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RESCCUE

Innovative financial mechanisms for coastal management in the Pacific: a state of the art



FOREST
TRENDS



MARES

This paper follows the RESCCUE experts meeting on project approach and methodology in Noumea from 24th to 28th November 2014.

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Vanuatu seascape (R.BILLE, 2015)

EXECUTIVE SUMMARY

The need to generate wider interest in coastal management, and to identify new funds flows that can support costly coastal planning, management, and enforcement of regulations, is great. Innovative financing mechanisms are being borrowed from the terrestrial world, adapted for special use in the marine and coastal environment, where property rights are limited and where common pool resources necessitate continued access. Applying innovative financing instruments in the Pacific region holds promise, but examples of success are rare. This report reviews innovative financing mechanisms for marine and coastal conservation used around the world, assesses the processes that have led to use of innovative financing in the few cases that exist in the Pacific region, and makes recommendations for greater use of these powerful financing schemes to boost coastal management in the region.

Financing instruments for use in bolstering conservation and management occur in a wide array of forms, covering a range of temporal and spatial scales. No widely-accepted typology of innovative financing exists. In this report, we classify instruments as of one of two types:

1) innovative financing to support conventional coastal management (i.e. management handled by competent government authorities, including local government where that is a long-established jurisdiction); and 2) financing to support best practices, often undertaken as a part of unconventional management. In the first case, we discuss conservation trust funds and endowments, public-private partnerships, user fees and rights-based fisheries revenues that channel monies into government-led management, eco-certification and eco-revenues that similarly funnel money back into government fisheries and coastal management, and biodiversity or carbon offsets. Innovative financing that supports innovative (unconventional) best practice or management (typically by user groups, communities, or trade associations) include payments for ecosystem services (PES), investments in watershed services (IWS), marine conservation agreements, and responsible investing (including impact investing). Admittedly the segregation of these instruments into two groups is artificial, and many tools can cross the line (for instance PES can be used to support government-led planning and management), however assessing innovative financing across this wide spectrum of schemes allows the greatest possible ability to learn and apply lessons from other parts of the world to the Pacific region.

In the Pacific region, innovative financing examples can be lumped more broadly into end- user or beneficiary financing of management (usually a one-off donation, user fees or tax), private sector investment through sustained or periodic payment for ecosystem services, and foundation or multilateral/ bilateral donor financing. Impact investing and biodiversity banking was also investigated, however information about these instruments in the region is lacking. Overall, innovative financing seems to be recognized as holding promise for improved coastal management, however scheme development is nascent and progress seems to be impeded by a lack of recognition about the value (and marketability of ecosystem services), as well as appropriate models for developing and launching innovative financing schemes from other parts of the world.

A discussion of the possible expansion of innovative financing in the Pacific includes a review of the following: marine/coastal conservation agreements; trust funds; tourism user fees; tourism concessions (PPPs); taxes; PES for coastal protection; PES to maintain scenic beauty; PES to enhance production (biomass) or water quality; entrepreneurial MPA tourism and aquaculture; coastal and pelagic fishing licensing; and biodiversity offsets / biobanking. We selected instruments to consider based on the following 3 criteria:

- i. Volumes of cash flow generation adapted to the specific Pacific ICZM budget needs;
- ii. Funding stakeholders (business sector, end users, investors, ODA) already present or with a potential to be present in the Pacific.
- iii. Operational and legal pre-feasibility in the Pacific context.

Based on expert opinion, an additional and specific analysis for RESCCUE sites was performed on the 12 selected instruments. A preliminary assessment of the level of complexity (low-medium-high level) for the development of the proposed instrument in the context of each country was described. Complexity is based on a mix of (i) existing track record of success (influencing the difficulty to convince funding stakeholders), (ii) the environmental friendly profile of the industries and (iii) the legal framework (not adapted, easily adapted, ready) of each country. In the same way, the expected time span for implementation: short term (<2 years), medium (3<x<5 years) and long term (>6 years) was detailed.

We conclude with recommendations and possible next steps catalyzed or mediated by RESCCUE. These include:

- 1) Establish a forum for South Pacific innovative financing, based on the model put forward by the East African Forum for Payment for Ecosystem Services (www.eafpes.org), in order to build awareness of and capacity for PES projects.
- 2) Conduct demonstration sites on a short list of selected instruments in the RESCCUE sites. Ideally a tourism user fee scheme, a conservation agreement and a PES mechanism should be represented in the whole project. The main limiting factors in the Pacific will be the legal framework (especially in French overseas territories) and the payment capacities of financing stakeholders. Therefore, creative thinking will be a key factor of success.
- 3) Conduct a thorough feasibility study for the Regional Trust Fund. The fundraising potential must be assessed as one of the main priorities. In the same way, conducting a fundraising campaign in the early stage will be crucial. The model of the Caribbean Biodiversity Fund (CBF) covering 8 countries and counting with US\$40M in endowment fund from KFW, GEF and TNC could be used as a model.
- 4) Build capacity for Pacific nations to conduct feasibility assessments in order to determine whether innovative financing is both appropriate and achievable. Using the criteria developed by Forest Trends (described in the annex), rapid assessment of enabling conditions can help quickly pinpoint what areas need further investigation in order to conduct robust feasibility assessments, and plan effective innovative financing schemes.

Finally, we present a list of considerations that planners, project developers, and investors might consider before attempting an innovative financing scheme. An extensive reference list provides additional background.

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Chapter I: Selection of mechanisms implemented globally

Background on Innovative Financing for Coastal Management

Greater financial support is needed to practice marine and coastal management effectively the world over, especially when the necessarily complex suite of issues that management in an ecosystem-based framework entails are being addressed simultaneously. The need for innovative financing to support coastal management may be greatest in the Pacific region, where small islands and atolls spread across wide distances make surveillance, enforcement, and operational management of protected areas both difficult and costly, and where profitable maritime industries are limited (primarily to commercial fisheries, which do generate revenues from licensing schemes, but where those revenues are rarely used to support coastal and marine management). But even as the need for greater financing accelerates, the budgets of management agencies are shrinking (global recession, and dealing with immediate security risks and conflict instead of planning for the future both play into this, as does the fact that management agencies spread their human and financial resources more thinly today than in the past). New revenue streams are badly needed – and these must be in the form of steady, continuing support for the adaptive management that keeping coastal systems healthy requires, not the one-off, feel good infusions of cash so popular with the bulk of the donor community.

Getting those that benefit from coastal and marine ecosystems and the services that they provide to invest in their protection only makes sense. Through innovative financing schemes like PES, biodiversity offsets, public / private partnerships, Marine Conservation Agreements, and Trust Funds and other endowments, the planning and management costs can be shared by the public sector and the private sector (both businesses and communities). This introductory chapter describes the typology of innovative financing mechanisms being explored around the world, as a means to generate new revenue flows for coastal conservation.

PES and other market-based mechanisms for protecting natural capital

have only recently emerged in the marine realm. In part this is due to the lack of conventional property rights at sea, requiring that contract developers utilize access rights instead of property rights to 'sell' ecosystem service delivery. However another major factor in the slow utilization of PES for marine and coastal habitat protection has been the limited capacity that exists to assess marine ecosystem services, determine their value, and ascertain what factors affect ecosystem services delivery. Without this scientific foundation for understanding and communicating marine ecosystem service values, the global interest in PES and biodiversity offsets has largely bypassed marine ecosystems – ironically, since the need for innovative financing may be greater in coastal and marine areas than in any other biome.

New rapid assessment techniques for quantifying and valuing marine ecosystem services, from blue carbon to shoreline stabilization, have now come on line. The location of concentrations of ecosystem service-delivering habitats can be mapped, as can benefits flows across broader landscapes. This can set the conceptual stage for innovative financing mechanisms like PES, and get the negotiations rolling.

Types of Innovative Financing

Innovative financing mechanisms to support coastal conservation are varied in approach, scale of project, amount of revenue being generated, timing (i.e. whether one-off, periodic, or continual in the generation of funds), and whether the financing underwrites management activity per se, or whether the funding mechanism incentivizes a change in behavior that leads to improved coastal management outcomes. All innovative financing rests on understanding the benefits of nature that flow to people – in other words, what the ecosystem services are that can be marketed. Such understanding of ecosystem services underpins much land use management and coastal conservation around the world (Figure 1).

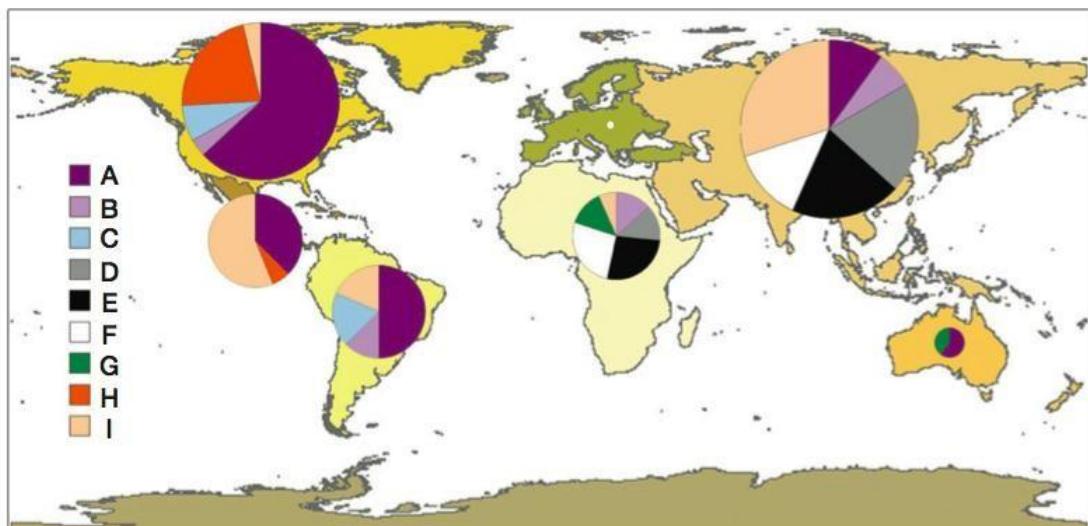


Figure 1. Application of ecosystem service approaches in seven major global regions. The size of each pie chart is proportional to the total number of projects included in our analysis from that region. The small white dot in Europe represents a single project. The approaches correspond to those described in Table 1; A = Government Acquisition on Private Lands, B = Frontier Markets for Water from Public Lands, C = Industry Payments on Private Lands, D = Fees for Food from Public Lands, E = Frontier Markets for Food (NTFPs) from Public Lands, F = Frontier Markets on Private Lands, G = Non-Industry Payments on Private Lands, H = Integrated Coastal Conservation, I = Fees for Fish.

