Assessing Conservation Benefits of Protected Areas

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Table of Contents

Background

The establishment of protected areas on land and sea has become a commitment by Palau states in order to effectively manage Palau's natural resources. Due to the increasing pressures that negatively affect natural resources, effective management has often become the main focus of not only resource managers, but as well as relevant stakeholders, including the state and national government. In 2011, PICRC in collaboration with The Nature Conservancy developed an excel based questionnaire or Marine Protected Area Management Effectiveness Tool (MPAME), that would be used for assessing the management effectiveness of protected areas. Because the desired outcomes of protected areas should translate into benefits for people, an extension of the MPAME tool was created to characterize and quantify benefits of protected areas. Since then, this tool has been used in about 7 sites in Palau, and continually throughout different protected area sites across Micronesia.

In 2013, PICRC worked with a subset of the Palau Socioeconomic Working group to determine general categories of protected area values that are relevant to Palau. Based on a series of meetings with the Palau Socioeconomic group, 6 protected area values were decided upon to be the most relevant and significant values provided by protected areas in Palau. See figure below.

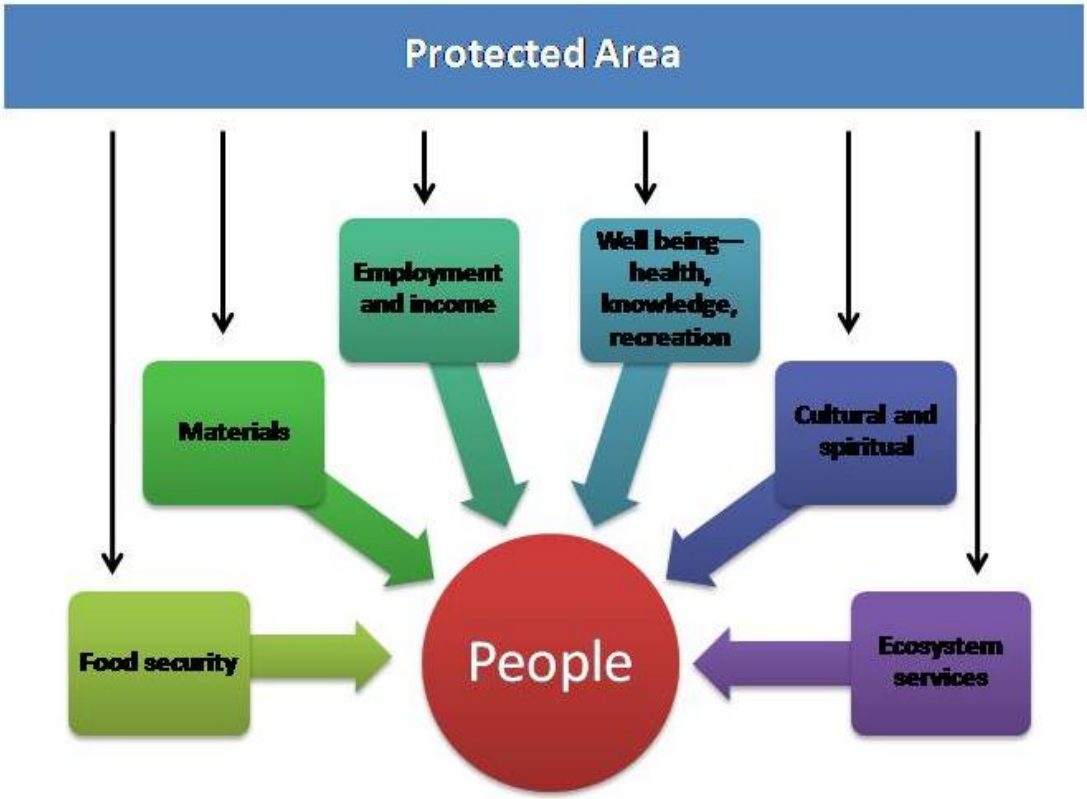

Fig.1. Protected Area Values or categories that were used as a basis for creating the Conservation Benefits Tool

These values were then used to create a pilot conservation benefits extension tool, that aims to characterize and quantify benefits of protected areas. Questions were created under each category in order to generate a possible scoring system that would measure benefits of protected areas. With the aim of assessing benefits of protected areas, the conservation benefits tool was tested for the two protected area sites in Palau which are the Helen Reef Managed Area and the Koror State Southern Lagoon Managed Area. Each meeting was facilitated by PICRC staff, and both groups were required to collectively answer questions under each of the respective categories. Outlined in this report is the summary of the results and recommendations for the revised version of the conservation benefits extension tool.

