



Co-governance, Transregional Maritime Conventions, and Indigenous Customary Practices Among Subsistence Fishermen in Ende, Indonesia

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This article presents a case study of a fishery in the port-town community of Ende, Flores, a former littoral hub located at the periphery of major commercial systems in the Indo-Pacific region. The article argues that more attention be paid to the role of transregional maritime networks, nautical conventions, and navigational practices embedded within local tenure systems to understand the apparent absence of formal control of marine and coastal resources. Through ethnographic and archival research, this study identifies the presence of indigenous institutions for fishing grounds regulation and documents the existence of broader transregional norms dictating proper fishing and navigation. Exploring the interactions between more pluralistic customary systems that exist in port-towns such as Ende and recent fishery development policies, the article discusses some of the obstacles to implementing sustainable co-management strategies. While the Indonesian central government is strongly promoting co-governance approaches for resource management, these institutional models are based on geographically narrow definitions of tradition and customary law which can lead to management failures, such as elite capture and local fishers' disenfranchisement. In this case, policies emphasize the formation of cooperative groups without considering transregional beliefs about independence and pre-established systems of obligations. As a result, disputes among the fishermen, conflicts with local fishery officers, and the use of non-sustainable practices continue. For example, embodying predominant Southeast Asian beliefs, Endenese are known for their entrepreneurial nature and strong self-sufficiency ethos. Yet, these notions are ignored by local government agencies that view the fishermen as selfish and disorganized. In order to formulate true participatory solutions, a careful assessment of the role played by transregional perspectives that go beyond geographically localized understandings of customary practices is needed. The article concludes with a consideration of the role played by decentralization processes, subsidies, and aid programs in entrenching poverty and inequality among local communities.

Keywords: customary law, adat, co-management, transregional, non-sustainable practices

INTRODUCTION

Small-scale fisheries are undergoing rapid socioeconomic and environmental changes due to overfishing, declining fishing stocks, and the degradation of marine and coastal landscapes. To match the high levels of uncertainty associated with the new scenarios, fishing communities have revised their local ecological knowledge and practices, diversified their livelihoods, and developed novel institutional arrangements (FAO, 2019; Aswani, 2020; Green et al., 2021). As part of these innovations to regulate the use of natural resources, a wide range of sectors and academic disciplines has renewed the call for co-management and user-rights frameworks (von Benda-Beckmann et al., 2016; Tilley et al., 2019; Villaseñor-Derbez et al., 2019). Such efforts are not new, but build upon several decades of research on institutions, collective action, and fishery management policies (Bubandt, 2004; Henley and Davidson, 2008; van Ast et al., 2014). Legal developments reflect a broader pluralistic tendency in international law that seeks to revitalize customary and faith-based systems and the value of cultural heritages (von Benda-Beckman and von Benda-Beckman, 2011; Adhuri, 2018, 2019; von Benda-Beckmann, 2019). An exclusive emphasis on indigenous tenure arrangements runs counter to the many interconnections, linkages, and transregional mobility that have dominated maritime activities in Southeast Asia for the past two millennia (Lockard, 2010; Henley and Schulte Norholdt, 2015; Manguin, 2017; Hoogervorst, 2018). The renewed focus on customary and user-rights approaches has dire implications for some of the most cosmopolitan yet impoverished fishing communities in this part of the world. Originating in old port towns or entrepôts, marine tenure institutions may be difficult to recognize in these highly dynamic and pluralistic societies. Managers' failure to detect customary structures, pre-established usages, and maritime regulations may lead to a community's disenfranchisement, the exclusion of stakeholders in key decision-making processes, and the loss of opportunities to sustainably manage resources (Adhuri, 2013; Steenbergen, 2016). The goal of this article is to advance the understanding of how co-management frameworks may benefit from adopting a transregional perspective in the identification of local systems of coastal and marine tenure.

Over the past 35 years, Southeast Asian countries such as Indonesia have introduced legal instruments that seek to devolve authoritative power to local governments (Satria and Matsuda, 2004; Satria, 2009; Rauf et al., 2019). Institutional developments, such as the decentralization laws of 1999 and early 2000s (U.U. 22/199, P.P. 25/2000, Presidential Decree No. 177/2000), have met with limited success (Ostwald et al., 2016; Bedner and Arizona, 2019; Subekti et al., 2020). In 2014, the arrival of Joko Widodo to the presidency inaugurated an unprecedented program of reforms in fishery management systems to curb illegal practices and overfishing. At the cornerstone of changes is the revitalization of customary laws known as *hak-hak masyarakat* or *hukum adat* (shortened to *adat*; Village Law 8/2014) to increase local stewardship and accountability. The amendment of Indonesia's coastal and

small island legislation (U.U. No.27/2007) has allowed a more explicit consideration of traditional communities' interests in the extraction of marine resources. Other significant changes have introduced controversial modifications in the small-scale fisheries sector's definition, broadening its scope to incorporate vessels below 10 tons (Halim et al., 2019). In practice, the new impetus on *adat* has translated into the mapping of all existing coastal communities that still maintain traditional management practices. In short, the intention behind legal changes is to assist communities in obtaining formal recognition from the provincial and national governments that may grant spatial jurisdiction and resource management autonomy (Halim et al., 2020).

Identifying local tenure systems can be especially difficult among maritime societies that actively participate in transregional networks regulating resource exchange and use (Gorris, 2016). In this context, transregional refers to the political and economic connections established between a littoral society and the distant trade centers located across other regions of Southeast Asia. At a broader Indo-Pacific scale, transregional meant the existence of sustained interactions between commercial settlements of the Malay Peninsula, the South China Sea, of kingdoms in Sumatra, Java, Sulawesi, and Kalimantan, and along many localities in Eastern Indonesia including Flores, Timor, and the Maluku and Banda Islands (Tagliacozzo, 2010). Owing to the wide geographical span of trade relations, port towns, entrepôts, and coastal cities that are part of transregional systems can be highly dynamic cosmopolitan centers. The inter-island commerce that dominates the economic life of these settlements may give rise to largely diverse societies populated by culturally distinct co-resident groups (Widodo, 2012). In Southeast Asia, exchanges were built upon a set of common institutions such as nautical conventions or trade practices found in the Islamic world which later became embedded into indigenous juridical systems (Khalilieh, 1998; Sutherland, 2015a,b). Because of the plurality of resource uses found within these communities, norms fluidly shifted and adapted to specific situations (Zerner, 1994; Knudsen, 2008; Fabinyi et al., 2010). Challenging the notion of a static or geographically circumscribed tradition, the identification of a standard juridical framework in these littoral societies becomes an arduous process (Macknight, 1973; Pearson, 2006). Furthermore, broader naturalized conventions, practices ingrained in symbolic representations, or emerging behaviors, may also remain implicit and hard to discern from everyday habits, leading to the idea that no rules exist (McCay, 2002; Quimby, 2015).

This article presents a case study of a fishery in the port-town community of Ende, Flores, a former littoral hub positioned at the periphery of major commercial systems in the Indo-Pacific region. Although this settlement is in a relatively remote location when compared to other islands such as Java and Sumatra, it represents a vital center within the larger Nusa Tenggara Timur and Maluku provinces. Ende is second in importance to other towns like Kupang in Timor, Waingapu in Sumba, and Ambon in Maluku, and constitutes a significant step in the movement of commodities, supplies, and raw materials

toward the eastern parts of the archipelago. The case study argues that more attention be paid to the role of transregional maritime networks, nautical usages, and navigational practices that are embedded within local tenure systems to understand the apparent absence of formal control of marine and coastal resources. Through ethnographic and archival research, the objectives are to identify the presence of indigenous institutions that regulate access, control, and use of fishing territories and specific stocks and to document the existence of broader transregional norms, rules, and conventions dictating proper fishing and navigation. By exploring the interactions between nested systems of local and transregional regulations and more recent fishery development policies, the goal is to discuss some of the obstacles to implementing sustainable co-management strategies in port-towns such as Ende. The article concludes with a consideration of the role played by decentralization processes, subsidies, and aid programs in increasing inequality among local communities.

