

Research perspectives on Pacific Island coastal fisheries

Pita Neihapi,¹ Faye Siota,^{2,3} Rolenas Tavue,⁴ Tarateiti Uriam,⁵ Aurelie Delisle,⁶ Hampus Eriksson^{2,6} and Dirk J. Steenbergen^{6*}

In 2019, four coastal fisheries staff members from across the Pacific won scholarships to complete a Master of Fisheries Policy at the University of Wollongong in Australia. Faye Siota from Solomon Islands, Tarateiti Uriam from Kiribati, and Pita Neihapi and Rolenas Tavue from Vanuatu completed their degrees remotely over a two-year period while continuing their jobs in coastal fisheries in their respective countries. COVID-19 made this a tough challenge, but studying this way meant they could continue working while pursuing their studies.

The following research perspectives mark the completion of their research training journey and brings together insights and findings from their research “capstone” projects submitted as a component of their degrees.

All candidates brought a wealth of experience in community-based fisheries management. Coursework supplemented this experience with teachings on broader policy processes and academic insights of management. The study programme also provided an opportunity for candidates to complete and defend a research project before an examining board on a topic of their interest.



Figure 1. Pacific Island researchers are increasingly playing key roles in determining the focus of research projects, planning and design, and championing place-based and people-centred approaches. Image: © Eleanor McNeil

As coastal fisheries management capacity in the region grows, there are increasing avenues emerging for Pacific Islander-led research to become mainstream in knowledge creation, setting research agendas, and in designing and coordinating research implementation (Fig. 1). This is undeniably a welcome transition in how the science community in the Pacific operates. Place-based and people-centred approaches

to science in the Pacific will increase. As evident from these capstone projects, prospects for continued Pacific research leadership in coastal fisheries are promising. It is notable that this research has utility in mind and is informed by demands within departments, communities and countries.

In the following four short articles, the students summarise their research projects, highlighting objectives, key results and lessons learned for policy and practice. Given the students’ background and expertise, all projects shared a common thread – a focus on community-based fisheries management. Faye Siota summarises her review of national fisheries policy, strategies and operational work plans in order to understand what the gaps are in mobilising provincial fisheries officers to achieve national and subnational development targets in Solomon Islands. The research by Tarateiti Uriam seeks to understand how gender equality is presented and pursued in six Kiribati national natural resource policies. Pita Neihapi’s research addresses community resilience in Vanuatu, and outlines what the major challenges and opportunities are for resource-dependent coastal communities living in disaster-prone environments. Rolenas Tavue’s research investigates the processes of boundary formation and how these reveal the way multiple governance systems overlay one another in coastal waters. The views presented are those of the students and not necessarily those of their supporting institutions. We invite those interested in the different research projects to contact the respective researchers for more details.

Acknowledgements

We are grateful to Neil Andrew, Lisa Wraith, Ruth Davis, Sarah Lothian and Leonardo Bernard for support and guidance throughout this initiative. The students were supported by their national agencies, the Australian National Centre of Ocean Resources and Security, and the Australian Government through ACIAR projects FIS-2016-300 and FIS-2020-172.

¹ Vanuatu Fisheries Department, Port Vila, Vanuatu.

² WorldFish, Honiara, Solomon Islands.

³ Ministry of Marine and Fisheries Resources, Honiara, Solomon Islands

⁴ Department of Environmental Protection and Conservation, Port Vila, Vanuatu

⁵ Ministry of Fisheries and Marine Resource Development, Tarawa, Kiribati

⁶ Australian National Centre of Ocean Resources and Security, University of Wollongong, Australia.

* Author for correspondence: dirks@uow.edu.au

Understanding the capacity of provincial fisheries officers in order to support the scaling-up of community-based fisheries management in Solomon Islands

Faye Siota⁷

Supporting coastal resource management across many dispersed islands and communities is a major challenge for fisheries authorities in the Pacific, particularly where islands are large and highly populated, such as in Melanesia. Decentralised government structures provide channels by which support is delivered from national to local constituencies (Cohen and Steenberg 2014). In Solomon Islands, officers from the Ministry of Fisheries and Marine Resources (MFMR) are seconded to provincial offices to implement the national Fisheries Management Act (Solomon Islands Government 2015), and any provincial fisheries ordinance or by-laws. Provincial fisheries officers (PFOs) are supported by the provincial government to ensure integration of fisheries support to communities and individual fishers through broader service delivery in the province. With ongoing support from internal and external partners, PFOs promote the sustainable use and management of fisheries resources in provincial waters (Fig. 2). They are, therefore, critical agents to achieving sustainable development targets under the various national fisheries management policies and strategies.

