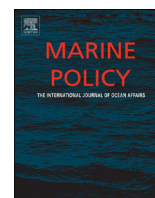




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## An analysis of property rights in the Fijian *qoliqoli*

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### ABSTRACT

Fisheries management in Fiji's inshore fishery exists in a plural legal and governance system comprised on the one part by customary fishing rights, and on the other by centralized ownership. The ambiguity in this arrangement stems from a lack of understanding of the property rights of customary fishing rights. This paper aims to clarify what property rights in Fiji's inshore fisheries consists of by applying the bundle of rights property theory analysis using Schlager and Ostrom's five property rights, i.e., access, withdrawal, management, exclusion, and alienation. A clearer understanding of property rights in a fisheries resource is crucial for sustainable fisheries management.

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### 1. Introduction

For millennia, indigenous Fijian (iTaukei) communities have held customary marine tenure over Fiji's inshore waters and even today the use of traditional knowledge to harvest and manage these resources continues. These inshore waters over which customary fishing rights are held is referred to as '*qoliqoli*', and they extend from the foreshore to slightly beyond the fringing reefs that keep the South Pacific Ocean at bay. Fiji's *qoliqoli* is unique in that it has arguably the most systemically recorded and demarcated customary held marine tenure areas in the Pacific [21]. These customary rights are held on a communal basis and registered to customary groups.

This paper aims to describe and analyse the property rights that exist in the *qoliqoli*, trace how these rights were created, and how they are held in law and practice. Understanding the nature and effect of the *qoliqoli* rights is vital to all stakeholders and particularly to *qoliqoli* owners themselves as current trends are eroding their traditional rights and management structures. It is also important because this has often been a contentious area that is susceptible to misunderstanding and conflict. This paper aims to provide a clearer look at the underpinnings of this system of marine tenure, how this system has developed and what it means from a property rights perspective and the ramifications for fisheries management initiatives.

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With inshore fish stocks in Fiji declining [18] there is an increasingly recognised need to better manage and sustainably harvest fish and this has led an increase in a number of fisheries management initiatives within *qoliqoli* areas [13]. Fisheries management initiatives may benefit from a good understanding of the pre-existing property rights in the *qoliqoli* and who holds those rights because success may depend on aligning rather than conflicting with those existing rights. An overriding objective of this paper is to increase understanding of the Fiji inshore fisheries law and governance context and its complexities, and thereby reduce the potential for conflict and misunderstanding and increase the prospects of success for fisheries management initiatives in the *qoliqoli* [6].

### 2. Property rights and property regimes

Defining property rights can be a difficult proposition given the myriad of property right types that exist coupled with the various regimes governing these property rights. This task is made more difficult because there is not a unified position regarding the concept of 'property' amongst property theorists. A cursory definition of property rights reduces them to 'right to things' [35]. But a more in-depth look at the nature of property reveals two leading and to some extent contradictory theories of property [10]. The first theory is known as the 'full liberal ownership' or 'absolute dominium view' which was described by English jurist Sir William Blackstone in his *Commentaries on the Laws of England* as 'that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of

any other individual in the universe' [8]. This theory envisions property as individual, exclusive and absolute [30] and its origins can be traced to Roman law.

The other main theory of property is the 'bundle of rights' theory which argues that property is comprised of various rights (or 'sticks' in the bundle), and together these rights form full ownership of property (or the 'bundle') [20]. The bundle of rights theory is different from full liberal ownership because it does not require one person to hold all the rights, but posits that property is a mix of rights and legal relationships [4]. The bundle of rights theory lends itself to describing rights to natural resources such as inshore fisheries because there are likely to be competing claims from various individuals. These may include, the State's overarching sovereignty over inshore and territorial waters, a local community's customary claim over fishing rights, and the public's claim to a right of access. Thus applying the bundle of rights approach to an inshore fisheries area may, for example, enable a description of one party (e.g. the community) holding the harvest rights while another party (e.g. the State) may hold the management and exclusionary rights. While in this example each party can be said to be holding a 'property right' in that resource taken together both parties may hold, and therefore, share all the property rights to the inshore fisheries area. As a consequence, and while recognising that at present there is no unifying theory of property, the 'bundle of rights' theory as opposed to 'full liberal ownership', may better describe the complexity of the property rights and how they are held in relation to natural resources in general and to inshore fisheries in particular.

