

**South Pacific regional workshop on
economics and Marine Protected Areas
Suva, Fiji
26-30 may 2008**



Workshop proceedings

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Supported by:



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Background and objectives

The South Pacific regional workshop on economics and Marine Protected Areas was staged in Suva, Fiji from 26-30 May 2008.

Organization

The Congress was organized through a Committee comprising representatives of CRISP, IUCN and SPREP.

Workshop general objective

- Develop economic assessment tools adapted to Pacific marine ecosystem management processes and dynamics.
- Improve valuation methods for MPA economic impacts analysis.
- Initial selection of several pilot sites to realise an economic valuation of MPA impacts (from September 2008 to December 2009).

Specific objectives

- Get an overview about what was done so far in other parts of the world in terms of successful stories (results of valuation studies, example of successful MPAs with balanced budgets, etc.) and look at the situation in the Pacific in terms of past studies, gaps and specificities to be considered;
- Define Pacific stakeholders/managers' expectations from economic valuation studies and define the type of studies needed to meet these expectations;
- Improve valuation methods for MPA impacts on provisioning, regulating and supporting services and assess decision tools for the Pacific situation with an input of experts in ecology, social science, economy, etc:
 - i. Look at a potential typology of MPAs in the Pacific in order to adapt the valuation process and scenarios projection to the local needs and characteristics;
 - ii. Update general models of South Pacific ecological processes, ecosystem services and human drivers trends.
 - iii. Identify principal uncertainties of models and quantification treatment;
 - iv. Get a consensus about valuation method approaches adapted to local context and local difficulties;
 - v. Assess the application of benefit transfer valuation method for Pacific region and evaluate the potential of standardized parameters;
 - vi. Evaluate the CBA, MCA and other decision tools coupled with a benefit distribution approach
 - vii. Estimate new valuation methods and new variables for externalities.
- Discuss about pilot sites selection for the implementation of selected studies. Estimate human interest and financial implications.
- Define the process to be implemented in order to insure the success of the following steps after the valuation and CBA studies (Business plan, M&E, transfer of information to policy-makers, managers, stakeholders; training needs; financial needs for promoting incentives for implementing successful tools; etc.)

Publicity and Promotion

A first public communication was made on March, 2008 to inform of the terms of reference of the workshop. It was addressed to a selected list of more than 100 potential participants belonging to 60 different organizations worldwide. More than 70 answers were received and the workshop benefited of the presence of 30 participants.

A post-workshop promotion strategy is to be implanted through proceedings diffusion in the following Medias:

- DVD sent to participants and selected institutions
- Article in local and official press (Fiji, French government...)
- Announcement in specialized website (Coral Cop, Noep, Reefbase, AERE, ISEE, EAFE...)
- Article in specific newsletters (PENREN...)

Content program elaboration

The technical program was proposed by the implementing team (Nicolas Pascal and Jean Roger Mercier) and revised by the steering committee (Caroline Vieux, Eric Clua and Philippe Gerbault). The following panel of experts was consulted during the objective definition phase: Lucy Emerton (IUCN), Nick Conner (NSW DECC), Dominique Rojat (AFD) and Padma Lal (SPC).

The first result of the previous labours was a draft list of critical issues that should be covered in the Workshop and organized in 9 categories:

- improve economic valuations and MPA Cost-Benefit Analysis (CBA) decision tool adapted to Pacific ecological processes and socioeconomic dynamics;
- insure an efficient ownership by policy-makers, managers and stakeholders of the use and results of economic studies;
- multiply the number of local field surveys;
- regional scale benefit transfer consolidation and standardization;
- identify sources to finance MPAs and improve business plan usage;
- define the standards for economic monitoring and evaluation programme;
- set up of a network of experts in environmental economics;
- strengthen networking with other organizations;
- the training of all key persons involved in the economic folder of MPAs.

As it was not the aim of the workshop to address all the issues before mentioned, decision has been made to put major efforts on:

- Develop economic instruments adapted to Pacific needs and the development of tools to support investment decision (MPA Cost Benefit Analysis in particular);
- Insure efficient ownership by policy-makers to increase the effectiveness and utility of economic tools.
- identify case study sites

The other issues (benefit transfer, M&E, network, training,...) will be partially addressed. In the same way, decision was taken to concentrate most of the efforts on provisioning, regulating and supporting services (use and option values) leaving partially addressed the non-use values.

These decisions were reflected in the draft agenda sent to the participants before the Workshop (3 themes) and a call for presentations was made. Some difficulties (no more than usual) have been met to fit presentations to these specific objectives and extra-work was necessary. As environmental economics is an emerging science it was decided to give the workshop an adaptive component in terms of opened sessions and participants decisions.

