



AREA-BASED MANAGEMENT
TOOLS FOR COASTAL RESOURCES
IN FIJI, KIRIBATI, SOLOMON
ISLANDS, TONGA AND VANUATU
Volume 1: Status, capacity and
prospects for collaborative
resource management

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Area-based management tools for coastal resources in Fiji, Kiribati, Solomon Islands, Tonga and Vanuatu

Volume 1: status, capacity and prospects for collaborative resource management

Hugh Govan, July 2015

Executive summary

Community driven resource management is a widely recognised tool in the Pacific Island countries being promoted to achieve livelihood and conservation objectives. This report reviews the status, and trends in locally managed marine areas in Fiji, Kiribati, Solomon Islands, Tonga and Vanuatu partners in the Marine and Coastal Biodiversity Management in Pacific Island Countries (MACBIO) project. The context is examined in terms of policy, potential national support, culture, and potential for support and growth of local management to achieve sustainable marine resource management, coastal and marine biodiversity conservation and national marine protected area networks. Volume 1 provides a general overview and summary while Volume 2 contains individual country reports.

Locally driven resource management has resulted in large numbers of documented locally managed marine areas covering up to 80% of the shelf area in Fiji, numerous but smaller locally managed marine areas have been documented in Solomon Islands and Vanuatu and 9 Special Management Areas in Tonga cover nearly 5% of the shelf area. Kiribati stands out as having virtually no locally managed marine areas at the time of writing.

The fundamental basis for the establishment and proliferation of community driven resource management appears to be the existence of recognised local rights over access to, and management of, natural resources. This can be through customary rights as in Fiji, Solomon Islands and Vanuatu or established by law such as in Tonga. Examination of customary rights suggests that arguably community driven resource management may be occurring in many if not most areas under customary tenure and indeed all such areas might already be considered to qualify as Protected Areas under some definitions – this would constitute over 80% of these countries.

The recurrent government allocations for coastal resource management through fisheries and environment agencies may be considered extremely low, approximately USD 4 million per year across the 5 countries or 2 USD per capita, 9 USD per km² of territorial waters, 165 USD per km² of reef or 215 USD per km of coastline. The total budget of these agencies surpassed USD 9 million but most of the costs relate to salaries of the 520 staff and the bulk of their duties are unlikely to support coastal resource management.

There is clear potential to deliver livelihoods, food security, climate change adaptation, disaster preparedness and other policy priorities through consolidated and expanded community driven approaches. The existence in most countries of community and/or customary rights and ownership over resources means that communities will always have to be a key, if not a deciding partner, in designing, implementing and sustaining area based approaches in land and coastal areas. The logistical constraints caused by geography and the foreseeable resourcing constraints (even under scenarios of increased government funding) mean that top-down or government driven approaches common elsewhere will not achieve their aims unless significantly improved planning processes are adopted by governments which are more strategic and inclusive.

Recent moves proposing and even adopting protected area targets of up to 30% represent extremely valuable expressions of political good will. However, depending on how these are interpreted and incorporated into government or NGO workplans the target based approach could undermine the very foundation of the existing land and sea stewardship and conservation and prove an expensive distraction from strategies that are more likely to

deliver far better on national policy priorities. Given the low amount of anticipated government funding it is incumbent on all involved to ensure the most cost-effective and strategic use of the limited funds. Further discussion is also required on the most useful interventions governments should make in areas that community resource management is not able to deliver such as implementing and enforcing Environmental Impact Assessments, land-based impacts or control of commercial markets and exports of natural products.

1. Locally managed marine area experience is diverse and has achieved impressive numbers in terms of sites and area covered but, with the exception of Fiji, achieving significant coverage as a proportion of either countries' communities or marine area is hindered by lack of clear strategies and focused attention.
 - **National and locally driven cross-sectoral or whole of government strategies need to be developed**
2. Customary land and sea tenure and other, sometimes more recently assigned, local and community use rights are the vital but undervalued foundation for Pacific Island coastal resources management.
 - **High priority needs to be afforded to supporting and understanding better the role of customary and community rights in resource management:**
 - **An indigenously driven review should be carried out of the role of customary rights and land/sea tenure in achieving sustainable development and conservation objectives including protected area systems.**
3. Community driven resource management experiences based on rights are clearly a vital foundation to hopes for sustainable natural resource management in the five countries.
 - **Significantly improved and more strategic and inclusive planning processes need to be adopted by governments following guidance from communities as more or less equal partners.**
4. Overall government support for coastal natural resource management and community driven resource management in particular is low in terms of funding and staffing allocations despite the significant efforts of a small number of government staff and the development of some supportive policy.
 - **Government financing of natural resource management should be the starting point for achieving sustainable development and green growth. Strategies and commitments should be framed in this context with either provision for government investment, sustainable financing options or reliance on communities and partners clearly factored in.**
5. Target driven commitments (e.g. 30%) to conservation may provide an opportunity in terms of harnessing political will for sustainability but seem more likely to result in actions that are financially and politically unviable and that may even undermine current progress in coastal resource management.
 - **Strengths and opportunities provided by community driven resource management need to be objectively assessed and genuinely incorporated accordingly in planning and action through inclusive and equal partnerships and discussions. By the same token, process that are alien to the Pacific or that have not achieved a proven track record should be carefully scrutinized and adapted to local circumstances as for instance non-extractive Marine Protected Areas or Marine Spatial Planning.**

Acronyms

ADB	Asian Development Bank	MFRMD	Ministry of Fisheries and Marine Resources Development
AUD	Australian Dollars	MIA	Ministry of Internal Affairs
CBFM	Community-based Fisheries Management	MMA	Marine Managed Area
CBM	Community-based Management	MoA	Memorandum of Agreement
CBRM	Community Based Resource Management	MoU	Memorandum of Understanding
CCA	Community Conservation Area	MSG	Melanesian Spearhead Group
CEAFM	Community-based Ecosystem Approach to Fisheries Management	NDMO	National Disaster Management Office
CFMP	Community Fisheries Management Plans	NGO	Non-government Organisation
DEC	Department of Environment and Conservation	NTZ	No-Take Zone
DFMR	Department of Fisheries and Marine Resources	OECD	Other Effective Area-based Conservation Measures
DLA	Department of Local Authorities	PFO	Provincial Fisheries Officer
DoE	Department of Environment	PICTs	Pacific Island Countries and Territories
EAFM	Eco-system Approaches to Fisheries Management	PIPA	Phoenix Islands Protected Area
EEZ	Exclusive Economic Zone	PSIDS	Pacific Small Island Developing States
EIA	Environmental Impact Assessment	PNG	Papua New Guinea
FAD	Fish Aggregating Device	SBD	Solomon Islands Dollars
FAME	SPC Division of Fisheries, Aquaculture and Marine Ecosystems	SIDS	Small Island Developing States
FAO	Food and Agriculture Organisation	SILMMA	Solomon Islands Locally Managed Marine Area network
FJD	Fiji Dollars	SMA	Special Management Areas (in Tonga)
FLMMA	Fiji Locally Managed Marine Area network	SPC	Secretariat of the Pacific Community
FO	Fisheries Officer	UBA	Underwater Breathing Apparatus
IUU	Illegal, Unreported and Unregulated	UN	United Nations
LMMMA	Locally Managed Marine Area / network	USD	United States Dollars
MCS	Monitoring, Control and Surveillance	USP	University of the South Pacific
MEA	Multilateral Environmental Agreements	VBRMA	Village Based Resource Management Areas
MELAD	Ministry of Environment, Lands and Agricultural Development	VFMP	Village Fisheries Management Plans
		VT	Vatu
		WDPA	World Database on Protected Areas

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Area-based tools for coastal resources in Fiji, Kiribati, Solomon Islands, Tonga and Vanuatu

Background

The Marine and Coastal Biodiversity Management in Pacific Island Countries (MACBIO) project aims, among other things, to assist governments to use seascape-level planning to re-design networks of Marine Protected Areas (MPAs) and demonstrate effective approaches to site management. The present report aims to provide a review of status, trends, policy context, national support, cultural context, and growth potential of local management such as locally managed marine areas (LMMAs) in the context of sustainable marine resource management, coastal and marine biodiversity conservation and national marine protected area networks in the 5 MACBIO partner countries of Fiji, Kiribati, Solomon Islands, Tonga and Vanuatu.