Figure 0-1: Application of ES approaches in seven major global regions (extracted from TNC)

Analytical reviews of innovative financing in marine arena have tended to focus on conventional financing – those instruments and agreements that provide revenue for planning and management, either undertaken by government agencies or government in concert with local communities and users in a co-management arrangement. But innovative financing that leads to changes in the behavior of companies, communities, and individuals also merits attention. Often this support of best practices is achieved through unconventional management (i.e. management undertaken by user groups or communities, as opposed to government-led management efforts). While assigning various innovative financing instruments to either funding to support conventional management or funding to support best practices (often via unconventional management) may be an artificial division, it does allow the development of categories of innovative financing for analysis.

Innovative Financing to Fund Conventional Coastal Management

Types of mechanisms include trust funds and endowments (for example, to support a marine protected area), user fees or tourist / visitor head taxes, Payments for ecosystem Services (PES), biodiversity or carbon offsets, and

Marine Conservation Agreements. The latter straddles the worlds of conventional innovative financing (that is, innovative financing mechanisms used to support conventional coastal management by government, or by government in partnership with civil society or communities) and innovative financing to incentivize behavior change that leads to improved coastal management outcomes.

Trust Funds and Endowments

Conservation Trust Funds are private, legally independent institutions that provide sustainable financing for biodiversity conservation, including by providing finance for the long-term management costs of a country's marine protected area system, as well as conservation activities and sustainable development initiatives outside protected areas. Trust funds mobilize resources from diverse sources – including international donors, national governments and the private sector – and direct them in the form of grants to multiple programs and projects on the ground through non-governmental organizations, community based-organizations, and governmental agencies (Spergel and Mikitin 2013).

Blandon and colleagues have reviewed marine conservation trust funds and endowments in

12 case studies from Mexico, Bangladesh, Mauritania, Ecuador, Belize, Colombia, Cameroon (Blandon et al. 2014). One important commonality in successful financing for protected areas is conducting a comprehensive protected area finance analysis, and then adjusting the financing mechanism to the life cycle of the protected area system. Ensuring that the government is committed to the conservation effort, with adequate policy and legislative frameworks in place, can also lead to success, as can true engagement of the private sector and civil society (Spergel and Mikitin 2014). Combining short term financing to meet immediate needs with a long term financing strategy is imperative. These lessons learned from this wide variety of trust fund structures provides insights on how conservation trust funds might be established in Pacific nations looking to increase revenue streams for coral reef and atoll conservation.

Public-Private Partnerships

Public-private partnerships (PPPs) are agreements between government and private sector that allow sharing of funding, expertise, and access to technology and resources, and often end up leveraging significant new funds and interest for conservation. Despite the fact that the needs for public / private partnerships are great, such agreements are relatively rare in the marine environment, most probably due to the lack of clear and tradable property rights. Such PPPs are more common in coastal environments, and usually focus on land ownership and sustainable coastal development. One notable marine example is the PPP that was

supported by the International Fiduciary Corporation – the private sector branch of the World Bank – in Komodo Island, Indonesia.

This project saw the first public/private partnership brokered by the IFC, involving government agencies, non-governmental organizations, and private sector investors and concessionaires. Funds generated by an entry fee and by concession sales were channeled into enhancing park management, including through the purchase of patrol boats, increased staff, warden training programs, and infrastructure improvements. Unfortunately the public private partnership did not last, due to disagreements between partners and a poorly drafted contract that left considerable room for misinterpretation. However, Spergel and Moye (2004) speak to other public private partnerships in marine conservation, and some of these cases could provide a model for innovative financing in the Pacific region.

User Fees and Rights-Based Fisheries Revenues

User fees allow revenue generation from those that directly benefit from marine and coastal environments and services, with the funds flowing either to general government coffers or more directly to marine protected area or fisheries management activities. User fees generally target tourists and visitors, and in this vein Spergel and Moye (2004) list the following: protected area entry fees, diving and yachting fees, tourism-related operations of protected area management (including private-MPA management, as in the case of Chumbe Island off Zanzibar in the Republic of Tanzania), airport passenger fees and cruise ship fees (such as are levied to all visitors of San Andres, which then funds the CORALINA operations in Seaflower MPA), management-directed hotel taxes (such as exist in Akumal, Mexico, to fund CEA's management and outreach activities), and voluntary contributions by tourists and tourism operators. This latter category of 'user fee', especially when involving multiple payments over time, begins to blur the line between user fee and Payment for Ecosystem Services (PES), which is discussed in detail in a later section.

User fees are most common in cases where a marine protected area has been established and mechanisms exist for collecting entry or use fees. Boat operators can, for example, include a surcharge on marine or diving tours, and park visitor centers can charge a fee for physical entry into the park. The potential for tapping the eco-tourism market fully is vast. For example, whale-watching alone generated some US\$ 2.1billion annually in revenues, involving 13 million people in 119 countries (O'Connor et al., 2009).

Another class of user fee is the use of rights-based fishery schemes, in which fishers are allocated part of the fisheries catch, or a piece of the ocean space in which to fish, in return for a fee. Most often these fees go to fishing cooperatives or fisheries management agencies that then practice coastal and marine management through their purview of managing the fish stocks.

Fisheries management agencies are increasingly looking to modified PES schemes to support the monitoring, research, stock assessment, surveillance, and enforcement that effective fisheries management entails (Barr and Mourato 2014). Along these lines, the Food and Agricultural Organization of the UN is currently working on a book that analyzes the potential for PES and other innovative financing schemes to support fisheries management, through rights-based fisheries and beyond (FAO, in prep).

FAO is currently grouping fisheries management tools into four broad categories for this financing publication (FAO, in prep). Input controls regulate fishing intensity, including how and when to fish, through restrictions on the number or size of vessels or the amount of effort permitted. Output controls, on the other hand, regulate the final impact of fishing or aquaculture activities. Within capture fisheries output controls determine total allowable catch caps and size/age limits to prevent serious impact on fish stocks. Spatial and temporal controls are additional regulations that ensure minimization of potential impacts.

The implementation of these different types of management tools can occur through legal, economic or social mechanisms. FAO is considering and evaluating the following:

PES in coastal systems

- PES for carbon sequestration in aquaculture systems
- PES for water purification in aquaculture systems
- PES to compensate fishers for closures (e.g. Brasilian defeso)
- PES and ecotourism, based on fish fauna
- PES for livelihood diversification in coastal communities
- PES to simplify the market chain and improve revenue

generation of coastal communities

PES in marine/off-shore type of habitats and transboundary species

- PES in combination with marine protected areas and closed fishing areas
- PES to reduce fish catch (e.g. buy back programs)
- PES to cover transaction costs to less harmful fishing tools

Many of these financing tools are conceptually solid and scientifically robust, however it is early in the application of PES for fisheries management, so few case studies exist which allow for evaluation of outcomes and performance.

Eco-certification and Eco-labeling Revenues

Eco-certification does not generate financing directly, however a portion of the premiums that eco-certified products generate can be pooled to enhance management. This can occur through profit-pooling done through fisheries associations, which then actively manage or co-manage fish stocks and associated essential fish habitat. Examples include eco-certified fisheries in the Gulf of California, Mexico, and spiny lobster fisheries in Punta Allen.

One important assumption, which has been severely tested in eco-certified fisheries where initial resistance to certification was overcome with promises of increased revenue generation, is that certified product will sell for more than uncertified, and that these dividends will flow back to the producers (in most cases, fishing cooperatives). In fact, certified fisheries have sometimes failed to command a premium, and thus the promised new funds flows for improved management have not materialized. Fisheries eco- certification must be carefully studied on a case-by-case basis before being launched as a panacea, and project developers must be very careful to manage expectations.

Certification can also extend to recreational areas, such as Blue Flag beaches in Europe, or resorts themselves. In these cases it is highly likely that certified business will be able to extract a premium for a high-quality tourist experience. What PES developers need to do in order to take advantage of those profits to support conservation, is to ensure that some percentage of those profits go to resource or environmental management. Such is the case in a community-based tourism association project currently being developed in Tulum, Mexico. As with all innovative financing schemes, good governance and full transparency is needed to assure that beneficiaries of services share the burden of protecting the ecosystems upon which they depend for profit.

Biodiversity and Carbon Offsets

Ecosystem services generated by coastal and marine environments include biodiversity maintenance (which in turns supports all other ecosystem services, and can provide the foundation for livelihoods such as dive tourism and bird-watching tourism) and carbon sequestration (as mitigation against greenhouse gas emission-driven global warming).

When these services are lost during development, offsets can be put in place to more than compensate for the losses.

Marine biodiversity offsets can in theory provide revenue generation for ongoing marine and coastal management, in addition to creating protected places where offset services will continue to be generated. However, examples of marine offsets are extremely rare.

Carbon offsets are more common in coastal environments, given that mangroves sequester large amounts of carbon and are land-based, where property rights are clear. Carbon offsets in mangrove forests is also made more easy by the fact that mangrove forest offsetting can follow the models of offsetting in non-coastal forests. However, even more so than in these non-coastal forests, offsets and carbon credit generation in mangrove and other coastal environments will require consider of watershed use and condition, including the flow of good quality water in adequate supply to downstream coastal habitats.

Innovative Financing to Support Best Practices and Unconventional Management

Payments for Ecosystem Services (PES) and Investment in Watershed Services

Payment for ecosystem services (PES) is a market-based conservation tool that aims to reward stakeholders and custodians for protection of ecosystem services (ES) their land provides (Wunder 2005). PES can provide a financial incentive for marine conservation as well, and in return, custodians are contractually obliged to undertake land use and marine use practices that will ensure continued supply of ecosystem services (Wanjiru and Lang'at 2012).

PES and other market-based mechanisms for protecting natural capital have only recently been employed in the marine realm (eg Binet et al 2013). Interestingly, African countries such as Mauritania and Madagascar seem to be leading the charge, having implemented payment schemes in coastal areas. (In fact the Mauritania example, touted as the world's first marine fisheries PES, was not designed as a PES – after implemented it was matched against criteria describing what constitutes PES and was then found to be a valid payment scheme. In its case, EU monies for protection of fish stocks were deemed as payments from beneficiaries who stand to benefit by operating fisheries in well-managed Mauritanian waters.) However, all emerging PES schemes are still small in scale, and there seems to be difficulty in scaling up, even within pioneering countries.