This paper applies the five constituent rights in property suggested by Schlager & Ostrom, namely, 'access,' 'withdrawal,' 'management,' 'exclusion', and 'alienation' [29].

Because this paper discusses property rights with respect to fisheries resources, it is necessary, in brief, to identify and discuss the fisheries access regimes that exist and how they operate. Understanding these regimes or institutions is important because they identify the key players to whom resources are linked, and when applying the bundle of rights theory, rights can then be allocated to the player responsible. The regimes we discuss include open access, private property, and common property.

In an open access system, there is an absence of any property regime in place and without a management regime, this is likely to result in resources being exploited unchecked. Hardin in his oft-quoted *Tragedy of the Commons* alluded to this open access system where unmanaged resource extraction from the 'commons' would lead to the destruction of the resource. An example of an open access regime is the 'High Seas', where no State has sovereignty, and no jurisdiction within which to create a domestic property rights regime for natural resources. Within the High Seas an individual, if not bound by the obligation of one's flag, could arguably plunder the High Seas' resources unhindered. An example of this is fishing vessels flying 'flags of convenience' on the High Seas who are not bound by rules set by Regional Fisheries Management Organisations [17].

Common property regimes occur in fisheries where local communities have the exclusive right to harvest fish in a demarcated area [33]. Communities in this example may also possess the right of management. An example of a common property regime in Fiji's context is the communally held customary fishing rights or 'qoliqoli.' However, while the community may have the rights to harvest or management, the State retains the power to legislate or regulate resource use. Common property regimes are often criticized by economists for three deficiencies that are typical of this institution; these are, firstly, rent dissipation, i.e., since the resource is owned by no one it faces the competitive 'race to the bottom' scenario. Secondly, high transaction and enforcement costs, i.e., investment to achieve the similar harvest levels

increases; and finally, low productivity, i.e., because all users are increasing their levels of investment in gear individual yield levels decrease [26]. While current economic theory points to inefficiencies for common property regimes, other literature suggests that communally owned inshore fisheries resources can benefit from this regime but for this benefit to be realised there needs to be stronger self-governance [12,28].

Private property regimes in fisheries refer to an exclusive allocation of fishing rights to an individual or entity. An example of this regime is the Individual Transferable Quotas (ITQ) system or 'catch shares' used by some governments to manage their fisheries sectors. ITQs operate by first establishing through the application of science, the Total Allowable Catch (TAC) for a fish species then allocating a portion of this to fishermen or a company [33]. This apportionment of the TAC to fishermen is the basis of this private property regime in this instance. ITQs are transferable and as the rights are restricted to a certain allocation of the TACs the 'race to the bottom' in theory becomes null [34].

Another, relevant property regime is the State property regimes, and this occurs where the State has sovereignty or rights to control and regulate matters within its jurisdictional boundaries including fisheries [33]. An example of this is the Exclusive Economic Zone (EEZ) where the State exercises its sovereign rights as provided by UNCLOS and these includes rights of management and resource extraction.

In discussing these different property regimes in relation to inshore fisheries, it is important to remember that fish remain a 'common-pool resource' or a 'common property resource.' Common-pool resources must not be confused with common property regimes. Common pool resources relate to the quality of the resource and are characterised by their difficulty to exclude others from the resource and high sub tractability [3,37]. Examples of common pool resources include fisheries, inshore areas, grazing pastures and forests and composed of resource systems and a flow of units from these resources [26].

The discussion of property rights and the different property regimes (set out above) provides context to the overarching fisheries management framework. Property rights are legal rights in property, and they may lead to or form the basis of economic rights in the resources themselves. Barzel explains: '*[e]conomic rights are the end (that is, what people see), whereas legal rights are a means to achieve that end. Legal rights play a primarily supporting role – a very prominent one, however, for they are easier to observe than economic rights*' [5].

Property rights in fisheries and who holds them are therefore important because they relate to how wealth is apportioned in society and will also impact on the forms of fisheries management that may or could be selected as the most suitable for managing that particular fishery and securing the ongoing economic benefits to the holder of the rights. The existence of those property rights, and how strong they are may affect the decision-making process relating to the controls that can be introduced into the fishery.