The first volume of this report presents an overview of the context, marine managed area tools, national progress in implementing these, the policy and institutional support and constraints and broad recommendations for strategic support.

The second volume presents the current status of MPAs and LMMAs in the individual partner countries and specific details of the institutional and policy situations as well as some key issues and priorities.

Context for coastal resource management

The Pacific Islands' vulnerability and the importance of sustainable resource management has long been recognised (e.g Dahl and Baumgart 1983) as indeed have some of the key strategies (UNEP 1999). It is worth recapping some of the major and unique factors influencing the selection of strategies for sustainable island and coastal resource management in the Pacific Islands.

- **Small size and isolation present formidable logistic difficulties.** Populations are relatively small, remote and highly dispersed with poor transport and communications between communities and capitals (Figure 1).
- **Strong basis in local governance and community rights.** More than 75% percent of the Pacific Island population reside in rural communities. The communities have maintained, or evolved, systems of decision-making and enforcement based on customary ownership of land and marine resources, traditional leadership and organization and emerging local institutions such as the church. With the exception of Tonga between 81-98 percent of the land in independent Melanesia and Polynesia remains under some form of customary tenure and group or individual right of access to land through customary processes still remains one of the main components of

Figure 1: Relative distance from markets and size of Pacific Island countries in a global comparison (Cororaton and Knight 2013 in Adelman et al 2014)

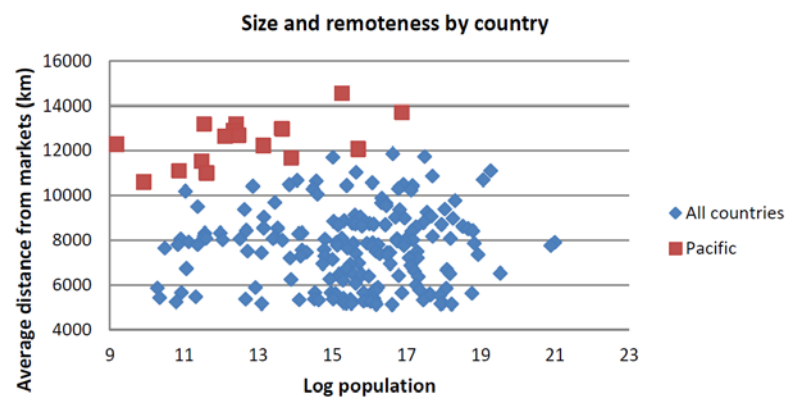
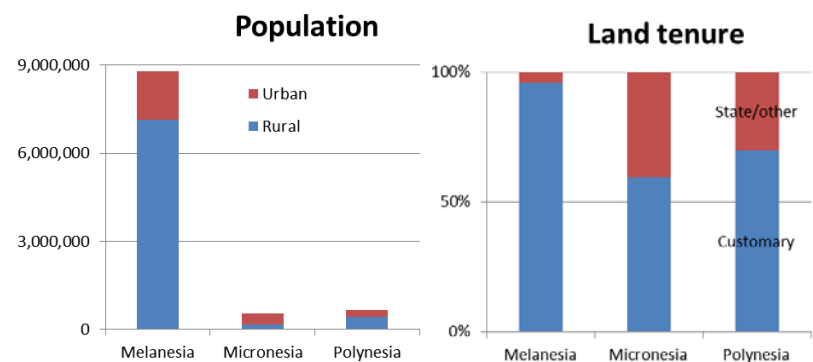


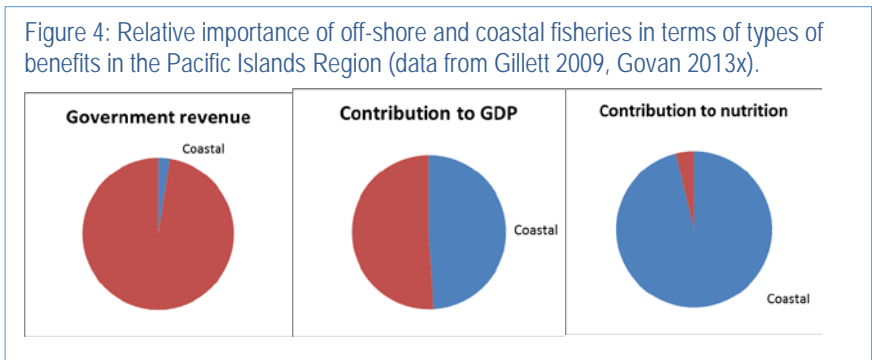
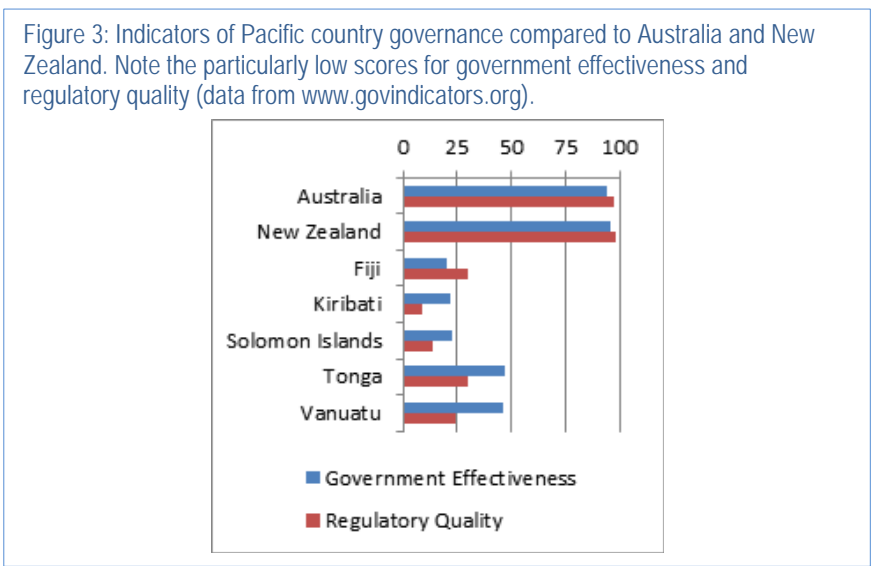
Figure 2: Distribution of Pacific Island population and land tenure by region (data from SPC 2011 and Ausaid 2008 – noting that marine tenure follows similar patterns but is generally de facto rather than de jure).



ethnic and national identity (Govan et al 2009b, Figure 2).

- **Weak government capacity for management and enforcement.** Government departments are usually under-resourced, do not have adequate representation in rural areas and operate in deficient regulatory settings all of which contributes to reduced effectiveness (Figure 3).
- **Many of the values of coastal areas are not monetized.** Faced with considerable challenges cash-strapped Pacific Island governments tend to focus efforts on sectors and activities that generate much needed government revenue. Coastal areas are particularly important for the subsistence economy which is predominant in the countries. Despite their major importance to nutrition and the important contribution to the fisheries component of the domestic economy they are often overlooked especially compared to offshore fisheries, perhaps because they do not generate significant government revenue (Figure 4).

In the years preceding and just after independence resource management and conservation tended to adopt European or North American approaches and this generally resulted in relatively unenforceable outcomes such as “paper parks” or regulations without enforcers (Huber and McGregor 2002, Govan et al. 2009a).



Though the opportunities that customary tenure and local knowledge provide for sustainable resource management in the context of the Pacific Islands were identified long ago (Johannes 1972, 1982) it was not until the late 1990s that such approaches began to be taken seriously (Johannes 1998, Zann 1999).

