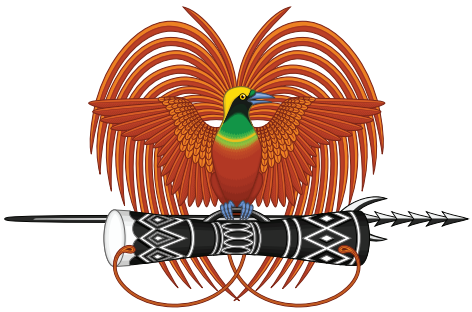
The PNG-METT

A method for assessing effectiveness in Papua New Guinea's protected areas

AUGUST 2017



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Acknowledgements

The authors are most grateful for the time and effort contributed by all the workshop participants, mostly customary landowners of PNG's protected areas. Thanks are also given to the many other people who worked on this project, or provided support or information, including the following:

Collaborators, facilitators, and note-takers, especially James Sabi, Warren Jano and Amanda Wheatley and also including Bernard Suruman, Benside Thomas, Vagi Rei, Ovin Wafewa, Madline Ainie, Madeline Lahari, Agnes Bevi, and Margret Sibona Kilapat.

Senior Executive Support: Emily Fajardo (United Nations Development Programme [UNDP]), Kay Kumaras (Conservation and Environment Protection Authority [CEPA]), Gunther Joko (CEPA), and Stuart Chape (Secretariat of the Pacific Regional Environment Programme [SPREP]).

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Fiona Leverington, Ann Peterson, and Gregory Peterson conducted this project through Protected Area Solutions Pty Ltd under contract to SPREP.

In addition, Fiona is an Adjunct Senior Fellow and Ann is an Honorary Associate Professor with The University of Queensland, School of Earth and Environmental Sciences: the authors appreciate the University's continuing support.

Citation

Fiona Leverington, Ann Peterson, Gregory Peterson (2017), Methodology for assessment of protected area management effectiveness in Papua New Guinea's Protected Areas, SPREP, Apia, Samoa.

protected area solutions

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SPREP Library – Cataloguing in Publication data

Leverington Fiona, Peterson Ann, Peterson Gregory.

Methodology for assessment of protected area management effectiveness in Papua New Guinea.
Apia, Samoa : SPREP, 2017.

44 p. 29 cm.

ISBN: 978-982-04-0725-1 (print)
978-982-04-0726-8 (ecopy)

1. Nature conservation – Oceania.
2. Protected areas – Papua New Guinea.
3. Environment - Protection – Papua New Guinea.
4. Parks and reserves – Management – Papua New Guinea.
I. Leverington, Fiona.
II. Peterson Ann.
III. Peterson, Gregory.
IV. Pacific Regional Environment Programme (SPREP).
V. Title

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Our vision: A resilient Pacific environment sustaining our livelihoods and natural heritage in harmony with our cultures.

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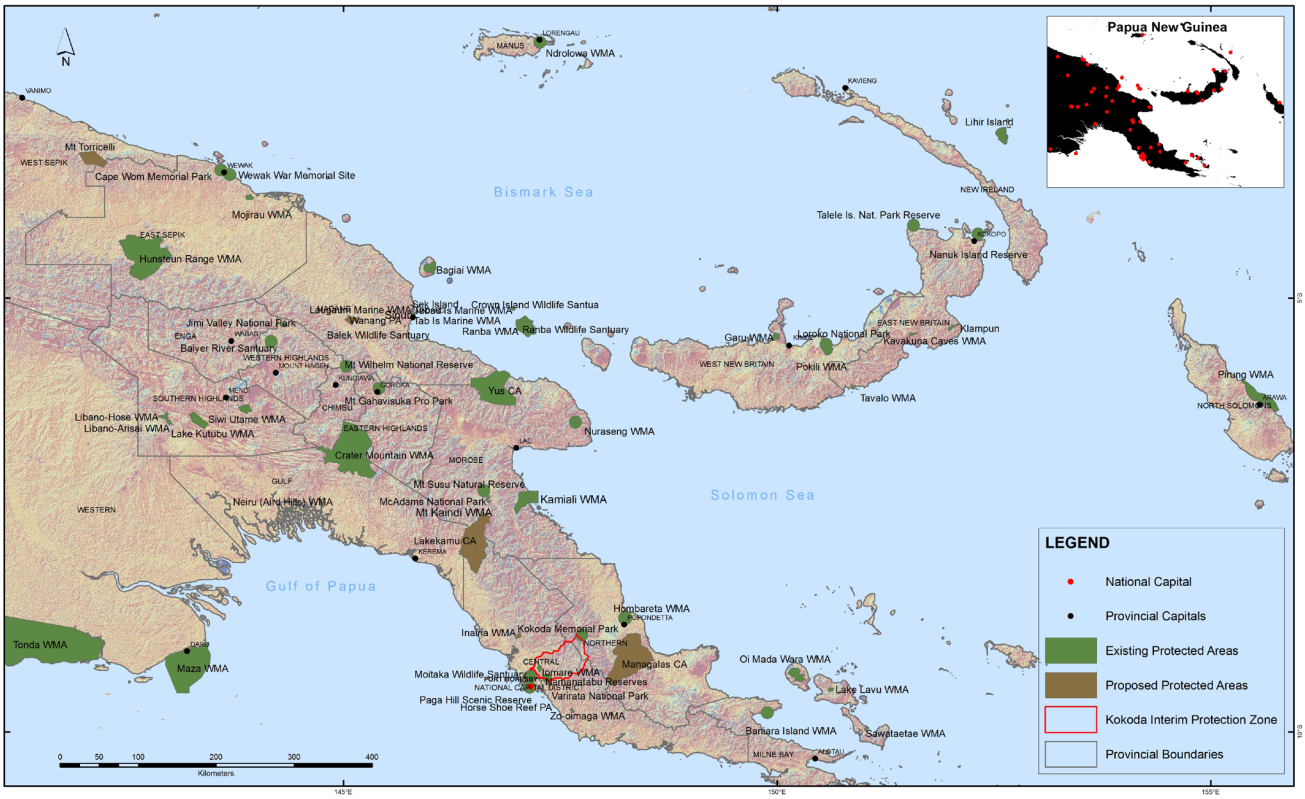
List of terms and abbreviations

CBD	Convention on Biological Diversity
CEPA	Conservation and Environment Protection Authority in PNG
CI	Conservation International
GEF	Global Environment Facility
IUCN	International Union for Conservation of Nature
METT	Management Effectiveness Tracking Tool
NGO	Non-governmental organisation(s)
PAME	Protected Area Management Effectiveness Evaluation
PNG	Papua New Guinea
PNG-METT	Version of METT prepared for PNG
RAPPAM	Rapid Assessment and Prioritisation of Protected Areas Management
UNDP	United Nations Development Programme
SPREP	Secretariat of the Pacific Regional Environment Programme
TNC	The Nature Conservancy
WCPA	World Commission on Protected Areas
WMA	Wildlife Management Area
WWF	World Wide Fund for Nature



SPATIAL SYSTEMS & DATA (GIS) BRANCH Environment Information & Science Division Department of Environment & Conservation P.O.Box 6601, BOROKO. National Capital District Ph: + (675) 301 4544, Fax: + (675) 325 0182	**TITLE:**	**PNG Protected Areas**	**SCALE:** 1:100,000 **PROJECTION:** World Geodetic System 1984 **DATE:** January 2013 **PRODUCED BY:** Malcolm Keako **PURPOSE:** Location of Protected Areas

Introduction

In 2015–2016, the Government of Papua New Guinea (PNG), through its Conservation and Environmental Protection Authority (CEPA) and with the support of United Nations Development Program (UNDP), organised an evaluation of its protected areas, as part of the process to improve management effectiveness.

PNG's Policy on Protected Areas commits to regular evaluation of management effectiveness and to taking remedial action to improve effectiveness over time.

'Management effectiveness of Protected Areas will be regularly evaluated on a national basis, and improvements will be put into place based on assessment results. Where Protected Area effectiveness or wildlife populations and health are shown to be declining or at risk, causes will be investigated and corrective measures rapidly implemented' (Independent State of Papua New Guinea, 2014, p. 50).

This effort is a component of the third pillar supporting the vision for the protected area network in PNG: effective and adaptive biodiversity management (Figure 1).

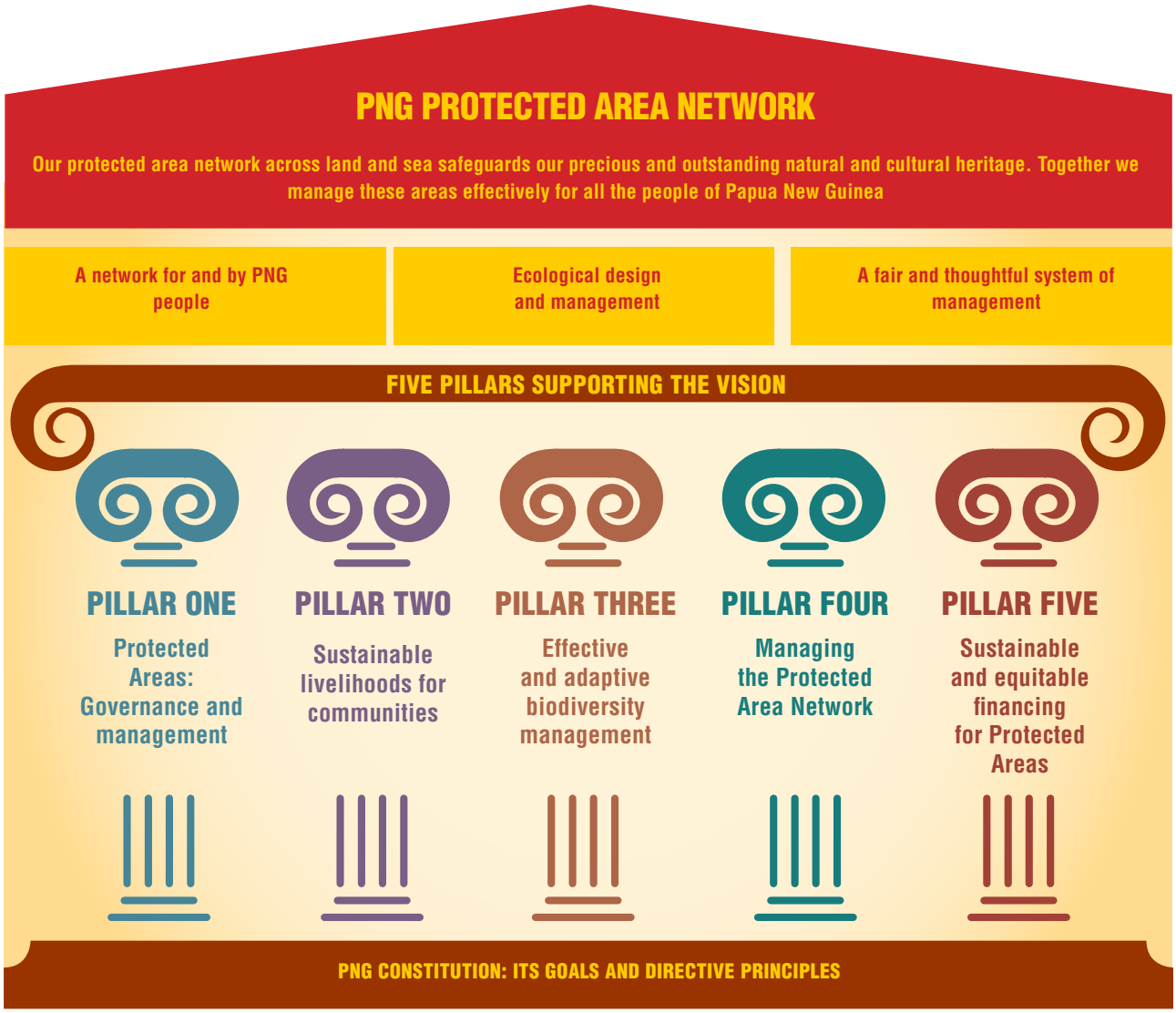


FIGURE 1: Five pillars of the PNG Policy on Protected Areas

The PNG Protected Area Management Effectiveness project is part of a larger initiative, the Global Environment Facility - Pacific Alliance for Sustainability (GEF-PAS) funded project known as 'Community-based Forest and Coastal Conservation and Resource Management in PNG' (GEF 2011), with CEPA as Executing agency and UNDP as the implementing partner. The Secretariat of the Pacific Regional Environment Programme (SPREP) was engaged to undertake a project titled 'Review and Update of the Status of Current Protected Areas in PNG'.