In part the lack of full adoption of PES schemes is due to the lack of conventional property rights in the marine domain, a situation requiring contract developers to utilize access rights instead of property rights to 'sell' ecosystem service delivery. However another major factor in the slow utilization of PES for marine and coastal habitat protection has been the limited capacity that exists to assess marine ecosystem services, determine their value, and ascertain what factors affect ecosystem services delivery. Without this scientific foundation for understanding and communicating marine ecosystem service values, the global interest in PES and biodiversity offsets has largely bypassed marine ecosystems – ironically, since the need for innovative financing may be greater in coastal and marine areas than in forests or drylands.

New rapid assessment techniques for quantifying and valuing marine ecosystem services, from blue carbon to shoreline stabilization, have now come on line (Ajoniga et al 2013; Mohammed and Wahab 2013; Mohammed 2014). Practical experience

with ecosystem services assessment and with techniques that allow for problem-scoping to identify clear priorities for management intervention can now be summarized, highlighting scientific principles that can support PES development in the marine arena. Much of this scientific foundation is common to PES in general, but some features are unique to the ocean environment and the special challenges presented by marine conservation.

Pilot PES projects in the marine environment have sprung up in countries with PES legislation and/or existing land-based PES schemes, such as Bangladesh, Brazil, China, Mexico and Vietnam. Groups like the Institute for International Economic Development (IIED) have analyzed terrestrial PES frameworks in developing countries where PES approaches have flourished, such as Costa Rica, Brazil, Uganda and Vietnam. Their work provides guidance for developing PES in other countries, and in other domains such as in coastal environments (Mohammed 2013).

Mexico has very strong PES legislation, but funds generated from these schemes have been used largely to compensate communities living within protected forests, and are thus more like a subsidy than a proper beneficiary-pays system. However, Mexico has been experimenting with PES in the marine and coastal realm, attempting to harness private sector investment alongside public sector subsidies. In particular, in the eastern state of Quintana Roo, the federal parks authority (CONANP) has been supporting exploration into PES-support for expansion of no-take areas along the Mesoamerican Reef. Working with the fishing cooperative in Puerto Morelos, the NGO Comunidad y Biodiversidad (COBI) has attempted to structure a deal that has dive operators paying directly to fishers in order to compensate them for voluntary set-asides (this with the idea that their paying customers will pay more to dive on reefs with an intact and healthy fish fauna, thus more than compensating the dive operators for the investment in the no-take zones). Similar schemes are being explored with other fishing cooperatives along the Quintana Roo coast.

In San Andres Archipelago of Colombia, the groundwork has been laid for a PES scheme involving resort owners (in particular

the company DeCameron) paying for the maintenance of reefs in order to prevent escalating beach erosion. The annual payment scheme was devised using a willingness to pay study (Castano-Isaza et al. 2014) that showed that beaches of a minimum width were critically important to supporting the vast majority of visitors to San Andres. The scheme, still being negotiated, would have Decameron and other resort owners making annual payments not only to the management authority that oversees reef management, but also to fishers to compensate them for not harvesting parrotfish (a key species for generating sand material needed to have stable, high quality beaches).

Investment in Watershed Services (IWS) is a special class of PES focused on watershed management and maintaining water flows. The reason IWS is included in a discussion of financing mechanisms for coastal management is because managing the watersheds well will inevitably lead to better coastal conservation outcomes. Thus, innovative financing to support freshwater management, through water quality trading schemes and offsets within a water basin, is an important investment in coastal protection.

The conservation of critical natural infrastructure – oceans and coasts, watersheds and freshwater systems – can and is being enhanced through incentives mechanisms and market-based solutions. Integrated, ecosystem-based management, and long-term, sustainable financing assures the protection of freshwater and marine ecosystem services and the communities that depend on them.

Examples of investments in watershed services that have a spin-off positive impact on coastal management are provided by Forest Trends' Water Initiative, which works collaboratively with business, governments, communities, and civil society in Mexico, Peru, Ghana, and East Africa. Forest Trends catalyzes the implementation of innovative financial mechanisms for protecting or restoring healthy watersheds as cost-effective solutions for providing adequate clean water for people and nature, improving livelihoods and providing environmental co-benefits, through:

- *Research and analysis:* Promoting incentives and market-based investments in natural infrastructure for water that deliver environmental and social co-benefits - improving information resources, practical tools and methodologies, and policies;
- *Demonstration projects:* Supporting on-the-ground demonstration projects that build the business case and provide models for best practice in designing and implementing investments for watershed services; and
- *Community of Practice:* Facilitating and supporting a global community of practice across the water sector to mainstream natural infrastructure solutions for water.

Even though both PES in the marine environment and Investment in Watershed Services are currently relatively rare, contractual agreements are feasible (EM 2010). However, assessment of feasibility must take on some considerations absent from land-based PES feasibility assessment (Lau 2013; Le Gentil and Mongruel. 2014). This includes analysis of use and access rights as well as property rights, and in places like the Pacific region, will necessarily include an understanding of marine tenure regimes and their codification in legal frameworks.

Marine Conservation Agreements

Marine conservation agreements (MCAs) are PES-like mechanisms that are generally structured like a PES scheme, in which beneficiaries of an (or several) ecosystem service pay those with management responsibilities or use rights to conserve the resource, habitat or ecosystem. However, what separates these MCAs from true PES schemes is that unlike PEs, in which payments are made periodically in perpetuity (or for long time periods as stipulated in the contract), MCAs are usually one-off payments. There may be several payments made in the course of the agreement, but in general the MCAs are made for a specific

conservation goal, not for the maintaining good management over reefs or mangroves or the like.

One significant MCA was the deal brokered by One Reef in Palau, which allows international investors to fund community-based reef management. The terms of the agreement are still being negotiated by One Reef, working with village elders. The Nature Conservancy has also been brokering these sorts of deals, throughout Indonesia. All agreements share the following common elements (Gjertsen and Niesten 2010), stipulating:

Parties and their rights and responsibilities *Prohibited or required activities*

Benefits provided by the conservation investor to the resource users *Sanctions for non-compliance*

Performance monitoring protocol

Examples include sea turtle monitoring by villagers, paid by outside subsidy, in Solomon Islands and in Mafia Island Tanzania, as well as scholarships in exchange for protected area management in Indonesia (Gjertsen and Niesten 2010). These authors also claim that rights-based fishing is a type of conservation agreement, as is NGO or multilateral funding given for alternative livelihoods, but this broad definition may weaken the understanding of what constitutes an MCA.

Industry Corporate Social (and Environmental) Responsibility

Much attention has focused on how the natural environment can be maintained so as to protect communities, properties, and livelihoods. Coastal ecosystems are particularly valuable in this regard: mangroves and coral reefs buffer land from storms, seagrasses help in shoreline and beach stabilization, wetlands filter pollutants from waterways, marine biodiversity serves to control the spread of disease and maintain planetary processes like nutrient cycling, oxygen production, etc., and natural habitats on coasts and in the sea provide valuable products like fisheries, pharmaceuticals, energy resources, and areas for recreation and spiritual rejuvenation.

The private sector is beginning to realize the value in protecting green infrastructure, to minimize risks and to enhance profitability. For instance, Dow Chemical convened an industry group (including Shell, Swiss Re, and Unilever, working with The Nature Conservancy and an academic resiliency expert) to investigate if green infrastructure solutions could provide more opportunities than gray infrastructure to increase the resilience of industrial business operations, in the face of external economic and environmental stressors (Dow 2013). Also of interest was the ways that green infrastructure can enhance the economic protection of business assets and infrastructure and reduce the resource intensity in the context of the globally applicable food-energy-water nexus.

Such green infrastructure solutions are defined as planned and managed natural and semi-natural systems that can provide more categories of benefits, when compared to traditional gray infrastructure. The industry group found that green infrastructure solutions often demonstrate financial advantages compared to gray infrastructure due to a reduction of initial capital expenses and ongoing operational expenses and can be used to strategically recapitalize aging assets. These environmentally responsible investments can in turn foster best practices in coastal management.

The Role of Economic Valuation in Structuring Innovative Financing

If natural ecosystems can be demonstrated to have high value in the goods and services they provide, then – or so the thought goes – governments whose responsibility it is to ensure they are protected will be compelled to meet their obligations, while the private sector will see real benefit in investing. As a result of this realization, there is a sudden preponderance of studies quantifying the economic values of nature, including shoreline defense. The numbers can be huge, especially when derived from studies of loss of nature and how it affects wealthy communities or places where land value is extremely high. These data from localized studies are then extrapolated to other parts of the world, in a process known as “benefits transfer.” This has been done for hurricane damage and nature’s role in minimizing it, and also for other services with direct market value, such as support to fisheries and ecotourism.

Currently there are 934 marine ecosystem services valuations listed on the Marine Ecosystem Services Partnership (MESP) database, a virtual center of information based out of Duke University (see <http://marineecosystems.org/explore>). The database links the economic value of ecosystems to their ecological value and then to the case study location. The library is constantly updated so the number of valuations listed is always growing.

Appraising the economic value of ecosystem services coming out of coastal and marine ecosystems has guided conservation planning in many parts of the world. For instance, protected areas are established in places with real or prospective value in supporting biodiversity (a non-market value) or in supporting ecotourism (a related market value). The design of these protected areas in terms of boundaries and the way activities are managed can maximize economic rents or preserve economic values. And when coupled to innovative financing schemes that allow stewards of the resource to "sell" the services to those that benefit most from them (as in PES), crucial funds flows can be created for conservation and management (MARES 2009). One example is in San Andres, Colombia, where Forest Trends has worked with CORALINA to undertake economic studies of ecosystem services, focusing the attention of resort owners on the inherent value of sandy beaches for their business and promoting their investment in reef management specifically aimed at continued natural production and stabilization of those beaches (Castano-Isaza et al 2014).

Economic valuation is thus one important step in understanding and assessing nature's values; this in turn can be used to create effective management regimes and finance that management by marketing those values to investors. Figure 3 shows ecosystem service assessment and economic valuation can be used in innovative financing.

