

## Enhancing legal frameworks for biodiversity conservation in the Pacific

Erika J. Techera

Faculty of Law and the Oceans Institute, University of Western Australia, 35 Stirling Highway, Crawley, WA 6008, Australia. Email: [erika.techera@uwa.edu.au](mailto:erika.techera@uwa.edu.au)

**Abstract.** The Pacific region is a biodiversity hot spot with a long history of human occupation closely linked with sustainable use of the marine environment. The health of the marine environment and its resources is of environmental, economic and socio-cultural concern, and law plays an important part in its conservation and management. Designing appropriate legal mechanisms is, however, a challenging prospect. The Pacific Island countries involve a complex environment for law and policy-makers. As a result of their colonial past, these nations are legally pluralist, with more than one legal system operating at the same time. In addition, Pacific Island countries have embraced international law, ratifying the majority of key environmental treaties and subsequently taking steps to implement their obligations, including those related to biodiversity conservation. This complicated legal landscape means that law and policy must be adopted that implements international treaties whilst also meeting the needs of local communities. A particular feature of the Pacific region is the widespread adoption of community-based marine management approaches. Their proliferation is due to a combination of underlying customary law, which has subsisted despite colonial rule, together with a willingness by governments to support local approaches. This article examines community-based marine management through a legal lens; it commences by outlining traditional rules for marine management before exploring the contemporary legal position with a focus on the hybridisation of state-based legislation and customary law. Finally, comments are made on the effectiveness of these legal approaches, as well as remaining challenges.

**Additional keywords:** collaboration, community-based management, customary law, environmental law, Pacific Island states.

Received 8 January 2014, accepted 14 July 2014, published online 21 April 2015

### Introduction

The Pacific region includes 13 independent states and a number of external territories comprising tens of thousands of islands dispersed over millions of square kilometres of ocean. Although considered as one region, the Pacific includes a number of countries and territories with considerable geographic, biological, environmental, cultural and economic diversity. For example, some countries have relatively large, high, volcanic islands; whereas others are made up of low-lying atolls with much larger ocean areas than land. The cultural diversity across the Pacific is equally varied. Historically, the Pacific peoples have been described as Micronesian, Melanesian and Polynesian; however, this masks the multiplicity of indigenous island peoples, each group of which has very different customary laws, practices and beliefs. Thus the divisions, as a colonial construct with considerable overlaps among the three regions, are no longer appropriate (Hviding 2003). In addition, the Pacific region has a very high degree of biological diversity and terrestrial endemism, although generally poorly documented by western scientists (Govan *et al.* 2009; Keppel *et al.* 2014; Thaman 2014). The global importance of the region is illustrated by the fact that the Pacific region provides more than

50% of total world marine catch (FAO 2012), with 2012 reportedly providing record catches (Garrett 2013). Simultaneously, artisanal fisheries are of critical local importance for food security, human health and the maintenance of livelihoods (Gillett and Cartwright 2010).

The conservation and management of Pacific biodiversity, living resources and habitats is thus of critical environmental, economic and socio-cultural importance. Whilst effective biodiversity conservation involves a variety of disciplines and approaches, it is clear that law has an important part to play. It can 'regulate' through the establishment of rights and responsibilities, standards and criteria for conservation, as well as compliance and enforcement mechanisms. Law can also 'facilitate' by encouraging sustainable use of resources and incentivising conservation. From a legal perspective the Pacific Island countries present a number of challenges. As a result of their colonial past, they are legally pluralist, meaning they have more than one legal system operating at the same time (Griffiths 1986; Merry 1988). Broadly, most of the Pacific Island nations have made provision for customary law; but this can be done in different ways, including constitutional recognition, in legislation or through judicial determinations (Law Reform

Commission of Western Australia 2006). Explicit constitutional recognition, for example, has been provided for in all Pacific jurisdictions apart from Fiji and Tonga (Techera 2012). The functional recognition of customary law can also be seen to have occurred in many jurisdictions in the Pacific (Powles 1997). This can be illustrated by the law in Samoa in relation to chiefly titles, and also where land is held according to customary title which cannot be alienated (Techera 2006).

This legal context is complicated by the influence of international law, which does not operate automatically but creates national obligations to implement treaty commitments. This complex legal landscape thus creates hurdles for law- and policy-makers who must design regulations to implement international treaties, address contemporary environmental problems and also meet the needs of local communities.

Pacific Island biodiversity is at risk from natural threats including volcanic eruptions and cyclones, as well as anthropogenic overexploitation and habitat destruction, development activities, invasive alien species, pollution and climate change (Kingsford *et al.* 2009; Kinch *et al.* 2010). The extent of these threats varies from country to country, but the impacts on biodiversity in some countries are already quite severe (Lees 2007; Keppel *et al.* 2014; Meyer 2014). In the past few decades various steps have been taken to address these problems including the adoption of state-based legislative frameworks.

One particular feature, seen throughout the Pacific Islands, is the adoption of community-based approaches to biodiversity conservation (Govan *et al.* 2009; Jupiter *et al.* 2014a). There are many reasons why these approaches have proved popular, as well as multiple justifications for their utilisation. First, there has been a long tradition in the region of community-based stewardship of land and marine areas and resources (Ruddle *et al.* 1992; Berkes 2012). Secondly, the Pacific Island nations are developing countries with limited financial and technical resources. This fact hampers the ability of central governments to manage the environment effectively, and makes them reliant upon communities in rural areas (e.g. Lane 2008). Finally, a number of international legal instruments support participatory approaches to environmental management, the recognition of traditional knowledge and practices for biodiversity conservation and the rights of indigenous peoples to practice customary law (Techera 2012).

Many of these bottom-up conservation efforts are completely voluntary: such as within the Locally-Managed Marine Areas (LMMAs) ([www.lmmanetwork.org](http://www.lmmanetwork.org), accessed 30 June 2014) (Govan *et al.* 2009; Jupiter *et al.* 2014a). But in some circumstances, community-based conservation has received formal endorsement as Pacific Island states focus attention on blending traditional customary law and practices with western law and policy (Techera 2012). This has resulted in more participatory regimes that address national governments' international and regional obligations whilst also having the support of traditional and local communities and providing for community-based conservation and management.

This article explores the legal approaches to biodiversity conservation in the Pacific emphasising the frameworks that support indigenous, community-based marine management. The article commences with an overview of the complex legal context: the customary law, post-colonial state-based legislation

and international laws of relevance to the Pacific Island nations. Thereafter, the contemporary legal position is explored with a focus on case studies of hybridisation of state-based legislation and customary law. The article considers the effectiveness of these approaches and the challenges that remain for the future.

