



Insight, part of a Special Feature on [Collaborative Management, Environmental Caretaking, and Sustainable Livelihoods](#)

Gender equity and collaborative care in Madagascar's locally managed marine areas: reflections on the launch of a fisherwomen's network

[Merrill Baker-Médard](#)¹ , [Vatosoa Rakotondrazafy](#)², [Marianne Haritiana Randriamihaja](#)^{3,4} , [Prisca Ratsimbazafy](#)³ and [Ivonne Juarez-Serna](#)⁵

ABSTRACT. Collaborative care refers to the collectively formed reciprocal relationships that emerge between the human and more-than-human world. Such care relations are more robust when individuals from different socioeconomic, gender, and political stratifications participate in decision making. This condition applies to gender equity in ocean conservation and fisheries governance practices. Despite their deep involvement in marine fisheries and their labor in sustainable fisheries management and marine conservation, women are often underrepresented in and overlooked by environmental management institutions. Highlighting the importance of gender to effective marine management underscores the need to reconfigure leadership in marine resource governance, and to reconsider how that leadership is understood. To investigate how gender affects community-based conservation, this paper explores marine management practices in Madagascar. Incorporating conversational method and auto-ethnography, we center the expertise and experience of Malagasy women leaders, who have been deeply involved with the foundation and management of a gender-inclusive community marine resource management network. This is especially relevant to Madagascar, where locally managed marine areas (LMMAs) have expanded dramatically in the last decade. Many of these LMMAs have explicitly focused on reconfiguring power relations between international conservation efforts and local resource user needs and values. Overall, the LMMA approach has improved local involvement in resource management decisions, yet areas of weakness remain. We argue that a more inclusive, and thus more effective, approach to governing marine commons requires a focus on the act of commoning: the process through which reciprocity, accountability, and collaborative care are developed within a community. To achieve whole-community governance, we advocate for allocating more resources toward such commoning practices and toward those who are most marginalized in current marine management. Madagascar's evolving network of fisherwomen leaders provides key insights into how interventions for commoning in marine conservation can advance collaborative care of interdependent human-environment systems.

Key Words: *commoning, community governance, fisheries, gender, LMMA, Madagascar, network*

INTRODUCTION

Community-based conservation has grown exponentially in the past 30 years. Nearly half of forests in developing countries are protected by community conservation regimes (Molnar et al. 2004), and an estimated 50% of marine protected areas (MPAs) globally are managed by communities or co-managed by coastal communities in conjunction with conservation organizations (Ban et al. 2019). Since the 1980s, “bottom-up” or decentralized conservation has been a popular resource management strategy in many developing countries (Adams and Hulme 2001). An ideological break from earlier “top-down” models, community management of common pool resources was premised on the idea that populations living adjacent to and using the commons are the most knowledgeable about and motivated to protect the natural resources upon which they rely (Ostrom 1990, Brosius et al. 2005).

Although many scholars and conservation practitioners have supported the move toward greater community control over natural resource management, communities are diverse entities. Numerous studies have found that within a given community, ethnicity, race, class, age, and gender shape access to and control over natural resources (Agrawal and Gibson 2001, Sundberg 2004, Bennett 2005, Walker and Robinson 2009, Ferse et al. 2010, Di Ciommo and Schiavetti 2012, Mollett and Faria 2013, Baker-Médard 2017). Intra-community hierarchies of access and agency deeply affect who participates in resource management. They also shape the strategies people use to address social and ecological problems and who benefits from management decisions.

In this paper, we describe how an evolving network of fisherwomen leaders in Madagascar is helping to address gender inequities in community-based marine fisheries management by creating a feminist fisheries network, the MIHARI Fisherwomen Leadership Program (FWLP). The authors are an interdisciplinary and multi-generational group of academics, advocates, and practitioners. We are Malagasy community advocates (Vatosoa Rakotondrazafy, Marianne Randriamihaja, Prisca Ratsimbazafy) and non-Malagasy academic researchers (Merrill Baker-Médard, Ivonne Juarez Serna) using Indigenous research methodologies (i.e., conversational method; Kovach 2021), to discuss and assess this network together. With this approach, we join a movement of scholars, activists, and practitioners working to redefine and decolonize academic research and resource management institutions (Lather 2007, Sully 2007, Mollett and Faria 2018, Vaughan 2018, TallBear 2019, Corson et al. 2020, Hernandez-Carranza et al. 2021). Our work reflects our hopes for creating this network as a place where the needs of women fishers can emerge and be attended to with care and support from broader marine fisheries and marine conservation networks.

We argue that regional, national, and international small-scale fisher movements and networks can advance feminist approaches to marine conservation and fisheries management by including the knowledge, values, and interests of women and other groups currently marginalized in conservation decision making. Engaging with and supporting gender-inclusive fisheries networks, especially those tied to broader transnational networks,

¹Middlebury College, ²MIHARI Network, ³MIHARI Network Madagascar, ⁴Maliasili Initiatives, ⁵Environmental Studies Program, Middlebury College

can help shape a more intersectional and justice-oriented approach to managing the marine commons.

This project also requires awareness of the long-term dynamics of feminist movement building. As many feminist scholars have pointed out, these movements may start as a process of bottom-up liberation but are often co-opted by non-governmental organizations (NGOs; a phenomenon called “NGO-ization”) and may ultimately reinforce capitalist and imperial systems (Alvarez 2009, Nagar and Swarr 2012, Mohanty 2013). These scholars attest to the common phenomenon in which NGOs weaken the political, epistemic, and liberatory roots of grassroots feminist movements (Alvarez 2009, Nagar and Swarr 2012, Mohanty 2013). There is strong historical evidence of this phenomenon in Madagascar, given that international conservation NGOs permeate nearly every aspect of natural resource conservation policy and practice (Kull 2004, Pollini and Lassoie 2011, Corson 2016). Even while more place-based and transnational feminist networks set the foundation for new paradigms to emerge, these networks are also subject to problematic structures of capital, power, and inequity (Hodžić, 2014). Our work here is invested in helping to ensure that gender equity is not relegated to a “project” with a clear end date in mind but instead is a movement that resists being hollowed of its core pursuit of sustainability through justice.

Some of the fisheries networks created at the nexus of feminist organizing and marine conservation still hold the potential to create accountability to community needs and interests across differences, respecting the situated experience with which people come to the table to advance collective action and marine conservation. This transformation becomes possible when leadership and organizational structures are deeply and consistently accountable to the fishers most marginalized by the current political-economic and social systems. Programs that recognize marginalized voices and community diversity by attending to intra-community and inter-community power dynamics are an important part of this venture.

The Fisherwomen Leadership Program (FWLP) that we examine arose through a broader marine conservation network in Madagascar: *Mitantana Harena and-Ranomafana avy eny Ifotony* network (MIHARI), a locally managed marine areas (LMMAs) network. LMMAs focus on marine and coastal management through four management mechanisms: (1) permanent and temporary reserves and fishery closures; (2) locally derived regulations, such as gear restrictions; (3) alternative livelihood initiatives such as aquaculture; and (4) mangrove restoration.

To engage with more feminist orientations toward accountability and community diversity in such networks, we engage the term “collaborative care.” Collaborative care signifies the importance of cultivating mutual responsibility and mutual respect within a broader web of human-human as well as human–more-than-human relations. Here, we join Indigenous and feminist scholars in asserting the importance of moving beyond the framework of humans managing ecosystems, which implies the separation of humans and nature as well as a unidirectional power of humans over nature to a framework of mutual care, mutual reliance, and reciprocity (Wichterich 2015, Vaughan 2018, Diver et al. 2019, TallBear 2019).

With this reorientation toward care, we argue for refocusing conservation efforts beyond the commons, or the materiality of common pool resources, to focus on commoning, meaning the process through which reciprocity, accountability, and care are developed within and across human and non-human communities through collective action (Linebaugh 2014, Clement et al. 2019, Vaughan et al. in press). The idea of commoning underscores how we can respond to inequities when access to and control over resources are driven by racialized and gendered economic, social, and political relations among humans (Fortmann 1995, Li 2007, Mollett 2010, Diver et al. 2019).

By focusing on commoning rather than management of material resources (the commons), we believe that communities and marine conservation and fisheries managers will be better able to attend to intra-community stratifications and hierarchies (Raghuram 2021) as well as to the needs of the non-human world. In addition, through our writing collective with feminist scholars and conservation practitioners from multiple geographies, we seek to practice a commoning approach with research that builds greater solidarity, where our interconnections are forged through consent and collaboration rather than through market-driven forces of production and consumption. Thus, we highlight how the practice of commoning can guide movement building, social organizing, and social change at multiple scales toward a more inclusive vision of our collective future.