The workshop will be followed by a call for proposal aiming at choosing 3 case studies that will be funded under CRISP funding (from CCU and SPREP) and that will be pre-identified during the workshop, based mainly on the representativeness of a typology of Pacific MPA, a request expressed by stakeholders, a methodological and data availability discussion. Each case study will be in charge of a scientific leader and a local stakeholder.

These projects will include scientific publication of the results additional to those derived from the workshop.

The workshop will intent to avoid any duplication and will look for synergies with existing processes (CI/MMAS, ICRI/WRI initiative, IFRECOR initiative).

Partners



Coral Reef Initiatives for the Pacific

The Initiative for the Protection and Management of Coral Reefs in the Pacific, sponsored by France and prepared by the French Development Agency (AFD) as part of an inter-ministerial project from 2002 onwards, aims to develop a vision for the future of these unique eco-systems and the communities that depend on them and to introduce strategies and projects to conserve their biodiversity, while developing the economic and environmental services that they provide both locally and globally. Also, it is designed as a factor for integration between developed countries (Australia, New Zealand, Japan, USA), French overseas territories and Pacific Island developing countries.



The World Conservation Union is a unique Union. Its members from some 180 countries include over 80 States, 111 government agencies, and 800-plus NGOs. More than 10,000 internationally-recognised scientists and experts from more than 180 countries volunteer their services to its six global commissions. Its 1000 staff members in offices around the world are working on some 500 projects. For more than 50 years this 'Green Web' of partnerships has generated environmental conventions, global standards, scientific knowledge and innovative leadership.

"IUCN builds bridges between governments and NGOs, science and society, local action and global policy. It is truly a world force for environmental governance."



Pacific Regional Environment Programme

SPREP is a regional organization established by the governments and administrations of the Pacific region to look after its environment. It has grown from a small programme attached to the South Pacific Commission (SPC) in the 1980s into the Pacific region's major intergovernmental organization charged with protecting and managing the environment and natural resources. It is based in Apia, Samoa, with over 70 staff.

SPREP's **mandate** is to promote cooperation in the Pacific islands region and to provide assistance in order to protect and improve the environment and to ensure sustainable development for present and future generations.

SPREP's **vision** is that people of the Pacific islands are better able to plan, protect, manage and use their environment for sustainable development.

SPREP's unique **focus** is to sustain the integrity of the ecosystems of the Pacific islands region to support life and livelihoods today and tomorrow.

SPREP has 21 Pacific island member countries and four countries with direct interests in the region.

Organizing committee

Eric CLUA Steering committee	CRISP Programme manager, NEW CALEDONIA
Philippe GERBEAUX Steering committee	Chief Technical Advisor IUCN Regional Office for Oceania, FIJI
Caroline VIEUX Steering committee	SPREP Chargée de la gestion des récifs coralliens, SAMOA
Nicolas PASCAL Implementing team	Consultant, SPAIN
Jean-Roger MERCIER Implementing team	Consultant, FRANCE

Participants

The workshop gathered more than 30 participants and was attended by key stakeholders involved in economics and marine conservation in the Pacific from organizations including Conservation International, FSPI, IRD, PIFS, SOPAC, SPC, USP, WorldFish, World Bank as well as government officials from Australia and New Caledonia.

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Workshop contents presentation

The aim of the workshop was to share information between stakeholders and discuss how economic tools could be incorporated into the various stages of regional MPA design and management and can better support sound decision making on coral reef management.

5 principal themes have been approached:

- Theme1: Understand South Pacific MPA specificities and needs from economists
- Theme 2: Economic valuation approach in the Pacific
- Theme 3: Explore specific sectorial economic valuation approach
- Theme 4: MPA financing initiatives
- Theme 5: Call for proposal of case studies in Pacific island countries, where economic instruments can be applied and tested.

In parallel, 2 working group sessions were organized:

- Define a rough South Pacific MPA typology based on issues.
- Describe the different stages of a South Pacific MPA and select adapted economic tools.

The contents and objectives of the working group sessions were defined by the participants during the workshop.

A round-table session was held on the first day to receive participant's expectations from this workshop.

The outcome of this workshop should be the opportunity to reach out, using appropriate approaches and media, to local communities as well as to other key stakeholders with a clear message on the value and limitations of economic instruments applied to the enhancement of marine resources for poverty reduction and sustainable development.

Theme 1: Understand South Pacific MPA specificities and needs from economists

Some presentations refer to the term Marine Managed Area (MMA) instead of Marine Protected Area (MPA) in order to cover more management options.