### Customary law foundations

Although generalisations are difficult to make because of cultural diversity in the region, it is clear that historically, Pacific Indigenous societies tended to involve hierarchical tribal structures based on extended families with an elected or hereditary leader. These family groups lived in village communities with traditional councils making communal decisions in accordance with customary practices and laws (Ntuny 1993). In western societies law tends to be top-down and state-based, being imposed by central governments in the form of legislation. In common law countries, the judiciary also 'makes' law through resolution of disputes brought before courts. In contrast, in traditional indigenous contexts customary law is more closely linked with morality and culture (Watson 1997). Although there is no settled definition of customary law, at its simplest, it is unwritten law as opposed to legislation which emanates from the state (von Benda-Beckmann 2001). It has also been defined as the traditions and practices that have become enforceable within a community (Corrin Care and Paterson 2007) and the "values, principles and norms that members of a cultural community accept as establishing standards for appropriate conduct, and the practices and processes that give effect to community values" (New Zealand Law Commission 2006).

Across the region traditional resource management practices and customary laws developed over time where local people were custodians of land and marine areas. The practices were informed by traditional ecological knowledge and historically enforced through customary governance structures, such as village councils, utilising customary laws (Techera 2012). In the marine context, traditional resource management included seasonal bans, no-take zones, species and other restrictions based on cultural and spiritual beliefs (Veitayaki 1997). All of these mechanisms have parallels in contemporary fisheries regulation and marine management. Indeed it has been noted that only the modern practice of gear restrictions does not appear to have been used in ancient times (Johannes 1978).

In particular 'no-take' zones (with local names including *tabu*, *tambu*, *tapu*, or *kapu* in various parts of the Pacific), involving prohibitions on harvesting, were evident throughout the Pacific. These were often ritualised, put in place by chiefly authority (Lewell 2004), and, as in countries such as Vanuatu and Hawai'i, marked with particular sticks or leaves signifying the areas in question (Apple and Kikuchi 1975; Hickey 2003). Fines and threats of supernatural retribution were levelled at those breaching the rules (Johannes 1998). Other customary legal mechanisms included seasonal or temporary closures of fishing areas, as well as control over who can fish, where and when fish could be harvested, as well as the practices permitted to be used and the amount of fish that could be harvested (Friedlander *et al.* 2000; Aalbersberg *et al.* 2005; Jupiter *et al.* 2014a). It can be seen that these mechanisms are not dissimilar to many of the tools utilised in contemporary fisheries regulation.

It is clear that many traditional practices were not specifically aimed at biodiversity conservation, but focussed upon improving harvests and achieving broad socioeconomic and cultural benefits (Hickey 2003). Nevertheless, there is a broad perception they can protect resources under certain contexts (Vierros *et al.* 2010). Cultural and ceremonial constraints, such as superstitious restrictions, the declaration of sacred sites or species and periodic hunting bans following the death of a chief, all had the effect of protecting elements of the natural environment and its resources (Hickey 2003; Nari 2004).

Not all customary practices and laws, however, resulted in positive effects for the environment with, for example, the giant clam becoming extinct during early human settlement of the region (Hickey 2003). Some examples include the consumption of turtles for ceremonial feasts (Ruddle 1994) and the use of fish poison. Nevertheless, traditional Pacific lifestyles incorporated many elements of what we now refer to as sustainable development: equity, cooperation, responsibility for biodiversity and sustainable livelihoods. The challenge is to harness the positive aspects of these systems and tools to achieve positive outcomes in the context of contemporary biodiversity loss. Key difficulties include enforceability against 'outsiders' as well as the strength of the governance institutions today.

These traditional lifestyles, governance structures and laws were significantly disrupted during periods of colonial rule when customary governance and ownership was disrupted. As Pacific nations gained independence in the latter half of the twentieth century, land ownership was largely returned to traditional owners. However, the legal and governance systems have not reverted to precolonial times (Ward and Kingdon 1995). There are no Pacific countries where the introduced legal system has been completely abandoned; although customary law no longer governs the entirety of peoples' lives, most Pacific law and policy incorporates some traditional elements, as discussed below.

### The contemporary legal context

Today, the majority of Pacific Island nations are legally pluralist, with customary law, some colonial laws and contemporary state-based legislation operating. In some cases these sources of law have been formally recognised within the constitution. For example, the Constitution of the Republic of Vanuatu explicitly recognises the status of customary law. In Samoa the Constitution refers to 'existing law', which includes all laws in force immediately prior to independence, including customary law. It is only in Fiji and Tonga that customary law has no formal status under the constitution. Even in Fiji, the Constitution provides that customary law is a right which parliament must make provision for.

Despite the adoption of national legislation, many local communities continue adhering to customary practices and laws. In these circumstances there tends to be a tension between the state-based legal system and customary law, which may result in conflict. At best, the legal frameworks sit uneasily side by side, each operating independently (Forsyth 2007), at village and national levels, resulting in a form of 'stratified dualism' (Brown 1999). In urbanised areas the legislation tends to be better monitored and enforced as resources are available to do so. In more remote areas, however, monitoring and enforcement

remains a significant challenge (Vierros *et al.* 2010). In these areas legal regulation is usually at the village level according to customary laws and practices and enforced through local governance institutions (Bracey 2006).

The challenge is to identify ways in which state-based legislation and customary laws can support each other. One way in which this can be done is through a process of harmonisation. For example, state-based legislation can incorporate customary laws within its scope, or national frameworks can formally recognise traditional governance institutions. Mutual support is important in order to achieve optimum functionality and positive biodiversity conservation outcomes, and is also central to national government efforts to implement international law. Before exploring how Pacific Island countries have attempted to hybridise these legal systems, it is important to examine the post-colonial legislative context and international law influences.

### Domestic environmental law frameworks

There are some early examples of conservation legislation passed in the Pacific, such as the Fijian *Rivers and Streams Ordinance 1880* and *Birds and Game Protection Act 1923*; however, most laws have been of much more recent origin (Boer 1996). Following independence many Pacific Islands focussed predominantly on development and it was not until the latter part of the 20th century that conservation concerns were addressed in legislation, with specific environmental laws emerging in or after the 1990s.

Most of the Pacific Island states have a general environmental law framework, often with reference to sustainable development. The inclusion of detailed environmental impact assessment (EIA) provisions is common in the region, with some states adopting specific legislation in this regard (for example, Tonga's *Environmental Impact Assessment Act 2003*). In Fiji the *Environment Management Act 2005* includes detailed measures for EIA, waste management and pollution. Significantly, the Act incorporates contemporary concepts, such as ecosystem-based approaches, as well as the recognition of traditional relationships with land, water, and sacred sites that afford protection to biodiversity. It is an example of a contemporary piece of Pacific environmental legislation, with limited provisions for consultation and consideration of customs and traditions, but does not provide adequate support for local governance or community-based conservation. Indeed, the only reference to 'customary controls' over the use of natural resources provides that the EIA Administrator must approve any proposals that might challenge or contravene such traditional measures.

In Vanuatu the *Environmental Management and Conservation Act 2002* provides for conservation, sustainable development and environmental management. It also includes EIA provisions, for activities that will or are likely to result in unsustainable use of renewable resources, and takes into account environmental, social and custom impacts. As will be seen below, this legislation does provide a framework for community-conserved areas. Aside from this Act, the environmental protection provisions in Vanuatu are spread across a number of pieces of legislation.

