

A JURIDICAL ANALYSIS OF CORAL REEF CONSERVATION STRATEGIES IN DERAWAN ISLANDS

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ABSTRACT

Berau Regency are an area of highly diverse and endangered coral reefs. Coral reefs play a very important role in the life of the marine environment. Therefore, the purpose of this research is to explore the legal basis that can protect the sustainability of coral reefs both at the international, national and local levels as well as the legal basis that guarantees the empowerment of local communities in the protection of coral reefs. The different approaches and international agreements that have been positively applied to ensure the protection of the marine environment and have bound the different countries. This article is written with normative legal research that prioritizes statutory approach and conceptual approach. In the end, it is found that Indonesia has bound itself to several international agreements that can be used as a legal umbrella in regulating the protection of coral reefs through national law. Indonesian legal instruments are heavily influenced by international law and policy. In fact, the Berau Regency Government has issued a regional regulation to maintain the quality of coral reefs in the Derawan Islands as an effort to meet and achieve marine conservation goals set at the global level. The legislation framework in Derawan has ensured community participation in the protection of maritime habitats, including coral reefs. However, there is no legal instrument that specifically and comprehensively regulates the conservation work of coral reef at the national level.

Keywords: *Coral Reefs; Legal Protection; SDGs.*

Introduction

Indonesia stands as the second most prominent nation in terms of coral reef biodiversity, trailing only Australia. Indonesia has approximately 16% of the

world's coral reefs, which equates to around 39,500 km², while Australia has a slightly larger area of approximately

42,000 km².¹ In the Coral Triangle Region, Indonesia is responsible for 65% of the total. The most extensive coral reefs are located in Western Indonesia, including those on Java and Sumatra. Sulawesi and Nusa Tenggara (Lesser Sunda Islands) represent the central part of Indonesia. The Moluccas and Papua are the eastern Indonesian coral reef habitats. However, the majority of coral reefs can be found in eastern and central Indonesia.²

An area of Indonesia with considerable potential for coral reef resources is the Derawan Islands. The islands are situated within the Coral Triangle, a region commonly referred to as the “Amazon of the Sea.” This region, which covers six countries (Indonesia, Malaysia, the Philippines, Timor Leste, Papua New Guinea, and the Solomon Islands), serves as the epicenter of global coral reef biodiversity and ecosystems.³ The region is home to 76% of the world’s 789 coral reef species, while Raja Ampat is the center of the Coral Triangle

¹ Laretta Marie Burke et al, *Reefs at risk revisited in the Coral Triangle* (Washington, D.C.: World Resources Institute, 2012).

² *Ibid.*

³ Dadang Ilham Kurniawan Mujiono, “Potensi Bahari Pulau Derawan Menuju Destinasi Wisata Kompetitif” (2019) 3:02 JDG 55–87, online: <<http://ejournal.fisip.unjani.ac.id/index.php/jurnal-dinamika-global/article/view/76>>.

Region’s highest coral reef diversity, followed by the Derawan Islands.⁴

Coral reefs offer a multitude of benefits at the ecological level. They serve as a vital territory and food source for a diverse array of marine life, playing a crucial role in maintaining the health and stability of marine ecosystems. From a social perspective, coral reefs serve as a subject of research and an object of environmental education.⁵

The effective functioning of coral reefs has the potential to positively impact economic growth, food security, and income generation. The aggregate value of the global coral reef ecosystem is estimated at US\$ 29.8 billion. Tourism accounts for US\$ 9.6 billion of this, coastal protection US\$ 9 billion, fisheries US\$ 5.7 billion, and biodiversity US\$ 5.5 billion.⁶ If Indonesia effectively manages

⁴ Dadang Ilham Kurniawan Mujiono, “Abrasion in Derawan Island (the Cause and the Proper Solution)” (2020) 16:1 *segara* 83–92, online: <<http://ejournal-balitbang.kkp.go.id/index.php/segara/article/view/7501>>.

⁵ Kristwan Genova Damanik, “Implementasi Asas Tanggung Jawab Negara Sebagai Bentuk Perlindungan Hukum Terhadap Kerusakan Terumbu Karang (Studi Kasus Kecelakaan Kapal MV Caledonian Sky di Raja Ampat)” (2018) 17:3 *LR* 250, online: <<https://ojs.uph.edu/index.php/LR/article/view/868>>.

⁶ Mehrose Akhtar, “Rights for the Coral Reefs”, *Earth Law Center* (16 May 2019), online: <<https://www.earthlawcenter.org/blog-entries/2019/5/rights-for-the-coral-reefs>>.

its coral reefs, it will inevitably generate substantial economic benefits.

