives and measurements and vary from place to place (Herweg *et al.*, 2006). As such they are part of a more 'contextual' and often participatory methodological approach, described by Holland and Campbell (2005) as sacrificing breadth of coverage and statistical generalisability in order to explore issues within one locality in depth. In a fishing community, for example, ownership of a fishing net or the wherewithal to repair one might be important indicators, whereas other assets or skills may be more important in a peri-urban or agricultural community.

Externally defined indicators are based on predefined and external views and agreements, without consulting local communities (Herweg *et al.*, 2006) and are typically part of 'non-contextual' methods designed to achieve breadth in coverage and analysis (Holland and Campbell, 2005). Typical externally defined indicators are those used to assess progress towards the MDGs such as net enrolment ratios in primary education, or proportion of one-year old children immunised against measles. Having internationally accepted definitions, these

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13. Levels of participation might vary from consultation with local project leaders to real participation of different groups of local stakeholders.

**Figure 7.** Relative (and approximate) positions of reviewed methods with respect to qualitative/quantitative data and level of internal/external definition



indicators may be particularly useful for potential global-level users such as the World Database of Protected Areas. But a disadvantage of such generic indicators is that countries are likely to have many policies in place to achieve them, leading to increased problems of attributing any observed impacts to a protected area.

Clearly both internally and externally defined indicators have an important role to play to allow for assessments that are both locally relevant and meaningful at higher scales. As indicated in Figure 7, many of the methods reviewed here have therefore taken a middle way, including:

- combining a set of externally defined indicators with a set of internally defined indicators (e.g. Rapid Social Impact Assessment, #18b);
- using externally defined frameworks such as the sustainable livelihoods framework to define higher-level indicators for which more specific local indicators are defined internally (e.g. Socio-Economic Monitoring, #20); and,

- defining indicators in a participatory manner in one or more communities and then applying the same indicators in other similar communities (e.g. Basic Necessities Survey, #2).

### Negative, neutral and positive indicators

Negative indicators aim to evaluate the negative impacts (or costs) of an intervention (e.g. occurrences of eviction being carried out due to presence of a protected area). Positive indicators aim to evaluate the positive impacts (or benefits) of an intervention (e.g. number of jobs provided by the management of the protected area). In the case of neutral indicators, the assumption is that the protected area could have a negative or positive impact on the variable (e.g. short-term health proxied by body-mass index).

In methods such as the Basic Necessities Survey (#2) or the Coping Strategies Index (#5), in which several indicators are combined to give rise to a single index, *it is important to ensure that all indicators are of the same type* (so that positive and negatives do not obscure each other or cancel each other out). The use of neutral indicators is least likely to prejudice the impact of the protected area.

Given the agreement at the Durban World Parks Congress (2003) that protected areas should at least ‘do no harm’, it is particularly important that negative impacts are properly assessed to determine whether they can be mitigated or compensated for in some way, or whether they are simply unacceptable. To do this, negative impacts could be rated using the threat-rating method recommended by Foundations of Success (2009), which uses a set of well-defined criteria – usually scope, severity and irreversibility. Another approach would be to use participatory ranking methods (e.g. see Pretty *et al.*, 1996; Catley *et al.*, 2008).

## 5.2 Gaps in the list of reviewed indicators

The collation of nearly 200 indicators in Appendix 4 provides an overview for any study trying to define these externally, though many others may arise during participatory indicator selection processes. In addition to grouping indicators according to the most usual scale of application, they have also been grouped approximately according to the modified sustainable livelihoods framework presented in Section 4. While it is sometimes difficult to assign a specific indicator to just one asset category (e.g. does the indicator ‘proportion of people who participate in elections’ fit better into the social/cultural or political category?), this does reveal patterns suggesting the need for further research in some areas:

- There are no indicators of ‘political’ impact at household level. While ‘political’ issues may appear to be more relevant at higher levels, the area of intra-household power relations and women’s rights is particularly under-represented amongst the indicators.

- Similarly, there are few indicators of political impact at intra-community level although some of the ones used at protected area level could also be relevant at community level. This is surprising, given that protected areas often affect people's rights (both positively and negatively) to access and use resources, and may do so differently for different groups of people. Just as at household level, more thought could be given to developing indicators to assess the impacts of protected areas on intra-community relationships (e.g. elite capture of benefits or poorer people harder hit by restricted use).
- While there are indicators of social/cultural impacts at all levels, many of these are very qualitative in nature. This reflects the fact that they are often dealing with less tangible impacts (e.g. on status, spiritual values, conflict). It also means they are more difficult to aggregate and represent at higher levels. More thought is needed to ensure that important social and cultural issues can be effectively communicated to decision-makers.

The indicators most widely used at all levels (household, community, protected area and national) were financial and human (health and education). These indicators are typically quantitative and externally defined and can be more easily aggregated from household to national, regional and international levels.

### 5.3 Steps to defining appropriate indicators

In many of the methodologies reviewed, particularly those with externally defined indicators, the authors do not explain the process of defining the indicators. However, a few of the methods in which the indicators are entirely locally defined, such as Landscape Outcomes Assessment Methodology (#7, Sayer *et al.*, 2007), Participatory Impact Assessment (#13, Catley *et al.*, 2008) and Socio-Economic Monitoring (#20, Bunce *et al.*, undated; Bunce and Pomeroy, 2003), do provide some guidance. In fact, the aim of the Socio-Economic Monitoring process is to provide a set of guidelines for managers to establish socio-economic monitoring of marine protected areas and reef systems. To do so, seven purposes of socio-economic information are identified, ranging from 'identifying threats, problems, solutions and opportunities' to 'establishing baseline household and community profile'. These purposes are then linked to the indicators so that by identifying why they want socio-economic information, the socio-economic monitoring team can select the most appropriate indicators – in this case 60 indicators were identified, 12 of high priority, the rest of medium priority.

Another useful source of advice on defining indicators is the 2010 Biodiversity Indicators Partnership (BIP) and an associated process led by UNEP-WCMC and the World Health Organization (WHO) to define a set of indicators on the 'health and well-being of communities directly dependent on local ecosystems' (BIP, 2008). Drawing on these sources, steps necessary for defining indicators include:





Photo: Lea M. Schert

**Washing clothes in a community by an ecological reserve in the Rio Negro, Brazilian Amazon**

- Step 1.** Define a conceptual framework and causal model that adequately describes the possible relationships between protected areas and livelihoods. Possible frameworks were discussed in Section 4.
  
- Step 2.** Determine the key end users and the kinds of indicators they need. If the only users are local protected area managers and communities, indicators can be very locally specific and defined in a highly participatory process. If, however, the users include higher-level planners and government officials, then there will be a need for at least some indicators that can be easily and usefully aggregated to higher scales.
  
- Step 3.** Based on the conceptual framework and the end-user needs, prioritise the key relationships to be assessed. The BIP (2008) suggests that indicators should focus on those connections between the protected area and livelihoods that are strongest and most relevant for communities

directly dependent on the protected area. This may require developing criteria to identify communities who depend on the protected area in different ways (e.g. absolutely dependent, sustenance dependent, partially sustenance dependent, economically dependent, psychologically dependent) and then devising a weighting system based on level of dependence (BIP, 2008).

- Step 4.** Identify indicators that most effectively and efficiently monitor these relationships. The BIP (2008) draws on Prennushi *et al.* (2002) to define the attributes of a well-developed indicator as outlined in Box 5. Consider using at least some short-term output indicators for which attribution is less of an issue than for longer-term outcome and impact indicators.
- Step 5.** Ensure that indicators are included for negative impacts and determine whether any of these are 'killer' indicators (e.g. measures of mortality or food insecurity) that would ring alarm bells and lead to a serious rethink of the protected area intervention. Potential killer indicators could be rated using the threat-rating method recommended by Foundations of Success (2009) or through participatory ranking (see Catley *et al.*, 2008).
- Step 6.** Discuss the methodology to be used to collect information on the indicators, taking into account resource availability (as discussed further in Section 6).

### Box 5. Features of a good indicator

A well-developed indicator:

- *Is a direct and unambiguous measure of change.* This means that the indicator must be easily understood not just by local communities but also by other potential end users. It should also be as specific as possible. Thus 'I can now join the local savings and credit group in the village' is more specific than 'I have more status in the community' (Catley *et al.*, 2008).
- *Is relevant, i.e. it measures factors that reflect the goals/objectives of the programme, policy or project.* In the present case, relevance means that the indicators must in some way relate to the social impacts of protected areas, e.g. as outlined in the sustainable livelihoods framework. Compromises may be needed between selecting indicators that are relevant at very localised scales (e.g. in one community) and those that are of greater relevance at a national or global scale.
- *Varies across time, area, groups, and is sensitive to changes in programmes, policy or projects.*
- *Is transparent and cannot be manipulated to show achievement where none exists.* Where indicators are combined into an index, underlying assumptions and weightings also need to be made explicit to ensure that indicators are not misinterpreted or misused (BIP, 2008).
- *Is cost-effective to track.* As discussed later, indicators must not only be appropriate to the time and budget available to monitor them, but also to the data-collection and analysis skills available.

Source of text in italics: Prennushi *et al.* (2002)

## Strengths and weaknesses of reviewed methods as rapid assessment tools

As outlined in Table 3, many of the methods reviewed for this study were not specific to the assessment of social impacts of protected areas; however, they had relevant application or learning benefits to offer. This section provides a brief overview of the key tools and processes used in the different methods reviewed, the different ways in which attribution has been tackled, the level of differentiation achieved by the different methods, and the main gaps – specifically in relation to protected area-related assessments.

### 6.1 Basic tools and processes used in assessments of social impacts

Of the 20 methods reviewed, only three (the two system-wide impact assessments and the Protected Area – Benefit Assessment Tool) were carried out solely by experts, with no requirement for local participation (though, in the latter case, the expert could choose to obtain data by using some participatory tools). All other methods required a degree of participation, which ranged from:

- initial involvement of some stakeholders (e.g. through focus groups) in defining survey indicators, followed by application of a survey by enumerators;
- consultation with different stakeholder groups using a range of PRA-based tools; and,
- detailed participatory assessments using participatory tools requiring local analysis.

Most of the methods reviewed used different combinations of the tools outlined in Box 6.<sup>14</sup>

#### Box 6. Basic tools used in many social impact assessment studies

##### Participatory well-being ranking

Usually carried out with key informants to gain an understanding of local perceptions of well-being and to divide households (based on a village register) into four (or more) well-being categories that can be used as a sampling frame for household surveys.

##### Household surveys

Questionnaires of varying length applied to a sample of households, including only or mostly closed questions, designed to gather data on demography, wealth, social structures, health, household perceptions, etc.

##### Focus groups

Discussions around specific topics (often using an interview checklist) with a small (4–10) group of people, sometimes selected to be representative of certain social groups (e.g. women, elderly,

14. These tools are generally well described in the literature and have not been separately described in the '2-pagers' in Appendix 3).

poorer community members). Focus groups are typically used either early in a study to obtain a general understanding of important issues (e.g. to define the main impacts of a protected area) or at a later stage to gain an in-depth understanding, e.g. of issues that have arisen in household questionnaires.

### **Rapid Rural Appraisal (RRA) or Participatory Rural Appraisal (PRA) tools**

RRA and PRA use the same set of visual tools but with a different emphasis. RRA is typically used by researchers working in a more extractive mode while PRA (also sometimes now termed Participatory Learning and Action – PLA) is focused on facilitating research and analysis by local people to stimulate action. One of the earliest and still most useful guides to RRA/PRA tools is by Pretty *et al.* (1996). More recently, Catley *et al.* (2008) have described many of the tools specifically in the context of impact assessment. Most studies use some of the following tools:

- Participatory mapping and transect walks
- Village or intervention timelines
- Seasonal calendars (e.g. of activities, income, expenditure)
- Matrices (e.g. to rank or score the perceived significance of different impacts)
- Spider or radar diagrams (to integrate different measurements of well-being and capture change over time)

### **Key informant interviews**

Interviews with key players both inside and outside the community to gain a general understanding of issues and/or cross-check findings from other sources. These are often semi-structured, i.e. based on an interview checklist.

### **Participant observation**

This anthropological and usually more long-term approach requires researchers to spend time in the field or working with communities to directly observe impacts of protected areas on their livelihoods.

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Several different processes were also evident in many of the cases:

- **Triangulation.** In many of the more complex methodologies, triangulation between information from three or more sources or types of information (including from secondary data) is an important part of the research process, allowing for information from one tool to be confirmed or refuted by, or probed further with, other tools. However, none of the methodologies deal with the practical realities of how to deal with conflicting results (e.g. between qualitative data from focus groups and quantitative data from household surveys), particularly if such discrepancies are only found when the research team has already left the field.
- **Feedback and validation.** Feedback of research results to communities is not only an integral and fundamental part of participatory research processes but can also provide an important opportunity for checking interpretation of information collected. If any data analysis is likely to be carried out away from the community, feedback ideally needs to be an iterative process, with one or more feedback sessions before the research team leaves the community, followed by further sessions once data analysis is complete.

- **Phasing research.** Several of the more complex methodologies begin with exploratory research (e.g. involving some focus groups or semi-structured interviews) to develop a general picture of the local situation and the social impact of the intervention being assessed. This exploratory work provides a base on which to carry out more in-depth probing work (e.g. involving household questionnaires). For example, the Rapid Social Impact Assessment carried out in marine protected areas (see #18b) used focus groups to obtain basic information about their study communities, on the basis of which it was possible to find 'matching' control communities. The initial scoping study also gave an indication of the key impacts, which were then discussed individually through household interviews. A similar process was used by the Rapid Social Impact Assessment (see #18a) in several terrestrial protected areas, where the initial scoping exercises allowed for a listing of key impacts to which monetary values were then assigned using Participatory Economic Valuation (see #12).

## 6.2 Approaches to attribution

With a complex initiative such as a protected area, how does one assess whether observed impacts are in fact due to the existence of the protected area or due to some other factor? In particular, how does one distinguish the impact of the protected area as an institution rather than as a specific ecosystem? The impacts of a forest protected area, for example, should not necessarily be compared with those of a non-forested control community as this would imply that the existence of the forest (and all its benefits) is the result of the protected area, whereas it might well have persisted and provided the same benefits under a different form of management (e.g. community forestry). One of the key difficulties in assessing attribution, therefore, is how to define the so-called 'counterfactual' or control against which to assess the impacts. Richards (2008) argues that the difficulty of showing attribution is one of the main reasons for the high cost of impact assessments.

Some of the rapid one-off methods like the Basic Necessities Survey or the Coping Strategy Index are not designed to deal with attribution, although they could be repeated over time to capture change. The remaining methodologies reviewed took different approaches to dealing with the issue:

### 'With/without' comparisons

These compare the results of the intervention (protected area) with a comparable situation – real or modelled – without the intervention (no protected area). For obvious reasons, none of the studies could take a truly experimental approach in which localities would be randomly assigned to either 'protected area' or 'control' groups before any intervention took place. The cases taking the with/without comparison route therefore either compared protected area communities with 'control' communities selected on the basis of having similar conditions prior to the establishment of the protected area, or on the basis of similarities at the time of the study.

The first of these approaches is termed a 'quasi-experimental' approach in which there is retrospective matching of 'treated' areas with 'untreated' controls. Amongst the cases reviewed for this study, only the two systems-wide studies (Comparison Group (#4) and Matched PA (#8)), took this approach. Much of their research effort was invested into defining control localities with similar **pre-protection** characteristics (e.g. in terms of land use capability, population density, market access and forest cover) to the protected area localities. In the Comparison Group approach, Sims (2008) constructed the comparison group on the basis of an analysis of the criteria by which protected areas were designated. Her study compared protected forest areas in North and Northeast Thailand with areas that had also met the criteria for protected area establishment (some of which were now forests under other forms of management) at the time the actual protected areas were established. This approach overcomes one of the key attribution issues discussed above, namely that it is important to distinguish the impacts of a protected area *as an institution* from the impacts of the protected *ecosystem*. However, while using pre-protection characteristics is possible at systems level (but even then only if there are good data sets available), the information needed to identify communities with similar pre-protection characteristics at the level of a single protected area may not be available. Furthermore, comparison would remain difficult as – over time – the selected 'controls' might have been subjected to many different non-protected area confounding factors.

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The remainder of the with/without comparisons amongst the cases reviewed (e.g. Rapid Social Impact Assessment (#18b) and Parks and People (#11)) took the more practical route of matching protected area communities with communities that were as similar as possible **at the time of the study**. One of the problems of this approach, however, is that – once one starts examining communities more closely – it becomes clear that they differ in so many respects that it may be difficult to find appropriate control communities. In the case of an assessment of the impacts of participatory forest management in Nepal, for example, Maharjan *et al.* (2009) point out how difficult it was to find a usable control community.

Although allowing for statistical analysis, Richards (2008) argues that approaches with controls may suffer from selection bias, tend to be expensive and still do not ensure attribution as there is always a risk that unobservable characteristics may affect the comparison. Catley *et al.* (2008) also point out a number of ethical issues related to working with control groups, such as the fact that such work may raise expectations (possibly influencing reliability of the information obtained) and is disrespectful of their time.

### 'Before and after' comparisons

These require a description of the starting situation through a situational analysis or a baseline study. In the case of the reviewed studies, none had a starting baseline to refer to. They therefore took two approaches to looking back to the pre-protected area time. In the case of the Household Livelihood Security Assessment (#6), a baseline was constructed retrospectively through the use

of secondary data. In contrast, the Quantitative Participatory Assessment (#17) was one of several methods using recall questions to ask focus group or survey participants how much particular issues had changed since the protected area was established. Such methods, or repeated implementation of one-off methods like the Basic Necessities Survey (#2), can usefully indicate that there has been change from the situation before a protected area was established. However, without careful assessment of potential factors external to the protected area, it is difficult to be sure that observed changes have been caused by the establishment or management of the protected area.

### Reflexive comparison

This is a form of 'with/without' comparison in which respondents are asked direct questions about what kinds of impacts the intervention has brought about. It relies on the ability of the respondent to imagine (or think back to) a 'without protected area' scenario. This was the approach taken by methods such as Most Significant Change (#9) or Appreciative Inquiry (#1), producing mainly qualitative data. The disadvantage of such methods is that they are considered subjective and anecdotal by critics and are often confined to use with 'affected' populations. However, direct questions about how people perceived impacts were also incorporated into household questionnaires in the Rapid Social Impact Assessment methodologies (#18a and b).

Catley *et al.* (2008: 48–54) provide a number of examples of three different ways in which participatory methods can be used in this reflexive way to assess attribution:

- Ranking or scoring. Focusing on one impact at a time, participants can be asked to either rank or score different contributing factors in terms of their importance.
- Tally tables. A number of people can be asked to list all the factors that contributed to a particular impact and the responses tallied. Assuming that the frequency of mentions is related to importance, the most important factors can be determined.
- Matrix scoring. A matrix can be used to score the importance of different factors for different impacts.

In all three examples, if enough repetitions are carried out (i.e. with different focus groups or individuals), then some statistical analysis, such as the calculation of confidence limits, can be carried out.

### Methods which track change over time

The causal model approaches such as Outcome Mapping (#10) and Participatory Impact Pathways Analysis (#14) fall into this group of more process-based approaches, which 'generally involve a more detailed "visioning" of the intended changes in order to track and monitor whether these changes emerge' (Martin, 2009). However, these are designed for use at project initiation and therefore are less suitable for post hoc assessments of the impacts of protected areas.