In the context of national ambitions to scale-up community-based fisheries management (CBFM), it is critical to understand the challenges and opportunities across the different provinces of Solomon Islands, and to evaluate how the Fisheries Management Act 2015 and provincial level policies can be adequately reflected in national workplans (e.g. MFMR Corporate Plan 2020–2023) and strategies (e.g. National

Community-based Resource Management Strategy 2022) (MFMR and WorldFish 2022). The objective of this capstone research project was to understand the factors and enabling conditions that support and empower PFOs to implement CBFM initiatives at the provincial level. Three provinces were examined in depth: Isabel, Malaita and Western.

The study reviewed national fisheries policy, strategies and operational work plans current as of 2021 (e.g. the National Fisheries Policy 2019–2029, MFMR Corporate Plan 2020–2023, Fisheries Management Act 2015, SI Coral Triangle Initiative National Plan of Action), and was supplemented by observations from discussions with PFOs and stakeholders during network meetings and workshops.

Coastal fisheries infrastructure available to PFOs differed among provinces, as did their capacities to lead the implementation of CBFM. Priorities differed among activities by the provincial governments and in how many external partners (e.g. non-governmental organisations) were implementing work (Table 1). These conditions contributed to influencing how PFOs viewed their roles and responsibilities as focal points for CBFM programmes in the provinces.

Financial and geographical issues in implementing CBFM is a long-standing limitation for national and provincial fisheries officers alike (WorldFish 2014). MFMR has addressed these challenges through, for example, recruitment and training as well as the establishment of a CBRM section within MFMR's Inshore Division. In recent years, MFMR has worked with partners to address historically low operating budgets through seeking better alignment of NGO activities and by creating opportunities for PFOs to access funding for provincial-level activities from donor-funded projects in MFMR (MFMR 2021). Since 2021, *Mekem Strong Solomon Island Fisheries* (MSSIF) has provided funding to mobilise PFOs, which has better prioritised activities for CBFM scaling. Nevertheless, additional financial and human resources will be required if the aspirations of the CBFM scaling strategy are to be achieved.

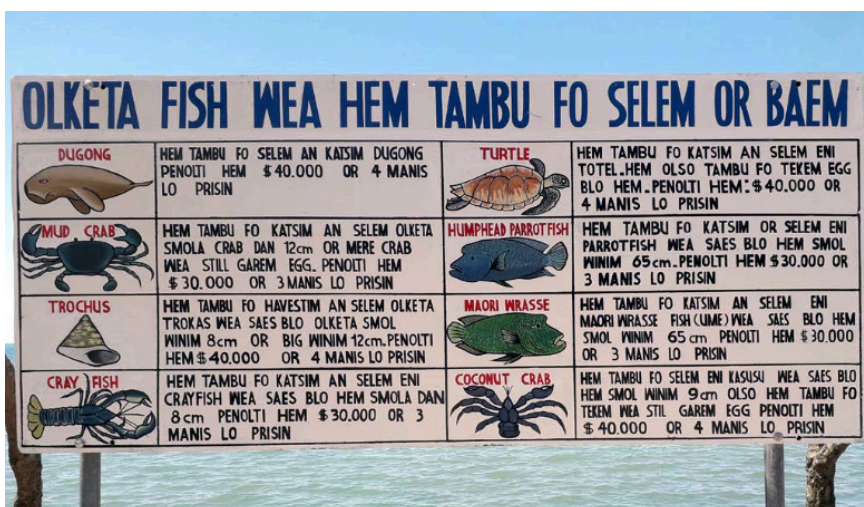


Figure 2. Auki market billboard in Malaita Province, provides public information. This was the result of an active collaborative partnership between PFOs and non-governmental organisation. Image: © Faye Siota

⁷ Senior research analyst, WorldFish and MFMR, Honiara, Solomon Islands. F.Siota@cgiar.org

Research perspectives on Pacific Island coastal fisheries

Understanding the capacity of provincial fisheries officers in order to support the scaling-up of community-based fisheries management in Solomon Islands

Table 1. Elements of the enabling environment that drives CBFM activities in the three case study provinces.