Nevertheless, the potential for the continued survival of coral reefs is contingent upon their resilience to environmental pressures. A variety of human activities have the potential to compromise the resilience of coral reef ecosystems. In particular, overfishing, destructive fishing practices, pollution, irresponsible tourism, mining activities, and climate change have been identified as significant threats.⁷

In Indonesia, damage to coral reefs is predominantly the result of human activities, including mining, destructive fishing practices, water contamination due to domestic and industrial waste, and various marine-based activities, such as offshore drilling, dredging, and marine construction projects.⁸

On 21 February 2024, a collaborative patrol team comprising the Maratua Navy Post of Lantamal XIII, Maratua Police, and the Turtle Care

Institution apprehended three offenders along with their vessels, as well as various implements utilized for fish bombing, including a mixture of bomb fertilizer, locis or explosive fuses, compressors, and empty glass bottles purportedly employed as fish bombs.⁹ This demonstrates that unsustainable fishing techniques persist in the Derawan Islands.

The risk of damage to coral reef ecosystems in Indonesia persists, particularly in the Derawan Islands, due to the activities, such as irresponsible tourism, overfishing and destructive fishing. Consequently, it is imperative to implement legal protections to ensure the sustainability of coral reefs in Indonesia. This can be accomplished through the strengthening and enforcement of relevant legislation. The protection of coral reefs in Indonesia represents a key aspect of the government's broader commitment to environmental management. The implementation and reinforcement of environmental protection are inextricably linked to the impact of global policies on environmental management, which were initially established at the United Nations

⁷ Marjorie Mulhall, "Saving the Rainforests of the Sea: An Analysis of International Efforts to Conserve Coral Reefs" (2009) 19:2 Duke Environmental Law & Policy Forum 321–351, online: <<https://scholarship.law.duke.edu/delpf/vol19/iss2/6>>.

⁸ Fachrie Rezka Ayyub, Abdul Rauf & Andi Asni, "Strategi Pengelolaan Ekosistem Terumbu Karang di Wilayah Pesisir Kabupaten Luwu Timur" (2018) 1 JPTP 56, online: <<http://ojs.unm.ac.id/bionature/article/view/6233>>.

⁹ Editorial Team, "Three Perpetrators Of Fish Bombing In Berau, East Kalimantan Arrested By Patrol Team", (23 February 2024), online: *VOI* <<https://voi.id/en/news/359627>>.

Conference on the Human Environment (UNCHE 1972).

The conference resulted in the formulation of a declaration pertaining to environmental matters, subsequently designated as the Stockholm Declaration.¹⁰ Furthermore, Indonesia bears an obligation to safeguard the marine environment in its capacity as a signatory state to the 1982 United Nations Convention on the Law of the Sea. The Convention contains numerous conservation-oriented rules, including Part XII, Article 192 of UNCLOS 1982, which enumerates the responsibilities of states with regard to the protection and preservation of the marine environment.¹¹

The responsibility of states to take action to ensure environmental protection has been increasingly emphasized since September 2015, when the United Nations adopted a document establishing an action plan to address sustainable development in all contexts (economic, social, and environmental) until 2030. The 2030 Agenda for Sustainable Development, which consists of 17 Sustainable

Development Goals (SDGs), encompasses the full spectrum of sustainability-related matters.¹² Furthermore, the Agenda explicitly addresses a goal pertaining to the conservation and sustainable utilization of marine ecosystems and their resources, designated as SDG 14, “Life Below Water.”¹³ Coral reefs, as one of the oceanic ecosystems, are therefore included in the agenda. Consequently, it is incumbent upon each nation to guarantee the legal protection of coral reefs in order to ensure their sustainability.

The protection of such unique ecosystems, as Marjorie Mulhall’s research has highlighted, requires the collective action of the international community. While international engagement represents a crucial aspect of the solution, it is equally important to consider the role of domestic action. Indeed, the establishment of an international treaty with a specific focus on coral reef protection is a crucial step in addressing the pertinent issues.¹⁴ Zulkipli Aspan also concluded in his research that national legislation serves as the legal

¹⁰ Rodrigo Christopher Rembet, “Pengaturan Hukum Pengelolaan Lingkungan Hidup Menurut Deklarasi Stockholm 1972” (2020) 8:4 LES 36–44, online: <<https://ejournal.unsrat.ac.id/index.php/lexetsocietatis/article/view/30908>>.

¹¹ *Convention on the Law of the Sea*, 1982, Article 192.

¹² José Carlos Ferreira et al, “Ocean Literacy to Promote Sustainable Development Goals and Agenda 2030 in Coastal Communities” (2021) 11:2 Education Sciences 62, online: <<https://www.mdpi.com/2227-7102/11/2/62>>.

¹³ *Improving International Ocean Governance for Life Below Water*, by WWF (Brussels, Belgium: WWF – World Wide Fund For Nature, 2020).

¹⁴ Mulhall, *supra* note 7.

foundation for environmental protection, particularly in the context of strengthening the protection of coastal ecosystems and small island ecosystems. Furthermore, it is essential to ensure the consistency and coherence of all pertinent legislation and regulatory frameworks.¹⁵ In her research, Marjorie Mulhall underscored the significance of international law and approaches in the context of coral reef conservation efforts.¹⁶ Concurrently, Zulkipli Aspan restricted the scope of his investigation to the national legal protection of coral reefs within the confines of Taka Bonerate National Park (TNT). Likewise, Yuni investigated the dynamics of the connection between marine tourism, small-scale fishing, and conservation initiatives on Derawan Island.¹⁷

The interconnection between marine-based tourism, the fishing industry, and conservation initiatives in Derawan necessitates a holistic approach to enforcement. The relationship among the various elements is circular, with each

¹⁵ Zulkipli Aspan, "Perlindungan Hukum Terhadap Terumbu Karang di Taman Nasional Taka Bonarete (TNT)" (2021) 2:2 *j.huk.lingkung.indonesia* 73–94, online: <<https://jhli.icel.or.id/index.php/jhli/article/view/26>>.

