THE COST OF ADAPTATION: A COMPARATIVE STUDY OF MARINE PROTECTED AREA PLANNING AND SMALL SCALE COASTAL COMMUNITIES IN EASTERN INDONESIA

by Florence Durney

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and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

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Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

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Acknowledgements

I first came to graduate school in 2011 to study common pool resources. I thought first to work in the Caribbean, and then, with the invitation of Steve Lansing, I came to Indonesia. I guess not much has changed over the years. I think there is something in common-pool resource (CPR) theorization that allows scholars to explore some fundamental truths about being human; a dangerous statement for an anthropologist in a postmodern world. Many conceptual lenses can, and should, be placed over CPR issues, and each of those are attached to trailing filaments that lead back to larger and larger sets of theories. Examining rights to resources, for example, has led me to theories of traditional versus state versus private claim-making processes, to theories about indigeneity, tribalism, and traditional peoples, to theories of governance, to colonialism and post-colonialism. These overlapping claims led to commodity chain analysis, which led to world systems theories and neo-Marxist work on social and economic systems that emphasize both history and scale. Trying to learn about these systems has required open and collaborative engagement with ecological and biological analyses, but it has also caused me to think about traditional and local ecological knowledge, alternative cosmologies, and the ways in which all of these systems come together to influence and prioritize different ways of knowing the resources in question. Thinking through CPR required me to give attention to both micropolitics and macroeconomic trends. CPR issues ultimately make us all think about ways of being in the world, at the intimate level of consumption and livelihood-making, and about power: specifically who has the power to build, maintain, manage, denounce, and forbid access.

My exploration of each of these issues has been guided by an incredible, spirited group of scholars. My undergraduate advisor Paige West is the reason I am an anthropologist at all. A student of both Pete Brosius and Neil Smith, she handed me readings from Rosa Luxemburg to Roy Rappaport to Baurdrillard. My mind was blown and I haven't looked back since. With her help and mentorship I came to the University of Arizona to work with Tom McGuire and Tom Sheridan, who sits on my committee to this very day. I am Tom's last student at the University of Arizona and I am forever grateful that he has held out for me. Tom taught me about the importance of the *longue durée* to environmental social science, and kept me grounded in empirical research through his course on conservation and community. We also share a love of the outdoors, of hunting and fishing, and of the American West that I share with very few other people in the academy, and that I treasure. Steve Lansing brought me into a beautiful, challenging love affair with Indonesia for which I will always be indebted, and introduced me to new ways of thinking of complex socio-ecological systems. Without Larry Fisher, through his wealth of experience in Indonesia and in environmental policy making, my research in Indonesia would never have been possible, and he has helped me to continue to bridge the fields of environmental anthropology and policy. Finally, my chair, Marcela Vásquez-León, has nurtured my continued commitment to stay with the trouble, to commit to research that is challenging and difficult, and to persevere when there are no easy answers. Thank you all.

For all the excellent advising and preparation, my dissertation research would not have been possible without the astonishing generosity of a series of collaborators in Indonesia. The late Ricky Gimin, Dean of the Faculty of Fisheries at UNDANA, was

critical in securing my research permits and finding me a place to live at my first field site. Ubas Tapoona helped me with my initial interviews in the village of Lamalera, and Yanto Maro was instrumental in helping me survey and pinpoint research locations in Alor. At each field site I lived with local families, and my heart and mind will forever remain with the Bataona clan, the Maro family, and the Walimgoma family.

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Dedication

This dissertation is dedicated to the memory of B. Blikololong. B. was an incredibly generous collaborator and research participant at my first field site, Lamalera. He was the youngest, and probably the last, traditionally trained marine hunter in eastern Indonesia. He was a clan boat maker, a dedicated son, and a father of two. He was also my friend.

‘Mat Jalan Belle

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Abstract

The 21st century has been characterized by unprecedented anthropogenic marine environmental change, and by an increasing understanding that such change will only accelerate in future. The movement of concern from academic to political and public discourse and practice has changed both the context and matrix of stakeholders from researchers, government officials, and marine resource managers, to include NGOs, citizens, and activist groups. Indonesia represents an acute challenge in relation to future marine resource management. An archipelagic nation of 17,500 islands, it is the fourth most populous nation in the world, and hugely dependent on marine resources for subsistence and livelihood. Sitting at the center of the Coral Triangle, it also hosts the highest levels of marine biodiversity yet recorded. Balancing the rights of Indonesia's dependent coastal populations with the mandate to protect its increasingly stressed marine environment is an unending and complex governance issue. This dissertation examines how this balance is being struck in relation to one tool of marine resource management: marine protected areas (MPAs). Through an ethnographic comparison of two neighboring MPA projects in Nusa Tenggara Timor (NTT) province in Indonesia, I document how the planning and implementation of protected areas is impacting small-scale and traditional coastal communities in a context of social and economic change. In doing so this dissertation forwards multiple research agendas. First, it documents the rich cultural practices surrounding marine resource use in NTT, a comparatively undeveloped region that remains closely tied to marine ecosystems. Second, it contributes to the analysis of how external ways of seeing and managing the marine environment impact traditional resource users. Drawing on theorizations of discourse and gaze, it pays

particular attention to the narratives and imagery that managers, conservation actors, and local peoples use in their struggles over access to and control of resources. Lastly, this dissertation seeks to contribute to better MPA policy-making in Indonesia, and globally, by documenting challenges and re-examining current best practices of MPA management in a region of intensive MPA implementation.

Introduction

The 21st century has been characterized by unprecedented, often catastrophic, anthropogenic marine environmental change, and by an understanding that such change will only accelerate in future. Statistics on crashing fish stocks in relation to exponential increases in industrial fishing, marine plastics pollution, and bleaching coral reefs have become a familiar, if alarming, refrain for audiences far beyond the academic. At the same time, interest in and enjoyment of marine environments through media and tourism has seen a steep increase, especially among the global elite. The coral reef tourism sector now has an estimated annual value of $36 billion USD (MCW 2019). The movement of interest and concern from academic to political and public discourse and practice over the years has changed the context and matrix of stakeholders from researchers, government officials, and marine resource managers, to include NGOs, citizen scientists, and environmental activist groups.

Southeast Asia represents a region of acute challenge in relation to marine resource management: Its peoples are some of the most dependent on marine resources for subsistence globally, but it also hosts some of the world's most valued marine conservation targets (Pomeroy et al. 2007). Indonesia is an exemplary case. An archipelagic nation of 17,500 islands, it is the fourth most populous country in the world, and the majority of that population depends in some way on coastal and marine resources for their subsistence or livelihoods. Indonesia is now the world's second largest producer of fish, second only to China, and more than 50% of that production comes from coastal waters (CEA 2018). The permutation of cultural and economic ties to coastal and marine resources across Indonesia is astoundingly rich. Its citizens speak over 700 languages and

innumerable dialects. The country is home to six major religions,[1] which in turn combine with local and traditional belief systems to create countless unique cultural contexts.

Sitting at the core of what is often called the Coral Triangle, Indonesia also hosts the highest levels of marine biodiversity yet documented (Hoeksema 2007). Its waters contain 18% of the world's coral reef systems and 21% of the planet's remaining mangrove forests (Spalding et al. 2010). Balancing the rights and needs of Indonesia's highly dependent coastal populations with the mandate to protect its increasingly stressed marine environment is an unending and complex governance challenge. It is this challenge that has motivated my graduate career and this dissertation.

This dissertation examines how recent marine resource management and conservation efforts are intersecting with and impacting local and traditional communities in eastern Indonesia, an area that has until recently remained relatively undeveloped,[2] and that remains intimately tied to coastal and marine ecosystems. My research is framed around one of the main mechanisms that Indonesia has come to use to manage its coastal waters and marine resources in the past two decades: marine protected areas (MPAs). Through a comparison of marine protected area projects in neighboring districts of Nusa Tenggara Timor (NTT) province, this dissertation examines how the planning of MPAs is unfolding in local communities in a context of social, economic, and policy change. The first is the *Selat Pantar* MPA, centered in the Pantar Strait in Alor district, where I worked in two different villages, Pura and Kokar, at strategic locations in the MPA. The

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[1] According to statistics published in 2010 by the National Census Bureau, these include, by prevalence: Islam (87.2%), Protestant Christianity (7%), Catholic Christianity (2.9%), Hinduism (1.7%), Buddhism (0.7%), Confucianism (0.05%), Other religions/No answer (0.45%).

[2] I use this term consciously and cautiously, hugely aware of the body of critique spearheaded by Escobar (1995) but continuing through a generation of post-colonial and development-critical anthropology, geography, and political science.

second is the community of Lamalera on the neighboring island of Lembata (see Figure 1).

These two sites were chosen because while both are located in NTT, they have had very different experiences with protected area planning. The Selat Pantar MPA was originally established by the District Head of Alor in 2006 and was officially registered by the national government in 2015, with a significantly expanded footprint. In contrast, planning for a proposed MPA off the coast of Lamalera began in 2009 but has never garnered community support within Lamalera, and thus its adjacent coastal waters and (as an indirect result) the island more generally remain under more local and traditional management. The Selat Pantar MPA specifically mandates the protection of coral, shark, ray, and cetacean species for both conservation and tourism (MMAF 2015). In contrast, the community of Lamalera has become (in)famous as Indonesia's last traditional marine hunting community.

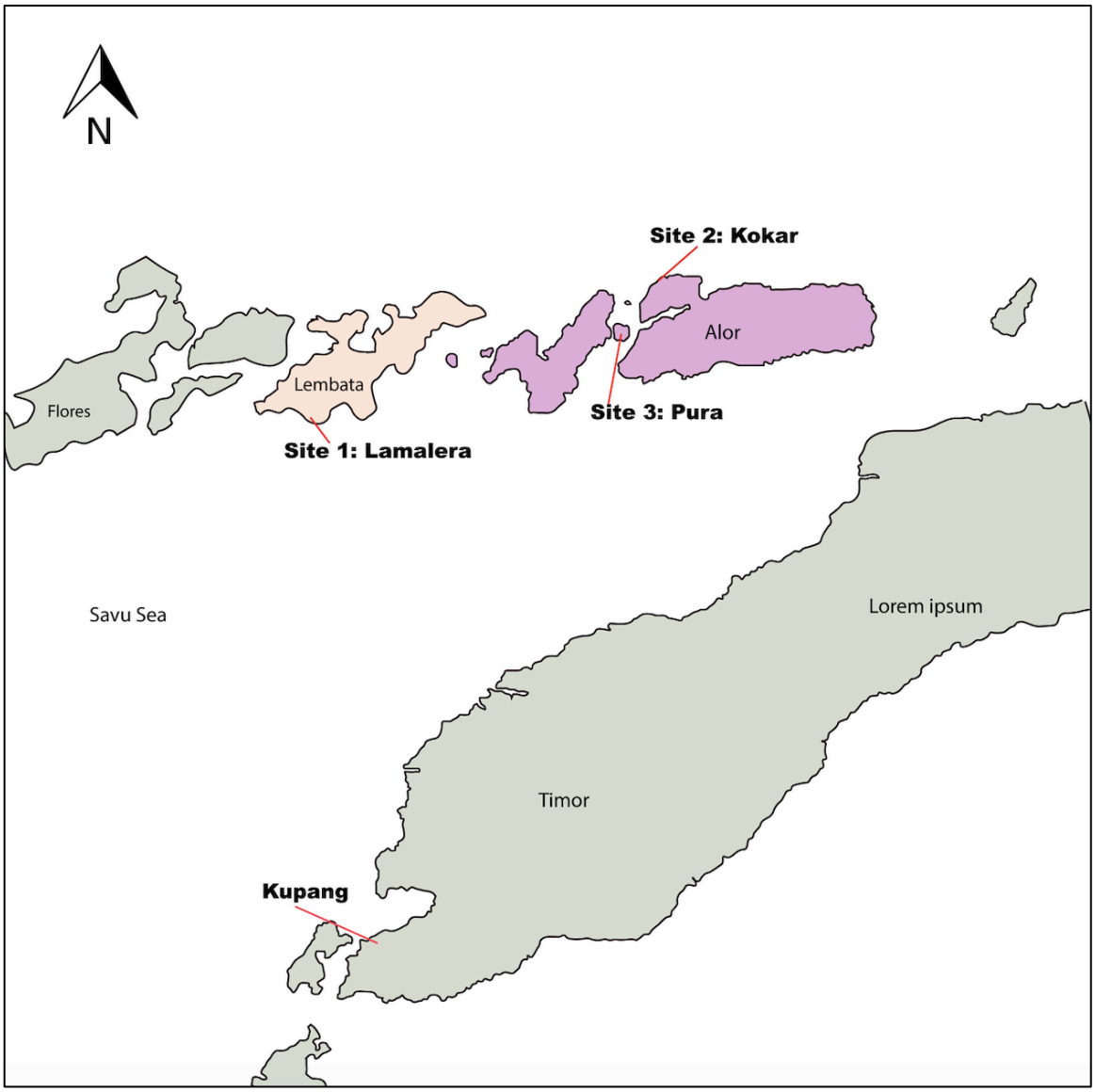

Figure 1. Map of Fieldsites in Nusa Tenggara Timor Province

Through comparing these sites, this study seeks to further multiple research agendas. First, it documents the rich cultural practices of marine resource management in eastern Indonesia, a region that has received comparatively little anthropological attention but is currently experiencing major social and economic change. Second, it contributes to the analysis of how external ways of seeing and managing the marine world impact traditional resource users, paying particular attention to the discourses and

concepts that managers, conservation actors, and local peoples use in their struggle for access and control over resources. Lastly, this dissertation seeks to contribute to better MPA policy-making in Indonesia, and globally, by documenting challenges and catechizing current best practices in an area of intensive MPA implementation.

MPAs in Indonesia

While Indonesia's first formal MPA, Thousand Islands National Marine Park north of the capital city Jakarta, was established in 1975, development of MPAs remained at a low level until the mid 1990s (Dirhamsyah 2016). In response to new global policy mechanisms such as the UN Convention on the Law of the Sea and the Convention on Biodiversity, and following global trends in natural resource management, the number of MPAs began to grow in Indonesia in the late 1990s, and then experienced a rapid acceleration in the last two decades (see Figure 2).

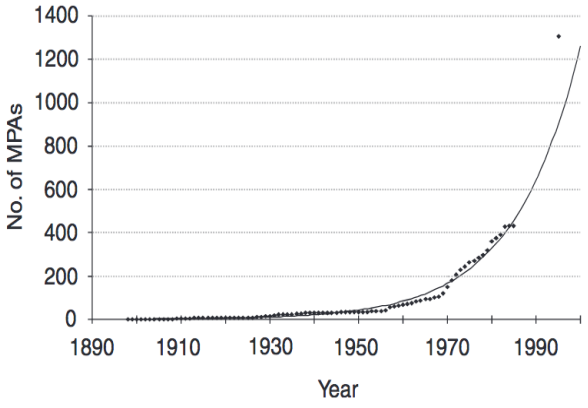

Figure 2 Cumulative worldwide growth in the number of marine protected areas and estimated logarithmic trend 1898–1995.

Figure 2. Growth of MPAs in the 20th century. Source: Hoagland et al. 2001

In 2009 at the World Oceans Conference in Manado, Indonesian President Yudhoyono committed to a goal of setting aside 20 million hectares of MPAs by 2020 (CEA 2018). Under the current president Widodo this commitment has continued, and by 2017 the Ministry of Marine Affairs and Fisheries (MMAF) stated that there were now 19.14 million hectares of MPAs across Indonesia (MMAF 2017).

As evidenced by the above presidential commitments, today MPAs are a core mechanism of coastal and marine management in Indonesia.[3] This increase is driven by multiple factors, the first of which may be geography. The country has over 81,000 kilometers of coastline, which open into 2.8 million square kilometers of territorial waters. When Indonesia exercised its right to claim an economic exclusion zone (EEZ) in 1980, the first archipelagic nation to do so, waters under Indonesian jurisdiction expanded to 5.8 million square kilometers. Some scholarship has argued that MPAs can be a less costly mechanism for marine resource management, especially when they are run via local or community-based management or co-management models, a highly desirable approach in such circumstances (Hoagland et al. 2001, Cinner and Aswani 2007). In direct relationship to this last point about local and community-based management, another part of increased usage has to do with how MPAs and the frameworks for their management fit into the social and historical assemblage of governance trends in Indonesia and globally in the past two decades. During this period the global trend in resource management has moved from highly centralized frameworks to highly decentralized frameworks, especially in the developing world (Agrawal 2001).

[3] Indonesia is not alone in its continued commitment. Globally MPAs managed through diverse frameworks have continued to increase in number and size, as evidenced by Figure 2.

In Indonesia this trend has coincided with an era of political reform kicked off by the fall of the New Order Regime in 1999 that decentralized many governance responsibilities, especially spatial planning and natural resource management responsibilities, to the provincial, district, and community level (Peluso 1999, Hadiz 2004, Satria and Matsuda 2004). In fisheries management, this combination paved the way for the creation of many local and community-based MPAs and coastal resource management projects (Crawford et al. 2006, Siry 2006). This transition was supported through the passage of two major pieces of legislation. The first was the Autonomy Act itself (Law Nos. 22 and 25/1999), which was then revised in 2004 (Siry 2011). This act devolved jurisdiction of coastal waters from 12 nautical miles to the shore to the provincial level, and within this from 4 nmi to the shore devolved further to the district government (Wever et al. 2012). Within this 12 and 4 nmi jurisdiction respectively, provincial and local governments were to be responsible for the following:

> 1) exploration, exploitation, conservation, and management of coastal resources, 2) administrative affairs, 3) zoning and spatial planning affairs, 4) enforcement of regulations issued by the regions or delegated by central government, 5) participation in maintenance of security, and 6) participation in defense of state sovereignty (Siry, 2006, cited in Wever et al 2012).

Responsibility for both parts one and three provided avenues for local and provincially based MPAs. During the revision of this act, the Ministry of Marine Affairs and Fisheries was created, in part to coordinate fisheries management, set targets, and make policy coherent across the jurisdictional scales that the act delineated. A second piece of supporting legislation was the Coastal Zone and Small Islands Management Act of 2007 (Law No. 27/2007). This act served to further promote decentralized coastal

management, providing a framework for coordination between scales of management for consistency. It also specifically encouraged and provided legal framing for "decentralized, community-based coastal management schemes," including district and provincially designated MPAs (Wever et al 2012).

Many of the MPAs created during this period[4] of decentralization have faced significant challenges in meeting ecological and social programming goals, in large part due to the scale of the threats facing fisheries in relation to the capacity of the programs' frameworks (Alder 1994, Adhuri 2002, Satria and Matsuda 2006, McLeod 2009). These issues are mirrored in the broader findings of researchers on MPAs globally. Since their initial deployment, MPAs have received attention and critique from both biologists and social scientists. A significant body of scholarship has developed that examines the possibilities and limitations of MPAs as a mechanism for conservation and resource management (see review by Gill et al. 2017). Many have experienced difficulty reaching both ecological targets (such as reef or stock recovery) and socioeconomic targets (for example, compliance with MPA boundaries, decreases in destructive fishing practices, or participation in MPA programming). MPAs have also been subject to social and political critiques by environmental anthropologists and political ecologists that apply to all protected areas including (but not limited to): inequitable social and economic impacts related to resource exclusion, the prioritization of Western, science-based ways of knowing and managing resources, and the uncontrolled impacts of tourism (see review by West et al. 2006).

[4] MPAtlas now lists 41 Kawasan Konservasi Perairan Daerah or locally designated marine conservation areas.

In Indonesia, 2014 spelled major change to the trend in decentralized coastal management. Sweeping legislation passed by the national government under Law No. 23/2014 recentralized many governance responsibilities to the provincial level. For marine jurisdiction this has meant that district-level and local control of marine areas was erased in its entirety. Previously, waters from the 0-4 nmi limit were to be controlled by district and local government. Miles 4-12 were the responsibility of the province, and miles 12 and beyond (the EEZ) were monitored by the national government through the Navy (Satria 2015, Heazle et al. 2007). Under the new law, the province is responsible for miles 0-12, and the national government for miles 12 and beyond. This change has thrown many of the marine protected areas functioning at the district level into legal limbo. Further, the wording of the law itself does not specify how the handover from district to province is supposed to occur, so many stakeholders both within and outside the government structure still have no solution for how to enact and then adapt to the new legal context.

The current jurisdictional uncertainty in Indonesia, combined with the broader scholarly critique and my own interest in the relationships of marine resource managers and coastal communities in eastern Indonesia, served as the specific impetus and entry point for this dissertation. Based on meetings about the new legislation I had with marine conservation NGOs in 2015, I began to think about shaping a dissertation project that would examine the status of MPA planning in Indonesia. My aim with this project was to respond to the current policy context, but also to incorporate the conceptual frameworks and previous critiques of environmental anthropology about protected areas, local

peoples, and access to resources (Brockington 2006, West Igoe and Brockington 2006, Brosius et al. 2007, Dowie 2009).

Research Objectives

Through an examination of the interaction of diverse stakeholder groups across two MPA projects and three sites, this dissertation seeks to explore how MPA planning is intersecting with current cultural and socioeconomic assemblages in small-scale and traditional coastal communities (Deluze and Guattari 1980). These intersections produce distinct effects on both cultural practice and daily life in these communities through policy influence, as well as on global discourse about these communities. By exploring the perspectives of fishers, community members, government managers, conservation NGOs, tourism operators, and media actors, the study raises a series of questions about the impact of conservation on traditional marine resource users, about the framing of marine resource use and conservation, and about current policy frameworks at work in MPA management. The dissertation is composed of three appended articles that explore these themes in turn. Article one examines the role of different scales of visual representation and media in shaping what has now become a global discourse on how or if the people of Lamalera, Lembata have the right to practice their traditional livelihood based on marine hunting, or whether they need to comply with national and international conservation policy. Article two examines how the negotiation and requisite performance of the concept of tradition in Indonesia have come to intersect with marine resource claims, tourism, and MPA planning in both Lamalera and in Pura, Alor. The third article pivots from discourse and concept work to specific policy analysis of MPA frameworks

in both districts (Lembata and Alor), challenging current best practices regarding the incorporation of traditional ecological knowledge (TEK) and customary marine tenure (CMT), analyzing the difficulties faced by alternative livelihood mechanisms, and exploring the impact of the marine jurisdictional changes required by Law No 23/2014.

Together, these articles draw on a broad range of theoretical and conceptual frameworks. These include anthropological scholarship on environment and conservation—particularly that of Indonesia—in relation to the theorization of tradition and indigeneity, interdisciplinary research on the politics of representation, and finally the literature on marine policy in relation to marine protected area planning. In keeping one foot in environmental anthropology and one foot in marine policy I hope to deliver insight and analysis that is useful to both theorists and practitioners involved in the management of coastal and marine resources.

Theoretical Context

This study has been influenced by, and seeks to contribute to, a number of conversations within environmental anthropology and its near adjacent field of political ecology. The first of these is the rich literature that constitutes the anthropology of resource politics in Indonesia. Volumes such as Dove's *Banana Tree at the Gate*, Tsing's *Friction*, Brosius's "Green Dots, Pink Hearts," Peluso's *Rich Forests, Poor People*, Li's *Transforming Indonesian Uplands,* and Lansing's *Perfect Order* have all taken up the relationships that primary resource users have with their environments and examined how these relationships have been mediated by and articulate with the massive political and economic changes taking place in Indonesia. These originate with the colonial period but

have accelerated in the last 25 years, with the often violent struggles of different groups protesting the New Order Regime and its eventual downfall. While the upheaval of this political transformation has settled to some degree in the past two decades, the question of who has control over resources and how this control is claimed, monitored, and contested continues to be hugely important in Indonesia. My focus on documenting the complex livelihood systems that tie local and traditional coastal communities to marine resources, and my linked focus on how these systems are evolving in the face of social, economic, and policy pressure, seeks to add to this body of work.