While the majority of property rights in fisheries refer to private or individual property rights aimed at either input (e.g. licensing or gear size/type) or output controls (e.g. ITQs), the traditional fishing rights that exist in the Fiji context are not individually held but are held in common with other members of the same community. This Fiji context of communally held property rights is important for all fisheries management initiatives. It should also be recognised that while this allocation has survived pre and post-Colonial Fiji it can still change or evolve. While, there is anecdotal evidence to suggest that Fiji as a society has accepted the allocation of traditional rights to traditional communities, and has chosen to record and retain legal rights for traditional communities a detailed review of the property rights in the qoliqoli shows that the totality of the rights are allocated between

communities and the State in a way that means neither party holds all the rights. However, the State retains the ability to alter the relative balance and allocation of property rights, and within Fiji, this has been an area of political controversy. On the one hand retaining the status quo raises questions in relation to the fairness of the allocation itself because only traditional communities enjoy the traditional fishing rights in qoliqoli areas, and on the other hand changing how the property rights are allocated risks upsetting a unique and complex local context that could harness or build upon traditional knowledge in fisheries management.

### 3. Full discussion of the analysis being used (i.e., the sticks in the bundle)

Fish and other wild animals present particular challenges in relation to defining who can own them. The common law principle of *ferae naturae* that applies in the common law jurisdiction of Fiji provides that wild animals and fish do not belong to anyone until they are caught. Property in marine resources has been traditionally linked to sovereignty because States cannot create or recognise property rights outside their territory. In recent times positive law has made inroads into sovereignty being a pre-requisite for the existence of property rights, with the enclosure movement represented by UNCLOS and the creation of EEZ's illustrating a movement towards the use of more positive legal mechanisms to regulate and manage common pool resources sustainably. This has led to an extension of a type of marine tenure and State jurisdiction over larger areas of ocean space and the introduction of private property allocations aimed at input and output controls, while not involving the full ownership of these areas [3]. Recent efforts by the international community have even sought to regulate the High Seas, and this creates implications on the High Seas with respect to the property rights that are potentially created.

This paper applies Schlager and Ostrom's [29] five property rights, i.e., *access*, *withdrawal*, *management*, *exclusion* and *alienation*, and how this could be used to assess the extent of property ownership in the qoliqoli. While criticism of the Bundle Theory of property has questioned whether property can be simply broken down into a list of use rights, the identification of these five property type rights navigates between the 'sticks in the bundle approach' and the traditional view of property relating to rights *in rem* (good against the world) as well as what is often seen as the ultimate test of property – the right to exclude others from the use rights that the property holder enjoys. This is because the five property type rights are cumulative and are not mutually exclusive, holding one right implies that you will also hold another [16].

The rights of 'access' and 'withdrawal' in a common pool resource are considered operational-level property rights. The rights of access to a fishery resource occur when fishermen have authority to enter a resource area, and this may include the requirement to possess a licence to enter the fishing ground. The right of withdrawal provides the holder to obtain products of the resource, for example, catch fish [33].

The rights of 'management,' 'exclusion' and 'alienation' are considered to be collective choice level property rights, and this differs from operational level rights in that the former is a right to define the future rights to be exercised while the latter is merely possessing an exercisable right [33]. The right of management to a common pool resource allows its holders to define withdrawal rights or regulate the resource use or extraction. The right of exclusion is the right to determine who will have access to a right. The right of alienation is the right of the holder to transfer part or the whole of either its right to management or exclusion or both.

The academic literature shows that it is easy to get lost in an attempt to create a unifying legal theory of what property is, and for present purposes the bundle of rights theory provides a way to think about the property type rights that a community or a State may hold and share in relation to a particular natural resource. By examining the nature of the bundle of rights itself, determining who holds which property right, how the rights are allocated and who holds the relative balance of power over those rights presents a practical way forward to describe the rights in a qoliqoli. An examination of the five use rights identified by Schlager and Ostrom and how they are allocated in any given natural resource management/legal/governance system, therefore, reveals a clearer picture of the nature and the strength of the property rights held by either individuals or in Fiji's case, by the traditional groups and how these rights are shared with the State.