In Samoa the *Lands, Surveys and Environment Act 1989* provides for conservation and protection of the environment. Perhaps because of its age, there is no reference to traditional uses, customs and village practices that affect biodiversity conservation in the context of sustainable development and livelihoods. Nevertheless, there are provisions for management guidelines and agreements to be adopted to protect natural resources and the environment for village communities. In addition, specific powers are given to make plans for the protection, conservation, and management of wildlife, natural features and areas as well as their use and enjoyment by the public. This Act, although important, does not include detailed EIA provisions nor integrated natural resource management; it remains part of a fragmented legislative regime.

Almost all the Pacific Island nations have fisheries regulations. The focus tends to be upon offshore and commercial fishing, with fewer regulatory measures for inshore artisanal harvesting, although most recognise customary fishing rights. For example, in Vanuatu the *Fisheries Act 2005* legislates comprehensively for both inshore and offshore areas and implements international obligations. Marine reserves can be established but require only consultation with adjoining landowners with no power for traditional communities to influence the management of the marine reserve. Special provisions are provided for 'designated fisheries' of national interest, which require particular measures for their effective management, conservation and utilisation, taking into account relevant traditional fishing methods and practices. It is unclear, however, to what extent these provisions have been utilised.

In Samoa the *Fisheries Act 1988* provides for conservation, management and development of fisheries, including the exploration and preservation of living resources. In relation to inshore waters it provides for consultation with fishermen, industry and village representatives and the preparation and promulgation of by-laws for the conservation and management of fisheries. The Act prohibits the use of explosives and poisons, with regulations covering a range of other matters, including closed seasons and areas, specifications of gear, prohibitions on certain fishing methods and gear, and the fish species and size restrictions. Although a relatively old piece of legislation, the Act was amended in 2002 to make specific reference to the interaction between the *Fisheries Act* and the *Village Fono Act*.

In Fiji fishing is legislated for under the *Fisheries Act*, but conservation of fisheries resources is not the main aim of the legislation. Furthermore, the Act includes fish and marine animals, but not plant life. Thus marine habitats are separately managed under the *Environmental Management Act*. The *Fisheries Act* allows for the registration of traditional fishing grounds (*qoliqoli*) and permits anyone to fish for subsistence needs within their *qoliqoli*. Whilst this recognises traditional indigenous rights it prevents local communities from prohibiting fishing and declaring no-take zones. The, now defunct, *Qoliqoli Bill 2006* had proposed the transfer of the *qoliqoli* from state ownership back to traditional owners, which would have addressed this issue (Techera and Troniak 2009). The current draft *Inshore Fisheries Decree* may grant legal recognition of community fisheries management plans, although the latest drafts have excluded these provisions (Vukikomoala *et al.* 2012). Given the success of community-based marine

management in Fiji, these legislative limitations are of considerable concern.

It has been suggested that the Solomon Islands' *Fisheries Act 1998* could serve as a model to other Pacific countries, as it incorporates contemporary principles of marine biological resource management and provides for the designation of marine reserves (Beurier *et al.* 2009). Provincial assemblies are empowered to make ordinances regulating fisheries in their waters covering such matters as the recording of customary fishing rights, opening and closing seasons, closing marine areas for fishing and establishing and protecting marine reserves. The relevant Minister is also empowered to make fisheries management conservation measures. Similarly, the Cook Islands' *Marine Resources Act 2005* is aimed at conservation, management and development of marine resources. It includes contemporary fishery management principles and concepts such as the precautionary approach taking into account impacts on non-target species, science-based decision-making, ensuring the sustainability of fish stocks and the protection of marine biodiversity. Conservation measures include the prohibition of certain destructive fishing methods and gear with criminal sanctions for breaches, as well as prohibitions on trade in, and export of, certain species. The Act also allows for the designation of aquaculture management areas, and the preparation of fishery plans by local authorities in cooperation with the relevant Ministry. Protected areas may be declared by an Island Environment Authority under the *Environment Act 2003*. Although there is no specific reference to marine parks or reserves, by implication protected areas must include both land and marine areas as animals are defined as including marine animals and migratory marine species.

In terms of biodiversity conservation beyond fisheries, species protection is provided through legislation such as Papua New Guinea's *Fauna (Protection and Control) Act 1966*, and Tuvalu's *Wildlife Conservation Act*, which protects listed birds and animals. Some Pacific countries have specific legislation for species at risk such as the *Endangered Species Act 1975* in the Marshall Islands and the *Endangered and Protected Species Act 2002* in Fiji.

Most Pacific Island countries provide mechanisms for the declaration of protected land areas; however, few have specific legislation in this regard and none provide for a network of marine protected areas (MPAs). Even where protected area management legislation is in place, protected areas tend to be limited and in some cases are in name only. This is unsurprising given that most land is community-owned and does not fall under national control. This brings sharply into focus the need for legislation that formally recognises and protects community-conserved areas.

In Vanuatu there are a number of pieces of relevant legislation: provincial councils can declare protection zones under the *Decentralisation and Local Government Regions Act 1994* and protected areas can be declared under the *Forestry Act 2001*, *Fisheries Act 2005*, *Preservation of Sites and Artefacts Act*, *Water Resources Management Act 2002* and the *National Parks Act 1993*. These provisions appear to have been under-utilised as the World Database on Protected Areas records 35 protected areas, of which 19 are forest conservation areas and eight MPAs.

In Samoa the *National Parks and Reserves Act 1974* provides for protected areas to be declared over public land or territorial sea but makes no provision for consultation with local communities or their involvement in management. This legislation is not connected with the *Lands, Surveys and Environment Act* (apart from being administered by the same Department) and does not specifically provide for integrated coastal zone management. Nevertheless, the Act does contain important provisions that permit the formal declaration of MPAs and there are a number of such sites, and 102 Samoan protected areas in total (World Database on Protected Areas, undated).

Whilst there is no comprehensive protected area management legislation in Fiji, several statutes provide mechanisms for the conservation of land areas, including the *Land Conservation and Improvement Act*, *Forest Decree 1992* and *Native Land Trust Act* (Clarke and Gillespie 2008). None of this legislation, nor the *Fisheries Act*, provided rules for the declaration of MPAs (Techera and Troniak 2009). The recently promulgated *Offshore Fisheries Management Decree 2012* does permit the Director of Fisheries to identify and recommend the designation of a marine protected area, which the Permanent Secretary responsible for Fisheries may then designate. The status of decrees made since the abrogation of the constitution, however, remains a long-term concern. Nonetheless, where communities have established informal practices, community conservation agreements or LMMAs, there is no clear mechanism for them to be formally recognised other than in accordance with the *Offshore Fisheries Management Decree*. Indeed, the Decree includes a principle that traditional forms of sustainable fisheries management should be maintained. This is particularly concerning given the Government's declaration that 30% of Fiji's marine areas would be managed within MPAs by 2020 (Govan *et al.* 2009). Furthermore, LMMAs appear to have been successful in Fiji, with a recent publication noting that, as of 2010, there were 149 LMMAs and 216 marine closures (Mills *et al.* 2011).