Unsurprisingly, given my training, my thinking and research are also closely tied to anthropology's long-term critique of conservation, and in particular protected areas, in terms of their inequitable impact on local and traditional peoples. West, Igoe, and Brockington's 2006 *Annual Review of Anthropology* article, entitled "Parks and Peoples: The Social Impact of Protected Areas," summarizes the critique thusly:

> Protected areas have increasingly become the means by which many people see, understand, experience, and use the parts of the world that are often called nature and the environment. This virtualizing vision… although rarely uncontested, has imposed the European nature/culture dichotomy on places and people where the distinction between nature and culture did not previously exist.... the imposition of this putative… dichotomy has had significant material and social impacts, either by forcefully excluding people from their land or holding them to discursive standards that are nearly impossible to live up to in practice (254-5).

My research examines both the material and social impacts of the efforts to create and manage marine protected areas on traditional communities in a place where people do not see themselves as wholly separate from nature, and where concepts like species scarcity

and conservation can run counter to traditional cosmological systems. In doing so it builds upon works including: Clifton and Majors' (2011) research among Bajau nomad fishers that documents links between Bajau community-making and intensive fishing practices; Zerner, Tsing and Peluso's 2003 work from *Culture and the Question of Rights* that documents erosion of local and traditional people's forms of tenure and resource management across terrestrial and marine environments; and Lowe's *Wild Profusion* that examines the impact of marine park planning on the people of the Togean Islands in Sulawesi (2006).

This dissertation draws deeply on the debate within anthropology about the definition of traditional peoples, and the adjacent terms of indigenous, tribal, and native (See Li 2000, Kuper 2003, Dove 2006). It particularly engages with the literature that examines the reifying relationship between traditional people and the environments that they inhabit and sustain themselves from (Li 2000, Conklin 1997 and 2002, Oakdale 2004, Del Cairo Silva 2012), and the ways in which traditional peoples' practices are monitored and legitimized, internally and externally, in relation to their resource use (Brosius 1997, Hornborg 2005, Meuhlmann 2006, West 2006). The research presented in this dissertation examines how claims to traditional identity and practice are being deployed and contested in relation to accessing marine resources in eastern Indonesia and how this struggle over authenticity directly intersects with marine conservation planning there. It also pays specific attention to the way that the conversation about tradition in Indonesia is filtered through the local legal and cultural frameworks surrounding the term *adat* (Li 2001, Hauser-Schäublin 2013). Most simply, adat translates to traditional or customary. In practice, its cultural, historical, and legal footprint is much larger. Adat has

been used to describe entire communities, specific local laws and prohibitions, as well as other cultural practices. It is used in technical legal arguments, and there is a large body of law in Indonesia that specifically addresses the alignment between national law and adat law, dating back to the Dutch colonial period. The current constitution does support claims of adat status and use of adat laws; however, there are a number of legal roadblocks that make the process difficult (Butt 2014). At the other end of the spectrum, the word adat is also often used colloquially, and at its most general usage, can almost be a synonym for local culture.

Building on the theorization of tradition and indigeneity, and straddling the borders of anthropology and policy making, the literature on traditional ecological knowledge systems (TEK) also deeply impacted my research. Included in this body is the work on traditional and customary marine tenure (CMT) systems. Early works from R.E. Johannes (1978 and 1981) and Hviding (1996) on TEK and CMT systems sought to give voice to local people as experts who drew on highly adapted, often millennia-old systems of codified experience regarding terrestrial and marine environments. Later seminal works from Berkes (1999), Berkes, Colding and Folke (2000), and Ruddle (1998) argued for the combined use of TEK and CMT systems in conservation programming on the dual grounds of efficaciousness and efficiency. The use of TEK and CMT became hugely popular in MPA planning in the early 2000s in relation to this literature and to the trend in the decentralization of resource management more generally (Agrawal 2001). Some scholars went so far as to argue that finding extant marine TEK or CMT systems constituted best practice for MPA zoning (Harkes et al. 2002, Christie et al.. 2007). Cinner and Aswani's (2007) review of CMT systems in marine conservation notes that

the hybridization of the two systems has been met with significant hurdles when put to the test in marine protected area programming and other forms of marine conservation; however, they ultimately argue that there are conditions in which the two can be successfully integrated. This dissertation, especially article three, adds to the body of research that challenges the supposition that TEK and CMT systems *necessarily* share conceptual and practical congruence with marine conservation goals, and questions their link to MPA success by providing counterpoint case studies.

Lastly, this dissertation, in particular the third article on MPA policy analysis, builds upon and contributes to a rich body of policy literature on MPA management, especially that of the Asia Pacific region and Indonesia. This body of policy literature has explored issues that impact MPA success across all scales. Local-scale issues include education, compliance, and cooperation in relation to local marine resource users (Pomeroy 1995, Elliot et al. 2001, Cinner et al. 2009, 2013, 2014, Pomeroy et al. 2007, McLeod et al.. 2009, Gurney et al.. 2014). At the mezzo scale, many studies have examined management challenges regarding capacity and funding for monitoring and enforcement as well as legal challenges in terms of integrating MPA policy and law (Clifton 2003, Crawford et al. 2004, 2006, Campbell 2012, Warner and Pomeroy 2012, Rife et al. 2012, Dirhamsyah 2016). At the largest scale, scholars have also examined the ways in which MPAs can and cannot contend with larger, more uncontrollable environmental issues such as climate-related thermal stress, widespread marine pollution, and uncontrolled Illegal, Under and Unregulated (IUU) fishing, especially in Asia (Jameson et al. 2002, Todd et al. 2010, Sale et al. 2014, White et al. 2014).

Methodology

This research is based on a mixed-methods approach that integrates the following: ethnographic fieldwork in all three field sites, as well as in Kupang, the provincial capital of NTT; analysis of government and NGO data and technical reports; and media content associated with marine resources generated by local, national, and international documentarians, reporters, photographers, and social media content generators.[5]

Ethnographic Fieldwork

The bulk of the research was generated during twelve months of *in situ* fieldwork between 2016 and 2017, with a follow up visit in 2018. During this period I split my time between the two districts, the first half in Lembata and the second in Alor. I also made a series of visits to the district capitals, Lewoleba in Lembata, and Kalabahi in Alor, as well as to the provincial capital Kupang, to meet with NGO representatives and government officials, and to collaborate with my research sponsor at the provincial public university Universitas Udayana (UNDANA). This research was preceded by summer trips to Indonesia in 2013 and in 2015 for intensive language immersion programs and scoping research in marine resource management.

To gather ethnographic data I drew on an approach that integrated methodological tools from cultural and environmental anthropology: initial surveying, participant

[5] It is important to note that I had originally planned to also use social network modeling in relation to relationships between community members, NGOs, and government offices to determine the impact of type and closeness of social ties on MPA function. Ultimately, I decided not to use social network modeling for this specific question because of negative community response. At field site one, Lamalera, it meant that I was asking about issues of community betrayal; in Alor, questions about social, familial, and work relationships that linked the fishery with management bodies were immediately linked to questions about corruption. Neither of these was conducive to building rapport.

observation, structured and semi-structured interviews, and focus group discussions. Research participants were recruited from each of the major stakeholder groups mentioned in the introductory pages: marine resource users in the three communities of Lamalera, Kokar, and Pura; non-fisheries-dependent community members; local leadership; government officials from the Ministry of Marine Affairs and Fisheries and the Ministry of Tourism; conservation NGO staff; and tourism operators.

I used a combination of structural and respondent-driven approaches to identify participants from each group. For example, some recruitment was informed by my meetings with clan leadership, village heads, and ministry officials. Within demographic categories, such as marine resource users, I used a combination of snowball sampling and rank-ordered recommendations to meet with a cross-section of users. I was also attuned to specific local cultural factors in each location. For example, in Lamalera, field site one, I made sure to speak with people holding all types of roles within the fishery. A list of these roles is included in Appendix 5. This was done deliberately to counterbalance an issue identified during research that coverage of Lamalera's fishery has often focused intensely upon the role of the harpooner, to the detriment of understanding more perspectives. This approach was also used at the other two field sites, where research participants were identified through both demographic categories and fisheries participation.

I conducted a total of 90 interviews across the three sites. A list of interview categories used is provided in Appendix 4. The majority of the interviews were with individuals, but in some cases included multiple people. These interviews were conducted around working people's schedules and often were conducted in the workplace

(e.g., the beach, or a boat house) or at home. Meetings with government and NGO staff were held in their offices. Interviews were generally about one hour, but in a few cases extended to as long as three hours. I also carried focus group discussions at each site with active marine resource users, in relation to conservation and MPA planning in their village. Because of local cultural norms about participation in public speaking forums, and also individual availability, the majority of the group discussion participants were men. To actively counterbalance this, I arranged to interview and gather data from women involved in the fisheries in different contexts, including in formal interviews at home and while working, as well as in informal contexts. In these settings I solicited the same kinds of information and discussed the same topics that were discussed in the group discussions. With oral permission, almost all interviews and group discussions were recorded for later transcription.

A substantial amount of the data collected for the dissertation was collected through participant observation (PO) and informal discussion that took place during daily practice. Participant observation was structured through a series of categories. I observed technical aspects of fisheries at each site. At the first site, Lamalera, this included marine hunting for cetaceans, rays, sharks, and pelagic fish like marlin. At site two, Kokar, Alor, this included tuna fishing through use of fish aggregation devices (FAD) called *rumpon,* nets, and hand-lining. In the last site, Pura, this included free diving to observe spear fishing and trap checking as well as accompanying reef-gleaning activities. I also conducted PO at all three sites in fisheries-related activities such as fish and meat butchering and preparation, fish selling and bartering, and materials preparation. Cultural activities surrounding the fisheries were also observed, such as the week of ceremonies

leading to the opening of the ocean hunting season, or *lefa nue*, in Lamalera, the ceremonies for making and christening new boats and honoring extant boats, as well as other culturally significant equipment such as harpoons and ropes, versions of which occurred at all three sites.

In each of these sites I lived with families where all three generations were present, as is typical of the region. I interacted with grandparents, parents, and children between the ages of 1 month to 79 years, and participated in non-fisheries related parts of regular community life, including births, marriages, and deaths. This was made easier by the fact that the communities I lived in were small, each under 2,000 persons. I attended school events, mosque and church activities, marriage contract negotiations, and holiday parties. As so many anthropologists before me have described, these experiences of more generalized PO built up a rich tapestry of lived experience that allowed me to iteratively generate richer and more locally appropriate lines of inquiry, and allowed me to more accurately contextualize the data I gathered through more formal and external methods (Russell 2006, Wax 1971). At the conclusion of the work period, personally gathered data available for review and analysis included interviews and their transcriptions, field recordings, in situ interview and field notes, and daily summary notes.

External Data Sources:

I met with officials from the Ministry of Marine Affairs and Fisheries in both districts, as well as with officials from the Ministry of Tourism to conduct interviews as well as to collect data gathered by their offices. This allowed for a broader contextualization of the fisheries and tourism sectors in NTT province and in the districts where I worked. During fieldwork I also gathered demographic statistics from the local

and district level government offices. This allowed me to build an understanding of the baseline social context of all three communities. In relation to the Alor MPA I also gathered program data and technical reports from staff of the involved NGO, World Wildlife Fund (WWF), and from community participants where applicable. Finally, and most extensively in relation to the first field visit, Lamalera, I also gathered online publicly available content about each site in relation to marine resource use and conservation. This included international, national, and regional reporting about the site, as well as publicly available social media content.

I also collaborated with fisheries and anthropology researchers from the provincial university, UNDANA, and from the sole university in Alor, Universitas Tribuana. These rich exchanges allowed me to observe their research and share data and experience, and created avenues for more formal collaboration, such as invitations to conferences and workshops.

Analysis and Products

This methodological approach allowed me to develop a culturally contextualized, comparative analysis about how MPA and marine conservation programming is unfolding in small-scale traditional coastal communities in eastern Indonesia. Critical in a time of ever-increasing global connection and governance flux, it also allowed for an analysis that moves across scales from the very local to the district and province, and in the case of my work on visual media impact, to the international scale. It meant that I was able to explore unique cultural phenomena but also examine repeating patterns of behavior and outcomes across contexts, such as governance bodies or the tourism market

sector, and interactions between actors across these scales. The levels of analysis were integrated into three articles that build on one another, but that explore distinct content and connect to particular bodies of theory and practice. Article one, titled "Blood in the Water: Marine Hunting, Resource Rights, and the Politics of Representation in Indonesia's Last Whaling Community," combines Hall's work on the politics of representation and discourse with theories of gaze to examine the impact of visual representation of Lamalera. The most ethnographically focused of the three, it will be submitted to *Cultural Anthropology.* It focuses on two kinds of impacts: first, the influence of visual media on what has now become a global discourse about the right of Lamalerans to continue traditional marine hunting practices, and second, the impact that the procedures of creating visual representation have on the ground in the community. Ultimately, it examines how the combination of image creation and power prioritize certain kinds of narratives about traditional peoples and resources and silence others.

The second article is titled "Re-negotiating the Tribal Slot: Tradition, Authenticity, and Marine Resource Rights in Eastern Indonesia." This article revisits the literature on tradition, custom, and adat in the environmental anthropology of Indonesia, and will also be submitted to *Current Anthropology*. It pays particular attention to the work of Tania Li and Charles Zerner from the turn of the millennium that explores how claims to traditional status were often produced through unstable articulations of local people and environmental NGOs in reaction to specific governance contexts, rather than through sets of intrinsic characteristics. The article examines where and how claims to traditional status are currently being made in relation to marine resource access and how they are being contested, and then provides comparative evidence about where and when

such claims are not being made by marine resource users. It documents a new pattern of interaction between claim making, local people, and NGOs that has been almost completely inverted from the period of Li and Zerner, where claims to traditional status are made by local people in order to protect themselves from conservation programming from NGOs working in conjunction with government bodies. The final section of the article explores potential causal factors as to why traditional status has become a terrain of struggle in some contexts but not others in this province. In doing so it charts the ways in which media coverage, the tourism sector, and conservation programming combine to impact the possibilities for identity claim-making.[6]

The final article, "Marine Protected Area Planning and Management in Nusa Tenggara Timor Indonesia: Problematizing Practice and Learning for the Future" moves away from environmental anthropology and towards applied anthropology and policy analysis, and will be submitted to the journal *Marine Policy.* Drawing on the perspectives of marine resource users, NGO actors, and government officials across the sites, this article delves into an analysis of a pressing set of policy challenges occurring in MPA zoning and management in East Nusa Tenggara, but which are relevant to MPAs globally. It first examines best practices regarding the perceived role of TEK and CMT systems, challenging the assumption that such systems necessarily share vision and goals with conservation practice. It explores the operation of alternative livelihood programming used to reduce fishing pressure in and around MPAs, documenting the

[6] An article that combines elements of articles one and two with a broader exploration of the discourse surrounding traditional marine hunting practices globally has been accepted for the next issue of *Environment and Society* that focuses on oceans.

broad challenges of trying to support an alternative livelihood program based on seaweed farming in Alor, and the lack of community support for alternative livelihood programming in Lamalera, Lembata. Finally it examines the impact of the current uncertainty regarding marine jurisdiction created by Law No. 23/ 2014, documenting the ways in which the uncertainty has created a practical governance vacuum for the Selat Pantar MPA.

Conclusion

The creation and management of MPAs in eastern Indonesia has served as a vessel for exploring a series of questions; about identity-making and boundary-keeping in relation to claims to traditional status, the impact of tourism and media on small scale communities, and about the prioritization of certain ways of being in the world over others. But as LeFebvre (1974) reminds us, social practices produce space, and MPAs are not just theoretical focal points, they are conceptualized and concretized through practices that have real impacts for the peoples who live within them and manage them. This dissertation pays attention to specific mechanisms used to create and manage MPAs, with the goal of providing data for better policy making going forward.

Alor and Lembata in Comparison

For the purposes of this study the fieldsites for comparison were the two MPAs; the Selat Pantar MPA, and the proposed MPA in southern Lembata. Located in neighboring districts of the same province, and similarly placed in the regional and

national economy, the two have similarities in socio-economic patterns and environment that allowed for a shared baseline. Perhaps the most important similarity my research revealed is that in both MPA areas, communities are facing and adapting to broad scale socio-economic change at a rapid and accelerating rate.

Wolf would tell us that hinterlands, or islands in this case, are never isolated from change (1982). At the same time, there is a real discussion and feeling in the communities where I worked that the pace and scale of change is somehow new, and change remains a continuous topic of conversation. This change comes in the form of state legibility making processes, such as the organization of people and nature through schooling, healthcare, infrastructure, and other government programs –each of which have changed aspects of daily life and specific cultural practice (Scott 1998). It also comes from rapid economic change that has pushed a transition from subsistence-based to market-based livelihood patterns. Not least, it comes as a direct effect of the exponentially-increased connectivity and movement of people, things, and ideas that has marked the globalization of 20th and especially the 21st century. On the ground these changes are not felt as discreet pressures, of course, but rather come to have synergistic effects. For example, in Lamalera, increased access to education has meant that fewer people are trained as marine hunters at an early age. With increased access to education and a decreased ability to make a life based on subsistence hunting, many young people now leave Lamalera to go look for jobs and further education outside the community and the district. This has culminated in a major shrinkage of the active marine hunting fishery, and a loss of TEK and related ritual practices, in the youngest generation of adults there. Moving east, Kokar is an example of a place literally created by changes required for state legibility,

and it is also a place that has seen dramatic social and environmental change in the last twenty years - with an influx of economic migrants, and new marine livelihoods patterns based on regional market pressures for fish. In Pura, we see a group of people literally surrounded by the potential for socio-economic change, in the form of an fledgling MPA and a booming marine tourism industry, but whose own transformation has also been significantly impacted by participation in a commodity-chain for sea cucumber that stretches from Australia to China and Korea.

A context of change, then, is the most broadly comparable element between the sites. While large scale change is not actionable from a policy recommendation perspective, it serves as both an active element of, and a background for, all of the more specific topics that I explore in my research. Putting the experiences of each of the communities on these more specific topics into dialog allows for an analysis of both lessons learned that can be applied to future policy making, as well as pointing out questions and areas for future research.

TEK, Adat Claims, and Legal Futures

Comparing the experiences of Lamalera and Pura, emphasizes the unstable, and highly contextual deployment of claims to tradition in Indonesia currently. This relates directly to the evolving social and legal standing of the concept of adat and its ability to confer rights, especially resource rights (Hauser–Schäublin 2013). This in turn comes to impact how people go about framing and practicing livelihoods that are based on traditional ecological knowledge systems; in this study, marine TEK and customary marine tenure (CMT). Lamalera's struggle to claim traditional status, and the total lack of struggle to claim this status in Pura in particular, raise a series of questions about "identity work" in relation to practice. These include: what is the role of TEK in relation

to adat claims in Indonesia, especially those claims that relate to control over or rights to resources in conflict? Where does the right to resources stem from under the emerging adat legal regime? Is it rooted in some sort of innateness of a people themselves, the uniqueness of their practice in relation to the resource, or some combination of both? This may be clarified in court, as adat claims are involved in an increasing number of cases regarding resources but still faces significant structural hurdles (Butt 2014). Of particular interest for future research will be how different parties meet in the middle: how the generally favorable rulings of the highest courts will make their way through the lower courts, and through provincial and local governments, at the same time as the frequency of claims by communities increases. Returning to the opening of this dissertation, the littoral and marine realm may represent a unique challenge for such cases, because so many of the resources involved are classified as common pool resources (CPR) that move, of course, between different regions of Indonesia, but also well beyond its borders (McCay 2008). The common pool nature of these cases may mean that a different, and broader, set of actors is involved in such conflicts than in the terrestrial ones that have been recently examined in the courts (Siscawati et al. 2017).

Tourism and Media

Looking at both MPA projects in relation to tourism leads to a number of conclusions, some actionable in terms of policy, some not. Across all three sites it was apparent that local peoples are often not in a position to take advantage of many of the potential benefits represented by tourism, and related media exposure, because they do not have the monetary capacity to accumulate capital for investment. This is a pattern that has been noted globally, especially in development contexts (Carrier and West 2004, McLeod and Carrier 2010). It was particularly stark in Alor because the transition to increased marine tourism had already begun, whereas in Lamalera the projects for whale-

watching remained hypothetical, due to community reservations. This is not to argue that such inability means that local peoples cannot benefit from tourism at all, but rather that these communities are not the primary beneficiaries, which raises issues of equity. If a group of people who were previously primary resource users do not become primary benefit receivers for tourism based on that same resource, then an initial condition of double-loss and its attendant inequity, may be set. Development practitioners and governments have argued that this problem of communities and tourism can be ameliorated to some extent by government and NGO programs, and there has been substantial interest in Indonesia and beyond in community-based tourism (CBT). Of course, CBT is not a silver bullet, and comes with it's own host of management, capacity, and power issues (Blackstock 2005).

CBT and improved access to means of investment may help with the mismatch created by structural inequality such as lack of access to education, capital, or related work-experience. However, some of the lack of congruence between traditional communities and tourism is due a fundamental difference in life ways; transitioning from a subsistence based or semi-subsistence based livelihood to a market-based model is not desired by or suitable for all people. In Lamalera, for example, many community members do not feel comfortable with this particular monetization of their connection to the marine realm. Something changes when one adds money to a situation, one hunter described to me in regards to this issue. For the community and its socio-economy, money doesn't function ass a replacement for meat because, unlike meat, "once it goes into someone's wallet, it's hard for it to come out." As discussed in the first appended article, Lamalera has already experienced inequitable distribution of benefits from the

extant scale of tourism and media coverage, and research participants described wariness about expansion.

These examples illuminate an important point about self-determination and livelihood generally, but the issue is particularly salient for marine conservation frameworks that rely on tourism as an alternative-livelihoods mechanism, of which there are many in Indonesia and globally (Campbell et al 2013, Atmodjo et al 2017). Marine tourism, it is often thought, can give marine resource users a different livelihood avenue that allows for a reduction in fishing pressure (Clifton 2004, Manji 2007). But whether or not people desire to make the switch is an equally important issue that has, critically, received less focus. Added to this, the impacts of marine tourism on local people's perception of their cultural and physical assets are not well researched in Indonesia, and represent an important area of future inquiry. In the two districts studied here, the impacts of tourism, combined with media, were profound on the way that people valued, discussed, and expressed thoughts about both cultural patrimony and the natural environment. One aspect of this that deserves particular focus is the layered effect of different kinds of tourists. Both international tourism and internal tourism by the urban elite of Indonesia's major cities were present in both field sites, and each had distinct footprints. As NTT and other provinces continue to develop their marine tourism sectors at a rapid rate, all aspects of the intersection of tourism and traditional coastal communities merit further exploration.

Marine Protected Area Planning

A number of findings regarding the planning and function of MPAs came out of this study, including a challenge to best practice regarding the role of TEK and CMT in

MPAs, and an analysis of some of the difficulties faced by practitioners and communities when launching alternative livelihood programs. When compared in the round, the largest finding from both MPA projects, is that further research needed to be done by both NGO and government stakeholders before MPA programming began. Had initial surveying been done within Lamalera, the central role of marine hunting would have been made apparent, and the community could have been approached in a more sensitive manner. Alternatively, informed by this data, NGO stakeholders from WWF and elsewhere could have decided earlier on to focus their conservation efforts elsewhere in the province. Instead, the community was faced with a proposal for an MPA that was both alienating and frightening due to its total cultural mismatch. This initial miscalculation then set a negative tone for all future negotiations, which have yet to be resolved. In Alor there was no single incident where lack of research or planning led to negative outcomes like in Lamalera. However, the economic, religious, and cultural diversity of Alor continues to present a major challenge for both government and NGO conservation practitioners. Managers from both are aware that each community that they begin work in requires a new suite of local knowledge, which creates a substantial capacity gap. This gap in capacity becomes gaps in knowledge leading to situations like that in Pura, where many of the residents of an island now entirely surrounded by an MPA don't even know that it exists. This struggle for organization capacity is by no means new, and has been traced to underfunded government bodies and a lack of prioritization in NGO funding structures because of the issue's lack of donor appeal, and long project timeframe requirements (West et al 2006, Doane 2012, Aldashev and Vallino, 2019). Ultimately, the experiences of the communities examined in my research illustrate the continued need to advocate for

the prioritization of exploratory field research in marine conservation policy. The fallout for communities when this research is not done are at best ineffectual and disruptive, but can be devastating.