	Isabel	Malaita	Western
Infrastructure	3 functioning Provincial Fisheries Centres (PFC) and work stations	1 PFC currently not functioning) and 2 work stations	2 functioning PFCs and 2 work stations
Provincial Fisheries Ordinance	-		✓ (draft)
Partnerships (environmental groups)	<ul style="list-style-type: none"> The Nature Conservancy Provincial environment officer 	<ul style="list-style-type: none"> WorldFish 	<ul style="list-style-type: none"> WorldFish World Wildlife Fund Wildlife Conservation Society Community-based organisations Western Province Network for Sustainable Environment
Proportion of PFOs who have been trained to lead CBFM implementation (i.e. "has capacity to deliver")	2 out of 4	4 out of 5	2 out of 4
Provincial priority (PFOs' prime responsibility is to operate and manage the PFCs)	PFC generates high revenue for the province thus priorities are around the operation and management of PFC services.	PFC generates small revenue for the province; however, prioritises other fisheries activities for current implementation. PFC currently under maintenance.	PFC generates high revenue for the province thus priorities are around the operations and management of PFC services.

Lessons

In Solomon Islands, PFOs form the most decentralised, formal fisheries, point-of-authority under MFMR (Fig. 3), and the closest link to communities who retain customary rights to their resources (WorldFish 2014). The stationing of PFOs in the provinces provides a critical bridge between communities and MFMR and partner organisations. Addressing key factors to support PFOs to facilitate CBFM effectively will support provincial governments in prioritising appropriate activities and budgets.

Progressing CBFM requires a combination of structural (e.g. effective policy, procedures, legislation) and agency-based (e.g. skills training, work plans and resourcing of PFOs) support to ensure effective planning and implementation of provincial programmes. The research suggests that existing resources and capacities needed to implement CBFM are not yet equitably distributed across all provinces (and PFOs). In addition, at an individual level, the capability and confidence of PFOs varies widely. Ongoing coordinated efforts by, and for, PFOs will be critical in moving towards consistent leadership and coordination in CBFM activities within provincial waters.



CAUGHT IN THE ACT. Auki Fishery Officer Martin Jasper and a Police officer dealing with one of the Chinese who was caught trading beche-de-mer illegally in Malaita Province. See report page 5. PHOTO: SUPPLIED

Figure 3. Newspaper article excerpt indicating how PFOs are coordinating with police to enforce regulations in some instances (in urban areas and markets where there is oversight) (Source: Solomon Star, 28/05/2020, "Caught in the Act – shops caught in illegal beche-de-mer").

Integrating gender equality in natural resource policies in Kiribati

Tarateiti Uriam⁸



Figure 4. I-Kiribati family fishing for subsistence needs. Image: ©lutita Karekennatu

Women are involved in all stages of the fisheries value chain, although their contribution is often unrecognised (Kleiber et al. 2013). Gender equality has been recognised in international environmental agreements as a principle of good environmental governance (Lawless et al. 2021) that can ensure policies and programmes deliver equitable outcomes for the well-being of communities.

Understanding how gender equality is integrated in national natural resource policies is crucial to ensure that strategies deliver gender equitable outcomes. Natural resource conservation, management and development is central to the lives of I-Kiribati people for food, income, culture and medicine (MELAD 2021; MFMRD 2012). People use, interact, access and benefit from natural resources differently, particularly marine resources, and this is often based on cultural and gender norms (Fig. 4). It is, therefore, important to understand how guiding natural resource policies take into account gender dimensions to achieve gender equality. In Kiribati, traditional governance is driven by men and elders, and often overlooks certain groups in decision-making. Without meaningful participation, women and youth are

often disadvantaged when decisions are made that insufficiently consider their concerns and voices.

This capstone project addressed these challenges through three objectives: 1) understanding how gender equality is presented and pursued in six Kiribati national natural resource policies; 2) identifying gaps in these policies; and 3) providing recommendations to enhance gender equality in small-scale fisheries and across natural resource management and development.

To address entrenched inequalities and to work around sensitive cultural gender barriers, good guiding strategies are necessary, and staff must be well equipped with necessary knowledge and skills. In evaluating these policies from a gender lens, this study considered how gender is framed, the linkages of these policies to the National Gender Policy, how strategies consider gender equality, and the capacity of staff to deliver and integrate gender aspects.