The workshop proposed and adopted a rough typology of MMAs that will be useful to communicate with the key decision makers (land use planners, coastal zone planners and managers, regional planners, protected area planners and managers, community leaders, sectorial planners in fisheries and environment...)

➤ Presentations :

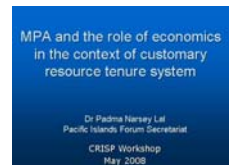
- ***Snapshot of MMAs in the Pacific, Issues and Options – Hugh Govan (Locally Marine Managed Areas - SPREP)***

A brief history of the MMAs in the Pacific and a geographical distribution are presented. Pacific specificities such as food security concern and high biodiversity level are described. Main features identified for the more than 400 censused MMAs were a dominance of community based management MMAs, a small scale approach for most of the MMAs, a food security priority concern, a high cultural diversity and a complex customary resource tenure situation. The low level of national Government funding for the MMA setup or management was acknowledged.



- ***MPA establishment and management and the role of economics in the context of customary resource tenure in the Pacific – Padma LAL (Pacific Islands Forum Secretariat)***

Review of the different environmental economic instruments and decision tools for advocacy, trade-off choices, managing individual uses and governance of customary resource.



Theme 2: Economic valuation general approach in the Pacific

A first output of the workshop was to recognize that so far, very few economic studies on coral reefs ecosystems or MPA initiatives have been carried out in the region and seem to have a very low impact on decision makers or general awareness.

One of the reasons suggested may be the poor adaptation of classical environmental economic studies to the specificities of the MPAs in the region. Another reason suggested is the limited human capacity in this area. Most economic studies for MMAs in the region have so far relied on outside expertise.

Given this context, it was recognized that economic analyses should not simply be presumed to always be necessary or useful to the process of establishing and managing Pacific MMAs. Where economic approaches are identified as being appropriate, these may be adapted and applied in both formal and informal ways. In this sense, an agreement was reached on the role that economic analyses might play for supporting MMAs in the region.

To ensure economic studies are well adapted to Pacific needs and therefore will see their results used, economists may take into account the following points:

- ❖ Priority for economists should be on the development of management and governance economic tools.
- ❖ Communities can conduct thorough cost-benefit analysis without resorting monetary value – some costs and benefits are not quantifiable, but still deserve recognition, and there is scope within MCA methods to do this. The community approach recommends a focus on community economics rather than individual wealth maximization. At the same time the perception of effectiveness of the MMA, a key component in the good governance of the MMA, should be assessed and compared to real effects.
- ❖ Due to budget and time constraints, economic studies may focus mainly on use values (production services such as fishing activities and tourism and support and regulation services) so as to produce incomplete but sufficient results for decision makers. Even if the importance of non-use values of marine resources is widely recognized in the region, its valuation with local communities presents some difficulties due to cultural gaps and implies more complex and expensive studies. Moreover when valued, the non-use values represent between 2% and 10% of the TEV (upon 13 studies carried out in the South Pacific)
- ❖ Awareness-raising studies should include calculations, however rough and preliminary, on the costs of doing nothing and those of pursuing business as usual.
- ❖ Since data are essential for economic valuation and since many data have been collected and unused in the past, data mining is one of the first “low lying fruits” that should be harvested by environmental economists willing to work on MMAs. Some databases are readily available e.g. the PROCFISH data for artisanal fisheries evaluation in more than 17 South Pacific countries, the ReefBase and ReefBase Pacific databases for access to published and grey literature and details of research projects in the region.

➤ **Presentations:**

- ***Gaps in the valuation of marine ecosystems and services, values, and techniques – Helena Naber (World Bank)***

A review of worldwide coastal economic valuation is presented. 30% of coastal economic studies are on Coral reefs and concentrated in East Asian seas, the distribution of ecosystem services by ecosystem types is presented and the valuation techniques employed are broken down. Principal gaps in the valuation results are identified. 80% of the value measured in coral reefs ecosystems is from use values.



- ***Meta-analysis of economic valuation studies in the South Pacific for coral reefs ecosystem – Nicolas Pascal (Consultant)***

Very few economic studies of coral reef ecosystems have been identified in the South Pacific. The breakdown by valuation techniques and sectorial approach is presented. A high variability in the results depending on sites and author is a sign of emerging methodology and require more standardisation.



