

Protected Area Management Effectiveness (PAME) - Principles and good practices for ensuring data quality and appropriate application of evaluation results

Prepared based on material written by Marc Hockings, Fiona Leverington, Carly Cook and the experiences of many PAME practitioners.

The past 15 years have seen a tremendous investment by protected area managers, NGOs, donors and communities in conducting evaluations of the effectiveness of management of protected areas around the globe. Ambitious goals for evaluating effectiveness have been set by the Convention on Biological Diversity and we are well on the way to meeting these targets. Effective management is now a requirement of Aichi Target 11.

Target 11

By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through **effectively and equitably managed**, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape.

While we are doing more assessment, there is a need to ensure that the quality of the data (both qualitative and quantitative) are sufficient to provide reliable results while the costs of data collection are kept reasonable (see Hockings et al. 2009). We also need to ensure that the assessment results are used appropriately by managers and others, whether this be for identifying and improving site or system management, for reporting and accountability or in examining global trends and comparisons in management effectiveness.

The following proposed principles and good practices are designed to guide practitioners in the development and use of protected area management effectiveness (PAME) projects and assessments. These principles and practices will be discussed during the session on PAME at the World Parks Congress in Sydney in November 2014 and will be available on the IUCN WCPA website for comment. They should be read in conjunction with the IUCN Best Practice Guidelines on PAME (Hockings et al. 2006). Each principle/good practice is set out briefly followed by some explanatory text. This is not intended to be an exhaustive discussion of the principle but be sufficient to make the intent and reason behind the principle clear.

Comments, suggested additions and deletions to these principles and practices are welcome. Please submit these comments and suggestions to the WCPA Vice-Chair (Science), Prof Marc Hockings (m.hockings@uq.edu.au) or WCPA Management Effectiveness Specialist Group Chair, Dr Fiona Leverington (fiona@protectedareas.com.au).

Following consultation and revision, these principles will be available on the WCPA website and a paper outlining this guidance will be prepared for the journal *PARKS*. People making a substantive contribution to the development of the principles will be invited to be co-authors on this paper.

PAME Principles and good practices

Principle 1: The evaluation should be part of an effective management cycle—linked to defined values, objectives and policies and part of strategic planning, park planning and business and financial cycles

PAME assessments should be explicitly linked to the key values of the protected area so that the assessment system focusses on these key values when considering the effectiveness of management.

PAME assessments can make most difference to management when they are linked-in to a broader management context. For individual sites, this can mean linking assessments to annual reviews of work plans and programs. For protected area systems, assessments across a number of protected areas can help in annual planning, strategy assessment and prioritisation across numerous sites. For donors, conducting evaluations as part of on-going project implementation, there needs to be a clear link to future project adjustments.

Clarifying the purpose and scope of the evaluation at the start can make these linkages to other management systems and decision making processes explicit.

Principle 2: The PAME system should be practical to implement with available resources, giving a good balance between measuring, reporting and managing

Methods of evaluation need to be sustainable over time. While there is a temptation to build an evaluation system that addresses all aspects of protected area management and that seeks to monitor and collect quantitative data across the spectrum, such a system is unlikely to be sustainable in the long term. Regular assessments (every 3-4 years) that build a picture of changes in effectiveness over time are more likely to be used to enhance management than a one-off assessment that proves to be too costly to sustain. PAME assessments should draw upon existing monitoring programs and compile and use results from research programs. The investment in establishment of assessment systems and training of staff is greatest in the first few years of implementation of a PAME system and reduces over time, although continued investment in training of staff is needed to maximise the validity of the data and the application of results from the assessments.

Principle 3: PAME systems should be designed to be useful and relevant for improving protected area management; for yielding explanations and showing patterns; and for improving communication, relationships and awareness

All PAME evaluation systems should seek to improve management either at the site level or by influencing policies and programs at the agency, national or international level. They will be most effective when analysis and reporting of results goes beyond the simple reporting of management indicators but rather, uses the information to improve understanding of management through examination of relationship, patterns and causal relationships within the data. This requires that these uses of the data are considered at the time of design of the assessment system and that data are collected with sufficient rigour to support such uses.

