



Introduction to Research Project SOCPacific: A Sea of Connections: An interdisciplinary, multi-level and multi-stakeholder study of South Pacific fisheries

Elodie Fache¹ & Annette Breckwoldt²

¹ Univ Paul Valéry Montpellier 3, IRD, UMR GRED 220, F34000, Montpellier, France

² Leibniz Centre for Tropical Marine Research (ZMT) Department of Social Sciences, Working Group 'Social-Ecological Systems Analysis' Fahrenheitstr. 6, 28359 Bremen, Germany

DOI: 10.23791/511621

Abstract: The Franco-German research project 'A Sea of Connections: Contextualizing Fisheries in the South Pacific Region' (SOCPacific, 2018-2021) aims to explore the large web of socio-cultural, policy and geopolitical connections within which both coastal and oceanic fishing practices and fisheries management endeavours occur in this intricate and ever-changing regional setting. After some brief background, this research note presents the project's set of more specific objectives. It then outlines the rationale for choosing three study areas (New Caledonia, Vanuatu and Fiji) for our analysis of the complex and dynamic 'sea of connections' in which South Pacific fisheries are embedded. Finally, it outlines the combination of research tools and concepts that make up the core of the prospected interdisciplinary, multi-level and multi-stakeholder investigations related to these study areas. This approach intends to contribute to the advancement of cross-cutting knowledge in the multi-faceted field of local fisheries management and marine governance.

Keywords: small-scale fisheries; conservation policies; marine governance; Pacific studies; interdisciplinary

[Submitted as Research Note: 02 February 2019, Acceptance of the revised manuscript: 15 February 2019]

Introduction

The interdisciplinary research project 'A Sea of Connections: Contextualizing Fisheries in the South Pacific Region' (SOCPacific) has been set up in response to the Franco-German Call in Humanities and Social Sciences (FRAL) jointly run by the Agence Nationale de la Recherche (ANR) and the Deutsche Forschungsgemeinschaft (DFG). Launched mid-2018, it will be funded for 3 years and is based on an institutional partnership between the French National Research Institute for Development (IRD) in Montpellier and the Leibniz Centre for Tropical Marine Research (ZMT) in Bremen. The core research team includes thirteen members and two jointly recruited PhD students, all of which also benefit from the large SOPacific consortium of external partners and collaborators (see <https://socpacific.net>).

The core team members' research expertise and experiences allow for interdisciplinary dialogues within the social sciences (mainly anthropology, geography and political ecology) as well as between the social and natural sciences (marine biology, ecology, geology). This interdisciplinarity is indeed crucial for a comprehensive and innovative study of fisheries in the South Pacific, which represents a unique context. This region is the locus of geopolitical competition related to three interrelated objectives: (1) to exploit marine resources (in particular fish species of outstanding economic relevance and deep-sea minerals); (2) to protect the ocean's biodiversity (mainly through marine managed and protected areas); and (3) to control marine spaces (through various territorial strategies, such as the negotiation of new coastal management rights or maritime boundaries) (Fache, Le Meur & Rodary, 2018). In this context, fisheries management and marine governance are major policy concerns, at both the regional and national levels. Moreover, local communities and their political representatives are increasingly committed to integrated management of marine resources and territories, after a predicted dissolution of related community-based activities in the 1970s (Johannes, 1978; Johannes, 2002).

SOPacific's main objective is to 're-embed' South Pacific fisheries, both coastal and oceanic, in this intricate context, by exploring the large web of socio-cultural, policy and geopolitical

connections within which fishing practices and fisheries management endeavours occur. To do so, the core team is carrying out multi-level and multi-stakeholder investigations in three study areas: New Caledonia, Vanuatu and Fiji, articulated around three main interrelated thematic areas:

- 1) the social values of places and resources in connection with inshore and offshore fisheries;
- 2) the connections and tensions between fishing and conservation interests and practices, in particular within marine managed and protected areas;
- 3) the ways fisheries and existing management tools are integrated into the marine spatial planning (MSP) schemes that are currently under development in the South Pacific region, and the multi-faceted issues these raise.

After some brief background, the more specific objectives of SOPacific will be presented, followed by the rationale for the selection of sites and methodologies on which our investigations are based.