In Tonga the *Parks and Reserves Act 1976* provides for any area of land or sea to be declared a park or reserve, and protected areas can also be declared under the *Birds and Fish Preservation Act 1988* and the *Forests Act*, but none make provision for community-conserved areas. Similarly, in Tuvalu the *Wildlife Conservation Act* allows for wildlife sanctuaries and closed areas for listed birds and animals, and the *Marine Resources Act 2006* provides for the declaration of marine parks, marine reserves and sites of specific interest – but not local management thereof.

The Solomon Islands is one of the few countries to adopt specific, contemporary protected area legislation: *Protected Areas Act 2010*. This legislation provides for the establishment of a system of protected areas for biodiversity conservation. Criteria for such areas includes significance from a biological diversity perspective, genetic, cultural, geological or biological resources importance, or where they are the habitat of species of fauna and flora of unique national or international importance. The Act allows any landholder, or any non-governmental organisation managing a conservation area, to apply to register an area. Furthermore, prior to the declaration of a protected area, consent and approval must be obtained from anyone having rights or interests in the area. Thereafter, the protected area is

managed by a management committee that may consist of owners of the protected areas, public officers, provincial government officers and other relevant people. This is one of the most modern and progressive protected area management Acts in the region but it remains to be seen whether it will result in long-term benefits.

In summary, whilst multiple Pacific statutes provide the means for protected areas to be declared, relatively few have been utilised and many more areas are being cared for informally. The fact that few Pacific Island countries have utilised the western national park and MPA models, adds considerable weight to the importance of facilitating community-based management.

#### *International influences*

The Pacific Island nations have ratified a number of the key environmental law treaties. For example, there has been wide endorsement of the *Convention on Biological Diversity (CBD)*, which creates obligations for signatory countries to take steps to conserve biodiversity through legal means including *in situ* conservation. The treaty also draws attention to the value of indigenous peoples' knowledge and practices and their role in environmental management; it calls upon states to protect traditional uses and encourage their perpetuation, provided they are sustainable and compatible with conservation. This would clearly support community-based management. The CBD framework has also been responsible for the setting of targets for the declaration of protected areas that might be met, in part, through community-conserved areas. Of particular relevance are the Aichi Targets adopted in 2010 at the 10th Conference of the Parties to the CBD which set quantitative targets as well as supporting indigenous knowledge and practices for biodiversity conservation. The international developments supporting community-based approaches to conservation extend far beyond legal treaties. This is illustrated, for example, by the IUCN's alteration of its protected area management categories in 2008 to include indigenous community-conserved and locally managed areas that are managed through legal or other effective means (Dudley 2008). However, the IUCN definition of protected areas requiring nature conservation to be a primary objective for management is unlikely to be embraced by most Pacific Island communities that equate conservation with sustainable use (Govan and Jupiter 2013).

Other well-ratified treaties include the *Framework Convention on Climate Change*, the *Convention to Combat Desertification*, the *Convention on the Law of the Sea*, the *Vienna Convention for the Protection of the Ozone Layer* and the *World Heritage Convention*, all of which provide an important foundation for environmental protection. Pollution treaties such as the *London Convention* on dumping and *MARPOL* in relation to marine pollution have also been well-accepted in the region, protecting the marine environment from deliberate waste disposal and incidental marine pollution from ships. Other treaties have been less widely adopted. For example, the *Ramsar Convention on Wetlands of International Importance* has been ratified by Fiji, the Marshall Islands, Palau, Papua New Guinea and Samoa. This treaty can protect inshore marine areas to a depth of 5 m. The *Convention on Migratory Species* has been ratified only by Samoa, Palau and the Cook Islands; and only

Fiji, Palau, Papua New Guinea, Samoa, Solomon Islands and Vanuatu have ratified the *Convention on International Trade in Endangered Species*. In addition, the above three treaties have been ratified by the UK, New Zealand and France; and the US has ratified the *Ramsar Convention* and the *Convention on International Trade in Endangered Species*. All of these countries have territories in the Pacific region.

There are also a number of relevant regional environmental treaties (Beurier *et al.* 2009), including the *Suva Declaration on Sustainable Human Development for the Pacific*, which has been broadly adopted. The 1976 *Convention on the Conservation of Nature in the South Pacific (Apia Convention)* has been relatively poorly ratified, and although it does not include many of the contemporary sustainability provisions, it does cover land and sea areas and refers to customary uses of species and areas. The *Convention for the Protection of Natural Resources and Environment of the South Pacific Region (Noumea or SPREP Convention)* has been more widely supported but focuses predominantly on offshore marine pollution and is of limited assistance in influencing coastal biodiversity conservation.

International fisheries treaties have been broadly adopted in the region (Kinch *et al.* 2010). The *Agreement Relating to the Conservation and Management of Straddling Fish Stocks* and the *FAO Code of Conduct for Responsible Fisheries* have wide endorsement. In addition, there are a number of regional fisheries agreements that have widespread Pacific membership including the *Niue Treaty on Cooperation in Fisheries Surveillance and Enforcement in the South Pacific Region*, the *Treaty on Fisheries between the Governments of Certain Pacific Island States and the Government of the United States of America*, and the *Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific*. These international instruments set standards and establish best practice; Pacific Island endorsement demonstrates commitment to cooperatively addressing fisheries issues.

Interestingly, Fiji alone is a signatory to the 1989 *ILO Convention 169 Concerning Indigenous and Tribal Peoples in Independent Countries*, which provides that indigenous peoples have the right to retain their own customs and institutions and regard shall be had to customs or customary laws when applying national laws and regulations. Arguably, the amendment to the Fijian Constitution removing the recognition of customary law (discussed further below) is contrary to this obligation. The later 2007 *Declaration on the Rights of Indigenous Peoples* provides that indigenous peoples have the right to practise and revitalise their cultural traditions and customs, and to recognition of their laws, traditions, customs and land tenure systems. Somewhat unexpectedly there has been relative ambivalence towards this international instrument in the Pacific.

As with many other nations, the Pacific states have struggled to implement these international obligations (Boer 1996). In some cases, adoption of domestic law in response to treaties is clear. For example, Samoa's *Marine Pollution Prevention Act 2008* implements *MARPOL* and Tuvalu's *Marine Pollution Act* operationalises the key international and regional marine pollution treaties. In particular, though, state responsibilities under the *CBD* have not been widely implemented, with relatively little comprehensive protected area management legislation, as discussed above. Other international targets also create a

challenge for the region where the majority are small island developing states with limited technical and financial resources. Identifying the most efficient and effective legal mechanisms is a critical component to meeting international obligations and again this is where community-based management approaches, and the legal frameworks to support them, have a role to play.