- ***Assessing the economic value of the Great Barrier Reef Catchment – Robin South and Clive Wilkinson (International Ocean Institute (Australia) Reef and Rainforest Research Centre)***

The economics of the Great Barrier Reef Catchment Area are presented. They estimated a value of A\$6.9 billion to the Australian Economy, with 84 – 87% of this attributable to tourism, with approximately 66,000 full-time equivalent staff employed. The availability of data (tourism, commercial fisheries and recreational activities) allowed an exceptional fine assessment but still present some caveats such as non-use values. The effects of climate change are analyzed. The lessons learnt applicable to PICS were presented.



- ***Techniques for Valuing Marine and Coastal Environments: Experiences from New South Wales, Australia - Nicholas Conner (IUCN World Commission on Protected Areas Economic Valuation Task Force)***

After presenting New South Wales MPAs background, an overview of techniques for valuing natural environments is recorded. 3 case studies with 3 different methods (avoided cost, TCM and Input-Output) are explained. For TCM to calculate recreational value, a AU\$50 pa per visitor of a national park was calculated. The avoided cost method was used for subsistence value estimation of an aboriginal community. (\$AU468-1299 pa for >14y persons). The input-output analysis was used to estimate the economic impacts on local economies. Management and visitors expenditures are described.



- ***PIPA case study: general approach for economic valuation study. Sue Miller (Conservation International).***

The Phoenix Island Protected Area (PIPA) objective and background is



recorded. The economic valuation undertaken covered the fishery resources, has supported the development of the management plan and a long term financing vehicle. A reverse fishery license has been developed based on the opportunity costs identified. An endowment scheme has been set up to finance the opportunity costs. A 50% PIPA closure implies a US\$ 560.000 opportunity annual costs and a US\$ 10M endowment.

- ***Using cost-benefit analysis for improved natural resource management decision-making in Pacific island countries – Allison Woodruff - Pacific Islands Applied Geoscience Commission (SOPAC)***



A short presentation of Cost Benefit Analysis is recorded as well as its use in the decision making process and as a advocacy tool. 4 case studies are presented: Marshall Is. for aggregate mining activities (Estimated cost of building and maintaining coastal protection structures US\$6.5 million over 25 years), Apia with flood management options (BCA assist in promoting value of investments by highlighting long-term payoffs relative to upfront costs), Cook Is. with the implantation of sustainable measures for the pearl farm industry and Fiji with early flood warning systems.

- ***Impact of land based activities on marine resources Cook Island – Marita Manley (Secretariat of the Pacific Community)***



The main impacts of land based activities on the Rarotonga lagoon are presented. A ridge to reef approach for the management plan of land based activities is incorporated and economic damages are identified: higher incidences of ciguatera poisoning, disruption of lagoon ecosystem (algal blooms) and deterrence of tourists. Economic valuation method and issues of these impacts are detailed.

Theme 3: Explore specific sectorial economic valuation approach and new methods

- ***PROCFish/C : actual status of reef resources and their use. Contributions to economic valuation of Marine Protected Areas from a subsistence and small scale fisheries point of view - Mecki Kronen & Franck Magron (Secretariat of the Pacific Community Reef Fisheries Observatory)***

The database developed on small scale fisheries is presented. The collection of socio-economic & resource data (finfish, invertebrates, habitat) in 4 sites in each of 17 Pacific countries and territories will permit to assess the current status and level of reef resource utilization. Observations about fish price mechanisms, sustainability of small scale fisheries and cultural changes are developed.



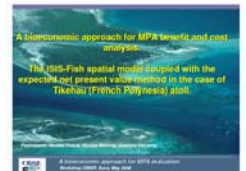
- ***New methods adapted to Pacific: Simplified form of regional input-output analysis – Nicholas Conner (IUCN World Commission on Protected Areas Economic Valuation Task Force)***

Pros and cons of input-output analysis to estimate economic impacts on local economies are presented. A simplified version is proposed to be the base for assessing direct effects when data is limited: for example quantify visitors expenditures on local business activity as a proxy for impacts. Some information sources are described (surveys, economic database,...)



- ***A bio-economic approach for MPA benefit and cost analysis – Nicolas Pascal (Consultant)***

The case of a potential overfishing in Tikehau (French Polynesia) is presented. A spatial-fishery model has been setup to test the impacts of an MPA and other resource management efforts on the fishery local economies. A cost-benefit analysis incorporating biological and economic uncertainties was realised to support the decision. Outputs showed the high sensibility of results to biological uncertainties (such as natural mortality or larval dispersion ratio) and a CBA on fishery effect not very attractive.