Customary Marine Tenure, Community Driven Development, and Co-Governance Frameworks in Eastern Indonesia.

At the crossroads of global trade maritime routes, Eastern Indonesia has seen the emergence of numerous coastal ports, entrepôts, and seasonal trading centers in the past two millennia (Reid, 1988; Hall, 2011; Sutherland, 2015a; Webster et al., 2015). Coastal settlements are an amalgam of different cultures with local communities, depicting the adoption, accommodation, and integration of co-resident groups of varied ethnic backgrounds (Macknight, 1973; Knaap and Sutherland, 2012; Sutherland, 2015b). Affiliations and alliances among different ethnicities through kinship ties and economic activities can lead to rich interactions where exchanges are not just limited to commodities but also extend to beliefs, institutions, and practices (Pearson, 2006). As a result of the multi-ethnic fabric of coastal hubs, fishing communities residing in them can be highly heterogeneous in how they value and manage resources. The combination of local indigenous rules with exposure to broader transregional nautical usages and maritime conventions creates a constellation of diverse institutions regulating fishing activities, the access to stocks and potential commodities, or even preferences regarding the adoption of technology.

In Malacca and in the South Sulawesi kingdoms of Gowa-Tallo, Wajo, and Bone, which dominated maritime trade before the arrival of colonial forces, legal systems often constituted a mix of religious, territorial, and genealogical principles at different levels of consolidation and change (Raffles, 1879; Friedericy, 1932; Caron, 1937; Noorduyn, 1957; Liaw and Ahmad, 2003; Cummings, 2011). Formal nautical codices inspired by Islamic law intersected with indigenous customary institutions to organize all aspects of civil, criminal, and commercial life. Islamic precepts acted as a set of transparent rules that governed business transactions (Borschberg, 2019). While shared conventions and usages predominated in nautical and economic settings, practices and rules were deeply embedded at the local level in the social and cultural structures of indigenous *adat*. Consequently, the types of tenure rights and the ability of certain institutions to enact them were directly determined and subordinated to

an individual's group membership (adscription to lineages), place of residence, and religious and ethnic affiliation. In this context, *adat* denoted pre-existing ancestral structures with a solid sphere of influence in arbitrating cases related to kinship or reciprocity obligations. Regarding the management and use of natural resources, customary laws assumed the form of taboos, prescriptions, and moral beliefs closely tied to origin narratives and cosmologies.

Although a core set of tenets related to kinship remained unchanged, within indigenous legal systems cultural and institutional boundaries were highly dynamic, reshaped and adjusted to fit particular circumstances (Macknight, 1973). As observed by colonial officers, variations and divergences from a common principle constituted the norm (Vollenhoven, 1918). In addition, common usages and rules became so naturalized in everyday decision processes that it became impossible to verbalize the rationale behind choices (Friedericy, 1932). Thus, in most descriptions of *adat*, emphasis was placed on the more fixed aspects of customary systems that can be easily discerned, such as marriage practices or ceremonial wealth distribution. Even in present days, the focus on some institutions at the exclusion of others in the characterization of indigenous legal systems distorts and obscures interpretations of the role played by customary structures in the control of natural resources (Knudsen, 2008; von Benda-Beckman and von Benda-Beckman, 2011; Ellen, 2016). In addition, the discernment of how broader regional maritime principles articulate with customary practices remains largely unexplored within current legal and institutional governance studies (Khalilieh, 1998, 2019; Borschberg, 2019). This creates a gap in the understanding of resource use practices within littoral hubs, former entrepôts, and port-towns, that can shape and affect the development of sustainable policies in marine and coastal management (Gorris, 2016; Steenbergen, 2016).

Since the late 1980s and early 1990s, models of co-governance and participatory management, the sharing of responsibility and authority between a state government and indigenous institutions in natural resource management, have gained prominence in the field of marine policy (Berkes, 2006, 2009; Charles, 2012). The interest in co-governance represented a combination of both practical and theoretical concerns (Plummer and Fitzgibbon, 2004). On the one hand, as important declines were observed in fisheries, many countries such as Indonesia were undergoing important transitions in their political organization through decentralization processes that called for creative ways of resource governance across a multitude of ethnic communities (Shivakoti and Shivakoti, 2008; Ostwald et al., 2016). On the other hand, an important theoretical change took place among institutional design frameworks that challenged traditional views of the role of government control in decision-making and in the administration of common resources. The work of Elinor Ostrom along with the numerous contributions of anthropologists, biologists, and ecologists exploring indigenous tenure systems around the world offered key insights regarding the value of local rules and self-governance to solving collective action issues (Cordell, 1989; Ostrom, 1990, 2007; Johannes, 1993; Ruddle, 1998; McCay, 2002; Basurto et al., 2012; Lauer, 2017). Central to the approach

was the identification of a collection of design principles that could foster long-term stewardship in the adaptive management of resources (Berkes, 2015; Trimble and Berkes, 2015). User characteristics, their needs and conditions, along with the type of resources (stationary vs. mobile), and the existing governance structures regulating exchanges between users and resources, were three crucial dimensions to consider according to the theory. Because the new approach emphasized the need to involve local actors in the practice of formulating policies, regulating access, and overseeing the control of resource systems (Berkes, 2009; Ostrom, 2009), the existence of local rules and institutions, their documentation and the understanding of their use, became essential to the theory (Zerner, 1994; Adhuri, 2013).

While international institutions embraced many of the new recommendations, others expressed caution against the use of customary practices to manage natural resources (Pannell, 1997, 2007; Afiff and Lowe, 2007; Leach et al., 2012; Lauer, 2017). The quick adoption of cultural representations by government and non-government organizations was seen as problematic, leading to the rationalization of otherwise dynamic social processes and to the simplification of complex social institutions (Pannell, 1996; Ribot and Peluso, 2009; Fabinyi et al., 2010; Coulthard, 2011). Furthermore, scholars called attention to the fact that in locations where customary principles were hard to discern, were undergoing change, or had a strong emphasis on individuality, these systems were at risk of not being properly recognized (Knudsen, 2008; Gorris, 2016).

In Eastern Indonesia, where Ende is located, the movement toward co-governance began in the mid-1990s with the introduction of decentralization policies in the agricultural sector (Susilowati, 1996; Satria and Matsuda, 2004; Sugishima, 2006). Decentralization consisted in the devolvement of management functions to the lower government levels, including districts, sub-districts, and villages (Steenbergen, 2016). The district government jurisdiction was defined to extend up to 4 miles offshore. Provinces held management and administrative responsibilities between 4 and 12 miles offshore according to coastal management regulations (U.U. No. 27/2007, U.U. No. 1/2014). Other fishery instruments, including U.U. No. 45/2009, P.P. No. 60/2007, and Kep.06/MEN/2014, were introduced to support the implementation of integrated spatial planning, leading to the creation of a network of marine protected areas in the Savu sea (Mujiyanto et al., 2019). In the early 2010s, local offices participated in surveys and assessments to support zoning efforts. More recent policies have introduced additional amendments to licenses and permits (U.U. No. 1/2014, U.U. No. 7/2016), along with changes in the definition of fishing communities and the roles of customary law (Ministry of Internal Affairs Regulation No. 52/2014, Ministry of Marine Affairs and Fisheries Regulation No. 8/2018). Given the current mandates to incentivize effort (see for example, Goti, 2020; Suimam, 2021a) and the absence of consistent development policies for the fishery (Djata, 2018; Langga, 2020), the impact of the new regulations on customary management introduced by the central Indonesian government is yet to be determined. To this date, and to the author's best knowledge, coastal Endenese villages in the

regency's southern areas have not gained proper legal recognition either as *adat* (*masyarakat adat*) or as traditional communities (*masyarakat tradisional*).