The main objectives for this project include:

- conduct a literature review of protected areas in PNG and methodologies used to evaluate protected areas;
- design and test an evaluation tool to be employed in PNG;
- undertake field work to assess PNG's formally gazetted protected areas; and
- analyse the data and compile reports (i.e. overall report and assessment data for each protected area).

An early step in this project was to develop and trial an assessment methodology, which drew from existing work and experience but was applicable to the specific context and needs of PNG. This report briefly documents the background to protected area management effectiveness evaluation, describes the principles for designing and implementing a methodology based on 'best practice' as defined by practitioners; presents the methodology used in the current evaluation process; and includes some reflections and recommendations on the process.

Protected area management effectiveness evaluation

Effective management of protected areas has been widely recognised as an essential component of conservation strategies (Watson 2014; Pressey 2015). To move toward more effective management, practitioners need to be able to answer the following questions about protected areas:

- What is the current state of individual protected areas and of the system as a whole?
- Are protected areas achieving the outcomes for which they have been declared and managed?
- Are their key values improving, stable, or declining?
- What are the current and future threats?
- Are management resources adequate and how should they be improved?
- Are processes of management appropriate, effective, and efficient?
- What steps could be taken to improve management and to ensure values are better protected?

Protected area management effectiveness evaluation (PAME) has been developed to find answers to these questions and many others.

The greater emphasis on evaluating effectiveness is in keeping with the general rise in evaluation and performance assessments within governments and other public bodies across the world. In the environmental sector, donors, governments, and other bodies are increasingly requiring management bodies to show evidence that their money is well spent (Keene 2011; Saterson 2004).

Generally, PAME is conducted to enable and support an adaptive approach to management of protected areas, for one or more of four primary purposes (Leverington 2010):

- to assist in effective resource allocation between and within sites;
- to promote accountability and transparency by reporting on effectiveness of management to interested stakeholders and the public; and/or
- to help involve the community, build constituency, and promote protected area values.

Target 11 of the Convention on Biological Diversity (CBD) Strategic Plan, also known as the Aichi Target 11, specifically mentions management effectiveness when it calls for:

'at least 17 per cent of terrestrial and inland water, and ten per cent of coastal and marine areas to be conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas' (CBD COP 10 Decision X/2, 2010).

The CBD Program of Work on Protected Areas has requested countries to evaluate this effectiveness, with a target of 60% of areas to be evaluated by 2020. By 2015, over 9,000 protected areas across the world had been assessed, some of them multiple times.

The IUCN's World Commission on Protected Areas (WCPA), a group of volunteer experts in protected area management, has led the development of materials relating to PAME since the 1990s and has published Guidelines for Management Effectiveness Evaluation as part of its best practice series (Hockings 2000; Hockings 2006). These Guidelines include a Framework of PAME which has been widely used as the basis for many methodologies and assessments across the world. The Framework is based on the belief that to be truly useful in improving management, assessments need to examine all the parts of a management cycle: not only the outcomes but also the context, planning, inputs, processes, and outputs.

Designing and applying PAME in PNG

The project team was tasked with evaluating the management effectiveness of as many of PNG's protected areas as could practically be assessed. The focus of this project was evaluation at the protected area level, while assessment of policy and capacity at the national level was not in scope. Challenges faced by the team included the remote and inaccessible nature of many of the protected areas and the lack of knowledge about their current management.

There are three major aspects to evaluating management effectiveness:

- developing an appropriate methodology;
- implementing the methodology in the field; and
- analysing information, compiling a useful report, and communicating the results.

The fourth, critical step is to then apply the findings to improve management.

While it was important to develop a sound and relevant questionnaire, we were also aware that the *process* of assessment is vital to encourage future improvements of the protected area. Workshops bringing people together to focus on management and its successes and shortcomings have benefits well beyond the completion of an evaluation (Hockings 2015).

Developing the methodology

The first step in developing the methodology was to consider the best practice principles guiding how management effectiveness evaluations should be conducted. General principles for developing and applying PAME were developed as part of the IUCN-WCPA Framework (Hockings 2006) and have been added to and refined since then, incorporating experiences and lessons learned from across the world. Details and discussion of the principles appear in a recent IUCN e-publication on protected area management (Hockings 2015). In summary, PAME should be:

i. 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;

ii. practical to implement within available resources, giving a good balance between measuring, reporting, and managing;

iii. useful and relevant in improving protected area management; yielding explanations and showing patterns; and in improving communication, relationships, and awareness;

iv. logical and systematic: working in a logical and accepted framework with a balanced approach;

v. based on good indicators, which are holistic, balanced, and useful;

vi. accurate: providing true, objective, consistent, and up-to-date information;

vii. cooperative and participatory: with good communication, teamwork, and participation of protected area managers and stakeholders throughout all stages of the project wherever possible; and

viii. focussed on positive and timely communication and application of results.

We applied these best-practice principles while considering the special features of PNG's protected area system, especially the role of customary landowners.

Choosing an approach

As PAME has developed over the last three decades, many different methodologies have been devised, most of which have been based on the IUCN-WCPA Framework. Some 95 methodologies are recorded in the Global Database on PAME, most of which are self-assessment scorecards which measure progress against specific management standards, such as the existence of management plans and the adequacy of resourcing. PAME assessments are often completed over one to three days by a group of rightsholders and stakeholders, who may include protected area managers and partners and sometimes representatives from local government, local communities, and NGOs. Many of the methodologies have been developed and applied for one specific agency, but others have been applied in many countries across the world. The most widely used methodologies are the management effectiveness tracking tool (METT) (Stolton 2007) and the Rapid Assessments and Prioritization of Protected Area Management (RAPPAM) (Ervin 2002).

The protected area system of PNG was last assessed in 2005–2006, when a partnership led by the World Wildlife Fund (WWF) with the full cooperation of the then Department of Environment and Conservation (DEC) used the RAPPAM methodology across the country. The comprehensive report and data from this study (Chatterton, 2006), as well as unpublished information about the field methodology, provided valuable information for the 2016–2017 assessment.

While it would have been useful to use RAPPAM for this assessment, there were also arguments for using the Management Effectiveness Tracking Tool (METT) as the basis for methodology. The METT is now the most commonly applied tool across the world (Coad 2015) and is required by the Global Environment Facility (GEF) for all the projects and activities they support. Because GEF is a substantial donor in PNG, using METT would save a lot of resources in the future. METT is also relatively simple to apply and analyse. Both RAPPAM and METT can meet most of the PAME principles listed above, but on balance, it was decided that adopting and adjusting the METT is the most efficient and effective approach for PNG, now and in the future.

The METT is a relatively simple methodology with two sections: a data sheet recording information about the protected area, and an assessment form with 30 questions, each with four alternative responses, as well as space for comments and suggested steps for improvement. METT was designed primarily to track improvements over time in a single protected area and is strongest at giving an overview of management effectiveness. It is weaker at evaluating outcomes of management (Stolton 2016). A number of adaptations have been made to the METT in different countries and for different uses, but the core questions have enabled compilation of results across 2,500 protected areas.

A detailed guide to the use of the METT has been published recently (Stolton 2016). This guide includes a suggestion that there are ‘strong arguments for additional questions on climate change, transboundary conservation, social processes and a division of the outcome questions to separate conservation outcomes and cultural/social outcomes’ (Stolton 2016, p. 11). The guide also suggests that some questions require further clarification.

Developing the PNG-METT

Using the METT as the base tool, a draft methodology was devised and shared with staff of CEPA, UNDP, and some civil society representatives at a workshop in Port Moresby in April 2016. The methodology was then trialled and adjusted in the field before being finalised. The whole questionnaire is included in Appendix 2.

We were careful to keep the integrity of the METT questionnaire, so that results from the PNG study can be incorporated into international data banks and tracked over time, while addressing PNG’s requirements. Key changes to the METT to develop the PNG-METT included: ensuring the appropriateness of the questionnaire and the workshops in the PNG context; adding questions about protected area benefits and values as well as the condition and trend in these values over time; and recording participants’ views about how the situation on their protected areas could be improved (e.g. in relation to the values, threats, and various management effectiveness themes).

Most protected areas in PNG are owned and managed by the customary landowners, and in these protected areas, there are currently no government employees –as there would be in the more traditional model of ‘park staff’. This is a very significant difference between PNG’s protected areas and the more standard protected areas addressed by the METT. This difference has several implications for the PAME methodology and its implementation:

- Most of the people providing information to complete the questionnaire do not work for CEPA or other agencies but are customary landowners and members of the management committees, where these exist. This variation means additional challenges for workshop organisation. Community participants must be supported financially at least with travel costs; assessments must be held in locations that people can reach in a reasonable time; and workshops must be conducted in a culturally appropriate manner. For example, people must be given sufficient time to feel comfortable with the facilitators and each other, and people must be given appropriate invitation or encouragement to speak. The workshop process is presented below.

- Many of the METT questions have been worded for people very familiar with protected area issues and have some level of confusion or ambiguity, particularly for those unfamiliar with management jargon. Rather than relying only on facilitators to clarify questions, we inserted clarification notes into the questionnaire for most questions. This modification helps to improve its reliability and to increase consistency when the questions are applied at different times and by different people. However, it is also essential that the questionnaire is applied in workshops with trained facilitators who have a more in-depth understanding of the questions and the logic behind them.
- Some questions needed amendment to be more clearly applicable to PNG, without changing the underlying meaning. For example, the standard threat classification (Salafsky 2008) is used in the METT, and we kept this intact but altered words to make them clearer within the classification's meaning. In some cases, we provided an option for respondents to choose between the traditional METT question (for the few government-owned protected areas) and a new modified version (for community areas). The facilitator helps the workshop participants decide which of the question alternatives is most appropriate for each protected area. An example is shown in Table 1.