¹⁶ Mulhall, *supra* note 7.

¹⁷ Heva Yumi, *The Relationship of Marine Tourism, Fishing Activities, and Conservation Efforts on Derawan Island, Indonesia* (University of Rhode Island, 2018) [unpublished].

element exerting influence on the others. However, competition frequently occurs among them.¹⁸ Tourism may serve as a mechanism for local people to start leveraging ecosystem services. Derawan Island's sustainability would improve if conservation projects supported fishing activities and if marine tourism financially contributed to conservation efforts. The fishing industry may perceive conservation efforts as enhancing marine fish stocks as well as assets to promote environmentally friendly tourism.¹⁹ Prior research exhibits discrepancies with this study, particularly with the subject matter and research location.

The objective of this study is to identify the applicable legal instruments that can be used to ensure the long-term sustainability of the coral reefs within the Derawan Islands Coastal Park. The research is intended to demonstrate the government's commitment and efforts in meeting its international obligations regarding the conservation of coral reefs in Indonesia, with particular reference to the Derawan Islands Coastal Park, through the medium of national legislation. Moreover, the findings of this study can be utilized as a basis for evaluating the efficacy of legal measures employed to

¹⁸ *Ibid.*

¹⁹ *Ibid.*

safeguard coral reefs, and to assess the contributions of governmental and local community stakeholders in the Derawan Islands Coastal Park.

Method

The present study employs juridical normative research as a means of addressing the identified issues. This article is primarily based on library research. Consequently, a library research project was initiated with the objective of tracing and collecting secondary data, including books, articles, and research results pertaining to marine law and the conservation of marine resources. Furthermore, legislation and expert opinions pertaining to the preservation of the marine environment and its ecosystem, particularly coral reefs, were considered. This legal writing is subjected to a descriptive, qualitative analysis.

Results and Analysis

International Law and Coral Reef Conservation

Coral reefs are important for marine life. Coral reefs are home to many plants and fish. They are an important part of the marine ecosystem. Coral reefs also have benefits for humans. They provide materials for medicines and are a tourist

attraction.²⁰ Coral reefs are beautiful and useful, but they are threatened by human activities. Many international laws protect coral reefs from damage.

The 1982 UN Convention on the Law of the Sea

The UN plays a crucial role in protecting the marine environment. One of the most important UN legal documents for the marine environment is the 1982 UN Convention on the Law of the Sea (UNCLOS). Therefore, UNCLOS has been called a landmark in international environmental law.²¹ The Convention has 17 chapters and 320 articles. The main purpose of this convention is to create a legal order for the seas, facilitate international communication, and promote the peaceful uses of the seas and oceans.²² This should lead to the fair and efficient use of marine resources, the conservation of biological resources, and the protection

²⁰ Maretta Trimirza, Ramlan Ramlan & Rahayu Repindowaty, "Perlindungan Terumbu Karang Menurut UNCLOS 1982 (Studi Kasus Kerusakan Terumbu Karang oleh Kapal Pesiar M.V. Caledonian Sky di Raja Ampat)" (2021) 2:1 UPOS 106–130, online: <<https://online-journal.unja.ac.id/Utipossidetis/article/view/10912>>.

²¹ Rajesh Sehgal, "Legal Regime Towards Protecting Coral Reefs: An International Perspective and Indian Scenario" (2006) 2:2 *Lead-Law Environment and Development Journal* 185–195.

²² *Convention on the Law of the Sea*, *supra* note 11.

and preservation of the marine environment.²³

The treaty includes many conservation-oriented provisions. For example, Part XII of UNCLOS 1982, particularly Article 192, tells countries to take responsibility for protecting and preserving the marine environment.²⁴ While Article 194 says that countries can use sea resources, they must also protect the environment from pollution.²⁵ Also, Articles 197 to 201 say that countries should work together to protect the marine environment. Cooperation can be done in many ways, such as research, data sharing, and more.²⁶

UNCLOS obligates states to protect marine resources in their territorial waters, including coral reefs. These rules are in Articles 192 to 194 and apply to all UNCLOS members. Before UNCLOS 1982, there was little international regulation on marine protection. UNCLOS sets out ways to protect the marine environment.²⁷ UNCLOS is a reference for discussing marine protection. UNCLOS does not protect the

marine environment alone. Other UN conferences have developed measures to protect the marine environment.

Agenda 21 dan Convention on Biological Diversity, 1992

The United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in June 1992 was the first time that the environment and the economy were considered together. The conference produced five documents stating that sustainable development is an international legal institution, namely:²⁸

1. Agenda 21;
2. The Rio Declaration on Environment and Development;
3. UN Framework Convention on Climate Change;
4. Convention on Biological Diversity;
5. The Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests.