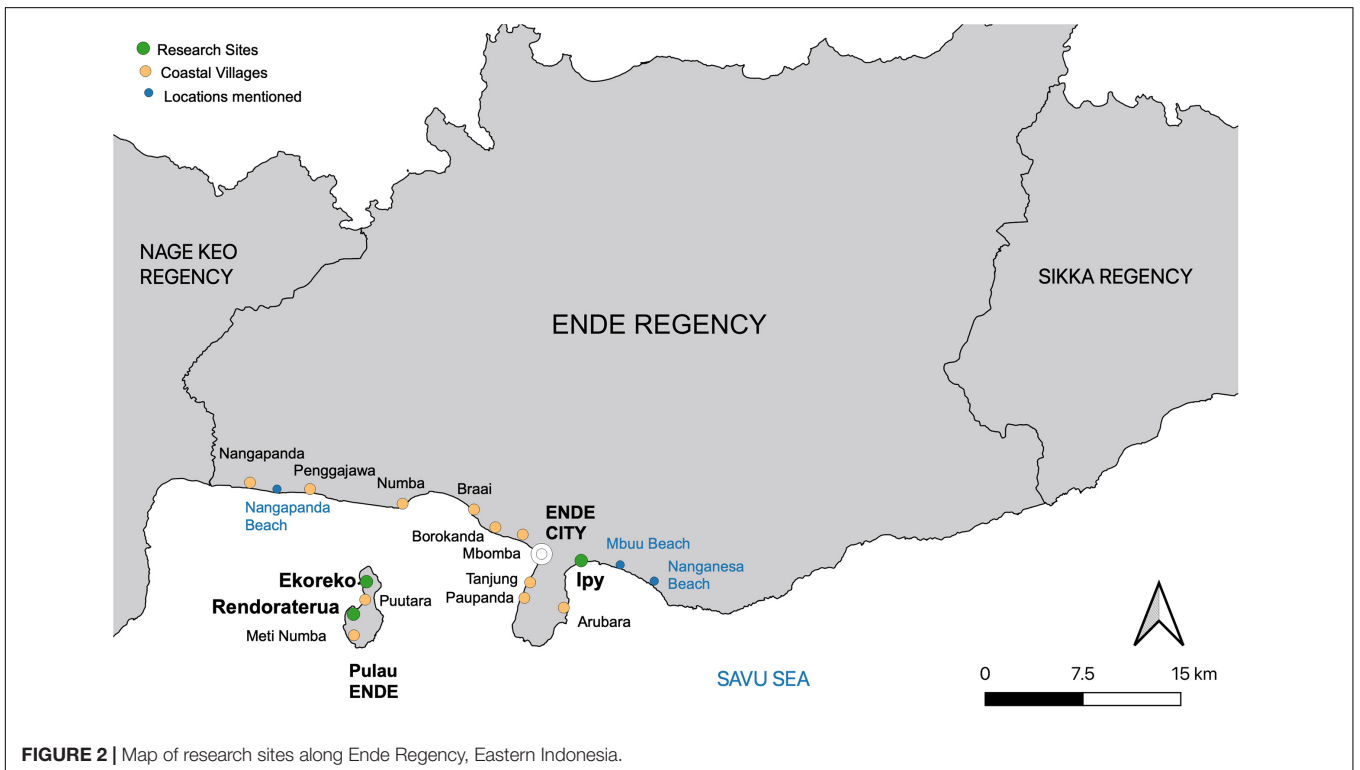
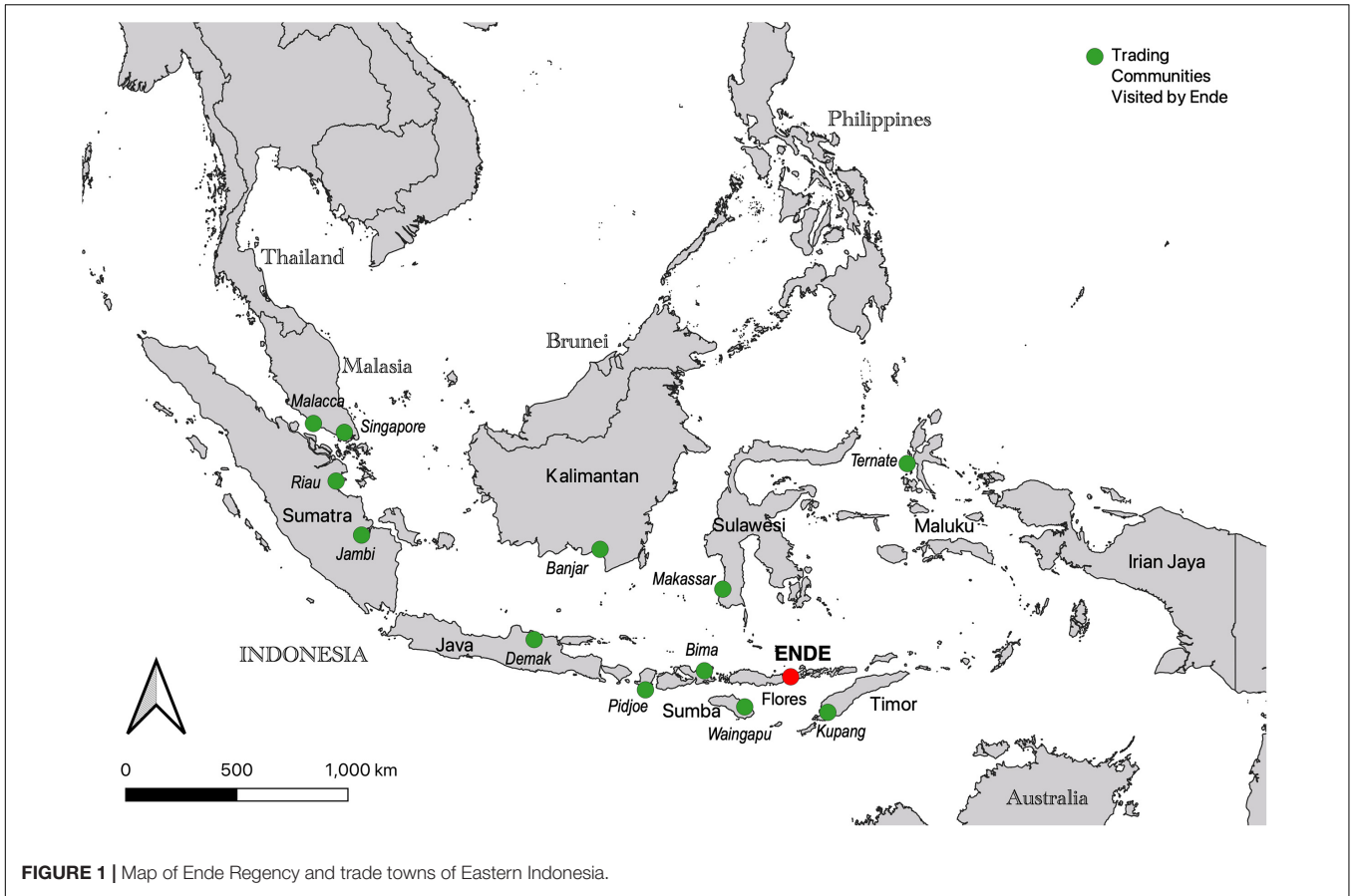
MATERIALS AND METHODS

Study Site

Coastal Endenese are a paradigmatic example of a littoral society, embodying a rich cultural and religious identity forged over centuries of interactions with other groups (Fernandez, 1990; Soenaryo, 2006; Nakagawa, 2007). Part of a regional inter-island trade network, the city of Ende and the smaller island of Pulau Ende maintained numerous ties with merchant communities in Malacca, Ternate, and Makassar (see **Figure 1**). As ships made their way to the sandalwood and spice centers, Chinese and Javanese merchants visited the entrepot since the early 1300s (Heuken, 2002; Abdurachman, 2008). After the arrival of Portuguese and Dutch forces, groups of Makassarese and Bugis merchants relocated in Ende in the early 1600s (Roos, 1872; de Roo van Alderwerelt, 1905; Van Suchtelen, 1921). A rajadom was created in 1638, and through its foundation, Coastal Endenese became a separate, self-identifying group. The polity subsisted on the commerce of slaves and other commodities. During the twentieth century, the economy transitioned to the production of agricultural staples such as coconuts (*kopra*) for exports (Needham, 1987; Parimmartha, 2002).