TABLE 1: Alternative choices for question 1 in the PNG-METT

	1a. Legal status *For formal protected areas* Does the protected area have legal status (or in the case of private reserves is covered by a covenant or similar)?	The protected area is ***not gazett***ed by national, regional or local government
		There is ***agreement*** that the protected area should be gazetted/covenanted ***but the process has not begun yet***
		The protected area is ***in the process of being gazetted***/covenanted but the process is still incomplete
		The protected area has been ***formally gazetted***/covenanted by national, regional or local government
OR	1b. Legal status *For community agreements* Does the protected area have legal status (or in the case of private reserves is covered by a covenant or similar)?	The protected area has ***no formal community agreement***
		The customary landowners have ***begun the discussions*** about creating the protected area
		The protected area is ***in the process of being agreed*** to by the customary landowners, but the process is still incomplete
		The protected area has been ***formally agreed*** to by the customary landowners

Adding information about values

A recognised weakness of the standard METT questionnaire is the lack of information gathered about protected area values and outcomes (Stolton 2016). Given the serious paucity of even basic information about most of the protected areas in PNG, it was essential to boost the data collected about these aspects.

First, we added a section where participants were asked to nominate the primary values of their protected area, after discussion with the workshop group and using words or pictures to describe them. This process is similar to questions asked in the METT modified for use by the Ramsar Secretariat (the R-METT). Participants are encouraged to contribute their own ideas and discuss values important to them, rather than working from a standard checklist.

Second, we added a benefits checklist based on that used in RAPPAM, to help the participants to consider all the possible benefits provided by the protected area (Table 2).

Third, we added a section on protected area outcomes, which asks about the condition and trend of the protected area values. Participants are asked to use the key values that they listed in the first part of the workshop. The condition of these is then rated as poor to very good, using the condition criteria developed by The Nature Conservancy and the Conservation Measures Partnership (Parrish 2003). The trend is then described as improving, stable, or deteriorating. Information sources and explanations are recorded for all the ratings provided.

TABLE 2: Benefits checklist

	HOW IMPORTANT IS THE PROTECTED AREA FOR EACH OF THE LISTED VALUES OR BENEFITS NOW? *Tick one box for each*
1	Biodiversity – the presence of many different kinds of plants, animals and ecosystems
2	Presence of rare, threatened, or endangered species (plants and animals)
3	Presence of ecosystems (e.g. wetlands, grasslands, coral reefs, etc.) that are rare because they have been cleared or destroyed in other areas
4	Protecting clean, fresh water
5	Sustaining important species in big enough numbers so that they are able to survive here
6	Providing a source of employment for local communities now
7	Providing resources for local subsistence (food, building materials, medicines, etc.)
8	Providing community development opportunities through sustainable resource use
9	Religious or spiritual significance (e.g. *tambu* places)
10	Plant species of high social, cultural, or economic importance
11	Animal species of high social, cultural, or economic importance
12	Attractive scenery
13	Tourism now
14	Potential value for tourism in the future
15	Educational and/or scientific value
16	Maintaining culture and tradition on customary land and passing this on to future generations

We recognise that this assessment is not an in-depth exploration of the condition of all the key features of the protected area and that the qualitative information may not always be accurate. However, where there is monitoring data to support the analysis, these can be included as evidence. Where the opinions are subjective and based on observations, they still provide valuable data which will assist in decision-making and will point to the need for further research.

Collation of recommendations by participants and facilitators

Workshop participants are in the best position to understand what strategies might be practical in improving the management of their protected area. Their recommendations are recorded in the workshops to ensure their viewpoints complement more general recommendations from the evaluators. At the closure of the workshop, the facilitator and recorder discuss and synthesise the overall key strengths and challenges facing the protected area. This information is recorded and assists in developing the summary profile for each protected area.

Process of evaluation

The METT questionnaire is completed in a one-day workshop. Due to serious geographical and transport constraints, most workshops were held in centres near a cluster of protected areas. With a number of facilitators and recorders working together, two and sometimes three workshops could be held concurrently in adjacent spaces. This was efficient and also enabled participants to mingle and learn from each other.

PAME workshops represent a very important opportunity to build and repair relationships between customary landowners, CEPA, and other parties. People are given the incentive and mechanism to define the importance of their protected areas and are helped to begin conversations about how management might be improved.

Workshop preparation

Essential preparation for the workshops includes organisation of equipment and handouts, securing a suitable venue, providing notification and support for participants, and planning the program of workshop activities. This preparation can be challenging in the PNG situation, but the time and effort taken by participants to attend meetings must be respected by providing them with a good process. Some of the lessons learned were:

- Speakers of both English and Tok-Pisin must be available in the workshops, and the language of the questionnaire needs to be simple enough for people with limited literacy.
- An interesting finding was that taking reading glasses to the workshops was advantageous because many people otherwise could not read the questionnaires.
- A training program is needed for facilitators and recorders, and relevant training materials need to be developed. Training is best undertaken on actual protected areas so that trainees better understand the issues in delivering the questionnaire and in recording the information.
- Facilitators must be prepared for the workshop and have read all relevant information related to the protected area being assessed. There should be a comprehensive literature review to obtain relevant information on all the protected areas to be assessed.
- Accurate and detailed maps of the protected area are essential to facilitate discussion at the workshop. Take-home copies of maps and other materials such as gazettal notices and species lists are greatly appreciated by participants.

Workshop implementation

The facilitation process aims to be inclusive and to make participants feel comfortable expressing their opinions honestly. A minimum of one day is needed to allow the facilitators to work through the questionnaire in logical steps (as outlined in Appendix 2). Key lessons were:

- Good facilitation is essential to enhance data reliability and validity. The facilitator needs to provide a welcoming environment and encourage the participation of all, particularly women and younger people to ensure that dominant voices are not the only voices heard. Achieving consensus is a key task given that most questions require a final score (e.g. from 0 to 3). Skilled facilitation is important in situations where disparate opinions are held. The facilitator needs to ask probing questions and to follow up where answers are vague or contradictory.
- Good note-takers are a critical part of the facilitation team because lack of attention to note-taking can result in inadequate information to compile meaningful reports and inform future management directions. Completing all questions in sufficient detail is essential. It is critical that the 'comments and next steps' section of the questionnaire and that the data on the first page (recording participant and protected area details) are completed fully. The absence of these aspects is a great impediment to the usefulness of the assessment results (Stolton 2016).
- Care needs to be taken to avoid creating unrealistic expectations. To some extent, it is inevitable that people attending METT workshops will have their hopes raised and that thinking about issues and opportunities could stir feelings of discontent with the current situation. Facilitators and government staff need to be aware of this and be clear about possible outcomes. As discussed below, some follow-up communication is important.

The process for running METT Assessment workshops is as follows:

- Participants are welcomed and given an information/agenda sheet (refer Appendix 1). They are asked to sign in with their name, organisation, and contact details.
- The purpose of the day is explained, i.e. to gather information about their protected area by asking many questions. The answers from all the protected areas in the country will be compiled and presented to CEPA.
- Participants are invited to speak in either (or both) English and Tok Pisin (or their tok ples, if they are unable to communicate in English or Tok Pisin).
- Participants are issued with a METT questionnaire to be used as a reference paper, rather than a form to be filled in. The participants can keep the METT booklet at the end of the session. This provides a reference tool that can assist the customary landowners in their decision making in relation to improving protected area management effectiveness.
- The facilitator, recorder, and participants from one protected area sit around a table, and the process of completing the questionnaire begins.
- First, there is a brief discussion of the values of the protected area. Participants are asked: What are the important things about your land/sea that you want to look after? or Why did the customary landowners decide to create a protected area? Participants can express these values in sketches or drawings. The group is invited to explain their drawing about values. This explanation is important for participant awareness-raising. The sketches are photographed as a record of the values and then inserted into the protected area summary document, and the participants are able to take their visual summary back to their community.
- The facilitator discusses the relevant concept (e.g. about threats or condition and trend) and then asks the specific METT questions. The participants discuss the answers and agree on a consensus response, which is entered on a digital data sheet by the recorder. The role of the facilitator is to initiate discussion and ensure that the participants fully understand the nature of the question. This facilitation enhances consistency and the validity and reliability of results across multiple groups and multiple facilitators/recorders. It also enables the recorder to capture the discussion, thus providing rich contextual information to provide a rationale for the score or answer.

- The participants work through the METT questions at their own pace. This enables the group to focus on the issues that are most relevant to their protected area and to spend less time on issues that are not important to them. This enhances the integrity of the process and is time effective.

Workshop follow-up

All recorded data are returned to the participants for checking. Participants are encouraged to circulate the data sheets and summaries among their communities to enhance data reliability. In some communities, extensive consultation was arranged to discuss responses with a much wider group of people, often including women and district officials. This consultation enhanced the reliability and validity of the responses and minimised the level of bias in the results.

Follow-up acknowledgement, with a copy of the workshop assessment for checking, is basic good practice and shows respect. Enquiries and requests from participants after the workshops should be answered as soon as possible. Copies of final reports should also be sent to all groups who take part in the assessments.

Compiling and analysing results, and report writing

Data are checked and entered into spreadsheets as soon as possible after each workshop. Various formats for data entry are possible: we used simplified Word versions of the questionnaire, formatted so that entries could be easily copied into Excel. It is important to establish data entry methods and protocols, including data checking, before rolling out an assessment program. To ease later analysis, each protected area was given a unique identifying number, which should appear on every data sheet.

Summaries have been produced for every protected area. It became clear that while the METT data sheet contained important and detailed information, it was not in a user-friendly format. We devised a consistent format for the summaries (Appendix 3), and this format was reviewed and agreed to by CEPA staff. The summaries for each protected area were based on the METT data sheet and some relevant additional information.

The overall report includes analysis and synthesis of all the completed questionnaires. As well as graphs and tables summarising the findings, the report highlights many quotes and recommendations from participants. It attempts to give a voice to the many customary landowners who have given their time and energy to the assessments but also to protected area management over many years.

Making a difference

Management effectiveness evaluations are only useful if people listen to the findings and make a real effort to improve the situation on the ground. In PNG, where most protected areas are struggling to reach even basic management standards, it is critical that this evaluation is taken as a serious indicator of both issues and opportunities.

Assessment limitations and issues

The limitations of rapid assessment methodologies are recognised, because this is a subjective recording of people's opinions and ratings. The PNG assessment involved very few site visits to verify the information given in workshops. In PNG, it can take up to a week per protected area for even a quick site visit, and in this case, the logistics were not possible. In time, it would be desirable to include in-depth field checking of each protected area, and this will need to be done as part of the revitalisation and decision-making processes. For some protected areas, it is not clear if all the key people attended the METT workshops, and it is possible that the participants did not provide a true representation of the community views.

However, we believe that questions about most aspects of management effectiveness were answered consistently and accurately, and facilitators worked hard to elicit back-up statements and to probe the ratings given. Estimations of the protected area condition, especially the status of animal species, were given with the least confidence. Participants frequently referred to the lack of monitoring and research and expressed a great desire for more accurate information about wildlife in their area.