### **Analysis of legal frameworks for community-based conservation and management**

There is little doubt that traditional environmental management has been undermined, initially by colonialism and later through top-down approaches to law and conservation. More recently there has been a turning of the tide and attention has focussed on bottom-up mechanisms (Clarke and Jupiter 2010). It has been demonstrated under certain contexts that community-based environmental management can achieve multiple outcomes, including improved biodiversity conservation and management, as well as socioeconomic benefits including employment opportunities, food security and safeguarding of traditions and cultural practices (Jupiter *et al.* 2014a). Success, though, depends upon a number of factors. Relevant to this article, it has been argued that 'local management initiatives need state law' (Lindsay 1998). State-based legal frameworks can define the rules by which communities interact with 'outsiders', which is particularly relevant for enforcement. It can also legislate when and where governments may interfere at the local level (for example, basic protections against local elites and consideration of issues such as human rights) (Lindsay 1998). Other commentators have similarly identified cross-sectoral government support, combined with decentralised management and security of tenure, as criteria for the successful scaling up of community-based conservation initiatives (Johannes 1998; Govan *et al.* 2009). Beyond these aspects, formal legal rules provide certainty for communities and governments, as well as others utilising locally managed areas and resources. A final consideration is that formal recognition of community-based initiatives by national governments will more readily allow them to be counted towards international law targets.

Three legal mechanisms have been adopted in various ways throughout the Pacific that promote biodiversity conservation through greater recognition of community-based management approaches: (1) laws that formally acknowledge local ownership of land and natural resources; (2) laws that allow local people to govern specific conservation areas; and (3) laws that more generally promote decentralisation of authority (Lindsay 1998). It may be argued, therefore, that security of tenure and formal recognition of customary law, formal designation of community-conserved areas and the empowerment of local institutions to adopt enforceable rules can provide a firm foundation for community-based conservation. These different aspects, and their adoption in the Pacific, are explored below.

#### *Security of tenure*

Tenure plays an important part in the success or failure of biodiversity conservation, as open access disincentivises community-based rules to protect it. Traditionally, almost all land in the Pacific was held on a communal stewardship basis;

in most cases, land included marine areas. In Vanuatu, for instance, the ownership of marine areas usually stretched from the shoreline to the outer reef slope, but in some cases extended to offshore areas (Johannes 1998). Similarly, in Fiji the customary tenure system also incorporated ownership of coastal waters, including the adjacent fishing grounds (*qoliqoli*), which extended in a wedge shape beyond the low water mark to the outer reef slope (Ruddle 1994).

In the majority of Pacific Island countries, upon independence formal ownership of land was returned to traditional owners. In Vanuatu, for example, the Constitution provides that all land belongs to indigenous customary owners and their descendants, and that only they can have perpetual ownership of land. Of the independent Pacific states, it is only in Tonga where there is no customary land ownership (Govan *et al.* 2009). In the dependent territories the position of indigenous peoples is more varied. In Hawai'i, for example, the traditional land tenure system was displaced during the Great Māhele in 1848, following which a western-style real property system was implemented, based upon individual title (Sullivan 1998).

Despite what appears to be significant security, tenure rights are not unfettered, which can create obstacles to community governance. For example, in Fiji the *Native Lands Act* (now the *iTaukei Lands Act*) implements Article 28 of the Constitution, which states that 'the ownership of all iTaukei land shall remain with the customary owners'. However, under the *Native Lands Trust Act* (now *iTaukei Lands Trust Act*), control and administration of land vests in the iTaukei Land Trust Board, which makes decisions. Therefore, this arrangement could hamper the establishment of community-conserved areas (Vukikomoala *et al.* 2012). In Samoa the Constitution provides for traditional ownership of land, but customary owners are prohibited from the 'taking of any interest' in customary land without Parliamentary authorisation. This means that customary land cannot be alienated, leased or licensed without approval, but also cannot be used as security for loans. This can have advantages as it provides a firm basis for maintaining community ownership and control over land. On the other hand, it may create obstacles to development by imposing barriers for those communities wishing to use their land as security.

In relation to marine areas the situation is more problematic as rarely have inshore waters been returned to customary owners. This can be seen in Samoa where the Constitution provides that the land below the high-water mark is public land, owned and controlled by the Government. In most cases, though, indigenous traditional fishing rights have been secured. For example, in Solomon Islands customary fishing rights and traditional land ownership are recognised in the Constitution. The exception is Vanuatu where marine tenure is secure; although the Constitution does not define indigenous-owned 'land', the *Land Reform Act* states that it includes 'land under water including land extending to the sea side of any offshore reef but no further'.

Security of tenure provides a foundation for community-based conservation by giving traditional owners control and management of land and marine areas. This does not, however, ensure that customary law rules can be enforced against outsiders or otherwise applied by those communities beyond the village level.

### *Recognition of customary law*

The formal recognition of customary law by the state is the second foundation upon which community-based management can be built. Customary law may be recognised alongside the western legal system, thereby creating a formal legal pluralist regime. Alternatively, there may be functional recognition of customary law within particular statutes for defined and specific purposes (Powles 1997). Both of these approaches are evident in the Pacific.

In total there are 12 Pacific Island countries that have explicit constitutional recognition of customary law, while in other jurisdictions the provisions are more equivocal (Cuskelly 2011). For example, the Constitution of the Republic of Vanuatu provides that '[c]ustomary law shall continue to have effect as part of the law of the Republic' and that where 'there is no rule of law applicable ... a court shall determine the matter according to substantial justice and whenever possible in conformity with custom'. In the Samoan Constitution, 'law' is defined as including 'any custom or usage which has acquired the force of law in Western Samoa' under any Act or under a judgment of a court and states that all 'existing laws', prior to independence, remain in force until they are repealed or amended. However, there is no general endorsement of customary law as a general source of law. In Tuvalu, by contrast, customary law is a source of law under the Constitution and the *Laws of Tuvalu Act*.

In the Republic of the Marshall Islands the Constitution provides that the parliament (*Nitijela*) has the responsibility of declaring 'by Act, the customary law ... [that] ... may include any provisions ... necessary or desirable to supplement the established rules of customary law or to take account of any traditional practice'. This approach thus requires codification of customary law, a requirement not seen elsewhere in the Pacific (Cuskelly 2011). In the Federated State of Micronesia the Constitution provides that 'Court decisions shall be consistent with ... Micronesian customs and traditions'. Other provisions are more general: for example, the Constitution of Kiribati provides that its implementation will involve continuing to 'cherish and uphold the customs and traditions of Kiribati'. In several other constitutions, such as that of Niue, the reference to custom and customary law is limited to issues of land title.

Fiji is an exception because customary law is not recognised. Although at the time of independence the Fijian Constitution contained no acknowledgement of customary law, the later 1990 Constitution specifically provided for it. This provision was in place for only seven years and now Fiji is one of only two Pacific Island states whose constitution makes no mention of custom or customary law, the other being Tonga (Corrin Care 2000). In Constitution, 'law' is defined as only written law being an Act, Decree, Promulgation and subordinate law.

Other Pacific Island states have gone further: in Papua New Guinea the Constitution formally recognises custom as part of the underlying law, itself a source of law. The Constitution further provides that an Act of parliament shall declare and provide for the development of underlying law. The *Underlying Law Act 2000* (and formerly the *Customs Recognition Act 1963*) does so and deals with proof, recognition and conflict of custom, overcoming some of the definitional issues referred to above. In particular, custom may be taken into account in determining

issues associated with ownership of land and water, in connection with seas and reefs and rights in relation to fishing (Vierros *et al.* 2010). In Solomon Islands customary law is recognised in the Constitution as well as the *Customs Recognition Act 2000*.