Brief state of the art and background

SOPacific aims at broadening recent research endeavours to take into account, through the articulation of social-ecological perspectives, the multi-faceted aspects of South Pacific fisheries.

To date, economic and ecological research on fisheries in the Western and Central Pacific Ocean (WCPO) has had a strong focus on tuna species, because of their outstanding economic relevance and, as a consequence, concerns about overexploitation. The tuna fishery in the WCPO is indeed the largest in the world, with a catch of more than 2.5 million tonnes in 2017, representing 54% of the global tuna catch (WCPFC, 2018). The tuna fishery is therefore the main priority of the regional and subregional organisations¹ that have specific mandates to assist the Pacific island nations with sustainable management of their marine resources. Yet, despite the increasing number of both locally managed marine areas (LMMAs) and large-scale marine protected areas (LSMPAs) in the region (Bartlett, Pakoa & Manua, 2009; Govan et al., 2009; Leenhardt et al., 2013), legal overfishing is taking place throughout the Pacific Ocean and

particularly threatens tuna stocks (e.g., for Bigeye tuna, Harley et al., 2015; McKechnie, Pilling & Hampton, 2017). Likewise, so-called Illegal, Unregulated and Unreported fishing activities (IUU) remain a significant threat for Pacific tuna fisheries (MRAG Asia Pacific, 2016). Therefore, there is a continuing need for the strengthening of current regulation arrangements (FFA, 2018).

The research programmes, development schemes and management frameworks focused on the Pacific tuna fishery draw most attention to monitoring large-scale, industrial and offshore fishing activities, operated mainly by purse-seine and longline fleets. As a result, this diverts attention from smaller-scale fishing activities, operated by artisanal and subsistence fishers in nearshore and coastal areas, both of which still remain less important economically. These are monitored less at a national level (Zeller et al., 2015), despite their unmatched importance for aspects of local livelihoods and food security.

Most research on South Pacific coastal fisheries pays attention to economic factors, ecological dynamics or their interrelationships. In the 1980s-1990s, researchers examined traditional fisheries and fisheries-related resource management with a particular focus on changes brought about by increasing development pressures (e.g., Hviding, 1996; Leblic, 1991; Veitayaki, 1998). Since the early 2000s, the "ecosystem approach to fisheries" (Garcia et al., 2003) has been widely promoted and implemented across the world, including in the South Pacific. This approach recognises the interdependence between human well-being and ecosystem health as well as the need to maintain the productivity of ecosystems for present and future generations. It aims for better planning and management of fisheries, in a way that ensures sustainability in its broadest sense. Its implementation seems to have given momentum to the analysis of the interplay between fisheries development and coastal management initiatives (e.g., Hamel, Andréfouët & Pressey, 2013).

Despite this, the multi-faceted connections between oceanic/offshore and coastal/inshore fisheries remain insufficiently explored. This research gap requires urgent attention, as such connections seem to have a strong relevance for:

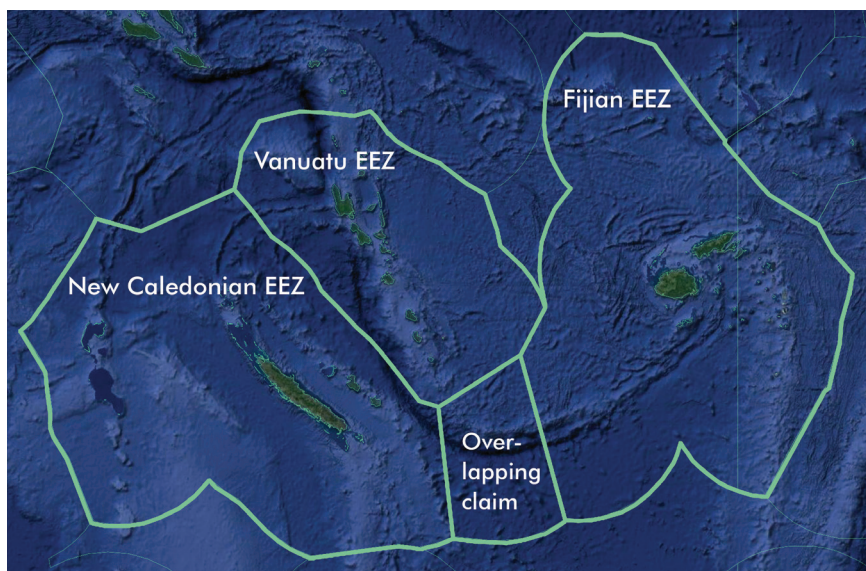


Figure 2: SOCPacific's study areas (the 'overlapping claim' refers to the disputed area between Vanuatu, New Caledonia and France around the uninhabited Matthew and Hunter Islands)