Whenever possible, a broad group of relevant people from within and outside management should be included in the assessment process. The benefits that arise from the process of assessment; by

bringing managers, researchers and stakeholders together in an explicit process to review and assess management effectiveness should not be underestimated. This benefits both the assessment process and results, can improve relationships between stakeholders and managers and ensure that management is based upon the best available information concerning the site.

Principle 4: The PAME approach should be logical and systematic: working in a logical and accepted framework with a balanced approach

Numerous evaluation exercises over recent years have demonstrated the advantages of sharing approaches and methods so that experience and ideas can be harnessed and new evaluations can proceed more smoothly. While there must be flexibility to respond to local conditions so that the most important and relevant issues are addressed by the assessment, some common ground has been established. To better harmonize different evaluation approaches and to provide a solid theoretical and practical basis for management effectiveness evaluation, it is desirable to clearly base evaluation on a consistent framework, such as that developed by the IUCN WCPA (Hockings et al. 2006).

While some methodologies might focus on particular aspects of management, it is desirable to measure all six elements of the IUCN PAME framework, balancing the need to assess the context, inputs, planning, process, outputs and most importantly outcomes of management. While recent research has focussed particularly on the question of biodiversity and environmental outcomes in protected areas, it is important that the assessment of outcomes is included as an integral component of PAME work. This should include not only biodiversity outcomes but also social and cultural objectives. Across the assessment, there should also be a balance between the different themes or dimensions of management—for example, governance and administration, natural/ecological integrity, cultural integrity, and social, political and economic aspects.

Principle 5: The methodology is based on good indicators, which are holistic, balanced and useful.

Selection of indicators – the units of information that are actually measured and reported on is of great concern for all evaluations. It is critical that indicators are relevant and useful in answering the higher level questions. Evaluation will not get – or deserve – continuing support if large amounts of unnecessary information are collected in the process. Relevance needs to be well thought out at the planning stage and well communicated to participants. For similar reasons, Indicators need to be as cost-effective as possible. Considerable time and effort will go into measuring the indicators, whether through a field monitoring programme or a simpler information-gathering exercise.

Quantitative data relevant to assessing management effectiveness is frequently not available to managers (Cook et al. 2010) and information on performance of management will come from managers and other participants in the assessment process. Fortunately, available evidence suggests that local expertise is a reliable source of data on management effectiveness (Cook et al. 2014).

Margoulis and Salafsky (1998) and TNC (2002) have suggested attributes of good indicators.

A good indicator meets the following criteria:

- **Measurable:** able to be recorded and analyzed in qualitative or quantitative terms;
- **Precise:** defined in the same way by all people;
- **Consistent:** not changing over time so that it always measures the same thing;
- **Sensitive:** changing proportionately in response to actual changes in the condition or item being measured.

Indicators for biological health should be:

- **Biologically relevant** (reflect target health);
- **Socially relevant** (recognized by stakeholders);
- **Sensitive to anthropogenic stress** (reflect threats);
- **Anticipatory** (early warning);
- **Measurable**;
- **Cost-effective** (the maximum information per unit of effort).

Principle 6: The methodology is accurate, providing true, objective, consistent and up-to-date information.

Results of evaluations can have far-reaching implications and must be genuine and able to withstand careful examination. Data gathered need to be as accurate and objective as possible to ensure credibility. In most protected areas there are significant constraints on the quality of certain kinds of information, particularly those that are useful for the measurement of outcomes and the status of park values. Often, evaluation must make the most of what information is available; however, evaluation of management effectiveness is enhanced if it is backed up by information obtained from robust, long-term monitoring of the status of key values and of trends in such indicators as natural resource use and visitor patterns. Links to clear planning, and clarification of assumptions, are important so that any inferences derived from the assessments can be substantiated.

Both quantitative and qualitative information can be used in making assessments but attention needs to be paid to ensuring data quality and reliability in either case. Guidance on how to ensure the accuracy and reliability of data is available from a number of studies (Cook and Hockings 2011, Cook et al. 2014) as well as following normal sound scientific practice.