This formal acknowledgement of customary law provides a foundation for legislative frameworks that incorporate traditional rules for natural resource management. The two most commonly seen approaches are explored below.

#### *Declaration of community-conserved areas*

In some countries, specific legislation has been passed providing a mechanism for the registration of community-conserved areas. One of the best examples of this is in Vanuatu under the *Environment Management and Conservation Act 2002* (amended in 2010 to *Environmental Protection and Conservation Act*), which includes a formal process for registration of community-conserved land or marine areas (Techera 2005). Prior to registration an appropriate conservation, protection or management plan must be developed to ensure that the conservation objectives are achieved. The plan is then implemented by a committee including local landowners, and thereafter it is an offence to breach the terms or conditions of a registered community-conserved area.

Similarly, Cook Islands provides for the formal recognition of community-conserved areas as well as *ra'ui* (traditional customary restrictions on the use of the land, reef and lagoon resources) (Hoffmann 2002). Under the *Environment Act 2003*, a protected area can be declared based upon its 'ecological, cultural, archaeological, historical or scenic importance as a protected area for the purpose of environment and natural resource conservation and management'. For example, the island of Takutea has been declared a community-conserved area under the management and control of the Trustees, preventing the disturbance of any animal on the land, in the lagoon and within 5 nautical miles of the reef. This relies in part upon the formal authority of Island Councils, as management plans for these areas must be approved by the Council and any affected landowners under the *Environment (Atiu and Takutea) Regulations 2008*.

As noted above, the Solomon Islands' *Protected Areas Act 2010* also allows landholders to register a protected area, which is then managed by a committee that may consist of owners of the protected areas, public and provincial government officers as well as other relevant people. Specifically, in relation to marine areas there are several examples of relevant legislation. In Tonga, for example, the *Fisheries Management Act 2002* permits the declaration of any area of fisheries waters and subjacent land to be a *Special Management Area* with a local coastal community allocated responsibility for the area's management. Although this provides a clear mechanism for community-based management, the centralised authorities can override the community in setting regulations and granting fishing permits, and the law requires only that the local community be 'consulted'.

The situation is different in Fiji, where despite rapid uptake of the LMMA framework, there is no legislative mechanism for the formal designation of community-conserved areas. Almost 150 LMMAs have now been established (Mills *et al.* 2011) and

are managed by local communities utilising the LMMA village 'social contract' and LMMA Network's Learning Framework. However, the lack of formal legal status means that they are binding only at the village level and not against 'outsiders', as the local community has no enforcement authority. Although the *Fisheries Act* recognises customary rights to the *qoliqoli*, allows for the gazettement of restricted areas and the appointment of honorary fish wardens, it stops short of providing a mechanism for registration of LMMAs that are managed at the community level (Clarke and Jupiter 2010). This affects their effectiveness, legitimacy and longevity. It is to be hoped that proposed protected area management legislation will address this issue (Vukikomoala *et al.* 2012).

Although legal registration of community-conserved areas appears to be an appropriate way to overcome the limitations of informal area management, at least in Vanuatu the mechanism does not appear to have been well-utilised by local communities. Some commentators have suggested that this is due to complexity in the registration process as well as community perception that there are few tangible benefits of registration (Govan and Jupiter 2013). These two aspects could be addressed by the central authorities relatively easily, which illustrates the important role of government in supporting community initiatives.

#### *Empowerment of local communities*

The approach of empowering village institutions to manage areas and enforce local laws has been adopted in Samoa. There the traditional hierarchical governance structures have been formally recognised and empowered under the *Village Fono Act 1990* (Techera 2006). This legislation gave local communities control over planning, management and use of their natural resources, but the *fono* could not enforce village-based rules against people from outside the village. The national government acknowledged this limitation and amended the *Fisheries Act 1988* to permit village-level by-laws to be passed as subsidiary legislation. This enabled the by-laws to be enforced against all offenders regardless of whether they are village members or not. The by-laws are initially enforced within the village, but the *fono* can also take the matter to the Fisheries Division and then to the state courts. By-laws cover a range of issues related to the conservation and management of the fishery resources, and may include restrictions on fish sizes, bans on certain fishing gear or methods, and closures of fishing seasons or areas (*tabus*). The enforceability of the by-laws extends the jurisdiction of village *fono* and effectively decentralises inshore marine management; it is an example of the hybridisation of customary law and state legislation.

The formal endorsement of village governance provides another mechanism by which communities can be empowered to manage their local environment and resources. Its success, however, depends heavily upon respect for the village council. Thus it is not a suitable mechanism where traditional institutions have been badly eroded through colonialism or the processes of modernisation, for example (Jupiter *et al.* 2014b).

## Conclusion

Community-based management of areas and resources has a long history in the Pacific. The contemporary context is such

that reliance upon traditional governance mechanisms is no longer sufficient and state-based legal support is needed if maximum benefits are to be achieved. Given the legally pluralist nature of the Pacific Island countries, solutions must be identified whereby the different laws operating complement one another. This has been well recognised in the Pacific and a variety of 'hybrid' legal approaches have been adopted.

It seems unlikely that there is one 'best practice' approach because, despite many commonalities, each Pacific Island nation is culturally, environmentally and politically different. What works in one country and context may not be effective in another. What can be discerned, however, are some regulatory frameworks that may influence success. The examples explored above provide a rich pool of legal options for the blending of state-based legislation and customary law. Several conclusions may be drawn from a study of the experiences of the Pacific Island nations explored above. Firstly, constitutional recognition of customary law strengthens the foundation for incorporating tradition in state legislation. Secondly, decentralisation by empowering village institutions is an appropriate approach where traditional governance remains strong in most areas. Thirdly, and particularly where some traditional institutions are weak, a more appropriate response would be to create a legislative framework that permits villages demonstrating a commitment to community-based marine governance to have marine protected areas formally declared. Fourthly, specific marine protected legislation focussed on this specific tool is important. The above mechanisms will operate differently in each country and precise mix of regulatory options will vary.

It is clear that in the Pacific significant challenges remain as the vast majority of community-conserved areas still operate outside the formal legal system. Bottom-up community support is essential and perhaps lies at the heart of the successful uptake of the LMMA system, for example; but government support and collaboration is also critical, not just in terms of legitimacy and enforcement, but also to overcome identified hurdles such as procedural complexity and lack of awareness of socio-cultural, environmental and economic benefits of community-based conservation.

It remains to be seen how effective these legal mechanisms will be – whether they can make a positive and long-term contribution to biodiversity conservation and socio-cultural outcomes. The Pacific is well recognised as being both biologically and culturally diverse and, if it is to remain so, ongoing efforts must be made to enhance community-based conservation and environmental management in the region.