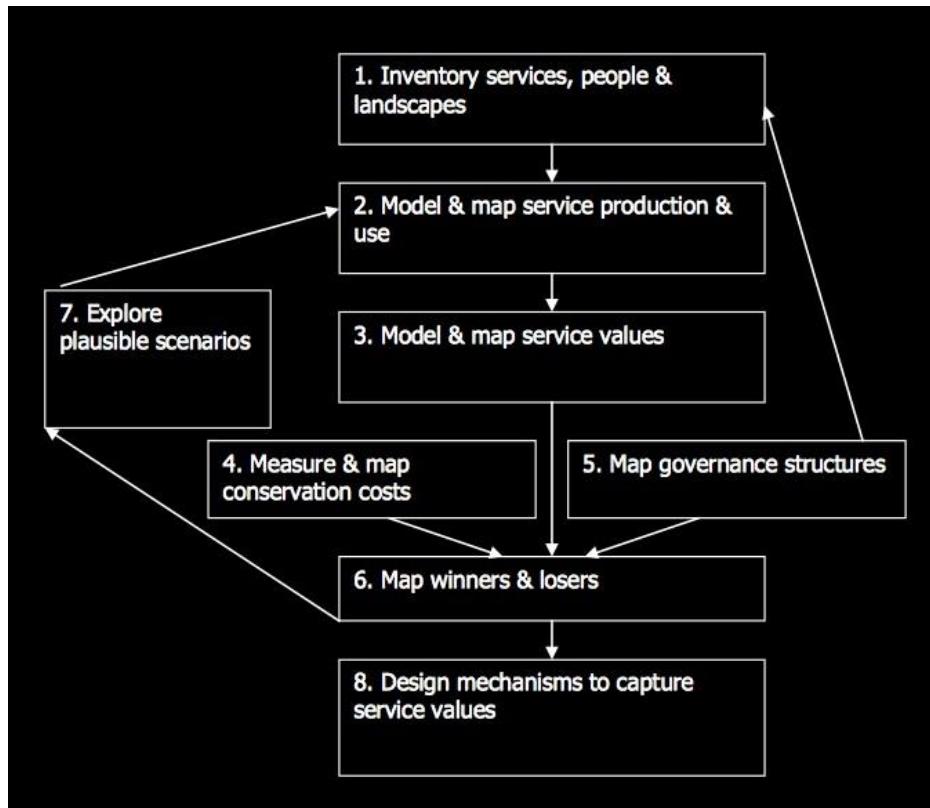


Figure 0-2: Ecosystem service assessment and economic valuation

Conclusions

Developing innovative financing to protect nature's services requires understanding and appreciating nature's role in sustaining us – physically, mentally and spiritually. For this reason alone, innovative financing solutions are being sought the world over, and are spurring not just new financing schemes, but also new policies to support better conservation of nature. With each

new demonstration project, lessons are being learned and synthesized to guide future innovative scheme development. Investor awareness and interest parallels this knowledge growth.

Chapter II: Review of mechanisms implemented in the South Pacific

Categories of mechanisms

The mechanisms implemented in the Pacific Island Countries (PICs) are summed up in the following tables. Comments and details are given in the text below.

It was decided to categorise instruments by their main sources of financing:

- (i) End-users through departure taxes and tourism user fees,
- (ii) Private sector beneficiaries of Ecosystem Services (ES) through licenses fees (tourism, fishery, bio-prospection), through payment for ESs (scenic beauty and emblematic species ES)
- (iii) Impact investors (through investment in funds or entrepreneurial MPAs)
- (iv) Official Development Assistance (ODA), public and philanthropic funds channeled through trust funds and conservation agreements

Comments:

- There are few concrete experiences in the Region (compared to other regions, although marine innovative financing is generally under-developed) and they are generally poorly documented.
- Opportunities of generating cash flows with private stakeholders seem limited as the development of the private sector is limited to very specific places.

Sum-up of instruments

Category end-users

Mechanism	Country	Name/Specific Area	Start	Source of financing	Quantity per year (US\$)	Fund management
Departure Tax	Palau	Green Fee	2009	Visitors	>\$ 3M	Government account - PAN fund
	Cook Islands	Environment Protection Fund	1994	Visitors	> \$200k	EPF account - government
Tourism User Fees	Fiji	Kubulau	1998	Visitors/divers	\$6k - 8k	Kubulau Resource Management Committee (KRCMC)
	Fiji	Waitabu Marine Park	2001	Visitors, students	Approx. \$11k	
	Vanuatu	Moso Island	2006	Eco-volunteers	Approx. \$100k	
	Palau	Rock Islands		Visitors	Approx. \$ 200k	
	Palau	Jellyfish Lake		Visitors	Approx. \$ 250k	

Category ES beneficiaries

Mechanism	Country	Name/Specific Area	Start	Source of financing	Quantity (US\$)	Fund management
PES	Fiji	Beqa - shark tours	2000	Divers	\$60 000	
Bioprospecting agreements	Fiji	Verata district (FLMA)	1997 2007	Strathclyde Institute of Drug Research (broker for Japanese firms), PharmaMar (Spain)	\$35k approx. \$50k	
Live Rock Harvesting	Fiji	3 sites (FLMMA sites)	2005	Walt Smith International, USP through an International Cooperative Biodiversity Group (ICBG) grant, US Government projects for conservation	2008: \$3k - Up to \$500k expected	
Other Income Generating Activities (reducing fishing pressure on reef): sea cucumber, sponges, pearls, giant clam, seaweed, lobster; culture of live food fish	Fiji	Several countries		Private investment (expected)	Variable	Expected Private businesses financing MPA (private agreement)
Coral Reef Adoption	Palau PNG Fiji	Unknown Kimbe Bay Votua	Unknown Unknown 2008	Nature lovers	Unknown Unknown Unknown	The Nature Conservancy (TNC) The Nature Conservancy (TNC) Coral Restoration Foundation
Fishing Licence Fees	Fiji Palau (pelagic)				\$2500 per licence (Ba province) \$2.1M per year (purse seine)	
Trochus Licensing	Cook Islands	Aitutaki	1981	Sale of Trochus	\$80k - 160k	Village Council

Category ODA and philanthropic funds

Mechanism	Country	Name/Specific Area	Start	Source of financing	Quantity (US\$)	Fund management
Trust funds / conservation agreements	Palau, Guam, Marshall Islands, N. Mariana Islands	Micronesia Conservation Trust (MCT)	2002	GEF, TNC, Govt. of Palau, Govt of RMI	Endowment fund: \$11.2M	Independent management in each country
	Kiribati	Phoenix Islands Protected Area (PIPA)	2010	Global Conservation Fund, Government of Kiribati	Endowment fund: \$5M - budget park and loss compensation (\$xx per year)	Government and NGOs
	Pacific	Pacific Development and Conservation Trust	1989	Government of France	Endowment fund : 3M Grant financing (\$250k per year)	NZ government
	Solomon Islands	Tetepare	2011	AusAid	Endowment fund : \$330k (2014) \$15k annually	UBS Financial Services (Seattle)
	Fiji	Fiji Locally Managed Marine Areas (FLMMA)	2004		Trust fund: \$46k	FLMMA
	PNG	Papua New Guinea Mama Graun Conservation Trust Fund	2006	David and Lucille Packard Foundation	Trust fund: :150k (2006)	TNC
	Cook Islands	Muri Rarotonga	2010	Seacology (Non profit NGO)	Unknown	Seacology
	Palau	Helen reef atoll	2010	Walker foundation, Anthropocene Institute, Tourism User Fees (hopeful)	Endowment objective: \$35k per year for park budget	in progress (MCT, Green Fee)

End users financing:

Palau departure tax: Green Fee

The Green Fee, was established under legislation in 2009, and requires that every tourist pay a

\$15 Green Fee in addition to a \$20 Departure Tax upon departure from the country. This money is targeted for the funding of community conservation under the Protected Areas Network (PAN) in Palau. An increase to \$30 in October 2012 provided money which is used specifically to improve the water and sewerage system of Palau. Money raised thorough the Green Fee also contributes to the Endowment Fund which will help the country to achieve its financial commitment under the Micronesia Challenge.

The number of tourists reached 118,754 in 2012, a record high, yielding approximately \$1.8 million in revenue³ (Pascal, 2014).

Actual usage of the funds has seen significant improvement since the establishment of the Palau Areas Network Fund (PANF) Board in the fiscal year 2012⁴. The 2012 disbursements were made at the PANF Board's discretion and were driven by need (as reflected within the PA Management Plan budget)⁵.

Cook Islands departure tax: Environmental Protection Fund

The Environmental Protection Fund (EPF) of the Cook Islands was established in 1994. The fund is fueled by Departure Taxes, where every visitor over 12 years of age is required to pay NZ\$25 (around US\$19.4). Of this, NZ\$5 (US\$3.8) goes to the fund, which is supposed to be used for conservation and protection of the natural environment. The EPF is regenerated from departure taxes as the capital is spent. Initially, monies from the Departure Tax went directly to the Treasury and were consolidated into general government revenue. In 1998, however, after being threatened with a court case, a separate account for these funds was established at Westpac bank in Rarotonga. Departure taxes are paid at this bank,

³ It is likely that, at least in the short term, this is the maximum yearly collection of the Green Fee. This figure is driven by the realisation that hotels are already at capacity, making tourism growth difficult until additional capacity is available

⁴ The PANF is an independent non profit organization which serves as a financial trustee for the monies obtained. It provides support to the PAN and manages the funds from donations and arrival fees. Allocation of PAN funds can go to the states as well as to national-level PAN management and nationally managed PAN sites. The PANF Board is working with partners to develop tools and metrics to help guide development of management plan budgets, the tracking of actual spending, and reporting. These templates and the consistency they provide will ensure that disbursements are made in a transparent way and that they are made based on need.

but are transferred to the Ministry of Finance and Economic Management (MFEM). An annual budget, subject to Cabinet

approval, is then prepared by Tu'anga Taporoporo⁶ and the funds destined for the EPF are sent via the MFEM into the EPF account on a monthly basis (approximately). The Environment Council serves as the trustee of the EPF Account and when required, the Environment Service requests money from the Environment Council⁷, in order to implement programs supported by the EPF.

Tourism User Fees (TUFs)

Fiji : Namena Marine Reserve

In 1997, the Namena Committee⁸ managed to ban outsiders from fishing on the reefs of Namena for 5 years, in an attempt to conserve their fisheries. The Committee determined that a user fee or "good will" fee to dive the Namena reefs would assist in generating income, which could compensate for the loss of fishing revenues. This initial fee in 1998 was set at FJ\$1 per person per day. This was subsequently raised to FJ\$10 (around US\$5) by 2000. With the increase in income, internal conflict arose within the community as to how the money should be collected, reported and spent. Help was requested from the NGO, Coral Reef Alliance (CORAL) and the Kubulau Resource Management Committee (KRMC) was then established with representatives from the ten villages in the district to manage the Namena Marine Reserve (assisted by CORAL and the Wildlife Conservation Society). Based on research carried out by the NGOs, the committee raised its user fee to FJ\$25 (around US\$13) annually. Around US\$13 000 to US\$15 000 are now collected annually and approximately half of this is deposited into student fund programme, while the remainder is used to fund conservation activities in the reserve including mooring buoy maintenance, community improvement projects and KRMC management.