The aim of the project was to ensure a diversity of views was expressed at the workshops and to ensure that there was equitable representation of all groups, including women and young people and also associated government and non-government representatives. This inclusion proved difficult to achieve. The workshops were dominated by men, mainly elders within the protected areas. Remoteness and poor transport meant that participants frequently had to make a large commitment in terms of time to get to and attend the meetings. This also affected the composition of the workshops, with women often not being present due to their childminding role and other commitments and tasks.

Due to the failure of protected areas management systems over several decades and the dismantling of many NGO support projects, there was often little historical knowledge concerning the establishment of the protected areas and their primary purpose. The withdrawal of many NGOs from the protected areas also meant that there was little information on previous projects, including research, monitoring, education, and awareness raising.

Lack of engagement with provincial and local level government often resulted in little or no participation of these sectoral groups at the workshops.

There is a range in the quality of the information recorded, and this outcome was influenced by both the facilitator and the recorder.

Conclusions

The methodology has now been implemented in more than 60 existing and proposed protected areas in PNG. The PAME assessments using the PNG-METT were found to be a valuable step in establishing effective management in PNG protected areas. Refer to Table 3 for an assessment of how well this methodology performs against the PAME principles. However, the methodology will only prove useful if the information obtained is used to develop workable future policies, resources, procedures, and actions on the ground.

TABLE 3: Estimation of the PNG-METT's performance against the eight PAME principles

PRINCIPLES	PROGRESS IN THE PNG PAME
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	An effective management cycle has not yet been established in most PNG protected areas. This is the second PAME assessment in PNG after a ten-year break, and the findings of the first assessment were not incorporated into management. However, because there is a high level of commitment now within the PNG Government and CEPA to improved management, it is hoped that this methodology can be a part of effective management in the future.
Practical to implement within available resources, giving a good balance between measuring, reporting, and managing	The methodology is relatively simple and practical to implement. It requires a minimum of a one-day workshop with two facilitators: one to lead discussions and the other to take detailed notes. CEPA staff are being trained to lead the process in the future. Support for travel is the primary cost. Field visits into the protected area to better evaluate condition and trend would be desirable where possible.
Useful and relevant in improving protected area management; yielding explanations and showing patterns; and in improving communication, relationships, and awareness	The PNG-METT as applied in the field leads to a good basic understanding of the values and current status of management of the protected area. It provides a good basis for moving forward and improving management. The process is also important in re-establishing cooperative working relationships among partners including Management Committees and CEPA.
Logical and systematic: working in a logical and accepted framework with balanced approach	The methodology is based on the IUCN-WCPA Framework and the METT, both of which are well established and logical.
Based on good indicators, which are holistic, balanced, and useful	Indicators include all the elements of the management cycle as well as the primary themes of management. Additional questions relating to values and outcomes improve the balance of the original METT.
Accurate: providing true, objective, consistent, and up-to-date information	The workshop process aims to ensure that information is as accurate and objective as possible. While the information is qualitative and much of it is subjective, it is the best that can be compiled within a modest budget. It is desirable to complement this with field visits and other information sources where possible.
Cooperative and participatory: with good communication, teamwork, and participation of protected area managers and stakeholders throughout all stages of the project wherever possible	The workshops process is critical to develop cooperative and participatory relationships.
Focussed on positive and timely communication and application of results	Participants can take away their completed assessments and their written or drawn values for their protected area, to give them immediate feedback on their results. Results from individual protected areas are also made available to CEPA after each workshop, and the overall report can also be compiled soon afterward.

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APPENDIX ONE
Detailed Workshop Process

REGISTRATION: *START: 8.15AM*

Participants welcomed to the venue and asked to sign in to the workshop; provide their name and contact details; attach name tag. (Provide participant information sheet and name tags)

End: 8.30AM

WELCOME AND INTRODUCTIONS: *START: 8.30AM*

Participants are asked to introduce themselves - Participants state their name and role in relation to the protected area under review.

End: 8.45AM

PART 1 BASIC INFORMATION ABOUT YOUR PROTECTED AREA: *START: 8.45AM (10 MINS)*

You were provided with Part 1 of the Assessment Questions. The purpose here was to check the information that was already entered and to fill in any blank spaces. I will collect the sheets at the end of the day. Please talk with us throughout the day if you have any particular concerns or issues about any of these questions.

PART 2: PROTECTED AREA VALUES: *START: 8.55AM (1 HOUR)*

I want you to think about why your protected area is important. What do you see as its main benefits or values – I want you to think about the benefits for the community, the country, and the world. (Prompt e.g. protecting catchments and your water supply, protecting important animals and plants so that they continue to provide food, and good places for gardens, and protecting your culture, traditions and place so that it will be in the same condition or better condition for your children and their children, etc.). Collate your ideas in images and/or words and put on the A3 sheet of paper.

Post your story/images on the wall, and I will ask a representative to talk about your story.

Facilitator views the pictures/drawings and listens to the discussions and lists key values on the flip chart, prior to participants entering the key values in their workbooks. The recorder takes detailed notes on the stories/descriptions provided by the participants.

Photo taken of participant drawing(s).

(Note: this list will be used in the final session (Part 5) where the condition and trends in the values are identified.)

MORNING TEA *10-10.15AM*

PROTECTED AREA CHECKLIST OF BENEFITS: *START: 10.15AM (30 MINS)*

We are still thinking about protected area values in this session. But this time there is a list of values identified in Table 3. I want you to think about how important each of these is in relation to your protected area. You need to identify if it is very important, or not important, or somewhere in between. You are also able to indicate if you don't know how important the statement is. You can only select one response for each value statement. These are standard questions that are asked around the world of all protected areas.

The recorder notes any discussion in relation to the statements provided by the participants.

PART 3: PROTECTED AREA THREATS: *START: 10.45AM (1 HOUR 45 MINS)*

We are now going to think about the threats that may affect your protected area. Please look at Table 4 and you will see a list of 12 possible threats. We need to rate the seriousness of these threats as High, or Medium or Low, or as Not Applicable to your protected area. Let's start with the first category that deals with residential and commercial developMent within the protected area.

We can have only one answer, so you need to reach an agreement as to whether it is H, M, L or NA.

Explain the rating scale present in the booklet to ensure consistency in the results across all protected areas.

The recorder will take note of any comments that you make about each threat, so that more information is provided to the government.

Table 5: Now that we have discussed the standard set of threats, I want you to think about which threats are the worst. We need to identify three threats and rank them starting with the most serious or significant threat to your protected area.

LUNCH *12.30-1.00PM*

PART 4: MANAGEMENT ASSESSMENT QUESTIONS: *START: 1.00PM (2 HOURS)*

In this next session, there are 30 issues to discuss and decide on. All of the issues have four criteria (or responses). You will have to decide which one of the criteria best reflects your protected area. Let's start with number 1. Legal status. Either select to complete 1a or 1b.

Start with the 4th criterion for 1a or 1b – the protected area has been formally gazetted. (It is unlikely that further comments should be needed for this issue)

Continue with the remaining issues (to be completed).

AFTERNOON TEA *3.00 – 3.15PM*

PART 5: CONDITION AND TRENDS OF PROTECTED AREA VALUES: *START: 3.15PM (1 HOUR)*

This is the last part of the assessment process – we are nearing the end. Go to Table 2 and copy five of the key values that you have listed and enter them in Table 7. Then tick the appropriate column for the condition and trend of that key value. Then make a short comment about why you scored it that way.

Recommendations: We have discussed many issues today. As your final task, we would like you to think about three things that would help to make your protected area better.

CONCLUSION: *START: 4.15PM (15 MINS)*

Revisit Table 1. Does anyone have any changes to include in Table 1?

Are there any issues or questions that you would like to revisit now that you have completed the assessment task?

I would like to thank you for your participation at this important workshop. If you would like, please take your image of the protected area values back to your community and they can perhaps discuss some of this with you.

Final task for Facilitator and Recorder: Start after participants have left.

Please sit together and discuss what you would consider to be the main strengths in relation to the protected area. Please insert these onto the data record sheet.

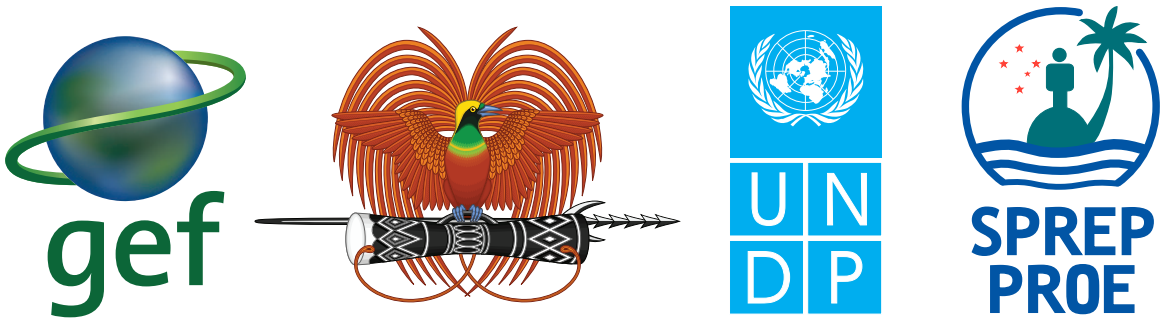
Please also consider what you think are the main challenges faced by the protected area. Please insert these onto the data recording sheet.

END: *5PM*

APPENDIX TWO

PNG-METT

The Protected Areas Management Effectiveness Tracking Tool for Papua New Guinea



Using the PNG-METT

This booklet will be completed in a workshop by the people most involved with the management of the protected area. An experienced facilitator and note-taker will be present to make sure that the participants understand the questions and that all the details are recorded. Workshop participants can take away this booklet with their notes, scores, and drawings at the end of the workshop.

PNG-METT consists of five parts:

- Part 1 records details about the protected area and the people filling out the form
- Part 2 looks at the values and benefits of the protected area
- Part 3 is a checklist of the threats to the protected area
- Part 4 includes 30 questions about management of the protected area
- Part 5 assesses the current condition of the protected area and the trend (is it getting better or worse?)

Final Assessment Version 2016

Prepared by Fiona Leverington, Ann Peterson, and Gregory Peterson

On behalf of the Secretariat of the Pacific Regional Environment Programme (SPREP)

For UNDP and the PNG Conservation and Environment Protection Authority (CEPA).

Based on the 'METT':
Stolton, S., M. Hockings, N. Dudley, K. MacKinnon, T. Whitten and F. Leverington (2007) Reporting Progress in Protected Areas – A Site-Level Management Effectiveness Tracking Tool: second edition. Gland, Switzerland: World Bank/WWF Forest Alliance published by WWF.

Citation

Leverington F., Peterson A. and Peterson G. (2016) PNG-METT: The Protected Area Management Effectiveness Tracking Tool for Papua New Guinea. Port Moresby, PNG: SPREP, UNDP and CEPA.

PART 1

Basic information about the protected area

This information is really important so that people in later years can contact you for more information, if needed. Please fill out all the boxes.