As part of the shift from top-down to bottom-up and eventually co-managed approaches some of the experiences and practitioners of the 1990s coalesced into a network of sites, practitioners and eventually countries that coined the term Locally Managed Marine Areas and set out to promote and share the idea in 2000 (Parks and Salafsky 2001). By 2008 a survey of South Pacific countries and territories documented over 500 sites in addition to the 214 MPAs registered in the World Database on Protected Areas (WDPA). A majority of these sites had been consolidated in the preceding decade and almost all met the definition of Locally Managed Marine Areas (Govan et al. 2009a).

What are current coastal and nearshore management tools in the Pacific; customary tenure, MMAs, LMMAs, ICCAs, CBRM, OECM and NTZs?

The last 50 years have seen the decline of traditional conservation methods and relatively ineffective attempts to implement top-down protected areas on land and inshore areas and, in partial response to this, the revival of local management largely based on traditional rights, knowledge and governance (Johannes 1978; 2002, Axford et al. 2008, Govan et al 2009a). This section briefly examines the foundation and potential of traditional rights before describing some of the recent approaches to coastal area based management that have built on these rights.

Customary tenure and indigenous stewardship as the basis for sustainable resource management and conservation

The relationship between people and their land may define among other things the duty of care that people have to each other, the future generations and the environment. Such is the case of the *vanua*, in Fiji and similar concepts are to be found in most of the traditional Pacific societies such as *fenua* (Tuvalu), and the *puava* (Marovo, Solomon Islands). These cultural beliefs affect resource access and allocations - the environmental stewardship potential of these property rights regimes contrasts markedly with the pitfalls of the western open access approaches (Lal and Keen 2002, Hviding 1996). The reflection of these systems in legal or even de facto rights over the resources constitute a fundamental basis upon which to build much vaunted "rights-based management" (RBM) (CCIF 2013).

In places where rights over coastal resources are not already in the hands of the resource users there is a growing global trend towards establishing clear rights as first step towards co-management or RBM, this was the approach taken by Tonga with the provision for Special Management Areas under the Fisheries Management Act 2002 (Gillett 2010) and the LMMAs of West Papua in Indonesia (Morin et al. 2011). Where CMT has been too severely eroded then other rights may prove adequate, if locally accepted, such as the jurisdictions of Island Councils in Kiribati. This leads to Govan et al (2009b) warning about the potentially massive environmental impacts of the erosion of traditional tenure, warnings which are rephrased here.

- **Great care should be taken to avoid further undermining traditional environmental stewardship and customary tenure and local rights systems. Environmental management will be severely undermined in the absence of guarantees of alternative western style command and control mechanisms and the resources to fund enforcement or purchase/lease large tracts for conservation.**

One perceived drawback of customary tenure is that it is often not documented and therefore some countries have codified or formally registered customary tenure attempting to provide a basis more suited to meshing with western style land use planning (e.g. Fijian tenure), But traditional tenure systems are increasingly under external (and sometimes internal pressure) to reform, being seen as a major constraint to economic development by some commentators and donors (Hughes 2003, 2004). Attempts at reform driven by such motivation may not necessarily be in the best interests of the environment, citizens or the land-owners themselves and much of the debate seems to skip lightly over the potentially grave impact that erosion of traditional tenure systems may have on the environment.

- **The flexibility inherent in customary systems make them well suited to adaptation in the face of diversity and constantly changing social, environmental and legislative conditions. This may be undermined by ill-considered attempts at codification (Hviding 1998, Ruddle 1998). This does not rule out the potential for codification that incorporates flexibility and takes account of the social context and issues at stake.**

The argument for the enhanced resources management provided by customary tenure is supported by evidence such as expulsion of poachers, prevention or control of squatters or control of access to natural areas (e.g. through fees) commonly experienced in the region. Govan et al (2009b) warn that despite the genuine and profound relationship between people and land there are examples of such areas being exploited unsustainably by their "stewards". Many factors may be at play here including loss of customary tenure and traditional knowledge about the environment, increasingly efficient and speedy methods in which exploitation or damage can be wrought and new interpretations by traditional decision-makers as to the extent of their traditional rights and obligations in modern scenarios of cash incentives, changing governance roles and the ability to be absentee "landlords". However, these are not reasons to undervalue the importance of customary rights but rather provide inputs to an ongoing societal discussion about the implicit rights and responsibilities of traditional land-owners and rights holders.

Recently evolved rights based area management tools

Relatively similar tools and a variety of terms have emerged that describe or encompass the marine resource management efforts of the variety of countries and organizations that have worked on coastal resources management over the last few decades in the Pacific.

Some of the terms used in different countries (and that for the purposes of this review are considered broadly equivalent) include:

CBFM:	Community Based Fisheries Management (Solomon Is. PNG)
CBRM:	Community Based Resource Management (Solomon Is.)
CCA:	Community Conserved Area (Vanuatu)
CEAFM:	Community-based Ecosystem Approach to Fisheries Management (SPC countries)
CFMP:	Community Fisheries Management Plans (A. Samoa, Samoa)
SMA:	Special Management Areas (Tonga)
VBRMA:	Village Based Resource Management Areas (Vanuatu)
VFMP:	Village Fisheries Management Plans (Samoa, Fiji)

Locally Managed Marine Area (LMMA)

The variety of management tools listed above meet the definition of one of the more commonly referred to, the original definition of Locally Managed Marine Area (LMMA) coined in 2000 was:

An area of near-shore waters and coastal resources that is largely or wholly managed at a local level by the coastal communities, land-owning groups, partner organizations, and/or collaborative government representatives who reside or are based in the immediate area. (Govan et al 2009a and Figure 5)

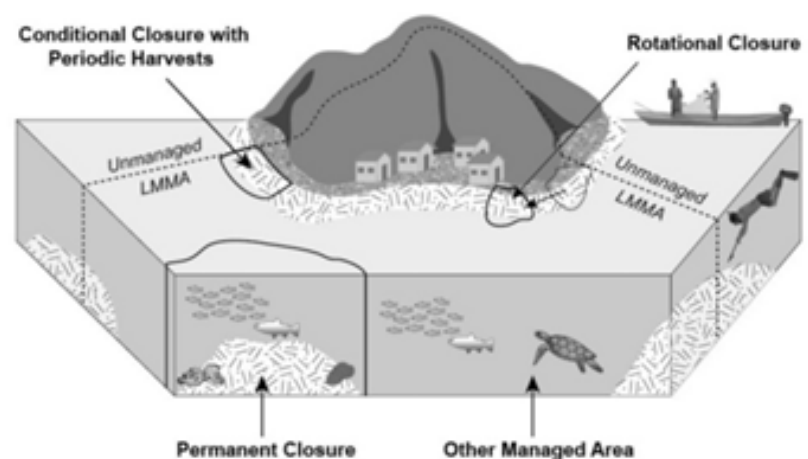
The term LMMA deliberately used “local” over “community”, recognizing co-management arrangements involving communities partnering with government or other external agencies such as non-government organizations (NGOs) and expanding the applicability beyond Pacific countries with customary tenure.

“Waters and coastal resources” refers to integrated land-sea management that though reflecting indigenous concepts in the Pacific also reflects best practices in ecosystem approaches or integrated coastal management (Govan et al. 2009a).

The use of “managed” over “protected” aimed to reflect or even promote a variety of management tools in addition to closures or access restrictions more commonly associated with Marine Protected Areas (MPAs). Management actions may apply in parts of, or the entire, managed area include gear restrictions or species harvest bans, permanent closures that have complete prohibitions on resource extraction in perpetuity, conditional closures with periodic harvests which are no-take areas occasionally opened for socio-cultural needs and rotational closures which are no-take closures that are lifted and moved after a pre-defined time. These closures are all sometimes classed as No-Take Zones (NTZs) and usually modelled on traditional closures which come under the generic classification of *tabu* or *tapu* (Jupiter et al. 2014). It is worth noting that in some instances MPAs have been equated with only the NTZ portion of LMMAs (e.g. Govan et al. 2008) which has led to some confusion compounded by the fact that traditional tabus may apply to gear or species too or be for limited duration.