## 6.3 Level of differentiation of impact assessment

Protected areas can have impacts on individuals, households and communities. These may be within or neighbouring the protected area or at some distance, e.g. distant households located along main feeder roads (bringing in tourists), downstream communities benefiting from hydropower or irrigation water originating in upland protected areas, communities adjacent to marine protected areas benefiting from spill-over of improved fish stocks, or traders unable to access products such as timber previously sourced from protected areas. Given the concern that the benefits and costs associated with protected areas may not always be equitably distributed, it is particularly important to be able to assess both costs and benefits at all possible levels. Of the methods reviewed, none were able to assess impacts at all three levels but some were more or less appropriate for impacts at specific levels:

### Impacts on individuals

Many of the research tools used were targeted at the household level. The drawback with these household-level tools is that they generally take the form of a survey – often with the household head – and therefore do not necessarily capture differential impacts within the household, e.g. between men and women or old and young. One way of dealing with this is to include specific questions about intra-household differences in the survey as is the case in the Rapid Social Impact Assessment cases (#18a and b). Some methods such as Quantitative Participatory Assessment (#17) have separate focus group discussions with men and women, while several of the others such as the Basic Necessities Survey (#2) and the PROFOR toolkit (#15) can be applied separately to men and women as well as to people from different social groups. Even the causal model approaches such as Outcome Mapping (#10) and Participatory Impact Pathways Analysis (#14) could potentially monitor some impacts on specific groups of individuals. But the two systems approaches (#4 and #8) could not differentiate impacts at intra-household level unless, for example, they had access to census data disaggregated to this level.

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### Impacts on households

To the extent that the household-level tools are used with different groups of households (e.g. within and outside the protected area, of different ethnic groups, of different well-being categories, etc.), they can all be used to understand the differential impact of protected areas on different social groups. This is particularly important as negative impacts of protected areas can very often fall disproportionately on the poor. The main constraint to distinguishing the impacts on different groups of households is the cost of applying the tools across many different households.

### Impacts on communities

To assess impacts on different communities requires the use of a similar set of methods in each of those communities which – as mentioned above – has cost implications. Nevertheless, this was the approach taken by several of the methods



reviewed. Only three, however, were specifically designed to look at impacts at a larger than community level. One of these is the Landscape Outcomes Assessment Methodology (#7), which works with a multi-stakeholder group to discuss landscape-level issues and could capture both the near and distant impacts of a protected area at this scale. The others are the two systems approaches (#4 and #8), which are designed to assess impacts across many protected areas, though with less ability to drill down to the impacts of individual protected areas. Of the latter two, the Comparison Group approach used in Thailand (#4) was able to obtain some idea of the different impacts of protected areas on households in different well-being groups because Gini coefficient data (which indicate the level of economic disparity between households in the community) were available for comparison between sites. An issue that did not seem to be addressed by these studies was how to define a community, although this is often far from straightforward. In general there was also little reference to the possibility of impacts occurring at a distance from the protected area and the possible need to identify and work with these stakeholders.

## 6.4 Key weaknesses and gaps in the existing methods

The preceding paragraphs in this section have hinted at some of the difficulties faced in designing effective methods for assessing social impacts of protected areas. However, the group of case studies reviewed also includes a variety of solutions to some of the most difficult issues. Thus there are several approaches to checking attribution and various ways of ensuring that impacts at different levels are captured. Yet a number of issues remain very difficult and do not appear to have thrown up many solutions within the present set of studies:

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### Focus on data collection rather than the learning process

A weakness of all the methods – or the way they have been reported – is their focus on information needs and data collection methods rather than developing appropriate processes to make sense and use of the information. This focus on primary data collection rather than on key questions was also found in a review of poverty and social impact assessments (Bird *et al.*, 2005). As Guijt (2009) argues in relation to participatory monitoring, a better balance is needed ‘between investing in data (indicators, methods, collection) and dialogue (analysis, interpretation, planning)’. Guijt (2009) characterises mainstream monitoring as including identification of indicators, developing data collection protocols, data collection and analysis and feedback in response to identified information needs of actors. She contrasts this with ‘learning’, which requires additional activities such as clarifying expectations and purposes, clarifying information flows (who, when and what) and creating processes to review monitoring and agree on action. If impact assessment is to achieve its objectives – usually to improve implementation of the intervention to increase positive impacts and minimise negative impacts – *it is necessary to understand (and work with) the political dynamics of policy change* to increase the likelihood that any evidence produced will be used to influence decisions (Bird *et al.*, 2005).

The only methodology reviewed that gives explicit instructions on how to provide data for national policy-makers is the PROFOR Poverty-Forests Linkages Toolkit (#15), the aim of which is to ensure that forestry is given appropriate consideration in national-level planning processes. Part 1 of the PROFOR Toolkit consists of a detailed guide to the kind of networking needed with different levels of decision-makers, the types of charts that can be used to convey simple information with great impact, and how to go about preparing and disseminating a policy brief. Only after this detailed examination of how information is to be used, does Part 2 of the Toolkit provide details for how data can be gathered at field level.

### Lack of information about data analysis requirements

Related to the previous point is the lack of attention paid to the resource requirements for data analysis – both time and capacity. The Household Livelihood Security Assessment (#6) does outline how data from different focus groups and interviews can be collated in a thematic matrix and suggests a rule of thumb that ‘an equal amount of time should be devoted to analysis as to data collection’ (CARE, 2002). A few of the documents (e.g. Catley *et al.*, 2008’s Guide to Participatory Impact Analysis, and Wright’s 2008 implementation of a variant of the Basic Necessities Survey in South Africa) provide good examples both of how data can be analysed and presented. However, they do not provide sufficient (if any) information about how long data analysis may take and what kinds of data processing skills are required. Given that most of the case studies were reported on by authors, who are experienced researchers and often have strong institutional back-up, it is not at all clear how well the same analyses could be carried out by local researchers or protected area staff.

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All the household-level surveys require data entry into spreadsheets followed by basic analysis and cross-tabulations, which one assumes is usually carried out away from the community. Experience from the ARPIP project<sup>15</sup> as well as from CARE’s Rapid Social Impact Assessment (#18a) project suggests that, even with training and support, local researchers often do not have the skills or the time to carry out even a basic quantitative analysis, particularly if the number of surveys is high. Some of the more ethnographic tools like Most Significant Change (#9) require skilled analysis and reporting if the resulting stories are to be useful and representative indications of impacts experienced. Harder still is when quantitative survey results need to be integrated with more qualitative results from various PRA-based tools and decisions need to be taken about how to deal with possible contradictions.

Concerns about difficult or lengthy data analysis requirements for many of the methodologies increase the attractiveness of an index-based method like the Basic Necessities Survey (#2), which can easily be analysed on the spot but provides only a very simplified snapshot. This kind of tool is useful, therefore,

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15. The Action Research into Poverty Impacts of Participatory forest management (ARPIP) project was coordinated by the lead author and Cecilia Luttrell at ODI (Schreckenberg and Luttrell, 2009) and used a sustainable livelihoods framework to underpin a methodology consisting of a combination of PRA tools plus a household survey in 8–10 communities in each of three countries.

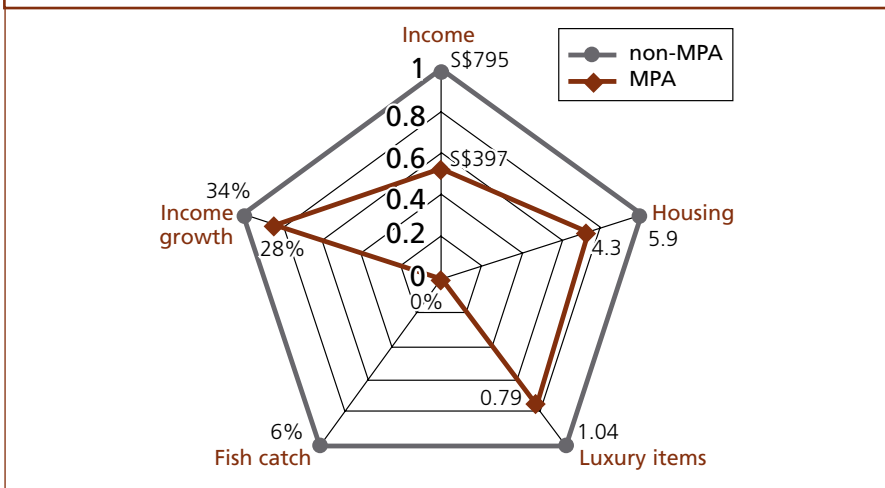
for answering very specific questions but less appropriate for uncovering or reporting complex information.

### Lack of capacity for upward aggregation

With growing interest in understanding the impacts of protected area *networks or systems*, there is a need either to develop system-wide assessment approaches or to aggregate data from individual protected areas. The first approach has been taken by the GEF Evaluation Office, which in 2008 sponsored two studies to assess the impact of a protected area system. Andam *et al.*, (2008, #8) attempted to evaluate the socio-economic impact of Costa Rica's protected areas while Sims (2008, #4) did the same for protected areas in the North and Northeast regions of Thailand. Both methodologies depend on having good current and historical data sets that allow comparison of localities in protected areas with 'matched' localities that had similar pre-protection characteristics. While they work for protected area systems, these methodologies do not provide information on individual protected areas nor can they aggregate data from individual protected areas.

As outlined above, the PROFOR Toolkit (#15) discusses how data from several sampling sites can be presented at national level. However, none of the other methods reviewed seemed to have been used for aggregating data to a higher level, although several produced data that could be compared between protected areas. In the case of the Rapid Social Impact Assessment (#18a) combined with Participatory Economic Valuation (#12), this was quantitative and absolute (i.e. per capita net benefit/cost valued in dollars), whereas tools such as the spider diagrams used in the Landscapes Outcome Methodology (#7) are more qualitative and allow for rapid visual comparisons between sites (See Figure 8).

**Figure 8.** Example of a spider diagram used to present data from marine protected area (MPA) communities and non-MPA 'control' communities in the Arnavon Islands, The Solomons



Source: van Beukering *et al.* (2007b)

As discussed in Section 5, quantitative indicators (as in the case of the index-based methods) are easier to standardise and hence easier to aggregate than more qualitative narratives. But one good story (if well selected) can have a greater impact on certain decision-makers than any number of statistics (Denning, 2000).

### Dealing with intangible impacts

Many of the impacts of protected areas are relatively intangible. They include, for example, reduced or lost access to resources, increased/decreased investment in road infrastructure, improved rainfall and changes in social cohesion or cultural values. The reports reviewed rarely addressed the difference between assessing tangible and intangible impacts explicitly. However, some incorporated perception questions into household surveys or carried out ranking and scoring exercises with focus groups to try to gauge the relative importance of more and less tangible impacts. CARE's Rapid Social Impact Assessment (#18a) used Participatory Economic Valuation (#12) to put a monetary value on both tangible and intangible impacts. While this is a good approach, more work seems to be needed in this area, if only to ensure that methods focusing on more easily assessed impacts are up-front about the potential magnitude of the intangible impacts they may have missed.

### Focus on assessing benefits rather than costs

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As discussed in the section on indicators, the debate about the potential negative impacts of protected areas means that impact assessment methods need to be designed to capture costs as well as benefits. However, eight of the 20 methods reviewed in detail were not explicit about assessing costs. Appreciative Inquiry (#1), for example, is a tool that is designed to combat the tendency of stakeholder groups to list problems by seeking out the positive aspects of an initiative. This might work well as an opening gambit in a larger methodology but would not be useful on its own. The causal model methods such as Outcome Mapping (#10) and Participatory Impact Pathways Analysis (#14) set out to map intended outcomes and one of their key drawbacks is that rigid use of these models for monitoring and evaluation could easily miss unintended negative impacts. The Protected Area – Benefit Assessment Tool (#16) is another tool that does not capture costs, though it would be easy to add relevant questions to the data sheets. Index-based methodologies do not capture costs directly but their repeated use over time or with different social groups would reveal an increase or decrease in particular indicators that might reflect costs.

## Framework for designing a rapid social assessment of protected areas

The process for designing a rapid social impact assessment is not linear. The fact that several factors must be taken into consideration means that the end result will always involve some compromise. Below we outline some of the elements in a framework that supports decisions for methodologies used and approaches taken.

### 7.1 Define and prioritise the key questions to be answered

The most important part of designing an impact assessment is identifying the key questions to be answered (Catley *et al.*, 2008), with Abebe *et al.* (2009) recommending that these be kept to three or four at most and IFAD (2009) also emphasising the need to focus on the most significant issues. Defining these key questions/issues will depend on the end users and the overall objectives of the assessment. For impact assessments and evaluations to be used in decision-making, it is important that they be designed with specific uses and users in mind and that these users be involved in the evaluation process (Watts *et al.*, 2008).

#### Who are the end users of the assessment findings?

Impact assessments may frequently be carried out with multiple end users in mind (see Table 2) and it is necessary to ensure that their specific information needs are catered to. Ideally, some or all of the end users should be involved in the planning of the assessment to achieve this. The PROFOR Toolkit (#15) provides some guidance on how to work with different decision-making levels (relating, in the PROFOR case, specifically to forest resources) to prepare the ground for an assessment. While protected area managers may have different information needs from national policy-makers, it is worth remembering that many potential users of impact assessments may be linked either geographically (e.g. NGOs and government agencies working in the protected area locality) or hierarchically (e.g. local, district, national government officers) so that information produced for a specific user may also need to be presented in a way that is accessible to other users.

a) **Protected area managers** will be interested in a methodology that helps them improve protected area management, increasing benefits and decreasing costs. They will be interested in issues such as access to resources, property rights and governance. → This calls for a methodology tailored to the local reality, involving participatory processes that enable improved community ownership and involvement.

b) **Local government and NGOs** will probably be interested in improving the availability and quality of public services, such as education and healthcare. Local NGOs may also want to obtain evidence to support advocacy campaigns, e.g. on equity and rights. → This requires methodologies that can identify differential impacts within and between households and communities; tailored to local reality, probably participatory plus survey elements.

c) **National government** will want to assess the positive and negative impacts of protected areas on local livelihoods, in order to improve policy-making at the national level. In this case, national census data would be available to complement the data collected locally. → If resources allow, one of the system-wide methodologies would be appropriate; alternatively a standardised and brief survey methodology that can compare between different protected areas and over time needs to be developed.

d) **International NGOs** may use the results to defend whether protected areas have positive or negative impacts on local communities globally. → This requires a cheap, simple and standardised methodology that can be widely repeated with data that allow for national and international aggregation/analysis, probably index-based methodologies.

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### What are the objectives of the impact assessment?

This is also likely to be linked to the identity of the end user. According to Herbert and Shepherd (2001), impact assessment can have two key objectives:

a) **'proving'** the impact of the intervention (the 'accountability' agenda, generally upward to government and development partners), will tend to require measuring impacts as accurately and objectively as possible in a way that is generalisable → survey tools with statistical analysis.

b) **'improving'** practice (the 'lesson learning' agenda, generally for project designers and implementing agencies), will require a focus on a contextualised understanding of the processes of the intervention and their impacts → participatory tools.

A third or subsidiary objective might be to provide a baseline for a new Monitoring and Evaluation system. In this case, the tools selected are likely to be a combination of the 'proving' and 'improving' kind with the additional constraint that they need to be low cost and easily repeatable.

### What are the key issues to be assessed?

For national and international end users, the key questions may be set externally to the protected area. At other levels, a conceptual model may help define key questions. Possible components of a conceptual model were discussed in Section 4.8. Key elements include having a multi-dimensional understanding of poverty (e.g. considering impacts on all the 'assets' in the sustainable livelihoods framework, and assessing the impacts on different groups of people), and allowing for possible driving factors related and unrelated to the protected area. In the absence of a conceptual model, key issues can be defined at local level using → Most Significant Change tool (#9), a causal model (e.g. #10, #14), focus groups, participatory ranking exercises (see Catley *et al.*, 2008).

## 7.2 Define the geographical and time limits of the protected area and its impacts

Clearly defining the scope and scale of the impact assessment helps to design a methodology that makes the most effective use of available resources.

### How long has the protected area been established? Over what time period is impact being measured?

This will determine whether (i) recall methods are feasible, (ii) census or other longer-term secondary data (satellite images, etc.) might be available. It also provides a guide to the timeframe within which other non-protected area related drivers may have been active.

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### What are the geographical limits of the protected area's impacts? Who are the 'impacted' population?

This requires the identification of all possible groups and sub-groups whose livelihoods may in some way have been affected by the establishment of the protected area. These might include people within or outside the protected area, along approach roads, downstream users of environmental services (water, hydropower), etc. The use of a value chain approach to define and track the main values (whether in the form of traded goods or environmental services) originating from a protected area might be one way of identifying populations likely to be affected. Once all potential 'affected' populations have been identified, it may be necessary to prioritise certain groups for the impact assessment.

- a) If populations are large and/or scattered and heterogeneous → rapid survey tools with statistical analysis.
- b) If populations are small or homogeneous → participatory tools.

### 7.3 Identify and prioritise key indicators for each question/issue

Having defined the end users, key issues and the time and spatial scale over which the impacts are to be assessed, indicators need to be developed. Section 5.3 outlined some of the steps required to define useful indicators. Important elements are the need to prioritise the issues to be assessed and focus on defining appropriate indicators (that are unambiguous measures of change, transparent and cost-effective to track), ensuring that indicators are included for possible negative as well as positive impacts.

a) For a participatory assessment, indicators can be defined using a causal model, focus groups or participatory ranking exercises.

b) For a survey-based assessment, key indicators may be prioritised in the same way or – if for national or international consumption – some external imposition of indicators may be necessary, preferably based on a standard conceptual framework.

### 7.4 Determine experimental design

Having determined and prioritised the key issues and relevant indicators to be assessed, the methodology (including sampling design and types of research tools to be used) can be developed. This is an iterative process taking into account the resources available, the level of differentiation required, the options for assessing attribution and the levels of certainty required.

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#### What resources (money, time, skills) are available?

Any methodology needs to be feasible with the available resources. These must cover not only data collection but also data analysis and any networking, etc. required for effective dissemination of the findings. Furthermore, while an initial impact assessment may be fundable as a one-off event, an ideal scenario would see assessments carried out at regular intervals (indeed some level of reporting may be a requirement for some donors) so designing them in such a way that they can be sustained into the future becomes very important. As discussed in Section 6.2, one of the main factors determining the cost of impact assessments is the attribution approach used (see also below) – the inclusion of a large number of 'control' communities (or households) may not be affordable, particularly on a recurrent basis.

a) Low budget and a limited timeframe → non-statistical approach focused on communities that are easy to access (downside is lack of representativeness), or simple index-based approach (quick and easy to implement/analyse). Of all the methods reviewed, the Protected Area – Benefit Assessment Tool probably has the potential to be the most rapid and reasonably cheap as it relies entirely



on the expert judgement of the assessor to determine whether questions in the assessment should be filled in based on a single key informant interview or project report, or on more elaborate research tools.

b) Enough time and human/financial resources available → consider more rigorous approaches, applying random sampling and quasi-experimental approaches.

Unfortunately, none of the methods reviewed provided detailed information on the costs of implementation. Some report on the length of fieldwork but few discuss the time required for data analysis and report-writing (and possibly dissemination). Based on the authors' own experience, some estimates of the time required for household surveys and PRA exercises are therefore outlined in Box 7.

### **Box 7.** Notes on potential time required for household surveys and Participatory Rural Appraisal exercises

The times given here are considered to be the absolute minimum required and assume that the study objectives are very clear, the people involved are sufficiently skilled and motivated to carry out their tasks effectively and that no unexpected problems arise during the data collection and analysis process.