An in-depth evaluation of Kiribati's national natural resource policies revealed that Kiribati has a long ways to go in terms of

⁸ Coordinator, community-based fisheries management, Tarawa, Kiribati. tarateitiu@fisheries.gov.ki

integrating gender equality perspectives. To understand what *change* may look like in different contexts, the study applied a spectrum of gender equality progress that distinguishes between different levels of progress measured along extents of participation and inclusivity (Johnson et al. 2018; Theis and Meinzen-Dick 2016). This spectrum identifies levels of change progressing from its most basic form, such as that of achieving “reach” (e.g. involving women and men who were not previously involved), to “benefit” (e.g. access and benefits delivered to women and men who could not derive these before), “empower” (women and men have the ability to make strategic life choices they did not have before), and “transform” (e.g. gender norms are redefined; Fig. 5).

Lessons

National policies currently focus on consultation processes to ensure that all gender groups are involved and benefits are equitably shared. Some policies recognise economic empowerment but actions are currently directed at the individual level rather than community level.

Although the policies are gender aware, clear linkages made to the overarching National Gender Equality Policy remain weak. Given that gender equality is a cross-cutting issue, national reporting on progress should be centralised to understand progression of different sectors on gender equality at the national level. Based on this analysis, four main recommendations are suggested to enhance Kiribati’s

commitments towards gender equality at the national level, particularly in the fisheries sector:

1. Development of clear strategies to integrate gender: to guide implementation and integration of gender equality into programs and activities
2. Build capacity of staff (particularly those with direct engagement with communities) on gender, empowerment and social inclusion principles (Barclay et al. 2021)
3. Invest in women’s economic empowerment and promote spousal support: to support women economically and to ensure that spouses render adequate support to their wives.
4. Strengthen the national taskforce to consider gender integration: enable national collaboration and communication between ministries, civil societies and NGOs on gender equality.

This research highlights that Kiribati is starting to integrate gender equality into national natural resource policies, but more work is needed. A coordinated and collaborative approach between national gender agencies and natural resource management agencies would assist in increasing the knowledge and capacity of staff, as well as ensuring that programmes deliver gender equitable outcomes in the natural resources sector, including the fisheries sector.

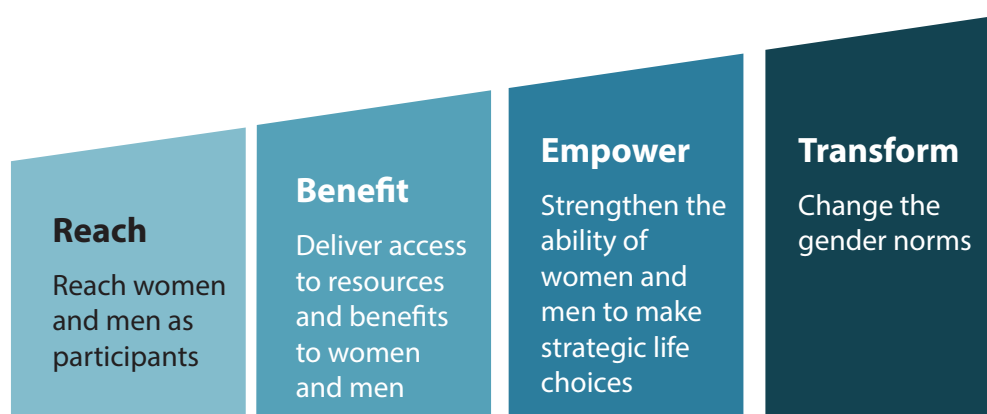


Figure 5. The status of Kiribati on its progression towards gender equality on the Reach – Benefit – Empower – Transform spectrum (Figure adapted from CGIAR Research Program on Fish Agri-Food Systems 2017; Johnson et al. 2018; Kleiber et al. 2019; and Theis and Meinzen-Dick 2016).

Disaster responses in Vanuatu: Local resilience and CBFM

*Pita Neihapi*⁹

In Vanuatu, as in other Pacific Island countries and territories, natural disasters are a part of life (UNDP 2014; see Fig. 6). Vanuatu is expected to incur, on average, USD 48 million in damages per year due to earthquakes and tropical cyclones (PACMAS 2015). Past events, such as Tropical Cyclone Pam in 2015, have shown how an avalanche of external material aid can overwhelm the country's infrastructure, decentralised governance framework, and relief management system (CARE-Vanuatu 2018). In considering how ill-equipped local groups are to deal with such sudden influxes of aid assets, it is unsurprising that such assistance struggles to reach the communities and individuals in most need. These experiences have resulted in recent calls for a more strategic approach to resilience building – one that is appropriately resourced and better integrated into local practices and institutions (UNDRR 2022). Specific attention is being given to the role that coastal fisheries play as a safety net and source of social protection (Pakoa et al. 2019).