The rapid uptake of the term LMMA in the Pacific and now in the Western Indian Ocean and beyond is impressive (Rocliffe

Figure 5: Diagram of a locally-managed marine area (LMMA) showing the boundary of the LMMA and adjacent land tenure area over which community rights are held (dashed line). Management actions may include permanent closures, conditional closures with periodic harvests, rotational closures and other actions in the managed area such as gear restrictions or species harvest bans. Adapted by Jupiter et al (2014).



et al. 2014). However, the original proponents of the term were respectful of each site or country's preferred approach and rather sought to ensure adherence to good practice especially regarding the respect and protocols accorded to working with communities and with each other – these good practices continue to be embodied in a social contract which has recently been renewed (LMMA 2014. Our Promises To Each Other: Our Commitment To Communities) and is implemented by some country networks (FLMMA 2011). Another key concept considered vital to success is the practice of simple adaptive management – known as Community Based Adaptive Management (CBAM) by the LMMA Network (Govan et al. 2008).

The term Marine Managed Areas (MMAs) has been adopted where a more a general term that does not make claims on the management mechanism or objectives is needed and the definition from Govan et al (2009a) is used:

MMA: *An area of marine, estuarine, and adjacent terrestrial areas designated using federal, state, territorial, tribal, or local laws or regulations intended to protect, conserve, or otherwise manage a variety of resources and uses.*

Indigenous and Community Conserved Areas (ICCAs)

Indigenous and Community Conserved Areas (ICCAs) is a term coined elsewhere in the world in parallel with the development of the term LMMA. ICCAs have been recognized for their actual and potential contribution to global conservation targets and indeed include the most ancient examples of protected areas (Kothari et al. 2013). The nomenclature of Community Conserved Areas (CCAs) has already been adopted in the Pacific region (e.g. in Vanuatu's Environment Act) dropping the "I" as most Pacific countries are "indigenous". The accepted definition of ICCAs by Borrini et al (2004) is:

ICCAs are natural and/or modified ecosystems containing significant biodiversity, ecological and cultural values, voluntarily conserved by indigenous, mobile and local communities through customary laws or other effective means. They can include ecosystems with minimum to substantial human influence, as well as cases of continuation, revival or modification of traditional practices or new initiatives taken up by communities in the face of new threats or opportunities.

Three key features are required for a site to meet the definition of ICCA:

1. **A strong relationship** exists between a given ecosystem, area or species and a specific indigenous or local community concerned about it because of cultural, livelihood-related or other strongly felt reasons.
2. The concerned indigenous or local **community is a major player** in decision making about the management of the ecosystem, area or species. In other words, the community has—*de jure* [i.e. legally] or *de facto* [in practice]— the power to take and enforce the key management decisions.
3. The voluntary management decisions and efforts of the concerned community lead to¹ the **conservation** of habitats, species, ecological functions and associated cultural values **regardless of the objectives** of management as perceived by the community.

Govan et al. (2009b) reviewed the status of ICCAs in Melanesia and Polynesia and suggested that the first two key features of CCAs are indeed characteristics of the large proportion of terrestrial and marine territory under customary tenure in the independent island countries of the Pacific. In the broadest sense, all areas under customary tenure and for which the inhabitants have that special obligation of stewardship (typified by the Fijian *vanua*) meet the first two criteria in the definition of Community Conserved Areas.

Regarding the third feature, it has been argued that customary stewardship and restricted access results in "more conservation" than alternative and elsewhere more common tenure systems in which people have a less engrained "duty of care" (cf. Johannes 1978). The conclusion is that all customary areas (i.e. upwards of 90% of land and coastal areas except in Tonga) could be considered ICCAs and valued for their contribution to nature conservation as long as there was evidence of "the conservation of habitats, species, ecological functions and associated cultural values". This evidence or even well-founded likelihood combined with reassurance that in the long term the customary rights holders seek "maintenance of ecosystems and natural and semi-natural habitats and of viable populations of species in their natural surroundings" would qualify these areas even as Protected Areas under the stricter guidelines for Protected Areas of IUCN (Dudley et al 2008 and see below).

¹ ...or, at least, *are well in the process of leading to* the conservation of habitats, species, ecological functions and associated cultural values ...

It is worth noting that though customary tenure has gradually slipped out of daily use in Kiribati the jurisdiction and perceived legitimacy of Island Councils suggests that in the documented cases in which these take and enforce resource management decisions their whole areas might in fact be deemed LMMAs or ICCAs.

New definitions of Protected Area and Other Effective Area-based Conservation Measures (OECM)

The variety of motivations (i.e. objectives) and terms adopted in the Pacific for area-based conservation exemplifies the diversity for which the region is known. However, meeting national and particularly international policy targets is complicated by this diversity. A particularly salient example is commitment at the 10th Conference of the Parties (COP 10) to the Convention on Biological Diversity (CBD) which adopted the new Strategic Plan for Biodiversity 2011-2020 and the “Aichi” targets therein (CBD Decision X/2). Specifically, Aichi Target 11 states: “By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape.”

The definition of MPAs adopted by the Subsidiary Body on Scientific, Technical and Technological Advice of the CBD (Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas) focuses on the “effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings” (SCBD, 2004). This definition would encompass the LMMAs, ICCAs and possibly even many areas under customary tenure in the Pacific. This provides Pacific Island countries a wide variety of cost-effective and appropriate tools to meet Aichi Target 11 (Govan and Jupiter 2013).

However, concerns apparently related to ensuring the effectiveness of protected areas under these government commitments have led the IUCN to propose a more restrictive definition of Protected Areas (Dudley 2008), which though not yet adequately discussed in the context of Pacific conservation, could have the effect of excluding sites that appear to emphasize sustainable use over conservation. However, sustainable use has long been enshrined in the region’s Framework for nature conservation and Protected areas (SPREP 2014) as a key principle for conservation in the Pacific.

The flexibility that the term Other Effective Area-based Conservation Measures (OECM) might have to offer is now also under pressure to conform to the IUCN definition (Jonas et al. 2014). There is a taskforce currently discussing possible definitions to propose to the CBD. There is a real risk that, should the emerging definitions of PAs and OECMs be accepted unquestioningly by the region, Pacific Island Countries may well be extremely challenged to meet Aichi Target 11 and funds could be diverted away from more beneficial and inclusive approaches to the previously failed strict conservation models. Countries are still able to define what count as Protected Areas in their context but much of the outside advice they receive may not have taken the above issues into account and there is a need for regional recognition of the issue and discussions to provide regionally appropriate guidance on the way forward.

- **Possible adoption of the IUCN definition and principles relating to Protected Areas and Other Effective Area-based Conservation Measures requires regional discussion and interpretation. This should be a pre-requisite to any Pacific Island support or debate on proposed changes to the CBD definitions of PA or OECMs.**

Unknown conservation: community resource management under the radar

Customary tenure may be a good basis for sound and appropriate systems of resource management but this needs to be more explicitly dealt with in national policy and perhaps provision made to safeguard against some of the weaknesses emerging under modern pressures. In fact central governments have often faltered when attempting to mesh their fisheries management and environmental roles and responsibilities with similar roles and responsibilities performed by communities or customary owners. This may have been owing to resistance or mistrust from customary owners (Vanuatu?) but possibly also reluctance to relinquish power perceived to be centrally controlled (Fiji, Solomon Islands?).

- **Maximize the potential of customary tenure, adequately legislate and operationalize systems of co-management that bridge the traditional and modern situations at a state level is an area which deserves urgent and much more thorough investigation and discussion outside the specialist fields of conservation and anthropology.**

A fundamental failing in much of the research over the last decade in Locally Managed Marine Areas and Community Based Management is the exclusive focus on the specific interventions and very few studies examine the counter-

factual, that is we know very little about what sort of resource management is happening in villages that have not had government or NGO projects. Evidence from Vanuatu (Johannes and Hickey 2004, Petro et al. this report), Solomon Islands (Govan 2012, Abernethy et al. 2014) and around the region (World Bank 1999) firmly suggests that management beyond simple traditional closures may be relatively common, drawn on when needed and potentially more sustainable and with higher levels of compliance.