A. Household survey (assume a maximum of 40 mostly quantitative questions in 1 community)

- Designing the survey instrument: 2 people x 1–2 weeks
- Designing the spreadsheet or database for data analysis: 1 person x 2 weeks
- Testing (including trial analysis) and amending the survey instrument with 20 households: 2 people x 3 weeks
- Implementation of the survey: 1 person hour per household (more if households are located far apart and/or a translator is required)
- Data entry: 1 hour per household (= approximately 5 per person day)
- Data cleaning and analysis: 1 person x 2 weeks per community (depending on number of households and number of issues being analysed)
- Writing up report: 1–2 people x 2 weeks (possibly including a feedback/validation visit to the community)

B. PRA exercise (assume about 6–8 different PRA tools are used in one community, with 3 tools being carried out separately with men and women and/or with groups of different well-being)

- Fieldwork preparation including collection of secondary data and setting up meetings with community: 1 person x 1 week (note that this work can be combined for several communities if they are near one another)
- Fieldwork: 4 people x 4 days (assuming that people work in pairs and can use around 3 PRA tools in a day, and including time for a feedback/validation visit)
- Analysis and writing up: 2 people x 1–2 weeks (assuming each exercise has been well documented in the field)

In both cases, preparation activities for additional communities (e.g. amending surveys and collecting secondary data) may be minor, but additional time will be required for the in-community fieldwork, for the analysis and any cross-community synthesis required.



Photo: Chico Carneiro

### River-based livelihoods in the Brazilian Amazon

#### What level of differentiation is required?

This is linked to the issues of scale and the information needs of the end users. Some level of differentiation by social grouping may be essential for even the most basic methodology, to ensure that negative impacts on poorer households are not hidden (or averaged out) by benefits going to more well-off households.

a) Individuals. To assess intra-household impacts → apply survey tools to individuals rather than households, include specific questions about intra-household differences within a household survey (e.g. see #18a and b) or hold separate focus group discussions with men and women (e.g. #17).

b) Households and different social groups (men, women, young, old, castes, well-being groups, etc.) → Many different tools available. Surveys can be applied to individual households while a range of participatory tools (see Box 6) can be used either with individual households or – more usually – with small groups

of householders. For both surveys and participatory tools, households can be stratified by well-being group, ethnic group, location or other category as necessary (noting that additional stratification layers have implications in terms of increased time, cost and analytical complexity (Catley *et al.*, 2008)).

c) Communities within and around a protected area → Most methods apply the same set of tools in several communities. Selection of communities could be based on a causal model of who has experienced which kinds of impacts. Alternatively, the Landscape Outcomes Assessment Methodology (#7) works with a multi-stakeholder group to discuss landscape-level issues and could capture impacts of a protected area across many communities.

d) Protected area systems → if good long-term secondary data are available, adapt one of the two system-wide approaches (#4 and #8) to the type of data on hand. Alternatively, look at PROFOR Toolkit (#15) for ideas on how to synthesise data from several sites for presentation at national level. (NB This is the area with the fewest useful examples to draw on.)

### What is the attribution approach used?

For a fuller discussion of attribution see Section 6.2. The main decision to be taken is whether the study will include 'control' communities or households or focus its resources only on communities and households expected to be affected by the protected area in some way.

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- a) Studies with control communities. Two options are possible:
  - i) For studies of whole protected area systems → control communities can be selected to match the protected area communities as closely as possible based on their characteristics (e.g. of demography, market access, forest cover) prior to establishment of the protected areas (see #4 and #8 for details).
  - ii) For studies of individual protected areas → the usual approach is to match controls on the basis of similarities at the time of the study.
  
- b) Studies without control communities but with a baseline. If a baseline study is available in the study communities → some or all of the baseline study can be repeated, ideally with at least some of the same households.
  
- c) Studies without control communities and with no baseline. Three options exist:
  - i) → retrospective construction of a baseline through the use of secondary data (see #6),
  - ii) → use of recall questions to ask either focus group or survey participants how much particular issues have changed since the protected area was established (e.g. see #17). The assessment could be designed in such a way as to provide a baseline for future repeat assessments – this might include investigating a wider range of issues to allow for future shifts in emphasis, incorporating some tools that could be used as a stand-alone and smaller subset for more frequent monitoring (e.g. an index-based tool along the lines of

#2) and providing a very clear record of data collection and analysis methods.  
iii) → use of reflexive comparison in which respondents are asked direct questions about the kinds of impacts the protected area has brought about. This can be done using methods such as Most Significant Change (#9) or Appreciative Inquiry (#1), producing mainly qualitative data. Alternatively, quantitative data can be obtained by incorporating questions into household surveys about how people perceived impacts (see #18a and b). Catley *et al.*, (2008: 48–54) provide examples of how participatory ranking or scoring, tally tables and matrix scoring can be used in a reflexive way to assess attribution.

d) Studies at initiation of protected areas → in the case of new protected areas, causal model approaches such as Outcome Mapping (#10) and Participatory Impact Pathways Analysis (#14) can be used to set up systems to track changes over time.

### What level of certainty is required?

Depending on the intended end users and their information needs, it may be sufficient to present descriptive data, including some memorable and relevant stories, or it may be necessary to present quantitative data with known levels of confidence derived from some random or stratified sampling process and statistical analysis. Typically, household surveys are used to produce quantitative data. However, as Catley *et al.* (2008) illustrate with many examples, formal statistical analysis is not always essential and it is possible to determine confidence levels even when using participatory methods as long as tools are repeated with enough groups. How many repetitions are possible, or how large a sample is possible for household surveys, will depend both on the resources available and on the total size of the sample frame (both in terms of numbers of communities and people).

## Conclusion

The studies reviewed for this report illustrate the many approaches different people have taken to try to assess social impacts of protected areas and other interventions. An ideal method would not only be rapid, low-cost and easily repeatable over space and time, but would also tackle some of the difficult issues in relation to impact assessment, namely:

- how impacts are attributed to the protected area as an institution rather than as an ecosystem;
- ensuring that the differentiated impacts on different local and more distant stakeholder groups are captured;
- assessing both tangible and intangible impacts.

No standard off-the-shelf methodology that fulfils all these criteria exists, nor is there one that could be easily modified to apply across the many different protected area situations and potential users of the impact assessment information that exist.

This begs the question as to whether developing a standard methodology is even a realistic objective. According to PCLG *et al.* (2007), Birdlife worked for several years to develop a tool to monitor the contribution of the conservation work in its Important Bird Areas (IBAs) on human well-being. But the difficulties of collecting data and of having a single approach that suited all situations apparently led Birdlife to revert to project and site-specific monitoring. On the other hand, it seems that the International Network of Alternative Finance Institutions (INAFI) is going ahead with producing a standardised tool for assessing social impacts of microfinance projects. This may be a feasible undertaking given that the modalities of microfinance project interventions are perhaps more narrowly focused than the many different approaches taken by protected area managers.

In spite of the difficulties involved, avoiding the issue of how to assess social impacts is not an option given the general global trend towards increased monitoring of the effectiveness of interventions (of all kinds) and the specific context of the CBD requiring parties to the Convention to monitor the impacts of protected areas on communities and indigenous people. A compromise, therefore, is to use a standardised decision-making process to design locally appropriate assessment methodologies.

As outlined in Section 7, the key to designing an effective assessment methodology is to have a good understanding of the end users' information needs. More than this, it is necessary to engage with end users and the processes of policy change (at various levels) to ensure that the information produced will actually be used to influence decisions that might improve

implementation. In particular, the need for statistically significant information needs to be considered very carefully as the sampling schemes and repetitions required are likely to have significant human resource and cost implications.

Related to this is the issue of using controls of various kinds. The resource implications as well as some of the ethical and practical difficulties of using control communities suggest that they may not be a useful approach if speed and low cost are a priority. Instead, more effort could be invested in using reflexive comparison approaches with different groups or individuals to ascertain the most important positive and negative impacts.

While the attribution of impact is likely to be less difficult for indicators that are very specific to a protected area, these kinds of indicators may not be as amenable to aggregation. A compromise, therefore, between local relevance and providing information of use to national or even world audiences is to combine locally and externally defined indicators. To support the process of defining a standardised set of external indicators, it might be useful to invest further in the development of a conceptual framework that outlines generic 'protected area – livelihood' relationships, which can be further modified at local level. A modified form of the sustainable livelihoods framework may be appropriate for describing the many possible aspects of a multi-faceted livelihood and how it can be affected by a protected area.

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While the research tools (such as household surveys and participatory rural appraisal tools) used by the different methods reviewed are generally well known, there was little or no information in the studies reviewed on the costs incurred for the impact assessments, particularly for data analysis and dissemination of results. In the absence of this information, it is difficult to determine whether developing a methodology to assess the social impacts of protected areas that is low cost and can be fully implemented over a short period of time is feasible. Achieving this objective will depend on having the most detailed understanding possible of end user needs and being highly selective about the information to be collected.

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## Appendix 1 Timeline of the Social Assessment of Protected Areas Initiative (SAPA)

Date	Event	Outcome
Oct 2003	5th IUCN World Parks Congress, Durban	Achievement of target of 10% of each biome protected within a PA brought to the fore the debate between conservation and social scientists about the costs and benefits of PAs. Participants adopted recommendation on protected areas and poverty that stressed that PAs should contribute to local poverty reduction and at least 'do no harm'.
Oct 2005	World Conservation Congress, Bangkok	Conservation organisations were encouraged to fund the 'assessment of the economic and socio-cultural impacts occurring from the establishment and maintenance of PAs'. A number of relevant workshops followed.
May 2006	Workshop on Protected Areas, Equity and Livelihoods (PAEL) as a side event to the COP 8 of the Convention on Biological Diversity	To raise awareness of the need for a more systematic approach to implement Element 2 of the Programme of Work on PAs (PowPA) on participation and equitable distribution of costs and benefits.
Oct 2006	PAEL taskforce of WCPA-CEESP (IUCN) established	To address, amongst other things, social assessments of PAs.
Feb and June 2007	PAEL taskforce regional workshops in Africa (Kenya) and Asia (Thailand)	Regional development of workplans for the taskforce that highlighted the need to develop better understanding, models, tools and methodologies to assess the social impact of PAs.
Feb 2007	'Vision 2020' workshop of UNEP-WCMC PAs Programme to discuss how to expand World Database of Protected Areas (WDPA) to cover socio-economic issues and develop indicators related to PA and social impacts.	TILCEPA (IUCN), through the PAEL taskforce, together with UNEP-WCMC tasked to advance this agenda.
Nov 2007	Discussion document 'Towards an integrated system for measuring the social impact of protected areas' produced by the Poverty and Conservation Learning Group, TILCEPA, UNEP-WCMC Vision 2020, and WCPA-CEESP PAEL Taskforce.	Highlighted the lack of agreed framework, approach, set of methods or field tools for undertaking the required work to assess the social impacts of protected areas. Proposed a process of reviews and extensive consultation to develop a general framework and set of tools that could be put forward for discussion by the WCPA PAEL and CBD.

Feb 2008	Workshop on PAs, equity and livelihoods with discussions on social assessment of PAs as a parallel event to the specialist meeting of CBD on PAs (Rome).	
May 2008	SAPA initiative workshop at UNEP-WCMC to 'Review approaches, methodologies and tools for social impact assessment of PAs'	Distinction made between 'comprehensive' and 'rapid' methodologies. Document available at: <a href="http://conserveonline.org/workspaces/socialimpact">http://conserveonline.org/workspaces/socialimpact</a>
May 2008	Workshop on social assessment of PAs held as parallel event to the CBD COP 9 (Bonn) to present recent studies, discuss needs and approaches into the future.	
Sep 2008	MSc thesis by Vanessa Richardson (conducted at UNEP-WCMC).	Carried out a preliminary review of existing methodologies to test the livelihood impact of PAs
Oct 2008	Workshop at World Conservation Congress to advance the agenda on social assessments of PAs.	Decision to proceed initially with development of a rapid methodology and the first step to be a review of existing methodologies to assess social impacts of protected areas



## Appendix 2 Overview of different tools and methodologies reviewed

Name	Thematic area	Key references	Notes	App 3 ref
<b>INDEX-based methods</b>				
Basic Necessity Survey	Development projects – general	(1) Davies, R., and Smith, W. (1998) The Basic Necessities Survey: The experience of ActionAid Vietnam. Action Aid, London. Available at: <a href="http://www.mande.co.uk/docs/BasicNecessitiesSurveyAAV1998.pdf">http://www.mande.co.uk/docs/BasicNecessitiesSurveyAAV1998.pdf</a> . (2) Pro Poor Centre (2007) The 2006 Basic Necessities Survey (BNS) in Can Loc District, Ha Tinh Province, Vietnam. Available at: <a href="http://www.mande.co.uk/docs/The%202006%20Basic%20Necessities%20Survey%20Final%20Report%2020%20July%202007.doc">http://www.mande.co.uk/docs/The%202006%20Basic%20Necessities%20Survey%20Final%20Report%2020%20July%202007.doc</a>	Short method relying on use of an index	#2
Coping Strategies Index (CSI)	Food security	Maxwell, D., and Caldwell, R. (2008) The Coping Strategies Index Field Methods Manual (2nd edition). CARE International. Available at: <a href="http://home.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp211058.pdf">http://home.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp211058.pdf</a>	Short method relying on use of an index	#5
Quantitative Participatory Assessment (QPA)	Development projects – general	James A., Pangtey V., Singh P. and Virgo K. (2002) Participatory assessment. Bringing people's perceptions to project management desktops: A quantified participatory assessment of the Doon Valley Watershed Project in North India'. <i>Impact Assessment and Project Appraisal</i> 20 (3): 201–214	Short method relying on use of an index	#17
<b>TOOLS</b>				
Participatory Economic Valuation	Development Projects – general	(1) CARE International, IUCN, AWF (2008) Assessment of protected area costs and benefits. Methodology guidelines, January 2008, unpublished draft. (2) Emerton, L. (1996) Valuing the subsistence use of forest products in Oldonyo Orok Forest, Kenya. Rural Development Forestry Network Paper 16e, ODI, London	A tool that needs to be combined with others within a methodology	#12
Landscape Outcomes Assessment Methodology (LOAM)	Socioenvironmental	(1) Sayer <i>et al.</i> (2007) Assessing environment and development outcomes in conservation landscapes, <i>Biodiversity Conservation</i> 16(9): 2677-2694. (2) Aldrich, M. and Sayer, J. (2007) In Practice – Landscape Outcomes Assessment Methodology 'LOAM'. WWF Forests for Life Programme. Available at: <a href="http://assets.panda.org/downloads/loaminpracticemay07.pdf">http://assets.panda.org/downloads/loaminpracticemay07.pdf</a>	Useful for spider diagrams	#7
Committee on Sustainability Assessment (COSA)	Small producers / Rural development	(1) IISD (2008) Seeking sustainability: COSA preliminary analysis of sustainability initiatives in the coffee sector, September. Available at: <a href="http://www.iisd.org/pdf/2008/seeking_sustainability.pdf">http://www.iisd.org/pdf/2008/seeking_sustainability.pdf</a> (2) Sustainable Coffee Partnership (2007) Information Brief on the COSA Project. A Multi-Criteria Cost-Benefit Analysis of Sustainable Practices in Coffee. Sustainable Coffee Partnership, IISD and UNCTAD. Available at <a href="http://www.iisd.org/pdf/2007/cosa.pdf">http://www.iisd.org/pdf/2007/cosa.pdf</a>	Very detailed tool (apparently a simpler version is being worked on)	#3

Name	Thematic area	Key references	Notes	App 3 ref
<b>DETAILED METHODOLOGIES</b>				
Household Livelihood Security Assessment	Socioenvironmental	CARE (2002) Household livelihood security assessments. A toolkit for practitioners. CARE USA, Atlanta, GA. Available at: <a href="http://www.proventionconsortium.org/themes/default/pdfs/CRA/HLSA2002_meth.pdf">http://www.proventionconsortium.org/themes/default/pdfs/CRA/HLSA2002_meth.pdf</a>	Very detailed but useful elements, particularly on analysis	#6
Parks and People	Socioenvironmental	(1) Wilkie, D. (2006) Household Surveys – A Tool for Conservation Design, Action and Monitoring, Living Landscapes Technical Manual No. 4. WCS, New York. (2) Wilkie, D. <i>et al.</i> (2006) Parks and People: Assessing the human welfare effects of establishing protected areas for biodiversity conservation, <i>Conservation Biology</i> 20(1): 247–249.	Very detailed methodology with many useful tools	#11
Participatory Impact Assessment	Development projects – general	Catley, A. <i>et al.</i> (2008) Participatory Impact Assessment: A guide for practitioners. Feinstein International Center.	Excellent guide through process of decision-making and use of PRA tools that also allows for statistical analysis	#13
Protected Area Benefit Assessment Tool	Socioenvironmental	Dudley, N. and Stolton, S. (2008) The Protected Areas Benefits Assessment Tool: A methodology. WWF. Available at: <a href="http://www.equilibriumresearch.com/upload/document/PA_BAT_-_Final_Feb_2008.pdf">http://www.equilibriumresearch.com/upload/document/PA_BAT_-_Final_Feb_2008.pdf</a>	Detailed methodology	#16
Rapid Social Impact Assessment	Development Projects – general	(1) Franks, P. (Undated) Promoting Equity in the Management of Protected Areas: New evidence of the need for action. CARE International. Available at: <a href="http://www.povertyandconservation.info/docs/20080524-Phil_Franks_CARE_International2.pdf">http://www.povertyandconservation.info/docs/20080524-Phil_Franks_CARE_International2.pdf</a> (2) Various marine PA studies by The Nature Conservancy at <a href="http://www.nature.org/mpapoverystudy">www.nature.org/mpapoverystudy</a>	Fairly detailed methodology	#18a #18b
<b>METHODOLOGIES FOR PA SYSTEMS</b>				
Comparison group approach	Protected areas	Sims, K.R.E. (2008) Evaluating the local socio-economic impacts of protected areas: A system-level comparison group approach. Report prepared for the GEF Evaluation Office	Requires good data and GIS	#4
Matched method approach	Protected areas	Andam, K.S., Ferraro, P.J., Holland, M.B. and Sanchez-Azofeifa, G.A. (2008) Measuring the social impacts of protected areas. An impact evaluation approach. Final draft of report prepared for Evaluation Office, GEF	Requires good data and GIS	#8