After examining what the qoliqoli is, we examine how these five property type rights apply within qoliqoli, in order to look behind the structures and create a picture of what is happening in law and in practice.

### 4. Description of qoliqoli

In Fiji, customary marine tenure over inshore areas or qoliqoli is held solely by iTaukei. There are 411 registered qoliqolis registered in Fiji by the Native Land and Fisheries Commission and these add up to a total area of approximately 30,011.09 km<sup>2</sup>. The qoliqoli areas are based on historically recognised customary fishing grounds which loosely follows general reef geomorphology, i.e., qoliqoli outer limits are often defined by the outer limits of reefs. The Fisheries Act recognizes the protection of customary fishing rights but beyond this, there is little in the law regulating how this is applied. Despite a lack of clear laws and policies regulating how qoliqolis work, the traditional governance of this system is accepted in practice and is integrated into a dual governance system over this resource [31]. In understanding the current day interpretation of the qoliqoli according to both the law and by the iTaukei it is necessary to look to Fiji's historical past and in particular Fiji's colonial history.

Prior to Colonialism marine tenure was held communally by relevant groupings of iTaukei and considered to be an exclusive proprietary right over adjacent lagoons, reefs, and mangroves. In these early times, constant warfare meant that the people of these times fished as near as possible to their settlements [27]. There are also some instances where claims to fishing grounds in distant waters from communities are held, particularly in relation to isolated reef systems and islands. In this era marine boundaries were constantly changing, shaped by the conquest of one group over another, changing alliances, marriage and adoption [2].

With Fiji's cession came the introduction of 19th century British concepts of property related to land and marine tenure. The Deed of Cession effectively transferred the ownership of all of Fiji including the pelagic waters to the Crown. Historical records indicate that, the Chiefs who represented the various regions of Fiji had expressed concerns to the British officials for the need to protect the rights of their people, explaining that they could not as individuals truly cede the land, reefs, and fishing rights because these resources were communally owned property and not theirs to give [2]. Fiji's second Governor General, Sir Arthur Hamilton Gordon agreed with the chiefs that their resources would be held by Britain subject to the customs and traditions of the iTaukei. However, over time, this was only ever achieved for land, and the qoliqoli never returned to the ownership of the iTaukei people [11].

Land tenure while not without controversy has been widely accepted in part, because the British introduced the *Torrens title*

system for land registration which gave definitive property rights in land to title owners. This was further bolstered during the Colonial period by efforts to protect iTaukei land such as the Native Land Ordinance, which prohibited the alienation of native land. In 1940, the iTaukei Land Trust Board (TLTB) was established as a statutory body for the purpose of administering native land on behalf of iTaukei landowners. The inalienability of native land remained a cornerstone of this institution. These protection mechanisms were implemented due to the many fraudulent dealings in respect to land that were initiated by the early European/Western settlers in the late 1800s and in the current day this strict regulation of native land demonstrates its effectiveness with close to 90% of all land types in Fiji being native land [14,23].

Contrary to the system of land tenure adopted by the British Colonials the converse was true for marine tenure where the ownership of marine resources was harder to define because prior to colonisation, the iTaukei traditionally viewed the concepts of self as what that was deeply intrinsic to the land and sea and together this concept was called 'Vanua' [15]. The Vanua symbolizes a traditional belief in an intrinsic connection that the people have with their environment and in this, the land and sea are considered together to form part of this definition. However for the purposes of the British colonial government, this concept was suspended in favour of the then prevailing western view of marine tenure being open access and this was codified by the *Rivers and Streams Ordinance 1880*. This open access view was then supplanted by the *Bird, Games and Fish Protection Ordinance 1923* that recognised customary fishing rights and restricted access to fishing in qoliqoli to only those that were registered owners. The *Fisheries Act 1942* also captured this legal recognition to the customary fishing rights. However, the State Lands Act reiterated that the State-owned these fishing grounds (qoliqoli) as well as all foreshore land. This created a dual system that separated underlying ownership from use rights for inshore waters that reflects the plural legal system in Fiji.