- ***MPAs, economic valuation and making tradeoffs: practical examples - Padma Lal (Pacific Islands Forum Secretariat)***

4 case studies of economic valuation used in decision process are presented: choice between wild or cultured live coral & live rock trade for aquarium trade in Fiji, integrated systems waste management: economics or social preference in Tuvalu, Intangible benefits and user charges in Tonga, Economic valuation of conflict resolution/ prevention in Fiji. In 2 cases the total economic cost is estimated including externalities and some critical aspects such as the differences encountered between perception and reality, the use of WTP for charge definition are described. The economic role in helping make informed decisions is recorded.



- ***New valuation approaches: literature reviews - Isoa Korovulavula, University South Pacific.***

The limitations of traditional economic valuation approach are listed and the lack of valuation at a micro level may be critical for the Pacific specificities. More participatory and simplified approach seem necessary in this region. The theory of the methods such as Multi-criteria analysis, Participatory rapid economic valuation, Deliberative Valuation Assessment is presented. The case of LMMA in Fiji may represent an interesting place for trial these techniques.



New Valuation Approaches:
Literature Review

- ***Local bequest values for a traditional fishing ground: Navakavu case study – Tanya O’Garra (Consultant)***

A study to estimate the economic ‘value at risk’ of the ecosystems within the traditional fishing ground in Fiji is presented. One important value identified was the bequest value and a contingent valuation survey was undertaken to estimate it. A WTP of FJ\$6.13/indiv/mnth as well as a willingness to contribute time FJ16,28/indiv/mnth was calculated. Bequest values identified by 78% local community as the most important reason to conserve fishing ground but they represent only 2% of estimated fisheries value.



Local bequest values for a traditional
fishing ground: Navakavu case study

Tanya O’Garra
Consultant Environmental Economist
Institute of Applied Business
University of the South Pacific
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- ***Community Benefits and Community Perceptions of the Waitabu Marine Park, Taveuni, Fiji - Kenneth Mackay (University South Pacific)***

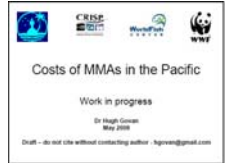
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Theme 4: MPA financing and alternative initiatives

- **Costs of MMAs in the Pacific – Hugh Govan (Locally Marine Managed Areas -SPREP)**

Costs of several community based management (CBM) sites with estimated costs of setup, management and monitoring. The average annual costs from CBM in Solomon Is. are US\$106/km² of mpa, In Palau: US\$132.000/MPA. The breakdown of costs is presented. The scale costs of national networks and the cost effectiveness of monitoring are discussed.



- **Vietnam case study PES, Lindsay Aylesworth (IUCN)**

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- **Supplementary Livelihood Options for Pacific – Etika Rupeni (FSPI) & Tanya O'Garra (Consultant)**

The study objective is to identify the determinants of 'success' of livelihood diversification projects in the South Pacific. Different options may compensate families for initial decrease in catch associated with MMA/MPA establishment and can help reduce impact on fisheries. A review of 10 studies of "lessons learned" from around the world is presented. Main identified determinants of success identified are participatory project implementation, business training and existing market for service/product. The South Pacific situation was analyzed (43 projects documented) with the distribution of project by livelihood type and target group explained and key success factor described.



- **Monitoring of MPAs: Experience from the GCRMN South West Pacific Node, Cherie Wippy Morris & Kenneth Mackay (University South Pacific)**

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- **Supplementary Livelihood Options for Pacific: PCC and bioprospection – Eric Clua (CRISP)**

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Theme 5: Case studies call for proposal

The last day of the workshop was dedicated to the identification of potential case studies in Pacific island countries, where these methodologies can be applied and tested. After the individual presentation of the case study of New Caledonia, a dozen relevant case studies for the potential application of economic instruments to MMAs in the Pacific have been identified during a work group session.

These case studies cover the creation, up-scaling and sustainable management of MMAs and their completion will greatly enhance the knowledge of effective economic instruments in the region. For instance, a cost-benefit analysis of destructive fishing practices in Kiribati, a cost effectiveness of several management schemes for the LMMA network and a cost-benefit evaluation of different scenarios of management in Vanuatu have been proposed.

The limited funding available via the workshops organizers (CRISP, IUCN and SPREP) will be used to develop partnerships for the launching of these case studies. New and other interested parties are invited to participate in the funding of these activities.

- ***New Caledonia's reef (South west coast) case study proposal- Nicolas Rinck (Province Sud, Nouvelle Caledonie).***



A presentation of the ecological and socio-economic characteristics of the site as well as the UNESCO potential inscription is made. Major uses and threats to the ecosystem are identified. The outputs and scopes of an environmental evaluation is discussed with a very high level of quality data. Integration of this study within management plan is evaluated.

