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Integrated coastal management in the current regional autonomy law regime in Indonesia: context of community engagement

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ABSTRACT

This study reviews integrated coastal management (ICM) practice in Indonesia's regional autonomy law regime, particularly community engagement. It examines several laws on ICM in the current regional autonomy era and discusses various achievements and issues affecting Indonesia's program. This is legal research examines various ICM-related legislation, secondary literature, policy plans, and the interview conducted at the Indonesian Ministry of Marine Affairs and Fisheries. The results show that the ICM program has a legal basis in various legislation, yet it faces various implementation problems. Many legal loopholes in regulation, dependence on funding institutions, environmental pollution, mismanagement, and lack of coordination and collaboration in community engagement should be instantly resolved. Also, the local community, as ecosystem users, are powerless and often ignored. Therefore, the local communities need to be informed, their ability to manage coastal areas be improved, their livelihoods protected, and be more engaged in decision-making, especially in establishing regulations and legislations. Active community engagement in the decision-making process may improve regulatory compliance and achieve a more sustainable and democratic ICM.

KEYWORDS

Integrated coastal management; Regional autonomy; Community engagement; Sustainability; Justice; Democratization

1. Introduction

Coastal areas are among the most productive regions globally, offering a wide variety of valuable ecosystem services and habitats that benefits most living things (Avalos and Torero 2015; Marale 2013). Their magnificence and wealth have made them favourite habitation zones and prominent business areas, travel destinations, and transit locations. As an archipelagic state with more than 17,000 islands, Indonesia has the second-largest coastline of 80,000 km worldwide (Brotosusilo et al. 2016). However, the dense concentration of community and natural resources exploitation puts tremendous pressure on its coastal ecosystems, leading to biodiversity harm, coastal habitats devastation, pollution, and disputes spatial use. Indonesia's coastal areas are also among the most susceptible zones to global warming and cataclysm. Erosion, flooding, rising sea levels,

and extreme weather damage its coastal areas (Cazenave and Cozannet 2014; Zikra and Suntoyo 2015).

Integrated Coastal Management (ICM) in Indonesia harmonises various regulations influencing coastal areas and related activities, such as environmental preservation, fisheries, industry, wind energy, tourism, shipping, mitigation, and adaptation to global warming, among other activities. ICM encompasses the wide circulation of information gathering, designing, decision-making, control, and performance supervision (Basraoui et al. 2011). Stakeholders' involvement in various sectors is essential to ensure comprehensive support for the application of management strategies.

The autocratic legal regime in Indonesia before 1998 was characterised by various problems, including complex bureaucracy, slow decision-making, and authoritarian power (Bunte and Ufen 2009). The distribution of authority from the central to regional governments is the solution to democratisation (Lindsey and Butt 2012; Tirtosudarmo 2018). Primarily, the reform movement in 1998 was a new political era that ushered the regional autonomy regime. After two decades of regional autonomy, there have been various alterations, especially coastal management (see Table 1). Prominent principles on regulations about integrated coastal management currently include sustainability, democratisation, and community engagement.

Several regulations on coastal areas and small islands, local government, environment, and fishery have recently been enacted to give government institutions legal foundations to establish integrated coastal management. However, there is a need for ICM, particularly at the local levels in Indonesia, after current regional autonomy was obstructed by the sectoral approach from dominating coastal resources (Djunarsjah et al. 2022). Moreover, the law regime has overlapping and contravention problems of legislation, leading to a confusing and ambiguous mandate of institutions' roles and responsibilities controlling coastal areas (Muawanah et al. 2018; Nurhidayah 2011; Siry 2011). These problems have led to an unsustainable development system in the coastal zone. Accordingly, there is an urgent need for community engagement in making integrated coastal management decisions.

This article discusses ICM in Indonesia's regional autonomy law regime, especially community engagement. The law regime analysis focuses on various legislation on ICM in the current regional autonomy era. Furthermore, the paper determines various achievements and problems in ICM programs in Indonesia. The main discussion focuses on the dynamics of power in the current regional autonomy legal regime affecting community engagement in ICM.

2. Methods

This is legal research discusses four principal legislation on ICM in Indonesia's current regional autonomy law regime, including the Act Number 1/2014 concerning the Management of Coastal Areas and Small Islands, The Act of Local Government No. 23/2014, the Act Number 32/2009 concerning Protection and Management of the Environment, and the Act Number 45/2005 concerning Fisheries. The paper focuses on the engagement of local communities in the decentralisation of ICM. To discover current achievements and problems related to ICM, this research reviews related to secondary literature, policy plans, and the results of interviews. The interviews used a semi-structured

Table 1. Alterations of regulations attributed to integrated coastal management.

Titles	Regulations	Alterations
Management of Coastal Areas and Small Islands	<ul style="list-style-type: none"> • Current Act: Number 1/2014. • Previous Act: Number 27/2007. 	<ul style="list-style-type: none"> • The Act 1/2014 more encourages community engagement through various programs including Coastal and Small Island Strategic, Management, Zoning, and Action. Such programs are not implemented yet under the regime of the Act 27/2007. • Due to the lack of management implementation under the Act 27/2007, the Government through Act Number 1/2014 provides management licenses to individuals or communities without reducing the control and supervision of the Government over coastal areas.
Local Government	<ul style="list-style-type: none"> • Current Act: Number 23/2014. • Previous Act: Number 32/2004 and 12/2008. 	<ul style="list-style-type: none"> • Delineation Zone: The Act 23/2014 provides full authority to the Provincial Government up to twelve nautical miles measured from the coastline to the high seas and archipelagic waters to administer marine and coastal resources. This Act removes the authority of the District Government to control marine and coastal resources. • Planning: The Provincial Government has full authority to arrange various programs between zoning, management, strategic plans and action plans within the limits of 12 nautical miles. Whereas in the previous Act the District Government could arrange these programs on the border of 4 nautical miles. • Permit: In the Act 23/2014, the granting of location permit and management permit within the boundary of 0–12 nautical miles is wholly the authority of the province. • Supervision: Integrated coastal supervision and management with a 0–12 nautical mile limit is the authority of the province. However, in the previous Act, it was stipulated that the territory of 0–4 miles was the district authority.
Protection and Management of the Environment	<ul style="list-style-type: none"> • Current Act: Number 32/2009. • Previous Act: Number 23/1997. 	<p>The Act 32/2009 regulates several matters attributed to coastal area management which are not regulated in the Act 23/1997, including:</p> <ul style="list-style-type: none"> • Strengthening instruments for preventing pollution and environmental damage in coastal areas; • There is an obligation to obtain environmental permits before managing the coastal area; • Utilisation of the coastal ecosystem approach; • Strengthening community rights in environmental protection and management in coastal areas; • Strengthening institutional protection and management of the environment in coastal areas that is more effective and responsive; • Strengthening the authority of environmental supervisors and environmental civil servant investigators.
Fishery	<ul style="list-style-type: none"> • Current Act: Number 45/2009. • Previous Act: Number 31/2004 	<ul style="list-style-type: none"> • The Act 31/2004 does not regulate the coordination mechanism between investigative agencies in handling investigations of criminal acts in the fisheries sector, and this process governed in the Act 45/2009. • The Act 45/2009 regulates the expansion of the jurisdiction of fisheries courts so that it covers the entire area of fisheries management in Indonesia. • The Act 45/2009 has provided more protection to traditional fishers in aspects of licensing, the application of provisions regarding fishing vessel monitoring systems, fisheries levies, and the imposition of criminal sanctions.

questionnaire with 10 participants at the Ministry of Marine Affairs and Fisheries to determine current accomplishments and problems in coastal management and community engagement. All findings were interpreted, analysed, and presented qualitatively. The scientific significance of this research is to support, inform, and provide legal academic views to policymakers regarding integrated coastal management.