- spawning, nursery and feeding areas of both reef fish and epipelagic/oceanic predator species (Allain et al., 2012);

- Blue Growth Initiatives such as aquaculture (Szuster & Albasri, 2010);
- sustainability challenges and the switching of human efforts from the coastal fisheries sector to the pelagic one when overfishing occurs (Roeger et al., 2016; Veitayaki & Ledua, 2016); and

- the articulation between customary coastal rights and marine tenure systems (including sacred sites), national fisheries regulations, and the United Nations Convention on the Law of the Sea.

Lastly, because recent research on South Pacific fisheries usually considers their oceanic and coastal components separately, it conveys an antagonism between local aspirations and constraints on the one hand, and global conservation and market drivers on the other. This local/global opposition can be understood as the outcome of a distribution of power where global interests and stakeholders tend to influence local fishing decisions and practices (Eriksson & Clarke, 2015), but there are undoubtedly multi-level processes at stake that need to be explored.

Objectives

SOCPacific's main objective is to assess and analyse the complex web of relations, practices, activities, policies and networks within which fisheries are currently embedded and fishing practices occur in the South Pacific region,

with a particular focus – as mentioned above – on the socio-cultural, policy and geopolitical dimensions of the complex interactions at stake. It also endeavours to study the connections between coastal and oceanic fisheries (generally considered and examined as separate sectors of activities and practices), beyond economic and ecological perspectives only, and from the point of view of all the stakeholders involved (including various categories of fishers, Pacific Islanders, national governments, regional frameworks and institutions, and global conservation and 'conservation-as-development' movements).

SOCPacific also aims to achieve a set of more specific research objectives, mainly:

- to examine the regional and national mechanisms that contribute to the translation of global economic and ecological imperatives and influences into specific local uses of marine resources and management schemes and, conversely, the upward diffusion of customary forms of fisheries management and marine tenure and their (at least partial) integration into policy apparatuses;
- to analyse the multiple levels and current developments of the regional fisheries management policy landscape, and outline how the latter can be equipped to support local efforts to not only conserve and restore fisheries resources, but also to minimize the negative ecological impacts of fishing while securing returns (food, revenues, immaterial outcomes) that ensure sustainable well-being;

- to identify, from a locally grounded perspective, key pressures, challenges and obstacles related to the previous objective, and to facilitate communication on the matter between the various stakeholders and policymakers concerned via adaptable knowledge exchange pathways.