Name	Thematic area	Key references	Notes	App 3 ref
<b>METHODOLOGIES WITH INTERESTING ELEMENTS</b>				
Appreciative Inquiry	Development projects – general	Acosta, K. and Douthwaite, B. (2005) Appreciative inquiry: An approach for learning and change based on our own best practices. ILAC Brief 06. <a href="http://www.cgiar-ilac.org/files/publications/briefs/ILAC_Brief06_inquiry.pdf">http://www.cgiar-ilac.org/files/publications/briefs/ILAC_Brief06_inquiry.pdf</a>	Could be useful as a component of a methodology, particularly as a starting point	#1
Most Significant Change (MSC)	Development projects – general	Davies, R. and Dart, J. (2005) Most Significant Change (MSC) Technique: A guide to its use. Available at: <a href="http://www.mande.co.uk/docs/MSCGuide.pdf">http://www.mande.co.uk/docs/MSCGuide.pdf</a>	As for Appreciative Inquiry	#9
Outcome Mapping	Development projects – general	Smutylo, T. (2005) Outcome mapping: A method for tracking behavioural changes in development programs. ILAC Brief 7. Available from: <a href="http://www.idrc.ca/uploads/user-S/11235064481Brief-FINAL.pdf">http://www.idrc.ca/uploads/user-S/11235064481Brief-FINAL.pdf</a>	Causal model approach. Better for use in project planning than for impact assessment	#10
Participatory Impact Pathways Analysis (PIPA)	Development projects – general	(1) Douthwaite, B., Alvarez, S., Thiele, G. and Mackay, R. (2008) Participatory Impact Pathways Analysis: A practical method for project planning and evaluation. ILAC Briefing 17. (2) Douthwaite, B., Schulz, S., Olanrewaju, A. and Ellis-Jones, J. (2007) Impact pathway evaluation of an integrated <i>Striga hermonthica</i> control project in northern Nigeria, <i>Agricultural Systems</i> , 92: 201-22	Causal model approach. Like Outcome Mapping better for project planning than impact assessment	#14
PROFOR toolkit	Socioenvironmental	PROFOR (2008) Poverty-forests Linkages Toolkit. Parts 1 and 2. PROFOR, World Bank, Washington, D.C. Available at: <a href="http://www.profor.info/profor/node/103">http://www.profor.info/profor/node/103</a>	Assesses contribution of forests to poverty reduction rather than impacts of a particular intervention	#15
Socio-Economic Assessment Toolbox (SEAT)	Private Sector / Mining	Anglo American – Socio-Economic Assessment Toolbox (SEAT) <a href="http://www.angloamerican.co.uk/aa/siteware/docs/seat_toolbox.pdf">http://www.angloamerican.co.uk/aa/siteware/docs/seat_toolbox.pdf</a>	Very long but good source of tools and indicators	#19
Socio-Economic Monitoring (SocMon)	Marine assessments	(1) Bunce, L. (Undated) Socioeconomic Monitoring Guidelines: Critical tools for balancing biodiversity and people. NOAA and WCPA-Marine. Available at: <a href="http://www.reefbase.org/download/gcrmn_download.aspx?type=10&amp;docid=634">http://www.reefbase.org/download/gcrmn_download.aspx?type=10&amp;docid=634</a> (2) Bunce, L. and Pomeroy, B. (2003) Socioeconomic Monitoring Guidelines for Coastal Managers in The Caribbean: SocMon Caribbean. World Commission on Protected Areas and Australian Institute of Marine Science. Available at: <a href="http://www.reefbase.org/socmon/pdf/SocMon_Caribbean.pdf">http://www.reefbase.org/socmon/pdf/SocMon_Caribbean.pdf</a>	Good source of household Survey questionnaires and key informant interview checklists	#20
Sustainable Livelihoods Approach (SLA)	Socioenvironmental	Ashley, C. and Hussein, K. (2000) <i>Developing Methodologies for Livelihood Impact Assessment: Experience of the African Wildlife Foundation in East Africa</i> . ODI, London. Available at: <a href="http://www.odi.org.uk/resources/download/2032.pdf">http://www.odi.org.uk/resources/download/2032.pdf</a>	Good on how to use the SL framework in an integrative manner	

Name	Thematic area	Key references	Notes
<b>LESS USEFUL FOR RAPID ASSESSMENT OF PA IMPACTS</b>			
Adaptive Management	Socioenvironmental	Salafsky, N., Margoluis, R. and Redford, K. (Undated) Adaptive Management: A tool for conservation practitioners. Available at: <a href="http://www.fonline.org/resources/Publications/AdapManHTML/adman_1.html">http://www.fonline.org/resources/Publications/AdapManHTML/adman_1.html</a>	Rather vague on actual methodology
Core Welfare Indicators Questionnaire (CWIQ)	National development policy	World Bank (Undated) Core Welfare Indicators Questionnaire (CWIQ). Statistics in Africa, World Bank, Washington, DC. Available at: <a href="http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/EXTPUBREP/EXTSTAT/NAFRO,,contentMDK:21104598~menuPK:3091968~pagePK:64168445~piPK:64168309~theSitePK:824043,00.html">http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/EXTPUBREP/EXTSTAT/NAFRO,,contentMDK:21104598~menuPK:3091968~pagePK:64168445~piPK:64168309~theSitePK:824043,00.html</a>	Survey for monitoring service delivery to the poor. Assesses welfare rather than impacts
Impact Evaluation Analytical Framework	Biodiversity	GEF (2008) GEF protected area projects in East Africa. Impact Evaluation Information Document No. 12, GEF Evaluation Office, Washington, DC.	Too complex and too focused on biodiversity in a way that is difficult to convert to social impacts
Impacts Targeting and Assessment	Socioenvironmental	La Rovere, R. and Dixon, J. (2007) Operational guidelines for assessing the impact of agricultural research on livelihoods. Good practices from CIMMYT. Impacts Targeting and Assessment (ITA) Unit, CIMMYT, El Batan, Mexico	No additional insights
Poverty and Social Impact Analysis	Poverty	(1) Evans, A. <i>et al.</i> (2008) Poverty and Social Impact Analysis (PSIA): Reviewing the link with in-country policy and planning processes. Synthesis report, November, ODI (2) World Bank (2003) PSIA user's guide. Available at: <a href="http://go.worldbank.org/IR9SLBWTQ0">http://go.worldbank.org/IR9SLBWTQ0</a> . World Bank (2008) Good Practice Note: Using Poverty and Social Impact Analysis to Support Development Policy Operations. Available at: <a href="http://siteresources.worldbank.org/INTPSIA/Resources/GPN_August08_final.pdf">http://siteresources.worldbank.org/INTPSIA/Resources/GPN_August08_final.pdf</a>	Focused mainly on national level discussion and for ex ante assessment, e.g. of consequences of policy changes
Private Sector Development Impact Assessment Initiative	Micro-finance	USAID (2008) Planning for cost effective evaluation with Evaluability Assessment. <a href="http://www.microfinancegateway.org/gm/document-1.9.30940/50332_file_21.pdf">http://www.microfinancegateway.org/gm/document-1.9.30940/50332_file_21.pdf</a>	Not a real methodology, more for planning impact assessment
Social Impact Measurement	Micro-finance	INAFI (2008) Social Impact Measurement Project document. Results of a pilot project to develop a tool for measuring social impact of microfinance. INAFI International Foundation, Dakar <sup>16</sup>	Seems a useful process

16. Note that it was only possible to obtain this overview document and we were not able to see a copy of the tool that has apparently been trialled by INAFI.

Name	Thematic area	Key references	Notes
Social Performance Map	Micro-finance	SEEP Network (2006) Social Performance Map. The SEEP Network Social Performance Working Group. Washington, DC. <a href="http://www.seepnetwork.org">http://www.seepnetwork.org</a>	
Social Return on Investment	Development Projects – general	Nicholls, J., Lawlor, E., Neitzert, E. and Godspeed, T. (2009) A Guide to Social Return on Investment Analysis. Cabinet Office, UK. Available at: <a href="http://www.neweconomics.org/publications/guide-social-return-investment">http://www.neweconomics.org/publications/guide-social-return-investment</a>	Too complex and requires the use of a lot of other economic evaluation methods
Sustainability Assessment Model	Private Sector / Mining	Baxter <i>et al.</i> (2003) The Sustainability Assessment Model (SAM): Measuring sustainable development performance. Society of Petroleum Engineers, Richardson, TX	Based on damage costs but not much focus on socio-economic impacts
MESMIS evaluation framework	Socioenvironmental	Lopez-Ridaura, S., Masera, O. and Astier, M, (2002) Evaluating the sustainability of complex socio-environmental systems, the MESMIS Framework, <i>Ecological Indicators</i> 2: 135–148	No additional insights
Value Chain Analysis	Small producers / Rural development	(1) Riisgard <i>et al.</i> (2008) A strategic framework and toolbox for Action Research with small producers in value chains. DIIS Working Paper No. 2008/17 (2) Bolwig <i>et al.</i> (2008) Integrating poverty, gender and environmental concern into value chain analysis: A conceptual framework and lessons for Action Research. DIIS Working Paper No. 2008/16	Good for individual products (e.g. for tourism) from PA, but not for general impacts

# Appendix 3 Summaries of most useful tools and methodologies reviewed

## 1. APPRECIATIVE INQUIRY (AI)

### Objectives

A participatory methodology to capture positive features of a system of organisation in order to shift perceptions from problems to strengths and then to create a future focused on the positive.

### How is it used?

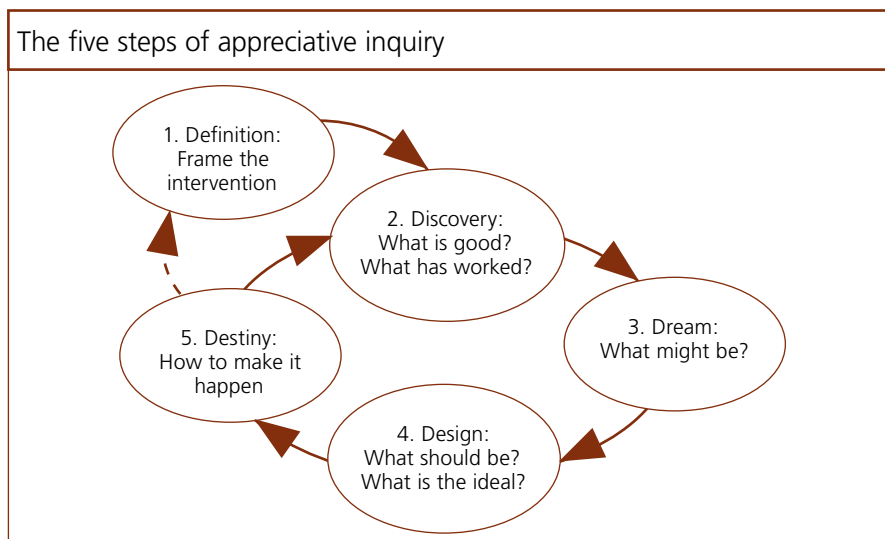
Uses open-ended questions to interview subjects. This can include use of focus groups, video recording or other methods. Focus is on the gathering of stories that convey positive aspects of a situation. This is followed by participatory planning and implementation for positive change. This is accomplished in 5 steps

- 1) Definition: establishing the focus and scope of the inquiry
- 2) Discovery: collecting stories of the system or programme at its best
- 3) Dream: collecting the wisdom and imagining the future
- 4) Design: bridges to the future based on the best of the past and present
- 5) Destiny: making it happen

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### What is assessed?

Specifically focuses on benefits rather than costs. Captures any aspects of well-being considered important by participants.



Source: Acosta and Douthwaite (2005)

## Potential scales of assessment

- Individual
- Household
- Community
- Intra-Community/Regional

## Level of differentiation possible

Can assess nearly any level of differentiation (gender, age, wealth, ethnic group, education, social status, religion, etc.) depending on the focus and scope of the study.

## How is attribution assessed?

By repeating the tool before, during and after implementation of the initiative.

## Who has used it? Where? When?

Not known to have been used with PAs but an extensive study, describing the steps of the methodology in great detail, was completed by the International Institute for Sustainable Development (IISD, 2001) examining the integration of aboriginal values with land and resource management in Manitoba, Canada.

## Feasibility issues

- Cost is not mentioned but would most likely be flexible depending on the focus and scope of the project.
- Time needed to complete this methodology is also not mentioned but would be flexible depending on the focus and scope of the project.
- Requires all facilitators to be trained in the methodology.

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## Other notes

Could potentially be combined with other methodologies/tools. On its own, this methodology might not be the best approach to assessing PA impacts but it could prove to be a useful addition to another method.

## Summary: Main merits

- Has the ability to be flexible depending on time, budget and people available to carry it out.
- Focus and topics of inquiry are flexible depending on the needs of the study.
- Values local people's opinions and visions of their community.

## Summary: Main disadvantages

- Requires excellent communication, trust and complete support of the process from both team leaders and participants – this method will not work without it.
- Would likely not work on a large scale.
- Requires researchers to be specially trained in this method.

## Key references

- Acosta, A. and Douthwaite, B. (2005) Appreciative Inquiry: An approach for learning and change based on our own best practices. ILAC Brief 06.
- IISD (2001) Integrating Aboriginal Values into Land-Use and Resource Management. Final Report January – June 2001. IISD. Available at: [http://www.iisd.org/pdf/skownan\\_final\\_nopics.pdf](http://www.iisd.org/pdf/skownan_final_nopics.pdf)
- See also the Appreciative Inquiry Commons website (<http://appreciativeinquiry.case.edu/>) which contains a list of publications and examples of this methodology.

## 2. BASIC NECESSITIES SURVEY (BNS)

### Objectives

The BNS is a cheap and simple methodology that captures household-level poverty, which is defined as 'lack of basic necessities'. These necessities are defined locally by a participatory approach to listing and ranking basic necessities.

### How is it used?

The BNS has three main steps:

1. Mixed age and gender focus group to develop a list of goods and services perceived as basic necessities. The list should include between 20 and 25 items. This is a 'menu' of possible basic necessities, not a final list.
2. Household survey based on perceptions of the provision of basic necessity goods and services. The survey should contain two main questions:
  - a. Which of these items do you think are basic necessities (that everyone should be able to have and no one should have to do without)?
  - b. Which of these items does your household have?
3. Analysis: after the survey, the researcher should calculate for each item the percentage of the respondents who claim the item is a basic necessity, keeping only those that more than 50% of the community claimed as being basic necessities. Each item is then given a weighting according to the number of people who considered it a basic necessity, adding up the weightings for all the items and creating a BNS score for each household. This score is then converted into a percentage of the maximum possible raw score. Thus a household with a low percentage has very few basic necessities, and a household with a high percentage has most of them. Finally, the average BNS (%) can be calculated and perhaps a poverty line can be defined, as a specific BNS (%) score.

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The survey results can be used in many ways:

- To illustrate current perceptions of necessity. When repeated after 5 years, it can also demonstrate the extent to which perceptions of necessity change over time.
- To show the extent of households' access to various items and attributes and the extent of disparity in such access.
- The results can be converted into poverty scores and used to illustrate the



distribution of poverty, socially and geographically. Repetition over time can then show changes in the distribution of poverty.

- Over time, the results can show the impact of a specific programme/project/initiative.

### What is assessed?

Presence/absence of locally (or potentially also externally) defined basic necessities. No direct measure of costs or benefits unless repeated over time.

### Potential scales of assessment

- Household and community

### Level of differentiation possible

- Gender, age, wealth, ethnic group

### How is attribution assessed?

Attribution is not assessed. It would require controls in space and/or time or the addition of specific questions about the perceived links between the basic necessities identified and the initiative being investigated.

### Who has used it? Where? When?

This methodology is adapted from previous approaches, including the framework developed by Mack and Lansley (1985) in the 1980s in Britain. The BNS was originally used by ActionAid in Vietnam (Davies and Smith, 1998). Since then, it has been used more widely, with reported case studies in Mali (USAID), Cambodia and Guatemala (USAID and WCS), and Mali (Nteziyaremye and MkNelly, 2001). In addition, it has been adapted by Gemma Wright (2008) as the 'Socially Perceived Necessities' approach to assess poverty and social exclusion in South Africa.

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### Feasibility issues

Likely to be relatively cheap as it could be conducted by a trained local researcher.

### Other notes

It would be interesting to add an 'attribution' column to the questionnaire, and for each question of necessity perception, for the interviewer to ask whether the provision of the basic good or service is a consequence of an intervention or project (e.g. protected area).

### Summary: Main merits

- Simple to design and implement.
- Results are easy to analyse and easy to communicate and the analysis of data collected does not require highly specialised statistical skills.
- The process is participative but produces quantifiable results.

### Summary: Main disadvantages

- Does not take into account monetary values of needs.
- No means to assess attribution.

### Key references

- Davies, R. and Smith, W. (1998) *The Basic Necessities Survey: The experience of ActionAid Vietnam*. Action Aid, London. Available at: <http://www.mande.co.uk/docs/BasicNecessitiesSurveyAAV1998.pdf>.
- Davies, R. (1997) *Beyond Wealth Ranking: The democratic definition and measurement of poverty*. Briefing Note prepared for the ODI Workshop 'Indicators of Poverty: Operational significance' in London, 8 October. Available at: <http://www.mande.co.uk/docs/democrat.htm>
- Mack, J. and Lansley, S. (1985) *Poor Britain*, Allen and Unwin, London.
- Nteziyaremye, A. and MKNelly, B. (2001) *Mali poverty outreach study of the Kafo Jiginew and Nyesigiso Credit and Savings with Education Programs*. Research Paper No. 7. Freedom from Hunger, Davis, CA.
- Pro Poor Centre (2007) *The 2006 Basic Necessities Survey (BNS) in Can Loc District, Ha Tinh Province, Vietnam*. Available at: <http://www.mande.co.uk/docs/The%202006%20Basic%20Necessities%20Survey%20Final%20Report%2020%20July%202007.doc>
- Wilkie, D. (2006) *Household Surveys – a tool for conservation design, action and monitoring*. Living Landscapes Technical Manual 4, August. USAID and WSC. Available at: [http://wclivinglandscapes.com/landscapes/media/file/LLP\\_Manual4\\_HouseholdSurveys\\_EN.pdf](http://wclivinglandscapes.com/landscapes/media/file/LLP_Manual4_HouseholdSurveys_EN.pdf)
- Wright, G. (2008) *Findings from the Indicators of Poverty and Social Exclusion Project: A profile of poverty using the Socially Perceived Necessities approach*. Indicators of Poverty and Social Exclusion Project, Key Report 7. Department of Social Development, Pretoria. Available at: <http://www.casasp.ox.ac.uk/docs/IPSE%20Key%20Report%207%20DSD-CASASP.pdf>.

## 3. COMMITTEE ON SUSTAINABILITY ASSESSMENT (COSA)

### Objectives

The COSA methodology was developed by the Sustainable Coffee Partnership to enable producers and other stakeholders to examine and measure the economic, social and environmental costs and benefits associated with different sustainability approaches adopted by farmers.

### How is it used?

The basic COSA approach consists of a data gathering and objective analysis process so that farmers and other stakeholders can more effectively assess and predict the possible social, economic and environmental outcomes of different sustainability initiatives. The tool can assess the relative costs and benefits of

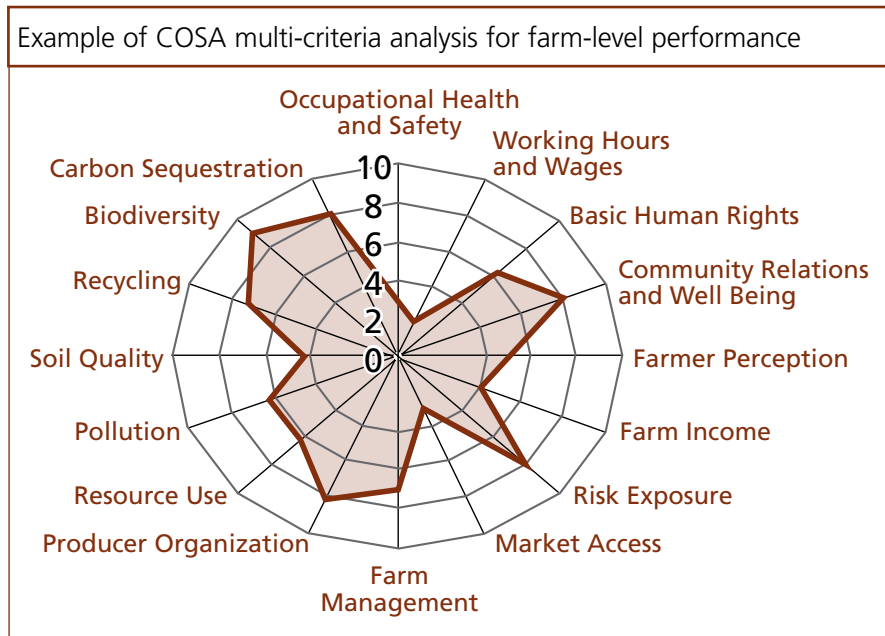
sustainability based on a common set of measures/indicators. COSA applies a multi-criteria analysis approach that:

- assesses compliance costs and benefits as both the direct (i.e. costs of documentation, verification or certification) and indirect costs and benefits (i.e. the costs of learning);
- captures both tangible and 'intangible' benefits associated with sustainable practices;
- illustrates the differences experienced in different ecosystems, geographic regions of the world, and even larger plantations and small farmers; and
- is conducted initially over three years to determine real changes in comparison with control groups.