Triangulation of data from all available sources can be an important means of enhancing confidence in conclusions. Most importantly, auditing the assessment results and ensuring good practice in the completion of assessments can significantly improve reliability and accuracy in PAME assessments.

Principle 7: The assessment process is cooperative and participatory: with good communication, teamwork and participation of protected area managers and stakeholders throughout all stages of the project wherever possible.

There are no simple rules as to who should conduct and be involved in management effectiveness evaluations. Involvement of stakeholders, including park staff, local communities, and experts, is desirable – and essential at certain stages – but either agency staff or external organizations can be the primary drivers or coordinators of evaluation initiatives. The formation of a team with a common purpose is essential. There are advantages of involving evaluators from universities or other scientific backgrounds as the range of expertise for some assessments may be beyond the capacity of protected area agencies, and these people can provide a fresh viewpoint. Some protected area evaluations are able to draw on the expertise of scientific advisory committees or equivalent bodies.

Advantages and constraints of various types and levels of community involvement were set out by (Leverington and Hockings 2004). There is no one right answer to the question of participation in assessments and the factors listed here should be considered along with other contextual issues in making this decision.

	Internal (i.e. agency staff-led) evaluation	External evaluation	Community involvement
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Truthfulness in discussions and questionnaires	Staff are more likely to be honest and open in an internal process. However, even internal evaluations will be threatening to some staff and all results require some mediation to ensure accuracy. There could also be bias in their opinions.	Some staff may wish to hide unpalatable truths – in some cultures will not wish to “lose face” or cause other staff to lose face. Agencies may be punitive if staff reveal unpalatable facts or are critical of policies and procedures.	Agency staff may be reluctant to reveal weaknesses or be self-critical in front of community members. Community members may be most open with external evaluators without park staff present.
Open reporting	Reports may be repressed or edited by senior staff or relevant politicians. May not be able to openly criticize e.g. statements of inadequate funding.	External evaluators are generally regarded as unbiased and highly credible. Reports can be totally open and critical where necessary	Community involvement means that reports are more likely to be open and complete.
Access to agency information	Will generally be free and complete access to any information needed	May be inversely related to the openness and public profile of reporting. Freedom of information in some jurisdictions may be helpful, but information can still be very difficult to obtain and interpret, especially when not in written form.	Access to certain information will be restricted (e.g. information relating to location and status of rare animals, special cultural sites)
Availability of resource information	Park staff should have all information available – but in practice are often unaware of important findings of research etc. High level of local knowledge	External evaluators (e.g. scientists) may have access to a different set of resource information than that known to park staff.	Community members may have a wealth of resource information including traditional knowledge.
Learning processes	Critical outcome of evaluation is organizational learning and encouragement of reflection	External evaluators (e.g. consultants) may take valuable knowledge away so it is not institutionalised	Involvement of community in this process can be extremely valuable for their increased capacity in environmental management
Advocacy and community relations	Less likely to contribute unless used with community relations or publicity campaign.	Can be used to advocate better funding	Likely to contribute to positive working relationships – unless criticism by community members of park staff creates rifts.
Cost of evaluation	Relatively inexpensive	Expensive, but may be externally funded	Adds considerably to time and cost of process

Principle 8: Communication of results is positive and timely and undertaken in a way that is useful to the participants. Short-term benefits of evaluation should be demonstrated clearly wherever possible. Findings and recommendations of evaluation need to feed back into management systems to influence future plans, resource allocations and management actions.

Evaluation reports should be clear and specific enough to improve conservation practices—and realistic, addressing priority topics and feasible solutions. All participants and stakeholders should be provided with some form of feedback as soon as possible, in a format that suits the intended audience. Methods of presentation, language and terminology should be commonly understandable, though more technical language will be appropriate for some audiences. Very brief and pointed reports with attractive visual elements are often needed for senior executives and politicians.

Next steps

These draft principles will be circulated and discussed during the sessions on management effectiveness at the World Parks Congress in Sydney. Following the Congress, inputs will be sought through the WCPA Management Effectiveness Specialist Group prior to producing a publication setting out this guidance.

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