Participatory development – supported by well-coordinated and well-resourced national mechanisms – has been widely demonstrated to contribute to community resilience in Vanuatu (Raubani et al. 2017). Such an approach recognises importance of national processes, but also emphasises the need to build on strengths in existing local institutions and practices, rather than transforming them. The community-based fisheries management (CBFM) programme at the Vanuatu Fisheries Department (VFD) is primed to strengthen communities' resilience in the face of disruptions and national emergencies. Its multi-focused approach involves, for example, establishing community-managed areas whereby co-developed CBFM plans allow the application of regulations around size limits and fishing bans on certain resources and destructive fishing methods (Steenbergen et al. 2022).

This research sought to determine what the major challenges and opportunities are in improving the resilience of resource-dependent coastal communities to disasters, and how coastal fisheries relate to this. To do so, the broader structural systems in Vanuatu that deal with disaster response were examined first, followed by an examination of how local fishery management practices and institutions contribute to resilience building.

Disaster management in Vanuatu

A fair amount of work has been done to improve the country's response to shocks, including policy adjustments, instalment of high-frequency radio networks and the establishment of a national Community Disaster Committee (CARE-Vanuatu 2018). The National Disaster Management Office (NDMO) is the focal point mandated by the Disaster Risk Management Act of 2019 to manage and coordinate emergency responses. The act mandates national, provincial, municipal and community stakeholders with implementation roles and is advised by a National Disaster Committee (Vanuatu Government 2019). Intersectoral planning and coordination occurs across areas of national security, agriculture and fisheries, health, economy and justice, through a series of working group clusters that address different needs, depending on the type and impact of a disaster. Over the last few decades, emphasis has been placed on policy development, rather than practical implementation, which is reflective of how the decentralisation system struggles to cope with managing aid initiatives when events occur.



Figure 6. The aftermath of a landslide that destroyed much of Walowemboeh Village on northern Ambae Island. Image: © Pita Neihapi

⁹ Community-based Fisheries Management unit leader, Vanuatu Fisheries Department, Port Vila, Vanuatu. pneihapi@fisheries.gov.vu

This research reveals a disconnect between the national and provincial governments, and the area councils, resulting in unclear operational plans and disruptions in distribution of aid assets. The national system is left vulnerable; in some cases to exploitation and accumulation of assets by a powerful few, and in other cases to paralysis in the distribution of assets when no action is taken nor any deployed assets are used (SPC 2016). The local contexts in which material support is meant to have impact, therefore need mechanisms that can effectively distribute along decentralised delivery channels. A cohesive approach that integrates the national and provincial government, area councils and community networks is imperative in cultivating delivery systems that can deal with intensive spikes of material aid (CARE-Vanuatu 2018).

In addition, strengthening grassroots resilience through, for example, resource management institutions is equally critical. CBFM programmes in Vanuatu have been shown to effectively empower local action towards ensuring food security (e.g. access to fish) and improved livelihoods (e.g. ability to sell fish). These co-management arrangements furthermore catalyse collaboration with provincial and area council government extensions to do so. Provincial fisheries officers play particularly important roles in establishing tabu areas, community fish market outlets, aquaculture ponds and skills training. Communities and their leaders also play a key role in determining the extent to which people rebound from disaster events, and whether external assistance is reaching the area it needs to. Social capital (e.g. peoples' relations and community organisation), economic capital (financial assets), cultural capital (customary practices and structures), and natural capital (coastal fisheries resources) provided safety nets by which different community groups were able to engage in collective activities to overcome impacts from COVID-19 lockdown (Neihapi 2021).

Lessons

Community-based initiatives, whether driven by the government or through traditional institutions, play an important role in disaster risk reduction and resilience. CBFM institutions have proven to be critical in ensuring food security in times of disaster, or when access to food is compromised by crippled infrastructure and/or destroyed household gardens (Steenbergen et al. 2020). The coalescing of customary and fisheries-informed practices in community managed fisheries provide reliable avenues of access to protein, particularly in such times. At the same time, systems of benefit distribution and safety nets in communities emerge as amalgamations of customary practices and newer influences through, for example, government support.

