



# Customary Marine Tenure in Palau: Social Function and Implications for Fishery Policy

Keith M. Carlisle<sup>1</sup> · Rebecca L. Gruby<sup>1</sup>

Published online: 26 July 2019

© Springer Science+Business Media, LLC, part of Springer Nature 2019

## Abstract

This research examines the form, social function, and policy implications of customary marine tenure (CMT) in Ngarchelong, a rural and fishery-dependent state in the Republic of Palau. Using ethnography, we find that CMT in Ngarchelong persists in a state of legal pluralism, expanding the normative space for asserting and contesting fishing privileges. Flexible administration of CMT provides benefits to the resident community, including material support from nonresidents and the strengthening of social bonds and networks. A fishery permit system under consideration would redefine fishery access as a privilege granted by government, thereby potentially impacting the social benefits supported by the community's administration of CMT. With applications beyond Palau, we discuss an alternative management approach that could better harmonize fishery policy with local social context, thereby preserving the social functions of contemporary CMT.

**Keywords** Customary marine tenure · Palau · Oceania · Small-scale fishing · Legal pluralism

## Introduction

Customary marine tenure (“CMT”), a situation where a social group controls access and use of marine resources on traditional nearshore fishing grounds (Johannes 2002), is well documented throughout the islands of the Pacific (e.g., Johannes 1978; Ruddle 1994). Historically, CMT varied in form and function across the region, but it commonly entailed flexible administration of fishing rights that were characterized by some degree of exclusivity (e.g., in the use of a fishing ground or a particular fishing method) (Ruddle 1996; Johannes 1998). Though forces associated with colonialization, economic development, and nation-building eroded many CMT systems throughout the Pacific, they persist in a number of settings today (Aswani 2017). Their form and function may have evolved, however, to reflect the changing demographics and needs of fishing communities and the coexistence of CMT with state law.

CMT is often characterized as a traditional form of small-scale fishery management (e.g., Johannes 1981). Small-scale fishers, who generally harvest fish from shore or small boats in coastal waters, account for as much as 90% of the world's fishers (Hauck 2008). With small-scale fisheries facing mounting challenges throughout Oceania (Hardy *et al.* 2016), there is considerable interest in reviving, strengthening, or using features of CMT to address resource overexploitation and decline (Kittinger *et al.* 2014; Aswani 2017). Prescriptions for doing so are generally grounded in the belief that CMT represents a better fit to local social and ecological context than Western models of fishery management (Aswani and Ruddle 2013) and/or in the logic of neoclassical economics that exclusive and secure property rights (presumed to flow from CMT) incentivize fishers to invest in the maintenance of fishery resources because resulting benefits will accrue only to rights holders (Wilen *et al.* 2012). With respect to the latter, CMT is often equated with territorial use rights for fisheries (“TURFs”), a popular rights-based fishery management tool that grants exclusive fishing rights in a particular territory to a defined group of fishers (Wilen *et al.* 2012; Quynh *et al.* 2017). The extent to which CMT functions to produce the incentives that economists ascribe to TURFs is uncertain, however, as fishing rights under CMT may be less secure and conditional upon meeting culturally specific criteria. Indeed, Lieber and Rynkiewich (2007) prefer the term “claim” to “right” to avoid any presumption of enforceability through

---

✉ Keith M. Carlisle  
keith.carlisle@colostate.edu

<sup>1</sup> Department of Human Dimensions of Natural Resources, Warner College of Natural Resources, Colorado State University, 1480 Campus Delivery, Fort Collins, CO 80523-1480, USA

sanction. We use the term “right” because of common usage, but with the understanding that CMT rights may be poorly defined, contingent, and contestable.

The primary focus of this research is not the functioning of CMT as a fishery resource management strategy, but rather, the functioning of CMT as a social or community management strategy and the implications for fishery policy, topics that have received insufficient attention in the literature on Pacific small-scale fisheries management. We use ethnography to analyze the form and functioning of CMT with respect to a small-scale fishery in Ngarchelong State in the Republic of Palau, a small island nation in western Micronesia. Our objectives are (i) to describe the parameters of CMT rights in Ngarchelong; (ii) to explain the social function they serve; and (iii) to explore the implications for fishery policy in our research site and more broadly.

Historically, CMT served a number of important social functions in Pacific societies, including conflict minimization and resource distribution (Johannes 1982; Cohen and Steenberg 2015). Indeed, it is debatable whether CMT embodies a conservation ethic, as there is evidence that in many societies it evolved, not in response to resource scarcity, but to manage relationships between social groups (Foale *et al.* 2011). With elements of CMT persisting in places, administration of customary fishing rights by local communities may continue to serve important social functions in contemporary Pacific societies. Aswani (2017: 5) observes that CMT systems are “‘messy’ and ‘contested’ social spaces that are continually evolving” though not necessarily for the purpose of conserving marine resources. He notes that failure to account for the fluid networks of CMT stakeholders in TURF design can compromise a policy’s effectiveness and equity (Ibid.). We broaden that argument to suggest that failure to account for potentially heterogeneous networks of CMT stakeholders and the social function of CMT in the design of *any* fishery management policy that formalizes or redefines fishery access and use rights risks undermining social systems that may help to support the viability of a fishing community. As our case demonstrates, even where CMT is weakly enforced, contested, and coexists with state law, it may nonetheless exert subtle constraints on behavior and help to maintain social bonds and networks that are critical to sustainable livelihoods. Our findings support other scholarship calling for “hybrid” fishery policies (e.g., Aswani and Ruddle 2013; Kittinger *et al.* 2014) that incorporate customary principles, such as administrative flexibility, into conventional fishery policies, and we demonstrate how such policies may be designed to take into account local context and the social function of CMT.

To ground our discussion of CMT in Ngarchelong, we briefly review the literature on customary property rights in the Pacific in the following section, highlighting the dynamic, contingent, and relational nature of such rights, and the group and individual benefits they provide. We also introduce the concept

of legal pluralism, which we employ to understand and explain the development of CMT in Ngarchelong under multiple legal systems. We then describe our methods and the case study setting, followed by a discussion of historical CMT in Palau before turning to our examination of present-day CMT in Ngarchelong, describing its social function and benefits. We conclude with a discussion of the implications of our findings for fishery policy, both in Ngarchelong and more broadly.

## Customary Property Rights in the Pacific

### Characteristics

CMT represents a specific form or subset of customary property rights, which, as a broader category, encompass customary rights to a range of property types or resources, both terrestrial and marine. Though there is considerable variability across customary property rights systems in the Pacific, there are common features or principles that emerge from the literature and ground our discussion of CMT in Ngarchelong. First, property rights, whether customary or otherwise, do not merely define an individual’s relationship to a thing; rather, they define the terms of a relationship among people with regard to a thing (Lieber and Rynkiewicz 2007; Wagner and Talakai 2007). As such, property rights have been conceptualized as a form of social relation (Wagner and Talakai 2007). In addition, property rights derive from institutions — i.e., formal and informal rules, norms, and strategies that structure human interactions (Ostrom 2005).<sup>1</sup> In the case of customary property rights, the underlying institutions that give substance to the rights generally emanate from customary practice and traditional law (Ruddle 1996), though as described below, they may also be based, in part, upon state law. Among other things, these institutions prescribe the basic parameters of customary property rights — e.g., who may use a resource, for what purposes, and under what conditions.