After being checked for general consistency and accuracy, the data collected is subjected to the following forms of analysis:

- description of statistical trends;
- application of Analysis of Variance (ANOVA) to assess statistical relevance; and
- multi-criteria analysis in order to provide basic 'outcomes' along core sustainability criteria.

In addition, COSA envisions the future global availability of comparably defined data so that producers and policy-makers can better determine how they compare with producers operating in different regions or applying similar or different standards. A 'full spider graph' (see figure) can provide a quick summary snapshot of the 'sustainability performance' by the individual farm or by other groupings such as the initiative, country or other grouping.



Source: Sustainable Coffee Partnership (2007)

### What is assessed?

Both costs and benefits are assessed. Indicators are externally defined but could potentially be locally defined for more locally specific use.

### Potential scales of assessment

Measurements primarily limited to the farm, with a secondary focus on the supply chain, producer organisations, community and market.

### Level of differentiation possible

Could potentially be applied to different social groupings.

### How is attribution assessed?

Attribution is measured through annual evaluation visits to discern measurable changes over time resulting from the implementation of different initiatives, over a minimum of a three-year period.

### Who has used it? Where? When?

The COSA methodology was developed by the International Institute for Sustainable Development (IISD, 2008), and applied as a pilot test to coffee farmers and the coffee sector in five countries (Kenya, Peru, Costa Rica, Honduras and Nicaragua). After the testing process, some methodological issues were identified and are being addressed, including the creation of an even simpler COSA tool that can be more readily employed by producers for their farm or co-op management.

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### Feasibility issues

Quite expensive, as it requires annual visits to the farm/community by a qualified technical evaluator.

### Summary: Main merits

- Detailed perspective into the costs and benefits of adopting sustainability systems on the ground.
- It includes not only direct costs and benefits, but also indirect costs and benefits such as those associated with learning, organisational changes, health and well-being, and market access.

### Summary: Main disadvantages

- There is no participation and it contains a list of pre-defined indicators, overlooking specificities of each locality.
- The analysis of data is time consuming and requires a qualified researcher for statistical analysis.

## Key references

- IISD (2008) Seeking sustainability: COSA preliminary analysis of sustainability initiatives in the coffee sector, September. Available at: [http://www.iisd.org/pdf/2008/seeking\\_sustainability.pdf](http://www.iisd.org/pdf/2008/seeking_sustainability.pdf)
- Sustainable Coffee Partnership (2007) Information Brief on the COSA Project. A Multi-Criteria Cost-Benefit Analysis of Sustainable Practices in Coffee. Sustainable Coffee Partnership, IISD and UNCTAD. Available at: <http://www.iisd.org/pdf/2007/cosa.pdf>

## 4. COMPARISON GROUP APPROACH (CGA)

### Objectives

A methodology to evaluate the socio-economic effects on local communities of a protected area system, using the example of protected forest areas in North and Northeast Thailand.

### How is it used?

A GIS database is constructed combining data from different sources. A quasi-experimental design is used in which localities in protected areas are compared with localities with similar initial characteristics and a similar probability of protection (the latter requiring a good understanding of the historical process of selection of protected areas). The problem of lack of data on local-level economic development is overcome by using new 'poverty-mapping' or 'small area estimation' techniques (Elbers *et al.*, 2003), which combines census data with detailed information from household surveys to produce spatially disaggregated measures of poverty and inequality. Also uses satellite data to establish whether legal protection has resulted in real restrictions on community land use (i.e. by assessing rates of deforestation).

### What is assessed?

Costs are inferred if poverty indicators for certain PAs are lower than for others or for controls. Poverty and economic well-being are measured by material consumption/assets (based on census data), taking advantage of new 'small area estimation techniques' or 'poverty mapping' results. In this case data from the 2000 Population and Housing Census, the 2000 Socio-economic survey, and the 1999 Village Survey were combined to provide three measures of poverty:

- poverty headcount (number with consumption below a defined poverty line),
- poverty gap (a weighted measure representing the amount needed to eradicate poverty),
- squared poverty gap (gives more weight to the very poor), as well as inequality (Gini coefficient).

### Potential scales of assessment

Assesses medium-term impacts on communities across a protected area system.

## Level of differentiation possible

Depending on local-level data available limited differentiation is possible, e.g. using the Gini coefficient to assess inequality.

## How is attribution assessed?

The comparison group was constructed on the basis of an analysis of protected area designation in Thailand, in order to account for the key factors that determined protection and might also influence outcomes.

## Who has used it? Where? When?

Katharine Sims (2008) in Thailand, for the GEF Evaluation Office.

## Feasibility issues

Requires good data set for the region or country going back sufficient time to capture impact of PAs, and strong GIS capability.

## Summary: Main merits

- Could complement existing studies, including case comparisons or household survey work, by providing a broader view of impacts across a larger number of sites.
- Controlling for geographic characteristics and prior forest cover shows that PAs seem to have had a positive economic impact on communities (in contrast to the negative finding using other methods) but also shows that income from tourism is linked with greater inequality.

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## Summary: Main disadvantages

- Relies on an understanding of how protected areas were selected – Thailand had a centralised system of PA designation during the relevant time period.
- Required collection of large data sets on variables affecting potential designation as a PA (e.g. unique natural features, watershed, distance from good agricultural land, etc.)
- Sample was limited to those PAs for which controls could be found – this eliminated districts in prime agricultural areas for which no controls with a similar propensity for designation as a PA could be found.
- Only works for protected areas that have been established for a long period.
- Difficult to assess less tangible impacts of PAs.

## Key references

- Sims, K.R.E. (2008) Evaluating the local socio-economic impacts of protected areas: A system-level comparison group approach. Report prepared for the GEF Evaluation Office.

## 5. COPING STRATEGIES INDEX (CSI)

### Objectives

The CSI aims to measure the impact of food aid programmes, as an early warning indicator of impending food crisis, and as a tool for assessing both food aid needs and whether food aid has been targeted to the most food insecure households.

### How is it used?

The CSI methodology uses focus group discussions to establish a locally relevant set of consumption coping strategies and ranks them in terms of perceived severity. Information on the frequency of use of each consumption coping strategy is then collected during a household survey in order to calculate a CSI score for each household. A 'reduced CSI' methodology uses a set of five standard coping strategies and severity weightings and allows for comparison of food security status across different contexts.

### What is assessed?

Focuses on food security aspects of well-being. Costs can only be assessed through repetition of the tool over time or with control groups.

### Potential scales of assessment

- Household, community, national, global

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### Level of differentiation possible

Not mentioned. But household survey could be carried out with different groups.

### How is attribution assessed?

Attribution is not assessed in this methodology.

### Who has used it? Where? When?

The CSI was first used by the World Food Programme and CARE International in Kenya in 2003. Following application in a range of countries, the original field manual has been updated by Maxwell and Caldwell (2008) to include the reduced CSI methodology which has been derived based on analysis of CSI data from several countries.

### Feasibility issues

Relatively quick and cheap.

### Other notes

The CSI is a very specific methodology designed to measure household food security through a relatively simple and straightforward survey. The main originality of this methodology is the index calculation. This could be applied in the PA context, with the creation of a 'PA Index', allowing a global comparison of PAs.

### Summary: Main merits

- Quick, simple and easy to understand.
- Index allows for easy comparison between households and between communities, and over periods of time.

### Summary: Main disadvantages

- Very specific to food security.
- Does not take into account other social and economic measures.

### Key references

- Maxwell, D., and Caldwell, R. (2008) The Coping Strategies Index Field Methods Manual (2nd edition). CARE International. Available at: [http://www.microfinancegateway.org/gm/document-1.9.30940/50332\\_file\\_21.pdf](http://www.microfinancegateway.org/gm/document-1.9.30940/50332_file_21.pdf)

## 6. HOUSEHOLD LIVELIHOOD SECURITY ASSESSMENTS (HLSA)

### Objectives

A rapid rural appraisal/participatory framework for programme analysis, design, monitoring and evaluation based on Household Livelihood Security.

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### How is it used?

- Pre-assessment activities; several months before survey
  - compile, process and analyse existing (secondary) information;
  - identify institutional partners;
  - negotiate Terms of Reference (TOR) for the overall assessment process;
  - organise work effort;
  - contact participating organisations and government agencies.
- Target area selection: creating Livelihood Security Profiles
  - Each community being surveyed must have a Livelihood Profile, a composite analysis of the following elements: contexts, conditions and trends; livelihood resources; institutional processes and organisational structures; livelihood strategies; and livelihood outcomes.
- Survey sample selection: survey team
  - 1 to 4 teams of 6 to 35 individuals coming from a range of disciplinary backgrounds and organisations; must include some political and policy analysts and an equal number of male and female researchers. Team members should be recruited from local organisations where possible.
  - Teams are divided into 4 to 6 people, each sub-group collecting group, focus group and household data.
  - Team members attend a 4–5 day training workshop prior to the commencement of the survey.



- Primary data gathering methods
  - Data gathering includes qualitative, quantitative and analytical (causal) Information.
  - Data collection through group interviews, key informant interviews, focus group interviews, household interviews, and PRA techniques such as Venn diagrams, seasonal calendars, transects, flow diagrams, and wealth ranking.
- Data Analysis and Interpretation
  - Separate analysis by interdisciplinary field teams and disciplinary-sectoral teams.
  - Consolidation of analysis, including through inter-agency workshops.

### What is assessed?

Can assess costs and benefits. Indicators based on sustainable livelihoods framework:

- in-depth livelihood strategies and outcomes indicators on the 5 'capitals';
- vulnerability and marginalisation;
- women's issues.

### Potential scales of assessment

- Household
- Community

### Level of differentiation possible

Includes gender, age, wealth, ethnic group, economic status, social status and more.

### How is attribution assessed?

Secondary data baseline.

### Who has used it? Where? When?

This methodology is CARE's main framework for programme analysis, design, monitoring and evaluation. Has not been used in relation to PAs but has been used in numerous livelihood studies in Bangladesh and elsewhere.

### Feasibility issues

- Is likely to be expensive based on the scale of the assessment tool, the researchers required, and the time it would take.
- Does not mention the timeframe needed but is likely to take a long time. Needs months of preparation work beforehand.
- Requires all facilitators to be trained in a workshop. Requires team members to be from diverse disciplinary and organisational backgrounds. Requires a number of political and policy analysts. Requires equal number of males and females.

### Summary: Main merits

- Holistic and multi-dimensional approach takes into account household differentiation, livelihoods, rights, vulnerability and marginalisation amongst others.
- Collects and analyses a diverse range of data (secondary, quantitative, qualitative, analytical, interviews, PRA, etc.)

### Summary: Main disadvantages

- Expensive and time consuming.
- Very elaborate – has strict guidelines.
- Requires team members of a certain background/gender.

### Key references

- CARE (2002) Household livelihood security assessments. A toolkit for practitioners. CARE USA, Atlanta, GA., [http://www.proventionconsortium.org/themes/default/pdfs/CRA/HLSA2002\\_meth.pdf](http://www.proventionconsortium.org/themes/default/pdfs/CRA/HLSA2002_meth.pdf)

## 7. LANDSCAPE OUTCOMES ASSESSMENT METHODOLOGY (LOAM)

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### Objectives

To measure, monitor and communicate the nature and extent to which a landscape is changing over time with respect to a small number of agreed conservation and livelihood outcomes.

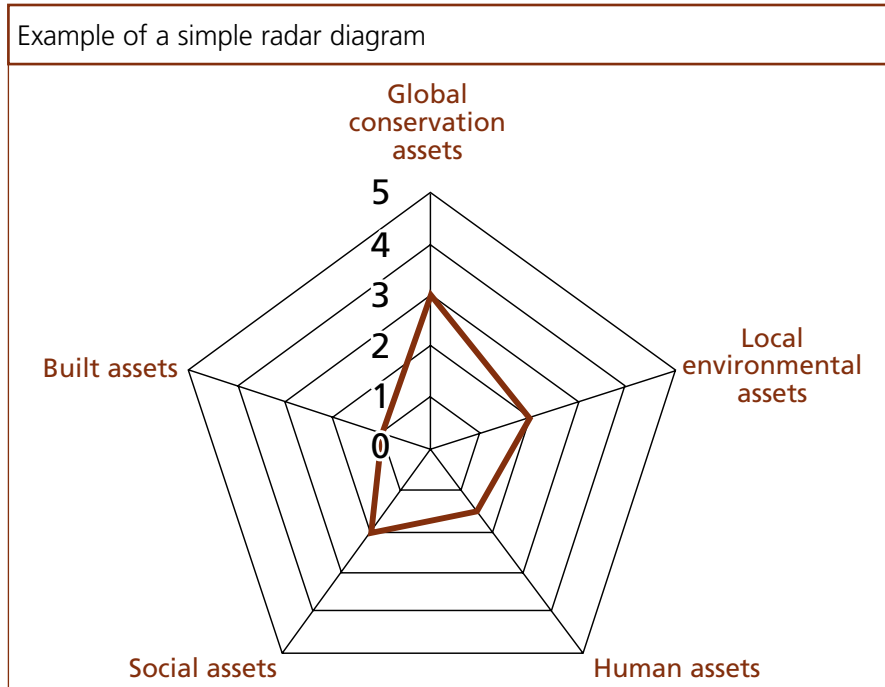
### How is it used?

The methodology uses the Sustainable Rural Livelihoods Framework. This is based around 5 assets – natural, human, physical (or built), social and financial – plus an additional 6th, asset: global natural (environmental). The method identifies through a stakeholder process a small representative set of locally appropriate indicators grouped under each of the 6 assets. A scoring system is then applied to measure, monitor and communicate the nature and extent to which the landscape is changing over time. It has 7 steps:

1. Define the landscape
2. Identify a multi-stakeholder group covering all parties interested in the landscape
3. Convene a meeting/workshop of the multi-stakeholder group
4. Explore scenarios for the landscape (multi-stakeholder process)
5. Facilitate a discussion of indicators of landscape-level outcomes
  - a. List the indicators on an Excel spreadsheet, group them under six categories (human assets, social assets, built/physical assets, local natural assets, global conservation assets, financial or economic assets)
  - b. Define about 5 indicators for each of these asset categories
  - c. Agree the scoring
  - d. Agree on current score

6. Compile a first baseline using the initial set of agreed indicators
7. Facilitate regular assessment and debate

The results are presented in a radar diagram, like the following:



Source: Aldrich and Sayer (2007)

### What is assessed?

Focuses on benefits, assessed using locally defined indicators within the sustainable livelihoods framework.

### Potential scales of assessment

Community

### Level of differentiation possible

Depends on which indicators are chosen by the community. Normally the indicators are not differentiated by gender, wealth, etc.

### How is attribution assessed?

Requires re-assessment over time to investigate the impact attribution.

## Who has used it? Where? When?

It was created and used by WWF. The most developed use of LOAM to date is in the Congo Basin, where annual workshops focused around the Tri-National de la Sangha landscape; have taken place in Bayanga, Central African Republic (2005) and Mambéle, Cameroon (2006); with a third planned in the Republic of Congo for June 2007. In addition, workshops have taken place and follow-up work is ongoing in both Kwale District, Kenya, and East Usambaras, Tanzania. Workshops have also been held in Chaouen, Morocco and Mondulkiri, Cambodia, with subsequent visits to Lao and Vietnam.

## Feasibility issues

Cost is not mentioned but it would be relatively cheap, as it appears to take only 1–2 days in the community. However, it requires re-assessing over time, doubling the costs. In addition, a highly skilled facilitator is required.

## Other notes

It would be very interesting to combine this methodology with a household survey with quantitative indicators.

## Summary: Main merits

- Fairly simple and quick.
- Good degree of participation and ownership.
- Indicators are defined locally.
- Interesting way of presenting results (radar diagram).
- Good for comparison between different areas and different assets.

## Summary: Main disadvantages

- Requires a qualified facilitator to define the indicators in a participatory manner.
- Does not take into account differences within a community.
- Requires regular re-assessment.
- No means of attribution.

## Key references

- Sayer, J., Campbell, B., Petheram, L., Aldrich, M., Ruiz Perez, M., Endamana, D., Nzooh Dongmo, Z.-L., Defo, L., Mariki, S., Daggart, N. and Burgess, N. (2007) Assessing environment and development outcomes in conservation landscapes, *Biodiversity Conservation* 16(9): 2677–94.
- Aldrich, M. and Sayer, J. (2007) In Practice – Landscape Outcomes Assessment Methodology 'LOAM'. WWF Forests for Life Programme. Available at: <http://assets.panda.org/downloads/loaminpracticemay07.pdf>

## 8. Matched Method Approach (MMA)

### Objectives

A rigorous, controlled study to estimate the causal impact of a national protected area system, using the example of forest ecosystems in Costa Rica.

### How is it used?

Developed a dataset of all the census segments from the 2000 census and overlaid this with GIS data layers for biophysical and infrastructure variables. Disaggregated 1973 census data to the same segments as in 2000. Segments with more than 20% protected area coverage in 1980 were considered 'protected'. Selected 'matching' control segments in such a way as to obtain the best covariate balance between the 'protected' and 'non-protected' group based on their pre-protection characteristics.

### What is assessed?

Assessed the change between 1973 and 2000 in the following variables:

- Poverty index.
- Infrastructure services: proportion of households living in slum areas.
- Assets: proportions of households (a) without a telephone, (b) with houses in bad condition, (c) without electricity, (d) without water supply.

They contrasted changes in outcome indicators, rather than the post-protection measures only, in order to control for unobservable, but temporally invariant, differences in outcomes between treated and control segments.

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### Potential scales of assessment

National and sub-national

### Level of differentiation possible

Very limited unless differentiated secondary data sets are available.

### How is attribution assessed?

Matching methods are used to construct (*ex post*) a control group. Data from areas affected by protection are compared with data from 'non-protected' areas that were similar to the protected areas in terms of the pre-protection baseline. This baseline is defined in terms of census segment area, forest area, 'road-less volume' (as a measure of remoteness), agricultural land use capacity and distance to nearest major city.

### Who has used it? Where? When?

Kwaw Andam and colleagues have applied it to forest ecosystem protected areas in Costa Rica to look at changes between 1973 and 2000.

## Feasibility issues

Requires good data set for the region or country going back sufficient time to capture impact of PAs and GIS capability.

## Summary: Main merits

Use of matched protected and non-protected areas appears to produce more accurate results than more conventional evaluation methods that fail to control for confounding factors or outcome baselines. In the Costa Rica case this made the difference between a result showing that protected areas had a negative impact (conventional methods) or a positive impact (matched method) on socio-economic outcomes.

## Summary: Main disadvantages

- Only works for protected areas that have been established for a long period (at least 20 years in this case) as impact indicators are based on census data.
- Only works at scale of the census segment where differentiated impacts on different social groups are unlikely to be visible.
- Most of the effort goes into 'matching' treated and control areas; there is less control over how robust local poverty assessment data are.
- Difficult to assess less tangible impacts of PAs, such as 'feeling in control of one's life'.

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## Key references

- Andam, K.S., Ferraro, P.J., Holland, M.B. and Sanchez-Azofeifa, G.A. (2008) Measuring the social impacts of protected areas. An impact evaluation approach. Final draft of report prepared for Evaluation Office, GEF.

## 9. MOST SIGNIFICANT CHANGE (MSC)

### Objectives

Form of participatory monitoring and evaluation through the collection of significant change (SC) stories from the field level, and the systematic selection of the most significant of these stories by panels of designated stakeholders or staff.