Fiji: Waitabu Marine Park

The Community managed Waitabu Marine Park has been a no-take zone since 1998. The community has managed the snorkeling operation since 2001. Guests are charged F\$40 (around US\$20) for a half day trip which includes guided snorkeling, beach time, village tea and cultural experience. Tourism numbers for the most part have risen steadily from 204 persons in 2001 to

⁶ The Tu'anga Taporoporo is a body corporate that comprises the Environment Council and the Environment Service. The Environment Council consists of six persons appointed by the Minister of

Environment with the approval of cabinet. The council acts as an advisory body to the Minister of Environment and the Environment Service. It also formulates policies for the ES to implement. The Service consists of a Director and officers which implement policies and programs consistent with the Tu'anga Taporoporo as approved by the Council. (The Environmental Protection Fund: The Cook Islands Experience 1994-1999, Anna Tira'a).

⁷ Initially no guidelines were developed for the selection of eligible projects that should be funded under the EPF and so the

Environmental Fund Committee was established to do this in 1995, but is presently not functioning.

⁸ a fishing committee established to oversee traditional fishing grounds

around 250 in 2006. This project generated US\$20 000 over a 6 year period for the people of Waitabu, for an average of US\$3 300 per year.

Vanuatu: Moso Island - Tassiriki

Eco-volunteers pay US\$1000-2000 for a 10-week stay. With less than 100 volunteers every year, this equates to approximately US\$100 000 annually. An agreement, (which was managed and designed with the community) has been signed between the village and a UK company, Global Vision International. The Eco-tourists are involved in tagging and monitoring sea turtles, as well as assisting at the sea turtle clinic. 30% of the revenue (around US\$30 000) generated seems to go to the community to cover local costs of hosting the volunteers.

Palau: Rock Island and Jellyfish Lake

In addition to the Green Fee, paid by all visitors to Palau, divers and others wishing to visit Rock Island and Jellyfish lake are required to purchase a diving permit of US\$50 for the former and US\$100 for the latter. The permits are valid for 10 days. Revenue generated goes towards conservation, monitoring and management of the areas, as well as improving tourist facilities. Approximately US\$200 000 and US\$250 000 have been generated in 2013 for Rock Island and Jellyfish lake respectively.

Adopt-a-Coral Reef in Palau and Papua New Guinea (PNG): Kimbe Bay

The Nature Conservancy (TNC) established Adopt-A- Coral Reef Programme in these two islands (among others). Persons wishing to "adopt" pay a minimum of US\$50 on the TNC website and receive a certificate, subscription the TNC's magazine and newsletters as well as photos. While it is not explicitly stated on TNC's website what the funds will be used for, TNC's work includes identification of the critical areas for protection and improving long term management in Palau and establishing MPAs, protecting spawning aggregation sites and assisting with the drafting and implementation of legislation in PNG.

Business Ventures by Private sector Beneficiaries of Ecosystem

Services (ES)

Bioprospection

One of the income generating activities identified by the Fiji Locally Managed Marine Areas (FLMMA) is the commercial search for drugs from marine organisms. In Fiji, the University of the

South Pacific (USP) has played a pivotal role and has brokered agreements with the Strathclyde Institute for Drug Research (Scotland) and the Verata district in 1997 and with PharmaMar (Spain) with many provinces in 2007. In each case, formal contracts were made between the communities and the companies.

In Verata, US \$100 was paid per sample for 350 samples and this was split between conservation activities and an education trust fund. This work with the Strathclyde Institute for Drug Research was not replicated, as most pharmaceutical companies terminated their natural project divisions.

In the PharmaMar case, US\$25 000 went to USP laboratory and the same sum went to a trust fund set up to support LMMA in the areas where collections take place. Some marine natural products have been used for health research and a 3-5% royalty fee equates to around US\$5000 per year for Fiji. In each case "milestone payments" were made for collection and there were sharing benefits from licensing fees or royalties..

While the potential remains, evidence that this could be developed and realized anytime soon is not clear.

Live Rock Harvesting

Another income generating mechanism identified for FLMMA⁹ is the harvesting of live rock (Lal and Kinch, 2005; Sauni et al., 2005). The primary company involved in this is Walt Smith International, who has contracts with many villages. Villagers purchase bare rock at US\$.25 per kilogram, which they place in the sea and harvest after about one year. The bare rock has usually attained the characteristics of natural live rock and the villagers receive US\$.50 for this material. It is anticipated that improved reef conditions over time will compensate for the loss in revenue of live rock harvesters¹⁰. This initiative does not appear to have been fully successful due to distrust between the villagers and the live rock company, as well as dissatisfaction with the original cultured rock design. After the initial trial in 2005-2006, the project was redesigned and restarted in 2008. Earnings of up to US\$500 000 (depending on market penetration) could be made annually for Fiji.

⁹ In order to assist with community involvement in this project USP, under an International Cooperative Biodiversity Group (ICBG) grant, underwrites the purchase of up to 5 000kg of bare rock per village. At least 60% of the proceeds must be used to replant live rock annually.

¹⁰ A live rock harvester can earn up to US\$ 10 000 annually, while for a cultured live rock harvester, the annual returns for the village for the initial planting are in the region of US\$3 000 per year.

Other businesses related to aquaculture

Several feasibility studies have described the potential of different business activities such as sea cucumber ranching, culture of sponges, pearls, giant clam, seaweed, lobster and live food fish. The results are contradictory, with some studies identifying activities as financially sustainable and other studies finding them not sustainable. It is out of the scope of this study to analyse more precisely the reasons behind these divergent signals and the reader can refer to the existing litterature (Eco-Consult Pacific, 2004; Lal and Kinch, 2005; Pomeroy et al., 2004; Pomeroy et al., 2006; Purcell et al., 2012; Sauni et al., 2005).

Fishing License Fees

Reef fishing license fees: (Fiji, Ba province).

No information available to describe sales of coastal fishing license fees by the communities to external fishers in this province.

Pelagic fishing license fees

In Palau, the allocation of purse seine Vessel Days from Palau's EEZ is a tradable right which generate annual incomes. 510 days were sold in 2014 for US\$2.1 million. According to the Constitution, "all revenues derived from licensing foreign vessels to fish for highly migratory fish within the jurisdictional waters of Palau shall be divided equitably between the national government and all the state governments as determined by the Olbiil Era Kelulau". The fishing license revenue is then distributed as follows: 15% of total revenue channels to the national government, 55% is distributed equally among the 16 states, and 30% is distributed to the 16 states based on population size.

PES (Fiji Beqa Is.)

As described in Clua and Pascal (Clua and Pascal, 2014), an ecotourism operation was developed in the early 2000s on the island of Beqa in Fiji, located south of Viti Levu. The activity is based on scuba diving to observe bulldog sharks, *Carcharhinus leucas*, fed by the leader of the dive group. In addition to the profits made by the two dive clubs who hire local staff, each of the five villages involved in creating the marine reserve where the spotting dives are made receive an annual budget of about USD 60,000 to be used as they see fit (Brunnschweiler

2009). In particular, these payments are directed to village fishers to change practice and improve the populations of emblematic species (the fishers have to respect the reserve and not fish for sharks inside and outside the reserve). Even if this mechanism is generally not presented as a

PES, it adheres completely with its principles and has proven its effectiveness over a period of more than 20 years in the clearly social and potentially environmental domains.

Impact investors

No impact investment has been identified in the region.

ODA, Govt., NGOs, foundation financing

Micronesia Conservation Trust fund (MCT).

The MCT was originally established in 2002 under the laws of the Federated States of Micronesia (FSM) as a national CTF (Conservation Trust Fund) whose purpose was to support biodiversity conservation and sustainable development for the FSM. In 2005 the geographical scope of the MCT was expanded to also include two other neighboring countries in Micronesia ---Republic of Palau (ROP) and the Republic of the Marshall Islands (RMI) --- as well as the US Territory of Guam and the US Commonwealth of the Northern Mariana Islands (CNMI). This was a result of (among others) the MCT being chosen as the financing mechanism for implementing the Micronesia Challenge (MC)¹¹ for all five “jurisdictions”.

MCT’s total endowment for the regional Micronesia Challenge is currently US\$11 million, consisting of US\$6 million from GEF, US\$3 million from The Nature Conservancy, US\$1.9 million from the Government of Palau, US\$265,000 from the Republic of the Marshall Islands, and US\$0.5 million from Government of Taiwan¹².

MCT’s role is to assist the 5 MC jurisdictions raise, invest, disburse and manage the Micronesia Challenge Endowment Fund. The Micronesia Challenge is an overarching regional strategy but each country goes at its own pace, and sets its own fundraising target. The MCT has executed Agreements with the governments of each of the 5 MC jurisdictions.

¹¹ The Micronesia Challenge (which was designed with technical and financial assistance from TNC) is a commitment by the governments of all five MC “jurisdictions” to effectively conserve at least

30% of the near-shore marine resources and 20% of the terrestrial resources across the entire region of Micronesia (covering 6.7 million square kilometers) by 2020. The Palau Micronesia Challenge Endowment within the Micronesia Conservation Trust will eventually serve as a source of funding for marine and terrestrial conservation efforts.

¹² This does not count US \$3 million which has been pledged (but not yet raised) by Conservation International. These figures also

exclude the GEF Small Grants Program, which provides approximately US \$750,000/year split equally between the three independent counties belonging to the MCT (since the two US territories belonging to the MCT are not eligible for GEF funding or for any other ODA funding).

Palau within the MCT

In case of the Republic of Palau, each year, 5% of the Green Fees collected as well as any unallocated funds remaining at the end of the fiscal year must be placed in Palau's endowment fund. The Micronesia Challenge Sustainable Finance Plan estimated that Palau would need a budget of \$3.2 million per year to reach the MC conservation goals. It furthermore assumed that Palau could cover \$2.9 million of this on a revolving basis, leaving \$320,000 to be covered by an endowment¹³. At the time of this report, the Palau endowment is approximately \$6 million. A pledge from Conservation International in the amount of \$1 million has yet to be fulfilled. When this comes in, and the expected two-to-one match is made by Palau, the endowment will reach \$9 million. Capitalization of the endowment is almost complete, but the revolving fund has not materialized.

Phoenix Islands Protected Area Conservation Trust (PIPA)

PIPA is a non-profit, non-governmental organisation (NGO) established under the laws of the Republic of Kiribati. Its primary objective is to compensate for the loss of pelagic fishing license fees and ensure long-term sustainable financing for the conservation of terrestrial and marine biodiversity in the Phoenix Islands Group.