TABLE 1: Protected Area Information

Name, organisation and contact details for person(s) responsible for completing this form – Person 1: ***Name, Organisation, Address, Email, Phone***	
Person 2: ***Name, Organisation, Address, Email, Phone***	
Today's Date	
Name (or names) of protected area	
Size of protected area (ha)	
PNG Code or number	
World Database of Protected Areas site code (codes can be found on www.unep-wcmc.org/wdpa/)	
Protected Area Designation: What level or kind of protected area is it? (National Park, Wildlife Management Area, Sanctuary, Reserve, Locally Managed Marine Area etc.)	
IUCN Category	
International protected area? e.g. World Heritage or Ramsar	
Country	
Province/s	
District/s	
Local level governments	
Ward/s	
Nearest big town	
Location of protected area (brief description)	
Map references	
When was the protected area gazetted or formally established?	
Reference for gazettal or Memorandum of Understanding (MoU)	
Who owns the protected area? (please tick) If a Customary landowner, please indicate the relevant Clans.	Government Community / Customary landowners Private Other (name)
How many households live within the protected area?	
What is the population size within the protected area (please indicate, if known)	
Who manages the protected area? (e.g. government, customary landowners [which clans], management committee [number, gender])	
Total number of staff (this means anyone working on the protected area in paid jobs – whether NGOs, community, rangers or customary landowners)	
Temporary paid workers	
Permanent paid workers	
Annual budget (US$) – excluding staff salary costs	
Operational (recurrent) funds	
Project or special funds	

Why was the protected area established?	
What are the main values for which the area is designated (Fill this out after Part 2 of the METT is completed)	
List the primary protected area management objectives (Fill this out after Part 4 is completed): *Management objective 1*	
Management objective 2	
Management objective 3	
Total number of people involved in completing or answering the questions in this assessment	
Including organisation: (please tick)	Customary landowners and other community members Environment Authority staff (national) Other national government agency staff Provincial government Local level government Protected area staff (anyone working on the protected area in paid jobs) Non-government organisation Donors External experts Others
Please note if assessment was carried out in association with a particular project, on behalf of an organisation or donor.	

PART 2
What makes this protected area special and important?

Your ideas

Think about the main things that make the protected area valuable and special to Papua New Guinea, to the people who live and work there, and to tourists and scientists. These values might be, for example:

- A plant or animal species
- A habitat or ecosystem such as a coral reef, forest, or grassland
- The gardens or forests where people have been farming and hunting for a long time
- Clean water from the forested hills
- Tambu places, etc.

Discuss these ideas with the other people undertaking this assessment. Please represent these important values or benefits in pictures or drawings (paper will be provided).

When you have completed your drawing, please try to put into words the most important and special values that relate to the protected area (please write these in Table 2 on the next page).

What are the key values of your protected area?

TABLE 2: Protected Area Key Values

No.	**Key values** (e.g. only known breeding area for the PNG Heron)	**Brief description** (e.g. large freshwater wetland areas immediately above high tide provide nesting sites and food for rearing chicks. Island location means no interference from feral animals or from vehicles).	**Note if endangered species or ecosystem (IUCN)**
1			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

Checklist of benefits

This is not meant to be a full assessment of the benefits of the protected area, but an indication of the types of benefits. In Table 3, only include benefits that are compatible with the protected area – e.g. not mining or large development. Please describe the benefit.

TABLE 3: Checklist of benefits

How important is the protected area for each of the listed values or benefits NOW? Tick one box for each	Very important	Important	Not important	Don't know	Comment
1 Biodiversity – the presence of many different kinds of plants, animals and ecosystems					
2 Presence of rare, threatened, or endangered species (plants and animals)					
3 Presence of ecosystems (e.g. wetlands, grasslands, coral reefs, etc.) that are rare because they have been cleared or destroyed in other areas					
4 Protecting clean, fresh water					
5 Sustaining important species in big enough numbers so that they are able to survive here					
6 Providing a source of employment for local communities now					
7 Providing resources for local subsistence (food, building materials, medicines, etc.)					
8 Providing community development opportunities through sustainable resource use					
9 Religious or spiritual significance (e.g. tambu places)					
10 Plant species of high social, cultural, or economic importance					
11 Animal species of high social, cultural, or economic importance					
12 Attractive scenery					
13 Tourism now					
14 Potential value for tourism in the future					
15 Educational and/or scientific value					
16 Maintaining culture and tradition on customary land and passing this on to future generations					

PART 3
What are the threats to the protected area?

What is a threat?

On the previous page, we looked at what is special about the protected area. Now we are thinking about problems in the protected area.

A threat is some problem that damages the protected area and its values. It is also something that the protected area or a part of the protected area does not allow.

Examples

If the action is occurring in the protected area (such as there are community houses and gardens in the protected area) BUT this is not damaging the values, then it is NOT a threat and you tick N/A. But if there is a new settlement or development taking place and people are clearing forest to build the houses, then you might say this is a 'High' threat.

Fishing in a LMMA is not a threat if it can continue over time without hurting the fish numbers.

The threat list

The list of threats on the following pages includes 12 categories (e.g. housing and commercial development, energy production and mining, invasive species, etc.), and within each category, there are several specific types of threat. This list is applied right across the world: this means that people making high-level policies can say which are the worst problems and where; for example, maybe sea level rise and salt water intrusion are worst in Pacific island protected areas.

How to rate the threats

For each of the specific threats that are listed in Table 4 please provide a rating of the significance of the threat in your protected area. Select ONE of the following ratings:

- **High** significance threats are *seriously degrading values*. This means they are badly damaging some value – it might be a kind of animal or plant, or your traditional gardens
- **Medium** threats are having *some negative impact* – they are damaging values but not so badly
- **Low** threats are *present but not seriously damaging values*
- **N/A** where the *threat is not present* in the protected area *or where something is happening but is not threatening the values at all*

Please rate each possible threat type as either of high, medium, or low significance, or not applicable (or not present in your protected area (N/A). Please respond to each threat type listed.

TABLE 4: Protected Area Threats

1. Housing and commercial development within a protected area

Threats from human settlements or other non-agricultural land uses.

High	Medium	Low	N/A	Threat type	Notes
				1.1 Housing and settlement	Only include if this is a threat to the protected area, not just if there is housing in the protected area
				1.1a Population increase in the protected area community	Only include if this is a threat to the protected area
				1.2 Commercial and industrial areas	This means factories, shopping centres, etc.
				1.3 Tourism and recreation infrastructure (e.g. structures)	This is not threats from tourism itself but buildings for tourism, like a new resort or hotel

2. Agriculture and aquaculture within a protected area

Threats to the protected area from all kinds of farming and grazing, including plantations, forestry, and fish-farming.

High	Medium	Low	N/A	Threat type	Notes
				2.1 Customary land owner and community gardens and small crops	Only include if the gardens or if the expansion of gardens threaten your protected area
				2.1a Drug cultivation	
				2.1b Commercial plantations	Such as oil palm or coffee plantations etc. inside the protected area
				2.2 Wood and pulp plantations	Such as timber plantations Inside the protected area
				2.3 Livestock farming and grazing	Only include if this is expanding and/ or is a threat to the protected area values
				2.4 Marine and freshwater aquaculture	Such as fish and prawn farms

3. Energy production and mining within a protected area

Threats from production of non-biological resources.

High	Medium	Low	N/A	Threat type	Notes
				3.1 Oil and gas drilling	Including deep sea mining for oil and gas
				3.2 Mining and quarrying	
				3.3 Energy generation	Such as hydro power plants

4. Transportation and service corridors within a protected area

Threats from long narrow transport corridors and the vehicles that use them.

High	Medium	Low	N/A	Threat type	Notes
				4.1 Roads and railroads (include road-killed animals)	
				4.2 Utility and service lines (e.g. electricity cables, telephone lines)	Include gas pipelines
				4.3 Shipping lanes	Include where fast boats kill dugong, turtles etc. or large ships enter the PA (do not include pollution here)
				4.4 Flight paths	

5. Biological resource use and harm within a protected area

Threats from use of "wild" biological resources including both deliberate and unintentional harvesting effects; also persecution or control of specific species (note this includes hunting and killing of animals). *Only include if the activity is a threat to the protected area values.*

High	Medium	Low	N/A	Threat type	Notes
				5.1 Hunting, killing, and collecting terrestrial animals (including killing of animals as a result of human/ wildlife conflict)	Include if hunting in your area is damaging some wildlife species or there is illegal take of wildlife in the protected area (e.g. by neighbouring communities)
				5.2 Gathering terrestrial plants or plant products (non-timber)	Such as eagle wood, wild fruit etc.
				5.3a Logging and wood harvesting for local/customary use	Including firewood and wood for houses, canoes, etc.
				5.3b Logging and wood harvesting – commercial logging	Loggers
				5.4a Fishing, killing, and harvesting aquatic resources for local/ customary use	Fish, prawns, sea cucumbers, coral, shells etc. – eaten or used by members of the protected area
				5.4b Fishing, killing, and harvesting aquatic resources for commercial use	Fish, prawns, sea cucumbers, coral, shells, etc. – sold commercially or traded at the market

6. Human intrusions and disturbance within a protected area

Threats from human activities that alter, destroy, or disturb habitats and species associated with non-consumptive uses of biological resources.

High	Medium	Low	N/A	Threat type	Notes
				6.1 Recreational activities and tourism	Trekkers damage vegetation when walking off the path; divers break coral; tourists take shells, etc.
				6.2 War, civil unrest, and military exercises	
				6.3 Research, education and other work-related activities in protected areas	
				6.4 Activities of the protected area Management Committee/ managers (e.g. construction or vehicle use)	
				6.5 Deliberate vandalism, destructive activities, or threats to protected area staff and visitors	

7. Changes to natural system

Threats from other actions that convert or degrade habitat or change the way the ecosystem functions.

High	Medium	Low	N/A	Threat type	Notes
				7.1 Fire and fire suppression (including arson)	Includes fire escapes from gardens
				7.2 Dams, hydrological modification, and water management/use	Changes to the way rivers and creeks flow, such as dams
				7.3a Increased fragmentation within protected area	Protected area is broken up by roads, plantations, garden clearings, tourist resorts, new villages, etc.
				7.3b Isolation from other natural habitat (e.g. deforestation)	Protected area is not joined up to other areas of bush any more
				7.3c Other 'edge effects' on park value	Things happening outside (like logging and mining) are causing damage inside the park
				7.3d Loss of keystone species (e.g. top predators, pollinators etc.)	Important animals that used to occur here are all gone now

8. Invasive and other problematic species and genes

Threats from non-native and native plants, animals, pathogens/microbes, or genetic materials that have or are predicted to have harmful effects on biodiversity following introduction, spread, and/or increase.

High	Medium	Low	N/A	Threat type	Notes
				8.1 Pest plants	Weeds that are not native here
				8.1a Pest animals	Not native species (e.g. tilapia, crown of thorns, toads, wild dogs)
				8.1b Diseases such as fungus or viruses that make native plants or animals sick	
				8.2 Introduced genetic material (e.g. genetically modified organisms)	GMO crops

9. Pollution entering or generated within protected area

Threats from pollution and/or excess materials or energy from specific or general sources.