These documents set the standards for global action on sustainable development.

One of the final documents from the 1992 United Nations Conference on Environment and Development (UNCED)

²³ Angela Carpenter, "International Protection of the Marine Environment" in Adam D Nemeth, ed, *The marine environment: ecology, management and conservation* (New York: Nova Science Publisher's, 2011) 51.

²⁴ *Convention on the Law of the Sea*, *supra* note 11.

²⁵ *Ibid.*

²⁶ *Ibid.*

²⁷ Sehgal, *supra* note 22.

²⁸ David Luff, "An Overview of International Law of Sustainable Development and a Confrontation Between WTO Rules and Sustainable Development" (1996) 1 *Revue Belge De Droit International* (Bruylant) 91-144.

is the Agenda 21 document. Agenda 21 is consistent with numerous objectives set forth in UNCLOS. However, it acknowledges that national, subregional, regional, and global initiatives, as well as marine and coastal resource management strategies, have not consistently demonstrated the achievement of sustainable development, the conservation of resources, and the protection of the environment. The degradation and erosion of coastlines is occurring at an accelerated rate in numerous regions worldwide. Chapter 15 of Agenda 21 addresses the conservation of biological diversity, delineating strategies for the protection of plant and animal species.²⁹ Chapter 15 is of particular significance for coral reefs, given the considerable biodiversity inherent to these ecosystems.³⁰

Chapter 17 of Agenda 21 also addresses protecting the ocean, including its biological resources and ecosystems. It sets out the rights and responsibilities of countries and provides a global framework for protecting and developing marine and coastal areas and their resources. One way to manage and develop coastal and marine areas is to use and conserve marine resources in a sustainable way. Chapter 17 says that

²⁹ *Ibid.*

³⁰ *Ibid.*

countries must make sure that marine resources in their own waters are protected and managed in line with UNCLOS. State parties must also improve their national laws and regulations to better control activities related to the program.³¹ Coastal states must find ways to balance conservation and economic development. Regulations can limit exploitation of coral reefs and reduce damage from various sources.³²

Agenda 21 can also be understood legally through the Convention on Biological Diversity (CBD). This was agreed in 1992 and is the main international treaty for biodiversity issues. The CBD has three main goals: protecting biological diversity, using its components sustainably, and sharing the benefits of genetic resources fairly.³³ 196 countries have joined the CBD.³⁴ To achieve this convention's goals, especially those related to marine diversity, we need to

³¹ United Nations Division for Sustainable Development, "UN Conference on Environment and Development" in Dustin Mulvaney & Paul Robbins, eds, *Green Politics: An A-to-Z Guide* (2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc., 2011).

³² J C Sylvan, "How to Protect A Coral Reef: The Public Trust Doctrine and the Law of the Sea" (2006) 7:1 Sustainable Development Law & Policy 32–35.

³³ Mulhall, *supra* note 7.

³⁴ Convention on Biological Diversity, "List of Parties", (9 March 2024), online: *Convention on Biological Diversity* <<https://www.cbd.int/information/parties.shtml>>.

work with other conventions, institutions, and processes.

The CBD can be utilized as a means of obligating participating countries to undertake actions aimed at the conservation of coral reefs. Article 2 of the CBD defines biodiversity as comprising all living organisms from whatever source, including marine and other aquatic ecosystems. Furthermore, Article 22, paragraph 2, stipulates that all parties to the Convention shall implement the provisions pertaining to the marine environment and comply with the rights and obligations of states as set forth in the UNCLOS. Nevertheless, the CBD offers only a narrow scope of provisions concerning the marine environment.³⁵ Indeed, the CBD Secretariat has acknowledged that areas safeguarding coral reefs and other biologically diverse marine ecosystems remain “underrepresented” within the CBD framework.³⁶

Furthermore, the protection of the marine environment under the Convention on Biological Diversity (CBD) framework is exemplified by the Conference of the Parties-II in 1995, during which the Jakarta Mandate was successfully adopted. The Jakarta Mandate comprises a

³⁵ Carpenter, *supra* note 24.

³⁶ Mulhall, *supra* note 7.

core agreement that constitutes a program of action for implementing the Convention on the Future of Marine and Coastal Biological Resource Diversity. In accordance with the provisions of the Jakarta Mandate, the agreement delineates the five constituent elements of the CBD program pertaining to coastal and marine biodiversity:³⁷

1. Integrated marine and coastal area management
2. Conservation and sustainable use of marine and coastal living resources, including genetic resources
3. Establishment and protection of marine and coastal protected areas
4. Development of mariculture
5. Management of alien species and genotypes

Coral bleaching represents one element of the program, and the Jakarta Mandate’s work plan on degradation and physical damage, in addition to certain existing special provisions for marine conservation, can be applied at the national level to ensure the continued

³⁷ AIDEnvironment, ed, *Integrated marine and coastal area management (IMCAM) approaches for implementing the convention on biological diversity*, CBD technical series 14 (Montreal: Secretariat of the Convention on Biological Diversity, 2004).