The Trust is governed by a Board of Directors, which is made up by persons appointed by the Government of Kiribati, New England Aquarium and Conservation International and is managed by a professional third party. The Trust manages an endowment fund, which was supposed to have received initial contributions totaling US\$5 million from both private (Conservation International) and public (Government of Kiribati) parties. Revenues from the fund should go towards the annual fixed and variable management costs for PIPA as well as payment to the Government of Kiribati to compensate for the loss of pelagic fishing license fees.

Fiji - Fiji Locally Managed Marine Area (FLMMA)

FLMMA has a "trust" account with ANZ bank. The "trust" account is used for

donations and contribution from partners. There is currently approximately US\$46,000 in the “trust” account. The current expectation is that the FLMMA Trust Fund will simply act as a revolving operational

¹³ Assuming a 3% net interest rate, they would need a \$10 million endowment.

account¹⁴. There are currently no endowment expectations. It is also expected that each I qoli qoli site member of FLMMA will have their own site-specific sub-account within the Trust Fund to cover their activities.

Solomon Islands- Tetapare

Descendants of Tetapare's former inhabitants formed the Tetepare Descendants' Association (TDA) in response to the threat of commercial logging, with a goal of protecting and conserving the island for the benefit of all and future generations. The TDA are the legal owners of Tetapare Island. More than 3000 descendants have joined, making this, the largest landowners' association in the Solomon Islands.

The TDA's strategies for sustainable financing also include the Conservation Agreement Fund (CAF) endowment and scholarships provided by donors. The TDA is still however primarily dependent on short-term grants which are secured by the TDA support team which includes the Solomon Islands Community Conservation Partnership (SICCP).¹⁵ Primary limiting factors are donor interest and support.

The TDA endowment is held by the Conservation Agreement Fund (CAF) and managed by UBS Financial Services in Seattle. The fund currently has approximately \$330k and produces payments of approximately \$15k annually. Endowment costs are 1.5% annually. 1% goes to UBS, and while 0.5% is supposed to be split between CAF and SICCP by mutual consent it goes to CAF as SICCP is already well supported.

Additionnaly, with funding from the EU, an ecolodge was also created for tourists, which employs local people and raises money to assist the conservation programme. Success lies in providing tangible benefits to society in the form of jobs¹⁶. The lodge sporadically makes a significant contribution to conservation efforts, but has never been sufficient to cover TDAs core requirements of governance and staffing¹⁷.

¹⁴ Funds will continuously flow into the fund from community contributions, donors and other sources, while at the same time, flow from the fund to achieve the fund objectives.

¹⁵ The SICCP seek to primarily implement the goal of supporting people throughout Melanesia manage their resources

sustainably. They achieve this through the use of Community Conservation Agreements (CCAs).

¹⁶ More than 30 casual hospitality worker, 12 rangers, 4 seagrass monitors and 3 boat drivers are employed. Other benefits include jobs from construction of the lodge and sale of vegetables to lodge.

¹⁷ In recent times, tourism revenues have declined, partially due to the increased airfares and transit costs required to get to such a remote location. Also the local staff is still in the process of building capacity, and so service is variable.

Cook Islands: Muri Rarotonga

Seacology, a non-profit NGO provides benefits to islanders in exchange for the creation of nature reserves. In Muri Rarotonga, the villages requested assistance in renovating the village meeting house and re roofing the health clinic in the year 2010. Seacology assisted in providing funding for these projects in exchange for the villagers creating a 413 acre conservation area which includes a lagoon and surrounding marine areas. The conservation area has been established and is reported (by Seacology) to be doing well. No additional data has been received from the NGO.

Palau: Helen Reef Atoll

Helen Reef Atoll is one of Palau's largest coral reefs and has been managed by the Hatohobeian community for generations. A Marine Conservation Agreement was negotiated by OneReef NGO for the community in 2010 as a means of sustainable funding the managed area. A 5 year trial was agreed to, whereby the community would produce a marine spatial plan for the area and global partners commit to providing at least US\$35 000 annually to support jobs, training, ecological monitoring and community engagement. In 2013, the community signed an endowment agreement with the Micronesian Conservation Trust, as an initial step in the procurement of secure financing for the Atoll. The future plan is to strengthen the sustainable financing mechanisms to contribute to the endowment fund from a diverse array of funding sources on an annual basis (including from the Green Fee).

Papau New Guinea, Solomon Islands, Vanuatu, Fiji, New Caledonia, Timor L'Este: Mama Graun Conservation Trust Fund

After a failed attempt to establish a trust fund with the Government of Papua New Guinea, a second attempt was started with the structure, board and interested international donors as well as the assistance of the TNC. The trust began with small donations and a grant of US\$150 000 from The David and Lucille Packard Foundation. In the future, the Trust hopes to raise \$30 million that will generate annually US\$1 million approx. for conservation.

Cook Islands: Trochus

The harvesting of the gastropod snail (*Trochus niloticus*), whose shell is used extensively in the making of buttons and jewellery has been a revenue generator for many rural communities in Pacific Islands. In Cook Islands, the stock of this snail is reported to be overharvested, which prompted the Island Council of Aitutaki to develop rules for the Fishery (size limits, seasonal bans and quotas), which would allow the stocks to recover as well as the sharing of benefits of the

fishery throughout the community¹⁸. This system allows the production of 18-45 tonnes per year, which generates between NZ\$100 – NZ\$200 000 annually (US\$80 - 160 000).

Chapter III: Selection of financial mechanisms adapted to the Pacific context

Selection criteria and budget categories

This section aims at presenting a selection of 13 financial mechanisms (listed in the next table) with a potential for the Pacific region in support of coastal management.

<i>Selected instruments</i>	
1	Conservation agreement
2	Trust fund
3	Tourism User fees (incl. Entrance fees)
4	Tourism concessions
5	Taxes (e.g. departure tax, hotel tax room)
6	PES of coastal protection
7	PES of scenic beauty
8	PES of biomass production and water quality
9	Entrepreneurial MPA tourism
10	Entrepreneurial MPA aquaculture
11	Coastal Fishing license fees
12	Pelagic Fishing license fees
13	Bio-banking with developers

Table 0-1: Selection of financial mechanisms for the Pacific region

The selection of instruments is based on the following 3 criteria:

- iv. Volumes of cash flow generation adapted to the specific Pacific ICZM budget needs;
- v. Funding stakeholders¹⁹ (business sector, end users, investors, ODA) already present or with a potential to be present in the Pacific.

¹⁸ The Council carries out a household head count during the assessment period and the allowable

catch is divided by the head count in order that each person would receive an equal share. At the onset of the season, each household head goes to the Council office to get permit for each member of the family. When the harvest is closed each family takes the clean shells to the Council. Those shells which are out of the permitted range are confiscated.

¹⁹ Government funding mechanisms have been excluded to concentrate the study on non-public country funding sources.

vi. Operational and legal pre-feasibility in the Pacific context.

For the first criteria, it is important to discuss budget needs in the context of Pacific Integrated Coastal Zone Management (ICZM) in order to design instruments adapted to the needs. The specificities of ICZM in the Pacific (e.g. Marine Protected Area (MPA), Marine Management Area (MMA), fishery effort control, species regulation, spatial planning, water quality regulation, urbanism, etc) have been described in several papers and reports (Evans et al., 2011; Govan, 2009; Mackay, 2001; The World Bank, 2000; WFC, 2008). Simplifying many assumptions, we can categorise ICZM tools in the following categories, each one with its individual budgetneeds:

Category 1:

MMA co-managed by communities, NGOs and government. They are mainly of small size (<5km²), established for different objectives (Govan, 2009) and organised in some countries through a network (e.g. Fiji, Vanuatu, Solomon, PNG). Average annual operational budgets per MMA are less than US\$ 5 000 (CCIF, 2011; Pascal and Seidl, 2013) but seldom include any permanent paid staff (the economic model is mainly based on voluntary work from community members). For networks, budgets are approximately US\$1000 per MMA member (CCIF, 2011).

Category 2:

MPA managed by NGO or government. Size is bigger (10's km²) and budget is very dependant on the socio-economic context of the PIC (income level). Annual budgets are usually higher than Community based management (>US\$100 000's) (Balmford et al., 2004; Pascal et al., 2014). Specific experiences of large MPAs with a ban or regulation of pelagic fisheries are included in this category.

All the other tools for ICZM (e.g. water quality management, solid waste management, erosion control, beach cleaning management, etc.) must be included in the 2 previous categories. Budget estimates are harder to determine for these activities, as they are very-context dependent. For example, the existence of a sewage treatment infrastructure will influence the actions to be set-up. In the same way, the geomorphological context will determine the

strategy and costs of beach erosion control. For the present study we assumed that the costs of these activities did not influence the budget categories described before.

For the second criteria, we selected instruments where the potential funding stakeholders are already present or may be easily present in the region. Identified stakeholders with a payment

capacity include: end users (visitors, divers, snorkelers, real estate owners), small businesses²⁰ (commercial coastal fishers, tourism, aquaculture, sea-ranching, aquarium traders, fisher cooperatives, village communities), medium and large businesses (pelagic fishery industry, tourism, industrial developers, philanthropic funds, impact investor funds, real estate investors). Selection is based on expert opinion and regional knowledge. The following table sums-up these stakeholders.

<i>Potential or existing financing stakeholders</i>
Philantrropic funds
Tourism (end users)
Tourism businesses
Aquaculture and aquarium investors
Coastal fishers organisation
Pelagic fishers
Developers
Real estate owners
Impact investors

Table 0-2: Listing of non-public financing stakeholders in the Pacific region

For the third criteria, we provided a “pros and cons” analysis for the main instruments as a pre- feasibility of the selected instruments in the Pacific context. For ease of reading we limited our analysis to a maximum of 5 arguments for each instrument.

Additionally, standard levels of transaction costs are described for some instruments such as trust funds and conservation agreements.