High	Medium	Low	N/A	Threat type	Notes
				9.1 Household sewage and urban waste water	Toilets and waste from local people
				9.1a Sewage and waste water from protected area facilities	Toilets and waste from hotels or resorts or visitor facilities
				9.2 Industrial, mining and military effluents	Pollution and dirty water from mines, road building or factories
				9.3 Agricultural and forestry effluents (e.g. excess fertilizers or pesticides)	Pollution and dirty water from plantations and logging
				9.4 Garbage and solid waste	Left by tourists or from people living in the park
				9.5 Air-borne pollutants	From industries or plantations etc. and from fires
				9.6 Excess energy (e.g. heat pollution, lights etc.)	Includes lights that disturb turtle nesting

10. Geological events

Geological events may be part of natural disturbance regimes in many ecosystems. However, they can be a threat if a species or habitat is damaged and has lost its resilience and is vulnerable to disturbance. Management capacity to respond to some of these changes may be limited.

High	Medium	Low	N/A	Threat type	Notes
				10.1 Volcanoes	Impact on coastal reefs and vegetation and wildlife (ash and lava)
				10.2 Earthquakes / Tsunamis	
				10.3 Avalanches / Landslides	
				10.4 Erosion and siltation / deposition (e.g. shoreline or riverbed changes)	When soil is washed away or too much piles up in the river or beside it.

11. Climate change and severe weather

Threats from long-term climatic changes which may be linked to global warming and other severe climate or weather events outside the natural range of variation.

High	Medium	Low	N/A	Threat type	Notes
				11.1 Habitat shifting and alteration	This may be caused by increased occurrence of drought, or sea level rise (e.g. mangroves shift), etc.
				11.2 Droughts	Some species can no longer grow
				11.3 Temperature extremes	
				11.4 Storms and flooding	
				11.5 Coral bleaching	
				11.6 Intrusion by saltwater	This may include intrusion into gardens or turtle nesting sites
				11.7 Sea level rise	This may cause erosion or localised flooding
				Other (please explain)	

12. Specific cultural and social threats

High	Medium	Low	N/A	Threat type	Notes
				12.1 Loss of cultural links, traditional knowledge and/or management practices	People don't know their land or sea as well any more or don't know the old ways
				12.2 Natural deterioration of important cultural site values	Tambu places or cultural sites are being destroyed by natural things like weather and plants growing up
				12.3 Destruction of cultural heritage buildings, gardens, sites, etc.	Tambu places or cultural sites are being destroyed by people or things like mining, new roads, or logging
				Other (please explain)	

What are the worst threats?

Now that you have finished the threat list, please tell us which three (3) threats are the worst in your protected area. You may include threats that are not included in the list above. Start with the most significant threat.

TABLE 5: Threat ranking

Threat (most significant first)	Threat number or name (copy from Table 4)	Please explain the nature of the threat and what impact is it causing and how to reduce the impacts of the threat.
1		
2		
3		

PART 4

What is the management like in the protected area?

Now we would like you to think about how effective the management of your protected area is. In this part there are 30 issues or categories for you to consider. As with the threat list that we have just completed, these are standard issues that are assessed around the world. However, some of the issues have been modified slightly to better reflect the protected areas found in Papua New Guinea.

Questions and scores:

For each issue, you are required to:

- choose one of four statements or criteria that are presented in the Table 6. The statements match a simple score ranging between 0 (no management or poor management) to 3 (excellent management);
- add comments and explanations to explain why a certain rating has been chosen and where the information came from (e.g. local knowledge or a scientific paper). This provides a reference point and information for the future; and
- consider 'how we could improve management', by suggesting important ways forward. These suggestions can provide an action list of management improvements for follow-up by relevant people/groups. Future assessments can then look at this information and see how much progress has been made.

TABLE 6: Management Effectiveness

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
1a. Legal status *For formal protected areas* Does the protected area have legal status (or in the case of private reserves is covered by a covenant or similar)? **CONTEXT**	The protected area is *not gazett*ed by national, regional or local government	0		
	There is *agreement* that the protected area should be gazetted/covenanted *but the process has not begun yet*	1		
	The protected area is *in the process of being gazetted*/covenanted but the process is still incomplete	2		
	The protected area has been *formally gazetted*/covenanted by national, regional or local government	3		
OR	*Provide details about the gazettal / covenant legislation or deed, including number.*			
1b. Legal status *For community agreements* Does the protected area have legal status (or in the case of private reserves is covered by a covenant or similar)? **CONTEXT**	The protected area has *no formal community agreement*	0		
	The customary landowners have *begun the discussions* about creating the protected area	1		
	The protected area is *in the process of being agreed* to by the customary landowners, but the process is still incomplete	2		
	The protected area has been *formally agreed* to by the customary landowners	3		
	Provide details about the kind of community agreement.			

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
2a. Protected area regulations *For formal protected areas* Are traditional laws or agreements in place to control land or marine use and activities? **PLANNING**	There are *no regulations or traditional laws* or agreements for controlling land and marine use and activities in the protected area	0		
	Some regulations for controlling land use and activities in the protected area exist but there are *major weaknesses*	1		
	Regulations for controlling land use and activities in the protected area *exist but there are some weaknesses or gaps*	2		
	Regulations for controlling inappropriate land use and activities in the protected area *exist and provide an excellent basis for management*	3		
OR	*These are regulations to control or manage the way people do activities like hunting, fishing and gardening in the protected area, as well as outsiders wanting to log, mine or do commercial fishing.*			
2b. Protected area regulations *For community agreements* Are traditional laws or agreements in place to control land or marine use and activities? **PLANNING**	There are *no traditional laws or agreements* for controlling land or marine use and activities in the protected area	0		
	Some traditional laws or agreements for controlling land or marine use and activities in the protected area exist *but there are major weaknesses*	1		
	Traditional laws or agreements for controlling land use and marine activities in the protected area *exist but there are some weaknesses or gaps*	2		
	Traditional laws or agreements for controlling land use and activities in the protected area *exist and provide an excellent basis for management*	3		
	These traditional laws or agreements mean any workable arrangement that controls people doing activities like hunting, fishing and gardening in the protected area, as well as outsiders wanting to log, mine or do commercial fishing.			
3. Law enforcement Can people (eg. staff or customary landowners) enforce protected area rules well enough? **INPUTS**	There is *no effective human capacity/ resources to enforce* protected area legislation and regulations OR community agreements	0		
	There are *major deficiencies* in human capacity/resources to enforce protected area legislation and regulations OR community agreements (e.g. lack of skills, no patrol budget, lack of institutional support)	1		
	There is *acceptable human capacity/ resources* to enforce protected area legislation and regulations OR community agreements *but some deficiencies remain*	2		
	There is *excellent human capacity/resources* to enforce protected area legislation and regulations OR community agreements	3		
	People means anyone who is empowered to work in the protected area (e.g. staff, rangers, customary landowners). Can they make sure that the regulations or agreements are followed?			

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
4. Protected area objectives Is the protected area managed with agreed objectives? **PLANNING**	*No firm objectives* have been agreed for the protected area	0		
	The protected area has *agreed objectives, but is not managed according to these objectives*	1		
	The protected area has *agreed objectives, but is only partly managed according to these objectives*	2		
	The protected area *has agreed objectives and is managed to meet these objectives*	3		
	An objective is an agreement about how the area should be managed – a vision for how it should be. It does not have to written down if people are all agreed.			
5. Protected area design Is the protected area the right size and shape to protect species and habitats of key conservation concern? **PLANNING**	The protected area is *too small or the boundaries are not a good shape*, so it is really *hard to manage* and achieve the vision	0		
	The protected area is too small or the boundaries are not a good shape, but *we are working to make it better*, such as by building links (e.g. agreements with adjacent land owners for wildlife corridors)	1		
	The protected area size and boundaries *do not prevent us from achieving objectives, but could be better*	2		
	Protected area size and the boundaries *helps us achieve the* objectives	3		
	Think about how the protected area works – does it really need to be bigger? Do you need corridors to connect it to other areas? Do you need more of the river catchment or high land in the protected area to protect water quality in your part of the catchment etc.			
6. Protected area boundaries Is the boundary known and demarcated? PROCESS	The boundary of the protected area is *not known by the managers / Management Committee*	0		
	The boundary of the protected area is *known* by the *managers / Management Committee but is not understood and respected by everyone in the area*	1		
	The boundary of the protected area is *known and is respected* by everyone in the area *but is not marked on a map or recorded by GIS*	2		
	The boundary of the protected area is *known and respected* and also *formally recorded by GIS or on a map*	3		
	To be most useful, a protected area is known and understood locally and also by the government so it can be marked on a map and given full protection.			

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
7. Management plan Is there a management plan and is it being implemented? **PLANNING**	There is *no management plan* for the protected area	0		
	A management plan is *being prepared or has been prepared but is not being implemented*	1		
	A management plan *exists but it is only being partially implemented* because of funding constraints or other problems	2		
	A management plan *exists and is being implemented*	3		
	The management plan does not necessarily have to be written, as long as people agree and understand what needs to be done on the protected in the short term and the long term, and work together towards this vision.			
Additional points: Planning				
7a. Planning process	Rights-holders (i.e. customary landowners) and key stakeholders have input into the management plan and can influence it	+1		
7b. Planning process	People review and update the plan regularly	+1		
7c. Planning process	Monitoring, research (including traditional knowledge) and evaluation put information into the planning	+1		
8. Regular work plan Is there a regular work plan and is it being implemented? **PLANNING**	*No regular work plan exists*	0		
	A regular work plan *exists but few of the activities are implemented*	1		
	A regular work plan *exists and many activities are implemented*	2		
	A regular work plan *exists and all activities are implemented*	3		
9. Resource inventory Do you have enough information to manage the area? **INPUTS**	There is *little or no information* available about the protected area to help manage it well	0		
	There is *not enough information* about the protected area to help manage it well	1		
	Information about the protected area is *sufficient for most key areas* of planning and decision making	2		
	Information on the protected area *is sufficient to support all areas of planning and decision making*	3		
	This can be traditional as well as scientific information, but the best is to have all the different kinds of knowledge. The information needs to be relevant to management and available to people managing the area.			
10. Protection systems Are systems in place to control access/ resource use in the protected area? **PROCESS**	Protection systems (patrols, permits etc.) *do not exist or are not effective* in controlling access/resource use	0		
	Protection systems are only *partially effective* in controlling access/resource use	1		
	Protection systems are *moderately effective* in controlling access/resource use	2		
	Protection systems are *largely or wholly effective* in controlling access/ resource use	3		
	This is about systems to control, stop or manage people from outside the area who want to come and take or use the protected area resources. It can include customary landowners being the 'eyes and ears' on the ground.			