Following Fiji's independence on 10 October 1970, the systems relating to natural resource management as introduced by the colonial administration remained largely unchanged. However, it seems that a perception took root amongst iTaukei that under the Colonial system of governance that something had been lost in relation to their qoliqoli areas. This concern focused on the State ownership of the marine areas themselves and perhaps the way that the areas had been demarcated and the qoliqoli rights registered. In 2006 this rumbling issue came to a head with the introduction of a Qoliqoli Bill which would have vested ownership of the qoliqoli areas to iTaukei, but the question of whether this controversial Bill would become law and in what final form was never answered because the government who proposed it was overthrown by the Royal Fiji Military Forces led by Commander Frank Bainimarama. In September 2014, Fiji returned to a constitutional and democratically elected government.

The United Nations Convention on the Law of the Sea (UNCLOS) sets the international legal framework for the governance of the world's oceans and its ratification by Fiji led to newly defined maritime spaces in Fiji. UNCLOS and the *Marine Spaces Act* (the domestic law for implementing the rights and obligations of UNCLOS) confer to the State sovereignty over its internal waters, territorial sea, and archipelagic waters. This is important to note as all qoliqolis fall within the territorial sea and therefore are under the sovereignty of the State. In the EEZ the State has sovereign rights limited to exploring, exploiting, and managing the resources here.

Qoliqoli owners in practice exercise management of the qoliqoli and subsequently qoliqoli owners have long utilized traditional fisheries management tools, such as tabu areas to manage their fisheries resource. In the current climate, these rights are the

sole impetus for creating management plans. The Fiji Locally Managed Marine Area Network (FLMMA) was set up to provide tools for communities to manage qoliqoli resources through in part, utilizing and strengthening qoliqoli rights [22]. FLMMA employs the community-based adaptive management (CBAM) approach that places emphasis on developing a natural resource management plan, implementing it and then following up with monitoring and evaluation and revising the management plan if needed.

## 5. Analysis of qoliqoli using the relevant sticks in the bundle with a section on the implications for fisheries management

Who owns the property rights to fisheries resources is important because wild fish are a finite common pool resource, and as such, are subject to overexploitation captured in Hardin's [19] description of the tragedy of the commons. In economic terms the overexploitation of a resource creates inefficiency, and the economic theory is that a natural resource will be used more efficiently if an individual or a group has a vested interest in that resource, and so property rights that create self-interest should lead to better management because the incentive to capture everything in the short term is removed. Barnes explains that while property rights should not be seen as an easy fix or panacea, there is evidence that their introduction into fisheries management has led to improvements [3]. The extent of what qoliqoli property rights consist of is not clear and this is because the legislation that acknowledges qoliqoli rights is vague at best. Qoliqoli property rights, however contentious, play a vital role in Fiji's inshore fisheries as seen by the deference shown to qoliqoli owners in dealings with the Department of Fisheries, fisher folk, and even the NGO community. The strength of these qoliqoli property rights have yet to be tested by the Fiji Courts, and what follows below is an analysis Ostrom's five property rights that exist in a qoliqoli.

The right of *access* merely authorises the possessor to enter a resource [29]. Possessors of this right in a qoliqoli include qoliqoli owners and licensed fishermen. Qoliqoli owners have the right to access their qoliqoli resources for non-commercial purposes under the *Fisheries Act*. While fishermen have the access right to a qoliqoli by way of their licence and subject to its terms and conditions. The *Regulation of Surfing Areas Decree 2010* that was passed in 2010 included the provision stating that 'any interest in any surfing area to be absolutely vested in the Director of Lands for and on behalf of the State', is a notable development in that it opens access to parts of qoliqolis that may be used for surfing and other water sports and explicitly guarantees the right of access to all those who want to undertake 'water sports' within the qoliqoli, and makes any request for compensation in return for access to undertake water sports illegal. Water sports are not defined by the Act.

The right of *withdrawal* gives the possessor the right to harvest the resource, i.e., catch fish. Qoliqoli owners have subsistence withdrawal rights, but they do need a licence for commercial fishing. Fishermen who have acquired fishing licences also possess access and withdrawal rights subject to the conditions of their licence which may indicate fishing activities within a demarcated area or species restriction. There is also a public right to fish for subsistence purposes that is limited by the Fisheries Act to a person fishing with a 'hook and line or with a spear or portable fish trap which can be handled by one person.' This right is arguably exercisable in all Fiji fisheries waters including qoliqoli areas but are subject to overarching legislated or gazetted fishing restrictions.