3. The regional autonomy law regime in Indonesia related to ICM

This section discusses the theoretical structure and legislations that establish the study of regional autonomy legal regimes relating to ICM. The elements forming this theoretical framework include regional autonomy, community engagement, and integrated coastal management. Furthermore, this section discusses various relevant legislation to understand the arrangement of ICM and community engagement in the current regional autonomy law regime. The theoretical structure and related legislation form the basis for analysing legal studies related to integrated coastal management and the context of community engagement in the regional autonomy regime.

3.1. Theoretical structure

During President Suharto's 32 years reign, Indonesia's government system became progressively autocratic and centralised (He 2007; Zainuri 2018). The two elements of government strengthened each other and often neglected the necessities of society and regions. After the collapse of the autocratic regime, the country experienced rapid development in democracy. Democratization requires the central government to share functions and authorities between the central and local governments (Carnegie 2008).

The core of the autonomous regime is to restore 'honor' to the region, which was previously (in the autocracy regime) dominated by the central authority. According to (Febrian 2009), the functions and authority delegated to the regions shall promote and strengthen national consolidation to provide their constituents' necessities and eagerness democratically. The regional government can help regional needs because of the larger social closeness to the community (Ali 2013; Nasution 2016; Schakel and Massetti 2018). However, regional autonomy has various theoretical interpretations and implementation practices. In this paper, regional autonomy refers to the central government's action to formally hand over powers to regional government organisations in the legal hierarchy and territory.

Regional autonomy gives local governments and local communities broad powers to manage coastal areas to increase their welfare (Wahyono and Illiyani 2020). However, in the practice of ICM in Indonesia, there are still various obstacles such as regulatory and financial issues, the environmental issues, and coordination and collaboration in community engagement. Therefore, ICM practices in Indonesia must be following the objectives of the Local Government Act, namely to improve the welfare of the surrounding community (Turisno et al. 2021).

Community engagement is an essential element for a successful regional autonomy (Smith 2008; Sutiyo and Maharjan 2017). In general, community engagement is defined

as engaging humans to collectively conserve natural resources, where the community takes part in developing and implementing management mechanisms (Kumasi, Obiridanso, and Ephraim 2010). The key ingredients that must be considered in community engagement in ICM include planning, implementing, monitoring, and evaluating (Struys 2015). Planning includes access to information in the management process, direct involvement, and optimisation in the submission of a coastal management plan. Then, the implementation is the process of executing the coastal area management program plan. Monitoring is an activity to see the effectiveness of projects and programs that have been compiled and implemented. Furthermore, evaluation is to provide information on the course of the management process and find out the strengths and weaknesses of the coastal area management plan.

Regional autonomy strategies encourage community engagement in natural resources management 'from below', to protect communities' livelihood and resource interests and user groups dependent on a specific natural resource base for viability (Setiawan and Hadi 2007). The regional autonomy strategy is the delegation of authority to local government in natural resources and environmental conservation to increase the role of local communities in integrated coastal management. Therefore, ICM needs to displace decision-making methods from central to a regional authority with society as a key participant in regional development (Siry 2011). Although regional autonomy may increase community engagement, it is always linked to the government system and does not lead to a higher engagement level from non-government stakeholders. The International Association for Public Participation (IAP2) suggested five community engagement levels, including Inform – communication in one direction, Consult – communication performed in two directions, Involve – jointly determining, Collaborate – jointly performing and Empower – help the society to be independent (IAP2 2017).

According to Chen (Lihtorng-Chen 2002), Integrated Coastal Management is a perpetual administrative process that protects and conserves coastal areas to preserve biodiversity and sustainable development. Integrated coastal management helps the government in hazard mapping of the national coastline, improving the livelihoods of coastal societies, and preserving coastal ecosystems (Marale 2013). It encompasses several principles, including sustainability, adaptive management, holistic approach, promotion, and engagement of entire pertinent administrative institutions, participatory designing, and representing vicinal characteristics (Clark 1992).

Integrated coastal management is crucial in achieving coastal areas' sustainability goals (Ngoran, Xue, and Ndah 2016; Uehara and Mineo 2017). Integration is needed between institutions and society and across administrative restrictions to ascertain conformable decision-making within the entire coastal environment (Burroughs 2010; Portman et al. 2012). This helps coordinate multidisciplinary expertise and responsibilities (Maze et al. 2017; Tietze, Haughton, and Siar 2006). Ascertaining integration in terms of prominent integration issues of environment, socio-culture, and economics is among the provisions for the sustainability of coastal management (Dronkers and Stojanovic 2016). The general focus on participation, collaboration, management mentality, and distribution of authority between central and regional governments is crucial for achieving community engagement in the integrated coastal management in the current regional autonomy law regime.

3.2. Legislations related to ICM in the current regional autonomy law regime

Political will from the government is needed to actualise sustainable ICM because the government can impose regulations (Campbell et al. 2013; Sale 2015). Through the political will, good legislation helps attain sustainable coastal management (Quesada, Klenke, and Ortiz 2018). This political will is evident in establishing various regulations on environmental protection, particularly on conservation and sustainable coastal zone management by the Indonesian government and Legislative. The crucial goals and law principles behind most current law regimes' regulations include regional autonomy, community engagement, sustainability, and integrated management (Glaser et al. 2021). Regional autonomy and community engagement essential law principles that help attain an integrated coastal management structure.

Act Number 1/2014 concerning the Amendment to the Act Number 27/2007 on the Management of Coastal Areas and Small Islands is currently the primary legal reference for integrated coastal management (Muawanah et al. 2018; Nagabhatla et al. 2019; Niki-juluw 2017). According to Act Number 1/2014, to administer coastal areas, provincial and district government should have the Coastal and Small Island Strategic, Management, Zoning, and Action Programs (Ferrol-Schulte et al. 2015). This Act encourages community engagement in coastal management to improve integration, consistency, and coordination in program and management. In implementing program and management, pertinent stakeholders should be engaged. The central government needs to approve them in advance. This Act also regulates conservation purposes, including protecting and preserving biodiversity, which is susceptible to external changes.

The regional autonomy era has experienced significant alterations after 1998, especially in the law regime. The Act of Local Government No. 23/2014 delegated wide-ranging decision making and control duties to regional authorities (Nugraha, Febrian, and Chen 2021; Rudy, Heryandi, and Khoiriah 2017). The Act mandated the provincial government to administer sea natural resources, maximally 12 nautical miles from the coastline to the open sea, or in the direction of the archipelagic waters. Therefore, the regional government is responsible for (1) exploration, exploitation, conservation, and marine resources control outside the oil and gas, (2) administrative control, (3) spatial arrangement, (4) participating in maintaining security in the sea, (5) be involved in maintaining state sovereignty, and (6) empowering coastal communities and small islands. However, Act No. 23/2014 regulates territorial waters beyond twelve nautical miles. Also, the management of national strategic resources, such as oil and gas, is under the central authority domain. However, this Act has problems where the legal regime in this legislation has changed the decentralised regime back to autocracy. The management and maintenance of marine resources at a distance of 1–4 nautical miles, which was previously the authority of the Regency/City, has been taken over by the Provincial Government. As a result, supervising coastal areas becomes difficult, especially in monitoring areas far from provincial capitals. Then, the loss of the authority of the City/Regency Government to manage marine/coastal areas has resulted in the closure of all fisheries and marine service offices (Nugraha, Febrian, and Chen 2021). Apart from that, the loss of adequate job opportunities in the fisheries and marine services at the city/district level has resulted in some employees feeling hopeless and confused (Nugraha, Febrian, and Chen 2021).