In the Pacific, culturally specific criteria determine who holds customary property rights and the specific uses and obligations attendant to those rights. On Lihir Island, off Papua New Guinea, rights to land controlled by a particular clan may be acquired through contributing to and participating in community feasts (Macintyre and Foale 2007). Even after individuals relocate to another village, they may maintain membership in the community of rights holders through continued participation in this social ritual. Importantly, members of customary rights-holding communities do not necessarily

<sup>1</sup> In the institutional analysis literature, the term “institution” would include formal state laws, such as statutes, as well as traditional laws issued by traditional leaders pursuant to decision-making rules or procedures. For analytical clarity, however, in this paper we generally use the term “law” to refer to formal state laws and laws issued by traditional leaders, reserving the term “institution” for informal rules, norms, and strategies.

have equal or identical rights. In the marine context, Ruddle (1996) observes that CMT may be characterized by multiple, overlapping layers of customary rights with differing use privileges assigned according to social criteria. Extensive primary rights, for example, may be inherited by descent, while more restrictive secondary rights may be gained through marriage or residency (Ibid.). Additionally, countervailing rights to a particular species or fishing technique may belong to a kinship group, such as a clan or lineage (Carrier 1987).

In general, the boundaries of a social group or network with customary property rights are not rigidly defined, but are instead fluid and contingent upon multiple factors (Aswani 2017). For example, CMT rights at Marovo Lagoon in the Solomon Islands may be inherited through both matrilineal and patrilineal descent (Ruddle 1996). An individual thus belongs to multiple social groups with rights in potentially more than one fishing territory (Ibid.). The strength of those rights and group membership are influenced by residency and usage, however, as fishing rights are generally strongest in areas closest to an individual's primary residence, and they may erode over time if not used (Ibid.).

Customary property rights and associated social groups are also dynamic, being deeply embedded in changing political, economic, and social contexts (Aswani and Ruddle 2013). In this regard, societal changes associated with colonialization, development, and nation building in Oceania have greatly impacted customary property rights throughout the region (Ruddle 1996). In some cases, they have adapted and persisted, while in others they have collapsed (Ibid.). Aswani (2002) finds that adaptation and maintenance of CMT in the face of social and demographic changes may be more likely when rights holders reside in close proximity to one another and hold a higher degree of social and cultural affinities, while Cinner (2005) finds that continued maintenance of CMT is associated with greater distance from markets, lower migration, higher dependence on fishing, and more conflicts over resources.

In settings where customary property rights persist, norms associated with resource use may provide both group and individual benefits. Resource-sharing norms, for example, are common throughout the Pacific, and while they are often credited with equitable distribution of resources, they may also promote group harmony and cohesion as well as the stability of the customary system (Ruddle 1996). The sharing of fish may be associated with individual benefit or gain as well. On Ponam Island off of New Guinea, individuals with exclusive rights to a particular fishing technique give away much of their catch in adherence to norms of generosity (Carrier 1987). In doing so, they gain reputé and social credit, which later benefits them in ceremonial transactions (Ibid.). Norms of reciprocity that impel group or community support may also attend customary property rights. In certain areas of the Solomon Islands, for example, villages receive direct

assistance, including cash remittances, from individuals who move away but wish to maintain customary fishing rights (Hviding 1998). As explored in our case study of CMT in Ngarchelong, such assistance may be critical to the welfare and endurance of rural villages faced with limited economic opportunity and out-migration.

### Coexistence with State Law

Customary property rights and traditional or customary legal systems do not exist in isolation. Throughout the Pacific, imported Western legal systems have been superimposed on traditional legal systems, with the constitutions of most Pacific nations recognizing custom or traditional law to varying extents (Graham and Idechong 1998). Even where there is a lack of formal recognition, however, the existence of traditional law and customary property rights is not necessarily precluded. Indeed, in more remote or rural communities, customary practices and traditional law often still predominate in daily life (Clarke and Jupiter 2010). Where state and traditional law coexists, the result is a phenomenon referred to by socio-legal scholars as “legal pluralism” – i.e., a circumstance where different legal systems or legal orders apply to identical situations (Gupta and Bavinck 2014). The concept of legal pluralism is typically employed, as it is here, as an analytical lens through which to view and understand a particular social domain. In this regard, legal pluralism directs the researcher to identify which statements of authority tend to be treated as binding by particular individuals, and for what purposes, without prejudgment that a particular legal system is more legitimate, pervasive, or dominant than another (von Benda-Beckmann and von Benda-Beckmann 2006; Berman 2009).

Customary property rights in the Pacific often exist under conditions of legal pluralism, with resource usage regulated by both traditional and state law (Rohe *et al.* 2019). This can, in some cases, affect the strength and substance of customary property rights, as they may be treated as subordinate to state law and/or may evolve to incorporate features of particular state laws (Ibid.). As the latter suggests, legal orders are neither impermeable nor isolated; they interact and influence one another in ongoing processes of reconstruction and hybridization (Meinzen-Dick and Pradhan 2002; Salim 2010). Indeed, the unwritten and flexible nature of customary property rights makes them particularly conducive to processes of bricolage (see Gupta and Bavinck 2014). In this regard, Bambridge (2016) observes that throughout Polynesia, political and legal hybridization processes occur when local communities reinterpret or borrow from state laws to produce new forms of customary restrictions on access to resources.

When property rights are defined under multiple legal systems, individuals may have more opportunity or means to negotiate access to resources. Ruddle and Satria (2010) note, for example, that in the Kei Islands of eastern Indonesia,

residents view the imposition of state law as supplementing traditional law rather than replacing it, such that they have additional options for accessing and using resources. Opportunity for access may also be expanded on account of uncertainties created by legal pluralism. In this regard, legal pluralism compounds the information challenge people face in trying to understand the source and substance of laws (Meinzen-Dick and Pradhan 2002). In some cases, this may result in “fuzzy” property rights with nebulous parameters (Phuc 2007). The information challenge may be particularly acute in the Pacific, as state law is often written by Western-trained lawyers in unfamiliar legal jargon, while traditional law is generally unwritten. The uncertainties that result effectively expand the normative or legal space within which customary property rights evolve, providing more room for contestation and reinterpretation (see Adhuri 2013), a theme we return to in our discussion of CMT in Ngarchelong.

## Methods

We chose a qualitative case study approach (Yin 2003) for this research to gain in-depth understanding of the informal institutions and perceptions concerning access and use of fishery resources. To that end, our data collection methods were ethnographic in nature and included semi-structured and informal interviews, participant observation, and document analysis. The first author collected the data for this research over a seven-month period in 2014 while living in Ollei Hamlet in Ngarchelong State, and he was joined by the second author during the first month of fieldwork. We conducted semi-structured interviews with 103 individuals who fell into two general categories: (i) primary resource users (e.g., fishers and reef gleaners), and (ii) fishery decision makers (e.g., traditional and elected leaders and representatives from NGOs). Given that many traditional and elected leaders also fish or glean, the two categories are not mutually exclusive. Resource-user respondents included both Ngarchelong residents and nonresidents with ancestral ties who continue to fish or glean in the state. We also conducted frequent informal and unrecorded interviews with key informants and small groups to test ideas and triangulate data, and we participated in fishing and gleaning activities and community events to identify relevant institutions and to understand the social and cultural importance of fishery resources. We note that observation and informal interviews were critically important to this research, as information about informal, unwritten fishery institutions, while sometimes challenging to elicit in an interview setting, could be discovered through participation in fishing-related activities and more fully investigated through informal interviews and discussions with key informants and small groups. All data from participant observation and informal interviews were recorded in an extensive research journal totaling 287

pages of field notes. Finally, we supplemented these data with documentary evidence, including national and state statutes and constitutions, newspaper articles, and reported court decisions pertaining to fishery access and use. Understanding the substance of state laws, constitutions, and court decisions enabled us to recognize the ways in which these formal laws and decisions were reinterpreted (or ignored) by individuals in negotiating access to the fishery.