The overarching objective of this dissertation has been to contribute to a better understanding of the ways in which small-scale and traditional marine resource users in eastern Indonesia are interfacing with MPA planning and management processes, both through internal policy mechanisms, and by interaction with larger-scale social and economic trends. This work required a close examination of ways in which the claims of different stakeholder groups intersected with one another, from marine resource users, to documentary filmmakers, to fisheries managers. This examination led to a series of conclusions concerning people, power, and resources: first, about how visual imagery produced for global audiences has the power to shape discourses about the rights and practices of traditional marine resource users; second, about the constellation of actors, market forces, and governance circumstances that dictate whether and how claims to traditional status are made by marine resource users in conservation contexts in Indonesia right now; and finally, about the difficulties faced by MPAs and marine resource users in relation to three specific structural factors of MPA management, including the incorporation of TEK, the function of alternative livelihood mechanisms, and the impact of marine jurisdictional uncertainty.

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Appendix A

Blood in the Water: Marine Hunting, Resource Rights, and the Politics of Visual Representation in Indonesia's Last Whaling Community

"There is power in looking" – bell hooks 1992

Introduction

Under a clear blue sky in the middle of the Savu Sea, a man stands on the balls of his feet at the bow of a twenty-foot wooden boat. His body, tensed with purpose and balancing a bamboo harpoon twice his height, coils and he jumps into the air…and onto the back of a fifty-ton sperm whale. In the background, aboard another boat, the click of cameras and the exclamations of an overwrought documentarian echo across the water. This is the opening of the *lefa nue*, or marine hunting season in Lamalera, the last traditional whaling community in Indonesia, in the summer of 2015. The film crew is from BBC 2, and they are here making a series called *Hunters of the South Seas*. This scene, in various forms, has unfolded and been repeated throughout the period between 2000 and 2017 as Lamalera and its marine hunting practices are discovered over and over agai, by adventure travelers, journalists, and documentarians from around the world. How the images and stories that they tell have come to change life in Lamalera became a major focus of my research there between 2016 and 2017. In this article I bring together two strands of theory: the politics of representation and the function of "gaze" to explore both

the creation and the impact of visual images of Lamalerans on Lamalerans and their traditions.

Background

Lamalera is a small settlement of approximately 1,900 people that sits above and behind a small cove on the southern side of the island of Lembata in eastern Indonesia (Figure 1). Until recently, Lamalera was one of three communities in the archipelago that still practiced the hunting of large marine prey, including a number of cetacean species like sperm whales and dolphins, as well as manta rays, turtles, and large pelagic fish like marlin and certain species of shark. It is now the one remaining village that has not signed on to a conservation plan, and instead continues to practice a traditional way of life rooted in hunting and trading marine prey.

(Figure 1 Durney 2017)

Analysis of the historical record suggests that the community of Lamalera formed approximately 500 years ago (Barnes 1996). However, oral tradition clearly states that this group was sailing and hunting in the region long before they settled in the current location. These hunting practices lie at the heart of a complex environmental cosmology that ties Lamalerans to both their cultural history and the local marine and terrestrial environment in an unending feedback loop. This belief system incorporates two critical elements: animism and clan-based ancestor worship. Put most simply, Lamalerans believe that their ancestors are responsible for sending the animals to the waters of their shores for them to hunt and to share with their community in order to nourish the next generation of their community, who will one day become ancestors themselves. The success of hunts, which are communal, is dependent on harmony within families and the clans to which they belong. Lamalerans are also devout Catholics, having been missionized by the Portuguese in the sixteenth century (Barnes 1996). The two belief systems have hybridized into a syncretic form of everyday and ceremonial practice that supports both, as has been noted elsewhere by scholars of Catholic missionization (Spicer 1980, Merril 1988). Tom).

While a single community, Lamalera has both historical and newer divisions. The first division is that of clan type. Oral history states that three ancestral hunting clans, who had previously been made homeless by a series of natural disasters, settled in Lamalera with the permission of two extant 'landlord' clans. Hunting clans settled directly behind the cove, while landlord clans lived in the hills above the coastline. While the original five clans formed an ancestral ruling cohort, all clans have subsequently divided into "younger brother" clans. The community also saw the addition of three

external clans who were allowed entry into the community during the initial settlement phase. A list of clans is included in Appendix 6. Today, Lamalera has been split into two villages for administrative purposes, Lamalera A and Lamalera B. These are further subdivided into 6 administrative *dusun* or hamlets (see Figure 2). Outside of the original settlement divide between landlord and hunting clans there is no clan-based divide between Lamalera A and B, and there is a diverse mixture of clan representation in each administrative village. While differences have arisen between the two "technical villages" due to administration, residents still consider themselves to be one community with a single cultural identity. This is underscored by the fact that the church, located in Lamalera A, is attended and supported by all.

Lamalera A Lamalera B

Figure 2. Map of the administered boundaries of both villages. Source: Google Maps 2019

Current Context

I originally went to Lamalera because I was looking at how marine protected area planning processes and traditional marine livelihood systems were intersecting in eastern

Indonesia. I spent 14 months between 2016 and 2018 in two neighboring districts of East Nusa Tenggara Province with small-scale fishing communities. In the previous decade the community of Lamalera had received some attention for their refusal to sign on to a proposed marine protected area plan proposed in conjunction with an international NGO, and then for their protests against conservation efforts that would change their way of life. These protests occurred locally, and eventually, through a petition and court appearance, at the national level. When I arrived in the winter of 2016 the conflict had just flared to life again due to the arrest of a hunter by national wildlife police for selling the jaws of a manta ray to a Javanese buyer. Residents were actively thinking about and discussing the issues of tradition, cultural sovereignty, and conservation during much of my time there—issues that originally arose with the initial MPA proposal and that have yet to be resolved.

Lamalerans have continually refused to stop hunting, because hunting rests both symbolically and practically at the center of their culture. "Without hunting," Lamalerans say to anyone who will listen, "we will die." More bluntly, one clan elder and hunter told me in an interview, "Conservation is a word that kills." The Ministry of Fisheries and Marine Affairs, and marine conservation groups, however, have long pushed for the hunting to stop. Commercial whaling was banned in Indonesia in the 1980's. Most of the species that Lamalerans target have also been made illegal for capture, through a series of fisheries regulations that have been passed since that time.

However, the applicability of these regulations is not always clear because Indonesian law also leaves room for exceptions for traditional resource user groups. Although Lamalerans would fall under the exception for traditional hunting by

indigenous groups created by the International Whaling Commission (IWC), Indonesia is not a signatory to the IWC. From the perspective of the Indonesian government the optics of whaling, and marine hunting more generally, are potentially detrimental. Many countries within the region are leery of the experience of Japan in relation to whaling. Moreover, one of president Joko Widodo's main goals for economic expansion is tourism, and a great deal of Indonesia's tourism is nature-based marine tourism. The Ministry of Tourism was restructured and expanded in 2015 to meet this new goal, and received a larger budget allocation (Jakarta Post 2018). In meetings with the provincial office of the Ministry of Tourism in 2017 I learned about the ambitious plans at the provincial level for the expansion of marine tourism within NTT.

In this latest round of conflict and negotiations, Lamaleran leadership has sought and gained approval from the community to try to find legal protection in a somewhat nebulous legal designation as a traditional or customary community, or *masyarakat adat*. *Adat* is a term that has many meanings in Indonesian but can be most practically translated as customary or traditional. This designation could, in theory, exempt them from the current regulations that ban the capture of many of the marine species they hunt, and allow them to continue a traditional way of life without fear of legal repercussions.

The place of customary designations and customary law more broadly within the national legal structure of Indonesia is historically contested and has been examined by a host of scholars from anthropology, legal studies, and political science (Gluckman 1949, Burns 1989, Li 2000, Soepomo, 2000, Von Benda-Beckmann and Von Benda-Beckmann 2008, Davidson et al. 2010). There is some legal precedent for what Lamalerans are seeking to do, and the rights of traditional people to claim resources is protected within

the constitution (Butt 2014). The process for gaining status as a customary community requires extensive documentation and then multiple stages of legal proceedings, however[7] (Hauser-Schäublin 2013). In meetings in January 2017 community leadership warned that a strong and sustained level of action on behalf of Lamalerans living in the community, as well as those living outside the community who have better contacts in education, media, and government, would be needed to take on this project.

A large part of what adat claims ultimately represent is a debate about, and cases built to display, authenticity (Li 2000). The strength of a group's claims to traditional practice and their ability to demonstrate this directly impacts whether their case will succeed in attaining designation (Hauser-Schäublin 2013, Von Benda-Beckmann and Von Benda-Beckmann 2011). This is where Lamalera's presence in the media and its current struggle with conservation planning intersect, and where our story really begins. How Lamalerans are represented in media, both internationally and at home, directly intercedes in this debate because these depictions add to or detract from the validity of their authenticity claims in the most public fashion. How they hunt, how it looks, and to a lesser extent, how they go about the rest of their lives in relation to hunting, matter.

Representation, Discourse, and Gaze

To analyze this process I have brought together two related strands of theory: thinking on the politics of representation, and studies of gaze. In his canonical text

[7] Customary rights to resources based on adat claims were strengthened with the Constitutional Court Ruling No. 35, 2013. This ruling strengthened the rights of adat communities to forest within their territories, re-classifying them from state to *masyarakat hukum adat* forests. However in order to claim these rights these communities needed to "exist" and to have their "existence recognized" by the state (Siscawa et al 2017).

Representation Stuart Hall argues that representation is a major element in the production of culture, in a system where culture is constituted through "shared meanings" tied to a "set of practices" (1997). Meaning is created in interpersonal communication, Hall theorizes, but "it is also produced in a variety of different *media;* especially these days, in the modern mass media, the means of global communication… which circulate meanings between different cultures on a scale and with a speed hitherto unknown in history…" (ibid).

Most relevant to our purposes here, Hall further argues that through these circulatory processes meaning is tied to practice through discourses, which he defines as

> ways of referring to or constructing knowledge about a particular topic of practice: a cluster (or *formation)* of ideas, images and practices, which provide ways of talking about, forms of knowledge and conduct associated with, a particular topic, social activity or institutional site in society. These *discursive formulations,* as they are known, define what is and is not appropriate in our formulation of, and our practices in relation to, a particular subject or site of social activity; what knowledge is considered useful, relevant and 'true' in that context; and what sorts of persons or 'subjects' embody its characteristics.

To bring Hall's discourses into an examination of Lamalera then, the optics of both hunting and everyday life matter because they are a point of leverage on both sides in influencing the discourse that determines behavior, action, and policy.

External discourses about Lamalera tend to be shaped by and add to narratives that are already very familiar in environmental anthropology and political ecology: the ecologically noble savage, the ignorant rural poor, and a Moby Dick-inspired twist on the heroic man versus nature trope. Internal or emic discourses about hunting by Lamalerans

obviously look very different. They also follow codified forms, however, centering on issues including identity, preservation, autonomy, and social and economic stability.

Because so much of the coverage of Lamalera has been visual in nature, these discourses can also be analyzed as different types of "gaze." The theorization of gaze is extensive and rich. Sartre argued that the object of gaze becomes a type of slave to the viewer in that they cannot know or control the viewing (1956). He argued further that the realization of being gazed at created the realization of the self as an object in the world (ibid). Foucault subsequently wrote on multiple aspects of gaze. Perhaps most famously from his work in *The Birth of the Clinic* (1963*)* and continuing through *Discipline and Punish* (1975) he traces how a medical gaze is transformed into a tool of domination through population surveillance, and then how this form of gaze becomes internalized within individuals to police their actions, behaviors, and thoughts. In feminist film theory, building on Lacan and Freud, Mulvey changed her discipline and many others, by articulating the function and impact of the male gaze, arguing that this gaze was a form of domination and control where the female subject is both idealized and immobilized (1989). In a pioneering essay and subsequent works, bell hooks responded to the overt coupling of gaze and power by Mulvey and others with her work on the "oppositional gaze" (1992). In writing about how black women in the U.S. consumed visual imagery about themselves, hooks argued that "black women were able to critically assess the cinema's construction of white womanhood as object of phallocentric gaze and choose not to identify with either the victim or the perpetrator" (1992). More broadly, she showed "how the ability to manipulate one's gaze in the face of structures of domination opens up the possibility of agency" (Reinhardt 2018).

I use gaze theory in my analysis of representation politics here because it directly foregrounds the graphical, image-conscious lives that the residents of Lamalera lead. This is a place where a majority of people, especially those within the fishery, have become accustomed to, and adept at, being watched. Gaze emphasizes two things: 1) the centrality of the visual to discourse in and about this place and 2) the active nature of watching and what watching does. Using gaze as a frame focuses our attention on the power of the watcher, and the image creator in discourse production.

In order to explore etic and emic discourses through gaze, I present below ethnographic evidence for three types of gaze that coalesce in Lamalera and their impacts. Moving from the outside in, the first is the international gaze, represented through foreign reporters and documentarians, as well as some tourists in the form of travel bloggers and extreme hobby photographers. This is followed by the national gaze, represented by reporters, photographers, and documentarians who come primarily from the capital, Jakarta, and from the economic elite. Finally I examine a local gaze, through an analysis of Lamaleran's purposeful and oppositional viewing and interpretation of externally produced imagery, as well as their own self-representation in social media and elsewhere.

The International Gaze

Lamalera has a long history of interaction with international visual representation. The first representation was a black and white photograph taken by Catholic missionaries and priests, now archived in the Netherlands (Dasion, in communication). Since that time, Lamalera has consistently been 'rediscovered' every decade or so by different

elements of the press. Starting in the early 2000s media attention on Lamalera increased dramatically. In part this was due to new accessibility: a road had been built overland from the main town on the island, making the village accessible by truck or motorbike rather than only by boat, and planes now service the island daily during the dry season. This combination makes what was a four-day trip from the provincial capital into a day and a half. People involved in tourism in the village and the island's capital say that the increase also relates to the recent rise in popularity of backpacking in Southeast Asia, facilitated by travel guides like *Lonely Planet* and *The Rough Guide*.

The greater level of attention also relates to the development of the nature documentary, and its cousin the adventure documentary, and their export from mainly western media markets to Asia, where they have become similarly successful. Nat Geo Wild, which focuses on dramatic charismatic animal/animal and animal/human encounters around the world is broadcast nationally in Indonesia and has become very popular. Ironically, Nat Geo Wild is one of only five channels that people can get on a television in Lamalera, and is watched by both children and adults.

In both interviews and informal research, participants in Lamalera discussed the hazards that this type of media coverage poses to their way of life. Worries about the impact of pictures of blood in the water, or stories about brutal killings by people without concern for animal rights, were often spoken about in relation to the outside world's opinion of their way of life. Residents are political operators themselves, however, and know that one of their main tools is international media. Residents who have chosen to work with elements of the media reported feeling that if they can get the story out as *they* want to tell it, or even some portion of the story, they can gather some measure of

protection from what they see as a hostile policy machine. This means that Lamalerans are willing to open their community, to a limited extent, to take people hunting and show them rituals, on the bet that they will be able to shape the narrative to better show the world who they are. In addition it cannot be ignored that media teams represent cash flowing into Lamalera. Visiting groups pay for everything, from the privilege of going out on boats, to housing and food, to transport. They represent a real (if not always predictable) source of cash income for Lamaleran families who have limited access to the cash economy but increasingly need it in order to pay for school, clothing, gas, and commodities.

Photographers and documentarians are looking to tell a compelling story that will appease their networks and distributors and appeal to specific kinds of audiences (Bucsher and Igoe 2013). They are also in dialog with the codified forms and styles of nature and adventure documentaries that came before them, dictating expectation and taste. Both sets of actors are involved in a process of assessing the benefits that the other can provide. To pretend that Lamalerans stand on equal footing with international media actors in this transaction, however, would be both naïve and dangerous. Two experiences during my fieldwork are illustrative of the issues of representation and its impacts that have come with the influx of people and cameras.

The European Photographer

Matthias is a German traveller and photographer who has been coming to Lamalera for a few years and has returned for the opening of the hunting season. He stays at one of two homestays in Lamalera, Mama Udis's, situated on the hill in Lamalera A. In

our initial conversation he tells me that he came to Lamalera the first time after seeing imagery of Lamalera online and found it fascinating. He has learned some of the local language, *Lamaholot*, acquired Robert Barnes' ethnography of Lamalera, and has conducted his own self-styled investigation about cultural intactness by quizzing people about various terms and tools that Barnes listed from his research in the 1970s and 80s. Based on this process, he is firmly of the opinion that Lamalerans have already experienced a level of "culture loss" that means they no longer live a traditional life, and that we're sitting in the middle of a dying culture.

In the following paragraphs I include an ethnographic description and then subsequent analysis of an exchange with this photographer that took place in Lamalera in the spring of 2017. It serves to illustrate the process of image creation and thus participation in and shaping of the global discourse about Lamalera.

M and I cross paths one day as I am picking my way back through the boathouses after watching a hull repair of the Sophia. We stop in front of a different whaling boat, or peledang, that has been fitted with a platform on the back to carry an outboard motor. The fitting is an inelegant solution to a uniquely Lamaleran vessel problem. The stern portion of each of the whaling boats is called "the mother" of the boat. Each mother section is fitted with a unique carving that slots into and sits above the seam where the planks come together. Clan boat makers have told me that both this section of the boat, as well as the person that mans it, are called the mother because they are responsible for taking care of the crew as they're key in balancing and positioning the boat, and because it is their job to follow behind and support the father role, the harpooner or lamafa. The lamafa's position is at the other end of the boat, sitting or standing on a bamboo platform

off of the bow. The symbolic importance of this carving makes it impossible to remove, but it is directly in the way of the placement of an outboard motor. Whaling boats, because they're meant to hold a crew of ten or more people and withstand the head and tail blows of a 50-ton sperm whale also sit too high in the water for the small outboards that Lamalerans use. To deal with this, a kind of box of palm two by fours has to be constructed around the carving, with a lowered shelf attached to the back where the outboard can sit close to the waterline. On the day in question, Matthias gestures to the box fix and says that he has been photographing the conversions both this year and last. He says emphatically, "Isn't that really the only story left to tell here?"

(Fieldnotes, Lamalera B, Lembata April 2017)

From Matthias's perspective I can see the attraction: a complex story about culture loss, struggle, modernity—all things that Westerners like to read about in relation to exotic places—all tied up in one iconic and easily photographed piece of equipment. It's a culture photographer's dream. From my perspective, however, these photos are the perfect example of the pitfalls of visual representation, of how outsiders control the narrative of Lamalera through their photographs and films, and of how their images come to have very real effects on the ground, and in the water, in Lamalera.

The narrative that hunting in Lamalera has been tainted through the use of outboards contributes to a discourse that I have heard in the offices of NGOs, at the provincial university, and from officers of the Ministry of Marine Affairs and Fisheries. The main thrust of the narrative is that Lamalerans have been contaminated by contact with modern technology and markets and that because of this they no longer have the right to claim status as a traditional or customary community, and thus to hunt animals.

Outboard motors disrupt their image of what traditional (and therefore acceptable) hunting should look like.

Lamalerans see the use of outboard motors much differently. Outboards are a tool that allows hunting—and thus meat exchange, and the core of their cultural identity—to continue in the face of a graying fleet and major out-migration pressure. Outboards mean that hunting boats can go out with smaller crews than would be required to execute the hybrid rowing and sailing method of the past, which ideally need a crew of twelve. They also represent a measure of safety. Marine hunting is dangerous, especially the way Lamalerans hunt. Injury and even fatality are not uncommon. If something goes wrong, nearby boats can come to the rescue faster, or take someone to shore. They are also less vulnerable in case they are swept out to sea by freak storms or boat failure, something that has happened multiple times in the past.

These benefits don't mean that the technology transition has been without issue. There has been concern and major disagreement about how to pay for gas and how to compensate the "role" of the outboard in the traditional catch and meat sharing process. The disagreement has been mostly intergenerational, in that older and retired hunters are more worried about these impacts than younger hunters, who cannot see a way around using outboards. On balance, however, for the majority of Lamalerans in the fishery, outboards are a tool of adaptation, preservation, and safety—not a symbol of culture loss or distortion of tradition, as Matthias' images would tell us. Outside of Lamalera, however, I have never heard any stakeholders voice this perspective, or any of the positives of outboard use. It is important to note that this struggle over image in relation to practice has been mirrored in the experiences of traditional marine hunting groups

across the globe. Indigenous hunting communities from Washington State and Alaska in the U.S., as well and from Canada and Greenland, have all faced similar issues regarding the use of outboards, harpoon technology, snowmobiles, and more (See Wenzel 1991; Francis 1992, Kalland 2009; Cote 2010).

Fighting for a Shot at Whale Rock

At the opening of the hunting season in 2017 a series of film crews arrived in Lamalera to document the ceremonies, and (they hoped) a whale hunt. The largest was a documentary team from South Korea that included a director, a group of five cameramen, and two fixers. A smaller three-person film crew from Japan arrived a day or two later, along with a translator from Jakarta. These complemented the presence of the German photographer mentioned above and the research assistant of another Japanese photographer, who would arrive a week later.

Each year the hunting season opens on the first of May with a large mass, called the *misa lefa*, celebrated on the beach. This mass is attended by more than a thousand people. All levels of government staff, people from other parts of Lembata, and non-resident Lamalerans from across the island and across the nation, return home to attend. Two days before, however, an older ritual that summons the spirit of the whale and other marine animals must be completed. This ceremony is framed as an act of ritual entreatment or supplication. The traditional words used in the ceremony to describe the need for it state that "the clans are hungry, the women and the children are crying out for vegetables." This ceremony is performed by the head of one of the two original landowner clans who live in Fukalere, the hamlet on the hill above the central village. It

consists of two main parts. First the head and members of his direct line climb up the now extinct volcano that sits behind and above the village to a large rock formation in the forest, where a chicken is sacrificed. Next they process down the mountain, stopping at a series of rock formations called whale stones to pray and make offerings, until finally the procession reaches the beach and enters the ocean, delivering the spirits into the water for a ceremonial cleansing.

What follows is a second ethnographic vignette regarding that ceremony. It describes not only the summoning ceremony before the misa lefa in the final days of April 2017, but the impact the process of outside documentarians filming and photographing it has on the ceremony and the people.

The week before the misa lefa I interview the clan head as well as the mother of the clan house to learn about their roles. I had been instructed to arrive at four am the morning of the ceremony if I wanted to accompany them. I arrive in the dark and slowly over the next hour the house fills. The day before the clan leader told me that he granted permission to two of the South Korean team to come with us to film, and there had been some discussion of the logistics of this back at my own house, in terms of who would accompany them from the village. Half an hour later however, Frans, a resident who sometimes works as a guide, arrives with three Koreans and Matthias, the German photographer, as well as two other guides who have been sent from the district level tourism office to accompany the South Korean team throughout their trip. The clan leader and his family are visibly unhappy about these additional members but don't forbid them from coming. Preparations and cups of coffee are finished and we head out

in the predawn light. This year, the clan leader is aided in his duties by his younger brother, who is in his twenties, and his teenage son.

We start the climb to a settlement higher up the mountain called Lamamanu. There, we are met on the road by even more people: the two Japanese photographers, their Javanese translator, another guide from Lembata's capital, and a local minder in the form of my adopted uncle K. These other additions are greeted with impassivity from the clan leader. We stop at a house in Lamamanu to pick up a live rooster for the ceremony, and this first sign of cultural activity prompts a flurry of crew activity; cameras are picked up and directed into everyone's faces. The clansmen keep their cool with all of the activity and interest, wearing practiced blank faces and ignoring cameras. Activity flags as for the next two hours we hike up the mountain through fields of beans and corn, and then into the forest. The Korean team starts to slow down, sweating, swearing, and crashing through the brush along the trail, hampered in their efforts by a combination of dew-slicked rocks, the increasing incline, and badly suited footwear. At some point in a densely planted bean field we lose the Japanese translator and Frans the guide with her. We string out through the forest, the clansmen up ahead, keeping the groups in communication through a series of trills that imitate birds.