In the protection and management of the environment, the Indonesian government issued Act No. 32/2009. This is the legal foundation for every activity related to the environment, especially coastal area management (Nurhidayah 2011). According to this Act, environmental sustainability can be achieved by preserving coastal areas. It regulates environmental protection and management principles based on good governance. In every procedure of formulating and implementing instruments to prevent environmental pollution and law enforcement, there is a need for participation, transparency, accountability, and justice. Through this Act, the central government delegates authority to local governments in conducting environmental protection and management in their respective regions. Also, it regulates community engagement through participatory principles. Importantly, these principles encourage the community to play an active role in the decision-making process and implement environmental protection and management, especially in coastal areas, directly and indirectly.

For the sustainability of fisheries and coastal resources, the Indonesian government enacted Act No. 45/2009 on Fisheries. The Act serves as a legal basis for attaining sustainable fisheries and enhancing the well-being of small-scale fishers (Courtney et al. 2017). One of the fundamental principles in this Act is 'togetherness', stating that fisheries management should engage stakeholders' interests to improve the welfare of the community. Act No. 45/2009 also directs management aspects through coordination between agencies related to fisheries. The regional government has also been given the authority to regulate water use and fish cultivation. Nevertheless, this legislation has a problem, namely that there is no explicit recognition of marine tenure rights or recognition of customary tenure systems. This problem weakens protection for communities, so conflicts over the management of marine resources often occur between indigenous communities and outsiders who both access these resources. This Act should provide a clear legal mechanism for indigenous communities to obtain exclusive use rights, such as registration of their territorial claims and defining the roles and responsibilities of community-based marine tenure institutions (Muawanah et al. 2021). Therefore, revision of this Act is needed, especially by clearly defining the concept of marine tenure. This definition will help the Government to revitalise and support marine tenure rights.

Table 1 highlights alterations of regulations attributed to integrated coastal management in the current regional autonomy law regime.

4. Results

4.1. Recent accomplishments in Indonesia

The regional autonomy process under President Joko Widodo has currently equalled the democratisation process and the rise of civil society. Regional autonomy in Indonesia specifically refers to force transfer to lower bureaucracy levels by decentralising authority, informational mechanisms, and financial sharing (Nasution 2016). However, it also leads to a rivalry between the central and regional governments to strengthen the political position and gain economic benefits. Competing power between the government and legislative institutions at the regional level often calls for 'Masyarakat / community' to legitimize' their actions (Mietzner 2020). The contention to manage natural resources had also increased strain among the local elite to control through their jurisdiction. The

regional government became a prominent power in Indonesian politics following regional autonomy (Ash Shiddiqy 2017).

Although competition between central and local governments is a characteristic of regional autonomy, it has encouraged community engagement in integrated coastal management (Farhan 2013; Nandi 2014). The Local Government Act no. 23/2014, especially in Article 354 (1) and (4), has supported community engagement-based schemes. In the current regional autonomy regime, projects related to integrated coastal management have been developed. This Act provides substantial authority to the regional government to manage their local natural resources, managing them sustainably. The legislation is also the legal basis for engaging the local community in managing natural resources. The community and stakeholders' engagement in the local public services control is prominent attention in the current regional autonomy. This engagement would also impact the efficiency of public services and civil society empowerment in the region.

The development of integrated coastal management in Indonesia at the regional level was initiated by several international funding agencies. Through a collaborative project with the Coastal Community Development Program-International Fund for Agriculture Development (CCDP-IFAD), the Ministry of Marine Affairs and Fisheries works on the Coastal Community Development program (IFAD 2014). Since 2013, this project has targeted 180 coastal villages in 12 districts/cities, generally located in eastern Indonesia. This project builds and develops the coastal society's economic institution/*Koperasi*. The institution facilitated community groups' necessities by accommodating and marketing the products produced by the coastal community groups. Currently, twelve economic institutions/ *Koperasi* have been built in 12 municipal districts.

There also the Coral Reef Rehabilitation and Management Program (COREMAP), an aspect of this collaboration. The purpose of this project is to institutionalise an active, decentralised, and integrated framework approach to managing sustainable coral reef resources (Wong and Elias 2018; World Bank 2019). The project is funded by the ADB, the Global Environment Facility (GEF), Australian Aid, the Japan International Cooperation Agency (JICA), and the World Bank. The Regional Program for Partnership in Environmental Management for Seas of East Asia (PEMSEA) on the Southeastern Coast of Bali was a grant from IMO/GEF/UNDP and took place from 2000 to 2005. The local government implemented this program in the Province of Bali in collaboration with various domestic and international institutions / non-government organisations, such as the Bremen Overseas Research and Development Association, NGOs from Germany, JICA, and the World Bank. The program was meant to help the regional authority to promote its building capacity in environmental and resource protection and management in the Bali coastal zone (Bapedalda Bali 2004). Various examples of cooperation mentioned shown the accomplishments of integrated coastal management at the regional level.

Indonesia has also recognised customary law and encouraged the community engagement in the Minister of Marine Affairs Regulation No. 23/2016 on Planning for the Management of Coastal Areas and Small Islands. This regulation is a legal foundation for restoring and institutionalising customary law in local government with an engagement approach, such as community-based management. Indonesia has an old chronicle and extensive practice of community-based coastal management systems. One of the customary laws still preserved is *Mandarahi Biduk* in West Sumatra Province. This customary is

accompanied by a ceremony to ask God to manage the sea and avoid disaster (Haryani and Huda 2018). In Maluku, *Sasi Laut* is a local tradition where several fishing methods are regulated by establishing basic ethics and guidelines for behaviour in which this tradition (Novaczek et al. 2001). This culture prohibits the use of poisons or chemicals and fishing gears that damage marine and coastal ecosystems. In West Nusa Tenggara Province, the local society restored a customary law system called *Awig-awig*, based on local instructions that ruled the fisheries (Krishna, Sagala, and Syahbid 2018). *Awig-awig* regulates supervision and sanctions for perpetrators of destruction. The sanctions imposed include fines, returning catches to the sea, and burning fishing equipment. In these areas, local society is involved in monitoring and surveillance activities. It has escalated concerns over coastal and marine resources and contributes to stopping destructive fishing.

This explanation shows that customary laws in coastal management still exist in various regions spread throughout Indonesia. Customary laws in coastal management have developed from generation to generation, along with changes in the social, legal, and political climate. However, most of these customary laws are relatively weak. This traditional legal system for coastal management was developed for political and economic reasons or to resolve disputes (Oktavia, Salim, and Perdanahardja 2018). Despite these problems, the customary legal system in coastal management remains an important precedent for strengthening integrated coastal management and improving socio-economic and ecological performance in small-scale fisheries in this country (Halim et al. 2020).

4.2. Current problems affecting the ICM program

There was no legislation on ICM in Indonesia before enacting Act No. 27/2007, which was later amended by the Act. 1/2014. The ICM in Indonesia was sectoral in approach, and the ICM program is not sustainable and continues. For instance, it does not cover the entire Indonesia coastal zone. Most of Indonesia's integrated coastal management programs are one-off, lacking in guidelines and sustainability (Farhan 2013). Several programs have been funded by international institutions, including IFAD, USAID, ADB, AusAID, JICA, GEF, World Bank, and other institutions. At the end of the funding term, the central government could not preserve the programs' sustainability. Most of them were handed over to regional governments as part of the regional autonomy. It was challenging for local governments because they had generally not been implicated from the commencement and lacked integrated coastal management skills, talented human resources, information, and suitable technology to handle these programs. The fundamental problems and disputes influencing integrated coastal management programs in Indonesia could be classified as follows.