We used a combination of deductive and inductive processes in our collection and analysis of data. Consistent with a deductive approach, our data collection efforts were informed by institutional analysis and our objective of documenting and understanding rules-in-use for the fishery, including their social function. Thus, our initial questions focused primarily on who is allowed to fish in Ngarchelong and for what purposes (e.g., commercial sale, consumption, and customary use), as well as the sources of authority for fishery institutions and the uses of fishery resources. As we gained additional insights in the field (e.g., conditions or expectations associated with fishing rights), we used iterative processes in which we continually analyzed data and revised our collection efforts to reflect our evolving understanding of the case, including the various ways in which administration of CMT rights supported direct or indirect benefits to the resident community.

Once we completed data collection, we transcribed interviews and uploaded transcriptions and other data, including our research journal, into QSR NVivo qualitative analysis software for thematic coding and interpretive analysis. As with data collection, our approach to coding incorporated both deductive and inductive processes. Prior to analysis, we formulated codes corresponding to elements of formal and informal fishery institutions (e.g., characteristics of permitted resource users and conditions attached to resource use). As additional themes and patterns emerged during analysis, however, we assigned them to newly-created codes. This flexible approach allowed us to remain open to new insights and explanations that emerged from close and iterative readings of transcripts and other data sources.

## Case Study Setting

The Republic of Palau, situated roughly 600 miles east of the Philippines, is an archipelago of more than 340 islands, only eight of which are presently inhabited. Independent from the U.S. since 1994, Palau’s population of about 18,000 and land area of only 189 mile<sup>2</sup> (Palau Bureau of Budget and Planning 2017) rank it among the world’s smallest nations. Its global presence exceeds its diminutive size, however, as it enjoys a robust tourism sector, a UNESCO World Heritage Site, and highly publicized commitments to environmental conservation. Relative to other Pacific island nations, Palauans enjoy a high standard of living, with per capita gross national income in

2015 of \$13,771 USD (UNDP 2016). Population and economic opportunity are not evenly distributed among Palau's 16 states, however. Though only about seven square miles in land area, Koror State is home to two-thirds of the country's population and an overwhelming share of industry, including tourism. It also hosts Palau's only hospital, public secondary school, and community college. Consequently, many Palauans from rural villages have left their ancestral homes over past decades to resettle in or near Koror for economic, health, and educational reasons, as well as for marriage.

Ngarchelong State, the setting for this research, is among the Palauan states affected by rural out-migration. Ngarchelong lies on the northern tip of Palau's largest island, Babeldaob, roughly an hour's drive away from Koror, a distance that makes daily commuting difficult. Many, if not most, of Ngarchelong's elected and traditional leaders now reside in other states, along with a significant number of other former residents. Ngarchelong's resident population stands at around 316, distributed among eight small rural hamlets (Palau Bureau of Budget and Planning 2017). Importantly, the number of Palauans who consider themselves to be from Ngarchelong is likely more than double the number of residents, as Palauans typically identify strongly with their ancestral homes. Many resettled individuals continue to maintain voting privileges and property interests in Ngarchelong and to contribute various forms of support to the resident community. We use the term "community" throughout to refer to individuals residing both within and without Ngarchelong who are perceived to have a legitimate right or interest in the state's resources. We note, however, that within this community are multiple social groups with shared norms and values, particularly among the different hamlets, or groupings of hamlets, within Ngarchelong.

One advantage enjoyed by Ngarchelong over most Palauan states is a large marine territory and a relative abundance of marine resources. Despite a land area of only about 5 mile<sup>2</sup>, Ngarchelong has over 76 mile<sup>2</sup> of marine territory in what is colloquially known as the Northern Reef of Palau. Its fishery is a typical tropical multispecies fishery in that well over 50 species of finfish are exploited by fishers using a variety of gears and methods. Prince *et al.* (2015) estimate that about 38 individuals in Ngarchelong fish regularly, though most men and a minority of women in the state fish at least occasionally. There is also a smaller fishery for invertebrates, such as sea cucumbers and bivalve mollusks, prosecuted almost exclusively by women. Fishing does not represent a full-time occupation for residents of the state, however, as most fishers have other employment, typically in minimum-wage state government jobs. To supplement low wages, many sell fish and invertebrates at a frequency that ranges from several times a year to several times a week.

Ngarchelong's reef fish have been declining in recent years, as they have throughout Palau's main archipelago. The

Northern Reef nevertheless remains one of the more productive fisheries in Palau, and Palauans with ancestral ties to Ngarchelong regularly return to take advantage of its marine resources. As we describe in the following section, their access and use of resources is governed by customary institutions that have evolved in a situation of legal pluralism to account for legal, demographic, political, and economic changes.

## Historical Customary Marine Tenure in Palau

As in many Pacific island societies, Palauans historically used sophisticated customary systems of tenure to regulate access and use of marine and terrestrial resources (Graham and Idechong 1998). Control over natural resources was based in villages, the most basic and important political units in Palau prior to the arrival of foreign occupiers in the late nineteenth century (Matthews 2007). Villages typically had ten chiefs and an equal number of female counterparts who represented strictly-ranked kinship clans. As fishing was the exclusive domain of men, decision making over fishing was vested in village councils comprised of male chiefs (Ibid.). Chiefs administered CMT systems whereby villages controlled the adjacent marine territory to just beyond the outer reef edge for the exclusive use of villagers (Johannes 1981). They also imposed a variety of other fishery restrictions with the intent or effect of conservation, including temporary area closures and temporary bans on the harvest of particular species (Johannes 1978).

Johannes (1981) contends there is no evidence of historical resource scarcity to explain the evolution of CMT in Palau, and he suggests it may have emerged on account of dangerous storms and constant warfare that forced fishers to stay close to village boundaries (Ibid.). We submit that another plausible explanation is resource distribution, and relatedly, the securing of benefits associated with the sharing of marine resources under village control. Sharing and reciprocity were among the basic tenets of traditional Palauan society (Matthews 2007), and village control over CMT was flexibly administered to accommodate these principles. It was not uncommon, for example, for Palauan chiefs to grant access to fishers from other villages who needed fish for important customary feasts (Johannes 1981). And during Japanese occupation, the district (now state) of Ngeremlengui ceded fishing rights in an area of its traditional fishing grounds to a neighboring district with fewer resources (Ibid.). Such events likely did not represent disinterested generosity; recipients of valuables in traditional Palauan society were generally expected to reciprocate in an appropriate manner (Ota 2006). In some cases, villages shared reciprocal fishing privileges in support of relationships that could be called upon when faced with hardship. Ollei Village, now a hamlet in Ngarchelong State, and the two villages of Kayangel, a small and relatively remote island state in the Northern Reef, formed a close alliance of cooperation and

mutual support that entailed the sharing of food, trading of commodities, and reciprocal fishing privileges (Putney 2008). When Kayangel was devastated by a storm in what respondents believed to be the late nineteenth or early twentieth century, Kayangel residents were permitted to build temporary homes in Ollei and to live there until Kayangel's natural resources were replenished.