- ***Result of the workgroup session about case studies***

Title	Geographic Scope	Objectives
New Caledonia	Country level	Evaluate the present and future values of Coral reef ecosystem services under different scenarios of conservation management. Focus on the impact of the UNESCO inscription.
Solomon Islands	Country level	Value of the coastal fisheries and costs of substitution. Benefit & Cost Analysis of MMAs (contribution to sustainable livelihood).
Tonga	Selected sites in Tonga (AusAID sites)	Management options analysis to provide incentives for the Tonga govt to pursue and/or extend CBM initiatives.
Kiribati	Tarawa	Support new regulations on destructive fishing practices with the help of economic evaluation .

Fiji	Fiji whole island	Upscale at the island level (20 communities) a local TEV analysis and MMA impacts (done on 4 communities)
Socio-eco voices from the village	Samoa, Tonga, Fiji, Solomon Islands	Update the report “voices from the village” with more economics and gap filling. Focus on assessment of the net benefits of different Coral Reef management methods for biodiversity and livelihoods.
Vanuatu	Efate Island	Present and future value of the services of the coastal ecosystems. Benefit & Cost Analysis of MMAs Cost-effectiveness evaluation of Community Based Management.
Upscaling MMAs	LMMA sites	Projection of benefits and costs of a LMMA network. Development of business plan.
Economic tools for the LMMA	LMMA sites	Identify or strengthen economic tools useful to LMMA adaptive management process. Prepare a draft framework to integrate these tools.
User fees and licences for MMAs in Fiji	Local community	Methodologies to determine fair charges in MMAs to be replicable in customary tenure context
French Polynesia	Moorea or Fakarava	Realize a Total Economic Value of the coral reef ecosystems and associated ecosystems. Evaluate the PGEM impact potential.
MMAs and climate change	Pacific regional level	Assess the contribution of MMA in ecological, socio-economic and cultural resilience to climate change. Focus on cost of a network of MMAs compared to the costs of seawalls, building codes and relocation in the context of adaptation to climate change (Samoa, Kiribati...)
Green accounting/ Financing in PNG	Country level	Determine the contribution of biodiversity to national accounts and link it to financing mechanisms.
Regional transfer value	Pacific regional level	Determine transfer value rules applicable to pacific countries

Workgroup session 1: Define a rough South Pacific MPA typology based on issues

Result:

META-GROUP	Subset of issues (non comprehensive)
Sustainable Food Security and Supply	<ul style="list-style-type: none"> • Sustainable (sea)food supply (artisanal, subsistence) • Improved nutrition
Sustainable Net Income Generation and Management	<ul style="list-style-type: none"> • Enhanced cash income (e.g. commercial fishing) • Diversifying sources of income • Enhancing stocks • Developing saving mechanisms • Benefiting from tourism
Enhanced Ecological Conservation	<ul style="list-style-type: none"> • Habitat protection • Helping governments comply with international commitments, • Protecting global goods, • “Bartering” with outsiders • Research in situ ground
Conflict Management and Social-cultural Conservation	<ul style="list-style-type: none"> • Conserving key heritage goods and cultural elements • Improving land (and sea?) tenure • Clarifying and anchoring property rights • Controlling poaching • Conflict management (absentee village chiefs) • Recreation support
Protection against external physical impacts	<ul style="list-style-type: none"> • Controlling water quality (e.g. watershed level) • Controlling coastal erosion • Enhancing resilience to climate variability
Harmonious Endogenous Development	<ul style="list-style-type: none"> • Acquiring and using planning tools

Workgroup session 2: Describe the different stages of a South Pacific MPA and select adapted economic tools.

Result:

Five main possibilities have been identified corresponding to the different stages of the MMA process:

❖ **Pre-establishment:**

Inform decision makers about the benefits of environmental economic valuation tools (use of Total Economic Value, Scenarios) as key elements of response to key decision-maker questions. The key issue is what these key questions are and how decision-makers use the results of the economic analyses.

❖ **Creation and decision support:**

Guide for trade off choices, help define MMA configuration, consolidate MMA up scaling. (Use of Cost Benefit Analysis (CBA), Multi Criteria Analysis (MCA), participatory CBA, cost effectiveness and bio economic models).

❖ **Management assessment at individual and community scale:**

Setting-up business plans, cost optimization, monitoring support (baseline data for CBA), financing design (PES), maximize revenues through user fee (WTP surveys).

❖ **Governance support:**

Support to equity approach through assessment of customary tenure management and institutional economics (property rights, taxes, permits, fees, licences, etc.). Consolidated Community Based Management information and monitoring. Stewardship issues approach.