The *management* rights of qoliqoli areas according to the Fisheries Act vests with the State via the Ministerial powers to make regulations that regulate fishing methods and gear,



prohibited areas and seasons, size and weight limits, licensing, and other conservation methods. In practice, however, localized fisheries management of qoliqolis are taken up by communities themselves who are better placed to understand the fisheries management needs of their respective qoliqolis. This is often done with input from FLMMMA or another NGO partner with some involvement of the Department of Fisheries. Communities are able to implement fisheries management initiatives through the declaration of no-take fishing areas known as 'tabu' (taboo) areas. However, these areas are informally declared, only bind the community, and may be reopened by the community. The local community cannot declare a legal marine protected area, as this is undertaken by the government through powers and a process provided for in the Fisheries Act.

Current management efforts by communities, such as the creation of tabu areas, are hampered by the practical difficulties of enforcement and agreeing on usage rules that will bind everyone in the community [25]. The *Fisheries Act* provides for the appointment of 'honorary fish wardens whose duties shall be the prevention and detection of offences under this Act and the enforcement' of its provisions. However, in practice, these fish wardens are poorly equipped and lack the powers to properly administer their roles. Furthermore, there is a generally reported lack of capacity or willingness within the relevant institutions to successfully prosecute offences under the *Fisheries Act*.

The right of *exclusion* is defined by Schlager and Ostrom as the right to determine who will have an *access* right. This authority to exclude someone from the qoliqoli is held by the State and embodied in their permit and licensing system. The permit and licensing system provides the mechanism to award licences and follows a tiered process where fishermen must first seek permission from a qoliqoli owner and upon receiving this the Commissioner may issue a permit and on this basis, a fishing licence may be awarded by the Department of Fisheries [31]. This licence may be subject to certain conditions such as species specific or marine protected areas.

Ultimately qoliqoli areas vest in the State and communities have no rights to transfer their rights of access and withdrawal identified above. There is a mechanism whereby qoliqoli fishing rights may be waived, but this exists for the purposes of leasing or reclamation of foreshore areas, and ultimately it is the State that issues this foreshore lease. Once this waiver of qoliqoli rights is signed by the community those qoliqoli rights may be lost for a period of time or indefinitely but are subject to compensation. In 1974, a Fiji Government Cabinet paper directed monetary compensation be paid to qoliqoli owners for damages caused by development and land reclamation. The value of compensation was to be determined by an Arbitrator with compensation monies to be payable to a Trust or Trustee. In 1978, another Cabinet paper supplementary to the 1974 Cabinet paper authorised the Minister of Lands to waive fishing rights in respect of special projects undertaken by the government, charitable organisations or statutory bodies but this was subject to 3 criteria. The criteria included that the beneficiaries of the projects and developers or co-developers be qoliqoli owners and that qoliqoli owners have consented to waive their fishing right. Qoliqoli compensation becomes an issue when a development results in the loss of user rights of a qoliqoli by their respective rights owners. Currently, Qoliqoli compensation is awarded to qoliqoli owners after a Fisheries Impact Assessment (FIA) is conducted. This Fisheries Impact Assessment determines the economic value of the loss of user rights due to the development. This economic value will be related to the health or otherwise of the marine resources within a qoliqoli area and thus will impact on the level of compensation that will be paid to communities in return for waiving their fishing rights. This assessment of value takes into account that the state of the resources

so a poorly managed and depleted qoliqoli area will attract lower levels of compensation.

This illustrates again how the qoliqoli areas and the fishing rights are shared between the State and the relevant community. While in theory, the State owns the qoliqoli area it will not consent to development without consultation with and consent from the community which is provided in return for compensation. It is also important to note that the qoliqoli areas themselves cannot be permanently alienated because the State will remain the owner and only provides a Crown Lease for a certain number of years to any developer/lessee.

## 6. A comparison to the New Zealand Individual Transferable Quota (ITQ) system and property rights

New Zealand makes an interesting case study in fisheries management with its comprehensive adoption of ITQs [9]. ITQs were introduced in 1986 with two key aims; the first was alleviating the pressure on inshore fishery stocks and the second was developing the offshore industry [36]. ITQs in New Zealand are permanent in nature, and they are also freely transferable, with a register recording the ownership, and other interests in ITQs [32]. This tradability of ITQs allows for market forces to regulate pricing and this value in ITQs can also lead to economic efficiency because a better-managed fishery results in a more valuable ITQ [1]. The ITQ system in New Zealand has continued to evolve since its inception in 1986 to consider issues that were not addressed in its original form [24].