In the twentieth century, Palau experienced profound societal change on account of forces associated with colonialization, economic development, and nation-building. Of particular relevance to CMT are changes associated with the creation of political districts, the introduction of formal democracy, and self-governance. Foreign occupiers created 16 political districts for administrative purposes that generally corresponded to historical alliances of villages (Graham and Idechong 1998). The district of Ngarchelong, however, represented a political realignment, as Ollei village was combined with the seven neighboring Ngarchelong villages into a single district despite its closer historical association with Kayangel, which became a separate district (Matthews 2007). The 16 districts eventually became states in 1981 with Palau's ratification of a constitution that enshrined democratic principles previously introduced by the U.S. Pursuant to the Constitution, states assumed ownership of natural resources out to 12 nautical miles, and they shared responsibility with the national government for marine resources management. Although the Constitution recognized the validity of traditional law and the authority of chiefs in traditional matters, it did not explicitly address the authority of chiefs to regulate fishing. The power of chiefs in Palauan society gradually diminished, including in the domain of fishery management. CMT, previously practiced at the village level, was weakened in Ngarchelong by the formal transfer of resource ownership and management responsibility to the state. Informal CMT institutions concerning access and use of fishery resources did not disappear, however. They persisted and evolved as fishery stakeholders grappled with, and contested, questions of who should be allowed to harvest fish in the state's waters, and for what purposes.

## Present-Day Customary Marine Tenure in Ngarchelong

### State and Traditional Laws

Today, rights to access and use fishery resources in Ngarchelong exist in a state of legal pluralism. The fishery is de jure limited access, as both state and traditional laws prohibit citizens of other states from fishing in Ngarchelong's waters. On-the-ground reality is more complicated, however. The state law limiting fishing access to Ngarchelong citizens was enacted as a statute in 2000, a time when the state

government had no enforcement capability. The statute had little to no practical effect, and most respondents, including some state government leaders and conservation officers, were unfamiliar with it when interviewed in 2014. A nearly identical traditional law, known as a *bul*, was issued by Ngarchelong's highest chiefs in 2007. Unlike the state law, the *bul* was publicized throughout Palau by radio, and in two well-known incidents, chiefs ordered state government employees to seize the boats and equipment of violators. In the first incident, the violator was a nonresident with familial ties to Ngarchelong, and he argued that he qualified as a Ngarchelong citizen under its constitution and was therefore allowed to fish in the state. The Ngarchelong Constitution defines "citizen" as any person with blood lineage to a Ngarchelong clan, or who through custom becomes a member of a Ngarchelong clan. This is an extremely broad definition that captures a large proportion of Palauans given the high rate of intermarriage and relatedness among Palauans from different states. The chiefs countered that for purposes of the *bul*, citizenship carries the additional customary requirement that a nonresident continue to support and contribute to the resident community, which the violator had failed to do. The violator accepted the chiefs' decision and forfeited his boat rather than pay a steep fine. The second violator sued the chiefs in court rather than pay a \$10,000 USD fine after he was found fishing in Ngarchelong for a second time in violation of the *bul*. The court found that the chiefs lacked authority to enforce a fishing law because Palau's Constitution grants that authority to the national congress, which in turn delegated it to the states but not to the chiefs (Rteai Chiefs of Ngarchelong v. Ongidobel, 19 ROP 204, Tr. Div. 2010). The decision did not create a binding legal precedent as it was issued by a trial court, but the *bul* has not been enforced by the chiefs since the case was decided in 2010. Most respondents were unsure of whether the *bul* remained in force. It was never formally rescinded, but the unwritten nature of a *bul* means that it tends to fade if not actively enforced.

### Customary Institutions

Despite the lack of an enforced state law or *bul* limiting access to the fishery, it is not de facto open access. Instead, the fishery lies somewhere on the spectrum between limited access and open access on account of weakly-enforced unwritten institutions concerning access and use of fishery resources. These institutions give substance to CMT rights in Ngarchelong and define their parameters, albeit not without contestation. We use the term "institution" loosely in this context because a prerequisite of institutions is that there be a shared understanding of their substance (Ostrom 2005), and in this case, there are varying levels of disagreement and uncertainty concerning allowable users and uses of fishery resources. And for clarity, we use the term "institution" in our following discussion to

refer only to informal and unwritten rules, norms, and strategies that comprise CMT in Ngarchelong. Institutions issued by the state (e.g., a statute) or declared by the chiefs (i.e., a *bul*) will be referred to as state law or *bul*, as the case may be. The customary institutions that comprise CMT are distinct from a *bul*, which is formally issued by chiefs pursuant to decision-making rules or procedures. As described below, the customary tenure institutions are produced and reproduced by the behaviors of individuals who draw upon multiple sources of authority and precedent (including state law and *bul*) to secure and contest resource access and usage. The successor to historical CMT is, in effect, an amalgam of state law, *bul*, norms, strategies, and historical artifacts – a product of legal pluralism in Palau.

**Overarching Tenure Institution** Among respondents, there was broad agreement that a person must be “from Ngarchelong” (a qualification discussed below) in order to fish in state waters without prior permission. This represents an adaptation of historical CMT to contemporary political organization and state resource ownership, as tenure was previously based upon village (present-day hamlet) territorial boundaries. There remain vestiges of village-based tenure, however, as a minority of fishers still consider it disrespectful when individuals from other hamlets fish close to their port without permission, and repeated transgressions may result in disparaging gossip. In practice, most fishers continue to fish on or near their traditional village fishing grounds, though this may have as much to do with their knowledge of nearby reefs and their desire to conserve fuel as it does with respect for fading village-based tenure institutions.

In general, the sentiment that individuals from other states are not allowed to fish in Ngarchelong is strongly held, with respondents often comparing fishing by outsiders to stealing. Opinions differ, however, concerning the institution’s source, with state law, *bul*, unwritten custom, and a combination of the foregoing all cited by respondents. The variety of responses reflects an uncertainty created by the overlapping state law and *bul*, customary practices, and the court decision undercutting the *bul*. The result is a nebulous normative or legal space that allows for reinterpretation and contestation of the tenure institution.

There is also no consensus as to what it means to be “from Ngarchelong” for purposes of fishing rights, with multiple criteria, such as residency, clan affiliation, and community support, factoring into the determination. Moreover, resource uses (e.g., commercial sale, personal consumption) perceived as legitimate or allowed varies depending upon the nature of a person’s affiliation with Ngarchelong. Thus, the statement that one must be from Ngarchelong to fish in state waters is an overarching institution, comprised of multiple institutions that specify particular use rights for different categories of individuals. In this regard, there are three broad categories of

institutions, discussed in the following paragraphs, applicable to access and use of Ngarchelong’s fishery resources: (i) institutions pertaining to Ngarchelong residents; (ii) institutions pertaining to nonresidents who are considered to be from Ngarchelong; and (iii) institutions pertaining to nonresidents who are not considered to be from Ngarchelong.