### How is it used?

The 10 steps of MSC

1. How to start and raise interest
2. Defining the domains of change
3. Defining the reporting period
4. Collecting SC stories about the most significant change that has occurred over the time period chosen by the study
  - fieldworkers write down unsolicited stories that they have heard
  - by interview and note-taking

- during group discussion
  - the beneficiary writes the story directly
5. Selecting the most significant of the stories
    - the group reads the stories
    - the group holds an in-depth conversation about which stories should be chosen
    - the group decides which stories are felt to be most significant (through majority rules, secret ballot, scoring, iterative voting or pre-scoring with a group vote)
    - the reasons for the group's choice(s) are documented
  6. Feeding back the results of the selection process to the community
    - in person, via email, newsletters or reports
  7. Verification of stories
  8. Quantification
  9. Secondary analysis and meta-monitoring
  10. Revising the system

### What is assessed?

Focuses on benefits but may also capture costs. Stories capture those aspects of well-being considered important by informants.

### Potential scales of assessment

- Individual
- Household
- Community
- Inter-community/Regional

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### Level of differentiation possible

Could potentially include any level of differentiation depending on focus and scope of study.

### How is attribution assessed?

Temporal recall, before/after

### Who has used it? Where? When?

Has not been used with PAs, but has been used by numerous organisations around the world (CARE – Ghana; Oxfam – multiple countries; DFID – Ghana; Landcare – Australia) in environmental and developmental studies (see references).

### Feasibility issues

- According to the ADRA Laos pilot study, MSC took 86–133 days to complete (different timeframes for office/field). However, MSC could take more or less time to complete depending on the study being undertaken.
- No mention of the cost required.

- 1 to 3 days of in-house training recommended for facilitators. If this is not possible MSC can be implemented through trial and error.

### Other notes

Some similarities with Appreciative Inquiry.

### Summary: Main merits

- Good means of identifying unexpected changes.
- Requires no special professional skills.
- Delivers a rich picture of what is happening, rather than an overly simplified picture where organisational, social and economic developments are reduced to a single number.
- Can be used to monitor and evaluate bottom-up initiatives that do not have predefined outcomes against which to evaluate.

### Summary: Main disadvantages

- Biased towards collecting success stories rather than failure stories.
- Story selection is subjective, dependant on views of panel members.
- May be biased towards stories that are told or written well.
- Time consuming and potentially expensive.

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### Key references

- Davies, R. and Dart, J. (2005) Most Significant Change (MSC) Technique: A guide to its use. Available at: <http://www.mande.co.uk/docs/MSCGuide.pdf>  
This document also contains a list of all studies using this method up to 2004.
- The website <http://mande.co.uk/special-issues/most-significant-change-msc/> contains information, links and resources for MSC.

## 10. OUTCOME MAPPING (OM)

### Objective

Uses participatory workshops and outcome, strategy and performance journals to plan, monitor, and evaluate social change.

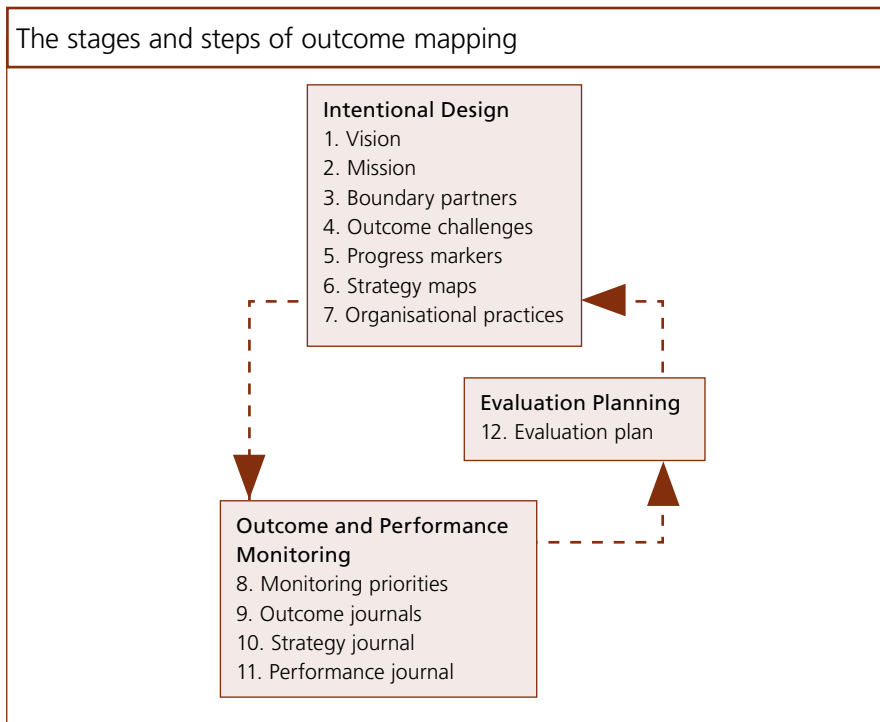
### How is it used?

- Uses 3 stages and 12 steps to achieve this (see figure).
- *Outcome challenges* are identified for all *boundary partners*.
- *Progress markers* are created for all *outcome challenges*. These are normally indicated as *expect to see*, *like to see*, and *love to see*. Each progress marker will then receive a high (80%+), medium (26–79%), or low (0–25%) score in the monitoring results.
- A *strategy map* is then created to identify the strategies used by the programme to contribute to the achievement of an outcome. This *strategy*



*map* is usually divided into categories of *causal*, *persuasion* and *supportive* and divides the strategies between those aimed at the group or organisation and those aimed at the environment in which the group or organisation operates.

- Monitoring priorities are set, and *outcome*, *strategy* and *performance journals* are used to monitor and evaluate the outcome challenges.
- Finally, an evaluative plan is created based on the results of the outcome and performance monitoring, which addresses the outcome challenges and indicates how they can be solved.



Source: Smutylo (2005)

### What is assessed?

Is used at project initiation. Does not easily envisage any costs. No particular framework for assessing well-being.

### Potential scales of assessment

- Community
- Regional/Inter-community
- Possibly National?

### Level of differentiation possible

Can assess nearly any level of differentiation (gender, age, wealth, ethnic group, education, social status, religion, etc.) depending on the focus and scope of the study.

### How is attribution assessed?

Assesses changes made before, during, and after the initiative.

### Who has used it? Where? When?

Not known to have been applied to PAs, but has been used in an extensive study by NEPED in Nagaland, India (1999) in order to develop options for land-based resource use, sustainable technologies and resource management systems within agro-forestry communities. Other studies conducted include HIV/AIDS communication in sub-Saharan Africa by Healthlink Worldwide and an evaluation of the Uganda Health Information Network Project by Uganda Chartered HealthNet.

### Feasibility issues

- Cost is not mentioned but would most likely be flexible depending on the focus and scope of the project.
- Time needed to complete this methodology is also not mentioned but would be flexible depending on the focus and scope of the project.
- Requires at least 1 internal or external facilitator who is familiar with or trained in the methodology.

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### Other notes

- Could potentially be combined with other methodologies/tools. On its own, this methodology might not be the best approach to assessing PA impacts but it could prove to be a useful addition to another method.
- Is similar to Participatory Impact Pathways Analysis (PIPA).

### Summary: Main merits

- Recognises contributions of outside actors in assessing change.
- Assesses change before, during and after a project or initiative.
- Focus and topics of inquiry are flexible depending on the needs of the study.
- Can be used as a method of self-assessment/self-evaluation.

### Summary: Main disadvantages

- Does not help to identify programme priorities; only useful once a programme has a strategic direction.
- Requires researchers to be specially trained in this method.

## Key references

- Smutylo, T. (2005) Outcome mapping: A method for tracking behavioural changes in development programs. ILAC Brief 7. Available from: <http://www.idrc.ca/uploads/user-S/11235064481Brief-FINAL.pdf>
- The IDRC website [http://www.idrc.ca/en/ev-27705-201-1-DO\\_TOPIC.html](http://www.idrc.ca/en/ev-27705-201-1-DO_TOPIC.html) contains a list of links to examples of how outcome mapping has been used (though none in relation to PAs).
- The Nagaland Environmental Protection and Economic Development (NEPED) project explains in great detail how this methodology works: <http://archive.idrc.ca/evaluation/nagaland.htm> and [http://www.idrc.ca/uploads/user-S/12252014071NEPED\\_Outcome\\_Map.pdf](http://www.idrc.ca/uploads/user-S/12252014071NEPED_Outcome_Map.pdf)

## 12. PARTICIPATORY ECONOMIC VALUATION (PEV)

### Objectives

PEV is the valuation technique that allows communities to define the value of environmental resources within their own perspective and context. The use of PEV is recommended when cash value has little relevance as an indicator of value for the local community.

### How is it used?

The PEV method has 6 main steps:

1. Find the easiest way that villagers understand economic values, for example, amount of rice sufficient for the whole family per year, or cost of a goat, and use this as a numeraire.
2. Identify types of use/benefit or issues of concern (positive and negative impacts) through focus groups and/or key informants. It can also be done through a household survey as was done by CARE – see RSIA methodology (#18a).
3. Rank the benefits (including the numeraire), from least significant to most significant.
4. Perform a scoring exercise, using number of counters allocated to each item.
5. Repeat to score the costs. Review the findings.
6. Transform each item into a cash amount, based on the scoring relative to the numeraire – thus translating each benefit or cost into an annual value.

### What is assessed?

The CARE study used PEV to assess the marginal financial and economic impacts attributed by local people to the PA, rather than assessing total flows of costs and benefits associated with the natural resources within the PA. The difference could be significant where the benefits or costs perceived by local people are considered to be attributable to the natural habitat in the PA rather than the existence of the PA as an institution.

## Potential scales of assessment

- Household (a) with individual households each giving their own response, can then cross-tabulate the responses against the well-being status of the households; (b) with focus groups of different well-being groups to obtain a collective response for each well-being group providing differentiation by well-being group though not by individual households within each group.
- Community (by aggregating responses from individual households).
- National.

## Level of differentiation possible

PEV could be used separately with different social groups.

## How is attribution assessed?

PEV can be used to assess attribution if used as in the CARE RSIA methodology, where the costs/benefits being scored are specifically those considered by local people to be attributable to the PA (hence attribution is achieved by 'reflexive comparison' where respondents use an implicit counter-factual, either their memory of a pre-PA time or knowledge of conditions in neighbouring non-PA situations).

## Who has used it? Where? When?

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CARE International has used PEV in combination with Rapid Social Impact Assessment (RSIA) to assess the distributional costs and benefit of both community and nationally protected areas, across four countries: Thailand, the Philippines, Kenya and Uganda (2005/6).

## Feasibility issues

Relatively inexpensive, rapid and simple. Requires only 1 facilitator able to conduct the participatory workshop, which can be done in 1 day.

## Other notes

PEV is a tool that needs to be combined with other tools in a methodology, as was done by CARE international.

## Summary: Main merits

- Utilises local data and knowledge, and participatory tools.
- Positive and negative impacts are analysed in economic terms.
- Rapid and inexpensive.
- Can be applied by local/national staff.
- Transforms local values into monetary values, facilitating comparison.

## Summary: Main disadvantages

- Difficult for communities to estimate value over a time period given that the benefits and costs may only apply at certain times of the year. So relative

values of different costs and benefits (as indicated by scoring with counters) may be reasonably accurate but absolute values calculated by reference to the numeraire may be inaccurate.

### Key references

- CARE International, IUCN and AWF (2008) Assessment of protected area costs and benefits. Methodology guidelines January 2008, unpublished draft.
- Emerton, L. (1996) Valuing the subsistence use of forest products in Oldonyo Orok Forest, Kenya. Rural Development Forestry Network Paper 16e, ODI, London.

## 13. PARTICIPATORY IMPACT ASSESSMENT (PIA)

### Objectives

Participatory Impact Assessment (PIA) is an extension of Participatory Rural Appraisal (PRA) and involves the adaptation of participatory tools combined with more conventional statistical approaches specifically to measure the impact of humanitarian assistance and development projects on people's lives. The approach consists of a flexible methodology that can be adapted to local conditions. The PIA methodology tries to answer the following three key questions:

- What changes have there been in the community since the start of the project?
- Which of these changes are attributable to the project?
- What difference have these changes made to people's lives?

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### How is it used?

The PIA approach involves an 8-step assessment process:

1. Define the **questions** to be answered.
2. Define the **geographical** and **time** limits of the project.
3. Identify and prioritise locally defined impact **indicators**.
4. Decide which **methods** to use and test them.

The methods are chosen in accordance with the impact indicators chosen by the community. Some useful methods that can be used to measure impact or change numerically include simple ranking and scoring, 'before' and 'after' scoring, pair-wise ranking and matrix scoring, impact calendars, radar diagrams, and proportional piling. All these methods involve the use of semi-structured interviews as part of the method. Each method has its strengths and weaknesses, and some methods are more appropriate for certain cultures and contexts.

5. Decide which **sampling method** and **sampling size** to use.

The PIA describes three main types of sampling methods, which can be used according to specific aims, conditions and availability of time and resources:

- Convenience Sampling (go to easily accessible villages).

- Purposive Sampling (go to villages ‘typical’ of the project area).
  - Random sampling (put all the names of the project villages in a hat and pick out the number you plan to assess).
6. **Assess project attribution**  
According to the PIA methodology, there are two main approaches for assessing project attribution:
- assessment of the relative importance of project and non-project factors to the impact measured within the area of the project;
  - comparison between project and non-project populations within the project area.
7. **Triangulate**  
Triangulation is a crucial stage of the assessment, and involves the use of other sources of information to cross-check the results from the participatory exercises. A key source for triangulation is secondary data, which may include previous studies and reports, and external surveys done by the government, other organisations or research institutes, which may also provide useful data for triangulation.
8. **Feedback** and verify the **results** with the community  
This is the final stage of the assessment and involves the presentation of the findings back to the community and plan future actions.

### What is assessed?

This is a broad methodology that can assess costs and benefits, with indicators defined locally.

### Potential scales of assessment

- Household
- Community

### Level of differentiation possible

- Wealth
- Gender
- Ethnic group

### How is attribution assessed?

See step 6 above

### Who has used it? Where? When?

PIA was developed by the Feinstein International Center and has been used to evaluate its work, particularly in complex emergencies and as a strategy for informing policy reform.

### Feasibility issues

The methodology is very flexible and can be adapted according to the resources and time available for each specific assessment.

## Other notes

This is a very good guide that includes all main steps of an evaluation process, without being too specific. It allows for adaptation to the needs of the evaluator. It also provides many useful tools that can be combined with other methods.

## Summary: Main merits

- Flexible and adaptable.
- Involves all the necessary steps for a rigorous evaluation.
- Takes into account attribution.
- Participatory and uses locally defined indicators.

## Summary: Main disadvantages

- Requires a relatively long planning process to adapt the methodology to each locality.

## Key references

Catley, A., Burns, J., Abebe, D. and Suji, O. (2008) Participatory Impact Assessment. A guide for practitioners. Feinstein International Center, Tufts University. Available at: <http://wikis.uit.tufts.edu/confluence/display/FIC/Participatory+Impact+Assessment> (also available in Spanish and French).

## 14. PARTICIPATORY IMPACT PATHWAYS ANALYSIS (PIPA)

### Objective

A practical planning, monitoring, and evaluation approach used to

- 1) communicate to donors the expected and actual impacts of a project,
- 2) show compliance with the agreed work plan, and negotiate changes to it, and
- 3) provide systematic information to support learning and decision-making during the implementation of the project.

### How is it used?

- Begins with a 3-day participatory workshop with 3–6 groups of 4–6 people
  - Day 1: Participants develop a problem tree for their project.
  - Day 2: Balance cause–effect logic with a network perspective by constructing a vision of success and ‘now’ and ‘future’ network maps in order to devise strategies to bring about main changes.
  - Day 3: Participants distil and integrate their cause–effect descriptions from the problem tree with the network view of project impact pathways into an *outcomes logic model*.
  - The outcomes logic model (see Table) is the foundation for monitoring and evaluation because it provides the outcome hypothesis, in the form of predictions, which monitoring and evaluation sets out to test. Predictions made in the outcomes logic model must be SMART: specific, measurable, attributable, realistic, and time bound.

- After the workshop, facilitators use workshop outputs to construct a first draft of an *impact logic model* that shows the underlying cause–effect sequence of outputs, adoption, outcomes and long-term impact (see Figure). A narrative is also drafted, explaining the underlying logic, assumptions, and networks involved.
- Finally, participants complete their monitoring and evaluation plan with key staff and stakeholders. Workshops are held 6 months later to reflect on progress. The process can continue as long as necessary.

The outcomes logic model			
Actor (or group of actors who are expected to change in the same way)	Change in practice required to achieve the project's vision	Change in KAS <sup>a</sup> required to support this change	Project strategies <sup>b</sup> to bring about these changes in KAS and practice?

a. Knowledge, Attitude and Skills

b. Project strategies include developing project outputs (knowledge, technology, etc.) with stakeholders, capacity building, communication, political lobbying. etc.

Source: Douthwaite *et al.* (2008)

### What is assessed?

Used at the initiation of an initiative to outline expected outcomes and impacts. No particular conceptual framework of well-being. Unlikely to assess costs.

### Potential scales of assessment

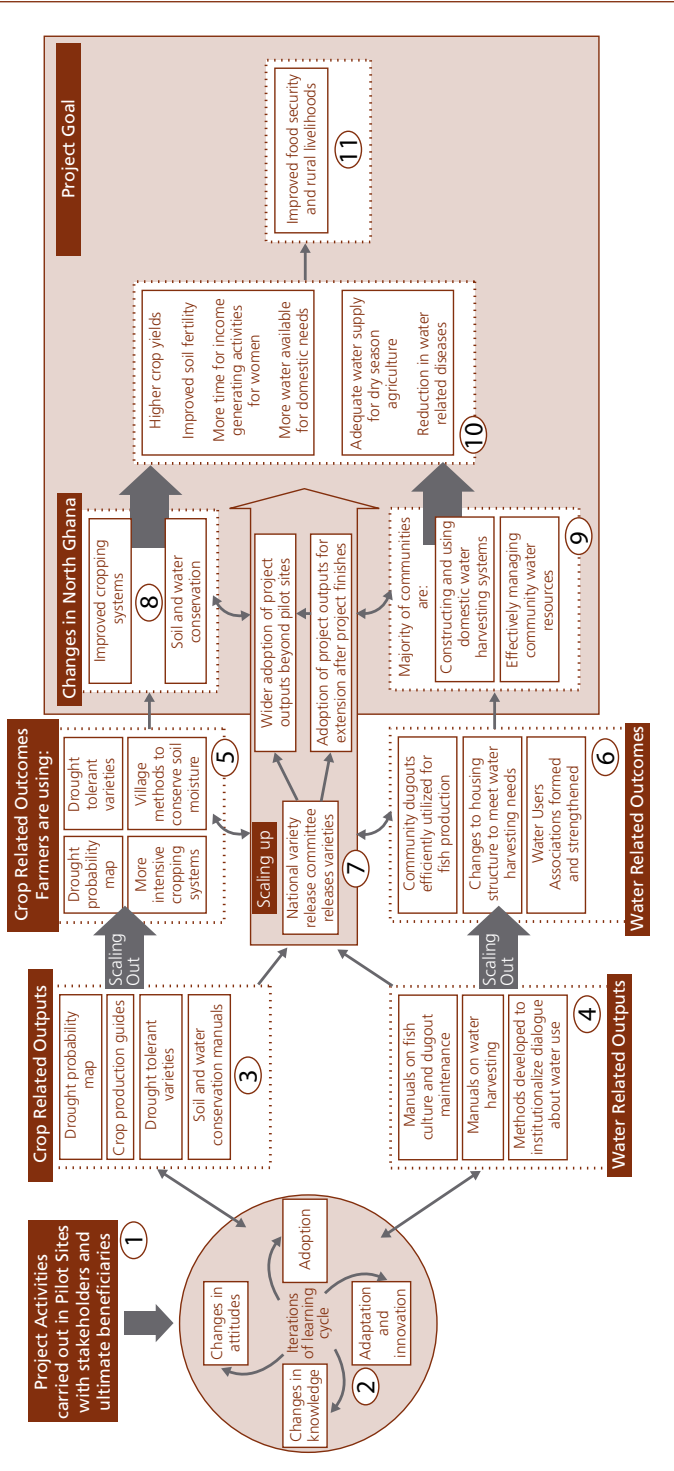
Community, Intra-community/Regional

### Level of differentiation possible

Can assess nearly any level of differentiation (gender, age, wealth, ethnic group, education, social status, religion, etc.) depending on the focus and scope of the study.