❖ **Green accounting: inclusion of the value of natural resources in the national GDP.**
Something that has not happened yet at any significant scale in the Pacific.

Round table expectations

Final agenda

CRISP Economic workshop Suva – 26th-30th of May 2008 Final AGENDA

Monday, May 26		Moderator: Eric Clua, Jean-roger Mercier, Nicolas Pascal
Opening session:		
Welcome		Opening from Mr l'Ambassadeur de France à Suva.
CRISP program overview and general context of the workshop		Eric Clua, CRISP
Overview of IUCN and environmental economic valuation		Philippe Gerbault, IUCN
Overview of SPREP and environmental economic valuation		Caroline Vieux, SPREP
Overview of workshop, objectives and expected outputs		Nicolas Pascal, CMIMA-consultant
Overview of workshop, objectives and expected outputs		Jean-Roger Mercier, consultant
Personal presentations and environmental economic valuation initiatives and expectatives in the Pacific (5'each)		Round table. Oral exposure of each organism represented
Theme 1: Understand South Pacific MPA specificities, trends and needs		
Round table workshop objectives		Group session
Lunch		
Snapshot of MPAs in the Pacific, Issues and Options		Hugh GOVAN, CRISP
Pacific MPA specificities and objectives - Discussion		Group discussion
MPA establishment and management and the role of economics in the context of customary resource tenure in the Pacific		Padma LAL, Forum Secretariat
Needs from the Pacific people - discussion		Group discussion
Proposals on agenda and last minute fix		Moderator
Recovery from trip and rest		
Evening:		
Tuesday, May 27		
9h00	Summary and agenda	Moderator:
Theme 2: Economic valuation general approach in the Pacific		
	Gaps in the valuation of marine ecosystems and services, values, and techniques	Helena NABER, World Bank
	Meta-analysis of economic valuation studies in the South Pacific for coral reefs ecosystem	Nicolas PASCAL, CMIMA-consultant
	Assessing the economic value of the Great Barrier Reef Catchment Area	Robin SOUTH, International Ocean Institute
	Techniques for Valuing Marine and Coastal Environments – Experiences from New South Wales, Australia	Nicholas CONNER, NSW Department of Environment and Climate Change
	PIPA case study: general approach for economic valuation study.	Sue TAEI, Conservation International
	Using cost-benefit analysis for improved natural resource management decision-making in Pacific island countries	Allison WOODRUFF - SOPAC
	Impact of land based activities on marine resources Cook Island	Marita MANLEY, Secretariat of the Pacific Community
	New methods adapted to Pacific: Simplified form of regional input-output analysis	Nicholas CONNER, NSW Department of Environment and Climate Change
	Status and use of coastal resources, economic issues, commercial species, fisheries activities -including aquaculture - and non-m	Franck Magron & Mecki Kronen, Secretariat of the Pacific Community
17h30	Evening: Meeting of the steering comitee	
Wednesday, May 28		
	Agenda - Burning questions	Moderator:
Paralel sessions		
	Define a rough South Pacific MPA typology based on issues	
	What are the needs related to MMAs in the Pacific region	
Theme 3: Explore specific sectorial economic valuation approach and new methods		
	MPAs, economic valuation and making tradeoffs – case study of live cultured versus wild coral harvest for aquarium trade	Padma LAL, FORUM SECRETARIAT
	Bio-economic fishery model for MPA	Nicolas PASCAL, CMIMA-consultant
	New valuation approaches: literature reviews	Isao KOROVLAVULA, University South Pacific
	Community Benefits and Community Perceptions of the Waitabu Marine Park, Taveuni, Fiji	H. SYKES & Kenneth MACKAY, University South Pacific
	Evening: Meeting of the Rapporteurs from the Paralel Sessions	
Thursday, May 29		
	summary and agenda	Moderator:
	Non-use valuation study Navakavu iqilqoli	Tanya O'GARRA, University South Pacific
Theme 4: MPA financing initiatives		
	LMMA costs	Hugh GOVAN, CRISP
	Vietnam case study PES	Lindsay AYLESWORTH, IUCN
	Monitoring of MPAs: Experience from the GCRMN South West Pacific Node	Cherie WIPPY MORRIS & Kenneth MACKAY, University South Pacific
	Supplementary Livelihood Options for Pacific – study	Etika RUPENI - FSPI - Tanya
	Supplementary Livelihood Options for Pacific – PCC and bioprospection	Eric CLUA, CRISP
	Evening: Meeting of the Rapporteurs from the Paralel Sessions	
	Meeting of organizers and key participants (6-8 max) to draft outline of findings	
	Dinner	to be confirmed
Friday, May 30		
Session 5: Economic valuation candidate sites		
	Candidate Sites for Future CRISP Case Studies	
Session 6: Results and future		
	Validation of Outline of Findings 1	Steering comitee
	Validation of Outline of Findings 2	Steering comitee
	Organizers' Views on Findings and Next Steps	Steering comitee
	Feedback from participants	Moderator
	Closure of workshop	Moderator