4.2.1. Regulation and financial problems

Based on data from the Indonesian Ministry of Marine Affairs, there are currently 8 Ministry of Marine Affairs Regulations related to coastal management. This does not include regulation issued by other ministries, such as the Indonesian Ministry of Environment and Forestry, which is responsible for environmental protection and preservation in coastal areas. The management of ocean and coastal resources are stipulated in various

regulations. This creates problems, including inconsistency in interpretation, conflicts between regulation, and overlapping conventions leading to legal loopholes for destructive exploitation in coastal areas. The current regulations still have many wide and cryptic stipulations with little directions and unclear mandates. For instance, the current Local Government Act in 2014 created vagueness over interpretation fishing methods performed by small-scale fishers in 2014. Under this Act, small-scale fishers are interpreted as traditional Indonesian communities using traditional fishing materials and equipment. They are not subject to a business license and have the freedom to fishing in all Indonesian waters. The definition of 'small-scale fishers' has created ambiguity and legal loophole in its application. For instance, it can exploit large-scale fishing because it does not require a business license, and the area is very large, specifically the entire Indonesian territorial waters. More specific criteria regarding the terminology of 'small-scale fishers' and 'traditional fishing methods permitted are required.

Current Indonesian regulations and policies also focus on agricultural expansion rather than optimising the natural resources of the marine and coastal zones. This harms coastal societies, leaving fishers with lousy technology and lacking the knowledge required to increase their revenue. Consequently, fishing societies continue to be poverty-stricken (Aulia Riza Farhan 2013).

Dependence on funding agencies on several ICM programs shows that the government has not considered the program's sustainability. Generally, funding institutions adhere to time frames and guidelines not involved with programs' sustainability after the money runs out. In case the governments do not participate, the sustainability of these projects is not assured.

4.2.2. Environmental problems

Environmental problems in Indonesia needs primary attention. The coastal area has also endured environmental pressures. Erosion due to highlands deforestation worsens the issue of siltation downstream and into the ocean. Silt sediments covered and killed once-lively coral reefs, making mangrove shrubs and creating harbour entryway increasingly arduous without massive and sumptuous dredging operations (Sofiyah 2013).

The fishers have faced various environmental problems that threaten the sustainability of their activities. This includes pollution in the coastal and marine areas. Pollution in the coastal area cause troubles to small-scale fishers, such as making fishing difficult. In Jakarta Bay, Indonesia, the drivers of environmental damage include population increases, destructive fishing, hazardous and toxic factory waste disposal, and reclamation projects (Supartono and Sondita 2016).

Most of the Jakarta Bay fishermen were unable to sail and fish for two weeks because of the highly polluted water in 2016. This has caused many fish and shellfish to die and damaged farming in communities around Jakarta Bay. Consequently, there is inadequate fish stocks and reduced living standards of farmers in Jakarta. Therefore, regional governments need to increase public awareness on the need to avoid destructive fishing, make regulations to control the expansion of industrial estates around the coast, review and update local regulations on domestic and industrial waste, control population growth, and allocate protection areas as pollution buffers.

4.2.3. Administrative problems

Limited administrative competency of central and regional governments in Indonesia has also been a general problem in ICM (Farhan and Lim 2013; Nandi 2014). Although local governments have obtained the mandate to manage coastal areas in the current regime, there is inadequate training in implementing responsible, transparent, and integrated coastal resource management. Also, the lack of leadership, institutional capacity, and financial management is an acute problem that has arisen in protecting and managing coastal areas.

The regional autonomy regime has created a diversity of systems, leading to problems in coastal management. Officials often use poor administrative governance and many legal loopholes in various regulations at the regional level for corruption. According to Mongabay, coastal areas in Southeast Sulawesi have been damaged due to nickel mining, which led to 18 years imprisonment of its Governor (Mongabay 2018). This shows the government's involvement in violating the law and justifying the destruction of coastal resources. Lack of transparency, accountability, and corruption is the root of administrative problems in the current regional autonomy regime and damages the environment and ecosystems in coastal areas (Gumbira and Harsanto 2019).

4.2.4. Problems of coordination and collaboration in community engagement

The current institutional framework of reform and openness has produced a chance to create a community engagement approach. However, active community engagement in ICM has remained low in Indonesia (Fitriana 2014). The regional autonomy regime empowers local government authorities rather than local communities as users. The top-down method in Marine Protected Areas (MPAs) has led to disputes with local societies and fishers (Nugraha 2021). For instance, Madura's local communities have rejected the regional government plan to establish a marine protected area in the coastal area of Sepanjang island because it would disturb their fishing grounds.

The significant aspect of marine protected areas design and performance preserves coastal habitats and coral reefs for their biodiversity values and to promote sustainable resource use for the interest of the local community (Wiadnya et al. 2011). Throughout the regional autonomy regime, innumerable MPAs were created in several regions without engaging the community. Marine Conservation Institute assessment classifies merely 5 out of 216 protected areas as effectively managed (Marine Conservation Institute 2012). Many MPAs failed in their implementation because they did not engage the vicinal society in the designing, decision-making, control, supervision, and evaluation processes (White et al. 2014). Additionally, many regional authorities remain confused about the MPAs design, lacking confidence in engaging the local community in management. Furthermore, community engagement is not merely limited to the MPAs but also includes zoning, management of coastal resources, and other issues that require to be addressed and managed in coastal zones (Stocker et al. 2012). This includes wetland protection, coastal erosion management, sea level rise adaptation, land-based pollution, coastal and estuaries water quality, and endangered species protection.

In theory, the ideal framework for achieving environmental sustainability in coastal areas requires coordination and collaboration (Grip 2017; Kay and Alder 1999; Vodden 2015). However, many problems related to integrated coastal management and

community engagement are attributed to a lack of coordination and collaboration (Farhan 2013). This led to low public awareness of their engagement in integrated coastal management. Only a few partnership programs in community engagement have been created by implementing institutions and community groups in integrated coastal management (Crawford et al. 2004). However, legislation changes in the current autonomy regime have increased the number of community-based management systems (Nandi 2014). This is a positive instance of community-based management in Indonesia.

Almost all community-based coastal management programs are dependent on financial problems and implementation, hence community engagement remains low (Glaser et al. 2015). The *Adat/* customary institutional system in many regions has transformed into open competition through the current regional autonomy law regime, which has led to disputes over marine resources. These caused tensions between local communities and regional governments. Therefore, coordination and collaboration in community engagement in coastal management need to be corrected immediately.

5. Discussion

The practice of ICM in the current regional autonomy law regime still faces various problems. The dynamics of authority in the current regional autonomy law regime influence community engagement in integrated coastal management.

5.1. Interests and responses of stakeholders

The vagueness of various regulations reflects the implementation of ICM (Dirhamsyah 2006). Those regulations' performance caused incapable management described by the dispute, gap, and redundancy among the development areas. These regulations can create conflicts of interest among various users, undermining the effort to manage and conserve coastal resources. Political elites at the national and regional levels take advantage of these weaknesses through their covert political agenda (Ferrol-Schulte et al. 2015). Stakeholders have interpreted various regulations and policies based on their interests and priorities. When the central government has passed various legislation associated with ICM, community engagement, and protection of the marine environment, local governments are busier with the political agenda to pursue their financial benefits (Rosyida and Sasaoka 2018).

The term 'managing authority' in the Regional Autonomy Act is often misinterpreted as 'sovereignty' by several local governments'. Policy in the current regional autonomy law regime is currently prioritising regional financial interests rather than thinking about community engagement in resource management, especially integrated coastal management (Siry 2011). Various regulations in the current regional autonomy regime prioritise economic development by pursuing financial benefits rather than environmental sustainability and the engagement of local communities (Sutiyo and Maharjan 2017). Elite political interests have ruled out local communities' interests at the central and regional levels.

The regional autonomy regime's current politics is related to different interpretations and responses about educating community engagement. Coastal resource management projects should encourage active community engagement in the ICM through

decentralisation and strengthening coastal resource planning and management approaches. However, the central and regional governments slightly promote community engagement in integrated coastal management. After two decades of regional autonomy, local governments understood the importance of community engagement in integrated coastal management. However, local communities rarely get their rights to become users of coastal ecosystems.