Example of an impact logic model for the CPWF Strategic Innovations in Dryland Farming project.



Source: Douthwaite et al. (2008)

## How is attribution assessed?

Before/after

## Who has used it? Where? When?

Not known to have been applied to PAs, it is designed for use mainly in the water and food sectors. Douthwaite *et al.* (2007) used this methodology in an agricultural study in Nigeria.

## Feasibility issues

- Cost is not mentioned but would most likely be flexible depending on the focus and scope of the project.
- Time needed to complete this methodology is also not mentioned but would be flexible depending on the focus and scope of the project.
- Requires facilitators to be trained in the methodology.

## Other notes

- On its own, this methodology might not be the best approach to assessing PA impacts but it could prove to be a useful addition to another method.
- Is similar to Outcome Mapping and Most Significant Change.

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## Summary: Main merits

- Works well to integrate 2 or more similar projects in the same programme.
- Useful tool for programmes to build understanding and communication with stakeholders.
- Focus and topics of inquiry are flexible depending on the needs of the study.

## Summary: Main disadvantages

- Requires researchers to be specially trained in this method. May be too complex for real participation by local actors.

## Key references

- Douthwaite, B., Alvarez, S., Thiele, G. and Mackay, R. (2008) Participatory Impact Pathways Analysis: A practical method for project planning and evaluation. ILAC Briefing 17.
- Douthwaite, B., Schulz, S., Olanrewaju, A. and Ellis-Jones, J. (2007) Impact pathway evaluation of an integrated *Striga hermonthica* control project in northern Nigeria, *Agricultural Systems*, 92: 201-22.

## 15. POVERTY-FORESTS LINKAGES TOOLKIT (PROFOR)

### Objectives

The PROFOR Poverty-Forests Linkages Toolkit is designed to provide national governments and other interested parties with easily comprehensible quantitative data on the value of forestry to poor rural households to ensure that forestry is given appropriate consideration in national-level planning processes such as Poverty Reduction Strategy papers and national forestry programmes (nfps).

### How is it used?

The PROFOR Poverty-Forests Linkages Toolkit is divided into 2 parts, national level engagement and field work.

Part 1 is intended for those involved in taking responsibility for the use of the toolkit at national level. It guides the networking and research needed at national level to understand and communicate the contribution of forest products to rural livelihoods. It includes:

- Becoming familiar with the country's Poverty Reduction Strategy (PRS) process, e.g. through key informant interviews.
- Understanding the forest sector, e.g. through key informant interviews.
- Understanding the interfaces between levels of authority.
- Involving both the forest sector and PRS officials.
- Reporting to, and involving, district and provincial levels in the toolkit process.
- Identifying and discussing issues of special relevance to district authorities.
- Discussing with district officials how toolkit results can be used to influence higher level processes.
- Reporting to the national level.
- Identifying opportunities for getting poverty-forests linkages into data collection systems.
- Preparation and dissemination of a national briefing paper.

Part 2 is a field manual aimed at those gathering data at village level. It gives suggestions for site selection, pre-field planning and organisation of visits as well as giving detailed descriptions of the following field tools:

- Wealth Ranking: To understand how poor households use, and depend on, forest resources.
- Local Landscape Situation Analysis: To understand how villagers use local resources.
- Timeline and Trends: To record changes in forest resources, agriculture, local livelihood strategies and income.
- Livelihoods Analysis. To determine the cash and subsistence reliance on forests and the proportion of annual income from forests.
- Forests Problem and Solution Matrix: To identify and rank forest problems (related to policy, regulation or tenure/access) and suggest solutions.
- Trees and Forest Products Importance: To rank forest products by importance for cash or subsistence use.

- Millennium Development Goals Chart: To show the contribution of forests to the achievement of the MDGs.
- Monetary Values: To express the contribution of forestry in monetary terms.

### What is assessed?

The PROFOR Forests-Poverty Toolkit is not based on a specific framework. The toolkit assesses the contribution of forestry to livelihoods but does not take into account any costs imposed.

### Potential scales of assessment

Community and national

### Level of differentiation possible

Analysis is carried out for 4 groups: rich and poor men, and rich and poor women.

### How is attribution assessed?

The toolkit is not concerned with attribution as it does not assess impacts of an intervention but rather provides a snapshot assessment of the contribution of forestry to livelihoods. Repeated use in the same location might allow for assessment of changes.

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### Who has used it? Where? When?

It was developed by the Program on Forests (PROFOR) at the World Bank in partnership with CIFOR, IUCN, ODI and Winrock International. A multi-organisation team led by IIED tested, evaluated and communicated the toolkit in 4 countries – Cameroon, Ghana, Madagascar and Uganda – between February 2007 and August 2008.

### Feasibility issues

The field component requires 2 field trips to each community assessed (8 days and 5 days respectively). It also requires 5 facilitators with experience in PRA and a level of local knowledge but the necessary skills were found to be easily picked up during the training. Most site-specific analysis can be done in the field. The national-level analysis, particularly the preparation of a policy briefing paper, was found to require considerable levels of input and skill.

### Summary: Main merits

- The PROFOR toolkit provides a rapid means of assessing current dependence on forests by poor rural communities.
- By carrying out a comparative study across sample villages it presents a broad picture of forest product use within the national economy, thus promoting the inclusion of the contribution of forests to rural livelihoods into Poverty Reduction Strategy Processes (PRSPs) and national forest programmes (nfps).
- It is a participatory tool, and takes into account differences within communities.

- Provides monetary values to forest products.
- Links the assessment with the MDGs.

### Summary: Main disadvantages

- Relatively long and complicated (8 different tools), and possibly expensive.
- Each tool leads to one result, generating many results to be analysed and communicated.
- Does not take into account attribution, as it is more of a snapshot.
- Analysis at national level cannot be given with any statistical confidence.

### Key references

- PROFOR (2008) Poverty-Forests Linkages Toolkit. Parts 1 and 2. PROFOR, World Bank, Washington, DC Available at: <http://www.profor.info/profor/node/103>

## 16. PROTECTED AREAS BENEFITS ASSESSMENT TOOL (PA-BAT)

### Objectives

To identify important values and the benefits that they bring to a range of stakeholders, from local to global. This can be used as a planning tool at system level or as an advocacy tool for supporting protected areas.

### How is it used?

Consists of 2 datasheets to collect data which can be adapted according to the requirements of the PA concerned:

- Background information datasheet (i.e. name, IUCN category, location etc.)
- Benefits to protected area stakeholders datasheet (i.e. the types of benefits; 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). This datasheet is divided into 9 subjects of value: biodiversity; protected area management; food; water; culture and spirit; health and recreation; knowledge; environmental benefits; and materials; that are made up of a total of 24 indicators.

How the data are collected is not specified though it seems to be by a single expert drawing on key informants, secondary literature, focus groups, etc. However, data could be collected using a range of both participatory and survey tools.

### What is assessed?

This tool only assesses benefits, in several categories as outlined above.

### Potential scales of assessment

- Community
- Inter-Community/Region

### Level of differentiation possible

- Indigenous/traditional people in and near PA
- Non-indigenous/Other people in and near PA
- National population
- Government
- Industry
- Global

### How is attribution assessed?

Expert judgement.

### Who has used it? Where? When?

This methodology was field tested by WWF in 7 countries: Argentina, Finland, Malaysia, Mongolia, Nepal, Poland and Tanzania. Details of these case studies were published in Dudley *et al.* (2008).

### Feasibility issues

- Cost is not mentioned but could be fairly cheap depending on data collection methods used.
- Time required is not mentioned but could be fairly rapid.
- To be effective should be carried out by an expert (or experts) with relatively in-depth knowledge of the protected area concerned.

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### Other notes

As this methodology seems to be fairly quick and easy it could possibly be used with other methods, or adapted to include indicators from other methodologies.

### Summary: Main merits

- Can help guide future monitoring and evaluation.
- Datasheets can be adapted to suit each particular situation if necessary.
- Method is fairly quick, inexpensive and straightforward.

### Summary: Main disadvantages

- Only monitors permitted use (does not gather information on illegal resource use and/or benefits).
- Does not include economic evaluation of benefits.
- Is based on expert knowledge, possibly with very little empirical evidence.

### Key references

- Dudley, N. and Stolton, S. (2008) The Protected Areas Benefits Assessment Tool: A methodology. WWF. Available at: [http://www.equilibriumresearch.com/upload/document/PA\\_BAT\\_-\\_Final\\_Feb\\_2008.pdf](http://www.equilibriumresearch.com/upload/document/PA_BAT_-_Final_Feb_2008.pdf)

- Dudley, N., Mansourian, S., Stolton, S. and Sukauwan, S. (2008) *Safety Net Protected Areas and Poverty Reduction*. Arguments for Protection series. WWF/Equilibrium. Available at: [http://assets.panda.org/downloads/safety\\_net\\_final.pdf](http://assets.panda.org/downloads/safety_net_final.pdf)

## 17. QUANTITATIVE PARTICIPATORY ASSESSMENT (QPA)

### Objectives

The QPA is a flexible participatory methodology to capture people's perceptions in quantitative form, using a variety of methods including ordinal scoring, indices of change and cardinal measurement. It is a simple, rapid and cost-effective methodology collecting quantitative and qualitative information from community assessments.

### How is it used

- Develop checklist of impacts to be assessed
- Train project social organisers (SOs) – 1 week
- Village sampling
- Field work
  - Requires teams of 6 SOs per village (each village can be assessed in 1 day)
  - Semi-structured focus group discussions separating men and women
- Cardinal Measurements
  - Assessments use a 0–100 scoring system, e.g. villagers are asked about pre-project and current collection of fuel wood on a 0–100 scale. Information gathered can include annual, seasonal and weather related differentiation
- Indices of Change method
  - Qualitative change in a number of indicators of environmental and socio-economic impacts captured using index numbers, e.g. using a village resource map, participants are asked to plot areas where erosion is a problem and where Project had done work, scoring the change of each plot appropriately (0–100).
- Analysis and outputs
  - Graphs
  - GIS
  - Correlation, cross-tabulation, regression analysis

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### What is assessed?

Impacts to be assessed can be locally or externally defined. Can include costs and benefits.

### Potential scales of assessment

- Household
- Community
- Regional

## Level of differentiation possible

Gender

## How is attribution assessed?

Baseline using recall.

## Who has used it? Where? When?

Doon Valley Watershed Project implemented this methodology in 16 villages in India (2002) studying the communities' ability to sustain watershed activities and resources. Other pilot projects have been implemented in India by the World Bank and other organisations.

## Feasibility issues

- Cost is described as 'cost-effective.'
- Each village takes one day to assess, fairly quick.
- 1 week training required, no specialised facilitators needed.

## Summary: Main merits

- Ability to collect information in the absence of baseline estimates.
- Can collect quantitative information even on qualitative issues.
- Fairly quick and cost-effective.

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## Summary: Main disadvantages

- Bias/uncertainty in scoring – participants may estimate or not remember correctly.
- Small sample sizes will not allow powerful statistical analysis.

## Key references

- James, A., Pangtey, V., Singh, P. and Virgo, K. (2002) Participatory assessment. Bringing people's perceptions to project management desktops: A quantified participatory assessment of the Doon Valley Watershed Project in North India. *Impact Assessment and Project Appraisal* 20 (3): 201–14.
- James, A. (2003) Quantified participatory assessment: capturing qualitative information in large-scale development projects. Available at: [http://www.pragmatix.co.in/PDF/1\\_QPA%20Paper%20Nov%2003.pdf](http://www.pragmatix.co.in/PDF/1_QPA%20Paper%20Nov%2003.pdf)



## 18a. RAPID SOCIAL IMPACT ASSESSMENT (RSIA) – CARE/ IUCN/AFW VARIANT

### Objectives

The RSIA is essentially a scoping methodology to identify which PA-related costs and benefits are most significant to local communities, and to which socio-economic groups within the community. The RSIA was used by CARE International to evaluate the social impact of protected areas in Uganda, Kenya, Philippines and Thailand. It was combined with the 'Participatory Economic Valuation' tool (see #12) that assigns monetary values to the costs and benefits identified in the RSIA.

### How is it used?

The Rapid Social Impact Assessment (RSIA) has 3 main components:

**1. Sampling frame/village selection.** The sampling frame at the PA level should capture the key variability issues that allow a maximisation of community diversity. For each PA, 2–10 communities are selected using purposive sampling.

**2. Well-being ranking.** To ensure proportionate representation of different well-being groups in the household surveys, a well-being ranking (to give 4 groups) is carried out with key informants in each community selected. To allow for comparison of 'the poor' between different ethnic groups, sites and countries, criteria include ownership of a desirable consumer item (e.g. bike or radio) and an indicator of food security.

**3. RSIA Household interviews.** 20–30 households are selected per community, with a minimum of 5 per well-being group. The RSIA household interview consists of a questionnaire based on the sustainable livelihood framework with four main sections:

- a. Background information on the interviewee, including name, age, position in the household, ethnic group and well-being group.
- b. Identification of significant direct and indirect effects of the PA that local people perceive to generate benefits or impose costs at the community or individual household level, involving:
  - specific issues relating to natural, physical, social, human, and financial/ economic capital;
  - a rank of the relative impact on household well-being; and
  - an indication of which gender in the household is impacted most.
- c. A summary of the overall impacts, using several indicators for triangulation, including:
  - rating of overall impact (summarising results of previous section);
  - comparison of overall impact to livelihood factors and income sources.
- d. Opinion survey on attitudes to the PA:
  - Was formation of the PA a good thing?
  - Relationship with PA management authorities
  - Does the PA offer local people a fair deal?

## What is assessed?

Locally perceived significant costs and benefits of the PA.

## Potential scales of assessment

- Household
- Community

## Level of differentiation possible

Gender, age, ethnicity, wealth, others

## How is attribution assessed?

This methodology uses no explicit control. Attribution is assessed through the RSIA household questionnaire by asking the villagers about the significant costs and benefits created by the PA and their relative impact in the household well-being. This focuses on the marginal (rather than total) costs and benefits of the PA and assumes that respondents use an 'internal reference point' (e.g. depending on circumstances, the situation prior to PA establishment or outside the PA) to identify the additional or new costs and benefits of the PA.

## Who has used it? Where? When?

The RSIA was used by CARE International to evaluate the social impact of protected areas in Uganda, Kenya, Philippines and Thailand.

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## Feasibility issues

Household interviews can take up to 1.5 hours depending on the experience of the enumerator. The process required 2 national researchers with good expertise in conducting participatory workshops (for the well-being ranking) and household surveys. A few months are needed after the fieldwork for compilation of results and reporting.

## Other notes

CARE international used RSIA in combination with an economic analysis to transform the costs and benefits into monetary values. This allows comparison between PAs at national and international level.

## Summary: Main merits

- Very detailed and comprehensive, with many levels of differentiation possible.
- Focused on the PA effects on local well-being.
- Takes into account local perceptions of well-being (including intangible impacts).
- Takes into account differences intra-community.

### Summary: Main disadvantages

- Relatively expensive and long.
- Report of results is not easy to compile and communicate.
- On its own the RSIA is principally a scoping tool to identify the most significant benefits and costs for further research by other methods. Without the 'Economic Analysis' tool, comparison between PAs is rather difficult.

### Key references

- Franks, P. (Undated) Promoting Equity in the Management of Protected Areas: New evidence of the need for action. CARE International. Available at: [http://www.povertyandconservation.info/docs/20080524-Phil\\_Franks\\_CARE\\_International2.pdf](http://www.povertyandconservation.info/docs/20080524-Phil_Franks_CARE_International2.pdf)
- CARE International, IUCN and AWF (2008) Assessment of protected area costs and benefits. Methodology guidelines, unpublished draft.

## 18b. RAPID SOCIAL IMPACT ASSESSMENT (RSIA) – MPA-POVERTY REDUCTION VARIANT

### Objectives

This study, which falls into the category of RSIA, though not specifically labelled as such, was carried out to examine the links between several marine protected areas and poverty reduction.

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### How is it used?

1. Literature references and expert knowledge are used to formulate a research hypothesis for each site.
2. A conceptual framework based on the World Bank's multi-dimensional definition of poverty (opportunity, empowerment and security) is developed with a number of indicators defined for each element:

Opportunities	Empowerment	Security
Income	Governance mechanisms	Health
Housing	Community participation	Social cohesion
Luxury goods	Benefits to women	Cultural traditions
Fish catch	Access and rights	
Education		
Alternative livelihoods		

3. Focus group discussions and key informant interviews are held in PA-affected communities using interview guides informed by the research hypotheses and the indicators.

4. Control communities are selected on the basis of expert knowledge to be similar to the PA communities in terms of population size, economic activity, location, market access, ethnic and religious background and the absence of a major development project.

5. Structured household interviews are carried out in both the PA communities and in control communities. Households are selected randomly. The number of households is calculated to achieve an acceptable (5%) margin of error with a 95% confidence level.<sup>17</sup> In practice this means, for example, that about 300 out of a total of 1500 households were selected in the case study in The Solomons. Household interviews include questions on perception of changes over time and the extent to which they are attributable to the PA.

6. Triangulation of results from focus groups, key informants and household surveys. Reports for each site are reviewed by the local research counterparts and external experts.

### **What is assessed?**

Impacts (mostly benefits) of PAs on poverty reduction (defined as per table 2 above).

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### **Potential scales of assessment**

Household and community

### **Level of differentiation possible**

Dependent on how focus groups are organised and households sampled. In this case, gender questions were included in household survey and through focus groups. Statistical analysis can differentiate by gender, age and wealth if this is required.

### **How is attribution assessed?**

Attribution is assessed by carrying out the household survey in non-PA 'control' communities and by asking about impacts of the PA during focus groups and in the household survey.

### **Who has used it? Where? When?**

The Nature Conservancy carried out this large regional study in 2006/7, including case studies of 4 marine protected areas of different sizes located in The Solomon Islands, Indonesia, Fiji and Philippines.

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17. The confidence level shows the likelihood that the selected sample is large enough so that the statistical results concerning welfare characteristics fall within the specified margin of error, which was 5% in this case. A confidence level of 95% defines the degree of uncertainty that one is prepared to accept.

## Feasibility issues

Required 30 days in the field per case study (MPA and control communities). A team of 2 international researchers developed methodologies and applied them in the field with inputs and coordination from one policy person and national experts from each country study. Focus group discussions were conducted by teams of 3 people, where appropriate 1 man, 1 woman, 1 recorder, with support from staff of local NGOs and/or universities. Household surveys were pre-tested in each location (and adapted if necessary) and staff from local NGOs and/or universities were trained and hired to take responsibility to complete the surveys. Additional time required for data entry and analysis (about 2 weeks per site), carried out at a central external location for all sites studied.