The focus on external post-disaster support is often on material aid, although too often uncoordinated distribution means that aid does not reach those most in need when they need it the most. While this study does not contest that material support remains critical, deeper consideration should be given to what material support is appropriate (i.e. finding the right fit within a particular context, culture and needs). Vanuatu maintains two major assets, and therefore two points of entry for investment. First, the Decentralisation Act (Vanuatu Government 2006) provides a platform to establish effective systems of access and distribution for support to grassroots levels. Second, the engrained Ni-Vanuatu *kastom* institutions and practices hold important capital wherein best practices can be integrated. As a final observation, to ensure that people and places are prepared when disasters do occur, this study emphasises the need to invest in strengthening systems and structures in “down times”, as in the case of VFD's national programme.

Bridging legal pluralism: Maritime boundaries and coastal resource management in Vanuatu

Rolenas Tavue¹⁰

Globally, marine spaces have become increasingly busy places. New economic and political interests across public and private sectors have seen a considerable shift in focus towards utilising marine zones and the supposed bountiful resources they offer (Voyer et al. 2021). In the Pacific these developments are seeing boundaries being drawn (and re-drawn) under emerging marine spatial planning initiatives.

Maritime boundaries play important roles in the management of marine resources. It has been widely demonstrated in the literature that “clear boundaries” are a foundational prerequisite for effective collective action at the local level, to resolve conflict, focus management interventions, and ensure equitable access (Agrawal 2001). However, drawing boundaries often reveals contestations among government agencies, sectors and/or community stakeholders over how and why marine spaces are divided (Bennett et al. 2015).

In Vanuatu, the main maritime boundaries divide waters into three zones aligned with the United Nations Convention on the Law of the Sea (UNCLOS; Fig. 7). These zones are the coastal zone, which extends 12 nm from baselines); the contiguous zone, which extends 24 nm from baselines; and the exclusive economic zone, up to the outer boundary, which extends 200 nm from baselines. At the most devolved level, coastal communities claim customary-based (*kastom*) ownership over marine areas, often extending from the shoreline to a fringing reef or edges of the blue water zone. This is enshrined in Vanuatu’s constitution (Republic of Vanuatu 1980). Details of ownership at the lowest levels, however, are most often defined by local *kastom* arrangements, and remain undocumented and poorly understood by outsiders.

This research project investigated how formal boundaries that result from, for example, conservation or resource management interventions often overlay existing local arrangements, which tend to be far more flexible and subject to negotiation. The legal pluralism (Bavinck 2014) that results means that different governance systems operate over the same space. Here the fluidity of *kastom* governance and the fixed nature of administrative governance meet where community-based fisheries function. In order to understand the challenges and opportunities of this overlay for managing coastal fish stocks, this research sought to determine the importance of clear and defined boundaries (e.g. universally standardised definitions of baselines or basepoints), and then outline some of the negative consequences this holds in relation to other boundary forms (e.g. *kastom* boundaries). The research highlights opportunities that can effectively integrate and connect these overlays.

It is often argued that in order for Vanuatu to continue to derive revenue from its fishery resources, delineating boundaries is vital; not only to resolve maritime boundary disputes, but also to ensure effective governance of fishery resources. Migratory stocks, including sharks, pelagic species and sea mammals, require multi-scale perspectives and connected management across different levels. Monitoring, control and surveillances across offshore and coastal fisheries hinges on effectively defining and designating management agencies over marine spaces, such as by delineation. This allows the government to impose rules and regulations for fisheries management. Such boundaries are delineated based on standardised rules and procedures; for example, provincial waters are measured from the current land basepoints extending seaward for 6 nm (Vanuatu Fisheries Division 2014) to enable provincial fisheries management authorities to oversee management of fishery resources there.



Figure 7. Designated maritime boundary baselines of Vanuatu, as defined under UNCLOS.

¹⁰ Principal Officer, Biodiversity and Conservation, Department of Environmental Protection and Conservation, Port Vila, Vanuatu. rbaerleco@vanuatu.gov.vu

However, formalising ways of spatially planning coastal zones through national rules and procedures stands in contrast to communities' often very fluid customary forms of management. Across Vanuatu, traditional owners have delineated boundaries over many generations, using landmarks such as stones and big trees as boundary markers; often agreed to through verbal agreement and sealed by ceremony.