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
11. Research and monitoring Is there a programme of management-orientated survey and research work? **PROCESS**	There is *no* survey, inventory or research work taking place in the protected area	0		
	There is a *small amount* of survey, inventory and research work but it is not directed towards the needs of protected area management	1		
	There is *considerable* survey, inventory and research work but it is not directed towards the needs of protected area management	2		
	There is a *comprehensive, integrated programme* of survey, inventory and research work, which is relevant to management needs	3		
	Identify whether this is traditional monitoring systems, or scientific monitoring. In the comments say what is monitored and how.			
12. Resource management Is active resource management being undertaken? **PROCESS**	Active resource management is *not being undertaken*	0		
	Very few of the requirements for active management of critical habitats, species and cultural values are being implemented	1		
	*Many o*f the requirements for active management of critical habitats, species and cultural values are being implemented *but some key issues are not being addressed*	2		
	Requirements for active management of critical habitats, species and cultural values are *being substantially or fully implemented*	3		
	Active management infers that there is a deliberate decision to check and maintain the resources of the protected area.			
13a. Staff numbers Are there enough people employed to manage the protected area? **INPUTS**	There are *no staff* - people paid to work on the protected area	0		
	There are *not enough staff* numbers for critical management activities	1		
	We *would do better if there were more staff* working in the protected area	2		
	There are *enough staff* numbers to manage the protected area	3		
	13a Staff are any people paid to manage the protected area – see 13b for CLOs managing their own land without payment.			
13b. Other people working on the protected area Are there enough people (community or customary landowners) helping to manage the protected area? **INPUTS**	There are *no* community members or customary landowners working to manage the protected area	0		
	There are *not enough* people to do critical management activities	1		
	We would *do better if there were more people* working in the protected area	2		
	There are *enough people* working to manage the protected area	3		
	13 b is about Customary Landowners or other community members who work to manage their own protected area without being paid by anyone.			

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
14. Training and skills Are staff / other people capable and trained to manage the protected area? **INPUTS**	People who work on the protected area *do not have the skills* they need to manage the protected area	0		
	Training and skills are l*ow* relative to the needs of the protected area	1		
	Training and skills are *okay*, but could be improved to better manage the protected area	2		
	Training and skills to manage the protected area are *very good*	3		
	This question is about all the people who work on the protected area, whether they get paid or not.			
15. Current budget Is the current budget sufficient? **INPUTS**	There is *no* money from any source to manage the protected area	0		
	There is *not enough* money and this is a serious constraint to the capacity to manage	1		
	The available budget is *acceptable* but could be further improved so there could be better management	2		
	The available budget is *sufficien*t and meets the full management needs of the protected area	3		
	This is about money from any source – government, NGO, private. In comments, please write where the money comes from.			
16. Security of budget Is the budget secure? **INPUTS**	There is *no* secure budget for the protected area and management is wholly reliant on money that varies from one year to the next	0		
	There is *very little* secure budget for management	1		
	There is a *reasonably secure* core budget for regular operation of the protected area	2		
	There is a *secure* budget for the protected area and its management needs	3		
	Think about whether you are sure there is money to support management over the next 2-5 years. It does not matter where the money comes from. In the comments, write who manages the budget.			
17. Management of budget Is the budget managed to meet critical management needs? **PROCESS**	Budget management is *very poor* and significantly undermines effectiveness	0		
	Budget management is *poor and constrains effectiveness*	1		
	Budget management is *adequate but could be improved*	2		
	Budget management is *excellent* and meets management needs	3		
	This applies to any money used to manage the protected area – are there good processes to make sure the money is used properly? In comments, please write where the money comes from. If there is no budget (Q16), please put NA for this issue.			

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
18. Equipment Is equipment sufficient for management needs? **INPUTS**	There are *little or no* equipment and facilities for management needs	0		
	There are *some* equipment and facilities *but these are inadequate* for most management needs	1		
	There are equipment and facilities, but still *some gaps* that constrain management	2		
	There are *adequate* equipment and facilities	3		
	This applies to staff housing, office, vehicle, boat, GPS, phones, computers and field equipment – anything that might be used in management.			
19. Maintenance of equipment Is equipment adequately maintained? **PROCESS**	There is *little or no* maintenance of equipment and facilities	0		
	There is *some ad hoc* (occasional) maintenance of equipment and facilities	1		
	There is *basic* maintenance of equipment and facilities	2		
	Equipment and facilities are *well maintained*	3		
	If there are equipment and facilities, are they well looked after? Who provides support for this maintenance? If there is no equipment (Q18) insert NA.			
20. Education and awareness Is there a planned education programme about the protected area? **PROCESS**	There is *no* education and awareness programme	0		
	There is a *limited* education and awareness programme (i.e. not regular)	1		
	There is an education and awareness programme but it only *partly meets needs and could be improved*	2		
	There is an *appropriate and fully implemented* education and awareness programme	3		
	This relates to education about the protected area – this could be for local people or for people from further away.			
21. Planning for land use or marine activities Does land or water planning recognise and protect the protected area? **PLANNING**	Adjacent land use planning does not take into account the needs of the protected area and *activities/policies harm the area*	0		
	Adjacent land use planning does not take into account the long-term needs of the protected area, but *activities do not harm the area*	1		
	Adjacent land use planning *partly* takes into account the long-term needs of the protected area	2		
	Adjacent land use planning *fully* takes into account the long term needs of the protected area	3		
	Because this is about planning, the question refers to current and planned future activities – so if a big development is taking place now right on the boundary and you think it will cause massive damage, you might choose a score of 0.			

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
22. State and commercial neighbours Is there co-operation with adjacent land users? **PROCESS**	There is *no contact* between the Management Committee/ managers and neighbouring official or corporate land users	0		
	There is contact between the Management Committee/managers and neighbouring official or corporate land users but *little or no cooperation* on management	1		
	There is contact between the Management Committee/managers and neighbouring official or corporate land users, but only *some co-operation* on management	2		
	There is regular contact between the Management Committee/managers and neighbouring official or corporate land users, and *substantial co-operation* on management	3		
	This question refers to government or private mines, plantations, tourist resorts etc., and not to customary farms and villages and related arrangements.			
23. Indigenous people/ Customary landowners Do customary landowners, who reside or regularly use the protected area, have input into management decisions? **PROCESS**	Customary landowners have *no input* into decisions relating to the management of the protected area	0		
	Customary landowners have *some input* into discussions relating to management but no direct role in management	1		
	Customary landowners *directly contribute to some relevant decisions* relating to management but their involvement could be improved	2		
	Customary landowners *directly participate in all relevant decisions* relating to management, e.g. co-management	3		
Additional points Customary landowners				
24a. Impact on communities/ customary landowners	There is *open communication and trust* between customary landowners (including all clans in the protected area), other stakeholders (e.g. NGOs) and protected area managers (e.g. CEPA, LLG)	+1		
24b. Impact on communities/ customary landowners	Programmes are being implemented to improve community/customary landowners' *welfare*, while conserving protected area resources	+1		
24c. Impact on communities/ customary landowners	Local people/customary landowners *actively support* the protected area	+1		
25. Economic benefit Is the protected area providing economic benefits to local communities/ customary landowners, e.g. income/employment? **OUTCOME**	The protected area *does not deliver any* economic benefits to local communities	0		
	Potential economic benefits are recognised and plans to realise these are being developed	1		
	There is *some flow* of economic benefits to local communities	2		
	There is a *major flow* of economic benefits to local communities from activities associated with the protected area	3		
	In this question, do not include ecosystem services, garden, hunting etc. This is covered in Part 2.			

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
26. Monitoring and evaluation Are management activities monitored, evaluated and acted on? **PROCESS**	There is *no* monitoring and evaluation in the protected area	0		
	There is *some unplanned and irregular* monitoring and evaluation, but no overall strategy and/or no regular collection of results	1		
	There is an *agreed and implemented* monitoring and evaluation system but results do not feed back into management	2		
	A *good* monitoring and evaluation system exists, is well implemented and *used in adaptive management*	3		
	Does monitoring take place and is the information used to help the managers/customary land owners make good decisions for the benefit of the protected area.			
27. Visitor facilities Are visitor facilities adequate? **OUTPUT**	There are *no* visitor facilities and services despite an identified need	0		
	Visitor facilities and services are *inappropriate* for current levels of visitation	1		
	Visitor facilities and services are *adequate* for current levels of visitation *but could be improved*	2		
	Visitor facilities and services are *excellent* for current levels of visitation	3		
	If there are no visitors and no need for facilities, write NA and include a comment.			
28. Commercial tourism operators Do commercial tour operators contribute to protected area management? **PROCESS**	There is *little or no contact* between the Management Committee/ managers and tourism operators using the protected area	0		
	There is contact between the Management Committee/managers and tourism operators, but this is *largely confined to administrative or regulatory matters*	1		
	There is *limited co-operation* between the Management Committee/ managers and tourism operators to enhance visitor experiences and maintain protected area values	2		
	There is *good co-operation* between the Management Committee/ managers and tourism operators to enhance visitor experiences, and maintain protected area values	3		
	If there are no commercial tourist operators, write NA and include a comment.			

Issue	Criteria	Score: Tick only one box per issue	Comment/Explanation	How we could improve management
29. Fees If fees (i.e. entry fees or fines) are applied, do they help protected area management? **INPUTS**	Although fees are theoretically *applied, they are not collected*	0		
	Fees are *collected, but make no contribution* to the protected area or its surroundings	1		
	Fees are *collected, and make some contribution* to the protected area and its surroundings	2		
	Fees are *collected and make a substantial contribution* to the protected area and its surroundings	3		
	If no fees apply to the protected area, write NA and include a comment.			
30. Condition of values What is the condition of the important values of the protected area? **OUTCOME**	*Many* important biodiversity, ecological or cultural values are being *severely degraded*	0		
	Some biodiversity, ecological or cultural values are being *severely degraded*	1		
	Some biodiversity, ecological and cultural values are being partially degraded but the most important values have *not been significantly impacted*	2		
	Biodiversity, ecological and cultural values are *predominantly intact*	3		
Complete Table 7 first and summarise here the condition of most of the values.				
Additional Points: Condition of values				
30a: Condition of values	The assessment of the condition of values is *based on research and/or monitoring*	+1		
30b: Condition of values	*Specific management programmes are being implemented* to address threats to the protected area	+1		
30c: Condition of values	*Activities to maintain key biodiversity*, ecological and cultural values *are a routine part of park management*	+1		
TOTAL SCORE				

PART 5

Condition and trend of protected area values

Key values for the protected area should be copied from Table 2.

Please consider the current state of the protected area values you have identified and rate them using the scale below:

Very good: there is no problem; the protected area is doing well

Good: things are okay although there are minor problems; the value could recover with a bit of help and time

Fair: there are some serious problems affecting the value, and the protected area will need quite a lot of work and time to recover

Poor: the value is really suffering, and the protected area will not recover, at least without a really major effort and intervention.

Don't know: we have no information or knowledge about the value and cannot assess the condition or trend.

Now please consider the trend (or change over time) in relation to each protected area value. Please use the rating scale below:

I Improving: Getting better / recovering

S Stable: Staying about the same

D Deteriorating: Getting worse

TABLE 7: Condition and trend of protected area values

Key value (from Table 2)	Condition					Trend				Information source and justification for Assessment
	Very good	Good	Fair	Poor	Don't know	I ↑	S ↔	D ↓	Don't know	Explain why you scored it that way and how the condition and trend can be improved.

Recommendations or ways forward

As the final task, I would like you to think about all the values, threats, and issues that have been raised and to list three things that would help you to make your protected area better in the future.