**Ngarchelong Residents** Residency is the strongest predictor of fishing rights in Ngarchelong. There is consensus that all residents of Ngarchelong descended matrilineally or patrilineally from a Ngarchelong clan have universal fishing rights, which include three main categories of resource use: (i) consumption, (ii) customs (e.g., provision of fish for important cultural events or distribution in kinship networks), and (iii) commercial sale, the most restrictive of the three. Additionally, most respondents agreed that all Palauans living in the state, regardless of clan affiliation, are allowed to fish there for any purpose. A small number, however, felt that individuals who relocated to Ngarchelong for marriage – effectively the only category of Palauan residents not affiliated with a Ngarchelong clan – should fish only for personal consumption. Indeed, one individual who moved to the state after marrying a woman from Ngarchelong reported being repeatedly reprimanded by other fishers for catching fish to sell, though his wife suspected their response may have been provoked by his fishing skill. She maintained that her husband had the right to sell fish on account of her lineage and the fact that he had become a Ngarchelong voter. In this regard, voter registration is a strategy individuals (including nonresidents) employ to secure fishing rights, although there is no state law or constitutional provision that accords fishing rights to registered voters. It nevertheless provides a basis in contemporary society for individuals who lack traditional indicia of group membership, such as membership in a Ngarchelong clan, to demonstrate group affiliation and legitimacy in order to bolster their claim to fishing privileges. Legal pluralism has, in other words, expanded the range of criteria that are used to determine resource access.

**Nonresidents from Ngarchelong** The fishing rights of nonresidents who are from Ngarchelong are perhaps the most contentious on account of the large number of Palauans living in and around Koror who can trace a line of ancestry to Ngarchelong and thus satisfy the state’s constitutional standard for citizenship. If one were to ask whether individuals from Ngarchelong living in another state are permitted to fish in Ngarchelong, the answer would almost invariably be yes, though further probing would reveal a diversity of opinions about conditions, expectations, and exclusions attached to the right. Ten respondents, for example, said that such nonresidents may only fish for consumption or customs, and another five said that their right to fish is contingent upon registration as a Ngarchelong voter. Additionally, most agreed that these

nonresidents are expected, though not necessarily required, to contribute to the resident community, such as through participation in organized events to clean the hamlets and through attendance and material support at important customary occasions, if they wish to fish in Ngarchelong. One Ngarchelong chief explained that “although you are blood related to Ngarchelong, if you don’t participate in the culture, or if you don’t have a home [in Ngarchelong] and you’re not voting in Ngarchelong [and] you’ve been staying far away from Ngarchelong ... you have to have [permission to fish in Ngarchelong].” Consistent with Palauan culture, direct confrontation with those who fail to meet expectations is uncommon, though a polite joke or comment about the person’s absence at community events may effectively serve the same purpose. Another chief explained that individuals who show up in Ngarchelong only to fish can sense the residents’ disapproval, and many would feel too ashamed to continue doing so. Indeed, the nonresident Ngarchelong fishers we interviewed acknowledged that they are expected to contribute to, or participate in, community events for the privilege of fishing and that, in fact, they do so. Several nonresident Ngarchelong fishers also pointed out that fishing in the area closest to shore is generally reserved for residents only. According to one, “If you’re from Ngarchelong but you don’t live in Ngarchelong, you don’t fish very close to the shore ... that’s really meant for the people who live there. So if I go for any reason, either commercially or consumption, I will fish away, far away, from the immediate area of Ngarchelong. That’s kind of unwritten rule.” Another commented that “only [nonresident Ngarchelong fishers] who really, really have a thick skin can go [close to shore] and fish; they don’t care about what the people say.”

**Nonresidents Not from Ngarchelong** With the limited exception of citizens of Kayangel State (discussed below), individuals who neither reside in Ngarchelong, nor have Ngarchelong ancestry, do not have a recognized right to fish in Ngarchelong, per the overarching customary tenure institution described above. There are, however, limited circumstances under which such individuals are permitted to fish in Ngarchelong, as CMT continues to be flexibly administered to accommodate norms of sharing and reciprocity. For example, Palauans from other states are still regularly granted permission to fish in Ngarchelong for important customary events, a valuable allowance given that fish populations are declining throughout Palau’s main archipelago, and Ngarchelong is one of the remaining areas where fishers can reliably catch enough fish to supply a large feast. Most respondents felt it was important to allow this use of the fishery in order to maintain Palau’s customs and traditions. There was disagreement, however, over the protocol for obtaining permission in these circumstances, as state government has usurped much of the chiefs’ authority over matters of fishing. In practice, the

governor and/or the high chief are commonly consulted, with either, or both, granting verbal permission. Other customary practices involving the sharing of fishery resources are evolving on account of resource decline and demographic change. For example, individuals from other states have historically been permitted to fish in Ngarchelong for personal consumption as the guest of a community member. While the practice continues, it has become a controversial issue, with a significant number of respondents expressing disapproval, particularly as to nonresidents who are from Ngarchelong and bring out-of-state guests with them to fish in Ngarchelong. As one nonresident Ngarchelong fisher explained, “If I bring somebody [to Ngarchelong] to fish, they’re just going to say they don’t appreciate what I’m doing but I don’t get a fine ... [but] I would be ashamed to bring somebody over there.”

As an exception to the overarching tenure institution, fishers from Kayangel and Ollei Hamlet in Ngarchelong share reciprocal fishing privileges in one another’s marine territory, as there is a high degree of familial relatedness between the two places and a historical relationship of mutual support. The people of Ollei and Kayangel maintain a self-organized credit union, for example, and they have provided assistance to one another over the years following typhoons, including one that devastated Kayangel in 2014. These reciprocal fishing privileges effectively represent another vestige of village-based CMT, as most respondents said that Kayangel fishers are not permitted to fish in waters adjacent to the other Ngarchelong hamlets, notwithstanding the political integration of Ollei with those other hamlets.

Enforcement of the tenure institution against citizens of other states is fairly weak, in part because the relatively large size of Ngarchelong’s marine territory enables poachers to fish at times and in locations that make detection difficult. Nearly every fisher could recall a confrontation with a poacher that resulted in the poacher’s departure, but based upon observation, these encounters are not common. State conservation officers also direct poachers to leave Ngarchelong, but they do not engage in extensive patrols of state waters, nor do they issue citations to poachers. Despite weak enforcement, the institution may nonetheless constrain the behavior of some fishers from other states who may be concerned with reputation and/or who respect the traditional legal system and custom regardless of the risk of sanction.

**Summary** CMT persists in Ngarchelong, though it has been transformed by, among other things, the consolidation of villages under a single state government, the assumption by state and national governments of fishery management responsibilities, the coexistence of state and traditional laws concerning fishery access and citizenship, the dispersal of rights holders throughout Palau, and the decline in fishery resources. There is no single, shared institution that prescribes all the categories or criteria of individuals allowed to fish in



Ngarchelong and all applicable conditions or exclusions. Rather, there is general consensus concerning the universal fishing rights of a core group of fishery users who are both residents and members of a Ngarchelong clan and disagreement as to the rights of individuals who have a weaker association with the state. Concerning the latter, access and use rights are determined by a balance of modern and traditional criteria, including voter registration, spousal connection, strength of lineage, and contribution to the resident community. Political power may also figure into such calculations, as evidenced by the community's toleration of one nonresident who, according to a Ngarchelong elder, was permitted to fish because of his family's connections in the national government. As this example illustrates, such calculations may reflect pragmatic considerations, such as potential political advantage. Flexible administration of CMT thus enables the resident community to secure potentially valuable benefits, an aspect explored in the following subsection.

### Social Function of Customary Marine Tenure in Ngarchelong

Although Ngarchelong provides limited economic opportunity for residents, customary control and allocation of its relative wealth of fishery resources help support a flow of benefits that contribute to the welfare of the resident community. The leverage they are afforded by such control and allocation derives in part from the role and symbolic importance of fish in Palauan culture. As one respondent explained, fish is “a celebrated type of resource [that] gives people status [and] confirmation.” It is shared, along with other foods, as a means of forging and maintaining relationships, and it is given in customary exchanges to gain valuables or other forms of support (Matthews 2007). In Ngarchelong, as throughout Palau, men regularly give the best portion of their catch to female relatives, particularly sisters, who under Palauan custom later reciprocate by providing financial support for such things as the construction of a house or medical care. Indeed, several fishers referred to the customary practice of giving fish to female relatives as an “investment.” Individual benefits, both tangible and intangible, are thus conferred upon those with the right and ability to capture and provide fish.