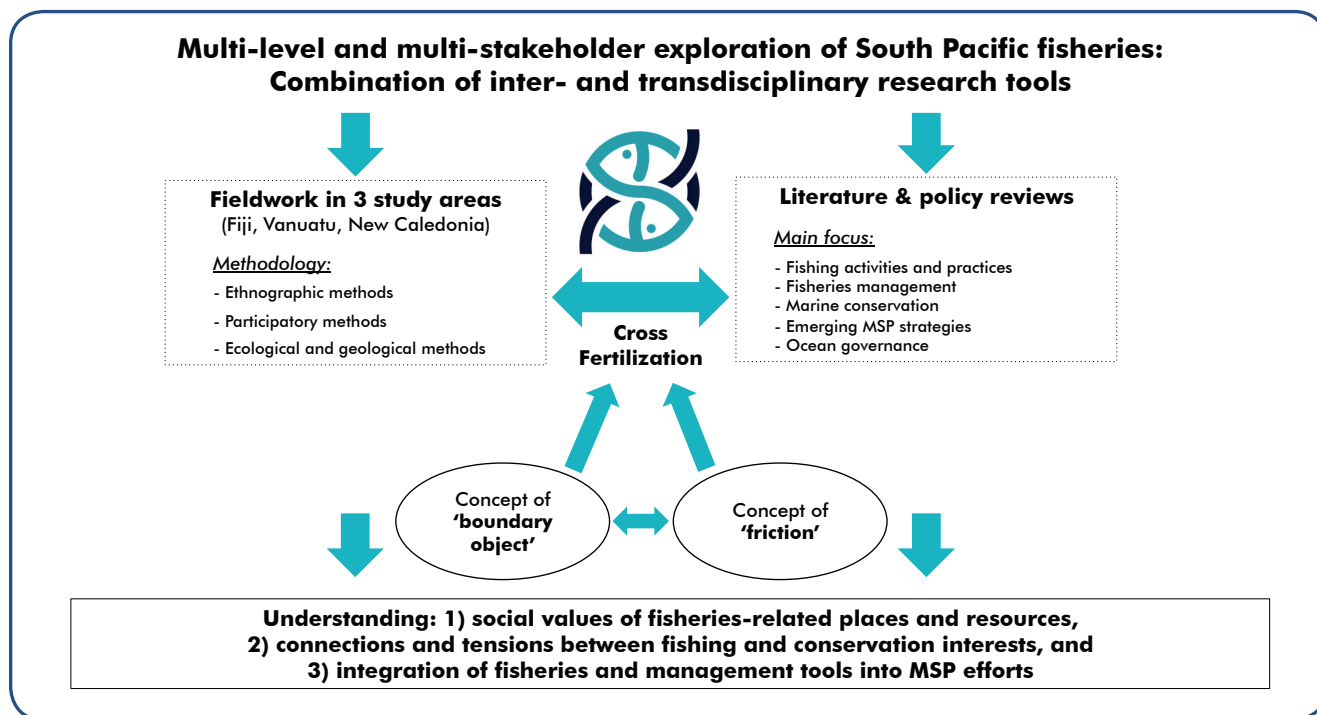
This project will bring relevant insights to be used by Pacific island communities in the ongoing discussions related to the building of new forms of integrative fisheries management and marine governance including all stakeholders.

Study areas

Fiji, Vanuatu and New Caledonia are the core geographical focus of this project. Fiji (a former British colony) and Vanuatu (a former Franco-British condominium; an unusual colonial arrangement) gained their independence quite recently, in 1970 and 1980 respectively. New Caledonia is still an overseas territory of France, but the question of its future independence is currently raised through a series of referenda that started in 2018. Together, they form a highly interesting triangle with contiguous and extensive national waters that remain (for fishing and other issues such as deep-sea mining, transport, technical cooperation) of huge relevance for the European Union. Their coastal fisheries seem to share some of the features that are widespread in the South Pacific region, such as a lack of adequate monitoring data, despite a trend of overexploitation and an over-reliance on no-take areas as the main fisheries management tool (Gillett, 2014).

Yet, these three settings differ in terms of, among various other aspects (some of which are mentioned below), their development level, the fisheries-related management and conservation tools in place, as well as the importance of their offshore fisheries (within EEZs). They therefore represent critical cases for a comparative approach of a) an articulation between conservation and extraction of fisheries resources, and b) the policy (dis)connections between coastal and oceanic fisheries, as they are perceived and addressed by various stakeholders.

The development of the Fiji Locally Managed Marine Area (FLMMA) network operates at multiple levels, and this network now appears as a leader and model both within the South



Source: Fache / Breckwoldt.

Figure 3: Research concept

Pacific region and beyond (Fache & Breckwoldt, 2018). It is “a non-profit and charitable association of resource conservation NGOs, government departments, academic institutions and over 400 communities working together to promote and encourage the preservation, protection and sustainable use of marine resources in Fiji by the stewards of these marine resources” (<http://Immanetwork.org/who-we-are/country-networks/fiji/>). This multi-stakeholder partnership has become the main national space for advancing coastal fisheries management and, thereby, maintaining or improving local livelihoods. To date, it has also assumed a large part of the coastal fisheries management activities that should be part of the mandate of the government, which has focused significantly more attention on the management of the country's extensive offshore fishing activities, predominantly targeting albacore tuna (*Thunnus alalunga*) (Gillett, Lewis & Cartwright, 2014; WCPFC, 2015a; WCPFC, 2015b).