The findings from this research show that there are significant discrepancies in Vanuatu between how fixed standardised rules for maritime boundaries function versus more dynamic customary rules. While national administrative maritime boundaries zones are guided by science and international convention (e.g. UNCLOS standards), smaller-scale customary rules are based on the social histories of people and place. In turn, appropriate delineation is contingent on, for example, appropriate consultation with indigenous people.

Lessons

Vanuatu's customary structures are constitutionally recognised, and function alongside (and with) central state administrative structures at all levels of governance. Depending on context, either system can take precedence in how and what rules and norms are applied to decision-making or conflict resolution. This also extends to discussions around how maritime spaces are used and how boundaries are drawn across them. This study shows that well-defined and collectively agreed on boundaries are critical to securing sovereign ownership and effectively governing access to resources, particularly at larger national scales. However, it also highlights how rigid boundaries are based on very different parameters to how local *kastom* boundaries are defined, which can lead to contestations and conflict.

The nature of decision-making and collective action in the Melanesian context is based largely around local social histories and people's relations. Finding instruments by which this legal pluralism can be bridged is something Vanuatu fisheries authorities, in seeking to effectively govern coastal fisheries, have pursued under their national CBFM programme. Management tools that are co-developed with communities, such as CBFM plans, form a conduit between customary and science-based management approaches. Ultimately, the research argues how critical it is that delineation of any maritime boundary in the coastal zone must take into account both systems.

References

- Agrawal A. 2001. Common property institutions and sustainable governance of resources. *World Development* 29(10):1649–1672.
- Barclay K., Mangubhai S., Leduc B., Donato-Hunt C., Makhouh N., Kinch J. and Kalsuak J. 2021. Pacific handbook for gender equity and social inclusion in coastal fisheries and aquaculture. Second Edition. Noumea, New Caledonia: Pacific Community.
- Bavinck, M. and J. Gupta J. 2014. Legal pluralism in aquatic regimes: A challenge for governance. *Current Opinion in Environmental Sustainability* 11:78–85.
- Bennett N.J., Govan H. and Satterfield T. 2015. Ocean grabbing. *Marine Policy* 57:61–68.
- CARE-Vanuatu. 2018. Communications, preparedness and accountability for disaster response: Vanuatu scoping report, June 2018. CDAC Network and Ground Truth Solutions Project. https://static1.squarespace.com/static/60996b757eb6521a42f3839d/t/61b946e64e103047d6e53441/163953_2264082/181006_Vanuatu.pdf
- CGIAR. 2017. CGIAR Research Program on Fish Agri-Food Systems (FISH): Gender Strategy 2017. Penang, Malaysia: WorldFish.
- Cohen P.J. and Steenbergen D.J. 2014. Social dimensions of local fisheries co-management in the Coral Triangle. *Environmental Conservation* 42(3):278–288.
- Johnson N., Balagamwala M., Pinkstaff C., Theis S., Meinzen-Dick R. and Quisumbing A. 2018. How do agricultural development projects empower women? Linking strategies with expected outcomes. *Journal of Gender, Agriculture and Food Security* 3(2):1–19.
- Kleiber D., Cohen P., Gomeze C. and McDougall C. 2019. Gender-integrated research for development in Pacific coastal fisheries. CGIAR Research Program on Fish Agri-Food Systems. Program Brief: FISH-2019-02. Penang, Malaysia: CGIAR.
- Kleiber D., Harris L.M. and Vincent A.C.J. 2013. Gender and small-scale fisheries: A case for counting women and beyond. *Fish and Fisheries* 16(4):547–562.
- Lawless S., Cohen P.J., Mangubhai S., Kleiber D. and Morrison T. 2021. Gender equality is diluted in commitments made to small-scale fisheries. *World Development* 140:105348
- MELAD (Ministry of Environment, Lands and Agriculture Development). 2021. Kiribati Integrated Environment Policy and Environment Strategic Plan 2021–2036. Tarawa, Kiribati: MELAD.
- MFMR (Ministry of Fisheries and Marine Resources). 2021. Annual Report for the MFMR. Honiara, Solomon Islands.