existence of coral reefs.³⁸ Coral reefs, which are the most biologically diverse ecosystems on Earth, are an ideal candidate for protection under the CBD.³⁹

Furthermore, at the 7th meeting of the CBD Conference of the Parties (CoP) in 2004, participants agreed that Marine Protected Areas (MPAs) are one of the important tools and approaches in efforts to conserve and sustainably use biodiversity. The national MPA system envisioned by the CBD CoP consists of 3 components, namely (i) areas managed for sustainable use; (ii) no-take zones; and (iii) sustainable management over the wider marine and coastal environment.⁴⁰ In addition, the implementation of MPAs systems in individual countries is not sufficient to protect biodiversity within these MPAs, an approach through a network of MPAs between countries is also important.

While the endeavors undertaken by the signatories to the CBD are commendable, a notable shortcoming of the measures that can be undertaken through the CBD is the absence of an enforcement apparatus and a mechanism for monitoring compliance among member states, with the exception of the submission of annual

reports.⁴¹ Consequently, compliance with the CBD is contingent upon the interests of each country, the influence of other countries, and public pressure.⁴²

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973

The CITES Convention addresses the issue of international trade in endangered species, including a number of coral reef species. The Convention was adopted by 80 representatives of countries at a meeting in Washington, D.C., on March 3, 1973. Subsequently, the Convention came into force as positive law on July 1, 1975. CITES has become one of the most widely participated international agreements in the field of conservation, with 183 countries currently involved. At present, the Convention safeguards the welfare of approximately 37,000 animal and plant species, regardless of whether

³⁸ Sehgal, *supra* note 22.

³⁹ Mulhall, *supra* note 7.

⁴⁰ *Ibid.*

⁴¹ Kristen Spulecki, "Climate Change and Policy: Understanding The Relationship Between Coral Reefs and Climate Change" (2020) 10:2 Sea Grant Law & Policy Journal 98–115, online: <<https://nsglc.olemiss.edu/sglpj/archive/vol10.2/index.html>>.

⁴² Mary Gray Davidson, "Protecting Coral Reefs: The Principal National and International Legal Instruments" (2002) 26:2 HarvardEnvironmentalLaw Review 499–546.

they are traded alive or dead.⁴³ The CITES requires that its provisions be implemented at the national legal level by the parties to the Convention. Moreover, the implementation of the agreement must be founded upon the principles of international cooperation, given that the trade in protected animals and plants occurs across national borders.

The CITES provides protection for species included in one of three appendices. The CITES prohibits trade in endangered species listed in Appendix I, except in exceptional circumstances. It is incumbent upon exporting and importing countries to certify through their relevant authorities that specific criteria have been met to ensure that the species is no longer threatened with extinction. The CITES permits trade in species listed in Appendices II and III, provided that a permit system is in place to allow states to monitor the situation and, if necessary, restrict exports.⁴⁴ Consequently, the exploitation of coral reefs can be effectively curtailed through the implementation of a rigorous monitoring system, as permitted by the CITES. Moreover, the CITES checklist of species

includes approximately 230 coral reef species.⁴⁵

However, it should be noted that CITES is not an international treaty that is specifically designed to regulate the protection of coral reefs. The convention's primary objective is to regulate trade in specific species, rather than to provide comprehensive protection for entire ecosystems, such as coral reefs. Nevertheless, CITES can serve as an effective instrument for combating the destruction of coral reefs, contingent upon the commitment of member countries to enforce the established regulations and to raise public awareness regarding the purchase of coral reef species that are duly licensed or documented.

Sustainable Development Goals (SDGs), 2015

The 2030 Agenda, formally designated as the Sustainable Development Goals (SDGs), was collectively agreed upon by 193 UN member states in September 2015. This outcome followed a protracted process of negotiation among governments, spanning three years, commencing with its initial launch at the United Nations Conference on Sustainable Development (Rio +20) in Rio de Janeiro

⁴³ CITES Secretariat, "Index of CITES Species", (2023), online: *CITES* <<https://checklist.cites.org/#/en>>.

⁴⁴ Sehgal, *supra* note 22.

⁴⁵ CITES Secretariat, *supra* note 44.

in 2012.⁴⁶ The 2030 Agenda for Sustainable Development provides a comprehensive framework for global prosperity and peace for all people, both in the present and in the future. The success of this Agenda will be contingent upon the fulfillment of the 17 SDGs, which necessitate collective action from both developed and developing countries within the context of a global partnership. UN members concur that the eradication of poverty and other forms of deprivation must be pursued in conjunction with strategies that enhance health and education, eliminate disparities, and stimulate economic growth, while concurrently addressing climate change and the preservation of marine and forest ecosystems.⁴⁷ The 17 agreed-upon goals are as follows, including:⁴⁸

1. SDG 1 : No Poverty
2. SDG 2 : Zero Hunger
3. SDG 3 : Good Health and Well-being
4. SDG 4 : Quality Education
5. SDG 5 : Gender Equality
6. SDG 6 : Clear Water and Sanitation

⁴⁶ Manuar Mukarram, “Impact of COVID-19 on the UN Sustainable Development Goals (SDGs)” (2020) 44:3 Strategic Analysis 253–258, online: <<https://www.tandfonline.com/doi/full/10.1080/09700161.2020.1788363>>.