GENDER AND COMMUNITY-BASED CONSERVATION IN MADAGASCAR

In 2014, member countries of the Food and Agriculture Organization of the United Nations (FAO) created and adopted a suite of voluntary guidelines for “Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication” (SSF Guidelines; FAO 2015). These guidelines were the first international instrument to recognize the importance of the marine resource use rights of women, Indigenous groups, and impoverished communities, and to acknowledge their lack of representation in marine decision making despite their immense contribution to small-scale fisheries worldwide (Alonso-Población and Siar 2018).

In a section titled “Capacity development,” the SSF Guidelines explicitly advocate for the creation of women fishing networks: “Where appropriate and necessary, separate spaces and mechanisms should be provided to enable women to organize autonomously at various levels on issues of particular relevance to them” (FAO 2015). The explicit focus on recognizing women’s rights and including women in fisheries management decisions emerged from decades of women fishers and fish-workers protesting, lobbying, and organizing at a global scale (Alonso-Población and Siar 2018, Pictou 2018). Since the passage of the 2014 SSF Guidelines, buoyed by a rising tide of small-scale fishers lobbying (Smith and Basurto 2019), small-scale fisher networks, and specifically women fisheries networks have gained additional recognition worldwide.

Gender disparities in marine management are particularly salient in Madagascar, which has a long history of community-based conservation in the marine realm (Ratsimbazafy et al. 2019). LMMAs place human-nature reciprocity at the center of conservation efforts (Langley 2006, Rocliffe et al. 2014). Early recognition and promotion of community-based conservation

initiatives in Madagascar started in the early 1990s, specifically around management of mangroves (for example, Ankazomborona in the northeast) and sacred sites (for example, Nosy Ve in the southwest; Landscape Development Interventions [LDI] 2000, Andrianirina 2004). In 1996, in line with the global shift toward increased community participation in environmental decision making, the Malagasy government enacted a novel resource governance structure that involved a three-way contract between the state, the rural commune, and a “local community group” (called the *communauté locale de base*; Republic of Madagascar 1996).

Building on initiatives for decentralized conservation and a global trend of increased funding for marine conservation, Madagascar first developed its LMMA model in 2004 with the help of international conservation organizations, such as Blue Ventures (BV), World Wildlife Fund (WWF), and Wildlife Conservation Society (WCS; Mayol 2013). Following the accelerated pace of LMMA development, the year 2012 marked the formal launch of the MIHARI marine conservation network. Today, MIHARI is the organizing platform for 219 LMMAs covering 17,000 km² of Madagascar’s marine waters. The successes of Madagascar LMMAs over the last decade include an increase of 189% in fish biomass in the five permanent reef reserves of the island as well as positive socioeconomic impacts, which include improved catch stability for coastal fisheries-dependent communities (Oliver et al. 2015, Gardner et al. 2020).

Madagascar’s community-based resource management laws and initiatives parallel a global trend toward decentralized management of the commons. Despite the success of many decentralized commons management strategies, however, what constitutes an understanding of “community” in these efforts is complicated by interlocking power structures that arise from race, gender, and class disparities among community members. Clear wealth-based and gendered biases shape who participates in and who benefits from community-based marine conservation initiatives in Madagascar. For instance, women are seven times less likely than men to participate in any facet of marine resource management, and 17 times less likely than men to be involved in decision making concerning marine resource management (Baker-Médard 2017). Similarly, research has shown that wealth is positively correlated with knowledge of and community participation in conservation initiatives. This means that the poorest members of a community are often left out of decision making and any associated political and economic benefits that accrue to decision makers (Baker-Médard et al. 2021).

The failure of community-based conservation efforts to involve the whole community is not unique to LMMAs or Madagascar. Numerous scholars argue that, rather than simply analyzing the power dynamics between local and extra-local actors, we must examine more deeply the ways that ethnicity, race, class, age, and gender directly influence local access to and control over natural resources (Davis and Nadel-Klein 1992, Leach et al. 1999, Agarwal 2010, Nightingale 2011, Mollett and Faria 2013). As Rocheleau et al. (2006) have asserted, human-environmental processes are often gendered, meaning that women may use different parts of the environment than men (Rocheleau 2008). In addition, women may also have different knowledge of and access to natural resources than men (Fortmann et al. 1997,

Walker 2002, Sultana 2011, Harrison and Watson 2012, Sundberg 2017, Wosu 2019). These considerations motivate our analysis of the role of gender in Madagascar’s LMMAs system.

METHODS: SITUATING OUR WORK

By focusing on the MIHARI FWLP as a gender-inclusive fisherwomen’s network, this paper seeks to place the individual and collective experiences of women leaders in fisheries management at the center of our intellectual inquiry. Through our community-academic partnership, we sought to explore (via participatory, situated, and reflexive research methods) how researchers and resource managers can work across political, institutional, socio-cultural, and ecological boundaries to center place-based knowledge, local rights, and sovereignty. Instead of limiting our study to a narrow assessment of organizational performance, our research probes the community dynamics behind the formation of this network as a reflective and women-led process.

Our work results from extensive collaboration between international scholars and Malagasy leaders who have been deeply involved with the foundation and management of MIHARI over the last decade. Self-representation of community advocates as co-authors in our assessment and writing is a key intervention that helps us break from the strained academic relationship between the researcher and the researched. Key women leaders in the movement self-represent their views through autoethnography, where they assess the work they themselves have done, together with academic research partners. Women leaders are themselves sharing how they have built gender consciousness into an international small-scale fisher network, as a new governance institution operating at scale.

Here, we offer reflexive analysis of our experience with the hopes that similar networks and movements of equity in marine fisheries and conservation can benefit from ongoing learning exchange, especially with other women leaders. This conversational method, as Indigenous scholar Margaret Kovach explains, “involves a dialogic participation that holds a deep purpose of sharing story as a means to assist others” (Kovach 2010). Conversational method, at its foundation, is collaborative, dialogic, reflexive, and purposeful. Part of our purpose in taking this approach is both to help denaturalize male dominance in natural resource management and to work toward decolonizing community-based conservation efforts, so that they are led by and for a broader cross-section of coastal communities.

In this collaborative approach, we focus on the ground-level processes and lived experiences affecting women in LMMA communities. Given our inquiry into gender dynamics of marine management, we selected MIHARI’s FWLP as our case study. MIHARI’s work extends across 10 coastal regions of Madagascar.

Our research partnership and writing collective emerged out of a series of regular discussions between a subset of individuals in our group as well as our whole group over two years, starting in September 2020. These conversations, which were held remotely via Zoom or phone calls, centered on the experiences of MIHARI leaders (VR, MR, and PR), and key themes emerged through a combination of reflexive writing by MIHARI leaders and notes taken by researchers (MBM and IS) of all our written and oral

correspondence. Key questions that inspired us to formalize our conversations in the form of a paper include: Why are there so few women in the MIHARI network? What are the key challenges women face with regard to participation in marine management? What are the benefits and challenges of establishing a leadership program specifically for fisherwomen? Co-authors shared an online document as a place to write impressions and to add and revise content from these conversations.

In addition to autoethnography and conversational method focused on the ideas and experiences of MIHARI leaders, we also conducted semi-structured interviews with women fishers and fish workers,^[1] and with individuals working in conservation organizations at local, regional, and national levels. Co-authors collaboratively created questions for key-informant interviews. We collected data through 19 semi-structured interviews conducted at the first FWLP workshop held in Antananarivo in October 2020. Twenty-eight women ambassadors and five men ambassadors were part of the initial FWLP. These individuals came from the 13 coastal regions of Madagascar and were all members and managers of various LMMAs (in Malagasy *Lamina enti-Mitantana ny Morontsiraka sy Andranomasina*). The interviews ranged in length from 10 to 25 minutes, and included 13 women (nine fishers, four governmental and non-governmental organization representatives) and six men (three fishers, three governmental and non-governmental organization representatives). Offering a wide range of geographical perspectives, our interviewees came from Beloha, Androy, Ambilobe, Mananjary, Boeny, Loharano, Fokontany, and Ankivonjy. All interviews were recorded and transcribed.

Questions in semi-structured interviews investigated informants' background, their motivation for participating in the workshop, and their perspective on fisheries and marine conservation in their respective home places. We also asked about women's involvement in fisheries and marine management, barriers to access that they have experienced, and their hopes for the future. We designed our interviews to cover numerous topics that were of interest both to MIHARI leaders and their organizing priorities, and also relevant to research on gender relations and community-based conservation.