- **A priority area of research is gaining a better idea of the current regional and national extent and application of customary tenure and the use of resource management tools by the hitherto un-scrutinized communities. This would allow far more informed decisions on the priority roles of various levels of government and NGOs as well as the development of improved legal enabling environment such as the explicit responsibilities of customary rights holders.**

National progress in LMMAs and community based management

The following section summarizes the data from the 5 countries relating to the proliferation and support of MMAs and LMMAs presented in Volume 2 of this report and puts this in the context of the areas of sea concerned and the available human and budgetary resources at countries' disposal.

Geographical challenges facing marine resource management

A first finding is that there appear to be no standardly derived, let alone accepted, figures for territorial waters, inshore fishing areas or, in some cases, Exclusive Economic Zones (EEZs). Various sources of data are available but figures vary depending on methodology used or level of detail required and the EEZ submissions have not all been formally lodged with the United Nations. For the moment this may not present a major issue for tracking Aichi targets as coverages and progress are well short of targets in most cases.

- **There is a need to produce or establish standard figures for territorial waters, inshore fishing areas and even EEZs in some cases.**

The main geographical features and population parameters are presented in Table 1. The data demonstrate diversity amongst the countries across all parameters but some clear challenges in terms of the size of their land or EEZ areas, population density or growth rates. With a population just under 2 million these countries are stewards of 7.5 million Km² of EEZ, around 100,000 Km² of inshore fishing areas and 18,600 Km of coastline. As a comparison the 17 states of the Caribbean have a population nearing 17 million but only 2 million Km² of EEZ and 9,300 Km of coastline (Masters 2012, Wikipedia).

- **Fiji, Tonga, Solomon Islands, Kiribati and Vanuatu are faced with relatively exceptional geographical challenges to marine resource management.**

Table 1: Geographical and population parameters for Fiji, Solomon Islands, Tonga, Kiribati and Vanuatu.

	Land area (km ²)*	Coast line (km)**	EEZ Area (km ²)**	Territorial waters***	Shelf area [^]	Inshore Fishing Area [^]	Reef area (km ²)^^	Pop'n 2013*	Pop'n density (km ⁻²)*	Urban pop'n (%) *	Growth (%)*
Fiji Islands	18,272	4,637	1,290,000	114,464	29,926	43,299^^	10,020	859,200	47	51	0.45
Solomon Islands	28,370	9,880	1,340,000	140,038	32,759	29,701	5,750	610,800	22	20	2.52
Tonga	650	419	700,000	37,526	3,431	7,760	1,500	103,300	138	23	0.09
Kiribati	811	1,143	3,550,000	77,509	3,920	6,809	2,940	108,800	134	54	2.07
Vanuatu	12,190	2,528	680,000	69,169	7,744	8,233	4,110	264,700	22	24	2.46
Total	60,293	18,607	7,560,000	438,706	77,780	95,802	24,320	1,946,800			

* SPC 2013. Pacific Island Populations - Estimates and projections of demographic indicators for selected years. Updated September 2013
<http://www.spc.int/sdd/>

** SPC/SOPAC data provided 2008 (see Govan et al. 2009)

*** SPC PROCFish project. Approximate area of internal and territorial waters based on SWBD (Shuttle Radar Topography Mission Water Body) calculated as a 12nm buffer from available baselines.

[^] Sea Around Us 2015. Data provided January 15th 2015. <http://searounds.org/>. Inshore Fishing Area (IFA), defined as the area up to 50 km from shore or 200 m depth, whichever comes first (Chuenpagdee et al., 2006). Note that IFAs occur only along inhabited coastlines.

^{^^} Spalding et al. 2001

^{^^^} Fiji's I Qoliqoli or traditional fishing grounds have been reported to cover between 25,588 km² (Govan et al 2009) and 30,016 km² (FLMMA pers. comm. 2014). The latter figure pertains to 346 I Qoliqoli though there are actually 410 demarcated and the total area is not reported (Carte pers. comm. 2014).

Marine managed area progress in Fiji, Kiribati, Solomon Islands, Tonga and Vanuatu

Tracking progress in marine managed areas of all types in these countries is challenging because governments do not maintain up-to-date and accurate databases or ensure that the WDPA is regularly or consistently updated. In Fiji and Solomon Islands NGOs or government/NGO partnerships (e.g. FLMMA, Coral Triangle Initiative) produce and maintain databases that provide an excellent starting point for tracking progress towards meeting protected area targets (marine at least) but require some verification and additional work.

Kiribati and Tonga departments of environment rely on relatively outdated information sets in which errors have persisted for years most notably at the time of writing the double counting of the massive Phoenix Islands Protected Area (400,000 Km²) and the inclusion of the massive but un-enforced Ha'apai Conservation Area (10,000 Km²).

Leaving aside questions of effectiveness, combining data from Fisheries and the department of environment allowed construction of acceptably up-to date data sets for the purpose of the report.

Vanuatu has no available government data-set, the WDPA entries have been reduced and NGOs in general have not produced comprehensive records. Data from one national network – the Vanua Tai network is used to supplement the WDPA and provide at best minimum figures and some insights.

- **All countries should consider establishing and maintaining joint Fisheries and Environment agency databases for managed and protected areas tailored to their specific needs and determine which listed sites should be considered active or not.**

Table 2 shows the area coverage by marine managed areas of which the total area covered is dominated by the Phoenix Islands Protected Area and shows considerable variation depending on the figures used for Fiji LMMAs and the inclusion of Tonga's Ha'apai Conservation Area.

Table 2: Total area of Marine Managed Area (MMA), Locally Managed Marine Area (LMMA) and No-Take Zones (NTZ) based on latest available data presented in Volume 2 of this report.

	Total MMA (number)	Total MMA (Km ²)	LMMAs, all records (number)	LMMA area, all records (Km ²)	No-take Zones (Km ²) Area
Fiji Islands ¹	123 - 155	10,839 - 23,722	103 - 135	10,839 - 23,722	498 - 1,061
Solomon Islands	174	1,087	174	1,087	217
Tonga ²	29 - 30	195 - 10,074	9	158	17
Kiribati	19	411,030	1	8	N/A
Vanuatu	86	51	70	28	17
Totals	431 - 464	423,201 - 445,963	357 - 389	12,120 - 25,003	748 - 1,311

1: Range constitutes minimum taken from WDPA 2015 and maximum taken from FLMMMA database 2014

2: Range considering exclusion of the Ha'apai Conservation Area

The proportion of the different categories of marine territory that may be covered by MMAs is shown in Table 3. Main features of note are that Kiribati has exceeded 10% coverage of its EEZ thanks to the Phoenix Islands Protected Area and that Fiji's LMMAs may account for well over 10% of the territorial waters and inshore fishing areas. However, current coverage is low for the rest especially under the category of NTZs. Recent changes in management of Phoenix Islands Protected Area may alter that for Kiribati.

Table 3: Proportion of national marine territory covered by Marine Managed Area (MMA), Locally Managed Marine Area (LMMA) and No-Take Zones (NTZ) based Table 1 and on latest available data presented in Volume 2 of this report.