The benefits individuals accrue from fish and fishing endow CMT rights with significant value, particularly rights to fish in Ngarchelong where fish remain relatively more plentiful. One way this value is realized by the resident community is the material support provided by nonresidents who wish to maintain fishing rights in the state. As noted, nonresidents are generally expected to contribute to the resident community in order to fish in Ngarchelong, and one of the most common ways they do so is through donations of money and food at important customary occasions, such as a funeral, first-birth ceremony, or a party to collect funds for

the building of a house. Donations at customary occasions are an important lifeblood of the community, with a single funeral sometimes garnering more than \$100,000 USD in total contributions, a considerable sum in Ngarchelong where nearly 30% of households reported income of less than \$2,500 USD in 2014 (Palau Bureau of Budget and Planning 2017). Such support stems not only from obligations associated with fishing rights, but more importantly, from responsibilities associated with familial relationships and clan affiliation. However, the extension of fishing rights and the sharing of fish are essential to maintaining these relationships as kinship groups become more dispersed.

The contribution of fishing rights towards sustaining social bonds may be the most important social function of CMT in Ngarchelong, as kinship groups are both a source of political and economic power in Palau (Ota 2006), as well as a fundamental part of a person's identity. In Palau, as throughout the Pacific (Wagner and Talakai 2007), individuals construct identity largely in terms of their ancestral lands and people. Fishing, and the social rituals surrounding it, are one of the means by which Palauans maintain their connection to the people and places integral to their identity. In Ollei Hamlet in Ngarchelong, the fishing port serves as the center of social life for men. Regardless of their intentions to fish, men gather at the port daily to share food and the news of the day. They are commonly joined by kin living in other states who make the trip to Ngarchelong to fish and to visit friends and family. As part of the social ritual, visitors typically offer food, and they spend time at the port before and/or after fishing reaffirming social bonds. They sometimes bring along other family members, including their children, helping ensure that membership in the community, with its attendant rights and responsibilities, is passed on to the next generation. Maintaining such social bonds is critically important to sustainable livelihoods. Kinship networks constitute a form of social insurance or safety net in Palau that spreads risk and enables Palauans in rural communities to share in the disproportionate economic benefits earned in and around Koror. Reciprocity is essential, however, and the sharing of fish and the extension of CMT rights are among the rewards that Ngarchelong residents offer in return. In this way, CMT contributes to the continuing viability of rural life in Ngarchelong.

### Implications for Fishery Policy in Ngarchelong and Beyond

The decline of reef fish in Ngarchelong, as throughout Palau and the Pacific, has spurred concern and the development of new fishery management policies. Most in the community believe that overfishing is a major contributor to the decline, and respondents generally support policies that would restrict fishing by outsiders, as the existing state law and *bul* limiting

access are either not recognized or not enforced, and customary tenure institutions are generally an insufficient deterrent for those unconcerned with their reputation in the community. As of January 2017, the Ngarchelong Legislature was considering a proposed permit scheme that would require a government-issued permit for all forms of fishing in the state, including subsistence and commercial. Only Ngarchelong citizens, as defined in the state's Constitution (i.e., those who have blood lineage to a Ngarchelong clan or become a member of such a clan by custom), would be eligible for most permit types, though single-use guest permits would be available for citizens of other states who accompany a permit holder from Ngarchelong. If enforced according to the letter of the law, permit eligibility based upon the Constitution's definition of citizenship could prove problematic, as it would exclude certain community members who have customarily been accorded fishing rights (e.g., resident spouses with no membership in a Ngarchelong clan and fishers from Kayangel) but would include Palauans with attenuated blood lineage to Ngarchelong who otherwise have little or no connections with the state and are not perceived as having legitimate fishing rights. A more important question raised by such a policy, however, is the extent to which the permit scheme could impact upon customary norms and social bonds that are strengthened through the resident community's administration of customary fishing rights.

Gelcich *et al.* (2006) observe, in regard to TURF policies, that superimposing state-based fishing rights on existing customary fishing rights may potentially erode trust relationships and weaken local institutions, thereby impairing social bonds. Permit schemes pose a similar danger in that they redefine the right to fish as a privilege granted by government, thereby prioritizing vertical linkages between government and individuals over the horizontal linkages that community members maintain with one another (McCay and Jentoft 1998). Such policies may pose less downside in urbanized areas where populations are more diverse and CMT institutions more eroded. However, in a rural setting like Ngarchelong, where CMT institutions and group dependence are relatively stronger, the risk is nonnegligible. Social networks and norms of sharing and reciprocity – so critical to livelihoods in the state – could suffer if payment of a permit fee diminishes or absolves a nonresident's sense of moral responsibility to the resident community for the privilege of fishing or discourages them from fishing in Ngarchelong altogether. Such a policy also increases residents' dependence on government, in this case to act as gatekeepers for the fishery. As we described in Carlisle and Gruby (2018), the government's assumption of fishery management responsibilities that once belonged to community members in Ngarchelong has led to crowding-out of prosocial behavior and norms of individual responsibility for maintaining fishery resources. Imposition of any state-sponsored policy that

redefines fishery access as a government-issued and enforced privilege risks further crowding-out.

So the question remains as to what to do when the status quo concerning fishery access poses unacceptable risk to the health of fishery resources. Virtually no policy is without risk or trade-offs, and it is possible that the benefits of a permit scheme, if enforced, could outweigh any social costs that result. We suggest, however, that a better policy would leverage the authority and resources of government while also incorporating community norms and flexibility in administration. To that end, a number of scholars now advocate "hybrid" fishery management policies that draw upon both Western and customary fishery management paradigms and principles (e.g., Aswani and Ruddle 2013; Kittinger *et al.* 2014). The form of any hybrid policy depends upon context, but such policies are commonly characterized by greater administrative or institutional flexibility (Kittinger *et al.* 2014). Consequently, they may be more adaptable than conventional state approaches, which are often constrained by managerial or statutory requirements (Aswani *et al.* 2007). By way of example, Ngarchelong could enact a hybrid permit scheme whereby the granting of yearly fishing permits for out-of-state residents would be based upon a combination of specified criteria, including such things as blood and spousal relations to the state, voter registration, and community contribution. No single criterion need be dispositive, but rather a determination could be based upon a balance of factors. Such a law could authorize the governor to appoint a board to review all permit applications (e.g., a rotating board comprised of a handful of local chiefs). While administratively more burdensome, such a policy is far more flexible and contextually appropriate than a pay-to-fish scheme based upon a fixed and flawed eligibility standard. It is also designed to sustain existing customary institutions and the social benefits they support and, depending upon composition of the board, could reengage traditional leadership, which continues to be respected in Ngarchelong. To be clear, it is not our intention here to provide a blueprint for policy design in Ngarchelong or elsewhere, as a myriad of legal and resource considerations bear upon such an undertaking. Rather, we wish to demonstrate how one might approach the design of a hybrid fishery management policy that integrates flexibility and local institutions into a conventional fishery management structure. More importantly, we wish to emphasize that it is not only critical, but also possible, to account for the social benefits and function of CMT in a state-sponsored policy.