After collecting our interview data from the first FWLP workshop, MBM and VR translated interviews from Malagasy to English. All interviewees were assigned pseudonyms to protect their identity and thereby insulate informants from potential backlash. Using a grounded theory approach, MBM, VR and IJS coded interviews for broad themes as well as case-specific details. We then worked collectively across all authors to evaluate and synthesize our results, discuss key trends that emerged across interviews, create an outline, and ultimately collaboratively write this paper. Our findings thus combine personal observation from our work with MIHARI and the Fisherwomen's Leadership Program with quotations and trend data from our key informants.

RESULTS AND DISCUSSION

The MIHARI network: bridging the gender gap in marine and coastal resources commoning

Women in marine conservation and fisheries management historically have been overlooked by conservation organizations. Although women are frequently considered beneficiaries of

fisheries activities, they are seldom considered core actors. Yet in many regions of Madagascar, well over 50% of fishers are women, and a large proportion of women are involved in aquaculture and mangrove restoration. Beyond harvesting, women across the island are the primary cleaners, processors, and sellers of marine products. Women are also involved in surveillance and patrol of conservation and aquaculture, but are seldom recognized for their efforts. This issue extends well beyond Madagascar (Kleiber et al. 2015, Lynch and Turner 2022).

In the past decade, national organizations have emerged in Madagascar to address women's lack of representation and leadership in marine conservation and resource management; these include Réseau National des Femmes de la Pêche à Madagascar (RENAFEP)^[2]; Marine Ambassadors SEED^[3]; and the FWLP, a program within the broader MIHARI network that is the focus of our case study.

The FWLP origin story: the "power-with" model

In 2018 and 2019, several women fishers within MIHARI approached one of the authors, Rakotondrazafy, to air grievances concerning their lack of involvement in decision-making processes at the local and regional level. Rakotondrazafy, national coordinator of MIHARI at the time, had also noticed the dearth of women participating in local, regional, and national fisher forums. For example, out of 100 fishers representing over 200 community associations across Madagascar at national-level fisher forum meetings, there were only 3 women participants. Rakotondrazafy asked these women about their lack of public engagement during meetings. She had noticed that these women rarely spoke in MIHARI meetings. Instead, they conversed primarily with others during breaks or after the forum. The women responded that the predominance of male figures in the room made them consider their participation and contributions to be unnecessary, reflecting dominant social conception that men's ideas were more valuable than those of women. Rakotondrazafy also noted that, during the forums, women and men occupied noticeably segregated physical spaces: the few women in attendance always sat together even if they had not known each other before the meeting. Responding to a tacit understanding that they were the minority, they bonded together. When Rakotondrazafy asked other women who stayed in the village why they did not attend MIHARI events, they shared that their husbands did not allow them to travel for a prolonged time, because they had to fulfill their domestic responsibilities, such as housework and childcare.

For Rakotondrazafy, these issues reflected the gender disparities that women experience in any socio-political and economic setting in Madagascar, and beyond. When she started working for MIHARI in 2015, Rakotondrazafy was the only woman in a network otherwise made up of men. Even on the personal team that supported her in MIHARI, she did not have any women staff until 2018. Rakotondrazafy's personal experience breaking into this male-dominated space inspired her to design an organizational platform to facilitate greater participation by women in the MIHARI network.

Rakotondrazafy's vision was to create a fisherwomen network to facilitate communication between regional women leaders involved in marine conservation and management. Regional delegates (also called ambassadors) would represent the women

involved in fisheries activities within their respective communities, and the network would facilitate discussion and exchange of ideas across regional ambassadors. The ambassadors' role within the network would be to mentor and empower peers in their communities and collaborate with others across the national network. With this vision in place, Rakotondrazafy and her team started a campaign to secure funds and support from other conservation organizations for the creation of a National Fisherwomen Leadership Program.

As women working within MIHARI, we (MR, VR, and PR) describe our theory of change as being guided by the LMMA principle that sovereignty and community-based conservation and fisheries management depend on the involvement of the whole community. Thus, we built the governance structures of the LMMAs we worked on upon a foundational value of proportional or equal involvement: women need to be active decision makers and participants in LMMA governance and management. All authors agree that as women start to have a platform in conservation and environmental governance, we believe that even more women will start participating in the process and can work in solidarity to voice their concerns and goals, which may or may not be similar to those of fishermen. As women have more influence in decision making, conservation will become more effective because everyone in the community will be equally engaged in formulating the program and thus will be more engaged in implementing conservation strategies.

Developing and launching the FWLP

The first FWLP forum occurred in October 2020, after a slight delay due to COVID-19. The FWLP initiative aimed to empower women to “fully enjoy their rights and to benefit from sustainable development through their participation in community natural resources governance.” One of its specific goals was to significantly increase “the representation and participation of women in governance and management of LMMAs and in the MIHARI network” by 2022.

The network launch resulted from several months of collaborative development with the Minister of Fisheries and non-governmental organizations working in environment, communications, and gender equity issues. At the time, FWLP was led by co-author Randriamihaja, who also researched the implementation of the LMMA criteria and developed a MIHARI-specific reference guide for LMMAs. One LMMA criterion that Randriamihaja identified was that the inclusion and participation of all local people regardless of gender is fundamental for effective local management of marine areas and resources. This is because all genders benefit from marine ecosystems regardless of gender roles, and women generate specific types of value from marine resources, thereby providing crucial support to their communities.

Prior to the network launch, women leaders took these three steps toward developing the Fisherwomen Leadership Program:

1. Assessing gender disparities in MIHARI participation, and defining internal program goals and objectives with the MIHARI team.
2. Defining the principal beneficiaries of the program (i.e., the women in fishers' communities who participated in fishing, commercializing, and managing marine resources) as well

as indirect beneficiaries (i.e., their households and communities).

3. Enlisting key partners (i.e., organizational members of MIHARI, external organizations, and the Ministry of Fisheries) to support the program. This meant drawing on their expertise to collaboratively develop the MIHARI capacity-building plan for the Fisherwomen Ambassadors program.

The initial FWLP forum was dedicated to: (1) building awareness around the ways women contribute to fisheries and marine resource management, (2) forming a network of political and social solidarity for people interested in creating more gender-inclusive spaces in marine conservation and fisheries management, and (3) sharing best practices and strategies to make gender-inclusive marine conservation and fisheries management a reality.

In our semi-structured interviews, numerous women attending the forum reported that the meeting opened their eyes to the similarities in the experiences of fisherwomen across Madagascar. Although they were all active fishers, women were not well informed about or included in opportunities for marine conservation, fisheries management, and fisheries development.

For example, Andoniaina, a young fisher from northwestern Madagascar, shared that the forum is important to her because “Women are not seen as leaders or in charge. Since being here, I realize that marine management that has been done by daring and proactive women for a while now, functions quite well. Now it's well established that women can take charge of marine and coastal management.”^[4] Also attending the forum was Lalaina, a middle-aged fisher woman from northern Madagascar, who commented, “I came here to get more experience and encouragement regarding fishing and fisheries management. Now I am invigorated. I am sharing and learning so much, and I will share what I have learned here with women fishers back home.”

All female attendees underscored the profound impact of knowing that they were not alone with their fishing experience, and of developing a sense of solidarity. Lalaina said, “I'm happy to be here because I've learned that there are a lot of women fishers. I was surprised that it wasn't just us women [from her home] so now I have got to know women fishers from all over Madagascar. So many! And that makes me happy!” Andoniaina made a similar point: “I am very happy that we are all meeting, we are getting to know each other, we are exchanging ideas, we are sharing information and our experiences because that is going to make our work back home easier.”

In this initial FWLP forum, women and men came from nearly every coastal region of the country, and from various ethnic and economic contexts. Some women came from regions where hundreds of women fish throughout the year, whereas women from other regions were among a handful of women fishers in their village and only fished seasonally. Whereas some women were fairly wealthy, others struggled to feed their families. Some participated in a large diversity of income-generating activities and others relied on fishing as their only source of livelihood. Testimonies collected from this diverse pool of participants guided a two-year qualitative study led by FWLP organizers. In our analysis, we offer the most relevant insights we gained from

studying women fishers' lived experiences in regard to inserting greater gender equity and collaborative care into marine conservation governance for Madagascar's LMMAs.