New Caledonia is not part of the Asia-Pacific (and progressively supra-regional) LMMA network, and its longline fleet is very small (WCPFC, 2015b). In 2008, the lagoons of New Caledonia were inscribed on UNESCO's World Heritage List in recognition of the diversity and ‘natural beauty’ of their coral reef systems. The classification of six non-contiguous

marine clusters – and not the lagoons in their totality – was a concession to the mining sector that accounts for around 95% of the New Caledonian exports, has historically polluted sections of the lagoon and reef systems, and will continue to impact these through mining and transport activities. The inscription process has given momentum to the development of several national marine protected areas (MPAs) (Bodmer, 2010). In 2014, the Natural Park of the Coral Sea was declared, covering New Caledonia's entire EEZ and aiming to contribute to international biodiversity conservation commitments², while the inclusion of fisheries in its management plan remains unclear (e.g., ‘no-take area’ vs ‘multiple-use area’).

Vanuatu is also not a member country of the Asia-Pacific LMMA network, but was one of the first countries to implement LMMAs in the 1990s. Vanuatu's National Ocean Policy – our ocean, our culture, our people (2016), which sets out the new marine management policy direction for the country, is mainly articulated around the concepts of ecosystem-based management, MSP and MPAs. While the longline fleet flagged under Vanuatu is not far behind Fiji's (in terms of both number of vessels and volume of catch), fisheries is not a significant contributor to the country's economy (WCPFC, 2015b). For historical and geological reasons, Vanuatu claims

sovereignty over the uninhabited Matthew and Hunter Islands, currently included in New Caledonia's EEZ. These small uninhabited islands are therefore a matter of geopolitical tensions between Vanuatu and New Caledonia (and hence France), connecting border issues with fishery strategies at the regional level (David, 2011).

Methodologies

In each study area, SOCPacific's core team will conduct fieldwork in a (yet to be finalised) selection of sites. This selection includes the capital cities, the bases of most national, regional and international institutions (government agencies, regional bodies, worldwide NGOs, etc.). It also comprises two or more rural island settings where both fishing and marine management activities are important in the daily life of residents. The site selection depends on feedback from our local and international partners, with the ambition to align SOCPacific with the research projects and programmes carried out in the region. It is also conditional on the logistics of organising joint fieldwork periods for team members in each study area.

The project will employ a combination of inter- and transdisciplinary research tools and concepts allowing a multi-level and multi-stakeholder exploration of South Pacific fisheries. While focusing on current situations,

the investigations include a diachronic perspective whenever possible. Besides the fieldwork periods, these investigations involve literature and policy reviews focused on fishing, fisheries management, marine conservation (in particular marine managed and protected areas), emerging MSP strategies and ocean governance. The corresponding discourse analysis considers scientific, historic and legal texts; newspaper articles; international, regional, subregional and national strategy and policy documents (incl. pending ones and blueprints). The study of current fisheries management frameworks and trends also draws on meetings with representatives from regional and non-governmental organisations (in particular those that are based in Suva and Nouméa), government agencies, and local customary authorities.

The field investigations mainly involve ethnographic methodologies, especially non-participant and participant observation and qualitative interviews. Observations will provide important insights on involvement of local men and women in fishing, fisheries management and related (marine and terrestrial) activities and practices. Interviews with individuals and focus groups will complement these insights by exploring the views and values, and the challenges and aspirations, that islanders associate with such spheres. These observations and interviews also aim to explore the (dis) articulations between various registers of knowledge and values (customary, religious, scientific, technical, legal, policy-oriented, administrative, etc.) regarding fisheries, as well as how these registers are used, rejected, made invisible, ranked, etc. in relation to our three thematic areas. Participatory methods, such as drawing and ranking activities by schoolchildren, are planned to be applied too, always using the same protocol, in at least one site of each study area, to facilitate our comparison endeavours. In addition, some ecological and geological methodological elements – such as underwater visual census, species sampling and measurement, water salinity tests, mapping of seamounts, etc. – will be integrated in order to correlate the composition of fish populations and some features of coastal and offshore fishing grounds with the social values of these resources and places as well as with the geography of fishing, con-

servation and other (such as deep-sea mining) interests. In parallel to the work conducted in each study area, a process of exchange and cross-fertilization of generated data is envisaged.