A broader lesson from this case study is that even where a fishery may appear to have devolved into an open-access state, customary institutions that subtly impact upon resource access and usage and contribute to the strength of social bonds and the viability of a fishing community may persist. It is essential therefore that policy makers not assume local, customary control over resources has been entirely eroded

when contemplating a fishery intervention (Aswani 2005). When fishing rights are simplified, as through a TURF, permit scheme, or other policy that fixes and/or redefines access and use rights, it can undermine customary practices that enable communities to flexibly administer fishing rights in ways that are responsive to their changing needs (Macintyre and Foale 2007).

There is, of course, no guarantee that when a state redefines fishing rights by statute, the new policy will function in the manner intended. Among other things, this will depend upon (i) how the policy is interpreted and administered by state agencies; (ii) the extent to which the policy is enforced; and (iii) whether the policy is generally known, understood, and respected by those whose behavior is regulated. Where state agencies have limited resources for policy implementation and enforcement, and where statutory fishing rights coexist alongside customary rights in a situation of legal pluralism, the outcome may be more uncertain. As Parlee and Wiber (2014: 48) observe, “civil society is not a passive recipient of rules and regulations.” State policy may be selectively ignored, invoked, and/or reinterpreted to support an individual’s claim or interests. And even where a policy partly succeeds, it may lead to unexpected or unintended consequences (Moore 1978). If, for example, a permit scheme is introduced to a fishery already characterized by a complex of customary fishing institutions, the result may be an increase in access and fishing effort if the permit scheme effectively supplements, rather than replaces, customary institutions. Policy makers must therefore pay careful heed to existing customary arrangements and anticipate potential interactions in the design of any new policy. Where state law standards and prescriptions conflict with strongly held values, norms, or livelihood strategies, strict compliance is unlikely (Sulu *et al.* 2015).

Finally, this research speaks to the multidimensional challenges inherent in any effort to strengthen or reform fishery management practices in the Pacific. In the search for solutions to the decline of fishery resources in the Pacific, the notion that the past may serve as a guide for the present is popular, with scholars, NGOs, and policy makers increasingly advocating customary management principles for contemporary fishery problems (Kittinger *et al.* 2014). To be sure, customary approaches have much to recommend them, as they generally constitute a better fit to social, cultural, and ecological context in Oceania than do policies developed for temperate-water fisheries in the West (Aswani and Ruddle 2013). The challenge, however, lies in translating customary management principles into policy that achieves positive ecological outcomes while maintaining the social function of existing customary institutions. The task requires a balancing of potentially competing objectives, as optimization of one may lead to deterioration of the other. A single-minded focus on resource sustainability, for example, might result in a policy that reflects customary principles of exclusivity (e.g.,

exclusive territorial fishing rights) but neglects customary principles of flexibility in administration. If, however, we accept the premise that socially deteriorated communities pose a greater threat to fish stocks (Jentoft 2000), these twin objectives are less competing than complementary. This more holistic, social-ecological perspective acknowledges that “viable fish stocks require viable fisheries communities” (Ibid.: 54). In the Pacific, maintaining viable fishing communities in the context of rapid societal change requires recognition of the critical role CMT may serve in promoting sustainable livelihoods and the design of policies that take local customary institutions into account.

**Acknowledgements** We wish to thank The David and Lucile Packard Foundation for supporting this work. We also wish to thank our host community in Ngarchelong and all of our research participants in Palau who generously gave of their time and expertise and without whom this research would not have been possible. An earlier version of this manuscript was presented at the 15th Annual Meeting of the American Anthropological Association in Denver, Colorado in 2015, and we thank participants for their comments and feedback.

**Funding** This research was funded by a grant from The David and Lucile Packard Foundation.

**Data Availability** The data generated and analyzed in connection with this study are not publicly available in order to protect the confidentiality of individuals who participated in this study. Reasonable requests for data that would not compromise confidentiality will be considered by the corresponding author.

## Compliance with Ethical Standards

**Conflict of Interest** The authors declare that they have no conflict of interest.

**Ethical Approval** The Colorado State University Institutional Review Board reviewed and approved the research protocol (Ref. # 14-4942H).

## References

- Adhuri, D. S. (2013). *Selling the Sea, Fishing for Power: A Study of Conflict over Marine Tenure in Kei Islands, Eastern Indonesia*. Australian National University E Press, Canberra.
- Aswani, S. (2002). Assessing the Effects of Changing Demographic and Consumption Patterns on Sea Tenure Regimes in the Roviana Lagoon, Solomon Islands. *Ambio* 31(4): 272–284.
- Aswani, S. (2005). Customary Sea Tenure in Oceania as a Case of Rights-Based Fishery Management: Does it Work? *Reviews in Fish Biology and Fisheries* 15: 285–307.
- Aswani, S. (2017). Customary Management as TURFs: Social Challenges and Opportunities. *Bulletin of Marine Science* 93(1): 3–12.
- Aswani, S., and Ruddle, K. (2013). Design of Realistic Hybrid Marine Resource Management Programs in Oceania. *Pacific Science* 67(3): 461–476.
- Aswani, S., Albert, S., Sabetian, A., and Furusawa, T. (2007). Customary Management as Precautionary and Adaptive Principles for Protecting Coral Reefs in Oceania. *Coral Reefs* 26: 1009–1021.