Lessons learned from the FWLP launch:

First roots, then shoots

First, we observed that smaller local and regional networks, such as MIHARI, can help to guide national and transnational networks working toward more intersectional and just management in the spirit of commoning. For example, FWLP, RENAFEP, and the Marine Ambassadors within the Sustainable Environment Education and Development (SEED) network brought key leaders together across Madagascar and also sent delegates to participate in the African Women Fisher Processors and Traders Network (AWFishNet; Ihariliva 2021), which supports women fishers, fish processors, and traders across Africa in advancing local initiatives. Transnational networks such as AWFishNet help local networks of women fishers and fish processors coordinate interests, share best practices, and collectively advocate for their rights and interests at the national level (Atkins et al. 2021). On the economic side, AWFishNet promotes collective marketing and negotiation to receive competitive prices for their products and processing. The broader network connected these organizations with women fishers in FWLP, thereby demonstrating one way in which FWLP goals were scaled up.

Gender consciousness means inclusive management practices

Second, we observed that the introduction of gender awareness to the LMMA criteria helped facilitate the integration of women into the MIHARI network's work plan. One of the authors, Randriamihaja, saw a clear change in women's attitudes toward their role in fisheries and marine conservation following their participation in FWLP. For example, many women who previously felt excluded or subordinated, given the perception of fishing as a male-only activity, started seeing themselves as leaders in their communities. This change in perspective and action was supported by a gender-inclusive narrative advanced by MIHARI.

Although women's needs and interests vary from region to region, and also from person to person, several common threads emerged from our semi-structured interviews as priorities for raising gender consciousness across all regions. One of these threads included the importance of gaining and maintaining access to marine resources. For example, Mialy, a FWLP participant, said that "women need convincing that they have a right to marine resources." Fitiavana from southeastern Madagascar emphasized that, if women have access to marine resources, then families have a better chance to survive changes in the climate. Fitiavana also reported, "The ocean is dynamic, and the climate is changing. If it's bad weather, then a household will struggle to survive. But if a woman works independently [in the ocean] then she might be able to save for the household."

The importance of collaboration also emerged as a common thread for interviewees. Women want to have a say in the way marine spaces are managed and to work together with men. For example, as Andoniaina asserted, "[Women and men] are equals, we have the same rights, so if we deliberate together, strategize together and a problem arises, then finding a solution will be easier." Lalaina voiced a similar sentiment: "We need to work

together. Men and women need to share responsibility to protect [the marine environment] and to make things sustainable." Mireille, an older fisher woman from western Madagascar, said, "We need to create associations, come together, deliberate together, so our communities can thrive." Patricia, a young fisher woman from southwestern Madagascar, agreed with this sentiment and stated, "Back home, where I am from, women are put in their place, they are told that they aren't capable of doing anything. But the way I see it is that men and women must work together and help each other to protect the ocean because it's the basis of our livelihoods; especially for people on the coast there is nothing else but the ocean from which to live." At the end of her interview, Patricia commented that the forum was necessary because "we need to change things; our goal here is to figure out a way to change people's minds, so that men and women will be treated as equals."

By promoting more equitable participation in marine management FWLP and MIHARI learned important lessons about how to meet their goals. Accommodating community needs and encouraging the whole community to participate in marine conservation planning, decision making, and implementation requires multifaceted systems of support. For example, when women delegates attending the MIHARI fisher forums leave their home villages they often bring household members with them, along with the family care responsibilities they are expected to provide. In two of the most recent MIHARI forums, numerous women who managed to attend organized events had to carry their babies and younger children with them. One woman who recently attended a regional fisher forum had to miss an important session in order to breastfeed her baby. Because she was not from the town where the forum was held and there was no place to breastfeed her child in the building, she left the conference venue to feed her child at her hotel, located across town. The logistics committees of regional and national fisher forums were not prepared for such circumstances, which made it very difficult for some women to fully participate in the meetings.

We learned that providing structural and financial support, including support for childcare, is necessary to enable gender-inclusive fisheries management. This may include accommodating participant needs, breaking up long meetings to allow for breastfeeding or other personal care needs, or providing childcare options.

Beyond these changes, there is also a clear need for changes to the culture of leadership and decision making. Exemplifying a backlash to women's leadership, some women of MIHARI have reportedly been isolated by community members because their involvement was perceived as an abandonment of their household. (Co-authors note that, in contrast, it is fully acceptable for men to be absent from the household.) In several male-dominated MIHARI meetings, male participants have stated that women "naturally" cannot hold a leading or active position in the network because of their caretaker roles. This has led some women to shy away from further engaging in their local LMMA associations or in the network.^[5]

The role of men and strategies for resistance and resilience

Third, we observed that although all the women in attendance were grateful to be part of FWLP, many of them recognized that the road ahead was going to be bumpy. We identified several

challenges, including male resistance, both verbal and physical, to increased female leadership. In response to such resistance, we discussed potential strategies for supporting women leaders, including approaches to strategic framing and the inclusion of feminist men as allies in programming.

Within MIHARI leadership, gender equity was not initially a priority. Despite evidence of women participating in fisheries and working to improve the marine environment, there was a widespread assumption among male MIHARI leaders that fishing is primarily a man's job because it relies on physical strength, endurance, and vigor (e.g., paddling a boat out to sea, waking up early in the morning, and staying long hours at sea). When MIHARI leadership asked local committees and NGOs working with small-scale fishers to select people to attend MIHARI events, the chosen delegates were always men. Not until 2018 did the network start to include women leaders in exchange visits or fisher forums. Participation of women leaders in such events marked a watershed moment in the network, which began to focus on gender representation and gendered power relations in its design, programming, and implementation.

MIHARI national and regional leaders, who were mostly male, were asked to help define the profile of a fisherwomen leader and select FWLP participants. Despite initial skepticism, the perspective of numerous male leaders in marine conservation and community-based fisheries management started to change over time. This occurred with the funding and launch of FWLP, when many men saw just how many women were actively contributing to their communities and how important it was to involve the half of the coastal population that had previously been sidelined. The role of men in standing with women in their communities was an important step in FWLP's creation and development. Men in key positions of power showed support for the action plan that fisherwomen ambassadors presented at the launch ceremony, and numerous regional and national LMMA leaders asked for a copy of the FWLP goal document.

Women experienced mixed reactions to their participation in the FWLP forum. For example, one participant, Nadia, reported that the male leaders in her village encouraged her to go to the forum and told her, "It will be good for you women." Nadia said the male leaders "liked the idea of us [women] talking about equity between men and women." However, they also told her that "there remain differences. Men must remain in charge." Natacha, a fisher from western Madagascar, noted that men in her region are "overprotective [of women], and although I'm in the local fisheries management committee, there are women who don't really dare express themselves." Mialy similarly emphasized that both men and women need to adjust, stating that sometimes "Men tell women it's forbidden to go fish in the dangerous ocean, so women don't go. They simply agree to it."

At times, however, resistance to women's leadership and agency can go beyond verbal admonition. For example, Lalaina, from northern Madagascar, said that when women take a stand and make decisions on their own it can be dangerous. She reported that one woman from her village decided to buy furniture with her own money, but when her husband found out that she independently made the decision, "He violently threw and broke apart the furniture. He told her that she needs to wait for him to say 'yes, go buy it' before she purchases anything in the future."

Lalaina's story underscores that making decision in any realm can be a risky venture.

Mika, one of the men from northeastern Madagascar who attended the FWLP forum, acknowledged that "some men are brutal toward fisherwomen. They are unabashed with how they treat fisherwomen." He went on to say that the men attending the forum "came here to stand in solidarity with women to address this issue.... Everyone has a stake, we need to share responsibility, we need to try to be equals."

Backlash to gender-specific programming is common across the globe. Janet Momsen (2001) traces several poignant case studies of women participating in development programs that resulted in violent outcomes against participants. Scholars have provided recommendations for building greater acceptance for gender-based programming and policy that include organizational and framing interventions, securing support from key stakeholders in positions of power, forming strategic partnerships with groups who are most likely to be resistant to the gender-based programming, framing programming in terms of fairness and justice, and developing clear narratives concerning the collective benefits that will likely occur because of more gender-inclusive programming (Flood et al. 2018).

Echoing some of the recommendations scholars have advanced to counter backlash to gender-based programming, FWLP used a common framing strategy that emphasized the utilitarian and ethical benefits of including women's knowledge and perspective into organizational planning. This engagement in strategic framing to advance gender equity programs allowed the FWLP to advance within a space assumed to be primarily by and for men.

Additionally, to counter backlash, FWLP strategically invited supportive men to attend FWLP forums, such as the National Minister of Agriculture, Livestock, and Fisheries (MAEP), who publicly voiced support for the program at the FWLP launch. Similarly, FWLP invited locally recognized male leaders such as Mika (quoted above), as well as village leaders or husbands of fisher women attending FWLP. Some of the men attending FWLP workshops were government officials and key stakeholders in fisheries processing, trade, and resource management at the regional level. The attendance of these men helped to bolster the legitimacy of gender equity initiatives across the fisheries value chain in Madagascar. Their participation provided political protection for women participants because of the respect accorded these men within their respective regions.