## References

- Aalbersberg, B., Tawake, A., and Parras, T. (2005). Village by village: recovering Fiji's coastal fisheries. In 'The Wealth of the Poor: Managing Ecosystems to Fight Poverty'. (Ed. G. Mock.) pp. 144–151. (World Resources Institute: Washington, DC.)
- Apple, R. A., and Kikuchi, W. K. (1975). Ancient Hawai'i shore zone fishponds: an evaluation of survivors for historical restoration. Office of the State Director, National Park Service, US Department of the Interior, Honolulu, Hawai'i.
- Berkes, F. (2012). 'Sacred Ecology.' 3rd edn. (Routledge: London.)
- Beurier, J., Zakovska, K., and Guilloux, B. (2009). Final report on legal aspects related to the valorization of marine active substances: marine biodiversity law in Fiji, Vanuatu and Solomon Islands. CRISP, Nouméa, New Caledonia.
- Boer, B. (Ed.) (1996). Environmental law in the South Pacific: consolidated report of the reviews of environmental law in the Cook Islands, Federated States of Micronesia, Kingdom of Tonga, Republic of the Marshall Islands and Solomon Islands. IUCN, Gland, Switzerland, and Cambridge, UK.
- Bracey, D. H. (2006). 'Exploring Law and Culture.' (Waveland Press: Illinois, USA.)
- Brown, K. (1999). Customary law in the Pacific: an endangered species? *Journal of South Pacific Law* 3. Available at: [www.vanuatu.usp.ac.fj/journal\\_splaw/articles/Brown1.htm](http://www.vanuatu.usp.ac.fj/journal_splaw/articles/Brown1.htm) [accessed 30 December 2013].
- Clarke, P., and Gillespie, C. T. (2008). 'Legal Mechanisms for the Establishment and Management of Terrestrial Protected Areas in Fiji.' (IUCN: Suva, Fiji.)
- Clarke, P., and Jupiter, S. D. (2010). Law, custom and community-based natural resource management in Kubulau District (Fiji). *Environmental Conservation* 37, 98–106. doi:10.1017/S0376892910000354
- Corrin Care, J. (2000). The status of customary law in Fiji Islands after the Constitutional Amendment Act 1997. *Journal of South Pacific Law* 37. Available at: [http://www.vanuatu.usp.ac.fj/journal\\_splaw/articles/Corrin1.htm](http://www.vanuatu.usp.ac.fj/journal_splaw/articles/Corrin1.htm) [accessed 2 January 2014].
- Corrin Care, J., and Paterson, D. (2007). 'Introduction to South Pacific Law.' 2nd edn. (Routledge: Oxford.)
- Cuskelly, K. (2011). 'Customs and Constitutions: State Recognition of Customary Law around the World.' (IUCN: Bangkok.)
- Dudley, N. (Ed.) (2008). 'Guidelines for Applying Protected Area Management Categories.' (IUCN: Gland, Switzerland.)
- FAO (2012). State of the world's fisheries and aquaculture 2012. FAO Fisheries and Aquaculture Department, Rome.
- Forsyth, M. (2007). A typology of relationships between state and non-state justice systems. *Journal of Legal Pluralism and Unofficial Law* 39, 67–112. doi:10.1080/07329113.2007.10756615
- Friedlander, A., Poepoe, K., Poepoe, K., Helm, K., Bartram, P., Maragos, J., and Abbott, I. (2000). Application of Hawaiian traditions to community-based fishery management. In 'Proceedings of the 9th International Coral Reef Symposium, Bali, Indonesia'. 2, 23–27.
- Garrett, J. (2013). Fears for Pacific tuna stocks amid record 2012 catch. *Australia Network News*. Available at: <http://www.abc.net.au/news/2013-08-14/an-pac-fishing-record/4887054> [accessed 28 December 2013].
- Gillett, R., and Cartwright, I. (2010). 'The Future of Pacific Island Fisheries.' (SPC: Nouméa, New Caledonia; FFA: Honiara, Solomon Islands.)
- Govan, H., and Jupiter, S. (2013). Can the IUCN 2008 protected areas management categories support Pacific Island approaches to conservation? *PARKS* 19(1), 73–80. doi:10.2305/IUCN.CH.2013.PARKS-19-1.HG.EN
- Govan, H., Tawake, A., Tabunakawai, K., Jenkins, A., Lasgorceix, A., Schwarz, A.-M., Aalbersberg, B., Manele, B., Vieux, C., Notere, D., Afzal, D., Techera, E., Rasalato, E. T., Sykes, H., Walton, H., Tafea, H., Korovulavula, I., Comley, J., Kinch, J., Feehely, J., Petit, J., Heaps, L., Anderson, P., Cohen, P., Ifopo, P., Vave, R., Hills, R., Tawakelevu, S., Alefaio, S., Meo, S., Troniak, S., Malimali, S., Kukuian, S., George, S., Tauaefa, T., and Obed, T. (2009). Status and potential of locally-managed marine areas in the South Pacific: meeting nature conservation and sustainable livelihood targets through wide-spread implementation of LMMAs. Suva, Fiji: SPREP/WWF/WorldFish-Reefbase/CRISP.
- Griffiths, J. (1986). What is legal pluralism? *Journal of Legal Pluralism and Unofficial Law* 18, 1–55. doi:10.1080/07329113.1986.10756387
- Hickey, F. R. (2003). Traditional marine resource management in Vanuatu: worldviews in transformation; sacred and profane. In 'Putting Fishers' Knowledge to Work'. (Eds N. Haggan, C. Brignall and L. Wood.) pp. 117–137. Fisheries Centre Research Report, UBC, Vancouver, Canada.