Workshop results: Expected vs. obtained analysis

Expected outputs from initial terms of references	Results
A report on the brainstorming about adapted methodologies for Pacific case studies;	ok
A list of potential case studies to be implemented after validation of the feasibility;	ok
A list of experts to be involved in the implementation of these case studies ;	ok
A scientific publication about valuation methods and benefit transfer valuation standardization in the Pacific.	No
Recommendations on suitable M&E frameworks to better assess the economic impacts of MPAs	No
A contribution to IMPAC2 congress (2009) through scientific presentations.	ok

Next steps

The lack of capacity in resource economy in the region should be tackled by implementing direct capacity building, carrying out case studies associating outside and inside expertise and by providing incentives to encourage regional economists in applying their skills to MMA issues.

In this sense, most of the economists who attended the workshop have confirmed their support to participate actively in the environmental economist network already set up. (PENRE: Pacific Environmental and Natural Resource Economics).

The development of the case studies will contribute to the development of a more robust environmental economic science in the Region and should allow a better integration of result in the decision-making process.

It is the willingness of the workshop organizers that the presented recommendations and results will improve the impacts of future environmental economic studies.

Welcome from French Government

General introduction

During the last 15 years, the use of environmental economic valuation has been advocated to be more implicated in resource and conservation management decision process. In a general way, the economic approach intends to value in monetary terms most of the services generated by ecosystems to human kind. They also try to value past, present and future changes in the “quality” of these services. As a result, they create a link more easily understandable between ecosystem processes, conservation actions and human well being. (Azqueta & Sotelsek 2007; Farber *et al.* 2002; Pagiola 2004)

Economic studies results have been used in several ways. For example, in the stage of project evaluation they are useful to raise awareness from decision makers and general public about the value of the environment, to determine the net benefits of interventions or to compare costs and benefits of different uses. In a different way, economic tools are used by managers to identify possible financing sources from environmental goods and services. (Balmford *et al.* 2002; Brander *et al.* 2007).

Marine Protected Areas, as one of the conservation and resource management tools for marine ecosystem, employ economics too. For example during the creation phase MPA benefit/cost analysis may be used to value the potential return on investment and support the decision process. In the same way, economic indicators are employed in most of the monitoring and evaluation programs of the impacts of MPA. In the MPA business plan, economic approach may contribute to the financial sustainability. (Dalton 2003; Depondt & Green 2006; Dixon 1993; Sanchirico 2000)

Nowadays and even considering the initial phase of economic valuation dissemination and acceptance, the use of economic approach is not sufficient. This may be due to a high-level of uncertainties of ecological processes, to a reduced robustness of methods used, to a lack of communication efforts or to a present market failure (as most of the environment services are externalities non-marketed). (Balmford & Cowling 2006; Worm *et al.* 2006)

Therefore, ecological economic science has several challenges for the next years. First, the knowledge of the relations between changes in key habitat conditions, nature's services and human well being must be improved. Second, the number of local field surveys and monitoring must be multiplied through stakeholders' major engagement and suitable evaluation methods. The information should then be consolidated at different level (national, regional, worldwide). Third, the present economic model must evolve to incorporate more compensatory mechanisms for conservation as for example: premium prices, carbon and biodiversity credits, etc. (Azqueta & Sotelsek 2007; Balmford & Bond 2005; Balmford & Cowling 2006; Spash 2007)

In the South Pacific (SP) the use of environment economic valuation for conservation and resource management faces other challenges and must take in account the small island context with limited economic options, a high dependence to ecosystems services and a very specific socio-cultural-political background. (Beukering *et al.* 2007). Reduced investment capital availability forces MPA to be an effective tool in nature conservation but at the same time to have a return on the local economic growth. This is why in this kind of countries the evaluation of the potential economic impacts of MPA to local wealth fare is an important part of the decision process.

It is relevant to note the relatively small number of economic studies realised in the region. Several factors may explained this situation: few social scientists working on marine issues; scarcity of funding; absence of a unified approach; specific MPA management scheme, etc. (Beukering *et al.* 2007; Leisher *et al.* 2007; Spurgeon 2004)

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