Given that women participants are still rare in local, regional, and national fisher forums, they are prone to scrutiny at a disproportionate level than their male counterparts. For example, as with any program that receives funding and provides opportunities for travel and training, FWLP is susceptible to nepotism and favoritism. This concern was expressed by a few male fishers during the program's development in 2020 and at regional fisher forums. In contrast, the selection of male representatives, including men who do not fish or have not fished for long, or who sometimes represent their region or villages at fisher forums though lacking knowledge or vested interest in environmental and fisheries outcomes, is seldom challenged. Although these concerns may be legitimate, the uneven scrutiny

of women leaders suggests underlying sexism in participant attitudes, which may undermine the program in the long term. Thus, one strategy moving forward for the FWLP is to select highly experienced women fishers and changemakers who understand not only the challenges women face in their respective communities but also the challenges they face representing women in a male-dominated space. Representation at the regional and national level by experienced, dedicated fisher women will help pave the way for more women to attend these forums and provide a foundation for women fishers to learn from each other across geographic and cultural differences both within and beyond FWLP.

Rooting marine management in place-based knowledge

Fourth, through our collective work in the FWLP, we observed the importance of women's place-based knowledge. Because harvest techniques and patterns of resource use vary by gender, environmental patterns and processes, as well as the drastic shifts to systems, are experienced in distinct ways by people within the same community (Brosius et al. 2005, Fortmann 2006, Rocheleau et al. 2006, Clement et al. 2019). For example, women's knowledge of the marine environment is shaped both by their work in the ocean, which is primarily on foot and occurs during twice a month low tides, and also by their work in processing and trade. This means that women's experience and knowledge in the marine environment are essential for deepening the overall pool of knowledge available to inform decision making. Because of the variety of roles women play in coastal communities, their awareness of particular social and ecological changes may differ from men's knowledge.

Women's place-based knowledge extends beyond marine harvest and restoration. For example, important insights about environmental and social change emerge from the processing and selling of fish. In Madagascar, women represent the vast majority of fishmongers in the region's small-scale fisheries, and do most of the processing (cleaning, salting, smoking, drying, etc.) of fish. As a result, women are keyed into seasonal fluctuations in harvest, pricing, and demand, and broader market changes that are an essential component of decision making in fisheries management.

Women often provide key logistical support (e.g., organizing, coordinating), household work (e.g., cooking, cleaning, childcare), and environmental labor (e.g., planting) that underpin daily practices of conservation work. For example, women currently play a large role in mangrove conservation efforts around the island. The prevalence of women working to protect, plant, and restore mangroves in Madagascar is due in part to the importance of mangroves for women-dominated fisheries, such as crabs, bivalves, gastropods, and shallow-dwelling fish that reside in mangroves. Women are also heavily involved in mangrove reforestation and monitoring. Monitoring mangroves is often considered less strenuous than other boat-based conservation practices, so mangrove conservation is one of the few places where women are well represented and publicly recognized for their role as community organizers in restoration campaigns, not only through technical rendering (seed preparation, planting, etc.) but also through broader supportive work (cooking for volunteers, taking care of children, etc.). We note that youth conservation initiatives involve girls and young women, but also that as women get older, they are increasingly expected to focus on caretaking as

they start a family. In addition, women in many coastal regions of Madagascar are the main intergenerational educators in their communities. They are responsible for passing on knowledge to children and helping children establish a relationship to their communities' histories, traditions, and natural environments.

In some areas of Madagascar, women emphasize their knowledge of interdependent human-environmental care relationships in marine management. This includes the concerns of some women forum participants, who emphasized the importance of ensuring that fish, octopus, mangroves, shrimp, shells, and other marine organisms can thrive, given women's economic dependence on these organisms. Fitiavana shared that in her region of southeastern Madagascar there are species-specific collaborative care relationships: "We women protect shrimp, fish, and crab. We must ensure that the needs of the shrimp, fish and crab hatchlings are satisfied." In the words of Andoniaina from northwestern Madagascar, "We [women] noticed things changing in the ocean and we met to think about protecting and making things better for all the living things in the ocean... for example women took charge because our mangrove is disappearing, and we are able to help address this and improve things." FWLP attendees broadly expressed their desire to ensure that marine organisms and ecosystems stay alive and thrive. In many cases, this sentiment was tied to a conception of the environment that emphasizes interspecies dependence and reciprocity, thereby highlighting the social-ecological dimensions of situated environmental knowledge in local communities.

Next steps: feminist movements for collaborative care

In September 2022, the FWLP's funding was placed on hold, as most of MIHARI's organizational focus transitioned to formalizing its role as a registered organization. However, it is clear that FWLP developed key partnerships and continues to progress politically. The program is now recognized by the Ministry of Fisheries and Blue Economy (MPEB),^[6] which is the key governmental branch overseeing fisheries management. The MPEB minister has also publicly committed to help advance gender equality in fisheries.

Although the platform for their organizing may change, the next step for FWLP leaders is to continue their movement-building work. Although the lack of funding represents a significant challenge, it is important to note that the FLWP was intended to spur a movement, not a project. The women at the forefront of FLWP continue to work as organizers for gender equity in marine management. Despite the institutional limitations, they are working to increase long-term support for local women's leadership in the field.

Nascent gender-focused fisheries networks in Madagascar support a model of change that advances the act of commoning across geographic distance. These networks build solidarity on the basis of shared experience and a desire to improve environmental outcomes for the good of the whole community. What women leaders and their allies are doing provides an important case by teaching us about the act of commoning. By focusing on the process of inclusion, these networks are reshaping modes of whole-community accountability and care in fisheries and marine resource management. The process of ensuring that marginalized voices are at the decision-making table is helping to reshape the table itself. This reshaping is both structural, such as

the provision of childcare during forums, and discursive, such as orienting community management practices toward marine species and areas of the ocean in which women predominately fish.

Building on the momentum from the launch of the FWLP, where more women are stepping up and more men are sharing space to collaboratively manage LMMAs, a focus on the commoning process is taking shape within the network. For example, MIHARI recently updated its management strategy, asserting that the well-being of LMMA communities and their future generations will emerge from “supporting the networking of LMMA communities...through capacity building, welfare enhancement, advocacy and effective sharing of experience” underpinned by “four values: solidarity, sharing, leadership and collaboration” (MIHARI 2022). On the basis of our (VR, MR, and PR) experience with FWLP and conversations within other MIHARI leaders, a focus on the process of commoning emerged from the integration of a gendered lens to each of MIHARI’s strategies and values.

The future sustainability of marine fisheries in Madagascar, as well as the ability to maintain and grow reciprocal relationships between marine ecological and social systems, requires that people with different experiences and perspectives within a community share ideas. Although we have focused on gender here, this issue is not inherently a gendered one; it also relates to class, race, caste, ability, etc. Through collaborative care and the act of commoning, the whole community advances collective action to better serve its multiple interests and needs for a sustainable future.

CONCLUSION

Because women contribute significantly to marine-based management and production in ways that are both similar and distinct from those of men, women must engage in the governance of marine resources to support a greater proportion of community members and their livelihoods, which are dependent on a healthy marine ecosystem. The Fisherwomen’s Leadership Program has made meaningful contributions to this goal by bringing fisherwomen ambassadors together with fisheries management organizations and marine conservation programs. By doing so, this gender-inclusive network has helped to create new governance structures and institutional changes that ensure women’s voices are more likely to be heard. Inclusion of men as allies in these processes has been essential to facilitating the acceptance and durability of women’s leadership in marine governance. Although resistance to women’s leadership may persist, this shift toward gender equity in marine management is important, not only for women but also for human-nature relations and future generations that benefit from women’s caretaking.

We argue that listening to and involving women fishers’ perspectives in all planning and management decisions should be an ongoing pursuit. All stakeholders should gather to think together about the long-term needs of everyone within a community and to put in place a strategy and program that address those needs.

These new gender-focused initiatives such as FWLP are dedicated to ensuring that women are recognized for their agency, ideas, and leadership in marine conservation and management in their

communities and in organizations, from local to national. As individuals deeply involved in advancing women’s leadership, we (the authors) see how the general public remains unaware of the extent of women’s participation in environmental conservation and management because women do not necessarily advertise or emphasize all the work they do. These gender-focused programs reveal that women continue to do a lot of environmental work that goes unregistered. However, we have found that if one looks carefully, it is evident that women have a voice and vision crucial for guiding our collective future.