Presently, there are close to 3,000 active fishermen distributed along villages in the southern coast of Ende regency (**Figure 2**, BPSKE, 2019). Fisheries are subsistence-based, with most captures including large and small pelagic stocks such as Scombridae, Clupeidae, Lutjanidae, Serranidae, and Carangidae families (Ramenzoni, 2013a). Most of the fishing occurs along the shorelines on canoes and small-motorized plank boats. Prevalent fishing gear includes small gillnets (mesh size of 2.5–12 cm), troll lines, and hand line fishing. With weekly incomes ranging anywhere between USD \$15 to \$70, poverty has become, next to socioeconomic and environmental uncertainty, a significant pressure preventing the eradication of non-sustainable practices. After the second world war, Endenese fishermen began using bombs and potassium cyanide when fishing in coral reefs (Ramenzoni, 2013b; Ramenzoni et al., 2017). As a consequence, they have had amassed a notoriously bad reputation throughout the region (de Rosary, 2020). The lack of resources to support enforcement has resulted in a game of cat-and-mouse between fishermen and authorities.

In tandem with coral blasting, over the past 40 years, the regency has experienced an irregular intensification of its fishing effort (Ramenzoni, 2017). Still, mechanization and industrial development are extremely limited. With no serious opportunities for professionalization and a lack of consistency in policies (Djata, 2018), Endenese fishermen are highly individualistic in their operations and share a robust ethos that ties each individual's fortune to their capacity for diligent work and courage. This explains why most fishermen choose not to affiliate or form any external organizations. Despite some past attempts at creating a local branch of the National



Fishermen Federation (*Federasi Serikat Nelayan Nusantara*), there are no active fishing associations in the regency. The degree of group aggregation is in most cases temporary and rests upon the choice of fishing techniques, boat size, gear ownership, and kinship ties. Self-sufficiency prevails among singly manned canoes and small out-board engine plank boats which dominate the fishery. For example, at the time of research, less than ten percent of all fishermen worked as a crew in the larger purse seine boats (known as *lampara*). In terms of organization, Endenese fishermen recognize no leaders beyond the boat captain. Through a well-established patronage system, middlemen (*papelele*) and financial partners influence activities by determining revenues from sales and advancing funds to cover operational costs. Support for local fishermen continues to be provided by the local government in the form of aid packages, funded through specific budgets, that are distributed to a few individuals each time (Suimam, 2021b). These parties usually include nets or fiber boats, and prioritize the formation of fishing clusters and cooperative arrangements rather than capacity development.

Data Collection Methods

Data were collected over 22 months of fieldwork in Ende with visits in 2009 and 2010, and residing in the villages of Eko Reko, Rendo Rate Rua, and Ipy from June 2011 to December 2012. Follow-up visits to Jakarta took place in 2013, 2019, and 2020. Interviews, along with responses to demographic surveys, field notes, and archival research, constitute the major sources of data for the thematic analysis.

Semi-Structured Interviews

A total of 140 semi-structured interviews and conversations with fishermen ($n: 130$), and officers and administrative personnel from the local fishing commission, the environmental office, and the marine police ($n: 10$) were carried out from 2011 to 2013. Of these, a total of 60 interviews were tape-recorded with consent from participants. All interviews followed a common guide that included specific questions on local resource management practices such as customary usages and rules, fishing grounds and taboo areas, and fishing regulation (authorities responsible for controlling access at the village level); normal fishing activities and fishing clusters; reciprocity, sharing, and obligations; fishing behavior and responsibilities at sea; and fishery policies in relation to other types gear, non-sustainable practices, and government incentive programs. Additional information from informal conversations was also captured in field notes and diaries. Interviews and conversations were conducted in Bahasa Indonesia with the support of three Indonesian research assistants.

Surveys

Demographic and basic fishing information including earnings from fishing by month and season, estimates of calendar month fishing effort, and ownership of gear and normal fishery targets per season, was also obtained through a specific survey and included a total of 135 households in the villages of Ipy, Eko Reko, and Rendo Rate Rua in mid 2011. Results from the demographic questionnaire, in conjunction with official fishing

surveys documenting fishing effort from the local fishing office and reports from the Indonesian statistical office in Ende from 2009 through 2019 (Badan Pusat Statistik Ende), are used to contextualize the fishery.

Participant Observation

In addition to ethnographic fieldwork in Eko Reko, Rendo Rate Rua, and Ipy villages starting with visits in 2009 and concluding at the end of 2012, the researcher participated in public meetings on the topics of environmental protection, zoning, and socialization carried out in April and September of 2012. During meetings in April of 2012, the researcher presented preliminary results on non-sustainable practices and fishing effort among local officers and fishermen representatives. In September of 2012, the researcher was present as part of the audience in a training session on management policies for environmental conservation.

Archival Research

The researcher also visited archives and consulted document collections in Maumere, Yogyakarta, and Jakarta, Indonesia, and Nijmegen and Amsterdam, The Netherlands. Archival research in the years of 2009, 2011, 2012, 2013, 2019, and 2020 complemented field data and focused on identifying management policies and their impacts on the local population. It included documents such as annual reports, policy briefs, copies of presentations, and newspaper articles. Finally, since 2009 the author has maintained regular contacts through internet and telephone with five key informants from Ende, including fishermen and residents of the villages of Ende City, Eko Reko, and Rendo Rate Rua. Consultations with informants as well as publications from local scholars in the area (Djata, 2018; Langga, 2020) are used to verify, comment, and actualize findings from fieldwork and archival research.

RESULTS: ADAT, MARITIME RESOURCES, AND SEAFARING PRACTICES

No written books of law, village ordinances or royal codes have been found to date among coastal Endenese. In the earlier work of legal scholars, Endenese belonged to the Timorese Circle (Vollenhoven, 1918). Similar to other *adat* systems, coastal Endenese recognized the institution of a *tuan tanah*, the lord of the land, called “mosalaki tana” or “mosalaki pu’u” (Roos, 1872). This office oversaw the distribution and management of communal clan land. Few coastal Endenese villages still maintain a *tuan tanah*, with the office reverting to family leaders. Other forms of resource control are related to the sanctioning of transgressions of private property, family-based prescriptions, and taboos (Weber, 1890; Van Suchtelen, 1921).

While indigenous prohibitions may be perceived as largely pertaining to agricultural or land-based resources rather than marine or coastal products, through interviews I was able to establish that Coastal Endenese see numerous connections between the ocean and the terrestrial worlds. With both dimensions linked in practice and traditions, the application of indigenous *adat* acknowledges this continuity and does not

necessarily uphold a distinction in terms of jurisdiction (see Edjid, 1979, for rigidity of coastal adat in Ende). For example, like other Southeast Asian cultures, the violation of prescriptions in marine spaces carries serious consequences that follow the infractor to land or sea (Andaya, 2016, 2017). Therefore, if managers seek to identify specific principles that only apply to the marine world without considering land-ocean interdependences, they may conclude that few local rules, if any, are tailored to manage coastal or marine resources. With this in mind, I carefully discuss findings pertaining to the regulation of marine and coastal resources as well as fishing and navigation behavior.

Regulations of Marine Resources

Coastal Endenese possess several institutions seeking to manage or harvest specific fisheries and coastal organisms, which are deeply embedded in religious and cultural practices. For example, there are rules and prohibitions related to the fishing of red snapper (*ikan kakap merah*, or “iká asa,” *Lutjanus campechanus*; “iká ziké,” *Lutjanidae* spp.). When entering known habitats of red snapper, or areas of aggregation and reproduction, fishermen are to follow specific behavior rules. These areas are known as *pantangan* or *pemali* (“pire”), terms that indicate the existence of a taboo. As discussed by several interviewees, fishermen cannot talk or make noise, relieve themselves, spit, smoke, light a fire, or stand in their canoe at the risk of disturbing the fish underneath. Besides, if someone finds a spot where red snapper bite, that person has priority in accessing the fishing ground the following days. Others can only enter the area after the lucky fisherman chooses a place and drops a line (*tidak boleh masuk duluan*). If the order of precedence is not respected, offenders will not capture any fish for the duration of that lunar month.