We arrive in a small swale in the forest, the site of the main sacred rock formation. The clansmen get to work as the crews struggle into the clearing. They clear the rock area of weeds, and then harvest a series of plants they will use in the ceremony: ferns and a long-leafed grass. The boys shinny up palms to knock down coconuts for water. Most of this is done without speaking, as an atmosphere of focused quiet hangs over the group. Since there is no verbal communication between the documentarians and the clansmen,

an issue erupts when it becomes clear that the preparations are over and the ritual itself begins, with no fanfare. The Korean director is angry because his cameramen are not in place and he also wants to wait for the guide he is familiar with, Frans, to explain what is going on. He starts to yell for Frans, facing back down the path through the trees, the sound loud and jarring in the previous silence. The clansmen look at the spectacle for a moment and then keep going, placing a series of plants on one of the rock formations and beginning to pray. At this point the two crews begin to fight for position, crashing around in the bushes of the clearing surrounding the clansmen, trying to get an unobstructed view of the action that doesn't reveal other cameras. The director of the Korean team tries to set up a press line so they don't get in each other's shots, which he himself then immediately violates because the space in which this is all taking place is small, full of rocks, and not totally cleared of shrubs. The Korean team director gets more and more frustrated at the conditions. This comes to a head when he tries to stop the ceremony because he feels like they're not getting satisfactory shots. The German photographer snaps into action at this moment and crashes through the bushes to the Korean team, raising his voice to say, "Stop! You cannot demand that, or act like this. This is their culture, their ceremony." The director immediately apologizes, but moments later, everyone continues to circle the clearing as before. Throughout this uproar, the clansmen resolutely carry on, never making eye contact with the crews, or looking directly at the cameras.

The clan leader cuts off the head of the chicken, positioning the body so that the blood flows onto the rock where the plants have been laid. The rest of the chicken is cut up and cooked over a small fire that the boys build. One cooked piece is given to the

rock, the rest is then shared between everyone there, along with the coconuts for water. The clan leader returns to the rock to pray, this time giving the rock pinches of tobacco taken from a woven container. He then makes a drink with the plants on the rock and holy water that he has brought in a bamboo stem. He prays a final time, drinks from the mixture, and pours the rest over the rock. The clansmen then tie the collected ferns around their waists, heads, wrists, and ankles, an activity that greatly excites the crews.

Once ornamentation is complete, the clan head's brother moves to the north of the clearing where a higher rock outcropping stands. He brings a small gong and a bushel of leaves he has collected. Standing on top of the rock, he begins a song using sacred words that I'm told are from an ancestral tongue that is no longer spoken. He bangs the gong four times, and then calls the spirits, making a series of three unique trills that I'm later told mimic animal sounds. He then waves the greens in a beckoning motion. Next, he steps off the rock and then moves quickly through the clearing, continuing to bang the gong, call, and beckon in sequence. The other clansmen quickly fall in behind him and the crews scramble to get into position to keep filming. The clan leader explains on the way out of the swale that the crews are to stay behind the procession and that they need to stay silent on the way down the mountain. This is so the spirits don't get confused about the request and the direction that the procession is going. We head down the mountain taking smaller footpaths to get to the smaller whale rock stations. The rules are instantly thrown out the window as the crews run up and down the trail trying to get good shots of the clansmen, now both adorned and singing, coming down the mountain. The procession moves quickly, through uncleared brush, as we get to the smaller mountain

hamlets, through people's yards and animal pens, following a path that they've used since time immemorial.

We make it back to the clan house in Fukalere where the final whale stone rests in the yard. From here we will proceed to the final rituals down at the beach and the men will enter the ocean and deliver the spirits. For now, we stop for a rest and the group is given chairs to sit in a circle outside the house. As the clansmen take a much-needed cigarette and snack break I move to stand with the women, who withdraw with me back into the house. Mama E, the clan house mother, gestures me over. She immediately tells me that she is upset because the film crews are not following the rules to stay behind the procession, so as not to get in the way of the spirit movement, or distract the clansmen in their sacred duties. Still agitated myself from witnessing what transpired during the ritual I tell her about the crews bickering and disruption. "My oldest son was just telling about this" she tells me, "he is really mad, and he was already angry when he saw that German guy arrive because he didn't follow the rules last year either, even though it's been explained to him many times."

She goes on to speak about how difficult this situation has become for her clan to manage, and here relays something critical for my understanding of how media and its influence functions here. "But Flo, this is the only thing that we have to offer…The other clans are boat-owning clans and they can take people out on their boats. Those who live next to the beach, they can have the tourists come and stay in their houses. We the landlord clans don't have that. They never come up to our houses up here on the cliff."

(Source: Fieldnotes, Fukalere, Lamalera A, Lembata April 27, 2017)

The predicament strikes hard in the moment. Lamalera's cash economy depends on the input from tourism and media. Many Lamalerans don't bother to differentiate between these two groups of visitors—a fact that I find telling about the types of people who visit here and their interests. The price of letting outsiders in can be high though. The total disruption of, and disregard for, the sacredness of ritual that I witnessed on the whale spirit summoning represents this cost. Whether intentioned or not, motivated by sheer ignorance or lack of respect, the impact here remains the same. The need to balance the un-ending and non-negotiable need for cash to pay for school, electricity, and commodities with the need to protect a people's cultural heritage and personal spiritual practice, is a heavy burden.

Mama E's comment also displays how gaze functions at the micro-scale here, hyper-focusing on certain elements of life and practice. She believes that the only media-worthy part of this clan's lifeworld is this ceremony, that sharing this part of their cultural and spiritual practice is "all that they have to offer" to crews, and thus to viewing audiences. This perception isn't being pulled from thin air, but is based on past experience. Other, equally important parts of their cultural and spiritual practice, such as her preparation of the clan house, or the role of this clan in village dispute resolution, have rarely, if ever been put on film. They're harder to capture, less dramatic, less *cinematic*. They look less exotic because the activities take place in homes, with the trappings of modern life such as televisions, plastic chairs, and cups of tea. The German photographer, for example, didn't take any pictures while we paused at the clan house during the summoning ritual because there was a large dirty plastic tarp in the

background. The previous year had been better, he explained, because "the tarp wasn't there, so it looked more natural and beautiful."

From a strategic perspective, allowing outsiders to see and document this ceremony is a smart, even necessary, move in Lamalera's war of position (Gramsci 1999). The whale rock ceremony is a keystone in the community's case for cultural authenticity and thus their right to hunt marine animals. It provides clear and striking visual evidence for their historical and spiritual connection to the land, to the ocean, and to marine animals. If framed this way, it can stand against the discourse portraying them as uneducated people who don't care about animal rights or the preservation of species, and the constituent images of blood in the water that circulate through conservation activists, animal rights advocates, and urban viewers interested in marine conservation and charismatic megafauna. The atmosphere of sacredness and ancientness that the images can indeed capture also may subvert the challenge from the Ministry of Marine Affairs and Fisheries (MMAF) that Lamalerans must follow fisheries policy like all other Indonesians. So again, in this secondary sense, Lamalerans can't afford *not* to let cameras in.

The National Gaze

Of course, international reporters and film crews are not the only members of the media that come to Lamalera. There has been a steady flow of reporters from inside Indonesia in recent years, especially since the conflict surrounding the MPA began. Lamalera's culture and struggles have been covered by major national news outlets including *Kompas* and *The Jakarta Post*, as well as by the newer regional newspaper the

Timor Express and others. In addition to this, Lamalera has become a desirable bucket-list location for freelance Indonesian photographers and semi-professional hobbyists, bloggers, and adventure travellers, whose ranks are increasing significantly in Indonesia in tandem with a growing demand for high quality photography for social media. Indonesia now represents one of the largest global media markets. Industry research has shown that Indonesians log more screen time, through smart phones, than any other nation in the world (Amin 2014). Facebook, Instagram, and WhatsApp are ubiquitous in people's personal and professional lives in every part of the country, enabled by the robust expansion of the state-owned cellular network.[8] An increasingly sophisticated and avid appetite for visual imagery of all kinds has gone hand-in-hand with this expansion.

In 2014 an Indonesian photography team from a working group called Poros Photos came to Lamalera from Jakarta to document marine hunting practices as well to explore the impact and potential of tourism. They were funded by a joint innovation and policy fund between the Australian and Indonesian governments called the Knowledge Sector Initiative. Out of the project they published a photo essay and accompanying narrative that details some of the impacts of tourism in Lamalera. The photographs that dominate the report are all visually stunning and include live action shots, posed portraits, and landscapes. They're dramatically lit, using heightened shadow and saturated colors for impact. They are similar to iconic imagery from *National Geographic* or *Phaeton*, and mimic the styles of famous photographers like Steve McCurry, who shot the iconic and then-anonymous *Afghan Girl* in 1984, or the more recent and controversial work of

[8] According to Lim (2013), "Indonesia had become the third largest nation on Facebook… with 43 million users and fifth on Twitter with 29.4 million users…The blogosphere has grown rapidly from only 15,000 bloggers in 2007 to 5 million as of 2011."

Jimmy Nelson in *Before They Pass Away* (2015). There are portraits of multiple clan heads and harpooners, posed shirtless in their ceremonial sarongs, or *nofi*, against whale bones, or standing on the rocky shore. Women are portrayed doing traditional tasks like spinning cotton and carrying large portions of fish on their heads. There is little depiction of the rest of life in Lamalera however: no children in school uniforms, motorbikes going to market, or people watching television. We see no health clinic, village government office, or people lining up to fill plastic gallons of fresh water that are pumped into the village through a few precious pipelines. The Lamalera of that essay, and of so much of the Indonesian media coverage, is a place seemingly outside of time.

It is difficult not to conclude that many of the national photographers who come here have absorbed and now practice a form of primitivizing gaze (Myer 1998). The discourse of primitiveness is one that many Indonesians from remote parts of the country feel characterize their interactions with the center (Zerner 2003). This problematic discourse is part of a long-term rift within the Indonesian national project that has been described by many; one that combines post-colonial socioeconomic patterns, ethnic boundary keeping, and class conflict (Peluso 1994, Li 1999 and 2007). With the influence visual imagery curation by and for urban and upper-class Indonesian audiences, a moment arises that looks similar to depression-era photographers in the United States. During that period, a now-famous group of photographers worked for the U.S. Farm Security Administration to portray the challenges of rural poverty. Their photos were hugely influential on both policy and zeitgeist, but they were also critiqued, then and now, for producing a type of exotic beauty and spectacle out of economic inequality and hitherto unremarkable rural circumstance (Miller 2017).

Beyond formal media publication venues, the iconic nature of Lamalera's hunt itself is something that the entire province of NTT capitalizes on. For example, one entire wall of the arrival hall of the airport in the provincial capital of Kupang is taken up by a famous photo of a hunting boat about to be whacked by the huge tail of a sperm whale. In the corner, the logo of the provincial office of the Ministry of Tourism is clearly marked. A Google image search of Lamalera reveals this and many other images in advertisements for tours of the province, in the blogs of individual travellers, and on amateur photography competition sites like Nat Geo's Your Shot, Hidden Lens and more. Added to this volume are the incalculable images circulating privately on the Facebook, Instagram, and WhatsApp accounts of affluent Indonesian adventure tourists who come to Lamalera and take pictures. The intensity and frequency of the use of these apps, especially among urban, tech-savvy, and educated consumers, mean that such images may be as powerful in shaping perception about Lamalera as formal news venues.

Shared Impacts of International and National Gaze

There are some similarities in the way that both the international and national gazes 'look' at Lamalera. Both can be seen as contributing to a primitivizing discourse in that they strive to avoid or eliminate certain kinds of visual imagery (e.g., cell phones or motorcycles) that show Lamalera as a contemporary village in Indonesia in the twenty-first century. Both gazes also contribute to a discourse of masculinity in dialog with traditional marine resource use. First, they often eliminate entirely, or only briefly feature, the activities of women in Lamalera, and second they portray 'maleness' in Lamalera in a specific, etic-oriented way. One discreet example of gender performance is

exemplary, that of child-care. I have never found a photograph of a man holding or taking care of a toddler or small child in the visual imagery of Lamalera, and yet this is a daily scene, on the beach, or in the street. Men are active participants in childcare, and often take small children with them to the beach if they're working on something stationary, or waiting on the beach watching for boats or whales. The role of proactive and nurturing father and grandfather doesn't fit into the hyper-masculine discursive formulation that Western and urban audiences hold in relation to the word 'traditional whale hunter' though, and thus it appears to be edited or left out.

By keeping lenses trained on very specific individuals and elements of life in Lamalera, both kinds of media teams create issues of inequality and power imbalance within the community. For example, within the active fishery, photographers and documentarians spend the most time interviewing harpooners, or *lamafa*, because of their iconic and easily understood role in the hunt. This choice ignores a complex system of boat ownership, management, and maintenance. It also ignores a host of important skills, including but not limited to: harpoon makers, navigators, and more recently the outboard operators, who are responsible for positioning the boats so that harpooners can execute good jumps. Due to this erroneous prioritization, lamafas receive many more benefits from outsiders, monetary and otherwise, than individuals with other roles in Lamalera.

During the height of media activity for the opening of the hunting season in 2017, one research participant, who is not a harpooner or a regular hunter, protested in frustration: "Why is it that these people only want to talk to lamafa! Why do lamafa seem to only have the authority to speak about our culture? I too have the right to talk about Lamalera!" This man was not alone in his grievance. During my time there, many

community members expressed feelings that the benefit of media attention falls on those who are most visibly involved in marine hunting, and those who are lucky enough to be able to position themselves to deal with outsiders, like the two homestay operators. This is seen as unfair from a monetary perspective. It is also seen as warping traditional forms of hierarchy and social roles, an issue that becomes much larger than any individual or family's income. Harpooners do have an important role to play, but elders and tradition teach that all roles in the boat are equally important because they all lead to a successful hunt. No one set of actors should be apportioned too much credit, and doing so upsets the all important harmony ideology that undergirds Lamaleran social structure (Nadar 1990).

The Local Gaze

In order to examine how a local Lamaleran gaze may function and what discourses its constituent images contribute to, I explore two different examples of image interaction. Through these examples I analyze how Lamalerans have constructed an oppositional gaze in their consumption of externally produced media about their community.

An Oppositional Gaze

As discussed earlier, hooks argues that black female spectators come to the viewing of films, especially those in which black women are depicted, with a unique and oppositional perspective (1992). This starting point allows for both self-protection from and a type of purposeful consumption of depictions and stereotypes of black femaleness, white femaleness, and male dominance portrayed on screen. Moreover, she argues,

quoting Annette Kuhn, that this way of watching can give pleasure and positivity, in the act of resistance: “not to "unsophisticated" enjoyment, by ourselves and others, of culturally dominant images, *but to the structures of power which ask us to consume them uncritically and in highly circumscribed ways*” (Kuhn quoted in hooks 1992, emphasis added).

Following hooks, I argue that as black women have developed an oppositional gaze to the shallow, circumscribed, and often offensive images of themselves in media, so too have Lamalerans. Two examples from my fieldwork illustrate how this gaze can function. In the winter of 2018 a Japanese photographer who had come to Lamalera multiple times since the 1990s returned to the village with the plan to make a new documentary there. When he returned he brought a copy of the television program he had made in the 1990’s and did a screening under the banyan tree in the center of the village. The film focused on hunting and hunting rituals, but also followed the meat trade, through the medium of one harpooner and his family. When I arrived two weeks later, both he and other people who live in the neighborhood reported that the overall reception of the film was positive.

A few days after my arrival, I too sat and watched the film, with the filmmaker and with the family that the filmmaker lived with. The father of this family, an active hunter in the fishery, later explained to me that older films like this can actually be nice for him and other Lamalerans to watch because they are often the only visual representation that they have of a previous era. He explained that it feels special to see the faces of their fathers and uncles, of friends as younger people, doing what they loved. For this man, and for other people that I talk to about seeing Lamalera on film, what they

choose to take away from the images and what is offered may be entirely different. So many of the films, through narrative control and visual representation, tell a story of primitivism, of an idealized savagery, as discussed above. Lamalerans do not participate in this discourse in their own viewing, however, and instead choose to frame the process as an opportunity to see family and clan that are otherwise only present in memory. In relation to current films being made, they may choose to see the process as a similar opportunity to preserve memories for future generations. In this sense, the documentaries can function like warped family home videos, controlled and cut from an etic perspective, but nonetheless full of familiar faces, locations, and events. This differs somewhat from the process that hooks describes (1992) in that the positivity comes not from actively choosing to de-identify with the subject, but rather in choosing to identify with the subject through a route that is not available to the intended audiences.

Oppositional gazes can also be turned toward the volume of still photography that has been taken in Lamalera. Many people active in the fishery here have photographs of themselves in their homes from the various photographers who have come multiple times over the years, or from publications that friends and family have brought them. There is one image in particular that I remember vividly. Below, I detail my encounter with the image in the home of its subject, and describe her relationship to it.

Maria, a tiny woman in her fifties who lives in the neighborhood of Wutunglolo, has been a widow for many years. She and her daughter support themselves by weaving sarongs and selendangs, a sort of scarf that is common in the province. Weaving is a traditional form of women's labor here and many women, though not all, now weave for both domestic sales and tourists. In visiting her home one day I notice a photograph in a

style I have come to recognize. In 2014 one of the Poros photographers took a shot of her and her daughter in traditional dress, posed with their drop spindles and baskets of cotton, on the rocks at the edge of the village's cove. The photo is taken at sunset, dramatically lighting their faces, the rocks, and the surf that churns beneath them. It's a spectacular photograph, but one that is quite divorced from the reality of their lives, and the every-day practice of weaving and women's work in Lamalera.

A large print of this photograph is hung in her two-room cinder block house, next to a picture of the Virgin Mary, and a small wallet-size photograph of a deceased relative. I ask her what she thinks of this image after she sees me staring at it and she shares with me her experience with the photographers, who she described as interested and very polite. She tells me that they came to her house one afternoon with the idea for the picture and laughs when she explains how they asked her and her daughter to clamber out over the rocks with their baskets and spindles in their church sarongs. "Well" she finishes, "when they came back after that first trip they brought the photo to me as a gift. They did that for a lot of the people that they took pictures of. And you know, it is the only picture that I have of me and [my daughter]."

(Fieldnotes Wutunglolo, Lamalera B, Lembata February 2017)

Maria doesn't further critique the romantic and exotic nature of the photograph, the silliness of standing with a basket of raw cotton on slippery rocks above the surf, when normally spinning and weaving is done on shore, in good light, in a dry place. It's not that she doesn't see those things. They're obvious to any woman who does this work. Instead she chooses to engage with the image based on its value to her. The form of gaze that Maria explained here is shared with many people in the village. Prints are scarce and

expensive. Moreover, high quality prints like this one are impossible to find almost anywhere in the province, much less this island. Her summary is perhaps an even more practical version of the family home video idea that the Japanese TV series represents for hunters—a family portrait, posed and shot by a stranger, but valuable regardless, because it provides her with an image of a relationship that she would not otherwise have. She doesn't need to engage with the frames that the image creator placed upon the photograph, or with the intended audience (Lakoff 2010).

Conclusion

The idea that representation is controlled by the powerful and focuses on the distinctive is as old as storytelling itself. Lamalera provides an important case study for how visual imagery is curated for specific global audiences and then how these images, and the discourses of which they are a part, fold back into the communities that they depict. As Hall's theory of discursive formulations suggests, through this process, the images impact both policy and action in Lamalera by external actors, but also emic representations, ways of thinking, and being in the world by influencing what knowledge is "useful" and "true," and which "subjects" are allowed to speak (1981).

When I returned to Lamalera in 2018 after having been away for a year, I conducted a focus group discussion that included village leaders, hunters, and clan elders about new developments in the legal standing of Lamalera's hunting practices and conservation policy. Not for the first time, our discussion quickly turned toward how to manage Lamalera's relationship with the outside world. Goris, a village elder who has worked both in and outside of Lamalera and who has thought deeply about its place in

Indonesia, stated during this meeting that he has long thought that Lamalera needed a media relations team. All outsiders would need to go through this body in order to do media work in Lamalera. This body would also be responsible for monitoring what content was created. “So much trouble has come to Lamalera because we don’t control the media” he said, smacking his hand on the coffee table for emphasis.

The idea that a media relations department would be necessary to preserve and defend a remote village’s traditional way of life initially seems paradoxical. But Goris is not wrong. A globalized media and the various types of gaze it produces and reproduces constitute an omnipresent force here; specters of the inescapable politics of representation; a politics that has hyper-accelerated with technological change since Hall’s comments about mass media in the 1990s. Because Lamalerans are subject to the whims of national and international attention, they are forced to compete in the representational arena, to tolerate the otherwise intolerable, if they are to have any say or influence on how they are gazed upon. This engagement is important to examine, as an oppositional force and as an assertion of agency. Regardless of this work, however, Lamalerans are left with few levers of power in the system that determines whether or not their way of life will be protected through a legal exemption based on a customary status designation. Even if they do ultimately win that legal struggle, they will have to continue to try to shape and influence the representation of Lamalera in order to maintain it.

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Appendix B

Renegotiating the Tribal Slot: Tradition, Authenticity, and Marine Resource Rights in Eastern Indonesia

1) Introduction

Anthropology has long been concerned about the relationships between traditional peoples and the environment. Along the way both of those terms—"traditional" (and its near adjacents of "local," "indigenous," and "tribal") and "environment" (or "nature") have been thoroughly interrogated. One of the most important developments in this area has been the work of scholars who examine how determinations of authenticity and cohesion are made about traditional groups, and how the employment of such determinations, by both internal and external actors, function to determine groups' rights to environments and specific natural resources (see Dove 2006).

In relation to the flowering of indigenous rights movements in the 1990s and early 2000s, a number of anthropologists examined how particular assemblages of environmental protection activism groups aligned with rural populations in a variety of international contexts (see Conklin 1997 and 2002). In Southeast Asia and Indonesia in particular, Zerner examined how young urban activists from the center, Jakarta, in their eagerness to provide legitimacy for indigenous rights, appropriated and often inaccurately portrayed customary tenure systems "through a green lens" (1994). In Malaysia, Borneo, Brosius's research for this period pinpointed the ways in which indigenous knowledge

was often invoked by conservationists in their efforts to preserve forests there (1996, 2005).

In an important turn, Li (2000) reframed this exploration with her work on the function of tribal claims in northern Sulawesi. Through a comparison of two adjacent upland farming communities and reactions to a large dam project in the area, Li brought into focus the interplay between rural groups and the activist communities that sought to align with them. Using Hall's concept of articulation, her analysis showed how emerging traditional or tribal designation in Indonesia had as much to do with a group's ability to position itself, marshal outside resources, and connect to larger discourses as it did with any set of internally cohesive traits or attributes. Citing Kipp and Rogers (1987) she noted "the distinctive ancestral customs claimed by Indonesia's more ethnicized groups are often 'less ancestral than exquisitely contemporary, a system of symbols created through the interaction of small minority societies, their ethnic neighbours, colonial administrations, the national government, and the world religions, Islam and Christianity'" (Li 2000: 158). Li was careful to stress that her study wasn't meant to point fingers about inauthenticity or accuse anyone of the invention of tradition, à la Hobsbawm and Ranger. Instead she made the point that many remote groups in Indonesia may have traditional attributes, but which groups are picked up by causes and reified through attention as more tribal or traditional was highly dependent on a series of internal and external factors working in tandem.