	Proportion of MMAs	Proportion of LMMAs				Proportion of NTZs			
	EEZ Area (km ²)*	EEZ Area (km ²)*	Territorial waters***	Shelf area	Inshore Fishing Area (IFA)	EEZ Area (km ²)*	Territorial waters***	Shelf area	Inshore Fishing Area (IFA)
Fiji Islands ¹	0.8-1.8%	0.8-1.8%	9.5-20.7%	36.2-79.3%	25.0-54.8%	0.0-0.08%	0.4-0.9%	1.7-3.5%	1.2-2.5%
Solomon Is.	0.1%	0.1%	0.8%	3.3%	3.7%	0.0%	0.2%	0.7%	0.7%
Tonga ²	0.0-1.4%	0.0%	0.4%	4.6%	2.0%	0.0%	0.0%	0.5%	0.2%
Kiribati	11.6%	0.0%	0.0%	0.2%	0.1%	NA	NA	NA	NA
Vanuatu	0.0%	0.0%	0.0%	0.4%	0.3%	0.0%	0.0%	0.2%	0.2%
Totals	5.6-5.9%	0.2-0.3%	2.8-5.7%	15.6-32.1%	12.7-26.1%	0.0%	0.2-0.3%	1-1.7%	0.8-1.4%

1: Range constitutes minimum taken from WDPA 2015 and maximum taken from FLMMMA database 2014

2: Range considering exclusion of the Ha'apai Conservation Area

Comparisons with the Govan (2009) inventory of MMA coverage are hampered by the data quality issues mentioned above. However an increase in number and coverage of LMMAs over the last 7 years is apparent in all countries except Kiribati which has only just commenced implementation of projects that could be expected to deliver LMMA results.

Governance and institutional challenges for resource management

Data availability is improving

The last few years have seen an increase in the availability of budgetary data for government expenditure with Solomon Islands and Fiji publishing detailed national budget estimates online and Kiribati and Vanuatu facilitating such information on request. Fiji also publishes staffing along with budget estimates but other countries may provide staffing on request. Solomon Islands publishes development budgets separately while Fiji incorporates them in the overall department budget and other countries do not provide development budgets. Tonga uniquely does not publish detailed budgets and so information had to be obtained from corporate plan and research publications, budgetary data was not available for the Environment Department and only rough data were available on Fisheries for 2005 and 2010.

Recurrent budgets and staffing are low

The Environment and Fisheries budgets combined for the five countries amount to about US\$9.4 million handled by over 500 staff (Table 4). However, much of the Fisheries budgets are dedicated to offshore fisheries or “fisheries development” activities both inshore and offshore that increase pressure on the resources. A more realistic figure for funds allocated to actual resource management of coastal fisheries and island has been estimated by previous studies at between 5.5%-22% of the overall national fisheries budgets (Govan 2013, 2014) and would comprise US\$1.4 million for inshore fisheries management and a total of some US\$3.4-4.0 million including Environment departments.

Table 4: Government recurrent budgets and staffing for Fisheries and Environment departments in Fiji, Solomon Islands, Tonga, Kiribati and Vanuatu. Data are in USD, exclude climate change departments and are for 2012 except Tonga (where Fisheries 2010 and Environment 2013). Estimates for coastal fisheries management from Govan 2013, 2014).

	Fisheries budget	Fisheries budget for coastal management (estimate)	Fisheries staff (all)	Environment budget	Environment staff	Total coastal management budget (est.)
Fiji Islands	3,395,982	816,759	147	1,054,361	22	1,871,120
Solomon Islands	1,088,181	101,891	73	297,662	13	399,553
Tonga	873,600	174,414	54	NA	19	NA
Kiribati	1,323,333	95,129	103	396,046	30	491,175
Vanuatu	741,856	233,333	49	186,667	9	420,000
Total	7,422,952	1,421,526	426	1,934,736+	93	3,366,147+

Staffing duties of fisheries officers are often shared across offshore and inshore and an estimate of manpower dedicated to coastal resource management is not possible though it is likely to be a similar proportion to that of the budget (Govan 2013, 2014).

Personnel costs generally account for the majority of government budgets and operational expenditure (e.g. fuel or equipment) and thus capability is greatly reduced. Development and project budgets are far harder to assess accurately as they do not always account for NGO collaborations, are frequently modified or delayed and tracking is difficult and so not included in this study. Such projects often provide some of the only opportunities for staff to reach rural areas and carry out “service delivery” however this is usually in support of projects driven by project or political aims and may not represent policy priorities and rarely provide national coverage or guarantee long terms services.

- **Between 0.4 - 1.8 million US dollars are potentially available for resource management per country, a total of some 4 million per year.**

Data on the number of villages in the target countries (Govan in press) serves to illustrate the budget challenges further. Assuming that a major thrust of government support were to be focussed on villages then the financial resources available per coastal village annually would range from around USD 3,000 in Tonga to just under USD100 in Solomon Islands. Of course this does not account for all the other functions or overheads that might comprise government support for resource management but clearly suggests that on the one hand existing community based support approaches need to be substantially more cost-effective or strategic and on the other that government budgets are unrealistically low.

Policy

The assessment of the policy and legislation for the five countries provided in Annex 2 suggests adequate opportunities in each country for local management to be supported by government agencies. Customary rights of use for resource management are acknowledged explicitly in Fiji, Solomon Islands and Vanuatu, resource management rights by local communities can be acquired in Tonga under the Fisheries Management Act 2002 and local councils in Kiribati have jurisdiction and adequate legitimacy in Kiribati.

Institutional capacity and the geographical challenges

Comparing the measures of institutional budgetary and staffing capacity with the geographic and population parameters gives an idea of the relative challenges faced by each country (Figure 6, Table 5, Appendix 1). Ideally this comparison should be carried out with other countries around the world, Small Island Developing States (SIDS) in other regions preferably but such data were not available.

The measures of institutional budgetary and staffing capacity in the context of geographic and population parameters suggest the following conclusions:

- **Low budget allocations in comparison to the extent of EEZ:** may have implications for oceanic fisheries management especially in Solomon Islands and Kiribati.
- **Low allocations of staff and recurrent budgets for island and coastal resource management:** With the exception of Fiji all the countries have remarkably small budgets and staffing allocations for coastal fisheries management (US\$100-200k) and environment (US\$186-400k).
- **Fiji and Solomon Islands are outliers:** Fiji has a relatively high Environment budget but this may be due to the inclusion of project and development funds, staffing is in line with the other countries. Fiji has significantly higher budgets for both sectors and fisheries staff than other countries in terms of territorial waters and coastline but the budgets adjusted for land area or population are not higher. Solomon Islands stands out as being particularly poorly resourced in terms of finance or staff against any of the parameters. Comparisons with the overall national budget, the value of the resources of other SIDS may yield better indications of the extent of under-resourcing.

Figure 6: Graph of government recurrent coastal fisheries management budgets (left) and government recurrent environment budgets (right) against population and extent of coastline.

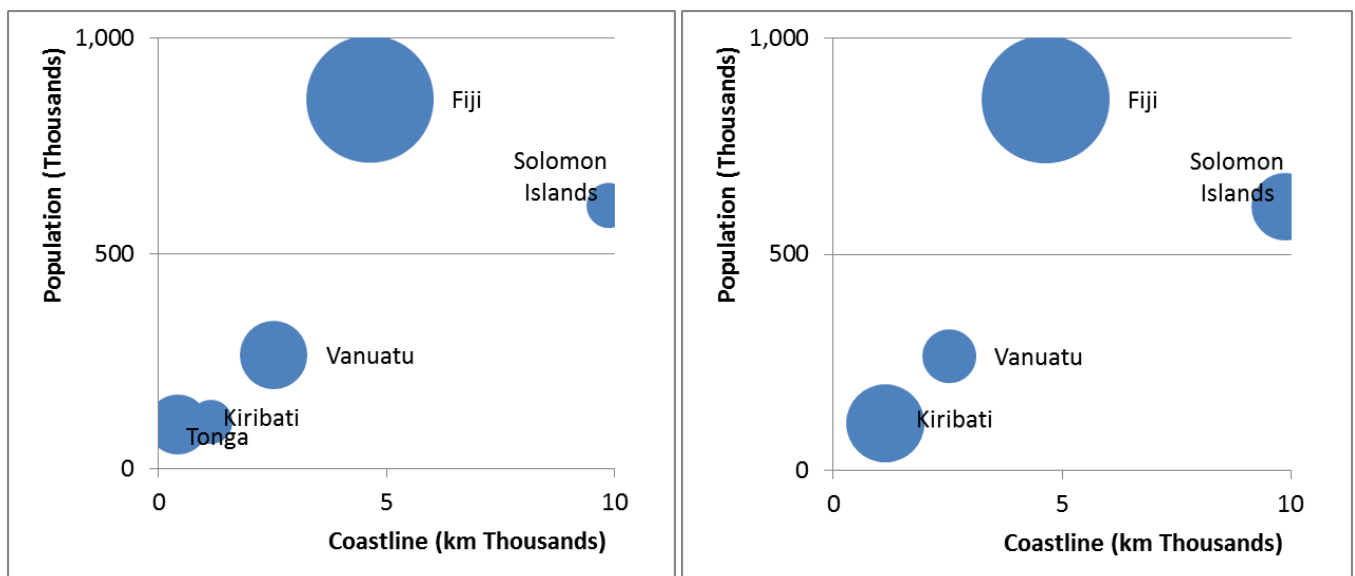


Table 5: Government recurrent budgets and staffing for Fisheries and Environment departments in Fiji, Solomon Islands, Tonga, Kiribati and Vanuatu from Table 4 compared to geographic and population parameters (Table 1). Coastal fisheries management budgets are based on estimates from Govan (2013, 2014) except Tonga which is place-marked at the average between Fiji and Vanuatu, 21%.