Lack of knowledge about values, interests, and community engagement responses is a severe problem of integrated coastal management (Ware 2017). The mismanagement conducted by authorities at the regional level has led to coastal management conflicts (A. R. Farhan and Lim 2010). This coastal conflict management has resulted in the community committing misappropriation. An example of misappropriation is the local community logging the mangrove for firewood, hence criminalisation. Coastal management conflict continues due to the harmonisation of interests between the regional government and the local community. The different interests between the central and regional governments and greed for the financial purpose, the achievement of sustainability goals in integrated coastal management.

5.2. The dynamics of authority

The dynamics of authority affect the enforcement of regulations and policies in ICM. The emergence of legal rules comes from society's social, cultural, and economic context (Darian-Smith 2013; Zartner 2014). The dynamics of authority and natural resources influence the establishment of legal products. Since regional autonomy has provided opportunities for corruption, it is not surprising that many regional officials have to deal with the law and put into prison. The advantages of regional autonomy have been unsuccessful in actualising for most of society. In regional autonomy, the rise of regional elites is often associated with the increased dispute and the exclusion of minorities (Duncan 2007; Ulum et al. 2019).

One of the objectives of establishing regional autonomy is to reduce economic inequality in various regions by engaging the community. However, the government has not yet engaged the local community to manage coastal resources independently. Management and exploitation of coastal resources are often committed by businessmen affiliated with officials at the regional level. This increases the opportunities for corruption in the management and exploitation of coastal resources. Therefore, there is a need for institutional development and alterations in the structure of power, and capacity-building in the community to and participative engage in integrated coastal management actively.

5.3. Community engagement in ICM

In the case of unclear regulations on responsibility, regional autonomy will only benefit those who have authority. Therefore, the distribution of responsibilities from the central to local governments through regional autonomy is essential. Without local responsibilities that democratically engage the community, regional autonomy can only be a tool to weaken local communities currently marginalised. For this reason, identifying environmental protection, sustainability in central planning, and formulating regulation is not enough. The local community prefers customary law that could be accepted

in their groups for law enforcement using national regulations to be ordinarily inadmissible (Purwaka and Sunoto 1999; Siry 2006). As users of coastal ecosystems, local communities have managed the use of coastal resources and excluded outsiders from accessing these resources. Although the Management of Coastal Areas and Small Islands Act prohibits such exemptions, the local community continues to make customary rules to ban outsiders from protecting the coastal areas' environment. Elements of justice and fulfilment of livelihoods are the core priorities of local communities (Ferrol-Schulte et al. 2015; Novriyanto et al. 2012). Therefore, the local community's aspirations should be accommodated through bottom-up evolution to integrate or create a legal framework for integrated coastal management.

National policies and regulations have not been effective in encouraging community engagement in integrated coastal management. However, the cultural approach has been successful in coastal management at the regional level. Community-based approaches through customary law can establish new legal frameworks in integrated coastal management. The institutional system developed with the community's active engagement as users of coastal ecosystems improves compliance with regulations. Therefore, it is vital to prioritise the local community in decision-making processes. Furthermore, consensus with the local community is also necessary to realise the potential of regional autonomy in integrating integrated coastal management democratically and sustainably.

5.4. The interconnection between ICM, regional autonomy, and community engagement

This article has discussed three coastal management elements, including the ICM concept, the division of authority in the regional autonomy regime, and community engagement. In Indonesia, the ICM concept and regional autonomy policy include community engagement (Patlis 2005). According to the analysis, community engagement requires proper management decentralisation for communities to participate in the decision-making process. ICM needs centralised coordination to unite geographic administration and divergent functions (Taljaard, Slinger, and Van Der Merwe 2011). This paper's analysis also shows that the regional autonomy law hinders integration between the central and regional governments. For this reason, some decision-making at the regional level is not well coordinated.

The institutional structure's nature is dynamic and cannot be changed quickly (Powell, Cuschnir, and Peiris 2009). The challenge is to have a fragmented institutional structure and produce integrated management at the practical level (Ballinger 1999). To achieve appropriate ICM, the central government needs to develop local government institutions' capacity, including monitoring, activity evaluation, and coordination. Furthermore, community engagement in every decision-making process is an essential factor in Indonesia's participatory coastal management.

6. Conclusions

This article has analysed the integrated coastal management of the current regional autonomy law regime in Indonesia in community engagement. The current regional

autonomy regime has enacted various regulations, including the Management of Coastal Areas and Small Islands Act No. 1/2014, The Local Government Act No. 23/2014, Protection and Management of the Environment Act. No. 32/2009, and Fishery Act No. No. 45/2009. These legislations constitute the fundamental legal basis currently in force with improvements to previous regulations.

The recent achievements in integrated coastal management include collaborating with international financial institutions in developing community economic activities and environmental management in coastal areas. The government has also issued the regulation to restore and institutionalise customary law to implement community-based management. Apart from the achievements made, integrated coastal management also has various problems, including legislation and financial, environment, administrative, coordination, and community engagement collaboration.

The current regional autonomy regime has given substantial authority to the regional government. However, it has been misinterpreted to pursuing the political agenda of local elites. The authority obtained by local elites to regulate and manage coastal areas has been misused for financial benefits at the expense of local communities' interests and environmental sustainability.

The current regional autonomy has provided opportunities for corruption, with several local elites imprisoned. The benefits of regional autonomy are less felt because the community is still marginalised in integrated coastal management. Regional autonomy is established to reduce poverty by engaging in local communities. However, regional governments are still affiliated with large companies in coastal resource management without engaging the community.

Various regulations made by the government are less adhered to by the community. Local communities adhere to customary laws in their environment and exclude outsiders from managing coastal resources to maintain their livelihoods and protect the environment, though such exclusion is prohibited. Justice and fulfilment of livelihoods are the elements most needed by the local community. For this reason, the aspirations of local people should be considered through a bottom-up evolutionary approach in creating a legal framework that relates to integrated coastal management. Active engagement of local communities in the decision-making process improves compliance with regulations to realise a more sustainable integrated and democratic management.