In terms of property rights, ITQs fall under private property regimes and holders of ITQs hold a right to harvest a share of the TAC. ITQs are different from fishing licences in that they confer to the holder a right to harvest a portion of the TAC whereas a fishing licence merely confers a privilege to fish, and here the ownership of the resource remains with the State [7]. ITQs in New Zealand do not constitute full property rights, but they do include strong property rights elements in that they enable the holder to exclusive harvesting rights for their allocated share, this is permanent in nature, and can be sold, leased or mortgaged [33].

New Zealand shares a similar cultural connection to the Ocean that many other Pacific Islands including Fiji possess. The Maori people of New Zealand also experience a colonial history whereby customarily owned fishery resources was supplanted by State property rights [13]. While in Fiji customary fishing rights continue to exist and are recognised, with fishing areas clearly demarcated and recorded, in New Zealand the Maori while promised these rights on signing the Treaty of Waitangi soon had to contend with the erosion of their fishing rights over a century, but this has now been remedied, arguably and to some extent, with the Waitangi settlement where the Maori now have a reserved allocation of ITQs which has contributed to a significant presence in New Zealand's commercial fishery [7].

## 7. Conclusion

The aim of this paper has been to apply a property rights analysis to the Fijian qoliqoli to explain how these rights exist and operate, and why in practice this system has not yet produced an answer to what Ostrom may have described as the tragedy of the unmanaged commons. Fiji does not have a system that may be described as 'working in practice', and more needs to be done to manage inshore fisheries resources to arrest and reverse their decline.

A close look at property rights in qoliqoli areas reveals that they are shared between communities and the government with the

government retaining the overall right to alter the relative apportionment of rights.

In the present context, the implication for fisheries management initiatives is that they need to involve both government and communities carrying out their respective roles along the lines of the property rights that they hold. When either of the rights holders fail in their role effective fisheries management may also flounder. Fiji is not, therefore, an example of a failure of traditional management of fisheries resources or a failure of communal ownership but at present co-management is not working and the familiar reasons are, amongst others, a lack of resources within government and a lack of commonly adopted and enforced usage rules amongst communities.