Taboo areas are part of a larger set of spatial locations recognized by all yet owned by no one. Even when supposedly bountiful, some of these locations were referred to as *angker* (cursed) by the interviewees. Inhabited by spirits (*setan*, *djin*), visiting these spaces can lead to mystical encounters, hauntings, or strange events. Currents may not behave normally, with fishermen getting stuck or trapped, and nets being so heavy that several men cannot pull them. Some fishermen even described being deceived and or warned by spirits. According to respondents, rules about red snappers are directly inherited from their ancestors (*nenek moyang*). Their origin is in a legend that accounts for how Endenese were taught and granted permission to fish by a red snapper’s spirit. Other Endenese traditional narratives mention sailfish, sharks, and dugongs as sharing a common ancestry with humans; and portray marlin, dolphins, and whales as helpers of human ancestors. Whereas some of these legends do not often prohibit species harvesting, they may limit the sale or use of the carcasses and parts. In addition to origin narratives, numerous individual and family level taboos restrict the consumption of marine products such as octopus, whales, sharks, marlin, rays, porcupine or blow fish, flying fish, and garfish. Additional prescriptions are associated with illness from collecting items (pearls and thorn or branch corals) without the custodian spirits’ permission or when squandering valuable objects, even if their finding was unintentional.

Finally, a few respondents indicated that there were additional ritual traditions and special rules to follow to harvest “ika ipú” (*ikan bandeng*, milkfish, *Chanos chanos*) and “nale” (*nyale*, sea worms). These prescriptions are found in the regency of Ende and along coastal villages in the Sikka and Manggarai regencies in Flores, as well as in Sumba, Sumbawa, Lembata and Lombok. Fish fry are harvested during their upstream migration. Sea worms become more numerous in the annual low tide. Both species are associated with changes in seasons. In Ende, the flocks of small milkfish are seen in the beaches of Mbu’u and Nanganesa and in the coast of Nangapanda during April and May. To anticipate their arrival, *adat* chiefs or elders keep calculations based on prior occurrences. Prohibitions are in place surrounding the harvesting with people being forbidden from crowding the coast at the risk of scaring the organisms. Permissions are granted after envoys observe sufficient numbers of stocks.

Regulation of Fishing Areas and Tidal Lands

Access to nearby maritime and coastal resources is loosely regulated at the village level, with anyone residing within the village or neighboring areas being able to exploit associated fishing grounds at will. The local jurisdiction of fishing areas extends to approximately 3 miles offshore, a practical distance that encompasses what the eye can see. Areas may have expanded or contracted in the past depending on warfare, nautical traffic, and regulatory changes. Fishing grounds often include reef areas (“peró iká,” coral fish places) where only small nets and lines can be deployed. Fishermen perceive local grounds as a commons: no one from the village owns, has priority, or exclusive rights over these spaces and outsiders are precluded from using them without appropriate permissions. Endenese beaches and tidal flats (“meti tu’u”) positioned directly in front of the village are also communally owned.

Every year, the fishing grounds and nearshore habitats around Ende receive the visit of foreign Indonesian Bajau and Buginese fishermen seeking sea cucumbers (*Holothuria* spp., trepang) or lobster. Local village chiefs are responsible for granting permission to use local commons to outsiders after the payment of a small fee. The amount or kind of payment may include a percentage of gains, a fixed amount, or a proportion of landings. Yet, permission to operate in a village’s fishing grounds is not always conceded. During my research I encountered a village head who refused access to Bajau fishermen to protect local yields (*jaga hasil laut nelayan*) and because they associated this group with coral blasting. In other cases, I found that village chiefs did not care to impose any restrictions or that when they did their enforcement was lax. No limitations existed on the amount of resources that foreigners could harvest since those products were not regularly extracted by the local fishermen. In principle, Endenese did not oppose the activities of the Bajau. However, they were upset by the complacent attitude shown by most village chiefs who regarded fishing grounds as open access rather than communally regulated commons and allowed the unrestricted exploitation of valuable products.

Previous examples may suggest that Endenese have ineffective mechanisms to control the harvesting of certain resources. Yet, on the other hand, there are very clearly delineated prescriptions regarding the types of gear that can be deployed within a village's fishing grounds. Large nets such as gill nets, any kind of trawling (*pukat harimau*), and purse seiners (*pukat cincin*, *pukat lampara*) are not allowed within nearshore habitats and tidal areas. While these norms are followed and adhered to by a large proportion of the local fishermen, changes in boat sizes and mechanization have created new challenges to their enforcement. When fieldwork was conducted, conflicts had been proliferating between canoe fishermen and larger boats in terms of the deployment of bigger nets and neon lights. The reason was the lack of a clear ordinance from the district fishing commission regulating larger *lampara* boats' activities in nearby grounds. While said regulation seems to have been in place and poorly respected, most large-scale fishermen were conveniently unaware of their existence or willingly chose to break the rules (see for example, the Agricultural Decree No. 607/1976). Furthermore, some village chiefs were complicit (*kepala desa tidak keras*, the village leader is not hard enough), allowing illegal or indiscriminate practices.

According to the prevailing fishing laws when research was conducted (U.U. No. 31/2004, U.U. No. 45/2009, PER.01/MEN/2011), local subsistence fishers who relied on non-intensive gear or used boats of small tonnage (<10 tons) were not required to possess any license. However, under the purview of local regency and provincial government offices, fishermen often needed to have the proper permits to operate in areas beyond their place of residence for business purposes (Government Regulations Act No. 54/2002). Among the local fishermen, provincial or regency permits, widely known as *surat mancing* (fishing license), were common sources of complaints. If caught without a license, fines were deemed hefty or may result in a stay in jail. As mentioned in interviews, other document requirements were also issued by the district's fishing commission and depended on the type of fishing equipment and activities performed. Larger *lampara* or purse seine nets needed to obtain a special license and identification papers (U.U. No. 27/2007). Some practices such as lime production from corals (*kapur*), cyanide poisoning, shark finning, and coral blasting were completely forbidden, although they continued to the dismay of fishery managers (de Rosary, 2020).

Finally, interviewees also reported the presence of larger Indonesian, Taiwanese, and Korean tankers in offshore areas (more than 12 miles). By definition, these fishing grounds were under provincial or central government level controls and required specific permits (*Izin Usaha Perikanan, Surat Penangkapan Ikan, Surat Ijin Kapal Pengangkut Ikan*). Since most Endenese fishermen did not venture into the open seas except for seafaring or traveling, they did not trouble themselves with the larger tankers. When encountered, local fishermen were invited on board to receive a gift of frozen fish, money, or even cigarettes.

Regulation of Fishing Behavior

When entering a common fishing ground, or when traveling together and choosing fishing spots, there is a proper set of

navigational practices and courtesies that must be observed. These norms apply to either canoes, small motorboats, and *lampara*, whether in coastal fishing spots or more distant fishing grounds. If arriving at a common ground, customs dictate that the new party should ask politely for permission (*mintah sopan*) and offer a small gift of fish or cigarettes. In Ende, since departure times coincide with the low tide, it is common for local fishermen to travel the distance to fishing grounds as a group or convoy (*rombongan, jalan bersama*; we travel together). If along the way or when arriving at suitable spot one of the boats decides to stop, it must signal the others. The rest of the group must pass the boat and can only stop in locations that do not interfere with the fishing activities of the first vessel. It is expected that newcomers will keep a proper distance and will not deploy their gear in a way that may affect the captures of other boats.