⁴⁷ United Nations, “The 17 Goals”, (2023), online: <<https://sdgs.un.org/goals>>.

⁴⁸ United Nations, “Take Action for the Sustainable Development Goals”, (2015), online: <<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>>.

7. SDG 7 : Affordable and Clean Energy
8. SDG 8 : Decent Work and Economic Growth
9. SDG 9 : Industry, Innovation, and Infrastructure
10. SDG 10: Reduce Inequality
11. SDG 11: Sustainable Cities and Communities
12. SDG12: Responsible Consumption and Production
13. SDG 13: Climate Action
14. SDG 14: Life Below Water
15. SDG 15: Life on Land
16. SDG 16: Peace and Justice Strong Institutions
17. SDG 17: Partnerships to Achieve the Goals

The 2030 Agenda is a voluntary basis, indicating that nations have no contractual responsibility to achieve the targets. However, an examination of the goal-setting sessions and the particulars of the SDGs indicates that their formation was considerably shaped by established internationally legal norms, principles, and treaties.⁴⁹ Moreover, the SDGs were formulated to align with established and evolving principles and duties under international legislation. Moreover, connections shall be established among particular goals of the SDGs and the current international legal framework.⁵⁰

⁴⁹ Niamh Guiry, “International Law & the Sustainable Development Goals” (2024) The Boolean 1–5, online: <<https://journals.ucc.ie/index.php/boolean/article/view/boolean-2024-1>>.

⁵⁰ Rakhyn E Kim, “The Nexus between International Law and the Sustainable

With the 2030 deadline imminent, it is imperative to thoroughly elucidate the interplay between the SDGs and international law to comprehend how the SDGs can function to fulfill the vital environmental, human rights, and development objectives established in significant legal commitments.⁵¹ This comprehension can guide the development of a more efficacious post-2030 Agenda.

With regard to the sustainability of ocean biodiversity, the SDGs most closely related is undoubtedly SDG 14, which states, “Conserve and sustainably use the oceans, seas and marine resources for sustainable development.” SDG 14 comprises ten targets, three of which pertain to the ocean as an ecosystem: targets 14.2, 14.4, and 14.5.⁵² The protection of coral reefs is closely associated with targets 14.2 and 14.5. Target 14.2 calls for the sustainable management and protection of marine and coastal ecosystems in order to avoid significant damage, enhance their

resilience, and implement measures to restore them to a healthy and productive ocean.⁵³ Coral reefs are of vital importance to marine life, with more than a quarter of all marine species utilising them as a source of shelter, sustenance and habitat. Furthermore, they are instrumental in the preservation of beaches and the prevention of erosion.⁵⁴

The objective set forth in Target 14.5 is the conservation of a minimum of 10% of coastal and marine areas by the year 2020. The principal objective of conservation measures is to facilitate the restoration and safeguarding of coastal and marine areas and their inherent resources. Marine protected areas (MPAs) represent a widely utilized instrument for the stewardship of biodiversity, having been established in accordance with international, regional, and national obligations.⁵⁵ One of the most successful implementations of an MPA is that of the Great Barrier Reef in Australia. These MPAs implement integrated and multi-purpose management, thereby facilitating the sustainable utilization of the reef by a diverse array of users.⁵⁶

The aforementioned international legal

Development Goals” (2016) 25:1 Rev Euro Comp Intl Enviro 15–26, online: <<https://onlinelibrary.wiley.com/doi/10.1111/reel.12148>>.

⁵¹ Guiry, *supra* note 50.

⁵² *Mapping the linkages between oceans and other Sustainable Development Goals: A preliminary exploration*, DESA Working Paper, by David Le Blanc, Clovis Freire & Marjo Vierros, ST/ESA/2017/DWP/149 DESA Working Paper 149 (United Nations, Department of Economics and Social Affairs., 2017).

⁵³ *Ibid.*

⁵⁴ Spulecki, *supra* note 42.

⁵⁵ Blanc, Freire & Vierros, *supra* note 53.

⁵⁶ Sylvan, *supra* note 33.

and policy instruments serve to exemplify the concept of integrated coastal issues (ICM). ICM represents a shift from traditional sectoral management approaches, which have been critiqued for their limited scope and failure to address the complex interdependencies between coastal ecosystems and human activities.⁵⁷ ICM is a management strategy that has emerged as a more comprehensive alternative, recognizing the intertwined nature of coastal issues and the need for a holistic approach to their governance. ICM is a dynamic process designed as a cross-sectoral, intergovernmental, land-sea, and science-based management approach that has been used globally in promoting sustainable coastal development since the early 1980s. The objective is to maintain or restore ecological integrity and enhance quality of life, while prioritizing economic development.⁵⁸

The transition from conventional

⁵⁷ Suvaluck Satumantpan, Ratana Chuenpagdee, & Department of Geography, Memorial University of Newfoundland, St John's, Newfoundland and Labrador, Canada, "Interactive Governance for the Sustainability of Marine and Coastal Resources in Thailand" (2022) 20:6 *Environ Nat Resour J* 1–10, online: <<https://ph02.tci-thaijo.org/index.php/ennrj/article/view/247284>>.