Methodology

As an extension to the Marine Protected Area management effectiveness tool (MPAME), a similar excel based questionnaire was created to assess the conservation benefits of protected areas. As a pilot study, questions were created based on six protected area values that were considered most important and relevant for Palau by the Palau Socioeconomic Measures working group based on a series of meetings and workshops. Only 5 out of these 6 protected area values were assessed for this pilot study, as health, knowledge and recreation were considered to be measured through different sectors. These 5 protected area values or benefits are Food security, Employment and income or livelihood, cultural and spiritual and ecosystem services. Although water falls under food security, it was separated as an individual protected area category by the Palau Socioeconomic group, because it is an important resource that can stand on its own. Under each of the categories, questions were created with the aim to assess whether the protected area (s) provided any conservation benefits to its direct resource users. The top three threats were also determined and ranked for each of the specific categories in the excel questionnaire. The main facilitator interpreted each of the questions, and the group respondents were responsible for discussing amongst themselves and collectively providing an answer for each question. All questions were created based on the idea that after this pilot study, facilitators would be able to determine or propose a possible scoring system for each of the respective categories as well as make revisions for the initial set of questions.

Site Selection

Two sites were selected for this pilot study in assessing conservation benefits of protected areas. Both sites were selected because they earned the highest management level scores for

from previous MPAME field testing, and because they have relatively more developed protected area programs. The first site is the Helen Reef Managed Area, a marine protected area located in the southwest islands of Palau. It is traditionally owned by the people of Hatohobei community, and has a total area of 163 square miles. The second site that was assessed is the Koror State Southern Lagoon Managed area. It is composed of different types of conservation areas with varying levels of regulations including popular dive sites. It is locally managed by the Koror State Government.

Results

Protected area value 1: Water

The two sites that were assessed were marine protected areas, therefore the water section was not a relevant protected area value to be assessed. Although water as a protected area value was not assessed, participants from both groups reported that water quality and quantity is an important value that needs assessment in terms of conservation benefits.

Protected area value 2: Food Security

In terms of food availability and accessibility, both Koror and Helen Reef groups answered that they perceive a change in the abundance of food fish and edible invertebrates in or around their protected area (s). Both groups also answered that their conservation area (s) have increased the abundance of food fish and invertebrate and that this increase affects the accessibility of food fish and invertebrates for their communities.

Protected area value 3: Livelihood

Based on the answers provided by the Koror and Helen Reef groups, management of the protected area is of major importance for employment in both communities. In relation, employment of protected area staff is of major importance for the economies of both communities. Similarly, both groups reported that the protected area is also of major importance for tourism and recreation as well as a major importance as a source of revenue. In terms of income related activities, both groups reported that their protected areas have a positive effect on their income due to greater fish catch, and where relevant farming harvest. Additionally, the Helen Reef group reported their goal in the next five years of allowing commercial fishing for community members to allow for an expected increase in income for their community.

Protected area value 4: Cultural & Spiritual

Both groups reported that their protected area (s) has or includes sacred natural sites or landscapes (e.g. sacred groves, waterfalls and/or mountains. The hunting of wild game is permitted only in some of the Koror protected areas, while the use of wild food or medicinal plants is permitted in both Koror and Helen Reef protected areas. Traditional agriculture (i.e. use of locally adapted crops (landraces and/or practices) is undertaken legally in both protected areas, and both groups answered that they are able to access, carry out or apply those cultural or spiritual values pertaining to their protected areas.

Protected area value 5: Ecosystem Services

A total of seven ecosystem services ranging from Climate regulation to biological processes were presented to the Koror and Helen Reef groups. Each group was assigned 20 marks to be distributed amongst all 7 ecosystem services based on the level of priority or importance of each ecosystem service. Below is a summary of how each group ranked the ecosystem services provided by their protected areas.