Including this voice requires a reframing of both who the decision makers should be regarding the marine environment and how decisions are made, locally, regionally, and nationally. Gender-inclusive programming needs to give careful attention to the social, economic, and political context of the program and create a support system responding to the contextual needs of its participants. A small example of this is a needed shift in the culture of fisher forums away from quiet, childless spaces to spaces that accommodate the multi-faceted household responsibilities of women.

Although MIHARI is largely supported through international philanthropic donations, it centers local leadership. The creation of FWLP demonstrates the potentially productive tension that can emerge in such an organization: largely run by men, MIHARI has adopted a feminist mission because of the work of a dynamic and persuasive group of women within the network. Local women leaders, including several of the authors here (VR and MR), worked in solidarity with each other and like-minded men within MIHARI to make FWLP a reality, but also worked to resist the cooptation of this movement into a time-bounded side project by conservation NGO partners.

The potential for networks like FWLP to support (sea)grassroots efforts advanced by and for women fishers is immense and demonstrates one way the processes and goals of FWLP can be scaled up. Although this research concerns Madagascar, the processes we underscore reflect a broader transnational movement within small-scale fisheries and marine resource conservation to address gender-based inequities at scale through collaborative care networks. By focusing on gender-equitable decision making and conservation action within a given community and across coastal communities within a region, marine conservation and management efforts center local knowledge, cultural needs, and social-ecological relationships, the foundation for collaborative care.

[1] Individuals who process and sell fish instead of or in addition to harvesting fish.

[2] RENAFEP started in Madagascar in the early 2010s and is part of the African Women Fisher Processors and Traders Network (AWFishNet).

[3] Marine Ambassador SEED is the marine branch of Sustainable Environment Education and Development (SEED), a UK non-profit organization working toward community-based natural resource management in southeastern Madagascar, on gender equity in lobster fisheries management (Trouwloot 2020).

[4] Original interview transcripts are available in Appendix 1.

[5] Although governmental and non-governmental organizations

have offered some training related to fisheries commercialization and fishmonger licensing, until recently there has been little support for women fishers. Many coastal villages have women's associations, but they are rarely involved in natural resource governance or consulted to help guide management decisions. For example, one of us (MR) heard from women in a village in northern Madagascar who wished to have their own women's fishing association because they lacked a say about marine conservation and fisheries management in either women's association that was not oriented toward fishing or the male-dominated fishing association.

^[6] FWLP received certificates of recognition from the MPEB Minister in 2021 and 2022.

Acknowledgments:

A special thank you to all the women fishers and fish workers who graciously shared your knowledge and insight with us. We also thank the male allies who stand with these women and also shared their knowledge and perspective with us. Deep gratitude to the MIHARI network leaders, both past and present, who contributed to the development of the Fisherwomen leadership program. A special thanks to Tiana Rahagalala from USAID Hay Tao for her time and the project's funding on the program's success. Thank you, Kanto Rajaonarivony, for all your assistance with interviews and Naunau Belu for double-checking translations, we are indebted to you both. To Sibyl Diver, who went above and beyond providing thoughtful edits and suggestions. And lastly, to three anonymous reviewers whose comments helped strengthen our paper.

Data Availability:

There are no quantitative data or code used in this publication.

LITERATURE CITED

- Adams, W. M., and D. Hulme. 2001. If community conservation is the answer in Africa, what is the question? *Oryx* 35(3):193-200. <https://doi.org/10.1046/j.1365-3008.2001.00183.x>
- Agarwal, B. 2010. Gender and green governance: the political economy of women's presence within and beyond community forestry. Oxford University Press, Oxford, UK.
- Agrawal, A., and C. Gibson, editors. 2001. Communities and the environment: ethnicity, gender, and the state in community-based conservation. Rutgers University Press, New Brunswick, New Jersey, USA.
- Alonso-Población, E., and S. V. Siar. 2018. Women's participation and leadership in fisherfolk organizations and collective action in fisheries: a review of evidence on enablers, drivers and barriers. Fisheries and aquaculture circular C1159:1-48. Food and Agriculture Organization (FAO) of the United Nations, Rome, Italy.
- Alvarez, S. E. 2009. Beyond NGO-ization?: reflections from Latin America. *Development* 52:175-184. <https://doi.org/10.1057/dev.2009.23>
- Andrianirina, J. 2004. La gestion communautaire des ressources côtières et marines dans la zone d'Anakao Nosy Ve Cas de la FIMIMANO. Université de Toliara Institut d'Halieutique et des Sciences Marines, Toliara, Madagascar.
- Atkins, M., C. McDougall, and P. J. Cohen. 2021. COVID-19 impacts on women fish processors and traders in sub-Saharan Africa: insights and recommendations for building forward better. Program report FISH-2021-12. CGIAR Research Program on Fish Agri-Food Systems, Penang, Malaysia.
- Baker-Médard, M. 2017. Gendering marine conservation: the politics of marine protected areas and fisheries access. *Society & Natural Resources* 30(6):723-737. <https://doi.org/10.1080/08941920.2016.1257078>
- Baker-Médard, M., C. Gantt, and E. R. White. 2021. Classed conservation: socio-economic drivers of participation in marine resource management. *Environmental Science & Policy* 124:156-162. <https://doi.org/10.1016/j.envsci.2021.06.007>
- Ban, N. C., G. G. Gurney, N. A. Marshall, C. K. Whitney, M. Mills, S. Gelcich, N. J. Bennett, M. C. Meehan, C. Butler, S. Ban, et al. 2019. Well-being outcomes of marine protected areas. *Nature Sustainability* 2:524-532. <https://doi.org/10.1038/s41893-019-0306-2>
- Bennett, E. 2005. Gender, fisheries and development. *Marine Policy* 29(5):451-459. <https://doi.org/10.1016/j.marpol.2004.07.003>
- Brosius, J. P., A. L. Tsing, and C. Zerner, editors. 2005. Communities and conservation: histories and politics of community-based natural resource management. AltaMira, Walnut Creek, California, USA.
- Clement, F., W. Harcourt, D. Joshi, and C. Sato. 2019. Feminist political ecologies of the commons and commoning. *International Journal of the Commons* 13(1):1-15. <https://doi.org/10.18352/ijc.972>
- Corson, C. A. 2016. Corridors of power: the politics of environmental aid to Madagascar. Yale University Press, New Haven, Connecticut, USA. <https://doi.org/10.12987/yale/9780300212273.001.0001>
- Corson, C., J. Worcester, S. Rogers, and I. Flores-Ganley. 2020. From paper to practice? Assembling a rights-based conservation approach. *Journal of Political Ecology* 27(1):1128-1147. <https://doi.org/10.2458/v27i1.23621>
- Davis, D. L., and J. Nadel-Klein. 1992. Gender, culture, and the sea: contemporary theoretical approaches. *Society & Natural Resources* 5(2):135-147. <https://doi.org/10.1080/08941929209380782>
- Di Ciommo, R. C., and A. Schiavetti. 2012. Women participation in the management of a Marine Protected Area in Brazil. *Ocean & Coastal Management* 62:15-23. <https://doi.org/10.1016/j.ocecoaman.2012.02.010>
- Diver, S., M. B. Vaughan, M. Baker-Médard, and H. Lukacs. 2019. Recognizing "reciprocal relations" to restore community access to land and water. *International Journal of the Commons* 13(1):400-429. <https://doi.org/10.18352/ijc.881>
- FAO (Food and Agriculture Organization of the United Nations). 2015. Voluntary guidelines for securing sustainable small-scale