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References

- Ali, M. 2013. *The Role of Regional Government in Poverty Reduction in East Kalimantan, Indonesia*. Victoria University. <http://vuir.vu.edu.au/24445/1/MuhammadAli.pdf>.
- Ash Shiddiqy, M. A. 2017. "The Dilemma of Regional Autonomy "Between Equality of Development and Scramble of Power"." In *International Conference on Democracy, Accountability and Governance (ICODAG 2017)*, 320–323. Pekanbaru: Atlantis Press. <https://doi.org/10.2991/icodag-17.2017.61>.
- Avalos, F. M., and M. G. Torero. 2015. "Challenges to Sustainable Development along Peruvian Coastal Zones." In *Coastal Zones: Solutions for the 21st Century*, edited by J. Baztan, O. Chouinard, B. Jorgensen, P. Tett, J.-P. Vanderlinden, and L. Vasseur, 1st ed. Amsterdam: Elsevier. doi:10.1016/B978-0-12-802748-6.00012-7
- Bali, Bapedalda. 2004. *Southeastern Coast of Bali Initial Risk Assesment*. Quezon City: PEMSEA and Environmental Impact Management Agency of BaliProvince.
- Ballinger, R. C. 1999. "The Evolving Organisational Framework for Integrated Coastal Management in England and Wales." *Marine Policy* 23 (4-5): 501–523. [https://doi.org/10.1016/S0308-597X\(98\)00054-2](https://doi.org/10.1016/S0308-597X(98)00054-2).
- Basraoui, Y., A. Chafi, Y. Zarhloule, and S. Demnati. 2011. "An Integrated Coastal Zone Management Initiative for Sensitive Coastal Wetland on Either Sides of the Moulouya Estuary in Morocco." *Procedia - Social and Behavioral Sciences* 19 (1): 520–525. <https://doi.org/10.1016/j.sbspro.2011.05.164>.
- Brotosusilo, A., I. W. A. Apriana, A. A. Satria, and T. Jokopitoyo. 2016. "Littoral and Coastal Management in Supporting Maritime Security for Realizing Indonesia as World Maritime Axis." *IOP Conference Series: Earth and Environmental Science* 30 (1): 1–6.
- Bunte, M., and A. Ufen. 2009. "The New Order and its Legacy: Reflections on democratization in Indonesia." In *Democratization in Post-Suharto Indonesia*, edited by M. Bunte, and A. Ufen, 1st ed., 3–31. New York: Routledge.
- Burroughs, R. 2010. *Coastal Governance (Foundations of Contemporary Environmental Studies Series)*. Washington, D.C.: Island Press.
- Campbell, S. J., T. Kartawijaya, I. Yulianto, R. Prasetya, and J. Clifton. 2013. "Co-Management Approaches and Incentives Improve Management Effectiveness in the Karimunjawa National Park, Indonesia." *Marine Policy* 41: 72–79. <https://doi.org/10.1016/j.marpol.2012.12.022>.
- Carnegie, P. J. 2008. "Democratization and Indonesia : Understanding Transition Dynamics." *Pacific Affairs* 81 (4): 515–525. <https://doi.org/10.5509/2008814515>.
- Cazenave, A., and G. Le. Cozannet. 2014. "Sea Level Rise and its Coastal Impacts." *Earth's Future* 2: 15–34. <https://doi.org/10.1002/2013EF000188>.
- Clark, J. R. 1992. *Integrated management of coastal zones*. Rome: FAO.
- Courtney, C., R. Pomeroy, M. De Alessi, D. Adhuri, C. Yuni, and A. Halim. 2017. *Marine Tenure and Small-Scale Fisheries: Learning from the Indonesia Experience*. Washington, DC. <https://land-links.org/research-publication/marine-tenure-and-small-scale-fisheries-learning-from-the-indonesia-experience/>
- Crawford, B. R., A. Siahainenia, C. Rotinsulu, and A. Sukmara. 2004. "Compliance and Enforcement of Community-Based Coastal Resource Management Regulations in North Sulawesi, Indonesia." *Coastal Management* 32 (1): 39–50. <https://doi.org/10.1080/08920750490247481>.

- Darian-Smith, E. 2013. *Laws and Societies in Global Contexts: Contemporary Approaches*. 1st ed. Cambridge: Cambridge University Press.
- Dirhamsyah, D. 2006. "Indonesian Legislative Framework for Coastal Resources Management: A Critical Review and Recommendation." *Ocean and Coastal Management* 49 (1-2): 68–92. <https://doi.org/10.1016/j.ocecoaman.2005.09.001>.
- Djunarsjah, E., A. P. Putra, D. Kusumadewi, K. Yudistira, and M. M. Julian. 2022. "The Concept of Integration between State and Provincial Sea Boundaries in Indonesia." *Sustainability* 14 (3): 1–15. <https://doi.org/10.3390/su14031659>.
- Dronkers, J., and T. Stojanovic. 2016. "Socio economic Impacts—Coastal Management and Governance." In *North Sea Region Climate Change Assessment*, edited by M. Quante, and F. Colijn, 475–488. Berlin: Springer. doi:10.1007/978-3-319-39745-0_19
- Duncan, C. R. 2007. "Mixed Outcomes: The Impact of Regional Autonomy and Decentralization on Indigenous Ethnic Minorities in Indonesia." *Development and Change* 38 (4): 711–733. <https://doi.org/10.1111/j.1467-7660.2007.00430.x>.
- Farhan, Aulia Riza. 2013. *Assesment of Integrated Coastal Zone Management: A Case Study in the Seribu Islands, Indonesia*. The University of New South Wales. <http://unsworks.unsw.edu.au/fapi/datastream/unsworks:11642/SOURCE01>
- Farhan, A. R., and S. Lim. 2010. "Integrated Coastal Zone Management Towards Indonesia Global Ocean Observing System (INA-GOOS): Review and Recommendation." *Ocean and Coastal Management* 53 (8): 421–427. <https://doi.org/10.1016/j.ocecoaman.2010.06.015>.
- Farhan, A. R., and S. Lim. 2013. "Improving Vulnerability Assessment Towards Integrated Coastal Zone Management (ICZM): A Case Study of Small Islands in Indonesia." *Journal of Coastal Conservation* 17 (3): 351–367. <https://doi.org/10.1007/s11852-013-0269-9>.
- Febrian. 2009. *Legal Development and Sectoral Law Conflict (Pembangunan Hukum dan Konflik Undang-Undang Bidang Sektoral)*. Palembang: UNSRI Press.
- Ferrol-Schulte, D., P. Gorris, W. Baitoningsih, D. S. Adhuri, and S. C. A. Ferse. 2015. "Coastal Livelihood Vulnerability to Marine Resource Degradation: A Review of the Indonesian National Coastal and Marine Policy Framework." *Marine Policy* 52 (1): 163–171. <https://doi.org/10.1016/j.marpol.2014.09.026>.
- Fitriana, R. 2014. *Assessing the Impact of a Marine Protected Area on Coastal Livelihoods: A Case Study from Pantar Island, Indonesia*. Charles Darwin University. <https://core.ac.uk/download/pdf/47202318.pdf>.
- Glaser, M., L. Adrianto, A. Breckwoldt, N. Buhari, R. Deswandi, S. Ferse, ... D. Y. Máñez. 2021. "The Governance of Coastal and Marine Social–Ecological Systems: Indonesia and Beyond." In *Science for the Protection of Indonesian Coastal Ecosystems (SPICE)*, edited by T. C. Jennerjahn, T. Rixen, H. E. Irianto, and J. Samiaji, 407–443. Cambridge: Elsevier. <https://doi.org/10.1016/C2017-0-01613-0>
- Glaser, M., A. Breckwoldt, R. Deswandi, I. Radjawali, W. Baitoningsih, and S. C. A. Ferse. 2015. "Of Exploited Reefs and Fishers - a Holistic View on Participatory Coastal and Marine Management in an Indonesian archipelago." *Ocean and Coastal Management* 116: 193–213. <https://doi.org/10.1016/j.ocecoaman.2015.07.022>.
- Grip, K. 2017. "International Marine Environmental Governance : A Review." *Ambio* 46 (4): 413–427. <https://doi.org/10.1007/s13280-016-0847-9>.
- Gumbira, G., and B. Harsanto. 2019. "Decision Support System for An Eco-Friendly Integrated Coastal Zone Management (ICZM) in Indonesia." *International Journal on Advanced Science, Engineering and Information Technology* 9 (4): 1177–1182. <https://doi.org/10.18517/ijaseit.9.4.9484>.
- Halim, A., N. R. Loneragan, B. Wiryawan, R. Fujita, D. S. Adhuri, A. R. Hordyk, and M. F. A. Sondita. 2020. "Transforming Traditional Management into Contemporary Territorial-Based Fisheries Management Rights for Small-Scale Fisheries in Indonesia." *Marine Policy* 116 (1): 1–15. <https://doi.org/10.1016/j.marpol.2020.103923>.
- Haryani, H., and N. Huda. 2018. "Developing Fishing Tourism Destination Based On "Anak Nagari" Concept In Padang City." *MIMBAR: Jurnal Sosial Dan Pembangunan* 34 (1): 51–60. <https://doi.org/10.29313/mimbar.v34i1.2990>.