Usually, when setting a long gill net in deeper waters, fishermen position their boat at the "top of the current." The boat navigator may use a line with a small weight to assess the direction of the current. Then, fishermen drop an anchor, and throw the net end overboard over the boat's side that faces the wind. Slowly, the fishermen continue to deploy the net by moving the boat at an angle to the current, allowing the net to drift without tangling. Net setting is a process that is done quickly but with a high level of skill and expertise. The operation is challenging given that Endenese gill nets can range in length, anywhere from 10 to 50 m long. Because currents change with the tide and conditions at sea may affect water layers, the nets can get tangled or even sink if not properly set early on. Thus, great care is taken among the fishermen to provide sufficient space in their maneuvers not to hamper others' performance. Most significantly, an order of precedence is respected that prevents latecomers from deploying their gear in a way that intercepts fishing stocks and prevents them from reaching other fishermen's nets. Interviewees explained this as *harus [lewat] arus di bawah, jangan lawan arus dari atas*, that is, arriving vessels and their nets must not cut or traverse the ocean current from the top (where other boats are standing). The newcomers should position themselves south of the flowing current to prevent the entanglement with pre-existing fishing nets and the luring of targeted stocks with their lamps. A similar more simplified principle of precedence applies to canoes, which rely on hook and line for their captures. However, because they relocate multiple times in a single trip to accommodate changes in currents, they are constantly aware of whether they may be intruding or impinging upon another fisherman's space. Other types of fishing gear such as fishing traps and aggregating devices (*rompong*), should be also clearly marked with floats and buoys to prevent accidents. Thefts were deemed unusual by respondents, though one interviewee indicated that in the past prohibition signs were also placed in fishing cages.

In conclusion, in what pertains to fishing behavior, Endenese have clear long-standing rules that must be followed. Orders of arrival and precedence are observed when entering fishing grounds. Placing the boat in the wrong location or too close to others (*terlalu dekat*), is considered both a breach of etiquette

and a significant offense. When the violation of one of these conventions occurs, there is no standard or predetermined way to penalize infractors. Most frequently, if wrongdoers are local, they would suffer recriminations and disapproval from others; consequences would affect all daily life interactions in the village. In this way, the spirit of adat rules requires people to be respectful in all instances, a system that strictly sanctions when someone speaks out of turn, insults an elder, or disrespects important topics (*jangan omong sembarangan*, do not speak without care). According to the Endenese, circumspection must predominate in all social interactions, including fishing practices. Discretion and sobriety must also extend to implementing sanctions. However, in the cases where the gravity of offenses could not be ignored, local fishermen would directly tell infractors that they were not the first to arrive (*aku yang dulu*, I was here first), or that they were cheating (*kamu curi*, you are stealing). Conflicts between smaller sampan and *lampara* boats often played out in this context, with fishermen complaining about the larger vessels' neon lights making nets visible to the fish or drawing stocks away. In other cases, if infractors were outsiders, verbal confrontations may ensue, and Endenese fishermen may resort to damaging or stealing fishing gear such as lamps and flotation devices.

Transregional Conventions and Rules for Sailing and Navigation

The Endenese, like other Islamic societies, deem the open seas beyond fishing grounds as areas of free navigation. Numerous agreed-upon customs, usages, and seafaring conventions that originate from a legacy of navigational and trading activities are followed when sailing in these spaces. Similar to the rules discussed above when entering fishing grounds, many if not all of the navigational norms that the Endenese adhere to are perceived as a given. Regulations are not verbalized in conversation and remain implicit unless evoked through particular events. It would be a mistake to assume that these norms are incipient, emergent, or recent in nature. Endenese rules reflect a blend of local beliefs and ethics with more general conventions found in classic nautical codices (Nooteboom, 1936). Treatises include the *Undang Undang Laut Melaka* (Liaw and Ahmad, 2003), the Makassar Annals and Buginese or *Wajo Lontara* from *Ammanna Gappa* (Noorduyn, 1957; Sulisty, 2020), local *adat* from South Sulawesi polities such as Bone (Friedericy, 1932), and the broader Islamic jurisprudence that dominated maritime commerce in the previous centuries (Anand, 1981; Khalilieh, 2019; Azeem, 2020). Examples of transregional principles include the determination of the right of way, anchorage and navigation mechanics, boat design and building, and sailing techniques and directions, with the latter being determined by the type of vessel and mostly following Buginese practices (Ammarell, 2002b). The duties and roles associated with different offices such as the captain and the crew, the distribution of profits and shares, the customs regarding accidents and their determination, mandatory aid for wreckages, and collisions, burial at sea, and salvage operations also follow larger Southeast Asian and Arabic canons (Anand, 1982; Khalilieh, 2019).

Most interestingly, works such as *Ammanna Gappa* also include what can be best described as a set of ethics or precepts regarding business in maritime navigation and trade (Sulisty, 2020). Close to this moral philosophy that governs individual behavior is the belief in the observance of religious Islamic principles in conducting commercial activities such as distributing or buying goods, pecuniary transactions, and the hiring of people. The Buginese and Wajorese polities that adhered to different versions of this code all were unified in the notion that as Muslims their actions were accountable to Allah, the *causa prima* that governs and controls the universe (Khalilieh, 2019; Sulisty, 2020). Essential values to guide conducts were to be found in verses of the Qur'an or the hadiths, and included notions such as fairness, accountability, and practicing good to others. Other tenets comprised the idea of embracing fate or pursuing one's destiny, a quest for awareness through pure means (*IKHLAS*). Perseverance, independence, and the capacity to deploy initiative even in the most challenging times are essential attributes of good character (Acciaioli, 2004).

A highly individualistic entrepreneurial ethos and the belief in the role of fortune are two key elements in the Endenese maritime culture that have a common origin in transregional values of independence and moral ethics. Underpinned in the Islamic notion of *barakah* (*berkat*, or blessing), the search for luck was described by Alfred Wallace in 1856 when discussing the inhabitants of Dobbo in the Aru Islands. It has been present throughout the Malay world in the vernacular term of *mencari rezeki*, also referring to the Arabic term *rizqui* indicating sustenance. The expression reflects the continuity of cultural motives across trading littoral societies (see Acciaioli, 2004), and it provides a larger moral background to explain endemic mobility, the significance of labor, and a sense of honor. Matching Bugis or Bajau cultural idiosyncrasies, the interpretation of economic activities and behavior in Ende requires that we consider them not simply as actions purely motivated in the pursuit of wealth (Ammarell, 2002b; Acciaioli, 2014). It is in the daily search of a livelihood according to the Quranic teachings that one encounters the blessings of God for one does not fortuitously run into good fortune unless one works for it (Acciaioli, 2004). The notion of searching for luck connects the success in both material and spiritual endeavors to an individual's capacity for diligent work and courage. Thus, a fisherman must make his own fortune (in Endenese "ngga'e ka," literally the noble search for food) by going out to sea, but also through praying and dedication (Ramenzoni, 2013a, 2015). As it was explained to me by an older fisherman the making of a living requires constant and persisting efforts, and also poses dangerous perils and threats to the unprepared. One needs to be receptive to God in order to receive his grace, but also be constantly guarded against the deceptions of djins and the devil.

While reflecting in spirit broader transregional conventions, Endenese rules and moral beliefs are deeply woven into indigenous customary institutions and Islamic syncretism. Dominated by kinship and reciprocity, *adat* governs all economic and civil transactions aboard a vessel, comprising fishing rights, the allocation of shares and responsibilities, and proper behavior. For example, interviewed fishermen mentioned that, according

to *adat*, they were mandated to respect their captain and *papelele* (often part of the same family). They were also required to help in fixing the nets and fishing gear, take part in communal work (“*kema lambo*,” work in boat), and participate in ceremonies and religious prayers (*Fatiha*). In other cases, customary obligations stipulated a remuneration system for those that helped fishermen haul their boat when onshore or transport and process captures, with the allocation of different parts of the fish according to rank and effort. Most significantly, *adat* dictated that a fisherman ought to share his fortune with family members (*bagi-bagi*), friends, and neighbors, without expecting a commensurate remuneration (*kamu punya rezeki, tidak makan sendiri*; you were lucky, you are not eating alone). Reciprocity is both tinted by local notions of kinship and Islamic values. It was referred to me as the “*zekat*” (*zakat*, an obligatory payment and one of the five mandatory pillars for Muslims). However, mandated reciprocity can also be a cause of complaint. Many fishermen indicate that *adat* kinship obligations kept them at subsistence levels (*adat rugi, adat paksa, adat setengah mati*; *adat* brings ruin, *adat* is heavy pressure, *adat* leaves you half-dead). Finally, interviewees described other *adat* practices in terms of safety, solidarity, and decency (*hati ikhlas*, pure heart). It is *adat* to rescue someone in distress, and when going fishing during the rainy and windy season, if one person has departed in rapidly deteriorating weather conditions others have to follow to ensure safe return. Thus, constant surveillance and awareness of who is at sea are normal among Endenese neighbors, with rescue efforts often bringing together several villages to procure aid.