Table 1. Ecosystem services ranked by level of priority for Helen Reef Managed Area and Koror State Southern Lagoon Area

Site	Climate & Gas Regulation	Disturbance Regulation	Water Regulation & Supply	Erosion control & Sediment Retention	Soil formation & Nutrient Cycling	Waste Treatment	Biological Processes
Helen Reef Managed Area	** (2)	***** (5)	n/a	**** (4)	** (2)	n/a	******* (7)
Koror State Southern Lagoon Managed Area	** (2)	*** (3)	n/a	*** (3)	**** (4)	** (2)	****** (6)

Table 2. Top three threats to each specific category for the Helen Reef Managed Area and Koror State Southern Lagoon Area

Top Threats	Helen Reef Managed Area	Koror State Southern Lagoon Managed Area
Water	N/A	N/A
Food Security	• Distance of the protected area, transportation costs related to accessing the resources • Illegal fishing practices (e.g. Dynamite fishing, poaching) • Climate change impacts (Sea level rise, bleaching etc)	• Unsustainable fishing practices (increasing demand for commercial purposes) • Unmanaged sewer and waste disposal • Natural disasters such as storm events
Livelihood	• Distance from markets for commercial fishing for community members • Lack of available data for management to determine sustainable catch	• Lack of buyers for community members fish catch, fishing monopoly with buyers • Tourism related activities (e.g. a decrease in tourist arrivals) • Climate-related threats (i.e. Coral Bleaching, beach erosion, higher frequency of storm events)
Cultural & Spiritual	• Climate change • Regulations that interfere with traditional practices • Loss of traditional knowledge	• Culturally insensitive legislations and policies • Unregulated activities (i.e. tampering with cultural artifacts etc) • Lack of information/awareness on cultural and spiritual values of protected areas
Ecosystem Services	N/A	N/A

Issues, Challenges and Recommendations

Some of the major issues during the field testing of the conservation benefits tool included developing a consistent scoring system for quantifying different protected area benefits. Because protected area values or benefits may vary greatly among sites, the nature of conservation benefits of protected areas make them difficult to quantify. In addition, consistent interpretation of the questions by facilitators needs to be in place, as well as ensuring that future assessment teams are more diverse and representative of the protected area community. It is also noted that along with consistent facilitation, a co-facilitator must provide documentation on the discussions that take place amongst group members as well as how each group decided on their collective answers. For the revised conservation benefits tool, it is recommended that protected area benefits be categorized into indirect, direct, tangible and intangible benefits in order to gain more understanding on the benefits of protected areas.

Attachment 1

Site 1: Koror State Southern Lagoon Managed Area Venue: Palau International Coral Reef Center, Kedarm Conference Room Date: January 16, 2014 Time: 5-8 PM		
No.	Name	Occupation
1	Princess Blailes	Koror State Protected Area Network Coordinator
2	Michener Besebes	Procurement Tech.
3	Jennifer Olegeriil	Koror State Government (KSG) Ranger Chief
4	Ilebrang Olkeriil	KSG Coastal Management Officer
5	Travis August	KSG DPW Technical Assistant
6	Bethwel Emul	KSG Cultural Division P-Coordinator
7	Seth Techitong	KSG Building and Zoning
8	Kenny Reklai	Koror State Youth Committee President
9	King Sam	Special Assist. to the Minister, Ministry of Natural Resources, Environment and Tourism

Site 2: Helen Reef Managed Area Venue: Helen Reef Resource Management Program Office Date: January 17, 2014 Time: 9-11:30 AM		
No.	Name	Occupation
1	Rosania Victor	Helen Reef Resource Management Program - Program Manager
2	Stella Patris	HRRMP - Board Member
3	Monica Bismark	Hatohobei Organization for People and Environment (HOPE)
4	Tracy Marcello	HRRMP - Administrative Assistant
5	Gloria Patris	HRRMP - Education and Awareness Officer
6	Charley Patris	APPC Assistant Coordinator
7	Wayne Andrew	HRRMP - Board Member/ One Reef