- He, K. 2007. "Indonesia's Foreign Policy After Soeharto : International Pressure, Democratization, and Policy Change." *International Relations of the Asia-Pacific* 8 (1): 47–72. <https://doi.org/10.1093/irap/lcm021>.
- IAP2. 2017. Core Values for the Practice of Public Participation, Foundations of Public Participation. Accessed April 29, 2015. <http://www.iap2.org/>.
- IFAD. 2014. Coastal Community Development Project (CCDP). Accessed January 16, 2019. <https://asia.ifad.org/web/ccdp/about>.
- Kay, R., and J. Alder. 1999. *Coastal Planning and Management*. 1st ed. New York: CRC Press.
- Krishna, A., S. Sagala, and M. Syahbid. 2018. "Cultural Heritage to Increase Community Resilience in Indonesia: A Review." In *Disaster Risk Reduction in Indonesia: Environmental, Social and Cultural Aspects*, edited by D. Paton, and S. Sagala, 133–150. Springfield, IL: Charles C Thomas.
- Kumasi, T. C., K. Obiri-danso, and J. H. Ephraim. 2010. "Community Engagement in the Sustainable Management of Rivers: Barekese catchment, Kumasi, Ghana." *Environment, Development and Sustainability* 12 (6): 927–943. <https://doi.org/10.1007/s10668-010-9232-1>.
- Lihtorng-Chen, R. 2002. *Discussion on the Law of the Sea*. Taipei: Yuanzhao Publishing Co., Ltd.
- Lindsey, T., and S. Butt. 2012. *The Constitution of Indonesia A Contextual Analysis*. 1st ed. Oxford: Hart Publishing.
- Marale, S. M. 2013. "Strategies for Coastal Ecosystem Management in India." *Environment, Development and Sustainability* 15 (1): 23–38. <https://doi.org/10.1007/s10668-012-9366-4>.
- Marine Conservation Institute. 2012. Marine Protected Areas in Indonesia. Accessed October 27, 2018. <http://www.mpatlas.org/region/country/IDN/>.
- Maze, C., T. Dahou, O. Ragueneau, A. Danto, and E. Mariat-roy. 2017. "Comptes Rendus Geoscience Knowledge and power in integrated coastal management. For a political anthropology of the sea combined with the sciences of the marine environment." *Comptes Rendus Geoscience* 349 (6-7): 359–368. <https://doi.org/10.1016/j.crte.2017.09.008>.
- Mietzner, M. 2020. "Authoritarian Innovations in Indonesia: Electoral Narrowing, Identity Politics and Executive Illiberalism." *Democratization* 27 (6): 1021–1036. <https://doi.org/10.1080/13510347.2019.1704266>.
- Mongabay. 2018. Indonesian Graftbusters Put a Price Tag on Environmental Crime. Accessed January 19, 2019. <https://news.mongabay.com/2018/03/indonesian-graftbusters-put-a-price-tag-on-environmental-crime/>.
- Muawanah, U., M. De Alessi, R. Pomeroy, N. Kurniasari, N. Shafitri, and C. Yulianty. 2021. "Going Into Hak: Pathways for Revitalizing Marine Tenure Rights in Indonesia." *Ocean and Coastal Management* 215 (1): 1–11. <https://doi.org/10.1016/j.ocecoaman.2021.105944>.
- Muawanah, U., G. Yusuf, L. Adrianto, J. Kalthar, R. Pomeroy, H. Abdullah, and T. Ruchimat. 2018. "Review of National Laws and Regulation in Indonesia in Relation to an Ecosystem Approach to Fisheries Management." *Marine Policy* 91 (1): 150–160. <https://doi.org/10.1016/j.marpol.2018.01.027>.
- Nagabhatla, N., N. Tho, L. Thi, V. Tran, N. Cam, and J. Dhanraj. 2019. "Ecosystem-Based Approach for Planning Research and Capacity Development for Integrated Coastal Zone Management in Southeast Asia." *APN Science Bulletin* 9 (1): 3–9. <https://doi.org/10.30852/sb.2019.537>.
- Nandi. 2014. "Coastal Conservation Policies and Integrated Coastal Zone Management (ICZM) In Indonesia." *International Journal of Conservation Science* 5 (3): 387–396.
- Nasution, A. 2016. *Government Decentralization Program in Indonesia* (ADB Working Paper Series No. 601). Tokyo.
- Ngoran, S. D., X. Xue, and A. B. Ndah. 2016. "Exploring the Challenges of Implementing Integrated Coastal Management and Achieving Sustainability within the Cameroon Coastline *." *Journal of Integrated Coastal Zone Management* 16 (1): 45–56. <https://doi.org/10.5894/rgci648>.
- Nikijuluw, V. P. H. 2017. "Coastal Resources Conservation in Indonesia : Issues, Policies, and Future Directions." *Sumatra Journal of Disaster, Geography and Geography Education* 1 (1): 15–23. <https://doi.org/10.24036/sjdgge.v1i1.31>.
- Novaczek, I., I. H. T. Harkes, J. Sopacua, and M. D. D. Tatuhey. 2001. *An Institutional Analysis of Sasi Laut in Maluku, Indonesia*. (J. Maychin & K. Viswanathan, Eds.) 1st ed. Penang: ICLARM – The World Fish Center.
- Novriyanto, Wibowo J. T., W. Iskandar, G. Campbell, M. Linkie, J. T. Wibowo, ... M. Linkie. 2012. "Linking Coastal Community Livelihoods to Marine Conservation in Aceh, Indonesia." *Oryx* 46 (4), <https://doi.org/10.1017/S0030605312000622>.

- Nugraha, A. 2021. "Legal Analysis of Current Indonesia's Marine Protected Areas Development." *Sriwijaya Law Review* 5 (1): 14–28. <https://doi.org/10.28946/slrev.Vol5.Iss1.851.pp14-28>.
- Nugraha, A., Febrian, and R. L. Chen. 2021. "Progress and Legal Framework Issues in the Establishment and Control of Indonesian Marine Protected Areas." *Environmental Policy and Law* 51 (3): 201–207. <https://doi.org/10.3233/EPL-201029>.
- Nurhidayah, L. 2011. *Integrated Coastal Zone Management in Indonesia: The Implementation and its Challenges*. Accessed January 22, 2019. <http://ssrn.com/abstract=1666807>.
- Oktavia, P., W. Salim, and G. Perdanahardja. 2018. "Reinventing Papadak/Hoholok as a Traditional Management System of Marine Resources in Rote Ndao, Indonesia." *Ocean and Coastal Management* 161 (1): 37–49. <https://doi.org/10.1016/j.ocecoaman.2018.04.018>.
- Patlis, J. M. 2005. "The Role of Law and Legal Institutions in Determining The Sustainability of Integrated Coastal Management Projects in Indonesia." *Ocean and Coastal Management* 48 (3-6): 450–467. <https://doi.org/10.1016/j.ocecoaman.2005.04.005>.
- Portman, M. E., L. S. Esteves, X. Q. Le, and A. Z. Khan. 2012. "Improving Integration for Integrated Coastal Zone Management: An Eight Country Study." *Science of the Total Environment* 439(1): 194–201. <https://doi.org/10.1016/j.scitotenv.2012.09.016>.
- Powell, R. B., A. Cuschnir, and P. Peiris. 2009. "Overcoming Governance and Institutional Barriers to Integrated Coastal Zone, Marine Protected Area, and Tourism Management in Sri Lanka." *Coastal Management* 37 (6): 633–655. <https://doi.org/10.1080/08920750903194272>.
- Purwaka, T. H., and Sunoto. 1999. *Coastal and Marine Resource Management in Indonesia: Legal and Institutional Aspects* (2). Makati City.
- Quesada, G. C., T. Klenke, and L. M. M. Ortiz. 2018. "Regulatory Challenges in Realizing Integrated Coastal Management—Lessons from Germany, Costa Rica, Mexico and South Africa." *Sustainability* 10 (10): 1–21. <https://doi.org/10.3390/su10103772>.
- Rosyida, I., and M. Sasaoka. 2018. "Local Political Dynamics of Coastal and Marine Resource Governance: A Case Study of Tin-Mining at a Coastal Community in Indonesia." *Environmental Development* 26: 12–22. <https://doi.org/10.1016/j.envdev.2018.03.003>.
- Rudy, Hasyimzum, Y. Heryandi, and S. Khoiriah. 2017. "18 Years of Decentralization Experiment in Indonesia: Institutional and Democratic Evaluation." *Journal of Politics and Law* 10 (5): 132–139. <https://doi.org/10.5539/jpl.v10n5p132>.
- Sale, P. F. 2015. "Coral Reef Conservation and Political Will." *Environmental Conservation* 42 (2): 97–101. <https://doi.org/10.1017/S0376892914000344>.
- Schakel, A. H., and E. Massetti. 2018. "A World of Difference: The Sources of Regional Government Composition and Alternation." *West European Politics* 2382 (3): 1–25. <https://doi.org/10.1080/01402382.2017.1400237>.
- Setiawan, B. B., and S. P. Hadi. 2007. "Regional Autonomy and Local Resource Management in Indonesia." *Asia Pacific Viewpoint* 48 (1): 72–84. <https://doi.org/10.1111/j.1467-8373.2007.00331.x>.
- Siry, H. Y. 2006. "Decentralized Coastal Zone Management in Malaysia and Indonesia: A Comparative Perspective." *Coastal Management* 34(3): 267–285. <https://doi.org/10.1080/08920750600686679>.
- Siry, H. Y. 2011. "In Search of Appropriate Approaches To Coastal Zone Management in Indonesia." *Ocean and Coastal Management* 54 (6): 469–477. <https://doi.org/10.1016/j.ocecoaman.2011.03.009>.
- Smith, B. 2008. "The Origins of Regional Autonomy in Indonesia: Experts and the Marketing of Political Interests." *Journal of East Asian Studies* 8 (2): 211–234. <https://doi.org/10.1017/S1598240800005300>.
- Sofiyah, E. S. 2013. *Challenges and Opportunities for an Integrated Coastal Management Approach in Jakarta Bay, Indonesia*. Adelaide: The University of Adelaide.
- Stocker, L., D. Kennedy, R. Kenchington, and K. Merrick. 2012. "Sustainable Coastal Management?" In *Sustainable Coastal Management and Climate Adaptation: Global Lessons from Regional Approaches in Australia*, edited by R. Kenchington, L. Stocker, and D. Wood, 1st ed., 29–56. FL: Victoria, Australia: CRC Press.
- Struys, E. 2015. "Towards Best Practice Coastal Planning: Challenges of Negotiating Regional Understandings with Local Priorities in New South Wales." *Australian Journal of Maritime and Ocean Affairs* 7 (1): 75–84. <https://doi.org/10.1080/18366503.2015.1014017>.