It should be noted that, like other *adat* systems of Eastern Indonesia (Zerner, 1994; Pannell, 1997), some of the rules currently in place have suffered important changes over time due to the pressures imposed by colonization, the emergence of the Indonesian nation, and development projects. Interviewees attributed key changes in the system of shares and profit distribution as a result of the growing influence of the *papele* in the early decades of the 1980s and 1990s. The more recent introduction of fishing mechanization policies in the early 2000s and 2010s has led to the adoption of bigger *lampara* boats, more powerful engines, and purse seine nets. With changes in labor dynamics and wealth concentration, crew-patron relationships have been revitalized. These contracts, juxtaposed to kinship ties, are rapidly evolving into purely economic relations and leading to a more intensive exploitation of maritime and coastal resources.

Non-sustainable Practices and Rule Enforcement

During my interviews and conversations with local fishery officers and managers, I came across the same explanation of why most efforts to regulate coastal resources and develop the fishery had failed: *orang Ende tidak punya adat* (the Endenese people do not know customary law). However, Coastal Endenese do follow a series of norms and rules to control access to local fishing grounds, specific resources, and proper norms of behavior. Lack of awareness of customary principles and their application to all transactions concerning marine and coastal ecosystems

could be explained by the absence of significant interactions between managers and fishermen. As many fishermen said: *orang perikanan tidak turun ke pantai* (the fishery managers do not come visit the coast).

Regarding non-sustainable practices, and despite reports to the contrary by fishery officers and media articles (de Rosary, 2020; Pius, 2020), I found that there is broad resistance to coral blasting and potassium use among the local communities (Ramenzoni, 2013b). Most fishermen saw a connection between the reduction in the size of the catch over the last 30 years and damaging fishing practices, directly blaming illegal fishing for the current situation. With some exceptions depending on the village, they would actively report anyone who uses bombs in local fishing grounds. The use of explosives was equated to non-halal ways of making money and described as *rezeki kotor* (dirty luck) and *barang panas* (hot items). Yet, dynamite use is still prevalent due to the existence of what were considered valid excuses. The majority of interviewed fishermen were disappointed by long-standing institutional promises to provide more powerful engines, bigger nets, buying partners, or contracts with processing plants to develop the fishery. Non-sustainable practices such as coral blasting provided a way of drawing attention to local plights and the inefficacy of current policies.

On the other hand, enforcement and management officers considered weak customary institutions, selfishness, and the lack of environmental awareness and education as the key factors explaining the prevalence of non-sustainable and illegal practices. Endenese fishermen were in managers’ minds *perompak dan perampok*, pirates and bandits, who only cared about their individual profit. The solution to the problem was to teach fishermen to work collaboratively by creating cooperatives or clusters (*kelompok*). Thus, to qualify for a subsidy, the regency’s fishing commission (*Dinas Kelautan dan Perikanan*, DKP) required fishermen to form fishing groups and to submit a formal application. In some cases, programs were composed of financial loans to be paid back within a period of 5–10 years. Other programs provided access to equipment (engines and boats), or productive inputs such as seaweed seeds. The assistance provided by the DPK had the objective of supporting the economic self-sufficiency of several household heads. Hence, priority was given to those fishermen who had formed groups in the past, irrespective of their success. Expectations were that fishermen within clusters would work in close solidarity, maintain cohesiveness, and be serious and fair in distributing benefits. Notably, in the cases of loans, it was expected that some revenue would revert back as a payment every month. The main rationale explained to me was that fishing clusters would allow for the introduction of more efficient fishing fleets over time, and fishermen would progressively transition from smaller boats to the larger *lampara* seiners, increasing captures in a region whose potential is deemed as largely unexploited (Djata, 2018; Langga, 2020; Suimam, 2021a).

Despite policies’ intentions, conflict and dispute arose as a result of their implementation. First and foremost, subsidies were not granted regularly nor followed a clear timeline in their distribution. Second, assistance packages based on an egalitarian

logic had to contest with long-standing social reciprocity institutions, power structures, and patronage systems. Within villages, pre-existing fishing clusters were dominated by kinship principles, so the distribution of the new benefits was scaled according to status. Invoking *adat* obligations, only powerful family heads and local leaders could directly mobilize labor that would allow them to apply for subsidies, a process known elsewhere as elite capture (McCarthy et al., 2016). For instance, it was said during conversations that only people in elevated positions, middlemen and patrons, religious figures, and those involved in the administration of the village received government support. The least privileged fishermen, which were sometimes called free-riders or parasites (“umpang”) given that they only had their workforce to sell, continued to have no access to any kind of aid or welfare.

Apart from having connections and influence with local government officers, local elites also monopolized available programs by entering their family names even when the individuals forming the clusters were children. When neighbors created fishing groups *ad hoc*, aid distribution led to disputes about fishing effort and gains allocation. As an example, I witnessed litigation among three partners concerning a fiberglass high-power boat that unfolded over the span of 3 years. Due to a disagreement in profit shares the equipment was never used, and the engine was even sold by one of the parties without the consent of the others. This was not an unusual event. Fishermen complained about the fishing commission pushing a type of organization that brings conflict and corruption to the village (see, for example, Florespedia, 2019). They were angry that the DPK would not respect their preferences. For instance, a fisherman said: *orang di sini tidak bisa punya pikiran sendiri diri*, the people here are not allowed to think for themselves. In this way, any kind of policy originating from the government was seen as not transparent, and increasing inequality (*orang miskin tambah miskin*, poor people become poorer).

Most importantly, the rules for obtaining aid were in open conflict with longstanding principles of independence and luck that dominated the larger Southeast Asian maritime world. Endenese beliefs about merit and fortune, rooted in religious ideas about the relation between diligent work and God’s blessings, dictated that success was an individual achievement. Boats, nets, and general wealth were fruits of hard labor and initiative reflecting the patient dedication (surrender) to Allah. Because it was only through an individual’s effort that spiritual and material gains were obtained, local fishermen saw the sharing of ownership in their means of production (boats and nets) as subordinating their capacity for action to the willingness of others. It must be emphasized that fishermen were not against collaboration in general. However, they were skeptical of the notion that working with others would prove fruitful and felt that policy requirements were diminishing their agency. Overall, the high level of frustration with the DPK, and the onerous customary obligations that Endenese had to comply with in terms of reciprocity and patronage systems, their feelings of disempowerment, and the blatant corruption shown by the distribution of aid led many fishermen to dismiss subsidies altogether.

GENERAL DISCUSSION

The core issue discussed in this article concerns the identification of tenure systems within a highly cosmopolitan fishery in Ende, Eastern Indonesia. Challenging perceptions on their absence, findings underscore the complex set of arrangements devised by local fishermen to control access and use of resources. Institutions comprise a mix of customary principles based on kinship and genealogy nested within broader transregional maritime usages and conventions. This diverse evolving body of regulations continues to play a central role among Endenese coastal villages mostly through reciprocity obligations, prescriptions, and the regulation of behavior by religious and moral beliefs. Like other fisheries, Endenese maintain a strict etiquette concerning precedence and order within fishing grounds, and carefully regulate the use of spaces and the deployment of gear (Knudsen, 2008; Quimby, 2015). Proper behavior is followed in navigation, when fishing in taboo areas, and in the harvesting of particular species. Depending on descent and family lineages, strict prohibitions are observed. Furthermore, Endenese have a strong religious and moral belief on the role of fortune and diligence in their search for both material and spiritual wealth. Reminiscent of Buginese and Bajau cultures, this reflects a larger transregional motif that values independence, an entrepreneurial attitude, merit, and initiative in everyday life (Ammarell, 2002a,b; Acciaoli, 2004, 2014). In all, while formal legal instruments from the government reinforce some of these norms (i.e., gear regulation in inshore habitats), other widespread and deeply naturalized rules such as the sharing of captures and spatial usages are not contemplated within policies. There is a gap in the understanding of how Endenese communities regulate marine environments and of the cultural value of independence, leading to the idea among fishery managers that tenure institutions are weak or inexistent.