TABLE 8: Recommendations and ways forward

1	2	3

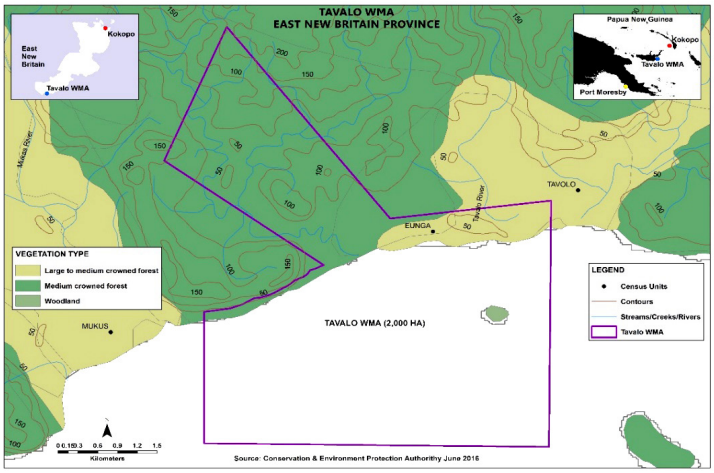
Thank you for your participation in this national protected area management assessment process. We value the time and knowledge that you have contributed to this important task.

APPENDIX THREE
METT summary sheet example

Tavolo Wildlife Management Area

Kopoko District, East New Britain Province

Tavolo WMA consists of marine and terrestrial areas in the New Britain Lowlands biogeographic region, at the southern end of the Nakanai Range, on the island's southeast coast. The terrestrial component comprises a narrow band along the coastline with relatively low elevation (<200 m), that is mostly densely forested, and with several small streams and two rivers which converge before entering the sea. 'The hinterland of the WMA remains untouched because of the surrounding rugged terrain which includes over 400 hectares of undisturbed rainforest' (Mogina 2010). The coastline has white and black sandy beaches and the marine component is extensive, incorporating four islands with coastal species (e.g. *Calophyllum*) and seven fringing coral reefs. Tavolo WMA exists in a relatively pristine state while the surrounding coastal regions have been extensively logged and converted into oil palm plantations. The WMA has been placed on UNESCO's World Heritage Tentative List in recognition of its natural beauty and for the global significance of its extensive subterranean cave system. The WMA is a two-hour boat ride from Pamalmal.



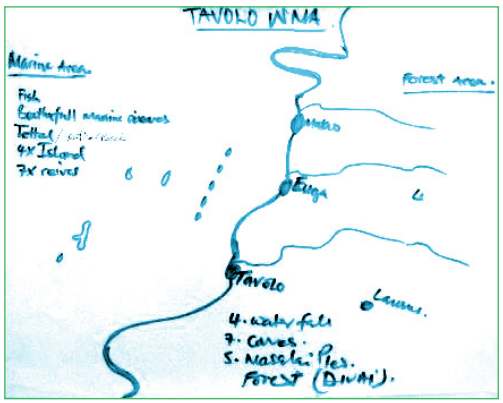
MANAGEMENT OBJECTIVES

- ✓ Conserve and manage the natural environment
- ✓ Develop community infrastructure
- ✓ Promote sustainable community business enterprise

TAVOLO WMA IN BRIEF

- Gazetted 13/11/1997
- 2,400 ha
- Customary land
- Purpose: protect the environment for current and future generations and provide sustainable livelihoods
- More than 1000 people live in the WMA
- Management Committee with strong leadership
- Managed by nine clans: Una, Oio, Rama, Sale, Malkori, Kaikaei, Menem, Lausus Paele, Lausus Sipa
- Some business ventures e.g. guesthouse with five paid staff, sawmill – under Forest Stewardship Certification Programme and women's projects
- Resource centre, but no budget (some project funds) or equipment

Participants' perspective on Tavolo WMA's values and benefits



'The WMA is surrounded by development (a Special Agricultural Business Lease on one side and an oil palm plantation on the other) and the community is working to protect and maintain their forested environment within the WMA. It contains many important species and extends into the offshore waters, where there are four main islands and seven inshore reefs. There are rivers, and our 'life is dependent on the river'. Biodiversity is important for subsistence purposes and for tradition and custom including dances and ceremonies. Traditional rules help to protect the environment, such as seasonal harvesting of reef species, limitations on the take of turtles for ceremonial purposes, and location of gardens outside of the primary forest area.'

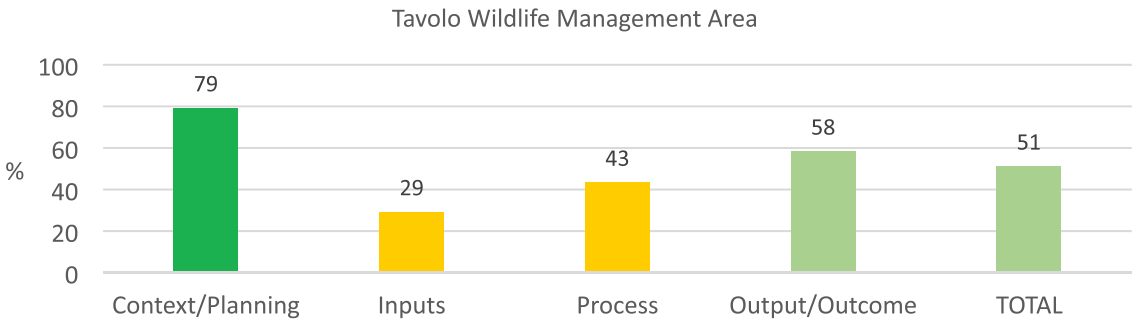
Key Values, Condition and Trend

Value	Condition	Trend	Description
Reef ecosystem	Poor	↓	Leatherback turtle, rare fish, coral; used for subsistence and traditional purposes (e.g. shell money); over-harvesting of resources and decline in reef ecosystemwater
Waterfalls	Very good	↔	Two main waterfalls; provide clean water to the community; quality influenced by increased use
Traditional/ sacred sites	Very good	↑	Restricted places inhabited by supernatural beings; seven caves; traditions are being handed down by the elders e.g. boy/girl houses in place
Forest and biodiversity	Very good	↑	Provide food, building materials, medicine; important species e.g. wallabies, cassowaries, Pomio brown orchid; land use planning maintains the values
Islands	Good	↓	Important for birds nesting and plants; outside entry is diminishing the values and difficult to monitor or limit entry

Threats

Description	Impacts
Road infrastructure (Provincial initiative)	Loss of biodiversity, fragmentation, erosion, and sediment
Oil palm and logging development	Isolated the WMA, pollution of rivers, ocean, land
Mining (prospecting licences issued)	Potential impact on water quality
Population growth	Decline in marine species and reefs
Overharvesting (by outsiders)	Loss of marine species/reefs, timber, and terrestrial spp.
Pest species (e.g. piper tree)	Spreading; drying out of the soil
Coastal erosion	Shoreline retreat
Climate change (sea level rise, storms, flooding, coral bleaching)	Shoreline retreat, loss of gardens, soil, coastal erosion, loss of coral

Protected Area Management Effectiveness – Summary of Results



Evaluation – key findings

Element of evaluation	Result
Context/ Planning	■ The WMA is large with lowland forest in very good condition, although surrounded by oil palm development ■ Traditional Resource Management Plan (2009) with agreed objectives (three) - traditional rules are known and practised and provide a good basis for management (e.g. resource extraction at certain times and for ceremonies, and a small scale timber mill, which is recognised by the Forest Stewardship Council) ■ Customary landowners are included in decision making and provide input into plan reviews ■ Outside planning does not effectively consider the needs of the WMA ■ No work plan
Inputs	■ No paid staff, although there is an active Management Committee with the capacity to implement and enforce traditional laws (although outsiders do illegally extract resources) ■ No budget, or fee system, but successful at gaining project funds from several donors ■ Low skill levels, little training, no equipment or resource inventory
Process	■ Boundaries are known and respected, but not formally marked on the ground ■ Customary landowners support the WMA and are engaged voluntarily in the on-ground management of the WMA (e.g. marine environment); strong customary leadership ■ Some contact with commercial neighbours, but limited cooperation ■ No permit system or patrols, limited research, monitoring and education/awareness raising ■ Some community development activities linked to conservation outcomes
Output/ Outcome	■ Some economic benefits flow to the community, some visitor facilities (e.g. guest house, resource centre) ■ Condition of the values in general remains high, with efforts to control threats and maintain biodiversity

Strengths, Challenges and Ways Forward

STRENGTHS	■ **Strong champions** who value the WMA and lead the community to conserve their environment. The Tavolo communities have chosen conservation rather than enter into logging contracts as many surrounding communities have done. ■ **Biodiversity** is important and in relatively good condition e.g. important habitat and nesting site for turtles (leatherback and green), coral reefs, lowland forests and rare Pomio brown orchid, wallabies, bats, cassowaries and pigeons; provides subsistence needs (e.g. fish, terrestrial species, plant material, and timber), and the cultural and medicinal needs of the customary landowners. ■ **Strong traditional practices** in place to control the take of species (e.g. seasonal harvesting rules for take of marine resources) and location of gardens in the secondary forest areas; and to promote culture (e.g. boy/girl houses are important, allowing elders to pass on knowledge such as canoe building and kundu [drum] making). ■ Strong **desire for community development** to improve sustainable livelihoods and quality of life, e.g. women's group runs a sewing group and community hall / guest house. ■ Some income generating activities (e.g. visitor facilities, sale of fish/marine products). ■ Water quality is good and important to sustain the community. ■ High recreational, educational and scientific values.

CHALLENGES	■ **Several threats need management:**
	  ■ edge effects from oil palm development which places several pressures on the WMA (e.g. fertiliser and nutrient runoff, sediment, outsider intrusion).
	  ■ a new road through the WMA is being promoted by the Provincial government.
	  ■ outsiders entering the WMA and extracting resources.
	■ **Overcoming the lack of investment** by the government into Tavolo (e.g. budget, staff, law enforcement, training, equipment, or resource inventory).

WAYS FORWARD	■ **Capacity building:**
	  ■ of the Management Committee (e.g. protected area management, ranger training, business and office skills, work plan, monitoring, resource inventory, marketing, ITm and general organisational skills).
	  ■ of the customary landowners to support their efforts to conserve the WMA (e.g. family planning, understanding the benefits of conservation).
	  ■ of the local community, some of whom illegally enter the WMA and extract resources.
	■ **Facilitate the exchange of ideas** with other protected areas in PNG or elsewhere to enhance the management outcomes for Tavolo.
	■ **Increase government investment in all areas** (e.g. resource inventory, planning and management, monitoring, evaluation, enforcement, research, education, and the development of economic enterprises). This could be based on a trust fund (transparent and accountable).
	■ **Improve communication and awareness** of the diverse stakeholders engaged in Tavolo e.g. commercial landowners, Provincial and Local level Government, and CEPA.
	■ Continue to access **funding** (from multiple sources) to enhance sustainable livelihoods, quality of life and conservation outcomes.
	■ Develop **recreational opportunities** through liaison with government and commercial operators.
	■ Continue to pass on **customs and traditions** to the younger generations to ensure ongoing support for and benefits from the WMA.

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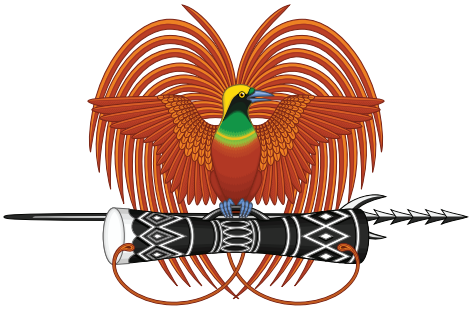

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