Li and Zerner's work at that time was in direct dialog with a newly emerging politics of indigeneity and tradition in Indonesia made possible in part by the 1998-9 fall of the New Order regime of president Suharto, a leader who had previously claimed that

Indonesia had no indigenous people (Li 2000). Since that time a broad coalition of political and activist movements have contributed to a national discourse on indigenous, tribal and traditional communities. As ever, these discussions are tied to a specific set of concepts surrounding the term *adat*, which translates to "traditional" or "customary." Adat is used to describe entire communities, specific local laws and prohibitions, as well as other cultural practices. It is used in technical legal arguments, and there is an entire body of law in Indonesia devoted to seeking alignment between national law and adat law, something which the current constitution does support (Butt 2014). But adat is also used colloquially and at its most general can almost be a synonym for local culture.

Today many rural and remote communities across Indonesia have been aligned and/or aligned themselves with international and Indonesia-specific discourses on traditional communities. While such alignments are not necessarily stable, as Li and others remind us, once claimed the designation also tends to have a certain stickiness—the slot can be hard to escape, or adapt. A question arises then about what happens once a tribal claim has been made and now must be maintained. As Dove and Li have both noted, the designations of indigenous, tribal, and traditional seem to allow for certain kinds of practices but not others, especially not more market-oriented ways of life (Dove 1993, Li 2000, Dove 2006). In relation to cetacean hunting globally, Kalland (2009) has argued that the definition of Aboriginal Subsistence Whaling (ASW) made by the International Whaling Commission, which identifies ASW as inherently not for profit and traditional, has the effect of forcing indigenous hunting groups to live in a mythic past. Meuhlmann (2009) explored this issue in her work with the Cucapá Indians in the Colorado River delta in the Upper Gulf of California. Both the government and NGO

stakeholders there argue that the fishing practices of this group are overly technology and market dependent, mainly because they use outboard motors, hire employees, and sell their catch. Moreover, their practices are thought to be unsustainable because their ancestral fishing grounds have been encompassed by a conservation area in what is left of the delta. Taken together these categorizations mean that the Cucapá don't meet up with external conceptions of how real Indians should fish (ibid.).

In her analysis, Muehlmann examines how the conjunction of multiculturalism and neoliberalism have come together in Mexico to provide a platform for excluding traditional and indigenous groups from natural resources on the grounds of inauthentic practice. Kalland argues that this form of thinking represents a new form of imperialism (2009). In Indonesia, the narrative of global neoliberalism is complicated by the fall of the New Order regime. Part of the negotiated state reorganization, called *Reformasi*, or the Reformation, was a major decentralization of governance to provincial and local levels. This was pushed, in part, by groups from the middle and grassroots upwards, and from groups outside of the usual cast of neoliberal characters such as religious factions (Vickers 2005, Manning and van Diermen 2000). Similarly discarding the blanket of neoliberalism, and struggling to characterize the Indonesian state after Reformasi, Aspinall (2009) describes it as a series of fragments connected through networks of patronage. These features make direct connections between state retreat and multiculturalism more difficult to trace here. The exploration of how, and by whom, traditional groups are made to perform and defend their livelihood practices remains hugely important, however, in both marine and terrestrial contexts (Conklin 1997, 2002; West, Igoe and Brockington 2006; Del Cairo Silva 2015).

Twenty years have now passed since Reformasi and the interrelated increase of tribal and traditional discourses in Indonesia. In the following pages I examine how the policing and requisite negotiation and performance of tradition have come to intersect with coastal communities, marine resource claims, and conservation planning in new ways in eastern Indonesia. These new ways include an almost perfect inversion of the previous alignment of conservation groups and remote communities, as some communities now seek status as traditional or customary communities as a way to defend themselves *against* conservation policy from both NGOs and the Ministry of Marine Affairs and Fisheries (MMAF).

My examination takes the form of a comparison between two communities in neighboring island districts of East Nusa Tenggara Province: the community of Lamalera in Lembata, and Pura in Alor (Figure 1). East Nusa Tenggara is made up of a series of small coral and volcanic islands that roughly ring the Savu Sea. There are 566 islands in total, but the majority of the population lives on ten of them. Both historically and at present a large portion of the province's population make part or all of their living from the sea. Fisheries statistics gathered by the provincial university show that over half of the fishery is made up of artisanal and subsistence fishers who work in low-gear, near-shore fisheries (Gimin 2017). Census data from the districts of Lembata and Pura show that marine resource use is a major economic driver, and in the villages where I worked, almost all households are in some way tied to marine-based livelihoods (Badan Statistik Lembata dan Alor 2017).

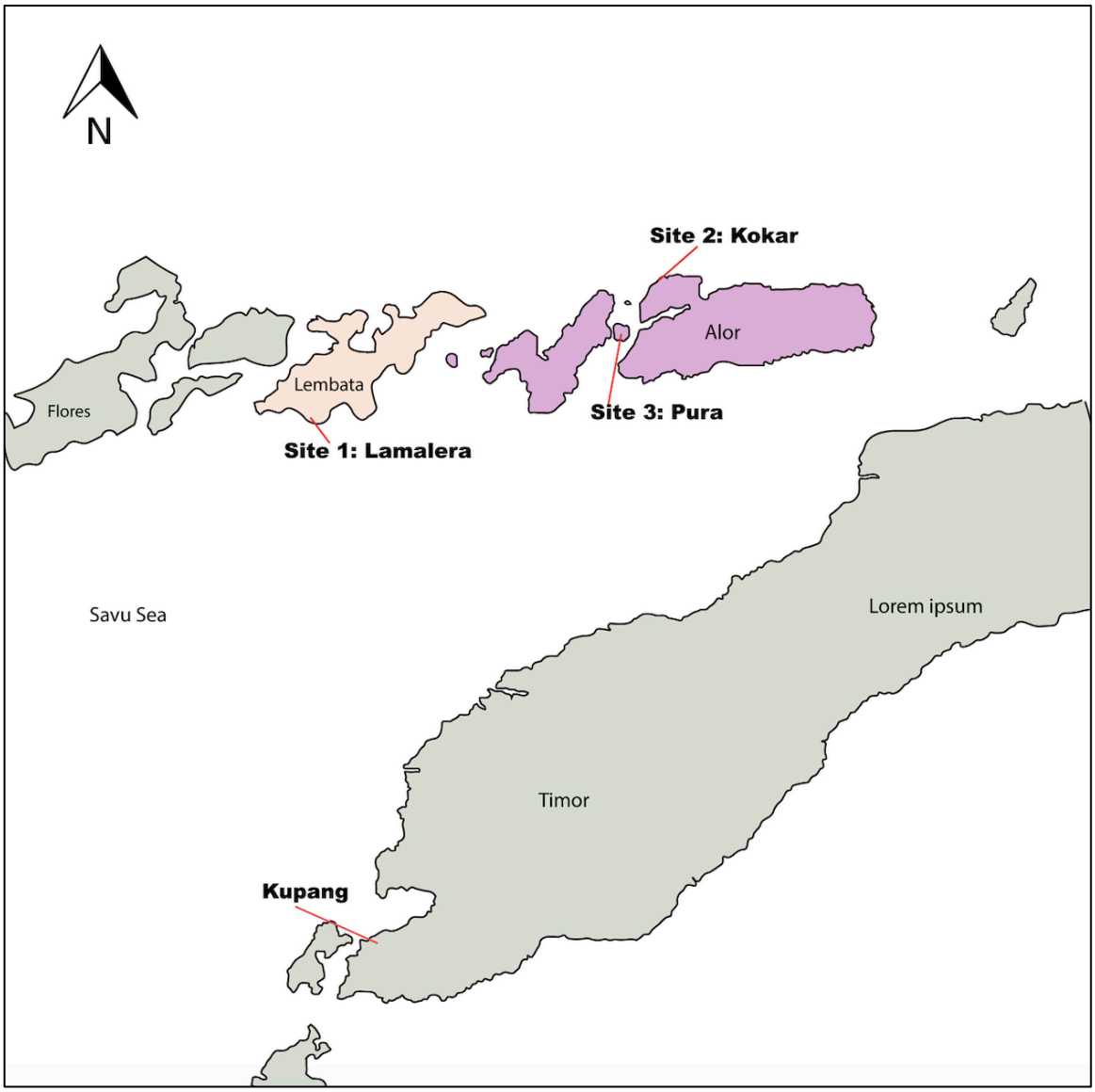

Figure 1. Fieldsites in Nusa Tenggara Timor Province

I originally came to compare these two districts based on their disparate responses regarding the designation of marine protected areas (MPAs). What became immediately apparent in comparing Lamalera and Pura was the different roles that claims towards traditional and customary practice played both in the negotiation of marine policy and in the political, cosmological, and quotidian experiences of each community. Broadly, livelihoods and identities of local people in both communities are inextricably tied to the

ocean, but the differential way that these ties have been classified, both externally and internally, has had demonstrable effects on both the daily life and political futures in each place. In the case of Lamalera, the community has been reified, and continues to view itself as a traditional group defined by a unique and controversial livelihood system based on the hunting and trading of large marine prey including whales, sharks, and rays. This practice puts them in direct conflict with marine conservation policy makers. In contrast, in Pura a traditional livelihood system that is equally dependent on a high value conservation target —an intact, healthy, and beautiful coral reef system—has been left unclassified and almost entirely unexamined. Some of this difference in classification and attention may be due to extant emic community characteristics: at a glance, Lamalera exhibits more of the "classic" characteristics of a traditional group such as a singular leadership structure, and a highly codified belief system (Li 2000). However, I argue here that a large part of the difference between these two communities' engagement with tradition-based resource claims can be attributed to the discrete combinations of media attention, tourism market pressure, and conservation policy mechanisms that are in play in each community.

I conducted 13 months of ethnographic research in both communities and in the provincial capital Kupang, between 2016 and 2017. I interviewed fishers and hunters, conservation NGOs, fisheries managers, tourism operators, and a host of other stakeholders. Analysis of this body of data, as well as what has been written in the press about these communities, shows that a major locus of claim-making discourse about traditional status seems to be in the technical practices of the fisheries. As Muehlmann showed in northern Mexico, *how* traditional people fish becomes a major factor in

whether they are allowed to fish, once a claim of traditional or indigenous status is present. In order to analyze how this process works I detail traditional marine resource use patterns in both communities, and then how practices are changing in relation to a host of pressures from education and outmigration to technological adaptation. The differences in the reception of, and discourse surrounding, changes in practice in particular lays bare the restrictive "stickiness" that comes with invocations of tradition and adat.

2) Traditional Marine Resource Use Patterns

Lamalera: Marine Hunting in the Savu Sea

Home to 1,900 residents, the community of Lamalera sits above and behind a small cove on the southern side of Lembata, facing the Savu Sea. It is now somewhat famous as the last traditional whaling community in Indonesia. More accurately, this community was part of a larger regional practice of hunting large marine prey including a number of cetacean species like sperm whales, pilot whales, and dolphins, as well as rays and sharks, and large pelagic fish like marlin. It is now the one remaining community that has not signed on to a conservation plan, and instead continues to practice a traditional way of life rooted in hunting.

The community's hunting practices lie at the heart of an environmental cosmology that ties its people to both their cultural history and the local marine and terrestrial environment in a self-sustaining feedback loop. It syncretically blends older elements of animism and clan-based ancestor worship with Catholicism, introduced in the sixteenth century by the Portuguese (Barnes 1996). At its core is the understanding that

the community's ancestors are responsible for sending marine animals to the waters off their shores for Lamalerans to hunt and to share. This meat, along with the other foods for which they barter (and now sell), nourish the next generation of their community. When these members die they join the ancestors, thus completing the circle. Animals are considered *rejeki,* a word in Indonesian that connotes a blessing in the form of a gift. The success of hunts, which are semi-communal, is dependent on maintaining harmony within families and clans to which they belong (Nader 1990). Lack of harmony means losing the blessing of the ancestors, which can result in increased danger and failed hunts.

The fishery has never been large, as the population has not experienced very much growth (Barnes 1996). Due to an intersecting series of factors including increased access to continuing education and outmigration, the current fishery is the smallest it has ever been, and comprises approximately 120 men at its largest during hunts at the opening of the fishing season. This shrinks to as small as 20 or 30 active hunters during other parts of the year. The small size of the fishery belies its centrality, however. Much of life in Lamalera is symbolically or physically tied to hunting. All Lamalerans belong to clans, and each clan owns a hunting boat or *peledang*, which is in turn tied to a clan house and a seasonal schedule of rituals. According to oral tradition there are three original hunting clans and two land owning clans, each of whom have distinct responsibilities and rights within the community and who together form an ancestral authority structure.

Hunting boats are traditionally powered through a combination of rowing and sailing and are manned by a crew of approximately twelve men. From back to front this includes positions of navigator and rudder man, rowers, sail managers, and bailers, then

an assistant/secondary harpooner, and a main harpooner at the front. The harpooner spends the majority of his time standing balanced on a ladder-shaped bamboo platform that extends from the front of the boat (see Figure 2)

Figure 2. Front of traditional hunting boat or *peledang*

Boats launch together but spread out throughout the mouth of the small bay where most hunting takes place. Boats often regroup once an animal or pod has been spotted, and work in a form of competitive collaboration to bring animals in. When the boats come back from a hunt, animals are parted out through a complex and centuries-old system based on which boats were active in the hunt, who made the boat, sail, and harpoons, as well as the clan relationships between the people in each of the boats. Once the formal butchering of the animal is finished, smaller portions of meat are then further

shared between friends and neighbors through a gift economy known as *b'fauna* (Nolin 2010). Lamalerans often emphasize that b'fauna represents their system of social care. "No one goes hungry here in Lamalera," a clan head told me in describing the system, "we take care of our widows and orphans, not like in big cities."

Historically many other parts of cultural life were also tied to this system. Gender roles are a good example; it is the responsibility of men to go to sea, but it is the responsibility of women to prepare and cure the meat, and then to barter meat for fruit, vegetables, and commodities with external communities. Lamaleran women trade with women from the mountain villages at weekly open-air markets, and travel to villages in other sub-districts to barter and sell door-to-door. This system, in turn, connects Lamalera to the rest of the island, and whale meat and fat can be found a five-hour truck ride away to the north and east.

Local ecological knowledge about navigation, seasons, weather, tides, and animal behavior are considered general knowledge that is shared broadly within the fishery by all participants. Young men enter boat crews in the position of bailer, so that they can watch and learn from elders. Specific skills such as harpooning, and the crafting of boats, sails, and tools are considered proprietary knowledge and are passed down through clan lines.

Marine hunting in Lamalera is divided into two types based on season and prey type. The first is hunting that occurs during the *lefa nue*, or marine hunting season, which runs from the first day in May through October. It represents the bulk of fishing activity where boats go out and actively search for a variety of marine prey including small cetaceans, three species of rays, sharks, as well as large pelagic fish like marlin and

sunfish. The second type is called *Baleo*, or opportunistic hunts that happen only if sperm whales (or in rare cases orca) are spotted offshore. These hunts are what make Lamalera iconic, as people repeat the call of "Baleo!" through the village like a communal megaphone, and any available men stream down toward the beach to launch their clan boats.[9]

In interviews Lamaleran hunters and elders stressed that in accordance with their customs they do not target every animal that passes by their shores. Selection is based upon both sacred and practical reasons. They don't hunt blue whales for example, because according to oral history, one of their clans was rescued at sea by one while trying to cross eastward from another island, and its people were brought safely to Lamalera on its back. Blue whales are thus considered to be ancestrally affiliated with Lamalera and not prey. Large whale sharks are not targeted for more practical reasons: they're too big for the traditional boats to handle or tow and hunters would never target an animal that they knew they could not bring home.

A few other forms of marine resource gathering supplement hunting here. There are approximately three to five residents who go out in small sailboats, primarily for flying fish during the calmer dry season. They use nylon nets bought externally and trade and sell their catch for cash directly from their boats each day. Individual men and boys also occasionally spear fish and hand-line from the rocky shores around the main beach, but this is considered a useful filler activity, not an occupation. Occasionally, if seas are

[9] The volcanic geography of the Lesser Sunda islands means the island of Lembata rises steeply out of a deep section of the Sunda Sea. This creates a unique situation where sperm whales pass much closer to the islands southern shores than other places in their global range and can be viewed from the hills above Lamalera and its small beach

calm and there are no fish to be had, women also glean the rocky shoreline for small shellfish.

Pura: Reef Diving in the Pantar Strait

Moving one district eastward from Lembata and to the remains of another ancient volcano, the island of Pura rises steeply out of the center of Pantar Strait, between the islands of Alor and Pantar. There are now six officially recognized settlements on Pura, which ring the island's base. The majority of residents are Protestant, but two of the more recent settlements are Muslim, a demographic pattern commonly found throughout the district, based on both historical and current migration patterns and pressure (See Du Bois 1944). Relations between traditional residents of Pura and newcomers are peaceful, but there is little mixing.

Alor District has some of the highest linguistic diversity outside of the island of Papua, with over 20 separate languages (Klamer 2014). One of these distinct languages is that spoken on Pura. Like much of eastern Indonesia, Purans organize themselves into patrilineal and patrilocal clan groups, though descent is traced through both parents. The largest village and historical center of Pura is the main settlement, also called Pura, which numbers approximately 1,400 persons. It sits at the north side of the island above a shallow cove that provides respite from the intensely strong and divergent currents that move through the Pantar Strait and around the island.[10] Purans are known throughout the district for producing three things: *ikan tali*, small dried coral fishes strung on a rope and sold in bunches; *sopi* and *tuak*, wine and distilled liquor made from palm; and woven

[10] While I initially surveyed all but one settlement on the island, data collection took place primarily in this central settlement.

products in the form of basketry and fish traps. The island's motto about their traditional livelihood is that they are a hardscrabble people who make their living "from the sea, from the sky, and from the land." The sea here refers to their reef-based fishery, the sky represents the practice of climbing the tall palms to tap the naturally fermenting sap from their flowers, and the land represents the small hillside farming plots that Purans work through a system of shared labor and rotating dry cultivation.

Pura's close connection to the sea is one that is based on life-long and frequent observation in relation to two practices: trap setting and spear fishing. Until a generation ago, elders of the fishing community in Pura village explained, fishers on Pura used only these two techniques. All other tools, including nets, were banned according to *adat.* Bans all stemmed from the same logic: that such strange disruptive activity and technology used on the reefs could scare fish back into the depths, where free divers could not follow. Pura's volcanic geology and central location in the Strait means that the reefs drop off into coral walls that plunge into the depths of the Strait quite close to shore.

Pura's traditional traps, called *bubu,* are woven from bamboo found on the cooler forested upper slopes of the volcano. They usually form a slender cylinder with cone shaped openings leading into the center of the trap that a fish swims through (see Figure 2). The cylinder is then lashed to a rectangular base frame. Traps vary in size from about one by two feet to the size of a person standing upright.

Figure 3. A large bubu in the process of being woven.

The traps are placed on reefs and weighted down with rocks or pieces of coral, or occasionally suspended on ropes on the coral walls that drop off the steep sides of the volcano underwater. The size and placement of the traps depend on the target species. Fishermen dive the reefs and look for the eggs of fish that have just spawned. Recent spawning indicates that there will be increased fish presence as males will come to fertilize and others species come to eat the eggs. Appropriately sized and shaped traps are then wedged into corals or rocks near egg deposits to take advantage of the increased fish presence. Larger traps are placed in deeper water, suspended off coral walls on ropes, or

placed directly on the ocean floor in deeper, but still divable, areas where larger fish tend to congregate.

Traps are not marked at the sea surface with floats or flags. Fishermen here are as familiar with the underwater geography near their village as they are with the terrestrial one and have no issue remembering trap placement. Traps are checked each day or every other day, depending on their depth of placement. Men may pair up in order to paddle boats out to deeper placements, with one person manning the boat and a second diving down to check traps. Trap poaching was not identified as an issue, but like fishermen everywhere, interviewed divers acknowledged having prized secret spots that they tried not to share with others.

I argue that the close observation of reefs and fish behavior detailed here is the driving factor behind a characteristic that makes Pura's fishery unique in this region. While the island is known generally for its palm wine and fish on a rope, if you ask fishermen, Pura is perhaps more famous for the fact that they don't allow blast fishing on their reefs. Reef bombing, introduced by the Japanese during WWII, has been illegal for over two decades in Indonesia but the practice is still common. In Alor district one small island in the Pantar Strait to the north of Pura has gained a reputation as unrepentant blast fishers, but in reality, many of the reefs in the district have been bombed over a long period of time by multiple groups.

Interviews conducted with elders and fishers in Pura revealed that Purans don't bomb their reefs because of both tradition and practical knowledge. One community leader explained it this way:

> When blast fishing first came…our elders saw it. When they travelled to places in Alor and Pantar to trade fish and palm wine for sweet potato they would dive the reefs while they were

> there. They could see that when bombs were used in those areas the reefs were broken up, egg deposits were disturbed, eggs smashed. There were also fewer fish (Fieldnotes, Pura Village 2017).

Based on their knowledge of the importance of egg deposits, both for their own fishing practices and for fish reproduction and presence, Purans decided that they wouldn't use bombs, or allow them on their reefs. The island is made up of multiple communities however, and doesn't have an island-wide codified body of traditional elders or leaders; instead this appears to have been a series of individual and collective choices within households, clans, and settlements that solidified into an island-wide prohibition over time "If we bomb our reefs, what will be left for our kids?" summarized one expert diver.

Residents of Pura swim from as young as a year old all the way into retirement. Full tide and calm currents always see groups of kids splashing, swimming, and diving along the shore. As children grow older, however, the gender balance changes and it is rare to find older teen or adult women actively swimming. Women do actively participate in the fishery through reef gleaning and selling catch. For boys, swimming and diving come first and spear fishing soon follows. They learn spearing and diving techniques from watching their elder siblings and friends and through direct instruction from fathers and older community members. Effective spear fishing requires a combination of athleticism, breath control, and awareness of the underwater environment—both for fish behavior and for personal safety. Observing Puran men diving is like watching a soloist at the ballet— movements are economical but powerful, full of a sure grace born of long practice. The main targets are coral fish, eels, and occasionally benthic animals like sea cucumber, lobster, or octopus. Spear fishing is timed with the tides and is best just after a low tide is over and water levels are starting to rise again. Rising tides bring freshly

mixed water, and fish, back up over the reefs but mean that the water is not yet too deep, nor the current too strong.

Much of life in Pura revolves around the timing of the tides and related current patterns. As with many settlements on volcanic islands, most wells in Pura are slightly saline shoreline fissures based on tidal pressure, meaning that their water levels rise and fall with the tides. For women this means that water gathering for cleaning and cooking must all be coordinated with high tide, and with one another. At low tide, the uppermost sections of the rocky shoreline and reefs are exposed for gleaning. Gleaning is usually done by women and older children, who walk out along the reefs equipped with sharp sticks and baskets. Gleaned marine foods are described as a stopgap for the days when men come home with few or no fish. Purans eat small shellfish and crabs but also different types of sea anemones that grow in the crags of rocks and corals. Seaweeds are also eaten, in both cooked and raw form.

Not all people in Pura remain tied to these traditional marine resource use patterns. Asin Lamalera, a combination of social and economic opportunity and change has spelled transformations in livelihood patterns. Even for those in Pura who do stay, however, there have been changes to the way that they work, including in the methods and tools that people use to fish. In the next section I describe specific changes in the traditional livelihood systems of both research sites and how this relates to their identity claims and performance.

Changing Patterns: Tradition and Adaptation

While they remain geographically remote, neither Lamalera nor Pura have been isolated from a rapidly changing Indonesia. *Modernizasi,* or modernization, has increased access to education, the demands of an increasingly cash-based economy, and the relative ease of mobility bringing livelihood change to both of these communities, along with tens of thousands of others like them in the hinterlands and outlying islands of the archipelago. The term *merantau* technically means to wander, but has become a colloquial term in Indonesia that refers to the process of seeking one's living far from home. The economic impacts of merantau are now famous, as whole villages in Indonesia's rural interiors and islands have emptied of young people seeking higher standards of living and new lives in the big cities of Indonesia, Malaysia, and big cities in other Asian and Middle Eastern countries (Rajamuda, in press, Salazar 2016).