Sum-up tables

Taking into account the previous approaches, the selected instruments as well as the pros-cons analysis are summed-up in the following tables:

²⁰ Defined as activities with less than 10 employees

Selected instruments for the Pacific Region

Category	Sources	Mechanism	Financial potential
Category 1: LMMA and associated networks	Philanthropic funds, impact investors	Conservation agreement (for endowment)	Adequate to cover the cost of a network of LMMA (from \$30k to US\$ 200k) per year (US\$300k-US\$10M as endowment)
	Tourism (end users)	Tourism user fees	Adequate for a group of neighbors MMAs (spillover area) if "champion" sites (high volume tourism sites) are present.
	Tourism businesses	Licenses, concessions	Adequate for a group of neighbors MMAs (spillover area) . Require a specific fund management
	Tourism businesses	Entrepreneurial MPA or PES for scenic beauty with tourism businesses (hotels, diveshops, others)	Adequate for a group of neighbors MMAs (spillover area) . Require a specific fund management
	Aquaculture and aquarium investors	Entrepreneurial MPA or PES for sea ranching (sea cucumber, sponges, pearls, giant clam, seaweed, lobster); aquarium trading (live rocks); culture of live food fish	Adequate for a group of neighbors MMAs (spillover area)
	Coastal fishers organisation	Fishing license fees (coastal)	Adequate for a group of neighbors MMAs (spillover area)
Category 2: MMA and MPA managed by government and/or NGO	Philanthropic funds, user fees, taxes	Regional trust fund (endowment for park budget) with national sub-accounts. Funding from ODA and other sources (departure tax, pelagic fishing licenses fees, biobanking)	Adequate at a national level for ICZM
	Visitors	Departure tax - Hotel tax room	
	Pelagic fishers	Pelagic Fishing license fees (trust fund)	
	Developers	Bio-banking with developers	
	Tourism businesses	PES of scenic beauty	Adequate for one or several MPAs (in the spillover area). Requires specific fund management
	Real estate owners	PES of coastal protection	Adequate at a national level for MPAs
	Tourism businesses,impact investors	Entrepreneurial MPA	Adequate for one or several MPAs (in the spillover area).

Table 0-3: Presentation of Pacific selected instruments per category, source of financing and financial potential

Pros/Cons table (Part I)	<i>Transaction costs</i>	<i>Pros</i>	<i>Cons</i>
Conservation agreement	1,5%-3% of funds	Long term instrument relatively easy to design (in months for setup)	Track record relatively young
		Existence of fund "parking" for scale costs in fund management	Donor interest and support to be proven and time demanding fund raising activities
		More flexible than national trust funds	Lack of consolidated methods for auditing of results / indicators
		Can be setup with a fund starting at US\$ 300k (producing \$15k annually)	
Trust fund	Between 15 to 20% of funds	Long term instrument	Minimum viable size for a trust fund endowment around US \$10 million
		Can require matching fund from country to rely less on ODA funding	Complex legal setup
		Regional trust fund with sub-accounts adapted to PICs context (please refer to the Caribbean Biodiversity fund for reference)	Rely mainly on traditional sources of funding (ODA)
		Success track record	
Tourism User fees (incl. Entrance fees)	Site specific	High WTP from international visitors (conditioned to earmarking of funding to the MPA and "visibility" of the investment)	National legal framework not compatible with earmark of funds
		Can cover a high part of ICZM cost if tourism volume is high	Market volatility
		Fees collect techniques with track record (e.g. tags, entrance fees)	Limited to tourism sites (except if portfolio redistribution)
		Carrying capacity control (price-demand elasticity)	Direct costs of collecting funds has to be controlled. Mismanagement and corruption has to be controlled
			Acceptation from tour operators and other businesses can be difficult

Pros/Cons table (Part II)	<i>Transaction costs</i>	<i>Pros</i>	<i>Cons</i>
Tourism concessions	Site specific	Costs invisible for users	Business failure /risk
		Stability of revenue	Lack of respect from businesses
		Business skills for the MPA	Cost of enforcement
Taxes (e.g. departure tax, hotel tax room)	Site specific	Ease of collection	Politically unpopular
		Flexibility in the use of funds	Not equitable with no users of MPA
		National level	Loss of control on funds (nation budget)
Entrepreneur MPA: tourism, sea cucumber, sponges, pearls, giant clam, seaweed, lobster); aquarium trading (live rocks); culture of live food fish	Business specific	Private-community partnerships potential	Contradictory feasibility studies (details in the text)
		New market opportunities	Lack of track record of business success
			Issues of benefit equity and contribution to MPA costs

Table 0-4: Analysis of Pros & Cons of the selected instruments

Rapid description of the instruments:

Entrance and user fees:

Entrance fee is a fee charged to visitors in order to enter a MPA. They can be charged directly to the visitor or, alternatively, tour operator companies may purchase pre-paid tickets (or bracelets) in advance, so that visitors on organized tours have the fee included in the total cost of their tour package (Uyarra et al., 2010).

User fees are fees charged to visitors for undertaking specified activities or for use of specified facilities within protected areas, subject to compliance with protected area regulations (eg. for parking, camping, fishing, hunting, boating, diving, hiking, recreational programmes, sports, photography, etc.) (Conservation Finance Alliance, 2003)

Concessions, leasing fees

These fees are typically collected from companies ("concessionaires") that are granted "concessions" for providing a service to visitors within a site (Uyarra et al., 2010). Companies providing services within MPAs, such as diving, whale watching and day tours, can be charged fees to operate such business concessions.

IGAs

The analysis of the litterature on Income Generating Activities does not produce a clear signal in terms of financial feasibility. Main limitations identified are skilled labour force, price competitiveness (export costs) and market limited size. Please refer to the following authors for more detailed description: (Eco-Consult Pacific, 2004; Lal and Kinch, 2005; Pomeroy et al., 2004; Pomeroy et al., 2006; Purcell et al., 2012; Sauni et al., 2005)

PES

Payment for Ecosystem Services are defined as any mechanism involving a voluntary ES sellers that is compensated through a payment for implementing environment friendly practice(s). These payment can take the form of various agreements or contributions, and can involve a voluntary or obliged payer, that can be direct or indirect user (i.e. a tourist or an NGO) (Laurans et al., 2011). According to several authors (Engel et al., 2008; Laurans et al., 2011; Pagiola,

2008; Wunder, 2007) very few PES mechanisms have been tested on the marine environment and even less on the reef ecosystem, despite the existence of suitable conditions for their establishment.

The main ES identified for coastal PES mechanism (Pascal et al., 2012) and selected for the Pacific context are:

- (i) ES of protection against coastal flooding and beach erosion

- (ii) ES of scenic beauty and emblematic species
- (iii) ES of biomass production and water quality for aquaculture and aquarium industries

Impact investment:

Impact investments are investments made into companies, organizations, and funds with the intention to generate social and environmental impact alongside a financial return²¹ (O'Donohoe et al., 2010). Impact investments can be made in both emerging and developed markets, and target a range of returns from below market to market rate, depending upon the circumstances.

Impact Investors can be classified in three main categories :

- Impact First (primarily seeking to maximize impact while secondarily expecting financial returns if any, i.e., the grant),
- Investment First (fiduciaries primarily seeking market-rate or premium returns and secondarily (if at all) seeking a positive social or environmental impact); and
- Catalyst First (seeking to give or invest to collaborate to build the impact investing industry and infrastructure).

The sector of impact investment in marine biodiversity and ecosystem services is in its early stage of development. Concrete projects on marine ecosystems are few and generally without any studied track records and no analysis of returns on investment (RoI). It would be the role of new projects to structure and consolidate pilot investments and prove the potential of the concept.

²¹ The practice of impact investing can be defined by the following four core characteristics (extracted from the the global impact investing network online site (<http://www.thegiin.org>)):

- Intentionality – The intent of the investor to generate social and/or environmental impact through investments is an essential component of impact investing. These investments are made into enterprises and funds that expand access to critical goods and services, and/or generate positive impact through their operations.
- Investment with return expectations – Impact investments are expected to generate a financial return on capital and, at a minimum, a return of capital.
- Range of return expectations and asset classes – Impact investments generate returns that range from below market (sometimes called concessionary) to risk-adjusted market rate. Impact investments can be made across asset classes, including but not limited to cash equivalents, fixed income, venture capital and private equity. Impact investors may also earn fees through the

provision of catalytic instruments such as guarantees.

- Impact measurement – A hallmark of impact investing is the commitment of the investor to measure and report the social and environmental performance and progress of underlying investments. Impact measurement helps ensure transparency and accountability, and is essential to informing the practice of impact investing and building the field.

There are many terms for this type of investing. This includes sustainable investing (incl. sustainable fixed income), mission- related investing , economically-targeted investing, and community investing.

Entrepreneurial MPAs

An entrepreneurial MPAs is an MPA that is primarily funded by a profit-bearing business model, typically associated with dive tourism (The Katoomba Group and Marketplace, 2010). Entrepreneurial MPAs are designed to produce environmental and social impacts, and they primarily employ business models instead of grants to achieve those outcomes. While over half of terrestrial protected areas have private sector involvement (Dearden P. et al., 2005), significantly fewer MPAs include the private sector.

Entrepreneurial MPAs can be associated to other activities such as aquaculture or sea-ranching.

Trust fund:

The minimum viable size for a trust fund endowment is probably around US \$10 million (Conservation Finance Alliance, 2008) because smaller size are likely to end up spending too large a part of their budget on administrative expense²². In that sense, regional trust fund are more adapted to the Pacific context and will allow scale cost on management fees.

The model of the Caribbean Biodiversity Fund (CBF) covering 8 countries and counting with US\$40M²³ in endowment fund from kfw, GEF and TNC should be instructive. Quoting a recent report from B. Spergel on Regional Conservation Trust Funds (Spergel, 2012), “the CBF is a regional endowment whose purpose is to support the 8 national-level PA Trust Funds. It is incorporated as a tax-exempt Charitable Trust in the UK (...). Spending decisions (about which specific PAs and biodiversity conservation activities to support) will be made by the national-level PA Trust Funds (...). It is expected to pay out US\$2 million per year to the 8 participating countries national PA Trust Funds, based on the country’s national PA Trust Fund’s share of the capital within the CBF”.

One original aspect is that the CBF is being created as an incentive fund, which means that each country has been asked to create new conservation finance mechanisms that will generate annually at least a 1:1 match to the annual payout by the CBF endowment to the country’s national PA Trust Fund.

²² Donors such as KfW, USAID and GEF have require that no more than the 15-20% of a fund's annual budget should be used for these kinds of administrative and management expenses, except in the start-up phase.

²³ More than US \$32 million has already been pledged by Germany, TNC, the GEF, and the Government of the Bahamas (towards its own CBF endowment sub-account)

Bio-banking:

Mitigation banking is defined as the restoration, creation, enhancement or preservation of an habitat as intact ecosystems, which can offset impacts²⁴ to similar nearby ecosystems, due to development project. The goal is to replace the functions and values of the habitats that are lost with equal or better habitat that is located within a larger ecosystem.

Some of the PICs countries (inventory to be done) have developed a legal framework based on the mitigation hierarchy to ensure that ex-ante impacts of a project have been, as far as possible avoided and reduced following environmental impacts assessments. The remaining impacts are then compensated in the form of restoration, rehabilitation, replacement, and/or acquisition of the equivalent of habitat. The aim of the mitigation hierarchy is to achieve no net loss (NNL) of biodiversity²⁵, and preferably a net gain for currently threatened biodiversity and ecosystems.