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### References

- [1] R. Arnason, Property rights in fisheries: how much can individual transferable quotas accomplish? *Rev. Environ. Econ. Policy* (2012) 217–236, <http://dx.doi.org/10.1093/reep/res011>.
- [2] J. Baledrokadroka, *The Fijian Understanding of the Deed of Cession Treaty of 1874*, University of Auckland, New Zealand, 2003.
- [3] R. Barnes, *Property Rights and Natural Resources*, Hart Publishing, UK, 2009.
- [4] J.B. Baron, Rescuing the bundle of rights metaphor in property law, *Univ. Cincinnati Law Rev.* 82 (2014).
- [5] Y. Barzel, *Economic Analysis of Property Rights*, Cambridge University, Cambridge, 1989.
- [6] N.J. Bennett, P. Dearden, From measuring outcomes to providing inputs: governance, management and local development for more effective marine protected areas, *Mar. Policy* 50 (2014) 96–110.
- [7] R. Bess, New Zealand's indigenous people and their claims to fisheries resources, *Mar. Policy* 25 (2001) 23–32.
- [8] W. Blackstone, *Commentaries on the Laws of England, 1765–1769*.
- [9] T. Borch, Tangled lines in New Zealand's quota management system: the process including recreational fisheries, *Mar. Policy* 34 (2010) 655–662.
- [10] H. Breakey, Property, Retrieved 2016, from Encyclopedia of Philosophy, (n.d.): <http://www.iep.utm.edu/prop-con/>.
- [11] J. Bryant-Tokalau, Living in the Qoliqoli, *Urban Squatting Fiji Foreshore* 33 (2010) 1.
- [12] J.E. Cinner, S. Aswani, Integrating customary management into marine conservation, *Biol. Conserv.* (2007) 201–216.
- [13] A. DeMers, V. Kahui, An overview of Fiji's fisheries development, *Mar. Policy* 36 (2012) 174–179.
- [14] M.J. Dodd, *Reform of Leasing Regimes for Customary Land in Fiji*, University of Otago, New Zealand, 2012.
- [15] M. Erasaari, *We Are the Originals*, University Of Helsinki, Helsinki, 2013.
- [16] L.A. Fennel, Ostrom's law: property rights in the commons, *Int. J. Commons* 5 (1) (2011) 9–27.
- [17] M. Gianni, W. Simpson, The changing nature of the high seas fishing: how flags of convenience provide cover for illegal, unreported and unregulated fishing. Australian Department of Agriculture, Fisheries and Forestry; International Transport Workers' Federation; WWF International, 2005.
- [18] R. Gillett, A. Lewis, I. Cartwright, *Coastal Fisheries in Fiji*, 2014.
- [19] G. Hardin, The tragedy of the commons, *Science* 162 (3859) (1968) 1243–1248, <http://dx.doi.org/10.1126/science.162.3859.1243>.
- [20] D.R. Johnson, *Reflections on the bundle of rights*, *Vt. Law Rev.* (2007) 32.
- [21] B. Kuemlangan, Creating legal space for community-based fisheries and customary marine tenure in the Pacific: issues and opportunities, 7, *FishCode Review*, 2004.
- [22] T. Lawson-Remer, Do stronger collective property rights improve household welfare? Evidence from a field study in Fiji, *World Dev.* 43 (2013) 207–225, <http://dx.doi.org/10.1016/j.worlddev.2012.09.004>.
- [23] H.-l. Lin, Breathing Spaces at the Sea: The Ambiguity of Fijian Inshore Territorial Ownership, *Legal Ground: Land and Law in Contemporary Taiwan and the Pacific*, 2013.
- [24] P. Mace, K. Sullivan, M. Cryer, The evolution of New Zealand's fisheries science and management systems under ITQs, *ICES J. Mar. Sci.* (2013).
- [25] A. Minter, *Compliance and Enforcement for Coastal Fisheries Management in Fiji*, IUCN Regional Office for Oceania, Suva, Fiji, 2008.
- [26] E. Ostrom, C. Hess, *Private and Common Property Rights*, School of Public and Environmental Affairs, Indiana University, USA, 2007.
- [27] K. Ruddle, A guide to the literature on traditional community-based fishery in Fiji, *SPC* (1995).
- [28] A. Sarker, T. Ikeda, T. Abe, K. Inoue, Design principles for managing coastal fisheries commons in present-day Japan, *Ecol. Econ.* 117 (2015) 32–38, <http://dx.doi.org/10.1016/j.ecolecon.2015.06.019>.
- [29] E. Schlager, E. Ostrom, Property-rights regimes and natural resources: a conceptual analysis, *Land Econ.* (1992) 249–262.
- [30] D.B. Schorr, How Blackstone Became a Blackstonian. *Theoretical Inquiries in Law*, 10.1, 2009.
- [31] J. Sloan, K. Chand, A Review of Nearshore Law and Governance in Fiji. Packard Foundation, 2015.
- [32] A. Soliman, Do private property rights promote sustainability? Examining individual transferable quotas in fisheries, *Seattle J. Environ. Law* 4 (1) (2014) 245–281.
- [33] C. Stewart, *Legislating for property rights in fisheries*, FAO Legal Office, Development Law Service, FAO, Rome, 2004.
- [34] U.R. Sumaila, Ecology and society, *Ecol. Soc.* 15 (2010) 3.
- [35] J. Tarrant, Characteristics of property rights, *Aust. Prop. Law J.* 16 (2008) 1.
- [36] J. Vince, M. Haward, New Zealand oceans governance: calming turbulent waters? *Mar. Policy* 33 (2) (2009) 412–418, <http://dx.doi.org/10.1016/j.marpol.2008.09.004>.
- [37] A.W. Wamukota, J. Cinner, T. McClanahan, Co-management of coral reef fisheries: a critical evaluation of the literature, *Mar. Policy* 36 (2) (2012) 481–488, <http://dx.doi.org/10.1016/j.marpol.2011.09.001>.