- Supartono, Haluan J., and M. F. A. Sondita. 2015. "Jakarta North Coast Development Impact on Fishery Activities." *Asian Journal of Scientific Research* 9 (1): 13–23. <https://doi.org/10.3923/ajsr.2016.13.23>.
- Sutiyo, S., and K. L. Maharjan. 2017. *Decentralization and Rural Development in Indonesia*. Singapore: Springer Nature. <https://doi.org/10.1007/978-981-10-3208-0>
- Taljaard, S., J. H. Slinger, and J. H. Van Der Merwe. 2011. "Criteria for Evaluating the Design of Implementation Models for Integrated Coastal Management." *Coastal Management* 39 (6): 628–655. <https://doi.org/10.1080/08920753.2011.616670>.
- Tietze, U., M. Houghton, and S. V. Siar. 2006. *Socio-Economic Indicators in Integrated Coastal Zone and Community-Based Fisheries Management* (FAO Series Technical Paper No. 491). Rome. <http://www.fao.org/3/a0690e/a0690e00.htm>.
- Tirtosudarmo, R. 2018. *The Politics of Migration in Indonesia and Beyond*. Singapore: Springer Nature Singapore Pte Ltd. <https://doi.org/10.1007/978-981-10-9032-5>
- Turisno, B. E., R. Suharto, E. A. Priyono, S. Mahmudah, and S. M. Badriyah. 2021. "Analysis of the Role Model of Coastal Area Arrangement on Improving Community Welfare Through Legal Perspective." *Journal of Legal, Ethical and Regulatory Issues* 24 (6): 1–19.
- Uehara, T., and K. Mineo. 2017. "Regional Sustainability Assessment Framework for Integrated Coastal Zone Management: Satoumi, Ecosystem Services Approach, and Inclusive Wealth." *Ecological Indicators* 73 (1): 716–725. <https://doi.org/10.1016/j.ecolind.2016.10.031>.
- Ulum, A. S., A. Rohman, P. Harto, D. Ratmono, and I. Ghozali. 2019. "The Role of Natural Resources on Moderating the Relationship between Fiscal Decentralization and Corruption: Evidence from Indonesia." *International Journal of Energy Economics and Policy* 9 (1): 67–75. <https://doi.org/10.32479/ijeeep.7252>.
- Vodden, K. 2015. "Governing Sustainable Coastal Development: The Promise and Challenge of Collaborative Governance in Canadian coastal watersheds." *Canadian Geographies / Géographies canadiennes* 59 (2): 167–180. <https://doi.org/10.1111/cag.12135>.
- Wahyono, A., and M. Illiyani. 2020. "The Concept of the Right to Management of Coastal Communities in the Regional Autonomy Era: Experience from Community Assistance to Obtain the Right to Manage Sea Cucumbers in Sunsak Bay, East Lombok." *IOP Conference Series: Earth and Environmental Science* 441 (1). doi:10.1088/1755-1315/441/1/012005.
- Ware, D. 2017. "Sustainable Resolution of Conflicts Over Coastal Values: A Case Study of the Gold Coast Surf Management Plan." *Australian Journal of Maritime and Ocean Affairs* 9 (2): 68–80. <https://doi.org/10.1080/18366503.2017.1278501>.
- White, A. T., P. M. Aliño, A. Cros, A. Fatan, A. L. Green, S. J. Teoh, ... W. Wen. 2014. "Marine Protected Areas in the Coral Triangle: Progress, Issues, and Options." *Coastal Management* 42 (2): 87–106. <https://doi.org/10.1080/08920753.2014.878177>.
- Wiadnya, D. G. R., R. Syafaat, E. Susilo, D. Setyohadi, Z. Arifin, and B. Wiryawan. 2011. "Recent Development of Marine Protected Areas (MPAs) in Indonesia." *Journal of Applied Environmental and Biological Sciences* 1 (12): 608–613.
- Wong, M., and O. Elias. 2018. "Our Oceans, Our Livelihoods: The World Bank and Oceans Governance." In *The IMLI Treatise On Global Ocean Governance Volume II: UN Specialized Agencies and Global Ocean Governance*, edited by D. J. Attard, M. Fitzmaurice, and A. Ntovas, 2nd ed., 322–338. Oxford: Oxford University Press.
- World Bank. 2019. Coral Reef Rehabilitation and Management Program- Coral Triangle Initiative (COREMAP-CTI). Accessed January 20, 2019. <http://projects.worldbank.org/P127813/coral-reef-rehabilitation-management-program-phase-iii?lang=en>.
- Zainuri, L. H. 2018. "The Problem of Policy Coordination in a Newly Decentralised Government: A Study of Policy Implementation in the Province of Bali, Indonesia." *Mediterranean Journal of Social Sciences* 9 (5): 83–95. <https://doi.org/10.2478/mjss-2018-0140>.
- Zartner, D. 2014. *Courts, Codes, and Custom: Legal Tradition and State Policy toward International Human Rights and Environmental Law*. Oxford: Oxford University Press.
- Zikra, M., and Lukijanto Suntoyo. 2015. "Climate Change Impacts on Indonesian Coastal Areas." *Procedia Earth and Planetary Science* 14: 57–63. <https://doi.org/10.1016/j.proeps.2015.07.085>.