SOCPacific's study of global changes and drivers is based on the concept of 'friction' as defined by Anna L. Tsing (2005). The attention to 'friction' allows the study of heterogeneous, cross-cultural, long-distance encounters and of "the awkward, unequal, unstable and creative qualities of interconnection across difference" that lead to "new arrangements of culture and power". The attention to 'friction' involves the study of the *in situ* interactions and negotiations between the various stakeholders of South Pacific fisheries, for instance aiming to tackle overfishing³. It also requires the examination of translation mechanisms of international statuses, norms and regulations at the national and local levels, as well as of customary norms in policies, and of what these processes produce.

The conceptual approach to investigating the multi-faceted aspects of South Pacific fisheries – including regional and national current fisheries management frameworks and trends, local perceptions and practices, and global changes and drivers – draws on the concept of the 'boundary object' (e.g., Mollinga, 2010). This concept allows the study of different abstractions of 'fisheries' based on its different meanings in the different disciplines and perspectives within SOCPacific.

Outlook

At this stage (February 2019), it is too early to dare providing any findings or conclusions. Yet, some challenges of our approach are already evident/visible. One of these is the transparent co-production of knowledge that is meaningful and useful for the stakeholders of South Pacific fisheries. For example, an understanding of the networks used for fish sales and market access is often critical to understand the functioning and health of small-scale fisheries – and it has yet to be defined how we can integrate these aspects best into our research set-up. Therefore, one of our priorities is to strengthen and extend our partnerships and exchanges with ground-based institutions, scholars and students to create a research environment in which

the planned outputs echo and serve local priorities.

Acknowledgements

SOCPacific (<https://socpacific.net/>) is co-funded by the Agence Nationale de la Recherche (grant number ANR-17-FRAL-0001-01) and the Deutsche Forschungsgemeinschaft (grant number 389654580).

We would like to thank the other members and partners of the SOCPacific team in Europe and in the Pacific for their contributions to the definition and the advancement of this project.

Endnotes

¹For instance, the Western and Central Pacific Fisheries Commission or WCPFC, the Pacific Islands Forum Fisheries Agency or FFA, the Parties to the Nauru Agreement or PNA, the Pacific Community or SPC, the Melanesian Spearhead Group or MSG, etc.

²Such as the Aichi Biodiversity Target 11: "By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes" (<https://www.cbd.int/sp/targets/>).

³While the process of granting permits to foreign fishing vessels is critical regarding this issue, in the frame of SOCPacific this and related aspects will not be addressed head-on, but might be touched upon through the question of the connections and tensions between fishing and conservation interests and practices.

References

- Allain, V. et al. (2012) *Interaction between coastal and oceanic ecosystems of the Western and Central Pacific Ocean through predator-prey relationship studies*. PLoS ONE. 7 (5), e36701. Available from: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0036701> [Accessed 21th January 2019].
- Bartlett, C.Y., Pakoa, K. & Manua, C. (2009) *Marine reserve phenomenon in the Pacific Islands*. *Marine Policy*. 33 (4), 673–678.
- Bodmer, D. (2010) *Entre préservation et/ou mise en valeur de la ressource, quel avenir pour les aires marines*

protégées en Province Nord de la Nouvelle-Calédonie ? *Etudes Caribéennes*. 15. Available from: <https://journals.openedition.org/etudescaribeennes/7883> [Accessed 21st January 2019].

David, G. (2011) *Le Vanuatu côté océan : La révolution bleue et les premières années de l'indépendance*. *Journal de la Société des Océanistes*. 133 (2), 353–366.

Eriksson, H. & Clarke, S. (2015) Chinese market responses to overexploitation of sharks and sea cucumbers. *Biological Conservation*. 184, 163–173.

Fache, E. & Breckwoldt, B. (2018) Small-scale managed marine areas over time: Developments and challenges in a local Fijian reef fishery. *Journal of Environmental Management*. 220, 253–265.

Fache, E., Le Meur, P.-Y. & Rodary, E. (2018) *The other side of the maritime frontier in the Pacific*. [Presentation] European Society for Oceanists (ESFO) 2018 Conference, Cambridge, 7–10 December.

FFA. (2018) *Tuna Fishery Report Card 2018*.

Garcia, S.M. et al. (2003) *The ecosystem approach to fisheries: Issues, terminology, principles, institutional foundations, implementation and outlook*. FAO. Fisheries Technical Paper n°443.

Gillett, R. (2014) Hot issues on Pacific Island coastal fisheries. *SPC Fisheries Newsletter*. 144, 53–60.