²⁴ The main impacts requiring compensation come from permitted or non-permitted (accidental)

actions . Permitted impacts are generally associated with beach nourishment, channel dredging, tourism infrastructure (hotels), private docks and piers, private and commercial ports or marinas, laying energy and communication cables, pipelines, and coast protection projects. Compensation for these damages is referred to as ex-ante.

²⁵ The standard created by BBOP (Business and Biodiversity Offset Program) can be downloaded at : http://www.forest-trends.org/documents/files/doc_3078.pdf

Chapter IV: Final recommendations for the RESCCUE project approach

Recommendations

Based on expert opinion, an additional and specific analysis for the RESCCUE sites has been realised on the 12 selected instruments (Chapter III). A pre-assessment (very preliminary) of the level of complexity (low-medium-high level) for the development of the proposed instrument in the context of each country is described. Complexity is based on a mix of (i) existing track record of success (influencing the difficulty to convince funding stakeholders), (ii) the environmental friendly profile of the industries and (iii) the legal framework (not adapted, easily adapted, ready) of each country.

In the same way, the expected time span for implementation: short term (<2 years), medium (3<x<5 years) and long term (>6 years) is detailed.

Results are presented in the following table:

		Time span	Track record of success	Environmental profile of the funding stakeholder (low-med-hi)	Legal framework				Complexity (low-med-hi) for implementation in Fiji-Vanuatu	Complexity (low-med-hi) for implementation in French Polynesia and New Caledonia
					Fiji	Vanuatu	French Polynesia	New Caledonia		
1	Conservation agreement	Medium/long	yes, some	Generally high	Ready	Ready	Easily adapted	Easily adapted	Low	Med
2	Trust fund	Long	yes, many	Generally high	Ready	Ready	Easily adapted	Easily adapted	High	High
3	Tourism User fees (incl. Entrance fees)	Short	yes, many	Generally medium	Ready	Ready	Not adapted	Not adapted	Low	Med
4	Tourism concessions	Short	yes, many	Generally low	Ready	Ready	Not adapted	Not adapted	Low	High
5	Taxes (e.g. departure tax, hotel tax room)	Short	yes, many	Generally medium	Ready	Ready	Easily adapted	Not adapted	Low	Med
6	PES of coastal protection	Medium	None	Generally low	Easily adapted	Easily adapted	Not adapted	Not adapted	High	High
7	PES of scenic beauty	Short	None	Generally medium	Ready	Ready	Not adapted	Not adapted	Med	High
8	PES of biomass production and water quality	Short/Medium	None	Generally low	Easily adapted	Easily adapted	Not adapted	Not adapted	Med	High
9	Entrepreneurial MPA tourism	Medium	yes, some	Generally low	Easily adapted	Easily adapted	Not adapted	Not adapted	Med	High
10	Entrepreneurial MPA aquaculture	Short	None	Generally low	Easily adapted	Easily adapted	Not adapted	Not adapted	Med	High
11	Coastal Fishing license fees	Short	None	Generally low	Easily adapted	Easily adapted	Not adapted	Not adapted	Low	High
12	Pelagic Fishing license fees	Short	yes, some	Generally low	Easily adapted	Easily adapted	Not adapted	Not adapted	Low	Low
13	Bio-banking with developers	Medium	s, some (veryrecen	Generally low	Ready	Ready	Ready	Ready	Med	Med

Table 0-1: Preliminary analysis of complexity of instrument implementation in the RESCCUE sites

These results are very preliminary and rely on many subjective assumptions and uncertainties. Its objective is to be used as a seed to open the discussions of the RESCCUE experts meeting on approach and methodology. Next steps include an analysis of the presence and payment capacities of the funding stakeholders (preliminary analysis in the following table):

<i>Financing stakeholders presence</i>	<i>Fiji</i>	<i>Vanuatu</i>	<i>French Polynesia</i>	<i>New Caledonia</i>
Philantropic funds	present	limited	limited	limited
Tourism (end users)	limited	limited	High	limited
Tourism businesses	limited	limited	High	limited
Aquaculture and aquarium investors	limited	very limited but potential	High	limited
Coastal fishers organisation	present	limited	limited	limited
Pelagic fishers	present	present	limited	limited
Developers	none	very limited	limited	present
Real estate owners	limited	limited	present	limited
Impact investors	None			

Table 0-2: Presence of existing financing stakeholders

Recommendations and Possible Next Steps for RESCCUE

- 1) Establish a forum for South Pacific innovative financing, based on the model put forward by the East African Forum for Payment for Ecosystem Services (www.eafpes.org), in order to build awareness of and capacity for PES projects.
- 2) Conduct demonstration sites on a short list of selected instruments in the RESCCUE sites. Ideally a tourism user fee scheme, a conservation agreement and a PES mechanism should be represented in the whole project. The main limiting factors in the Pacific will be the legal framework (especially in French overseas territories) and the payment capacities of financing stakeholders. Therefore, creative thinking will be a key factor of success.
- 3) Conduct a thorough feasibility study for the Regional Trust Fund. The fundraising potential must be assessed as one of the main priorities. In the same way, conducting a fundraising campaign in the early stage will be crucial. The model of the Caribbean Biodiversity Fund (CBF) covering 8 countries and counting with US\$40M²⁶ in endowment fund from KFW, GEF and TNC could be used as a model.
- 4) Build capacity for Pacific nations to conduct feasibility assessments in order to determine whether innovative financing is both appropriate and achievable. Using the criteria developed by Forest Trends (described in the annex), rapid assessment of enabling conditions can help quickly pinpoint what areas need further investigation in order to conduct robust feasibility assessments, and plan effective innovative financing schemes.

²⁶ More than US \$32 million has already been pledged by Germany, TNC, the GEF, and the Government of the Bahamas (towards its own CBF endowment sub-account)

Annex:

Assessing Suitability and Feasibility for Innovative Financing

Some sites, social conditions, and circumstances are more suitable to the development of innovative financing schemes than others. The following section proposes questions that planners might ask themselves as they assess whether innovative financing is possible, in order to determine whether information is sufficient and whether the enabling conditions will permit schemes to be developed and put into practice.

Questions to Consider for Innovative Financing Feasibility

Section I. Ecosystem Considerations

A. Ecological Understanding

1. Have the important ecosystem services been identified?
2. Have conditions and trends in ecosystem services provision been assessed?
3. Is there a clear understanding about causes of loss of services?
4. Are the interactions between services understood?
5. Have thresholds been established?
6. Is the ecosystem services provision being monitored?

B. Mapping

1. Is there an understanding of the geographical dimensions of the most important ecosystems/habitats and the ecosystem services they provide?
2. Have boundaries been articulated?
3. Have concentrations of services been mapped/observed?

C. Valuation

1. Have studies been done on the socio-economic and cultural values of various habitats?
2. Are there quantifiable ecosystem services that can be used to assess trade-offs or establish priorities?
3. Are there case studies of the same services that could be used to establish prices in the absence of local valuations?
4. Have the costs of degradation in ecosystem services provision been established?

D. Perceptions of Value

1. Do the local communities appreciate the socio-economic value of ecosystems and the services they provide?
2. Is the government aware of the socio-economic value of ecosystems and the implications for trade-offs?
3. Are there industries that recognize the socio-economic value of ecosystems, either for resource rents or for ecosystem services from which they benefit?

Section II. Regulatory Environment

A. Effective National Regulatory Framework

1. Does national legislation protect ecosystems, or specific habitats such as wetlands or coral reefs, beyond protected areas?
 2. Is such legislation and existing regulations clearly perceived and understood by users?
 3. What is the legislative framework for the various sorts of marine and coastal protected areas?
- B. Local Control, Authorities, and Regulations
1. Do local authorities have management responsibility?
 2. Is there a local planning agency?
 3. Are local regulations accepted by higher management authorities (state/provincial; national; regional)?
 4. Are there other, locally governed area-based management regimes in place?
- C. International or Transboundary Agreements
1. Are there bilateral or regional agreements in place?
 2. Is the civil society and the industry aware of these agreements?
 3. Is there buy-in with local and regional authorities?
- D. Compliance with Regulations
1. Is there adequate compliance with existing regulations?
 2. Is there a system of monitoring and surveillance in place for monitoring compliance?
 3. Does self-enforcement remove the need for strong enforcement to be imposed on users?

Section III. Sociopolitical Context

1. Community Organization
 1. Are communities organized?
 2. Are access rights to coastal / marine resources stipulated by communities?
 3. Do cooperatives exist, and are they effective?
2. History of NGO / Community Interaction
 1. Is there a strong NGO presence?
 2. Are NGOs accepted as partners?
 3. Is there a history of positive interaction between local communities, decision makers, and NGOs?
3. Strong Public/Private Partnerships
 1. Are there clearly established mechanisms for public/private partnerships that might support marine spatial planning and management?
 2. Is there a demonstrated history of successful public/private partnerships?
4. Co-Management Frameworks
 1. Are the roles and responsibilities of various scales of management authority clearly articulated?

2. Does the national authority “trust” the local management agencies to carry out their roles and responsibilities?

5. Property / Use Rights

1. Are jurisdictions clearly established?
 2. Are property rights, where they exist, clearly laid out and uncontested?
 3. Are use rights clearly articulated?
6. **Poverty**
1. Is poverty directly linked to loss of marine / coastal biodiversity and an instable provision of ecosystem services
 2. Are mechanisms in place for poverty alleviation and are these effective and sustainable?
7. **Political Stability**
1. Is the political environment well understood and does it appear stable?
 2. Is governance transparent?
 3. Does corruption occur and are corruption levels manageable?
8. **Potential for Catalyzing Innovative Financing**
1. Is there an institution/governing body that holds clear management responsibility, or do several institutions hold shared responsibility?
 2. Does the managing institution have a well-functioning link to the community, local NGO and/or government authority?
 3. Is the managing institution well perceived by stakeholders?
 4. Are matching funds or additional donor sources available to support partners?

There is no setting where all these questions can be answered favorably, indicating that the enabling conditions are prefect for designing and launching innovative financing to support coastal and marine management. However, considering these questions will allow both project developers and investors to appraise the chances for success, and the attributes of the system that may need improvement. Here it should be mentioned that launching a pilot PES in a new area can and does improve the enabling conditions, such that when the benefit of investing in conservation and management is made clear, favorable policies to support PES, offsets, or other market-based mechanisms can follow.

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