⁵⁸ Louis Celliers et al, "Negotiation of knowledge for coastal management? Reflections from a transdisciplinary experiment in South Africa" (2021) 8:1 *Humanit Soc Sci Commun* 207, online: <<https://www.nature.com/articles/s41599-021-00887-7>>.

single-sector management strategies to cross-sectoral coastal governance is regarded as a pivotal avenue for achieving coastal sustainability. Despite the existence of multiple models that espouse a holistic and integrated perspective on coastal areas.⁵⁹ However, it should be noted that the suitability of the ICM concept is not universal, as it is influenced by the complexity of the problem, the character of the ecosystem, and the geography of the country or region in question. It must be acknowledged that ICM is not a universal concept that can be applied in every country. Rather, it is a flexible framework that can be adapted to suit the specific conditions of each country.

2. National Legal Norms and Local Community Participation for Coral Reef Sustainability in the Derawan Islands

In addition to international approaches to the protection of coral reefs, the form of legal protection in each country against the management and conservation of coral reefs is the formation of legislation. This paper will discuss some legislation that can be used as a legal umbrella for the

⁵⁹ Jan Kooiman et al, *Fish for life: interactive governance for fisheries* (Amsterdam: Amsterdam University Press, 2021).

protection and preservation of coral reefs, including in the Derawan Islands.

Legal protection is a concept that can be understood in two different ways: firstly, as protection that is provided through legal mechanisms; and secondly, as protection that relies on legal institutions and means. The implementation of legal protection can be achieved through a number of methods, including:⁶⁰

1. Establishment of regulations
2. Enforcement of the law

The focus of this article is an examination of the legal regulations that can serve as a legal umbrella for the protection of coral reefs.

In addition to the enactment of legislation and the formulation of regulatory frameworks, Indonesia has also assumed a role as a participant in a number of international agreements pertaining to environmental protection. Indonesia's dedication to marine environmental conservation is evidenced by its commitment to the UNCLOS 1982. The Indonesian government ratified the Convention through the enactment of Law Number 17 of 1982. Subsequently, Indonesia has been obliged to ensure the

sustainability of marine biodiversity, including coral reefs.

An international agreement that has also obliged Indonesia to protect the biodiversity of coral reefs is the United Nations Convention on Biological Diversity (CBD) 1992. Indonesia has formally adopted the CBD through the enactment of Law Number 5 of 1994. Subsequently, Indonesia also ratified the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) through Presidential Decree Number 43 of 1978. Furthermore, Indonesia ratified the results of the CITES amendment through Presidential Decree Number 1 of 1987, which concerned the ratification of the 1979 Amendment to the Convention on International Trade in Endangered Species of Wild Flora and Fauna 1973. The convention provides guidance to countries on the prevention of trade in natural resources that are facing sustainability challenges. The Indonesian government is one of 193 countries that have consented to the global development agenda, which is otherwise known as the Sustainable Development Goals (SDGs). It is imperative that the quality of the environment and its ecosystems be maintained and preserved. In light of these international legal and policy

⁶⁰ Wahyu Sasongko, *Ketentuan-Ketentuan Pokok Hukum Perlindungan Konsumen* (Bandar Lampung: Universitas Lampung, 2007).

commitments, Indonesia bears the responsibility to safeguard the marine environment and its associated ecosystems, with particular attention to the conservation of coral reefs.

Law No. 5 of 1990 on the Conservation of Biodiversity and its Ecosystems

Article 1, paragraph (2) of Law No. 5 of 1990 underscores the necessity for the prudent utilization of biological natural resources through effective management, with the objective of maintaining the equilibrium and sustainability of its supply, while concurrently prioritizing the enhancement of its quality and value.⁶¹ Article 1, paragraph (2) provides a general description of the act of conservation of biological resources. Coral reefs, which are an extensive ecosystem in Indonesia, must be maintained for their sustainability and diversity. This is because they serve as a life support system for other marine biological resources. Article 4 underscores the government's and the community's shared responsibility for the conservation of living natural resources. It is imperative that the community be included in all state-level efforts to develop policies pertaining to the

⁶¹ *Undang-Undang, Konservasi Keanekaragaman hayati dan Ekosistemnya 1990.*

protection of biological resources, including those related to coral reef conservation.

The Indonesian government has taken a commendable initiative to conserve biodiversity and preserve natural ecosystems through the enactment of Law No. 5 of 1990. Indonesia was the first country in the international community to establish regulations pertaining to the sustainability of biological natural resources. The international commitment to the protection of biodiversity first emerged following the ratification of the CBD.⁶² This convention represents a global standard with regard to the diversity of natural resources.

The legislation does not include specific provisions regarding the protection of marine ecosystems and surrounding waters, including coral reef ecosystems. Therefore, this legislation is insufficient to serve as a comprehensive legal framework for the protection of coral reef ecosystems. Therefore, the interests of coral reef conservation must still be regulated through the enactment of additional legislation.