- Bambridge, T. (2016). Conclusion: What are the lessons to be learned from the *rahui* and legal pluralism? The political and environmental efficacy of legal pluralism. In Bambridge, T. (ed.), *The Rahui: Legal Pluralism in Polynesian Traditional Management of Resources and Territories*, Anu Press, Canberra, pp. 227–230.
- Berman, P. S. (2009). The New Legal Pluralism. *Annual Review of Law & Social Science* 5: 225–242.
- Carlisle, K. M., and Gruby, R. L. (2018). Why the Path to Polycentricity Matters: Evidence from Fisheries Governance in Palau. *Environmental Policy and Governance* 28(4): 23–235.
- Carrier, J. G. (1987). Marine tenure and conservation in Papua New Guinea. In McCay, B. J., and Acheson, J. M. (eds.), *The Question of the Commons*, The University of Arizona Press, Tucson, pp. 142–167.
- Cinner, J. (2005). Socioeconomic Factors Influencing Customary Marine Tenure in the Indo-Pacific. *Ecology and Society* 10(1): 36.
- Clarke, P., and Jupiter, S. D. (2010). Law, Custom and Community-Based Natural Resource Management in Kubulau District (Fiji). *Environmental Conservation* 37(1): 98–106.
- Cohen, P. J., and Steenbergen, D. J. (2015). Social Dimensions of Local Fisheries Co-management in the Coral Triangle. *Environmental Conservation* 42(3): 278–288.
- Foale, S., Cohen, P., Januchowski-Hartley, S., Wenger, A., and Macintyre, M. (2011). Tenure and Taboos: Origins and Implications for Fisheries in the Pacific. *Fish and Fisheries* 12: 357–369.
- Gelcich, S., Edwards-Jones, G., Kaiser, M. J., and Castilla, J. C. (2006). Co-management Policy Can Reduce Resilience in Traditionally Managed Marine Ecosystems. *Ecosystems* 9: 951–966.
- Graham, T., and Idechong, N. (1998). Reconciling Customary and Constitutional Law: Managing Marine Resources in Palau, Micronesia. *Ocean & Coastal Management* 40: 143–164.
- Gupta, J., and Bavinck, M. (2014). Towards an Elaborated Theory of Legal Pluralism and Aquatic Resources. *Current Opinion in Environmental Sustainability* 11: 86–93.
- Hardy, P. E., Béné, C., Doyen, L., Pereau, J. C., and Mills, D. (2016). Viability and Resilience of Small-Scale Fisheries Through Cooperative Arrangements. *Environment and Development Economics* 21: 713–741.
- Hauck, M. (2008). Rethinking Small-Scale Fisheries Compliance. *Marine Policy* 32: 635–642.
- Hviding, E. (1998). Contextual Flexibility: Present Status and Future of Customary Marine Tenure in Solomon Islands. *Ocean & Coastal Management* 40(2–3): 253–269.
- Jentoft, S. (2000). The Community: A Missing Link of Fisheries Management. *Marine Policy* 24: 53–59.
- Johannes, R. E. (1978). Traditional Marine Conservation Methods in Oceania and Their Demise. *Annual Review of Ecological Systems* 9: 349–364.
- Johannes, R. E. (1981). *Words of the Lagoon: Fishing and Marine Lore in the Palau District of Micronesia*, University of California Press, Berkeley.
- Johannes, R. E. (1982). Traditional Conservation Methods and Protected Marine Areas in Oceania. *Ambio* 11(5): 258–261.
- Johannes, R. E. (1998). The Case for Data-Less Marine Resource Management: Examples from Tropical Nearshore Finfisheries. *TREE* 13(6): 243–246.
- Johannes, R. E. (2002). The Renaissance of Community-Based Marine Resource Management in Oceania. *Annual Review of Ecological Systems* 33: 317–340.
- Kittinger, J. N., Cinner, J. E., Aswani, S., and White, A. T. (2014). Back to the future: Integrating customary practices and institutions into comanagement of small-scale fisheries. In Kittinger, J. N., McClenachan, L., Gedan, K. B., and Blight, L. K. (eds.), *Marine Historical Ecology in Conservation: Applying the Past to Manage for the Future*, University of California Press, Berkeley, pp. 135–160.
- Lieber, M. D., and Rynkiewich, M. A. (2007). Conclusion: Oceanic Conceptions of the Relationship Between People and Property. *Human Organization* 66(1): 90–97.
- Macintyre, M., and Foale, S. (2007). Land and Marine Tenure, Ownership, and New Forms of Entitlement on Lihir: Changing Notions of Property in the Context of a Goldmining Project. *Human Organization* 66(1): 49–59.
- Matthews, E. (2007). *Community-Based and Collaborative Management of Coral Reefs and Coastal Resources in Palau* (Doctoral Dissertation). University of Rhode Island. Retrieved from <http://digitalcommons.uri.edu/dissertations/AAI3284827/>. Accessed 23 July 2019.
- McCay, B. J., and Jentoft, S. (1998). Market or Community Failure? Critical Perspectives on Common Property Research. *Human Organization* 57(1): 21–29.
- Meinzen-Dick, R. S., and Pradhan, R. (2002). *Legal Pluralism and Dynamic Property Rights*. CAPRI Working Paper No. 22, International Food Policy Research Institute, Washington D.C.
- Moore, S. F. (1978). *Law as Process*, Routledge & Kegan Paul, London.
- Ostrom, E. (2005). *Understanding Institutional Diversity*, Princeton University Press, Princeton.
- Ota, Y. (2006). *Custom and Fishing - Cultural Meanings and Social Relations of Pacific Fishing*, Republic of Palau, Micronesia (Doctoral Dissertation). University College of London.
- Palau Bureau of Budget and Planning. (2017). *2016 Statistical Yearbook*. Republic of Palau. Retrieved from <http://palaugov.pw/wp-content/uploads/2017/07/2016-Statistical-Yearbook.pdf>. Accessed 23 July 2019.
- Parlee, C. E., and Wiber, M. G. (2014). Institutional Innovation in Fisheries Governance: Adaptive Co-management in Situations of Legal Pluralism. *Current Opinion in Environmental Sustainability* 11: 48–54.
- Phuc, X. (2007). Fuzzy Property Relations in the Vietnamese Uplands: Ethnography of Forest Access and Control. *Journal of Legal Pluralism* 55: 73–94.
- Prince, J., Victor, S., Kloulchad, V., and Hordyk, A. (2015). Length Based SPR Assessment of Eleven Indo-Pacific coral reef fish populations in Palau. *Fisheries Research* 171: 42–58.
- Putney, R. (2008). *Customary Marine Tenure and Traditional Ecological Knowledge in Palau* (Masters Thesis). San José State University. Retrieved from [https://scholarworks.sjsu.edu/etd\\_theses/3493/](https://scholarworks.sjsu.edu/etd_theses/3493/). Accessed 23 July 2019.
- Quynh, C. N. T., Schilizzi, S., Hailu, A., and Iftekhar, S. (2017). Territorial Use Rights for Fisheries (TURFs): State of the Art and the Road Ahead. *Marine Policy* 75: 41–52.
- Rohe, J. R., Govan, H., Schlüter, A., and Ferse, S. C. A. (2019). A Legal Pluralism Perspective on Coastal Fisheries Governance in Two Pacific Island Countries. *Marine Policy* 100: 90–97.
- Ruddle, K. (1994). *A Guide to the Literature on Traditional Community-Based Fishery Management in the Asia-Pacific Tropics*. FAO Fisheries Circular No. 869, Food and Agriculture Organization of the United Nations, Rome.
- Ruddle, K. (1996). Boundary Definition as a Basic Design Principle of Traditional Fishery Management Systems in the Pacific Islands. *Geographische Zeitschrift* 84: 94–102.
- Ruddle, K., and Satria, A. (2010). An introduction to pre-existing local management systems in Southeast Asia. In Ruddle, K., and Satria, A. (eds.), *Managing Coastal and Inland Waters: Pre-existing Aquatic Management Systems in Southeast Asia*, Springer, London/New York, pp. 1–30.
- Salim, A. (2010). Dynamic Legal Pluralism in Indonesia: Contested Legal Orders in Contemporary Aceh. *Journal of Legal Pluralism* 61: 1–29.
- Sulu, R. J., Eriksson, H., Schwarz, A.-M., Andrew, N. L., Orirana, G., Sukulu, M., Oeta, J., Harohau, D., Sibiti, S., Toritela, A., and Beare, D. (2015). *Livelihoods and Fisheries Governance in a*

- Contemporary Pacific Island Setting. PLoS One 10(11): e0143516. Retrieved from. <https://doi.org/10.1371/journal.pone.0143516>.
- United Nations Development Programme. (2016). Human Development Report 2016, Briefing Report for Palau. Retrieved from [http://hdr.undp.org/sites/all/themes/hdr\\_theme/country-notes/PLW.pdf](http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/PLW.pdf).
- von Benda-Beckmann, F., and von Benda-Beckmann, K. (2006). The Dynamics of Change and Continuity in Plural Legal Orders. *Journal of Legal Pluralism* 53: 1–44.
- Wagner, J., and Talakai, M. (2007). Customs, Commons, Property, and Ecology: Case Studies from Oceania. *Human Organization* 66(1): 1–10.
- Wilén, J. E., Cancino, J., and Uchida, H. (2012). The Economics of Territorial Use Rights Fisheries, or TURFs. *Review of Environmental Economics and Policy* 6(2): 237–257.
- Yin, R. K. (2003). *Case Study Research, Design, and Methods*, Sage, Thousand Oaks.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.