Since the introduction in the 1980s of community-based conservation programs, researchers have expressed caution against the use of customary practices as the basis for managing natural resources (Pannell, 1997, 2007; Afiff and Lowe, 2007; Leach et al., 2012; Lauer, 2017). Central to the approach has been the identification of local rules and institutions to support the sustainable governance of coastal and marine landscapes (Zerner, 1994; Tsing et al., 1999; Adhuri, 2013). Appropriation of cultural representations by government and non-government organizations has led to the rationalization of otherwise dynamic social processes into codices and compendia, and in some cases has contributed to the fictionalization or simplification of local institutions (Pannell, 1996; Ribot and Peluso, 2009; Fabinyi et al., 2010; Coulthard, 2011). More significantly, in locations where customary principles are hard to discern, undergoing change, or have a strong emphasis on individuality or independence, the assumption is wrongly made that no rules operate at all (Knudsen, 2008; Gorris, 2016). Such a conclusion results, as this study indicates, in the disenfranchisement of local communities, their lack of participation in decision-making, and their exclusion in the design and application of management solutions. Therefore, the implementation of co-management

policies based purely on the existence of *adat* or categories such as *masyarakat tradisional* in port-towns and highly cosmopolitan coastal hubs like Ende cannot only be challenging, but also lead to policy failures and further environmental degradation.

Next to co-management instruments, the formation of fishing cooperatives and the promotion of collaborative enterprises have been adopted by governments and institutions as one of the most inclusive and sustainable strategies to achieve local development (Ostrom, 2007; McCay et al., 2011). Yet, as illustrated in this case, a cooperative model based on loans and parceled financial support is far from representing an institutional framework that guarantees stakeholder engagement. Because the distribution of assistance is not adequately targeted to equally ensure participation and ignores pre-existing customary obligations in terms of reciprocity and kinship as well as client-patronage systems, the provision of aid is often monopolized by those who can demonstrate the capacity to constitute working clusters (Florespedia, 2019). Current findings mirror what others have seen in other fishing communities in Eastern Indonesia (Afiff and Lowe, 2007; Gorris, 2016; Steenbergen, 2016; Tilley et al., 2019) and replicate evaluations of community driven development elsewhere in the archipelago (McCarthy et al., 2016). Indicated in many of these studies, although programs are designed to incorporate local stakeholders in their actions, they do not originate at the village scale or as a result of communal initiatives. A top-down approach to co-management and development initiatives, even when centered in the community's empowerment, means that the space of participation is defined by outsiders. Local populations interact with managers in prescribed ways through forms of engagement that are predetermined by extra-local actors (McCarthy et al., 2016). In the case of customary law, essentialist or incorrect expectations are formulated by fishery officers and policy makers regarding traditions and their continuity (Tsing et al., 1999; Zerner, 2003). Ignoring the high dynamism and levels of change that communities have experienced, local fisheries are expected to maintain cultural structures that may not provide adequate responses to current realities (Knudsen, 2008). From assertions about customary management and their apparent absence follow discourses about what is right and what is wrong, who is good, and who is bad, and how change can result in the dissolution of indigenous traditions and morals (Pannell, 2007; von Benda-Beckmann, 2019). This is what is noted by interviewees in Ende, where a blanket enforcement of cooperative policies derived from models of what co-management should entail contributes to the emergence of conflicts and fishermen's skepticism in the value of government programs. It is also seen in the different descriptions of Endenese as bandits who do not care for the environment, where entrepreneurialism is equated with selfishness, and attributed to their ignorance and need of education about the proper ways of fishing (Pius, 2020). Most critically, it is captured in the justifications voiced by officials that Endenese do not have an *adat* or strong institutions, or that they are not good Muslims, despite all evidence to the contrary.

Challenges in attaining sustainable management reflect misunderstandings between the local reality, moral values, and

the ideal community as envisioned in central government development programs. Whereas a strong independence ethos embodies both local and transregional values, it also responds to the fishermen's need for flexibility to cope with socioecological uncertainties. In Ende, uncertainties are a product of economic and environmental change and of the fragmented sporadic attempts at industrialization of the fishery sector that critically alters labor conditions (Ramenzoni, 2015, 2017). Among fishermen, independence is not incompatible with equity and equitable distribution. In fact, and mentioned during interviews, fishermen are not against forming cooperatives *per se*. In the early 2012, brought together by a common rejection of changes in fuel subsidies and anger toward the DPK, a local movement tried to create an association that could help process and market captures. The efforts did not prosper due to the lack of institutional and administrative resources to support the organization. Fishermen indicated that there were no viable avenues that they could pursue to request the right type of aid they needed: not just funding for a few nets or an engine, but knowledge about institutional design that could help them create a new type of organization. Unfortunately, the framing of assistance programs by the DPK forces individuals to work with others to initially secure funds or equipment without providing the necessary incentives and resources to maintain collaboration over time. With policies failing to scope a long-term structure that can help fishermen cope with changing conditions, local fishermen are left to reconcile local realities with cultural and social obligations. As a consequence, fishermen choose to prioritize self-sufficiency over ventures that are perceived as risky, that go against their own principles of merit and entrepreneurship, and that can be highly unrewarding if all partners do not do their part. Ultimately, the absence of an effective co-management program signifies a loss of opportunities for Endenese to administer and develop their fishery. It keeps the living standards within the community at subsistence levels (Ramenzoni, 2013b; Ramenzoni et al., 2017).

Into the future, Endenese fishery managers should consider the engagement of a wider set of local actors along with an unbiased exploration of juridical indigenous and transregional instruments to develop participation and compliance policies. The key is to create programs that can improve household economic conditions not just by adopting micro-finance and cooperative loans, initiatives that in themselves rely on devolving control to groups embodying preconceived and westernized notions of *adat*, egalitarianism, and social capital (see McCarthy et al., 2016). To be successful, co-management models should consider a philosophy of legal pluralism that allows for the coexistence of diversity in resource management practices and welcomes alternative notions of fairness, equity, and moral systems in the design of institutional structures. This may require a careful documentation of viewpoints and perspectives locally defined yet tangled within larger transregional principles. It may also require the deciphering and decanting of rules that while perceived as obvious or promptly dismissed by local actors as known to everyone, they may be ignored by managers and juridical experts. Social scientists, particularly

ethnographers and legal anthropologists, have a fundamental role to play by assisting in the elicitation of unwritten transregional conventions and local variations and their many expressions within civil, economic, and religious institutions. Looking at the broader interconnections, the bundle of relationships and rights that emerged in these littoral societies, with a keen legal and critical eye, becomes essential to envisioning truly inclusive co-governance structures. To that end, the collaboration of indigenous lawyers, practitioners, and fishery experts is crucial to attaining realistic and effective policies. Along with institutional theories of collective action, several decades of historical maritime and legal studies, political ecology, and economic anthropology can also provide key contributions (Brosius et al., 2005; Ribot and Peluso, 2009; Wolf and Eriksen, 2010; von Benda-Beckmann, 2019). In all, awareness of the biases and asymmetries in the application of co-governance programs, how such schemes may dismiss the influence of transregional and localized cosmologies, constitutes a much-needed step to finding representative solutions in an increasingly globalized world. In a country such as Indonesia, where unity in diversity (*bhinneka tunggal ika*) has become a national declaration of religious and cultural tolerance, legalistic pluralism is paramount to achieving a more equal future.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, to any qualified researcher.

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ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Institutional Review Board from the University of Georgia at the Office of Research Ethics, the University of Georgia. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements. The researcher obtained necessary research permits from the Indonesian office of research (RISTEK) for fieldwork between 2011 and 2013.

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The author confirms being the sole contributor of this work and has approved it for publication.

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