Gillett, R., Lewis, A. & Cartwright, I. (2014) *Coastal fisheries in Fiji: Resources, issues, and enhancing the role of the Fisheries Department*. David and Lucille Packard Foundation.

Govan, H. et al. (2009) Status and potential of locally-managed marine areas in the South Pacific: Meeting nature conservation and sustainable livelihood targets through wide-spread implementation of LMMAs. SPREP/WWF/WorldFish-Reefbase/CRISP.

Hamel, M.A., Andréfouët, S. & Pressey, R.L. (2013) Compromises between international habitat conservation guidelines and small-scale fisheries in Pacific island countries. *Conservation Letters*. 6, 46–57.

Harley, S. et al. (2015) *The Western and Central Pacific tuna fishery: 2014 overview and status of stocks*. SPC. Tuna Fisheries Assessment Report n°15.

Hviding, E. (1996) *Guardians of Marovo Lagoon: Practice, Place, and Politics in Maritime Melanesia*. Honolulu, University of Hawai'i Press.

Johannes, R.E. (1978) Traditional marine conservation methods in Oceania and their demise. *Annual Review of Ecology and Systematics*. 9, 349–364.

Johannes, R.E. (2002) The renaissance of community-based marine resource management in Oceania. *Annual Review of Ecology and Systematics*. 33, 317–340.

Lebic, I. (1991) Fishing, fishing clans and development in New Caledonia. In: Durand, J.-R.,



Source: Elodie Fache.

Figure 4: Sharing of the catch in the frame of the temporary opening of a reef reserve (*tabu* area), Gau island, Fiji

Lemoalle, J. & Weber, J. (eds.) *La recherche face à la pêche artisanale*. Paris, ORSTOM, pp. 747–756.

Leenhardt, P. et al. (2013) The rise of large-scale marine protected areas: Conservation or geopolitics? *Ocean & Coastal Management*. 3, 1–7.

McKechnie, S., Pilling, G. & Hampton, J. (2017) Stock assessment of bigeye tuna in the Western and Central Pacific Ocean. WCPFC.

MRAG Asia Pacific. (2016) *Towards the quantification of Illegal, Unreported and Unregulated (IUU) fishing in the Pacific Islands region*.

Mollinga, P.P. (2010) Boundary work and the complexity of natural resources management. *Crop Science*. 5, (Suppl1): S1–S9.

Roeger, J.J., Foale, S. & Sheaves, M.J. (2016) When 'fishing down the food chain' results in improved food security: Evidence from a small pelagic fishery in Solomon Islands. *Fisheries Research*. 174, 250–259.

Szuster, B.W. & Albasri, H. (2010) Mariculture and marine spatial planning: Integrating local ecological knowledge. *Island Studies Journal*. 5 (2), 237–250.

Tsing, A.L. (2005) *Friction: An Ethnography of*

Global Connection. Princeton, Princeton University Press.

Veitayaki, J. (1998) Traditional and community-based marine resources management system in Fiji: An evolving integrated process. *Coastal Management*. 26(1), 47–60.

Veitayaki, J. & Ledua, E. (2016) Policy options for coastal and tuna fisheries in the Pacific Islands: Sustaining resources on the same side of the same coin. In: Fache, E. & Pauwels S. (eds.) *Fisheries in the Pacific: The Challenges of governance and sustainability*. Marseille, Pacific-Credo Publications, pp. 255–282.

WCPFC. 2015a. *Annual Scientific Report to the Western and Central Pacific Fisheries Commission. Part 1: Information on Fisheries, Research and Statistics*.

WCPFC. 2015b. *Tuna Fishery Yearbook 2014*.

WCPFC. 2018. *Tuna Fishery Yearbook 2017*.

Zeller, D., et al. (2015) Synthesis of underreported small-scale fisheries catch in Pacific island waters. *Coral Reefs*. 34, 25–39.

Corresponding Author: Dr. Elodie Fache is an anthropologist and a research fellow at the French National Research Institute for Development (IRD). At the German Leibniz Centre for Tropical Marine Research (ZMT), Dr. Annette Breckwoldt uses both her background in marine ecology and her experience in interdisciplinary and social science research. Both of them are engaged in multi-level analyses of so-called "community-based natural resource management" initiatives and small-scale fisheries in the South Pacific region.