- MFMR and WorldFish. 2022. Community-based fisheries management in Solomon Islands, Provincial snapshots. Honiara, Solomon Islands.
- MFMRD (Ministry of Fisheries and Marine Resources Development). 2012. National Fisheries Policy 2013–2025. Tarawa, Kiribati: MFMRD.
- Neihapi P. 2021. Hog Harbour community adaptation to Covid-19: The role of community-based coastal resource management, Masters in Fisheries Policy capstone project, University of Wollongong, Australia.
- PACMAS (Port Vila, Pacific Media Assistance Scheme). 2015. Disaster recovery: The case of Tropical Cyclone Pam in Vanuatu. Port Vila, Pacific PACMAS) https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/Documents/Events/2015/August-PMPC2015/PMPC_Korol_Hawkins.pdf
- Pakoa K., Nagashima S., Amos G., Malverus V., Takayama T., Seko A. and Terashima H. 2019. The role of fisheries resources and community-based coastal resource management activities during a natural disaster – Case study of Vanuatu after Tropical Cyclone Pam. *Traditional Marine Resource Management and Knowledge Information Bulletin* 40:18–32
- Raubani J., Eriksson H., Neihapi P.T., Baereleo R. T., Amos M., Pakoa K., Gereva S., Nimoho G. and Andrew N. 2017. Past experiences and the refinement of Vanuatu's model for supporting community-based fisheries management. *Traditional Marine Resource Management and Knowledge Information Bulletin* 38:3–13.
- Republic of Vanuatu. 1980. Constitution of the Republic of Vanuatu. Port Vila, Republic of Vanuatu.
- Solomon Islands Government. 2015. Solomon Islands National Fisheries Management Act. Honiara, Solomon Islands.
- SPC (Pacific Community). 2016. Tropical cyclone Pam – lessons learned. Workshop report. Suva, Fiji:
- Steenbergen D.J., Neihapi P.T., Koran D., Sami A., Malverus V., Ephraim R. and Andrew N. 2020. COVID-19 restrictions amidst cyclones and volcanoes: A rapid assessment of early impacts on livelihoods and food security in coastal communities in Vanuatu. *Marine Policy* 121:104199.
- Steenbergen D.J., Raubani J., Gereva S. et al. 2022. Tracing innovation pathways behind fisheries co-management in Vanuatu. *Ambio* 51:2359–2375. <https://doi.org/10.1007/s13280-022-01788-y>
- Theis S. and Meinzen-Dick R. 2016. Reach, benefit or empower: Clarifying gender strategies of development projects. Washington DC: International Food Policy and Research Institute. <https://www.ifpri.org/blog/reach-benefit-or-empower-clarifying-gender-strategies-development-projects>.
- UNDP (United Nations Development Programme). 2014. The state of human development in the Pacific: A report on vulnerability and exclusion in a time of rapid change. Eds: Moustafa A. and Abbott D. Suva, Fiji: UNDP Pacific Centre. https://www.undp.org/sites/g/files/zskgke326/files/migration/asia_pacific_rbap/State_Human_Development_Pacific_report.pdf
- UNDRR (United Nation Officer for Disaster Risk Reduction). 2022. Disaster risk reduction in the Republic of Vanuatu: Status report 2022. Bangkok: UNDRR. <https://www.undrr.org/publication/disaster-risk-reduction-republic-vanuatu-status-report-2022>
- Vanuatu Fisheries Department. 2014. Revised tuna fishery management plan: A national policy for the management of Vanuatu tuna fisheries. Vanuatu Fisheries Department, Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity. Port Vila, Vanuatu.
- Vanuatu Government. 2006. Laws of the Republic of Vanuatu Consolidated Edition 2006, Chapter 230 Decentralization. Port Vila, Vanuatu. http://www.paclii.org/vu/legis/consol_act/da181/
- Vanuatu Government. 2019. Disaster Risk Management Act No.23 Of 2019. Port Vila, Republic of Vanuatu.
- Voyer M., Allison E.H., Farmery A., Fabinyi M., Steenbergen D. J., van Putten I., Song A. M., Ogier E., Benzaken D. and Andrew N. 2021. The role of voluntary commitments in realizing the promise of the Blue Economy. *Global Environmental Change* 71:102372.
- WorldFish. 2014. Towards sustainable resource management in Western Province: Capacity, potential theory of change and strategies for implementation of community-based resource management (CBRM+) in Western Province. Eds: Govan H. and Bennett G. WorldFish Report. Penang, Malaysia: WorldFish.