## Summary: Main merits

- Conceptual framework combines some generic indicators with locally defined indicators (e.g. fish catch and social cohesion).
- Methodology draws on external expert knowledge and local expertise.
- Provides both quantitative data that can be presented in graphic form (e.g. radar and trend diagrams) and qualitative data (e.g. quotes).

## Summary: Main disadvantages

- Focuses on the relationship between MPAs and poverty reduction making it easier to capture the benefits of the PA than the costs.

## Key references

- Leisher, C., van Beukering, P. and Scherl L.M. (2007) *Nature's Investment Bank: How marine protected areas contribute to poverty reduction*. The Nature Conservancy.
  - van Beukering, P., Scherl, L.M., Sultanian, E., Leisher, C. and Fong, P.S. (2007) *Case Study 1: Navakavu Locally Managed Marine Area (Fiji). The role of marine protected areas in contributing to poverty reduction*. The Nature Conservancy.
  - van Beukering, P., Scherl, L.M., Sultanian, E. and Leisher, C. (2007) *Case Study 2: Arnavon Community Marine Conservation Area (Solomon Islands). The role of marine protected areas in contributing to poverty reduction*. The Nature Conservancy.
  - van Beukering, P., Scherl, L.M., Sultanian, E., Leisher, C. and Fry, J. (2007) *Case Study 3: Bunaken National Marine Park (Indonesia). The role of marine protected areas in contributing to poverty reduction*. The Nature Conservancy.
  - van Beukering, P., Cacatian, J., Stellinga, J., Sultanian, E., Leisher, C. and Scherl, L.M. (2007) *Case Study 4: Apo Island (Philippines). The role of marine protected areas in contributing to poverty reduction*. The Nature Conservancy.
- All the above available at: <http://www.nature.org/initiatives/marine/>

## 19. SOCIO-ECONOMIC ASSESSMENT TOOLBOX (SEAT)

### Objectives

The Socio-Economic Assessment Toolbox (SEAT) is intended to help operations to benchmark and improve the management of their local social and economic impacts. It was designed by the mining company Anglo American to improve the impact assessment of their operations.

### How is it used?

Key stages and associated steps:

**Stage 1:** Profile operation and associated communities and identify key issues

Step A: Profile the operation

- Tool A1: Pro-forma operation profile

Step B: Profile the community and engage with key stakeholders to identify key issues

- Tool B1: Stakeholder identification and gap analysis
- Tool B2: Building a basic community profile
- Tool B3: Overview of potential issues and possible causes
- Tool B4: Guidance on potential approaches to consultation
- Tool B6: Summary of issues raised by stakeholders and needs identified

**Stage 2:** Identify and assess social and economic impacts and share results of assessment

Step C: Identify and assess the social and economic impacts of the operation and assess existing management measures and social investment initiatives.

- Tool C1: Identifying activities that are resulting in social and economic impacts
- Tool C2: Assessment of issues raised during consultation
- Tool C3: How to calculate an operation's value added
- Tool C4: Inventory of all payments made to the public sector
- Tool C5: Calculating total employment generated
- Tool C6: Identifying and evaluating existing community social investments
- Tool C7: Guidance on assessing performance in relation to corporate level policies

Step D: Share results of impact assessment (quantitative and qualitative) with stakeholders and develop recommendation for management of issues

- Tool D1: Sharing results of SEAT process

**Stage 3:** Develop management responses to key issues, including eventual closure

Step E: Development of a management and monitoring plan for issues, including formulation of key performance indicators (KPIs)

- Tool E1: Developing a management and monitoring plan
- Tool E2: Developing local key performance indicators

Step F: Improve the implementation and contribution of non-core activities

- Tool F1: Increasing local procurement and outsourcing to support local

business development

- Tool F2: Establishing new community social investment initiatives
- Tool F3: Developing human capital
- Tool F4: How to set up partnerships

Step G: Post Closure planning

- Tool G1: Guidance on closure planning/planning for the future

**Stage 4:** Report the results of the assessment

Step H: Prepare socio-economic report and feedback to community.

### What is assessed?

Particularly concerned about costs associated with different aspects of mining activities. Impacts are identified according to the type of operation (e.g. release of sludge, air emissions) and mechanisms of change are defined in order to alter/improve practices.

### Potential scales of assessment

The scale of assessment is by operation (i.e. mining project) and communities affected. The results can be compared at a national and international scale.

### Level of differentiation possible

Not applicable

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### How is attribution assessed?

The attribution of the benefits and costs of the operation are assessed by re-applying the methodology every 3 years. Ideally, there should be a baseline data collection before the operation starts. In addition, SEAT takes into account local communities' perception of the impacts of the operation.

### Who has used it? Where? When?

The SEAT was launched in 2003 and enhanced in 2007 by Anglo American, and has been used at 60 Anglo American sites in 16 countries.

### Feasibility issues

The pilot studies carried out to test the assessment process requires the equivalent of 8 weeks of a person's time over a 3-month period. It is suggested that operations may wish to carry out such an assessment on average every 3 years, but may wish to update some data annually.

### Other notes

Some of the steps and tools can be extracted and combined with other methods. For a detailed description of each step and tool, the long version of the toolbox provided by Anglo America is very comprehensive and easy to understand.

### Summary: Main merits

- SEAT offers a comprehensive level of detail and guidance for identifying and addressing socio-economic impacts.
- Good level of stakeholder engagement.

### Summary: Main disadvantages

- Long and probably expensive.
- Requires full-time staff for at least 3 months.

### Key references

- Anglo American (2003) Anglo American Socio-Economic Assessment Toolbox (SEAT). Available at: [http://www.angloamerican.co.uk/aa/siteware/docs/seat\\_toolbox.pdf](http://www.angloamerican.co.uk/aa/siteware/docs/seat_toolbox.pdf)
- Anglo American (Undated) SEAT Overview. Available at: [http://www.angloamerican.co.uk/aa/development/society/engagement/seat/seat\\_overview.pdf](http://www.angloamerican.co.uk/aa/development/society/engagement/seat/seat_overview.pdf)

## 20. SOCIO-ECONOMIC MONITORING (SOCMON)

### Objectives

SocMon was developed as a set of guidelines for managers to establish socio-economic monitoring of marine protected areas and reef systems using a simple, standardised methodology.

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### How is it used?

SocMon is based on a 6-step process beginning with advance preparation, continuing with 4 steps of data collection (including secondary source, key informant, household interviews and observation), and ending with data analysis and communication. Part of the idea of SocMon is to provide guidance on what indicators are important to monitor. To do so 7 purposes of socio-economic information are identified ranging from 'identifying threats, problems, solutions and opportunities' to 'establishing baseline household and community profile'. These purposes are then linked to the indicators so that by identifying why they want socio-economic information, the socio-economic monitoring team can select the most appropriate indicators.

Sixty indicators are identified in SocMon, 12 of high priority, the rest of medium priority. Guidance on how to collect the data is provided through interview guides, which provide the questions to ask for each selected indicator. Similarly, guidance on data analysis is provided through analysis tables, which note which calculations to make for each of the indicator questions.



### What is assessed? (costs, benefits, dimensions of well-being)

Can assess costs and benefits. The indicators are grouped into 8 categories: community-level demographics, community infrastructure, coastal and marine activities, governance, household demographics, coastal and marine activities, attitudes and perceptions, and material style of life.

### Potential scales of assessment

Community

### Level of differentiation possible

Gender, age, wealth, ethnic group

### How is attribution assessed?

This methodology is a snapshot and does not take into account the attribution issue. However, it can be repeated over time to assess changes.

### Who has used it? Where? When?

Developed by a consortium that includes the US National Oceanic and Atmospheric Administration (NOAA), Global Coral Relief Monitoring Network and Conservation International, the SocMon has been used in 6 regions throughout the world: Caribbean, Central America, Southeast Asia, Western Indian Ocean, Pacific Islands, and South Asia (see references).

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### Feasibility issues

In general SocMon is expected to take between 17–30 working days. The monitoring can be conducted by an individual, but ideally it's done by a team with at least a few people with backgrounds in one of the social sciences. The frequency of data collection will vary for each indicator ranging from once every 2 years to once every 5 years. Costs are minimal and include transportation, salary for interviewers, writing materials, photocopying and basic computer word processing.

### Summary: Main merits

- Flexible tool that can be adapted for use at each site. Indicators are defined according to locally defined objectives.
- Uses several complementary data collection methods.

### Summary: Main disadvantages

- As it is designed for local communities, there is less opportunity for aggregation of standardised data at the national, regional, or global scale.
- It does not cover all the possible variables for socio-economic monitoring (e.g. it does not specifically discuss gender or economic performance).

## Key references

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# Appendix 4: Indicators reviewed

## A. Household level indicators

### Basic Info

- Age
- Gender
- Ethnicity
- Religion
- Wealth
- Language(s) spoken
- Number of members of household

### Social / Cultural

- Having one or more friend(s) who can help financially in emergency
- Social problems faced (conflicts within and between communities, political conflict, religious conflict)
- Level of participation in community/development activities (e.g. self-help groups, infrastructure building, help during flood/crisis period)
- Participation of women in household-level decisions (e.g. about marriage of children, investments, purchases, repairs, helping relatives, etc.)
- How often do women go outside of their home (go to market, contact economic institutions, hospital, etc.)?

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### Human

- Short-term health, proxied by body-mass index and mid-upper-arm circumference of all family members
- Having all children complete vaccination series
- Having soap in the house for bathing and washing clothes
- Access to Health Services
- Frequency of diarrhoea episodes and other diseases.
- Having all children in the household complete or be in primary school
- Adult/Child literacy rate
- Availability and quality of education
- Access to training on different aspects of fisheries, agriculture, livestock, and other income generating activities
- Difficulty in satisfying household food needs
- Number of months for which own food (staple) production is sufficient to feed the family
- Ability to borrow food or money (which you have to repay) from neighbours, friends, or relatives
- Frequency of purchasing food on credit
- Frequency of having to limit portion size at mealtimes

- Frequency of reducing number of meals eaten in a day
- Frequency of skipping entire days without eating
- Frequency of exchange labour for food (work for food)

### Financial

- Ability to purchase standard basket of assets
- Access to employment
- Access to credit, use and amounts (formal and informal loans)
- Having money to pay for important services
- Income from employment related to the PA
- Household savings (including ownership of livestock).

### Physical

- Owning a house with walls built from durable materials
- Owning a house with a roof built from durable materials
- Having a latrine
- Having electricity in the house
- Owning a bicycle / motorcycle
- Owning a radio / television
- Owning a bed with a mattress
- Having at least one motorised cultivator and a sower
- Having at least one cart with a draft animal
- Having good shoes for all the children in the household

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### Natural

- Access to and quality of drinking water
- Access to irrigation water
- Access to farming land and grazing for livestock
- Access to trees for timber
- Access to non timber forest products
- Level of natural vulnerability of the area of residence (e.g., flood prone).

### Political / Legal (none found in cases reviewed)

## B. Community level indicators

### Basic Info

- Number of households/people
- Levels of Migration
- Age composition
- Gender composition
- Ethnicity composition
- Religious composition

- Wealth ranking
- Language(s) spoken

### Social / cultural

- Numbers of social organisations
- Numbers of social relations/conflict
- Level of support to the community from NGOs
- Social status/influence within the community
- Level of security for people
- Proportion of population who participate in elections
- Effectiveness of the administration
- Equity in application of laws
- Spending on public services in the area
- Levels of corruption
- Percentage of population served by waste collection and disposal
- Type of organisations working in the community
- Numbers of women abused in the community
- Participation of women in community development activities (organisation building, social forestry, protest against dowry, divorce, etc.)
- Cultural trends (dowry, caste, etc.)
- Local superstitions

### Human

- Quantity (or distance) of hospitals/clinics available
- Availability of doctors
- Quality of health services available
- Percentage of population served by health care
- Life expectancy at birth
- Fertility rate
- Health problems affecting people's ability to work
- Suicide rates
- Availability of education
- Child / adult literacy
- School attendance rates

### Financial

- Revenue generating activities
- Access to markets
- Access and use of credit across region
- Property and assets
- Income levels
- Expenditure levels
- Employment from PA (e.g. tourism)
- Unemployment levels
- Local business/ industries

## Physical

- Quality of housing
- Road access
- Local processing industries – saw mills etc
- Telephone access
- Electricity access
- Running water access
- Latrine & tube coverage
- Crops and cooking fuel
- Bus / rail
- Animal powered transport

## Natural

- Availability and quality of water
- Land availability and soil quality
- Availability of timber and non-timber forest products
- Erosion
- Marine/ freshwater resources
- Energy – wood and other biomass sources

## Political / Legal (none found in cases reviewed)

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## C. Protected Area level indicators

### Basic Info

- Type of PA (private PA, Community Conserved Area, State PA, collaborative PA).
- Size of PA
- Number of residents
- Number of settlements
- Number of people resident within a 10 km radius
- Number of settlements within a 10 km radius
- Nearest settlement (km) if unoccupied

### Social / Cultural

- Determine whether the PA separates warring groups
- Identify whether the PA is used for important cultural events
- Identify any processes of social recognition (including awards) to the PA managers, provided by larger society
- Does the protected area have cultural and historical values (e.g. archaeology, historic buildings including temples, pilgrimage routes and/or historic/culturally important land use patterns)?
- Does the protected area include sacred natural sites or landscapes (e.g. sacred groves, waterfalls and/or mountains)?

- Is the protected area important for recreation and tourism?
- Does the protected area contain wilderness values or other similar iconic values?
- Identify whether the PA is supported by an NGO

### Human

- Number of people benefiting from PA service provision
- Expenditure per capita per year by PA on service provision
- Institutional investment in research and development.

### Financial

- Does management of the protected area provide jobs (e.g. for managers or rangers)?
- Number of locally employed people
- Value of local service contracts annually
- Types of services paid for from PA revenues
- Number of people using resources within the PA
- PA tourists' expenditure per year
- Share of tourism revenue going to local communities, and its distribution within the communities
- Number of people affected by economic displacement

### Physical (none found in cases reviewed)

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### Natural

- Integrity of critical habitat – e.g. forests, rivers, sea, wetlands, grasslands, mangrove
- Conservation of a key species
- Availability and quality of land/soils for agricultural production or availability and quality of fish stocks (if marine PA)
- Availability and quality of water resources

### Political / Legal

- Presence of strengthened controls over resource use
- Occurrences of eviction being carried out
- Incidence of local rules and institutions governing resource use being weakened by the presence of the PA
- Determine whether the PA is on an international boundary or crossing it, and therefore subject to potential or actual international conflict
- Level of conflict or tension between 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.)
- Number of people formally warned for breaches of PA regulations
- Number of people arrested for breaches of PA regulations

- Nature of local involvement in planning the PA (including formulating management plans, defining rules of access and resource use, etc.)
- Nature of local involvement in managing the PA, including enforcing laws
- Nature of local involvement in determining PA expenditure on local services and benefits, and sharing revenues from these services/benefits
- Nature of the managing institution and the nature of local involvement in this institution
- Property or infrastructure rights lost/created due to the PA's presence

## D. Millennium Development Goals that could be used as higher-level (e.g. national) indicators (with original numbering in brackets)

### Human

- Prevalence of underweight children under-five years of age (1.8)
- Proportion of population below minimum level of dietary energy consumption (1.9)
- Net enrolment ratio in primary education (2.1)
- Proportion of pupils starting grade 1 who reach last grade of primary (2.2)
- Literacy rate of 15-24 year-olds, women and men (2.3)
- Ratios of girls to boys in primary, secondary and tertiary education (3.1)
- Share of women in wage employment in the non-agricultural sector (3.2)
- Proportion of seats held by women in national parliament (3.3)
- Under-five mortality rate (4.1)
- Infant mortality rate (4.2)
- Proportion of 1 year-old children immunised against measles (4.3)
- Maternal mortality ratio (5.1)
- Proportion of births attended by skilled health personnel (5.2)
- Contraceptive prevalence rate (5.3)
- Adolescent birth rate (5.4)
- Antenatal care coverage (at least one visit and at least four visits) (5.5)
- Unmet need for family planning (5.6)
- HIV prevalence among population aged 15-24 years (6.1)
- Condom use at last high-risk sex (6.2)
- Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS (6.3)
- Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years (6.4)
- Proportion of population with advanced HIV infection with access to antiretroviral drugs (6.5)
- Incidence and death rates associated with malaria (6.6)
- Proportion of children under 5 sleeping under insecticide-treated bednets (6.7)
- Proportion of children under 5 with fever who are treated with appropriate anti-malarial drugs (6.8)



- Incidence, prevalence and death rates associated with tuberculosis (6.9)
- Proportion of tuberculosis cases detected and cured under directly observed treatment short course (6.10)

## Natural

- Proportion of land area covered by forest (7.1)
- CO2 emissions, total, per capita and per \$1 GDP (PPP) (7.2)
- Consumption of ozone-depleting substances (7.3)
- Proportion of fish stocks within safe biological limits (7.4)
- Proportion of total water resources used (7.5)
- Proportion of terrestrial and marine areas protected (7.6)
- Proportion of species threatened with extinction (7.7)
- Proportion of population using an improved drinking water source (7.8)
- Proportion of population using an improved sanitation facility (7.9)
- Proportion of urban population living in slums (7.10)

## Financial

- Proportion of population below \$1 (PPP) per day (1.1)
- Poverty gap ratio (1.2)
- Share of poorest quintile in national consumption (1.3)
- Growth rate of GDP per person employed (1.4)
- Employment-to-population ratio (1.5)
- Proportion of employed people living below \$1 (PPP) per day (1.6)
- Proportion of own-account and contributing family workers in total employment (1.7)
- Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income (8.1)
- Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation) (8.2)
- Proportion of bilateral official development assistance of OECD/DAC donors that is untied (8.3)
- ODA received in landlocked developing countries as a proportion of their gross national incomes (8.4)
- ODA received in small island developing States as a proportion of their gross national incomes (8.5)
- Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty (8.6)
- Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries (8.7)
- Agricultural support estimate for OECD countries as a percentage of their gross domestic product (8.8)
- Proportion of ODA provided to help build trade capacity (8.9)
- Total number of countries that have reached their HIPC decision points and

- number that have reached their HIPC completion points (cumulative) (8.10)
- Debt relief committed under HIPC and MDRI Initiatives (8.11)
- Debt service as a percentage of exports of goods and services (8.12)

### **Physical**

- Proportion of population with access to affordable essential drugs on a sustainable basis (8.13)
- Telephone lines per 100 population (8.14)
- Cellular subscribers per 100 population (8.15)
- Internet users per 100 population (8.16)

### **Political / Legal (none)**

## Natural Resource Issues

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# Social assessment of conservation initiatives

## A review of rapid methodologies

Areas of land and sea are increasingly being marked out for protection in response to various demands: to tackle biodiversity loss, to prevent deforestation as a climate change mitigation strategy, and to restore declining fisheries. Amongst those promoting biodiversity conservation, the impacts of protected areas on resident or neighbouring communities have generated much debate, and this debate is raging further as new conservation schemes emerge, such as REDD.

Despite widely voiced concerns about some of the negative implications of protected areas, and growing pressures to ensure that they fulfil social as well as ecological objectives, no standard methods exist to assess social impacts. This report aims to provide some.

Some 30 tools and methods for assessing social impacts in protected areas and elsewhere are reviewed in this report, with a view to understanding how different researchers have tackled the various challenges associated with impact assessment. This experience is used to inform a framework for a standardised process that can guide the design of locally appropriate assessment methodologies. Such a standard process would facilitate robust, objective comparisons between sites as well as assisting in the task of addressing genuine concerns and enhancing potential benefits.

This report is an output of the Social Assessment of Protected Areas (SAPA) initiative.

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