- fisheries in the context of food security and poverty eradication. Food and Agriculture Organization of the United Nations, Rome, Italy.
- Ferse, S. C., M. M. Costa, K. S. Máñez, D. S. Adhuri, and M. Glaser. 2010. Allies, not aliens: increasing the role of local communities in marine protected area implementation. *Environmental Conservation* 37(1):23-34. <https://doi.org/10.1017/S0376892910000172>
- Flood, M., M. Dragiewicz, and B. Pease. 2018. Resistance and backlash to gender equality: an evidence review. QUT Crime and Justice Research Centre, Australia.
- Fortmann, L. 1995. Talking claims: discursive strategies in contesting property. *World Development* 23(6):1053-1063. [https://doi.org/10.1016/0305-750X\(95\)00024-7](https://doi.org/10.1016/0305-750X(95)00024-7)
- Fortmann, L. 2006. In theory and in practice: women creating better accounts of the world. In J. S. Jaquette and G. Summerfield, editors. *Women and gender equity in development theory and practice: institutions, resources, and mobilization*. Duke University Press, Durham, North Carolina, USA. <https://doi.org/10.1515/9780822387756>
- Fortmann, L., C. Antinori, and N. Nabane. 1997. Fruits of their labor: gender, property rights, and tree planting in two Zimbabwe villages. *Rural Sociology* 62:295-314. <https://doi.org/10.1111/j.1549-0831.1997.tb00653.x>
- Gardner, C. J., G. Cripps, L. P. Day, K. Dewar, C. Gough, S. Peabody, G. Tahindraza, and A. Harris. 2020. A decade and a half of learning from Madagascar's first locally managed marine area. *Conservation Science and Practice* 2(12):e298. <https://doi.org/10.1111/csp2.298>
- Harrison, E. A., and E. E. Watson. 2012. Mind the gap: disciplinary dissonance, gender, and the environment. *Society & Natural Resources* 25(9):933-944. <https://doi.org/10.1080/08941920.2011.633597>
- Hernandez-Carranza, G., M. Carranza, and E. Grigg. 2021. Using auto-ethnography to bring visibility to coloniality. *Qualitative Social Work* 20(6):1517-1535. <https://doi.org/10.1177/14733250211039514>
- Hodžic, S. 2014. Feminist bastards: toward a posthumanist critique of NGOization. Pages 221-247 in V. Bernal and I. Grewal, editors. *Theorizing NGOs: states, feminisms, and neoliberalism*. Duke University Press, Durham, North Carolina, USA. <https://doi.org/10.2307/j.ctv11688xv.15>
- Ihariliva, M. 2021. Droits de la femme- Entre débrouillardise, dépendance et aspirations. 18 March. *L'Express de Madagascar*, Antananarivo, Madagascar.
- Kleiber, D., L. M. Harris, and A. C. J. Vincent. 2015. Gender and small-scale fisheries: a case for counting women and beyond. *Fish and Fisheries* 16(4):547-562. <https://doi.org/10.1111/faf.12075>
- Kovach, M. 2010. Conversation method in Indigenous research. *First Peoples Child & Family Review* 5(1):40-48. <https://doi.org/10.7202/1069060ar>
- Kovach, M. 2021. *Indigenous methodologies: characteristics, conversations, and contexts*. Second edition. University of Toronto Press, Toronto, Ontario, Canada.
- Kull, C. 2004. *Isle of fire: the political ecology of landscape burning in Madagascar*. University of Chicago Press, Chicago, Illinois, USA.
- Landscape Development Interventions (LDI). 2000. LDI annual report. USAID Madagascar, Chemonics International and Cornell International Institute for Food, Agriculture and Development, Antananarivo, Madagascar.
- Langley, J. M. 2006. *Vezo knowledge: traditional ecological knowledge in Andavadoaka, southwest Madagascar*. Blue Ventures Conservation, London, UK.
- Lather, P. 2007. *Getting lost: feminist efforts toward a double(d) science*. State University of New York Press, Albany, New York, USA.
- Leach, M., R. Mearns, and I. Scoones. 1999. Environmental entitlements: dynamics and institutions in community-based natural resource management. *World Development* 27(2):225-247. [https://doi.org/10.1016/S0305-750X\(98\)00141-7](https://doi.org/10.1016/S0305-750X(98)00141-7)
- Li, T. M. 2007. *The will to improve: governmentality, development, and the practice of politics*. Duke University Press, Durham, North Carolina, USA.
- Linebaugh, P. 2014. *Stop, thief!: the commons, enclosures, and resistance*. PM Press, Oakland, California, USA.
- Lynch, M., and S. Turner. 2022. Rocking the boat: intersectional resistance to marine conservation policies in Wakatobi National Park, Indonesia. *Gender, Place & Culture* 29(10):1376-1398. <https://doi.org/10.1080/0966369X.2021.1971630>
- Mayol, T. L. 2013. Madagascar's nascent locally managed marine area network. *Madagascar Conservation & Development* 8(2):91-95. <https://doi.org/10.4314/mcd.v8i2.8>
- MIHARI (Mitantana Harena and Ranomasina avy eny Ifotony). 2022. Strategy 2022-2026. MIHARI, Antananarivo, Madagascar.
- Mohanty, C. T. 2013. Transnational feminist crossings: on neoliberalism and radical critique. *Signs: Journal of Women in Culture and Society* 38(4):967-991. <https://doi.org/10.1086/669576>
- Mollett, S. 2010. Está listo (are you ready)? Gender, race and land registration in the Río Plátano Biosphere Reserve. *Gender, Place & Culture* 17(3):357-375. <https://doi.org/10.1080/09663691003737629>
- Mollett, S., and C. Faria. 2013. Messing with gender in feminist political ecology. *Geoforum* 45:116-125. <https://doi.org/10.1016/j.geoforum.2012.10.009>
- Mollett, S., and C. Faria. 2018. The spatialities of intersectional thinking: fashioning feminist geographic futures. *Gender, Place & Culture* 25(4):565-577. <https://doi.org/10.1080/0966369X.2018.1454404>
- Molnar, A., S. J. Scherr, and A. Khare. 2004. *Who conserves the world's forests? Community-driven strategies to protect forests and respect rights*. Forest Trends and Ecoagriculture Partners, Washington, D.C., USA.
- Momsen, J. H. 2001. Backlash: or how to snatch failure from the jaws of success in gender and development. *Progress in Development Studies* 1(1):51-56. <https://doi.org/10.1177/14649340100100105>

- Nagar, R., and A. L. Swarr. 2012. Introduction. In A. L. Swarr and R. Nagar, editors. *Critical transnational feminist praxis*. State University of New York Press, Albany, New York, USA.
- Nightingale, A. J. 2011. Bounding difference: intersectionality and the material production of gender, caste, class and environment in Nepal. *Geoforum* 42(2):153-162. <https://doi.org/10.1016/j.geoforum.2010.03.004>
- Oliver, T. A., K. L. L. Oleson, H. Ratsimbazafy, D. Raberinary, S. Benbow, and A. Harris. 2015. Positive catch & economic benefits of periodic octopus fishery closures: do effective, narrowly targeted actions 'catalyze' broader management? *PLoS ONE* 10(6):e0129075. <https://doi.org/10.1371/journal.pone.0129075>
- Ostrom, E. 1990. *Governing the commons: the evolution of institutions for collective action*. Cambridge University Press, New York, New York, USA. <https://doi.org/10.1017/CBO9780511807763>
- Pictou, S. 2018. The origins and politics, campaigns and demands by the international fisher peoples' movement: an Indigenous perspective. *Third World Quarterly* 39(7):1411-1420. <https://doi.org/10.1080/01436597.2017.1368384>
- Pollini, J., and J. P. Lassoie. 2011. Trapping farmer communities within global environmental regimes: the case of the GELOSE legislation in Madagascar. *Society & Natural Resources* 24(8):814-830. <https://doi.org/10.1080/08941921003782218>
- Raghuram, P. 2021. Race and feminist care ethics: intersectionality as method. Pages 66-92 in H. Mahmoudi, A. Brysk, and K. Seaman, editors. *The changing ethos of human rights*. Edward Elgar Publishing, Cheltenham, UK. <https://doi.org/10.4337/9781839108433.00009>
- Ratsimbazafy, H., T. Lavitra, M. Kochzius, and J. Hugé. 2019. Emergence and diversity of marine protected areas in Madagascar. *Marine Policy* 105:91-108. <https://doi.org/10.1016/j.marpol.2019.03.008>
- Republic of Madagascar. 1996. *Loi relative à la gestion locale des ressources naturelles renouvelables*. Loi n° 96-025 du 30 septembre 1996. La Haute Cour Constitutionnelle, Antananarivo, Madagascar.
- Rocheleau, D. E. 2008. Political ecology in the key of policy: from chains of explanation to webs of relation. *Geoforum* 39(2):716-727. <https://doi.org/10.1016/j.geoforum.2007.02.005>
- Rocheleau, D., B. Thomas-Slayter, and E. Wangari. 2006. Gender and the environment: a feminist political ecology perspective. Pages 27-33 in N. Haenn and R. Wilk, editors. *The environment in anthropology: a reader in ecology, culture, and sustainable living*. New York University Press, New York, New York, USA. <https://doi.org/10.18574/nyu/9781479862689.003.0008>
- Rocliffe, S., S. Peabody, M. Samoilys, and J. P. Hawkins. 2014. Towards a network of locally managed marine areas (LMMAs) in the Western Indian Ocean. *PLoS ONE* 9(7):e103000. <https://doi.org/10.1371/journal.pone.0103000>
- Smith, H., and X. Basurto. 2019. Defining small-scale fisheries and examining the role of science in shaping perceptions of who and what counts: a systematic review. *Frontiers in Marine Science* 6. <https://doi.org/10.3389/fmars.2019.00236>
- Sully, D., editor. 2007. *Decolonizing conservation: caring for Maori meeting houses outside New Zealand*. Left Coast Press, Walnut Creek, California, USA. <https://doi.org/10.4324/9781315430614>
- Sultana, F. 2011. Suffering for water, suffering from water: emotional geographies of resource access, control and conflict. *Geoforum* 42(2):163-172. <https://doi.org/10.1016/j.geoforum.2010.12.002>
- Sundberg, J. 2004. Identities in the making: conservation, gender and race in the Maya Biosphere Reserve, Guatemala. *Gender, Place & Culture* 11(1):43-66. <https://doi.org/10.1080/0966369042000188549>
- Sundberg, J. 2017. Feminist political ecology. Pages 1-12 in D. Richardson, N. Castree, M. F. Goodchild, A. Kobayashi, W. Liu, and R. A. Marston, editors. *International encyclopedia of geography: people, the earth, environment and technology*. Wiley-Blackwell & Association of American Geographers. <https://doi.org/10.1002/9781118786352.wbieg0804>
- TallBear, K. 2019. Caretaking relations, not American dreaming. *Kalfou* 6(1):24-41. <https://doi.org/10.15367/kf.v6i1.228>
- Trouwloon, D. 2020. Promoting gender equity in southeast Madagascar's lobster fishery through female marine ambassadors. *SEED Madagascar*. <https://madagascar.co.uk/blog/2020/04/promoting-gender-equity-southeast-madagascars-lobster-fishery-through-female-marine-ambassadors>
- Vaughan, M. B. 2018. *Kaiaulu: gathering tides*. Oregon State University Press, Corvallis, Oregon, USA.
- Walker, B. L. E. 2002. Engendering Ghana's seascape: Fanti fishtraders and marine property in colonial history. *Society & Natural Resources* 15(5):389-407. <https://doi.org/10.1080/08941920252866765>
- Walker, B. L. E., and M. A. Robinson. 2009. Economic development, marine protected areas and gendered access to fishing resources in a Polynesian lagoon. *Gender, Place & Culture* 16(4):467-484. <https://doi.org/10.1080/09663690903003983>
- Wichterich, C. 2015. Contesting green growth, connecting care, commons and enough. Pages 67-100 in W. Harcourt and I. L. Nelson, editors. *Practising feminist political ecologies: moving beyond the 'green economy.'* Zed Books, London, UK. <https://doi.org/10.5040/9781350221970.ch-002>
- Wosu, A. 2019. Access and institutions in a small-scale octopus fishery: a gendered perspective. *Marine Policy* 108:103649. <https://doi.org/10.1016/j.marpol.2019.103649>