Outboards and Autonomy in Lamalera

Lamalera's hunting families are intensely aware of the bind that they find themselves in in relation to external pressures. They strive hard to pay for education in order that their children may reap the benefits of stability, increased job opportunities, and access to amenities like health care and mobility. At the same time, they know doing so means that they are actively reducing the future hunting fleet, and contributing to the hollowing out of their traditional livelihood system. "Sometimes it is really difficult to think about the future," explained one father and hunter from the Keraf clan in reflecting on this issue, "sometimes yes, it feels like we're living in a dying community with everything that is going on." Outside of any educational goals, some people also leave

Lamalera for cash-work opportunities, including working on palm oil plantations in Kalimantan, in construction in Malaysia, and in factories in Java. Many send remittances home, but this process is notoriously difficult and prone to predation (Hernandez-Cross et al. 2008).

The graying and shrinking of the fleet in Lamalera, in combination with technological advancement, has led to one change in hunting practices that has received a great deal of attention in recent years: the use of outboard motors. As described above, hunting boats are traditionally powered through sailing and rowing. In recent years, however, more people have begun to incorporate outboards into their hunting practices. This change accelerated five years ago when a rural development grant program from the national government gave out 15-horsepower Yamaha outboard motors. This change has created controversy both internally and externally.

The first outboard in Lamalera (or *Johnson* as they are called locally, after the brand of the first outboard brought there) was bought in the late 1980s by the Catholic Church and used to move about their diocese, of which Lamalera is the seat. This boat wasn't used for hunting but eventually would start to make runs out to find lost hunters or bring food and water to the hunting boats on long hunts. A few years later the head of one of the clans here bought a second outboard and commissioned a smaller boat to go with it. A few more clans bought small outboards along the way, until the government program mentioned above gave the 15-hp outboards to each of the clans, which are now all in use. The traditional hunting boats are not well equipped to handle outboards; they're too heavy, too deep, and sit high in the water. Instead Lamalerans started building

a different kind of boat, called a *bodi,* to handle outboards. Bodis are more streamlined and square off at the back to allow for the easy placement of the outboard.

The creation of bodis and their use has not been without issue. Everything about boat making and boat use in Lamalera is intensely ritualistic, steeped in hundreds of years of tradition and proprietary clan knowledge. Bodis represented a change in the system—one some people were happy to receive and that others were suspicious of. For example, bodis can have individual owners (or groups of owners who go in together), whereas hunting boats are owned communally by specific boat-owning structures within clans. Bodis do not have to be made to sacred specifications, and do not have to be consecrated by the boat makers and clan members with a specific series of ceremonies honoring the ancestors, as traditional boats are. Bodis and their outboards are also imperfect hunting tools. Hunters widely report that the sound of motors drives prey away, which extends hunting time, forces more fuel expenditure, and contributes to unsuccessful hunts. At the same time, most clans have problems fully crewing their hunting boats with experienced and able-bodied men. It takes a minimum of eight people to crew a traditional hunting boat, with ten or twelve being an ideal number. Due to the shrinking and graying of the fleet there are simply not enough men to crew every clan boat. Bodis helped solve this problem by reducing the number of crew from what would be needed to execute the older method of rowing and sailing.

As a compromise, a collective choice was made that outboards would not be used directly on the traditional whaling boats. Instead, for *baleo* hunts today, bodis are used to tow the hunting boats out to the area where prey have been spotted, and then let them go. Outside of communal *baleo* hunts, some bodis also go out during the marine hunting

season individually to search for other marine prey. A few clans, especially those who don't have the resources to build a second boat, have directly attached outboards to their peledang hunting boats for non-baleo hunting activity (See Durney 2019a for further detail about this process). It is important to note that even independently used bodis do not sit entirely outside the traditional system of hunting and meat sharing though. Boat crews are still made up of men who are tied together through clan relationships, and they still use the traditional system of butchering and sharing prey.

Lamalerans are very conscious not only of the impact of adaptation internally, but also of the effects that outboard adoption may have on their claims to customary practice and traditional identity. This consciousness was apparent during the opening of the marine hunting season in May 2017. A few days before the formal opening of the hunting season each year, clansmen come together for a ceremony called *Tobo Nama Fata,* meaning to sit and discuss on the sand. This ceremony represents a traditional dispute resolution process where individuals admit any sins or errors they may have committed in the last fishing season, and hash out any potential problems that they see within the approaching one. The discussion is mainly mediated by the head of one of the ruling clans, or *lika telo*, in this case the lika telo from the Bataona clan, which is responsible for marine affairs. Anyone may speak however. At the 2017 ceremony there were two main topics of discussion: what to do about the outboard controversy, and clarification of developments relating to their claims to adat status and the constituent legality of their livelihood. One clan leader spoke directly to the issue of outboards, stating that in their communication with the outside world Lamalera needed to emphasize that outboards are not making fundamental changes to their way of life. "We must all work to make clear

that outboards are *only* here as a form of help," he stressed. Outboards are used to bring supplies out to hunters on long hunts, to run for help when there are accidents, and to search for boats that have gone missing in storms (See Durney 2019a for more discussion of outboard benefits). He tied this to the second major issue through a claim of autonomy. Drawing on an often-voiced maxim that Lamalera existed long before Indonesia, he argued that Lamalerans have a right to continue their traditional livelihoods, and a right to be adaptive in how they go about this.

At this time Lamalerans were still agitated due to the arrest of a hunter six months before by a team of national wildlife police in the island's capital in a sting operation. In the wake of this arrest, representatives from the Ministry of Marine Affairs and Fisheries (MMAF) had come once again to the village to hold a meeting where they explained that nearly all of the species that Lamalerans hunt were banned under fisheries law. In relation to a resolution that had been made during a community meeting held after the MMAF departed, the mediating clan head requested that during this new season they have a period when only the traditional sails would be used. This could help maintain the system and to give younger people a chance to practice sailing, he argued, but would also show the outside world that they were still a traditional community following customary practices. Some supported this idea, especially older participants. There was also pushback from fishermen who argued that they need outboards to bring in meat to support their families and who were doubtful that such a gesture could do anything to protect their way of life. By the end of the ceremony the group settled on a period of a few weeks during the opening of the season when only sails would be used on hunts.

It is crucial to note here that outboards are not the only thing that is changing in Lamalera's hunting practices. Knowledge transmission rules are in flux, for example, also in relation to fleet attrition. However, outboards are an easy target to latch onto as a symbol of change or movement away from tradition, especially for external stakeholders who are not close observers of daily life or tradition there. Use of outboards has become a sign for outsiders that Lamalera no longer practices a traditional way of life. Beyond tradition, managers and conservation practitioners are afraid that outboards mean that Lamalerans are now able to catch more animals. Lamalerans counter that this is not the case. They point to 2015 when they caught no whales at all. They also explain that outboards actually make certain aspects of hunting more difficult, as discussed above. Outboards could also theoretically extend the range of hunting, but this has not occurred. Lamalera's hunting range has actually decreased by almost two thirds in the past 15 years due to the enclosure of historically negotiated hunting grounds to the east and west of Lembata with the establishment of MPAs around the islands of Solor and Alor.

Pura: Nets and night dives but no bombs

People in Pura pride themselves on having an inventive and strong work ethic. Perhaps this ethic, combined with previously discussed pull factors, has meant that many people have left the island, and the district, in search of success in the larger cities of Indonesia and beyond. They work in larger fishing operations, construction, retail, and in a smaller number of cases, higher education. Even with this amount of movement, the fishery in Pura remains active and centrally important. As in Lamalera however, the

current generation has seen changes to fisheries practice. These changes are both technological and experiential.

The main technological changes are the increased use of nets and the introduction of night diving using flashlights. One community leader and expert fisher in Pura explained that the previous generation of fishers learned how to use nets from Butonese fishermen who have settled in Alor, because they witnessed the increased catch that these fishermen were able to bring in. Over the next few decades, groups of Purans began to come together to buy nets and crew boats. The boats used here, and throughout this region, are all based on the model of a basic dugout canoe with outriggers. These boats can be paddled, sailed, and nowadays outfitted with outboard motors.

Purans have learned to use a basic form of circular net casting that requires four to six people. These nets are not species selective, but fishermen plan their use according to location, season, and weather to target specific species. Nets are sometimes used in the waters that surround Pura, but the strong currents of the strait limit activity. Thus, fishers in Pura Village reported that they also travel to a series of small bays on the neighboring larger island of Alor where they tend to fish for pelagic species like tuna. These waters have no local fishery, as residents of that part of Alor are farmers who live in the mountains. In return for use of these waters, these boats give a small portion of their catch to the upland residents, and then sell the rest to other local farmers and then to fish sellers who bring the catch to Alor's capital, Kalabahi, for sale. While I interviewed and witnessed multiple boats that use nets in Pura Village, not every village on the island has moved towards their use. For example in Apuri, a small village on the eastern side of Pura, residents reported that bans on using nets are still in place.

Another technological change is the adoption of marine flashlights for night diving in the past five to seven years. Flashlights were originally rejected because they were thought to scare fish resting on the reefs at night time into deeper waters. Only a few people have started to use them in Pura, and not everyone agrees with their use. Flashlights are attractive because fish are drawn to the light, and slower to react to diver movement. Flashlights also allow for a second dive period on days when ideal dive times in terms of tide and current do not line up with daylight hours.

Like nets, night diving is a technique that people in Pura have imported from outside fishermen. Unlike nets however, flashlight diving is something that Puras brought back to the island rather than receiving locally. More specifically, Puran divers learned to used this technique by acting as contractors. Some Purans dive the bay and strait outside of Kupang, but many participate in a very niche international commodity chain for *teripang*, or sea cucumber, that is found in large quantities on a set of reefs that sit between Indonesia and Australia. Contracted through operations based on the island of Rote, Puran divers work there on multi-month trips, using the expert free diving skills they've honed in the Pantar Strait. Divers estimated making between ten and twenty million rupiah depending on the trip ($700-1,400 USD), a significant sum in this region. Access to sources of cash has enabled people in Pura to pay for school and basic commodities, and to buy things like cell phones, TVs, and corrugated tin roofs. It has also allowed them to buy nets, outboards, and flashlights to use in their own fishery at home, thus contributing to the changes that have been outlined here.

New technology is not the only thing that has experienced change in Pura's fisheries. A mobile population and increasing outside opportunities may have also

impacted the process of knowledge transmission. Perhaps most notably, not as many middle aged and young fishermen are learning how to weave fish traps as in the past. In response to interview questions about why people didn't know how to make traps, older fishermen said that young peoples' focus was often elsewhere now; they went to school for much longer than previous generations, they worked off island, and spent more time doing other things. Traps are still commonly used but many fishermen now buy them from a shrinking number of individuals who know how to make them. There is currently only one person in Pura Village, for example, who knows how to make the largest and uniquely square-shaped form of trap called a *bubu plat*. In contrast, multiple older fishers reported that the number of people spearfishing at optimum tide has greatly increased in comparison to the number they saw their childhoods.

4) Policy Interaction and Responses in Lamalera and Pura

Lamalera in Turmoil

In 2009 a group of NGOs in concert with the Ministry of Marine Affairs and Fisheries (MMAF) announced plans for a new project that would create a very large MPA in the Savu Sea. This was driven by research on cetacean migration throughout the region and by the sharp increase in marine tourism on the island of Flores. With this new MPA in mind, planners from the NGO the World Wildlife Fund approached Lamalera with a plan that would transition the community away from hunting and toward whale watching tourism. The community immediately rejected this plan. Lamalerans could not envision stopping whaling. They were also dubious about the prospect of whale

watching. They knew that they themselves didn't have the types of skills needed to bring, house, or guide such groups of tourists. If they were not managing it, however, the proposed benefits would not flow into the community and Lamalerans would suffer a double loss. Over the next decade a series of other conservation projects were proposed[11] through collaborations between various NGOs and the MMAF, but all have failed to garner community support in Lamalera, and thus to move forward.

Clan and village heads explain that their community has continually refused to stop hunting because the practice rests both symbolically and practically at the center of their culture. They have staged demonstrations in the island's capital in front of the district government, and even sent a delegation to the national capital to appeal to a representative of Indonesia's highest court to appeal for changes to law and to the 2009 planning process. They have leveraged their contacts within government, media, and academia in their efforts to get their message across. Stopping hunting in Lamalera, many say, will spell Lamalera's death. Some community members frame this as a form of social death. Others, especially the elder generation, feel that ceasing hunting will also bring about physical death.

The MMAF and marine conservation groups have remained committed in their efforts to reduce or end hunting, however. MPA projects were successfully negotiated on the neighboring islands of Solor and Adonara, where marine hunting has also been practiced. Commercial whaling was banned in Indonesia in the 1980s, and most of the species that Lamalerans hunt have subsequently been banned in iterations of marine

[11] These have included a form of reverse MPA where Lamalerans would be given a small area in which to hunt in front of their village, which they found impossible to adapt to the physical realities of hunting, as well as reduction targets, and whale watching alongside of hunting proposals.

resource regulation. In terms of global policy, Lamalerans could fall under the exception for "Aboriginal Subsistence Whaling" created by the International Whaling Commission (IWC), but Indonesia is not a member (IWC 2019).

In the wake of the hunter's arrest in the fall of 2016, the district officer of the MMAF came with staff to review current fisheries policy. The meeting was held outside under the banyan tree in the center of the lower village, as dictated by tradition for community meetings about marine resources. Many residents attended, sitting in the few provided plastic chairs, and spilling out into the doorways and porches of surrounding houses. The atmosphere was tense, and emotion broke through the usually formal air of the Q&A period, as hunters expressed their anger and fear and officers grew visibly stressed. After the meeting ended the head officer was invited for lunch at the house of the village head, where he collapsed into a chair and wiped his brow. The situation was very difficult, he told me, "but Lamalera is a part of Indonesia…. Everyone has to follow the laws." In a community meeting that was held a few days after the MMAF visit, Lamaleran leadership presented and gained community support for a plan to pursue formal legal designation as a *masyarkat adat,* or customary community, in order to try to protect themselves from further arrests and to continue to hunt.

The MMAF officer's comment, and Lamalera's reaction to his meeting, brings up a fundamental issue with adat designation in Indonesia—mainly, the threat that such communities' struggles for autonomy represent in the nation-making project of Indonesia. Tradition and indigeneity perhaps inevitably represent an existential threat to nationhood (Wolf 2010) but in Indonesia the threat may be more present because of the hurdles that the nation, as an entity, already faces: six world religions and countless local

beliefs, over 700 languages, and innumerable ethnic divisions spread over more than 17,500 islands. The nation's motto 'unity in diversity' directly addresses this, attempting the seemingly impossible in reframing a potential existential threat as a source of strength.

Indonesia's constitution does provide for the protection of traditional peoples and their ways of life, and a series of high court cases has upheld the validity of traditional claims to natural resources (Hauser-Schäublin 2013, Butt 2014). However, in his review of recent cases Butt (2014) notes that the Supreme Court has almost no power to enforce its rulings, and some of the rulings themselves have created difficult requirements for proving status and cooperation with local and provincial governments. Combined, these factors mean that there are still "substantial legal stumbling blocks in the way of most traditional communities seeking…traditional rights to which they are constitutionally entitled" (Butt 2014).

The push to prove traditional status has manifested in a multitude of different ways in Lamalera, the full breadth of which are outside the scope of this article. However, one of the hottest areas of this debate has centered on and brings us back to the use of outboards in hunting. While the community sees outboards as a flawed but vital tool to preserve their way of life, non-local actors involved in marine policy making see outboards as a sign of inauthenticity. In interviews with intermediating parties, including fisheries managers from the MMAF, lecturers at the provincial university, news media, and NGOs, the use of outboards was repeatedly highlighted as a sign that Lamalerans don't hunt in a traditional way and therefore don't deserve special dispensation, or protection for their way of life as traditional people.

This argument is compounded by a second debate about whether or not Lamalerans have a right to sell the meat (or bones or teeth) of the animals that they hunt both on, but particularly off, the island. Involvement in a cash-based marketplace, like the use of outboards, doesn't sit well with the ideas of traditional or customary practice that are in general circulation here, a pattern that others have noted throughout Indonesia, as well as in the global debate about traditional marine hunters (See Dove 1993 and 2006, Wenzel 1991, Kalland 2009). It also belies a fundamental uncertainty about what undergirds the rights of any traditional group. Do groups have a right to a resource because of a historical, geographic, and/or ethnic claim, a sort of "this is ours because we can prove who we are and who we have always been" argument? Or, do their rights stem from the continued use of a set of practices tied to a certain place, a sort of "this is ours because what we do is unique and special" argument. These two arguments can shade into one another, especially when examined through an anthropological practice-based lens. Both (and mixtures of the two) have been used in public debate and court cases about traditional peoples in Indonesia. They can have quite distinct end points however. In the case of Lamalera, a fundamental claim to marine resource-based history and distinctness of identity could allow for the adaptation or modernization of hunting practices and perhaps distribution. A claim based on the continuation of traditional practice however, most likely would not. The nebulous nature of what exactly is needed for traditional claims means that Lamalerans, and resource management actors are engaged in an ongoing struggle regarding authenticity of practice, as evidenced by the continued anxiety and discussion around hunting technology.

Pura

The intersection of community, authenticity, and conservation efforts in Pura is markedly different than in Lamalera. Pura now sits in the middle of a marine protected area that was designated by the district governor in 2006 and nationally registered in 2015 as the Pantar Strait MPA. Indonesia has multiple kinds of marine protected areas: the Pantar Strait MPA is registered as a *kawasan konservasi perairan (KKP),* or a marine conservation area, as compared to a national park, which is more restrictive (MMAF 2019). Like most marine protected areas in Indonesia, the project was implemented through the combined efforts of the ministry and international conservation NGOs, and went through many permutations before its formal designation. It follows the model of zoning by usage with no-take areas, and different forms of "benefit areas" for tourism, fishing, and other use (see Figure 3). The depth of the Pantar Strait makes it regionally unique, and allows for an upwelling of cold water that hosts a great diversity of marine life, as well as facilitating the transmigration of multiple cetacean species. The tourism benefit zone covers most of the strait and Pura is located in its southern central section.

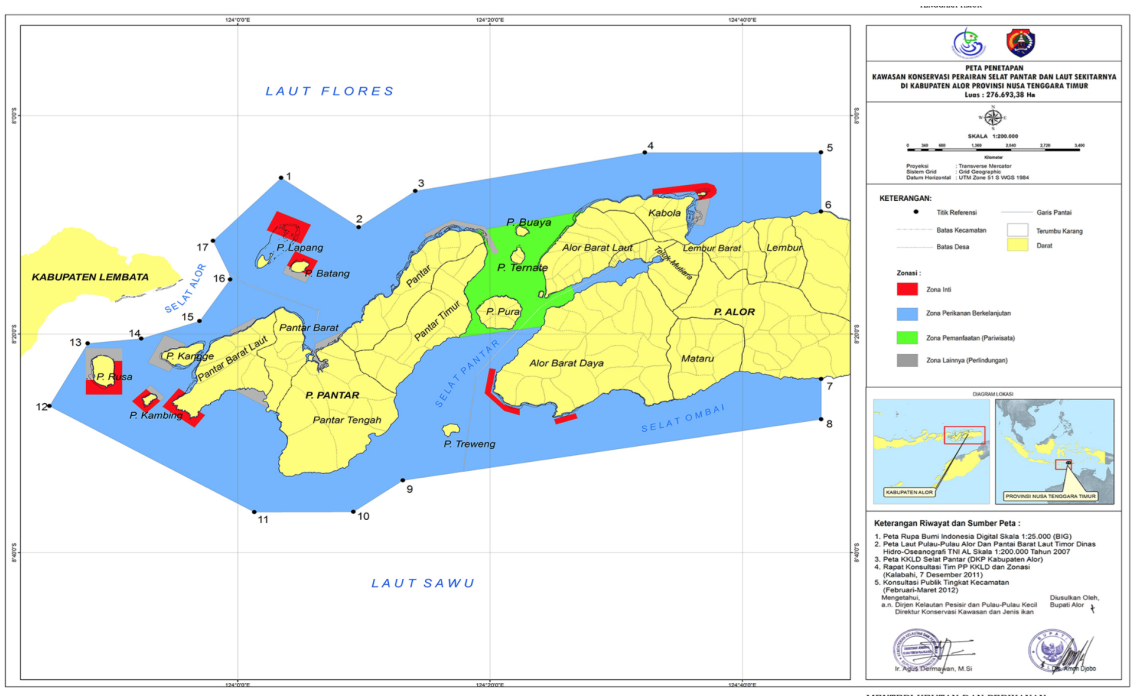

Figure 4.Map of Pantar Strait MPA. Source: Ministry of Marine Affairs and Fisheries Decree 2015

The lack of blast fishing in Pura combined with the naturally high biodiversity of the strait means that reefs that ring the island are a stunning location for dive tourism. Despite its central location, many people on Pura do not understand that they now live inside a marine protected area. This follows a pattern that has been reported by many MPA researchers in Indonesia (Elliot 2001, Mcleod et al. 2009, Glaser et al. 2010). The presence of the district level government, including the MMAF, is very light, and there have been few community meetings about fisheries law, conservation, or resource management.

None of the Purans that I interviewed were immediately opposed to conservation or the MPA. This result is tempered somewhat by the fact that some people didn't know what conservation or MPA meant. A number of fishers who dive on the Australian-

Indonesian border are more familiar with conservation and resource management conceptually because of their frequent interaction with Australian marine police. These fishers were also generally unopposed to the concept of conservation and reef protection in Pura, but admitted that they didn't know much about what was planned. Many people, however, including those who knew about the MPA, were frustrated by the fact that they don't see any direct benefit from the tourism dive boats that show up on Pura's reefs almost every day for much of the year. "They come, dive on our reefs, and they pay to do that, but we never see any of that money here!" one younger resident explained to me. Starting a few years ago the district office of the Ministry of Tourism began collecting a fee for each dive operation's guests that come to dive within the MPA. The fee is nominal, but the mechanism for redistribution is unclear, which not only frustrates people in Pura, but also dive operators and others engaged with tourism in the district capital, Kalabahi.

In stark contrast to Lamalera, none of the marine policy makers, or other external stakeholders like tourism operators, whom I interviewed ever broached the topic of changes to practice within the traditional fishery in Pura. The island instead remains famous for its *bubu* traps and its sea, sky, and land way of life. For example, in 2017 the main conservation NGO involved in the MPA, The World Wildlife Fund, and the provincial bank sponsored a cultural expo for each of the sub-districts in Alor to come and display their unique cultural traditions and products. Representatives of each sub-district were given a booth to display and sell wares. Pura's entire booth was encompassed by a giant traditionally woven fish trap. It is unclear if the reduction in trapping and increases in netting and spear fishing that Pura's fishermen have reported

are unknown, or if the information isn't prioritized by policy-making bodies. According to dive operators and my own observations, Pura's reefs are some of the most visited locations for tourist diving within the MPA, making them a highly valuable conservation target. A logical assumption would be that asin Lamalera, policy makers and conservation stakeholders would pay close attention to any changes in how the local community uses marine resources. This, however, has not been the case. In turn, no explanatory (or defensive) discourse, such as the one discussed at the ritual season opening in Lamalera, has taken shape in Pura with regards to the changes that they're experiencing. What then, explains the difference in the two cases?

5) Impactful Intersections: Media, Markets, and MPA planning

Of course, there is not one single causal factor that can be isolated to explain the difference in attention and action regarding changes to traditional marine resource use in these two instances. Instead I argue that there are three major factors that can account for the differences in Pura and Lamalera. These include the role of media, the tourism market, and the particular arrangement of conservation policy in each location. Further, it is the specific ways that these three factors interact at each site that may be responsible for producing such incongruent effects.