- Hoffmann, T. C. (2002). The reimplementation of the Ra'u'i: coral reef management in Rarotonga, Cook Islands. *Coastal Management* **30**, 401–418. doi:10.1080/089207502900282
- Hviding, E. (2003). Both sides of the beach: knowledges of nature in Oceania. In 'Nature Across Cultures: Views of Nature and the Environment in Non-western Cultures'. (Ed. H. Selin.) pp. 245–276. (Kluwer: Dordrecht, Netherlands.)
- Johannes, R. E. (1978). Traditional marine conservation methods in Oceania and their demise. *Annual Review of Ecology and Systematics* **9**, 349–364. doi:10.1146/ANNUREV.ES.09.110178.002025
- Johannes, R. E. (1998). Government-supported, village-based management of marine resources in Vanuatu. *Ocean and Coastal Management* **40**, 165–186. doi:10.1016/S0964-5691(98)00046-5
- Jupiter, S. D., Cohen, P. J., Weeks, R., Tawake, A., and Govan, H. (2014a). Locally-managed marine areas: multiple objectives and diverse strategies. *Pacific Conservation Biology* **20**, 165–179.
- Jupiter, S. D., Jenkins, A. P., Lee Long, W. J., Maxwell, S. L., Carruthers, T. J. B., Hodge, K. B., Govan, H., Tamelander, J., and Watson, J. E. M. (2014b). Principles for integrated island management in the tropical Pacific. *Pacific Conservation Biology* **20**, 193–205.
- Keppel, G., Morrison, C., Meyer, J.-Y., and Boehmer, H. J. (2014). Isolated and vulnerable: the history and future of Pacific Island terrestrial biodiversity. *Pacific Conservation Biology* **20**, 136–145.
- Kinch, J., Anderson, P., Richards, E., Talouli, A., Vieux, C., Peteru, C., and Suaesi, T. (2010). Outlook report on the state of the marine biodiversity in the Pacific region. Secretariat of the Pacific Regional Environment Programme, Apia, Samoa.
- Kingsford, R. T., Watson, J. E. M., Lundquist, C. J., Venter, O., Hughes, L., et al. (2009). Major conservation policy issues for biodiversity in Oceania. *Conservation Biology* **23**, 834–840. doi:10.1111/J.1523-1739.2009.01287.X
- Lane, M. B. (2008). Strategic coastal governance issues in Fiji: the challenges of integration. *Marine Policy* **32**, 856–866. doi:10.1016/J.MARPOL.2007.12.008
- Law Reform Commission of Western Australia (2006). Aboriginal customary laws. Final Report.
- Lees, A. (2007). Review and analysis of Fiji's conservation sector. Final report. Austral Foundation. Available at: [http://www.australfoundation.org/uploads/9/8/3/5/9835787/final\\_report\\_pdf\\_lees.pdf](http://www.australfoundation.org/uploads/9/8/3/5/9835787/final_report_pdf_lees.pdf) [accessed 1 January 2014].
- Lindsay, J. (1998). Designing legal space: law as an enabling tool in community-based management. Paper presented at the International CBNRM Workshop, 10–14 May 1998. Washington, DC.
- Llewellyn, D. (2004). Customary law on Malo, South Santo, Vanuatu and the protection of the marine environment. In 'Tabus or Not Taboos? How to Use Traditional Environmental Knowledge to Support Sustainable Development of Marine Resources in Melanesia'. (Eds A. Caillaud, S. Boengkih, E. Evans-Illidge, J. Genolagani, P. Havemann, D. Henao, E. Kwa, D. Llewellyn, A. Ridep-Morris, J. Rose, R. Nari, P. Skelton, R. South, R. Sulu, A. Tawake, B. Tobin, S. Tuivanuvou and C. Wilkinson.) pp. 22–23. *SPC Traditional Marine Resource Management and Knowledge Information Bulletin* **17**, 14–35. Available at: [http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/TRAD/17/TRAD17\\_15\\_Nari.pdf](http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/TRAD/17/TRAD17_15_Nari.pdf) [accessed 3 January 2014].
- Merry, S. E. (1988). Legal pluralism. *Law & Society Review* **22**, 869–896. doi:10.2307/3053638
- Meyer, J.-Y. (2014). Research and management of invasive plants in the Pacific Islands: "état de l'art", critical issues and new challenges in rapidly changing ecosystems. *Pacific Conservation Biology* **20**, 146–164.
- Mills, M., Jupiter, S. D., Pressey, R. L., Ban, N. C., and Comley, J. (2011). Incorporating effectiveness of community-based management strategies in a national marine gap analysis for Fiji. *Conservation Biology* **25**, 1155–1164. doi:10.1111/J.1523-1739.2011.01749.X
- Nari, R. (2004). Merging traditional resource management approaches and practices with the formal legal system in Vanuatu. In 'Tabus or Not Taboos? How to Use Traditional Environmental Knowledge to Support Sustainable Development of Marine Resources in Melanesia'. (Eds A. Caillaud, S. Boengkih, E. Evans-Illidge, J. Genolagani, P. Havemann, D. Henao, E. Kwa, D. Llewellyn, A. Ridep-Morris, J. Rose, R. Nari, P. Skelton, R. South, R. Sulu, A. Tawake, B. Tobin, S. Tuivanuvou and C. Wilkinson.) pp. 15–16. *SPC Traditional Marine Resource Management and Knowledge Information Bulletin* **17**, 14–35. Available at: [http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/TRAD/17/TRAD17\\_15\\_Nari.pdf](http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/TRAD/17/TRAD17_15_Nari.pdf) [accessed 3 January 2014].
- New Zealand Law Commission (2006). Converging currents: custom and human rights in the Pacific. New Zealand Law Commission, Wellington.
- Ntuny, M. A. (ed) (1993). 'South Pacific Islands Legal Systems.' (University of Hawai'i Press: Honolulu.)
- Powles, G. (1997). Common law at bay? The scope and status of customary law regimes in the Pacific. *Journal of Pacific Studies* **21**, 61–82.
- Ruddle, K. (1994). 'A Guide to the Literature on Traditional Community-based Fishery Management in the Asia-Pacific Tropics.' (FAO: Rome.)
- Ruddle, K., Hviding, E., and Johannes, R. E. (1992). Marine resource management in the context of customary tenure. *Marine Resource Economics* **7**, 249–273.
- Sullivan, P. M. (1998). Customary revolutions: the law of custom and the conflict of traditions in Hawai'i. *University of Hawai'i Law Review* **20**, 99–163.
- Techera, E. J. (2005). Protected area management in Vanuatu. *Macquarie Journal of International and Comparative Environmental Law* **2**, 107–119.
- Techera, E. J. (2006). Samoa: law, custom and conservation. *New Zealand Journal of Environmental Law* **10**, 361–379.
- Techera, E. (2012). 'Marine Environmental Governance: From International Law to Local Practice.' (Routledge: Abingdon, UK.)
- Techera, E. J., and Troniak, S. (2009). Marine protected areas policy and legislation gap analysis: Fiji Islands. IUCN Regional Office for Oceania, Suva, Fiji.
- Thaman, R. (2014). Agrodeforestation and the loss of agrobiodiversity in the Pacific Islands: a call for conservation. *Pacific Conservation Biology* **20**, 180–192.
- Veitayaki, J. (1997). Traditional marine resource management practices used in the Pacific Islands: an agenda for change. *Ocean and Coastal Management* **37**, 123–136. doi:10.1016/S0964-5691(96)00069-5
- Vierros, M., Tawake, A., Hickey, F., Tiraa, A., and Noa, R. (2010). Traditional marine management areas of the Pacific in the context of national and international law and policy. United Nations University, Traditional Knowledge Initiative, Darwin, Australia.
- von Benda-Beckmann, F. (2001). Folk, indigenous and customary law. In 'International Encyclopaedia of the Social and Behavioral Sciences'. (Eds N. J. Smelser and P. B. Baltes.) pp. 5705–5708. (Elsevier: Oxford.)
- Vukikomoala, K., Jupiter, S., Erasito, E., and Chand, K. (2012). An analysis of international law, national legislation, judgements, and institutions as they interrelate with territories and areas conserved by indigenous peoples and local communities. Report No. 19, Fiji. Natural Justice and Kalpavriksh, Bangalore and Delhi.
- Ward, G. R., and Kingdon, E. (Eds) (1995). 'Land, Custom and Practice in the South Pacific.' (Cambridge University Press: Cambridge.)
- Watson, I. (1997). Indigenous peoples' law-ways: survival against the colonial state. *Australian Feminist Law Journal* **8**, 39–58. doi:10.1080/13200968.1997.11077233
- World Database on Protected Areas. (undated). Protected Planet. IUCN and UNEP, Cambridge. Available at: <http://protectedplanet.net/> [accessed 1 January 2014].