	Land area (km ²)	Coast line (km)	EEZ Area (km ²)	Territorial waters (km ²)	Reef area (km ²)	Population 2013
Fisheries budgets - USD per unit area or head population						
Fiji Islands	185.86	732.37	2.63	29.67	338.92	3.95
Solomon Islands	38.36	110.14	0.81	7.77	189.25	1.78
Tonga	1,344.00	2,084.96	1.25	23.28	582.40	8.46
Kiribati	1,631.73	1,157.77	0.37	17.07	450.11	12.16
Vanuatu	60.86	293.46	1.09	10.73	180.50	2.80
Coastal fisheries management budgets - USD per unit area or head population						
Fiji Islands	44.70	176.14	-	7.14	81.51	0.95
Solomon Islands	3.59	10.31	-	0.73	17.72	0.17
Tonga	283.54	439.85	-	4.91	122.87	1.78
Kiribati	117.30	83.23	-	1.23	32.36	0.87
Vanuatu	19.14	92.30	-	3.37	56.77	0.88
Environment budget - USD per unit area or head population						
Fiji Islands	57.70	227.38	-	9.21	105.23	1.23
Solomon Islands	10.49	30.13	-	2.13	51.77	0.49
Tonga	NA	NA	NA	NA	NA	NA
Kiribati	488.34	346.50	-	5.11	134.71	3.64
Vanuatu	15.31	73.84	-	2.70	45.42	0.71
Fisheries staff - units per staff member						
Fiji Islands	124	32	8,776	779	68	5,845
Solomon Islands	389	135	18,356	1,918	79	8,367
Tonga	12	8	12,963	695	28	1,913
Kiribati	8	11	34,466	753	29	1,056
Vanuatu	249	52	13,878	1,412	84	5,402
Environment staff - units per staff member						
Fiji Islands	831	211	-	5,203	455	39,055
Solomon Islands	2,182	760	-	10,772	442	46,985
Tonga	34	22	-	1,975	79	5,437
Kiribati	27	38	-	2,584	98	3,627
Vanuatu	1,354	281	-	7,685	457	29,411

Discussion and recommendations

Community led resource management remains key to sustainable management of Island and near-shore areas in the Pacific

The role of local communities in coastal resource management in the Pacific is globally unique due to the still extant (in most countries) systems of customary rights over land and sea. This is of critical importance to the whole spectrum of environmental management, the focus on protected areas has distracted attention from tapping the potential of the successful community led resource management experiences for wider environmental management. Studies in this region have highlighted the actual and potential contributions of indigenous and local peoples with clearly allocated rights to resource management (e.g. Govan et al. 2009 and Sheil et al. 2015). This realization seems to be behind the notable move by Tonga, the only independent country in the region without some form of traditional tenure, to establish an equivalent system of rights that can support community led resource management.

Van Helden (2004) states “the fact that local people own most natural resources implies that they, not the government are the primary party when it comes to negotiations over management and conservation”. Though governments may not put it this way it does mean that for practical purposes community participation is inescapable and that (for over 90% of the area) there is no other option but to carry out all aspects of environmental management jointly with the local communities as real partners – a situation at this scale which is not within the field of experience of virtually any other UN member countries.

Stewardship is part and parcel of land and sea ownership, whether these rights are legally or informally acknowledged, and communities engaged in collaborative sustainable resource management not only can and do implement policy priorities such as fisheries management or establishing protected areas but will also be vital to the implementation of broader environmental management such as monitoring and reporting on EIAs and development activities, disaster risk reduction and climate change adaptation. This study suggests that there is a long way to go before the potential is realized even for the modest policy objectives of Protected Areas but the challenges faced by governments, both financial and logistical, require that governments dedicate more attention to advancing in this area.

Two key areas are acknowledged as important but do not receive the political priority necessary:

- **Customary (or other) rights as central to community driven resource management:** The policy agenda undervalues the vital resource management dimension of community rights or the need to strengthen these as part of resource management strategies. This dimension does not arise in any meaningful way in debates on land or coastal ownership and rights. This needs to be acknowledged and addressed.
- **The importance of establishing working systems of resource management as a foundation for development:** Conservation and resource management have managed to reach the national agendas but usually as something separate from other policy priorities, even with the same ministries. It is vital to drive home the message that not only development but also health and climate adaptation will depend on basic systems of resource management being in place.

Unleashing the potential of community-based management requires improved government support

Governments are probably unaware that much of the natural resource management responsibilities attributed to government in other countries are being shouldered by communities. Although community based management has been recognized in regional and national policy no country has yet clearly defined the form co-management support from national or provincial government institutions or priority activities should optimally take.

Better targeting of financial and human resources

Notwithstanding the Lesser Developed Country status of some of the partner countries, the human and financial government resources allocated to routine environmental management can still be considered extremely low, especially in comparison to the populations and territorial areas to be serviced. But considerable improvements could be achieved by more strategic targeting of existing resources.

Though the backbone of natural resource management is CBM there are challenges that are not well suited to being addressed by CBM and Governments need to focus attention on these. Examples include monitoring and regulating market chain of high value products at point of export or sale and particularly the effective use of EIAs for

sustainable development including monitoring and enforcement of management plans. The strengthening of these roles is urgently required in the face of increased pressure for development and particularly the increased pressure that various Free Trade Agreements under negotiation (e.g. PACER plus) may be expected to bring.

Much aid and external support takes the form of short-term projects which does little to build and maintain the systems that are needed to support resource management nation-wide, regulate development or protect community resource management efforts from pressures beyond their control. Examples of strategies that attempt to provide cost-effective services for environmental management at national or provincial scales exist in Solomon Islands (MECM/MFMR 2009, Govan 2013b, Govan and Bennett 2014), Fiji (FLMMA 2015), Kiribati and Vanuatu (Govan 2014). This aspect must be drawn to the attention of donors and governments alike, the following should be prioritized:

- **Public expenditure reviews of the resource management or environment sector should be carried out before external support is allocated:** An understanding of the institutional resourcing for environmental management will be a prerequisite to determining whether improvements in capacity or introduction of new tools would be widely implemented and result in sustained improvements of natural resource management or other policy targets (e.g. Govan in press).
- **Recurrent government allocations to financing and staffing natural resource management should be used as indicators of government commitment and should be monitored in the expectation of increased government commitments in due course.** Targets may be set for instance achieving an investment of recurrent budget equivalent a certain percent of the value of the coastal fisheries.
- **Strategic targeting of limited government resources is required:** Tools and strategies selected by government should be evaluated against their potential to contribute cost effectively to government policy priorities. Efforts should be redoubled to develop simple strategies and work plans that take into account the most cost effective actions to be taken within known capacity constraints.
- **Increased emphasis on budgetary support for environmental regulation and management:** Much can be done by improving strategies within existing budgetary constraints but in the longer term there is a need for governments to turn existing environmental commitments (e.g. to green growth or protected area targets) into greatly increased and recurrent budgetary support.