The role of media is perhaps the starkest example. Lamalera has become famous as the last traditional whaling village in Indonesia. It has been the subject of documentaries from Indonesia, the United Kingdom, South Korea, and Japan in the past five years alone, as well as many news articles and travel bloggers' posts. The intensity of focus on certain parts of their way of life, especially their hunting practices, has had distinct effects (See Durney 2019a). In particular, it has provided a megaphone for the

narrative of a fragile tradition losing out against the onslaught of modernity. This elevated and sustained focus on tradition and change, though perhaps not intentional, reifies and amplifies the arguments from conservation bodies that Lamalerans are no longer practicing their way of life in an authentic fashion and therefore shouldn't be able to claim legal exemption as a customary community. In contrast, Pura, and the district of Alor more generally, have received negligible attention within the national and international media. The minimal attention that they have received has been focused mainly on the marine environment, in the form of travel blogs from divers and underwater photography that has been entered into photography competitions. The relative lack of attention towards people and practices means that the struggle for narrative control and practice cum identity policing that is present in Lamalera has never happened in Pura.

The impact of media shades into the discussion of the impact of tourism because of the feedback loop between the two industries; focus from one tends to implies focus from the other (Crouch et al. 2005). The two have also come to overlap due to the interstitial role of hobby travel bloggers and photographers, especially those using social media platforms. Unsurprisingly then, the function of tourism shares some similarity to that of the media in each location. Put most simply, tourists come to Lamalera to see culture, and they go to Pura to see nature. This holds true for both Indonesian and international tourists. These separate foci have created quite different industry footprints in the neighboring districts. Tourists come to the district of Lembata almost exclusively to see the marine hunting practiced in Lamalera. According to brief surveys I carried out with almost every tourist that came overland to Lamalera between December 2016 and

May 2017, almost all came to Lembata to see Indonesia's last whale hunters. Some mentioned that they were motivated to come by documentaries about Lamalera, others followed travel guides for this part of Indonesia such as *Lonely Planet* that discussed Lamalera's culture. In is important to note here that the demographics of tourists that make it to Lamalera are also quite distinct. Despite recent transit improvement it is still a relatively difficult place to find. It takes two days from the nearest cities on other islands and requires a combination of small planes or ferries, informal buses, and motor bikes that is almost impossible to navigate without speaking basic Indonesian.[12] There are only three homestays in Lamalera, none of which offers more than food, clean water, and a place to sleep. This means that most of the tourists who arrive in Lamalera are experienced travelers who are motivated to have exotic cultural experiences, and who are unusually committed to seeing the practices that drew them to the island. Because of this hyper-focus on seeing traditional whale hunting, tourism in Lamalera serves to point another spotlight on hunting practices there and produces an additional set of external narratives about authenticity in relation to it.

In contrast, there is almost no interaction of any kind between tourists and local people in Pura, much less one specifically focused on sharing traditional practices. Dive boats anchor as close as 20 feet from shore almost daily here during the tourism high season. That means approximately 5-20 divers on the reefs per day depending on operator, but divers almost never come ashore to interact with residents there. Part of this lack of communication is a language barrier produced by a very different tourism industry in Alor. Residents are also not encouraged by dive operators and their staff to

[12] The exception to this are tourists who come to Lamalera by sea from liveaboard tour and dive boats. Approximately three to five boats stop per year. The stops are brief, often only an hour or two, and this demographic of tourist is quite different: usually wealthier and less experienced travellers.

interact with tourists. As mentioned above, observation, interview, and data from the Ministry of Tourism all show that the vast majority of tourists that come to Alor come because of its marine environment. They are drawn to its beaches, sport fishing opportunities, and most importantly, its dive sites. There are six active dive operations that work in the district and one under construction. There are also a large number of liveaboard dive boats that take divers on multi-day tours throughout the archipelago, including the Pantar Strait. All of the active Alor operations are owned by foreign nationals and all but one cater to international dive tourists. Staff is mixed but many are from outside Alor, with some international staff used for dive guides and instructors. The island is now serviced by six flights a day from the provincial capital of Kupang and both dive operators and the capital's two main hotels pick up tourists from the island's airstrip. The demographic of tourists that are serviced by this market are quite different from those that come to Lamalera. They're focused on the underwater marine environment and have paid a relatively large sum to see it.[13]

While committed to and expert in this one aspect of their trip, these tourists are often not experienced travelers, don't speak Indonesian, and don't tend to know about or prioritize seeing the cultural context in which they are diving. This pattern is even more pronounced on the liveaboard dive boats, where patrons don't have to interact with anyone outside of the dive boat during their trip. Ultimately this means that, unlike in Lamalera, the spotlight that this form of tourism brings shines on the marine environment, not on people. Instead of serving to amplify either internal or external narratives about a traditional people and the condition of their particular relationship to

[13] Vacation packages cost between $1000 and $5,000 USD depending on operator, level of service, and length of stay.

the ocean, descriptions of Pura and the Pantar Strait focus on the beauty of the coral, the clarity of the water, and the rich diversity of marine biota that can be found there.

The intense focus on people versus marine life has a co-constitutive relationship with the creation of marine policy. In Lembata, the cooperative efforts of conservation NGOs and the MMAF toward forming an MPA or supporting conservation in the Lesser Sunda Islands have hung on how to minimize or halt marine hunting in Lamalera, rather than on other potential conservation targets or alternative programming elements. This concentration is of course grounded in the desire to meet biological targets for maintaining or boosting the populations of specific species. But it also rests upon a belief that hunting practices in Lamalera have changed to the degree that they can no longer be justified as traditional practice. This belief, and the community's counter-claim of customary or traditional status, have engaged all stakeholders in a debate about authenticity, practice, and identity. The interest of tourists in seeing traditional hunting doesn't directly feed into marine conservation programming targets. In fact, many residents and leaders of Lamalera often feel confused by the oppositional messaging that they receive about their way of life from the district offices of the Ministry of Tourism versus the Ministry of Marine Affairs and Fisheries. However, the focus of both groups on traditional practices has significantly impacted both how Lamalera is framed globally, as well as life on the ground there, because it has prioritized a specific narrative about tradition threatened by modernity.

Neither government nor NGO stakeholders involved in the Pantar Strait MPA have engaged in examination or debate about the authenticity of local practices on Pura's reefs. Changes are happening there, but have received neither negative nor positive

attention. Most conservation programming energies have instead been focused on broader targets: reducing both blast fishing and overall fishing pressure through community engagement and alternative livelihood programs across the district. The grounds for claiming traditional status could be made in Pura-- they have a unique language, an extensive traditional ecological knowledge system, and a distinctive, if not wholly unique way of life. Yet these have never been codified into a formal identity-based defense, because Pura's fishers have not faced regulation or restriction in relation to their marine resource use. This supports Li's argument that coherent identity formation or boundary setting by traditional groups often doesn't occur without competition or external challenge (1996 cited in 2000:159).

It is important to note here that the lack of challenge may have procedural as well as conceptual underpinnings. Large-scale changes to marine jurisdiction at the district and provincial level announced by the national parliament in 2014 under Law No. 23/2014 have made both the funding of and responsibility for patrolling coastal waters (including the Pantar Strait MPA) a policy hot potato that neither the district or provincial level government are sure what to do with. This has effectively delayed active monitoring of the MPA.

The differential marine policy foci, and the resulting discursive framing of communities, can also be tied to the different conservation targets in each location. As many practitioners and critics have noted (Boykoff et al. 2010, Skibins et al. 2012), the conservation of charismatic megafauna, such as whales and dolphins in Lamalera, is visualized and executed quite differently than ecosystem-based conservation. Megafauna conservation tends to promote more focus on individual animals, their behavior, and their

life histories. Ecosystem conservation, such as coral reef conservation, by definition places an emphasis on much broader and more abstract concepts like system health and species interdependence.

The type of framing used for megafauna often strategically feeds into and builds off of public (often Western, or Western-influenced) tendencies to form personal attachments and place higher value on specific individuals and specific species (Boykoff et al. 2010, Einarsson 1993). In places like Lamalera where local people still consume these species for cultural and/or livelihood purposes, this form of conservation motivation tends to produce a difficult and at times antagonistic context for policy creation. The two groups classify appropriate behavior toward these animals very differently (Kalland 2009). With this backdrop, these conflicts become more intimate, if not personal, because managers and publics view local people as killing individuals or groups of individuals that are part of a defined population rather than having a detrimental impact on an ecosystem, which is a much more abstract, and less action-oriented concept. Local people are often both disconcerted by the imposition of an external value system for human-animal relations, and angered by the power of policy makers to do so. It is unsurprising then, that in these contexts, the methods that local people use to hunt come under such heightened scrutiny, or that this scrutiny then produces a debate about tradition and authenticity as the two groups struggle for ethical authority. Equally, the total lack of authenticity debate or identity politics in Pura accords with the more intangible ecosystem-based form of conservation being pursued there.

6) Conclusion

Ultimately in Lamalera, the intense and exclusive focus on hunting practices created by this intersection, combined with the repeated framing of them as a tradition deteriorating in the face of modern pressures, have served to support NGOs and fisheries managers' belief that Lamalera does not qualify as a traditional or customary community. At the same time an equal and opposite movement has been created within the community of Lamalera to present itself to external forces as a coherent cultural group that derives both its identity and livelihood from the practice of marine hunting that still follows traditional precepts, and therefore can claim protection under the status of a traditional or customary community.

The constant need to perform and defend tradition in Lamalera has had major impacts there. The community feels threatened by external forces that are beyond their control. That stressor has fostered solidarity, but it has also led to internal fracturing as well. Discussion of tradition preservation and change within the fishery is ever-present and causes division and fighting between generations and between hunting and non-hunting factions of the community. Many people in Lamalera feel like the situation has meant that they are unfairly stifled in their pursuit of development and participation within modern Indonesia. One retired hunter who often speaks at public meetings and to outsiders about Lamalera's culture phrases it this way: "When the government officers come here to talk to us about hunting I always ask them, 'Sir, how did you travel here to Lamalera today? Did you walk? No! You drove a car!'" The community, he continued to explain, just wants the same ability to adapt their practices, such as using outboards, without feeling like it threatens their right to access marine resources.

While this kind of conflict would likely have arisen naturally as part of the process of cultural adaptation and modernization, it doesn't seem to ever conclude or resolve in Lamalera. I argue that this is at least in part because the argument is tied to an existential and external threat to their way of life. As Muehlman noted, If they don't hunt like "real" Lamalerans, they may be forced to stop hunting altogether. This fear was summarized for me at the end of the *Tobo Nama Fata* dispute resolution ceremony in 2017. As I walked home with the ruling clan head who moderated the discussion, and who was also serving as village head that year, he bleakly said to me, "I've told our people, if we continue to use outboards, I don't know if I can protect us."

Pura serves as a foil to Lamalera. The island has an equally extensive local ecological knowledge system and practices a way of life that is hugely dependent on marine resources. However, due to a different emphasis in conservation and a tourism market that focuses on reefs and not people, Purans are not engaged in the same kind of authenticity debate about their fishing practices.[14] There is discussion about changes to traditional fishing techniques but the tenor of the exchange is entirely different. The

[14] I argue here that the majority of the angst about the authenticity debate comes from external pressure, as Pura provides the foil for. However there may also be some internal factors present in Lamalera that are not present in Pura. For example, the intensity of the conversation in Lamalera may in part be due to the fact that the sole base of socio-economics there is marine hunting through harpooning. Lamalerans often say that they have nothing else; the village sits on top of a volcano, and they do not have rights to the land on its more fertile upper slopes—those are owned by other villages. It is very hot and dry for most of the year here, and until quite recently there wasn't running water in the village, only two semi-saline wells on the coastline. Until 2016 water only ran once a week. In other words, Lamalerans argue, even if they wanted to have some other form of local livelihood, marine hunting and fishing is the only option. In contrast, the people of Pura have always relied on their three-part system of the sea, the land, and the sky. This sense of flexibility may mean that one tradition does not become more symbolically, or practically important than another and that the changes to the mechanics of one tradition don't have the same potential magnitude of effect as they do in Lamalera. I am not arguing here that Lamalerans place a higher value on their relationship with the ocean or their activities there than Purans, only that the livelihood pattern is more diverse in Pura and that the diversity may correlate with increased flexibility.

conversation is internal to the community, and tends to be part of the broader conversation about how life in Pura, and in Alor more generally, is changing in the face of a modernizing Indonesia. Changes to their fishing methodologies, framed in this light, and unchallenged by policy makers and media actors, don't seem to be a locus of social or emotional upheaval for the community.

Comparing the cases of Lamalera and Pura allows for an examination of how the articulating forces of media, tourism markets, and conservation policy come together to impact identity construction and claims to resources in traditional coastal communities. In particular, the comparison brings to light how these three forces build upon one other to influence how the concept of traditional community is framed, challenged and defended, as well as what kinds of local marine resource use come under scrutiny. As previous scholarship from Li, Zerner, and others has noted, the shape of the constellation that these forces make is unstable, and in the intervening period since the fall of the New Order we have seen an almost direct reversal of the shape that scholars noted in the 1990s wherein conservationists strove to align with and boost the claims of traditional and customary communities on environmental issues. Lamalera, with Pura serving as a foil, represents a case where a traditional group has been motivated to begin procedures to claim customary legal status as a way of protecting themselves from both government and NGO conservation programming.

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Appendix C

Marine Protected Area Planning and Management in Nusa Tenggara Timor Indonesia: Problematizing Practice and Learning for the Future

1. Introduction

Marine protected areas (MPAs) gained ground in the global North in the 1970s and 1980s and came into use over the next few decades throughout the world as a way to combat a series of interrelated issues from overfishing to habitat degradation (Stead et al. 2013). There are now over 7,000 MPAs globally (WDPA 2012). Due to both social and biological factors Southeast Asia became a major proving ground and recipient of MPA projects (White et al. 2014). As an archipelagic nation of over 17,500 islands, whose waters contain the highest levels of marine biodiversity yet recorded, Indonesia is a case in point (Hoeksema 2007). There are currently over one hundred MPAs within its territorial waters and planning for new areas continues (Yulianto et al. 2013). This article compares planning and implementation efforts in an area of recently increased MPA utilization in eastern Indonesia in order to investigate contemporary challenges to both theory and practice.

Since their initial deployment, a large body of research has developed regarding the limitations of MPAs as a mechanism for conservation and resource management (see review by Gill et al. 2017). Many have been unable to meet both ecological and social targets, facing significant hurdles from both marine resource users (e.g., education, acceptance, and compliance) and managers (e.g., capacity and funding for monitoring

and enforcement), as well as from larger, more uncontrollable environmental challenges such as climate-related thermal stress (White et al. 2014). One of the most critical ongoing areas of research on MPAs centers on the siting of MPAs, examining what factors should determine priority or exclusion — from biological, social, and economic perspectives — in order to promote higher levels of success (Warner and Pomeroy 2012).

In response to these critiques, and to other factors such as broader trends in resource management and local policy-making contexts, MPAs have evolved in management style. Very generally, projects have gone from top down "expert-based" governance, to some form of community-based governance intended to take advantage of both local participant and knowledge, culminating in our current period with co-management and adaptive co-management (Bown et al. 2013). This Goldilocks chronicle is familiar to many. Top-down management is neither equitable nor agile and tends to be resource-intensive; community-based management can be both of those things but is difficult to implement and manage, and comes with its own host of issues (Agrawal 1999, Crawford et al. 2006). Often communities don't have the resources that they need to do the work they are being asked to do.[15] Further, when examined, community hasn't necessarily guaranteed the equity that many theorists and managers formerly presumed (Peters 1994, Creed 2006). Co-management was introduced as a policy course correction that tried to combine the strengths of government and local resource management practices while mitigating the weaknesses of both (Berkes et al. 2003). At the same time that MPAs and other forms of resource management were moving towards co-management, biology and ecology were also seeing the rise of complexity and resilience

[15] I specifically avoid the use of the term "capacity building" here because I agree with critiques that have been made by West (2016) and others about the danger of capacity building discourses in their ability to undermine local and indigenous authority, knowledge, and management systems.

theories. Researchers bringing the two fields together have described the contexts of protected areas as socio-ecological systems (SES), and argued that management of such systems required adaptation as a precondition, coining the term adaptive co-management, which has in turn come to represent the most current trend in MPA frameworks (Bown et al. 2013).

In Indonesia, the swing away from top-down, centrally-based resource management to more local forms has corresponded with two major governmental circumstances: 1) the decentralization of the majority of governance, including resource management, to the local level in relation to the fall of the New Order Regime in 1999, and 2) a historical, structural lack of funding and capacity within the Ministry of Marine Affairs and Fisheries (MMAF) and especially the Navy to enforce marine resource policies uniformly (Heazle and Butcher 2007). This combination drove a strong movement towards local and community-based frameworks for MPA management (and more recently co-management frameworks) by both managers and civil society conservation groups. The result has been a mix of MPA frameworks, the shape of which depends on local circumstance, the constellation of actors who designed the MPA, as well as MPA designation (e.g., conservation area or national park). As has been observed and problematized in other developing nations, many of these MPAs are managed through collaboration between various government bodies and international conservation NGOs (West et al. 2006). In 2014 however, recentralization of all marine jurisdiction and management responsibility from the district and village level to the provincial level across the country under Law No. 23/2014 placed many of these decentralized MPA frameworks in legal limbo, a condition that continues into the present.

Methodological criticism and jurisdictional uncertainty notwithstanding, planning for MPAs continues to expand in Indonesia. Faced with a combination of push factors including increased conservation needs, expansion of marine research capacity, and a booming marine tourism industry, the government set a target of 20 million hectares of MPAs by 2020 (CEA 2018). One area of recent focus has been the province of Nusa Tenggara Timur (NTT). Made up of over 500 islands that roughly ring the Savu Sea, NTT has seen major increases in conservation programming in the last decade. Initially motivated by the dual desires to conserve cetacean species present in the Savu Sea and to harness the steep increase in the level of marine tourism there, the province is now home to over ten MPA projects (MMAF 2009, MPAtlas 2019).

This article compares two sites in NTT in relation to new MPA planning: the *Selat Pantar* MPA, centered in the Pantar Strait in the Alor district, and the community of Lamalera on the neighboring island of Lembata. These two sites were chosen because while both are located in NTT, they have had very different experiences with MPA planning. The Selat Pantar MPA was originally established by the Alor district governor in 2006 and was officially registered at the national level in 2015, with a significantly expanded footprint. In contrast, planning for a proposed MPA off the coast of Lamalera began in 2009 but has never garnered community support, and thus the area remains under more local and traditional management.

The Selat Pantar MPA specifically mandates the protection of coral, shark, ray, and cetacean species for both conservation and tourism (MMAF 2015). In contrast, Lamalera is now famous as Indonesia's last traditional marine hunting community. Comparing these sites allows for an examination of contemporary zoning and

management hurdles that are occurring in MPA implementation in Indonesia, but that are relevant globally. In particular, analysis of the comparative data highlights three issues of critical impact. These include: the role of local and traditional ecological knowledge (TEK) and customary marine tenure systems (CMT), the use of alternative livelihood mechanisms to reduce fishing pressure, and the impact of marine jurisdictional reorganization.

2. Methods

Data for this study was collected in situ over thirteen months of fieldwork in the two districts of Lembata and Alor and in the provincial capital of NTT, Kupang. Research was focused in three communities: in Lamalera, Lembata and in two communities at the top and bottom of the Pantar Strait MPA in Alor, Kokar and Pura (Figure 1). Data was gathered using a mixed-method approach that included interviews, focus groups, and participant-observation within each fishing community. Research participants included community leaders, community members, government officers, NGO staff, researchers, and tourism industry stakeholders. For comprehensive sampling the community member category was broken down into subgroups including: primary occupation, age, gender, family affiliation, cultural role or authority, and location. Participants were identified through observation, snowball sampling, and rank-ordered referral (Vasquez-Leon 2013). Pertinent data from district and provincial-level offices of the Ministry of Marine Affairs and Fisheries and the Ministry of Tourism, as well as local demographic data, were also examined.

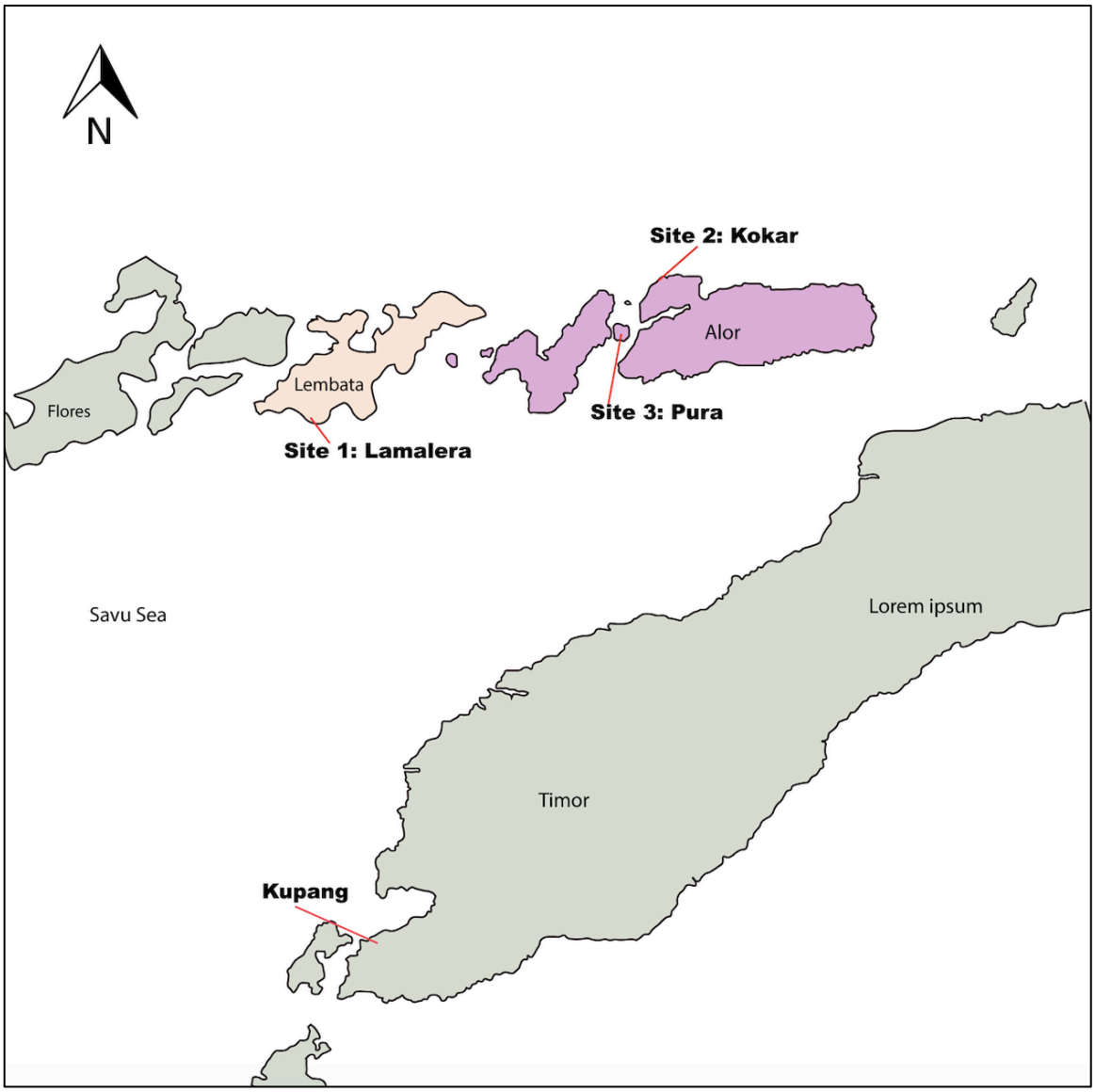

Figure 1. Map of Field Sites

3. Community Backgrounds

At first glance, the three field sites can be visualized as a sort of venn diagram of suitability in relation to MPA planning. They are all coastal settlements of similar size (1,400 - 2,000 persons) that are primarily dependent on marine resources for their livelihoods (Badan Statistik Lembata and Alor 2017). The first site, Lamalera, Lembata,

is culturally opposed to MPA planning due to a fundamental mismatch between local cosmology and conservation goals. Despite this, it could be environmentally and economically well-suited to an MPA due to its small-scale fishery and lack of large-scale habitat degradation. The community of Kokar, Alor is not as ideologically opposed to conservation efforts, and has hosted two different programs. Yet it is less economically and environmentally suited to the MPA that has been established there, due to increasing habitat degradation and fishing pressure in relation to a small but intensifying commercial fishery. Pura, Alor could represent a "sweet spot": it is both ideologically and environmentally well suited to conservation, with an artisanal fishery that has prioritized intact reefs. Its economic context, however, complicates its place as an ideal site for conservation.