Appendix I. Original Interview Transcripts

In order of appearance in the manuscript

(Andoniaina, quote 1) Vehivavy lasa tsy rambina be zegny amin'ny andraikitra zay atao. Ka raha ohatra hoe ny loha hevitra hoe mahakasika ny vehivavy mba hipetrahany tsara amin'ilay mira lenta zegny, anisan'ny manana fahavonosana fihatrefana ity atelier ity zengy zaho. Manomboka eto zegny tsapako tsara fa hoe hirindra tsara zegny ny fitantanana izay nananan'ny vehivavy fahasahiana sy fahavonosana hatrizay. Satria mipetraka tsara fa afaka mandray andraikitra amin'ny fitantanana valan-javaboary an'dranomasina sy amorontsiraka zengy ny vehivavy.

(Lalaina, quote 1) Zaho niavy aty ka te hampitombo bebe kokoa ilay traikefa ndraiky risi-po anganako amin'ny fanjonona sy fitantanana. Zaho manana risi-po. Aty zaho manampy fahalalako sady mba mahazo falalanana koa, rasaiko amin'ny manangy namako jiaby any.

(Lalaina, quote 2) Misy managy majono manerana Madagasikara, misy manangy maro be, de ravoravo be zaho. Kay zo io, tsy zahay fo managy manjono, mba misy namako vehivavhy manjono manera Madagasikara.

(Andoniaina, quote 2) Faly be zaho satria mpanjono rehetra zegny mitroto, mifankafantatra, fampizara traikefa, fampizara vaovao satria izay zany manamaivana ny fitantanana zay atao angy zegny.

(Mialy, quote 1) Tsy maintsy mandresy lahatra, fa hanana zo hisehatra ny harena andranomasina amin'izay ny vehivavy.

(Fitiavana, quote 1) Ny ranomasina mety miovaova, toetra-anro. Ohatra hoe ratsy ny andro de lasa misy problem anaty ny tokantrano. Ka raha mba miasa manokana viavy ity zany de metsy saufen vadiny anatin'ny tokatran'ao.

(Andoniaina, quote 3) Mira lenta, mba ho mira zo. Mba ho iray hevitra, iray tetika, de raha ohatra hoe misy raha tsy mety, de maivana zegny famahana olana.

(Lalaina, quote 3) Tokotry miara miasa. Haiko amizao fa mitovy amin'ny lahy zahay, afaka magano raha ataon'ny lahy. Tokotro samy mandray anjara lahy sy vavy hiaro izy io, mba hampaharitra izy.

(Nathalie, quote 1) Tokony manao hoe andao itsika hikambana, hiray, hitovy hevitra fa zay koa ro hampandroso ny tanana itsika ity.

(Patricia, quote 1) Manahaka ty aminay any le hoe, ampela aloha hoe apetraky, ampela tsy mahavita ninoninona. De zay raha zay, nefa hoe ty fahitako azy zany hoe le fiarahan'ity lehilahy no ty ampela zany miara mientana, andaho itika fanome tanana ho fiarovan'ity ranomasina itoy, satria itoy raha fiveloman-tika. Tsisy raha hafa ivelomana fa ranomasina, surtout ndaty amorontsiraka any. Tokony hahatsapa tena hoe fa ndao manome tanana hiarovana ity raha ity.

(Patricia, quote 2) Tena fomba ay hoe le ampela tsy maintsy ambany ty lehilahy avao. Tsy misy zany le fitovizana. Mila fihovana io. Tanjona etoa, manakory ty hanovana ity toe-tsaina anananay izay, de mba tokony hitovy ity lehilahy no ity ampela. Amy jono manana izay problem izay izahay. Lehilahy avao tia migerer retrarehetra fa ny ampela zany hoe tsy manana droit manao ny raha iaby.

(Fitiavana, quote 2) Na crevette, na trondro, na crabe izahay [vehivavy] no tahiry nazy. Le raha ny tokony atao zany miarana zanaka raha igny.

(Andoniaina, quote 4) Fa hita hoe fa misy zavatra miova tamin'ny ranomasina de nijoro zahay mba niezaka mba nanana heritretriry mba hitanana, hiaro, hanastara le volazavaboary an'dranomasina satria io efa velompo hatramizay.”(Andoniaina 1:00)“Manome hoatra, vehivavy afaka mandray andraikitra satria simba ny famboliana honko, afaka manatsara honko rengy, fanatsaranga rengy. Vehivavy afaka mandrara olo manao raha tsy mety andranomasina rengy, fandraisananjara rengy.

(Nadia, quote 1) Raha soa zao fa anareo vehivavy, tiany izany laha miresaka hoe lehilahy sy vehivavy fa mitovy, nefa tsy misy avao ny fitovizana, tsy maintsy ambony any avao ny lehihlahy.

(Natacha, quote 1) Misy lehilahy aminay miaro. Zaho baka anatin'ny VOL. Misy koa manangy zany, tsy de mahasaky mistanga.

(Mialy, quote 2) Lehilahy miteny fady vehivavy mandeha any de mahery ko ny ranomasina de tsy mandeha any vehivavy. De tonga de manaiky izahay. Ekenan-zareo fotsiny. Tsy maintsy mandresy lahatra, fa hanana zo hisehatra ny harena andranomasina amin'izay ny vehivavy.

(Lalaina, quote 4) Misy viavy taminay tany nivanga entana antrano, tonga de izy iraky nanapakevitra zaho mivanga kibaro ndriaky seza. Neloka lehilahy de nanary sy nirobata par morceau, vita. Satria tokony miaby izy miteny 'ia vangà' zay vo tokony hivanga.

(Mika, quote 1) Misy lehilahy mahery setra, tsy mataho toly lehilahy sasany zany amin'ny vehivavy mpanjono. Mitsangana miarakamin'zare zengy izahay hamaha zegny olana zegny...Samby manana anjara tandrify azy, tokony zaraina anjara. Ezahana mitovy lenta lahy sy vavy.