Those supporting community resource management need to address effectiveness challenges

The last decade of experience in CBM has demonstrated much of what may be possible but has also highlighted the need to assess the effectiveness of the various approaches and seek ways to promote or increase those most effective.

- **Assessment of the performance of commonly promoted tools in meeting the variety of national and community objectives.** For example the relative performance of the wider access restrictions provided by customary tenure compared to the high profile promotion or adoption of tabus.
- **Assessment of the relative utility of various government and NGO interventions in supporting community driven resource management.** For example, costly workshops compared to mass media and information programs.

These assessments would inform:

- **Objective and rigorous assessment of the effectiveness of national progress in CBM is required as a precursor to development of national strategies for resource management.**
- **Develop cost-effective, sustainable and replicable approaches to nation-wide support of resource management drawing on the body of existing experience.**

Potential synergies and conflicts between community resource management and national and international policy priorities

The potential for local and community driven approaches to be the foundation to achieving national policy targets across multiple sectors has become widely accepted. However, because each sector generally works independently a relatively low proportion of the population benefits from any one sectoral approach. The potential for a more integrated approach in which all sectors combine forces and resources to reach all communities with cross-sectoral support and a single engagement process per community has been proposed (MECM/MFMR 2009, Govan et al. 2011) but not yet feasibly implemented at scale.

It is hardly surprising that community driven approaches represent a foundation for achieving many national and international targets relating to sustainable livelihoods and resilience including integrated resource management but also disaster risk reduction, climate change adaptation, water and sanitation, rural energy and so on. It is not clear that attempts have been made to share lessons learned across the sectors but in essence achieving lasting community processes that can adaptively manage and sustain livelihood interventions depends to a large extent on assisting communities to address their own priorities and ensure ongoing benefits from their actions. Key and most cost-effective interventions to support this have not yet been determined for a nation-wide context (see proposals by Govan 2013a) but top-down and project-based approaches may all too easily undermine the approaches, either being insensitive to local needs and dynamics or providing short-term but unsustainable incentives for instance.

Targets for protected area coverage: potential and dangers for resource management

The commitment to targets for Protected Area coverage is becoming a popular device for seeking and making commitments to conservation. Of concern particularly is the promotion of offshore MPAs as there is no tested, let alone cost effective approach yet in the 5 countries, as are stipulations over the proportion of area to be closed to extractive uses (even sustainable use). This at first glance appears to be a reversion to models that failed in the 1990s such as top-down and purely non-extractive MPAs inshore.

Taking the lead at regional level and preceding the Aichi Targets, Fiji committed in 2005 at the 10 Year Review meeting of the Barbados Programme of Action for Small Island developing State in Mauritius to 'by 2020, at least 30% of Fijis inshore & offshore marine areas, (l qoliqoli's) will have come under a "comprehensive, ecologically, representative networks of MPAs, which are effectively managed and financed"'².

Substantial progress had been made by 2015 towards achieving and indeed surpassing the target for l qoliqoli and inshore fishing area thanks mainly to the NGO partners and the FLMMA network. However very little, if any, coverage of offshore waters had been achieved and little effective government support had been committed to supporting or expanding community resource management.

In Fiji, as in the other partner countries, given the low availability of government financial and human resources and inadequate long term support for resource management the following considerations should be addressed by governments and partners before implementing new commitments.

- The need for an objective and comprehensive assessment of the performance of existing (particularly community resource management) and proposed approaches (particularly fixed proportions such as 30% of no-take MPAs) with regard to achieving the various national policy priorities including food security, livelihoods and conservation.
- Assessment of the potential cost of the various possible approaches including cultural and societal to achieve the highest level goals of sustainable development as well as the variety of objectives.
- Assess the availability of, and future commitment to, steady resourcing for the establishment but particularly ongoing government support and enforcement of proposed approaches or tools.
- Assess whether establishing or designating MPAs before establishing national support and enforcement systems (ideally within existing structures such as fisheries agencies) is a viable or desirable approach.
- Assess whether there is a need for external technical assistance and if so whether this is likely to be sensitive to the realities of customary tenure, low government capacity and logistical challenges that prevail in these 5 Pacific SIDS

Failure to adequately address these issues could result in the neglect of priorities such as food security and community livelihoods in exchange for investment in unproven and largely intangible benefits promised by biodiversity conservation tools.

Meeting Aichi target 11 and the other Aichi targets

The five countries have a low proportion of overall marine area protected, from less than 0.1% for Vanuatu to over 11% for Kiribati thanks to the large Phoenix Islands Protected Area and totally some 5-6% of the combined EEZs of the 5 countries. LMMAs make significant contributions to the relevant habitats, over 3% of shelf areas in Tonga and Solomon Islands and, according to some data sources, nearly 80% in Fiji - demonstrating the long term potential that community resource management may have to contribute to Aichi target 11.

² Speech by the Minister of Foreign Affairs & External Trade and Head of Delegation to the Review of the BPOA + 10, the Honorable Minister Kaliopate Tavola

In the publicity surrounding Aichi target 11 the other 19 Aichi targets are frequently overlooked but it is clear that community resource managements represents a key approach in meeting many of them in the Pacific Islands, the Strategic Goals seem ideally suited to many of the experiences of community resource management:

- Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society
- Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use
- Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity
- Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services
- Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

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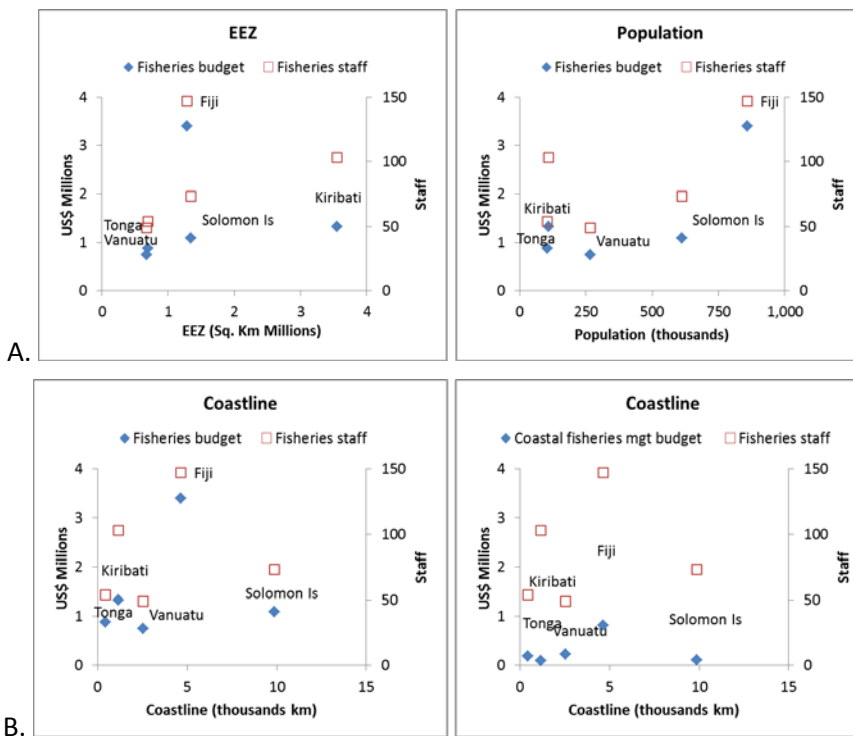
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Appendix 1: Graphs of government recurrent budgets and staffing for Fisheries and Environment departments

Graphs of government recurrent budgets and staffing for Fisheries and Environment departments in Fiji, Solomon Islands, Tonga, Kiribati and Vanuatu from Error! Reference source not found. compared to geographic and population parameters (Fiji, Tonga, Solomon Islands, Kiribati and Vanuatu are faced with relatively exceptional geographical challenges to marine resource management.

Table 1). A. Total fisheries budget in relation to EEZ extent and population. B. Total fisheries and coastal fisheries management budgets compared to coastline. C. Environment budget compared to population, land area and coastline.



C.