4. Challenging Best Practices Surrounding the Role of TEK and CMT

One significant element of local and community-based management and later comanagement has been the effort to incorporate traditional ecological knowledge (TEK) and customary marine tenure (CMT) systems into protected area frameworks (Berkes et al. 2000, Cinner 2005). TEK presence, especially when combined with forms of customary tenure, is said to increase both the efficiency of MPAs by supporting participation and compliance, and to improve resilience and effectiveness by piggy-backing on unique and historical systems of knowledge and adaptation (See Drew 2005). Researchers, often as part of an effort to promote equity and to encourage managers to include local people in management practices, have shown that TEK and CMT systems represent alternative management and conservation mechanisms (Johanes 1982, Harkes

et al. 2002, Aswani et al. 2004). Seeking these systems has become common in MPA planning, and many suggest that best practice dictates the siting of MPAs in areas already home to TEK systems (Drew 2005, Christie et al. 2007). An examination of the intersection of TEK systems and MPA zoning across the three NTT sites, however, questions this model of best practice.

4.1 TEK Lamalera

Lamalera is a small community on the southern side of Lembata that sits at the edge of a small cove at the base of an extinct volcano, facing the Savu Sea. It has a long-standing TEK system that supports a small-scale traditional fishery. The community doesn't use intensive or destructive methods like blast fishing, trawl nets, or FADS (fish aggregation devices). They have specific regulations about what animals can be taken, and the fishery is only periodically active, depending on season. They gather and distribute their catch communally though a complex system based on fishing effort and clan affiliation, and barter and sell it for fruit, vegetables, and other commodities from upland and cross-island communities, in a pattern that dates back centuries. They support a low level of tourism, but it is locally controlled and benefits return directly to the community.

When described this way, this TEK- based livelihood system seems like it would pair very well with the mandates of an MPA. The problem lies with the marine species that the people of Lamalera target: they are famous for being the last traditional whaling community in Indonesia. More accurately, they are marine hunters who catch a wide variety of species including cetaceans like sperm and pilot whales and dolphins, rays and

sharks, and large pelagic fish like marlin and sunfish. Hunting is primarily organized through patrilineal clan affiliation. Traditional hunting boats are attached to clan houses and a seasonal calendar of rituals and responsibilities. Knowledge about seasons, weather, tides, and animals is considered universal knowledge that is shared broadly within the fishery. Specific knowledge and skills such as harpooning and animal response, as well as the crafting of boats, sails, and tools is considered proprietary knowledge and is passed down through clan lines.

As a result of both international and government conservation objectives, each of the MPAs that has been proposed for Lamalera would reduce or end marine hunting. The first version proposed in 2009 sought to transition Lamalerans from whale hunting to the potentially more profitable and globally acceptable option of whale watching tourism. As of December 2018, however, the community of Lamalera remains vigorously opposed to any form of conservation programming. Over the last decade they have demonstrated at the district capital and petitioned a member of the high court against multiple iterations of proposed conservation policy.

Community leaders explain that their opposition to conservation programming stems from the fact that their hunting practices represent the core of both their identity and belief system. Lamalera is home to a complex environmental cosmology linking its members to both their history and to the local marine and terrestrial ecosystem in an unending feedback loop. Incorporating elements of animism and clan-based ancestor worship, this cosmology teaches Lamalerans that their ancestors are responsible for sending marine animals to the waters off their shores for them to hunt and to share with their clan and broader community. The catch nourishes the next generation of the

community, who will one day become ancestors themselves. To refuse an animal is tantamount to blasphemy; to accept the concept of critical scarcity with an animal population is to doubt one's ancestors. In sum, Lamalera is a case where a longstanding TEK system stands at cross-purposes with MPA planning, rather than acting as a booster or locus of collaboration. This is due primarily to ideological differences about what constitutes appropriate prey, both in terms of species and in terms of endangerment status. It is also due to a fundamental misunderstanding on behalf of policy makers about the degree of mismatch between a market- and science-oriented approach to relationships with marine resources and a local and traditional one.

4.2 TEK in Pura

This next example moves to the neighboring district to the east, Alor. Pura is a volcanic island in the middle of the Pantar Strait that is home to a beautiful coral ecosystem and a small artisanal fishery. There are now six settlements on the island but the original and largest, also called Pura, sits on the north side of the island where a small indent in the coastline provides some protection from the strait's strong currents. The traditional base of the island's fishery is expert free diving using woven bamboo traps called *bubu* and spear fishing. Purans have an extensive TEK system that tracks fish presence, spawning habits, and reef function in relation to moon and tide pattern, weather, and seasonality. While some fishers in Pura have transitioned to using nets for specific fisheries, the island remains exceptional in that they have entirely banned the use of *bom,* or blast fishing, on their reefs. Elder fishers approximate that bombing came to Alor district in the 1960s and 70s. At that time Pura's fishers noted that areas where blast

fishing was used had broken coral and disturbed fish egg deposits, leading to lower fish populations. The islanders therefore banned blast fishing on their reefs, and have kept this mandate in place ever since, despite the fact that it has been used in many other parts of the district.

Pura now finds itself in the center of the Pantar Strait MPA, in a core benefit zone that has been designated for marine tourism. As of national approval in 2015, the MPA actually covers all of Alor district, but has been zoned for different activities, from no take, to tourism, to commercial extraction (see Figure 2).

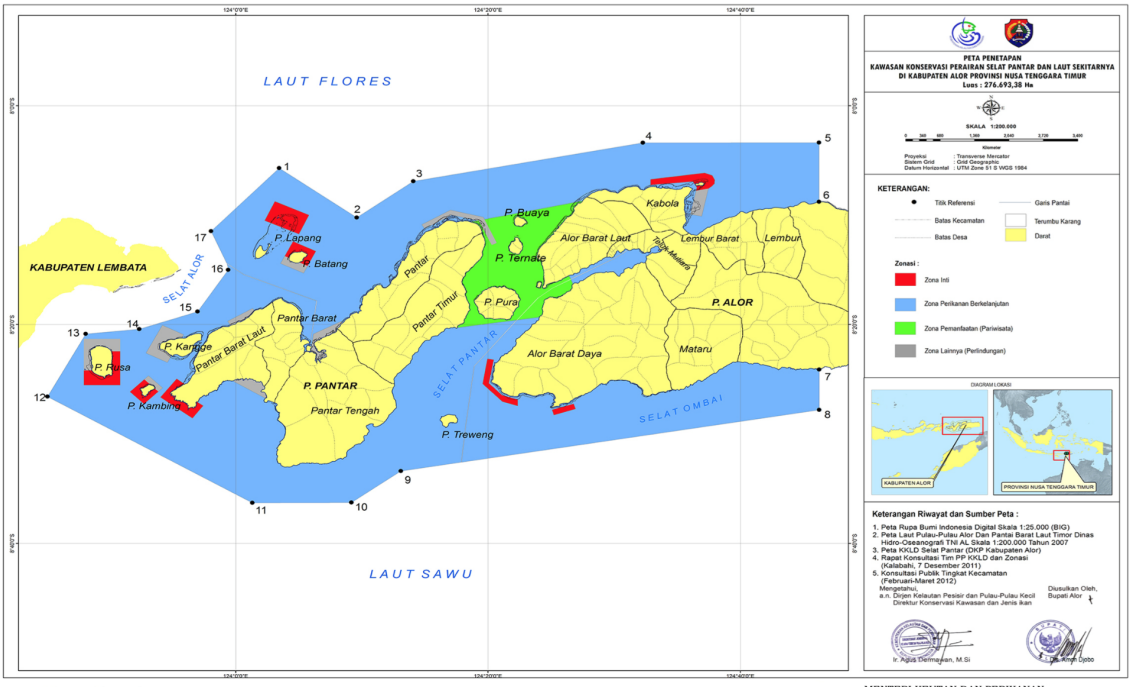

Figure 2: Map of Pantar Strait MPA. Source: Ministry of Marine Affairs and Fisheries 2015

Initially, Pura's fishers and their TEK system seem very well suited to conservation programming and the MPA that has been established there. It looks like a successful case of an MPA benefiting from a local form of environmental protection, and

in some sense it is. The large majority of reefs there are beautiful and healthy, and it is emerging as a global destination for scuba diving. Investigating the island's economy complicates the picture, however. While Pura's TEK system clearly prohibits destructive fishing practices, a more in depth socioeconomic analysis suggests that Pura's fishers don't bomb reefs in part because they don't have to. Critically, they have gained access to the cash economy that is urgently needed to pay for school fees, commodities, and technology, through a different avenue. For three to four months of the year during the summer and fall, many of Pura's expert free divers are contracted by Rotenese boats to continuously dive a series of reefs (mainly Scoot and Seringapatam reefs) between Indonesia and Australia for *teripang,* or sea cucumber. Sea cucumber is consumed as food and traditional medicine throughout Asia. Indonesian fishermen have access to these reefs through a 1974 memorandum of understanding with Australia that is based on historical use claims-- but only if they use traditional fishing techniques like free diving and sail boats and only for specific species, including teripang, trochus, and abalone (Vince 2007). The teripang is dried onboard and then brought back to Rote, an island on the other side of the Savu Sea, where it is sold to mainly Chinese and Korean buyers. Profits are then divided and the crews from Pura return home. Participation in this commodity chain means a significant annual influx of cash for Pura's residents, who would otherwise be reliant solely on their own fishery to provide for them.

Bombing is so prevalent in Indonesia because it pays well, if only for a short time (Clifton and Majors 2011). In a very real sense, because of this alternative access to cash, Purans have not faced the same economic pressure, and therefore fishing pressure, as other coastal communities in Alor. Ultimately, because of the skills provided by their

very own TEK system, they have been able to externalize intensive environmental use to a reef system far outside of Alor. When this larger socio-economic context is included, I argue that it becomes impossible to determine that the combined strength of Pura's TEK system and the MPA are primary drivers behind the health of the local marine ecosystem.

4.3 TEK in Kokar

The village of Kokar sits in a small shallow cove at the northeastern tip of the "bird's head" of Alor island, two to three hours by motorboat from Pura. In contrast to Lamalera and Pura, Kokar's experience could support the argument for synergy between TEK and MPA programming, if only by negative example. Kokar is a newer community that is made up of multiple demographic groups. It was established in the middle of the 20th century when the district government required local people from the forested foothills above the coast to resettle on the coast in order to facilitate easier provision of services from the island capital. In the next few decades multiple waves of *pendatang,* or migrants, arrived and settled directly along the beach of the small bay. The majority of these migrants came south from Sulawesi, and came from famously maritime Buton, Bugis, and Bajau ethnic groups. It is the migrant population that founded and still dominates the fishery here, which is predominantly a tuna fishery that uses FADs and hand-lining gears. They own the majority of boats, supply the capital for equipment, and run most crews. Critically, this background means that Kokar has no local TEK and CMT system.[16]

[16] While there are residents that have inherited marine TEK from their cultural or ethnic backgrounds elsewhere (including other parts of the district), there is no TEK system that originates in Kokar.

The combination of coastal settlement and constant anchorage in the bay denuded the local area of a previous mangrove forest, which in turn led to further coastal erosion by wave action and storm surge (Zainudin et al. 2016). In the early 2010s the government built a breakwater around the small bay and along its northern side to stop further erosion and protect the village. The combination of these activities, along with some use of blast fishing, has spelled an end to the majority of both mangrove and coral habitat within the bay and nearby areas. Potentially tied to intensive use of fish aggregation devices (FAD) that target juvenile tuna, the village has seen major declines in landings within the last decade. Following a pattern that has been observed regionally, fishers reported a near total local collapse of the tuna fishery in 2015, from which it is still slowly recovering (Barclay 2010).

While it is impossible to prove a negative, the complete lack of a native TEK system may have contributed to these outcomes in Kokar. The previously forest-dwelling and agrarian local population report feeling stuck as permanent subordinates to expert migrant fishers, and are incentivized to increase fishing effort. Some (although not all) migrant fishers living in Kokar are not rooted to the area; coming when the fishing ground was rich and leaving as it became depleted, a migration strategy has been noted throughout the region (Fox 2005, Ramenzoni 2013). This migration strategy is a source of local tension, and resentment on the part of the original group of Alor residents. There is not the time, knowledge, or incentive, then, for a local tenure or knowledge system to have developed. Through a large international NGO, conservation programming began in Kokar in 2009. These programs encouraged the fishery to form cooperative groups to increase equity, stabilize prices, and decrease fishing pressure. There were interventions

to encourage them to learn about and follow MMAF and MPA specific fisheries regulations, such as reporting blast fishing, stopping sand and coral collection for construction, and avoiding certain endangered fish species. According to local leadership, focus group meetings, and interviews, adoption has been somewhat stilted, and local "buy-in" has faced a number of difficulties. Repeatedly mentioned were family ties, lack of embedded marine knowledge, lack of clarity about program purpose, and acute economic pressure. Again, it isn't possible to know with certainty that the presence of a TEK or CMT system would have minimized these issues, but the lack of marine knowledge, historical stewardship, or culturally-based incentive has created serious challenges for conservation success there.

In summary, comparative analysis of the cases of Lamalera, Pura, and Kokar complicates the picture of TEK use in MPAs. They do not challenge the legitimacy or importance of TEK or CMT, but rather challenge the assumption that its presence guarantees conceptual and practical congruence with management and conservation goals and increased MPA success. It is important to note that such an assumption is dangerous because it can set up an expectation and implicit valuation of TEK or CMT based on external usefulness rather than allowing for an intrinsic valuation or a rights-based argument by traditional resource users. When one of these systems does not meet use-based expectations it can lead to misunderstanding, miscommunication, and frustration between policy makers and traditional communities (Cinner and Aswani 2007). Ultimately, TEK and CMT systems exist to serve the needs of their home communities, not the goals of management and conservation bodies.

5. Alternative Livelihoods

Research on the difficulties faced by MPAs globally has pointed to the importance of understanding the impact of MPA policies on local livelihood systems. Lack of compliance is often tied to the centrality of the fishery to local incomes (Bennett et al. 2014, Gurney et al. 2014). This also ties to the issue of justice and equity in policy-making in protected areas generally; local residents dependent on resources do not and cannot realistically be expected to stop their usage when there aren't alternative streams of income (Sunderland et al. 2005, Brockington et al 2006, Pomeroy 2012). One major effort to address this issue has been to include alternative livelihood mechanisms into MPA planning frameworks (Bennett et al. 2010). Reported successes have centered on marine tourism and aquaculture, but there has also been considerable debate about the applicability, usefulness, and success of the concept (Katikiro 2016). MPA planning efforts in both districts of NTT include alternative livelihood programming elements. Their experiences point to the complexity of engineering such economic frameworks.

5.1 Alor: Seaweed Farming and Marine Tourism

Both tourism and aquaculture programs have been employed in relation to the MPA in Alor. Most notably, the development NGO Swisscontact provided the initial funding to create *Forum Rumput Laut Alor* (FoRLa-Alor), or Alor Seaweed Forum, in 2007. FoRLa-Alor was created to help educate and train coastal communities in seaweed cultivation as an alternative livelihood, and to create a cooperative network for selling. The forum was no longer formally active in 2017, with participants citing both internal and external issues. Internal challenges include continued funding and staffing. Reported

external issues were two-fold. First, the scale of education and support needed to sustain local production wasn't achieved and local producers did not have community-based sources of knowledge to draw upon in relation to planting, maintenance, or crop failure. Second, and crucially, the forum was unable to achieve price control. The market for seaweed in this region is controlled almost exclusively by Chinese buyers, who resell it through distribution networks in mainland Asia. Seaweed cultivation does continue in parts of both Alor and Pantar islands, but this market structure incentivizes maintaining very low prices at the production level and gives producers little bargaining power, something which any group might have difficulty ameliorating.

Alternative livelihood programs around tourism haven't experienced international NGO investment, but retain interest from government. Tourism is now a major economic driver in the district, and is growing significantly (Ministry of Tourism 2017, in communication). There are now six dive operations on the island; however, they are all foreign-owned and operated. Some local staff is employed by operations, but the number remains low. The Ministry of Tourism frames this as a human resources development issue. There is a mismatch between the capacity of local education and training mechanisms and market demand: local youth entering the job market haven't gained either the language or specific jobs skills in hospitality or scuba diving for employment or entrepreneurial efforts in the local marine tourism industry. Direct efforts have been made to tackle this issue. However, in meetings with the provincial tourism ministry, the district tourism office reported that a program to train local youth in the dive industry had succeeded in supporting only two young men to the certification level required to lead dives.

This program also doesn't address the issue of available local capital for investment. At both field sites in Pura and Kokar, local residents reported being enthusiastic about the potential that tourism operations tied to the MPA could provide, but felt ill-equipped to benefit from them due to lack of language skills and lack of capital to invest in boats, homestays, or other capture mechanisms. Overall then, the potential for tourism to operate as an alternative livelihood mechanism remains limited in Alor at present.

5.2 Lamalera: Whale-Watching Tourism

Whale-watching tourism was originally proposed as an alternative to marine hunting in Lamalera by MPA designers in 2009. Later it was re-introduced as a livelihood model that could work alongside hunting. Whale-watching tourism was suggested as both more environmentally sustainable, but also more financially profitable. Based on analysis of other global examples of whale-watching tourism introduction, community members in Lamalera, and the island as a whole, were projected to make exponentially more money after the transition (Gimin 2017).

Neither proposal was able to achieve community support, however. Most importantly, they didn't account for the central role of marine hunting in local religious and cultural practice. Lamalera's residents, like those in Alor, also report concern about their own ability to profit from whale-watching tourism. Without language skills, hospitality training, or local economic capacity for investment, they remain skeptical that they would be the main beneficiaries of this form of tourism development.

6. A Context of Jurisdictional Uncertainty

While the previous two sections explored both cultural and economic hurdles for specific MPA policy implementation, there are also major legal challenges at work in Indonesia for MPAs. Most critically, in 2014 the Indonesian parliament passed national legislation that recentralized most marine jurisdiction from the district and local level to the provincial level. Previously miles 0-4 from shore fell under local jurisdiction, miles 4-12 under provincial jurisdiction, and miles 12 and onward under naval control. The new law entirely erased local jurisdiction, stating that miles 0-12 now fell under provincial jurisdiction (National Law on Regional Government 23/2014). This change meant that many district-level and community-based MPAs were thrown into legal and governance limbo, including those in NTT (van Nimwegen 2017). Further, the 2014 law does not currently provide a pathway for transition from district to provincial level management. n Lembata there was no official MPA framework to impact; however, in Alor, officers from the district MMAF office and participating NGO reported that the legal change has created acute management issues for the Selat Pantar MPA. There is now not the funding at the local level of the MMAF but neither is there the capacity at the provincial office in Kupang to receive management duties. For the newly registered MPA this means there are no MPA staff, patrols, or future governance planning stemming from the government. While the participating conservation NGO continues to work within the MPA, the long-term knowledge and working relationships co-created by the local government and the NGO cannot be efficiently utilized, as those relationships now sit outside of the jurisdictional zone. For its part, the head of the district MMAF says that its office is now in a holding pattern, waiting for both instruction and funding from the provincial office

before it can move forward.

7. Conclusion

Part of the challenge of creating MPA policies anywhere in the world is that each site represents a unique and interwoven set of social, economic, and biological circumstances. Adaptation to diversity is a capacity challenge for all levels and types of policy makers. At the same time, researchers, marine resource managers, and other stakeholders have continued to learn from each other in the effort to develop broadly applicable interventions and best practices. This paper has investigated both globally accepted best practice and local context in MPA zoning and implementation taking place in eastern Indonesia, in particular challenging the use of TEK and alternative livelihood frameworks, and exploring the impact of major marine jurisdictional reorganization.

Past research has argued that, when integrated with MPA frameworks, TEK and CMT systems can both improve efficiency, compliance, and resilience. Comparing the sites of Lamalera, Pura, and Kokar shows that this isn't necessarily the case. The evidence from these sites doesn't suggest a total rejection of the coupling of TEK systems and MPAs, or natural resource management plans more generally. Under certain conditions, the hybridization can be successful (Aswani et al. 2004, Cinner and Aswani 2007). Instead the evidence challenges a trend in MPA management that assumes that TEK systems by nature share a basic alignment with MPA goals, and that therefore seeking out TEK presence should be prioritized as best practice.

Alternative livelihood mechanisms were also conceptualized as a way to increase MPA compliance, as well as to improve equity concerns for local marine resource users.

In both Lembata and Alor districts, however, the challenge of creating and supporting wholly new economic frameworks has proved difficult. Echoing other critiques, evidence from Pura in particular shows that the administration of skills development, market regulation, and capital demands are perhaps beyond the scope of MPA management actors (Pomeroy 2012). These challenges to MPA management practices are further complicated by the degree of jurisdictional upheaval that all Indonesian MPAs have experienced in the last five years in relation to UU 23/2014. If new legal management frameworks cannot be identified, the Selat Pantar MPA, and many others across Indonesia, risk becoming yet another example of "paper parks"; a serious problem in light of Indonesia's commitment to the target of 20 million hectares of MPAs by 2020 (CEA 2018).

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Appendix D

Interview Participant List by Category

Marine Resource Users:
Almost entirely male, respondents were sampled across generations, clan, and family affiliation, religion (where applicable), and fisheries gear

Non-Fishing Community Members:
Fish sellers and traders (majority women)
Suppliers and toolmakers
Community Elders (Toko Masyarakat)

Local Leadership:
Administrative leadership - Village Heads and Lurah in Kokar and in Pura
Cultural leadership – Clan Leaders and religious leaders in all locations

Government Officers:
Ministry of Tourism – Provincial Head and District Head as well as staff
Ministry of Fisheries - District Head Alor and Lembata

NGOs:
District and provincial level staff for marine conservation NGO
District level staff for alternative livelihood NGO

Tourism:
Lembata: 1 homestay operator in Lewoleba, district capital, 3 in Lamalera
Alor: 1 homestay operator in Kalabahi, district capital. 4 dive operators that work throughout district, 2 based in Kalabahi, and 2 near the Pantar Strait

Group Discussions:
Lamalera: 2 group discussions about conservation programming and local impact (x2: 2017 and 2018).
Kokar: Group discussion on fishery and conservation programming
Pura: Group discussion on fisheries and MPA planning

Appendix E

List of Research Participants within Lamalera's Marine Sector by Role

M = Male, F = Female

Lamaleran Fishery Roles:
Harpooners (8M)
Assistant Harpooner (2M)
Central Crew (responsible for bailing, rowing, towing, spotting, and more) (8M)
Outboard Operator (1M)
Boat Makers (2M)
Assistant Boat-Makers (2M)
Harpoon Makers (3M)
Sail Maker (1M)
Head of Clan for clan in charge of ocean affairs (1M)
Clan Mother for clan in charge of ocean affairs (1F)
Head of Landlord Clan (original inhabitants who gave whalers permission to settle historically) (1M)
Clan Mother of Landlord Clan (1F)
Meat Processing and Drying (women's work) (3F)
Sellers/exchangers who work outside Lamalera to distribute family's catch (3F)

Non-Clan Defined Roles Important within the Fishery:
Bodi (Non-traditional whaling boat) Owners (2M)
Wife of Bodi Owner (1F)
Fishermen who primarily fish for flying fish (1M)
Individuals who have been instrumental in Lamalera's protests against conservation (5M, 2F)