Law No. 23 Year 2014 on Local Government

⁶² *Aspan, supra note 15.*

The role of local governments in the management and conservation of the marine and fisheries sector is delineated in Law No. 23/2014 on Regional Government (UU Pemda). Article 11, paragraph (1) of the Local Government Law delineates the authority possessed by local governments, namely, mandatory government affairs and preferred government affairs. In accordance with Article 12, paragraph (2), of the Local Government Law, the environment is included among the mandatory government affairs. Meanwhile, the marine and fisheries sector is included in optional government affairs, as previously mentioned in Article 12, Paragraph (3), of the Local Government Law.

Consequently, local governments at the regional level are empowered to enact Regional Regulations (*Perda*) pertaining to sectoral matters that are tailored to the urgent interests of the region. To illustrate, Berau Regency in East Kalimantan Province, the location of the Derawan Islands, is a case in point. The majority of the area is marine, and the Regional Regulations of Berau Regency encompass the regulation of marine, coastal, and small islands. This is to ensure the sustainability of natural resources in the sea in the Derawan Islands region.

Berau Regency Regional Regulation No. 3 of 2007 concerning Fisheries

The rationale behind the establishment of this Regional Regulation is the recognition that biological natural resources and their ecosystems must be preserved and managed in a sustainable manner to ensure their long-term benefit to local communities. One of the fisheries and ecosystem management efforts that can be carried out is through the establishment of Marine Protected Areas (MPAs) which include efforts for protection, preservation, and sustainable use, as stated in Article 4, paragraph (1) (d) of Berau Regency Regional Regulation Number 3 of 2007. In essence, these provisions represent an effort to implement international legal provisions at the regional level.

Article 1, paragraph (9) of this Regional Regulation elucidates that the coral reef ecosystem is an entity that must be safeguarded, as it constitutes a vital ecosystem within the marine environment. In accordance with the regional regulation, conservation efforts for the marine environment must be based on participatory principles, namely those that involve and pay attention to local communities. For over two decades,

public participation has played a pivotal role in environmental management and protection initiatives across numerous countries.⁶³ The general public is entitled to reside in an environment that is conducive to their well-being. Moreover, the general public frequently possesses superior insight into the surrounding environment, thereby enabling them to offer invaluable insights and recommendations pertaining to environmental governance.⁶⁴

This regional regulation employs a sanctions mechanism with the objective of preventing damage to the marine environment, particularly in relation to fisheries and their associated ecosystems. The utilization of destructive fishing techniques, the capture of protected fauna and flora, and other analogous activities may be classified as criminal offenses. In accordance with Article 20 of this Regional Regulation, those who perpetrate the crime in question may be subject to a maximum of six months' imprisonment or a maximum fine of fifty million rupiah.

⁶³ Christopher J Bosso, "Democracy in Practice: Public Participation in Environmental Decisions" (2003) 1:1 APSA 157–246, online: <http://www.journals.cambridge.org/abstract_S1537592703450159>.

⁶⁴ Renée A Irvin & John Stansbury, "Citizen Participation in Decision Making: Is It Worth the Effort?" (2004) 64:1 Public Administration Review 55–65, online: <<https://onlinelibrary.wiley.com/doi/10.1111/j.1540-6210.2004.00346.x>>.

Berau Regency Regional Regulation No. 16 of 2019 concerning the Protection of Sharks, Manta Rays, Certain Types of Fish and Coral Reefs

The Regional Government of Berau Regency demonstrates its commitment to the conservation of coral reefs by enacting Regional Regulation no. 16 of 2019 concerning the Protection of Sharks, Manta Rays, Selective Types of Fish, and Coral Reefs. In accordance with Article 2, the objective of this Regional Regulation is to ensure the preservation and protection of sharks, manta rays, specific fish species, and coral reefs as a preventive measure against the potential degradation or even extinction of these resources due to irresponsible activities at sea. The species of coral reefs that are protected under the auspices of this Regional Regulation can be found in Article 9 of this Regional Regulation.

In order to ensure the long-term resilience of coral reefs, the Regional Government of Berau Regency has enacted a prohibition, as set forth in Article 14 of Regional Regulation No. 16 of 2019, against the exploitation of fish species using materials and tools that have the potential to exert a detrimental impact on marine ecosystems. These prohibited

materials and tools include, but are not limited to, poisons and explosives. In addition, Article 15 of this regional regulation also contains provisions regarding the prohibition on the use of tools that can damage marine ecosystems, such as trawls, cantrang nets, muroami nets, and compressors. The utilisation of destructive fishing techniques has the potential to jeopardise the aesthetic appeal of the coral reefs in Berau Regency. It is still common practice among some fishermen to catch fish using explosives. Indeed, the Department of Fisheries and Maritime Affairs has been engaged in an active campaign to promote environmentally responsible practices in the exploitation of marine resources. This was conducted with the objective of eliminating any potential interference with the conservation of coral reefs.⁶⁵

Additionally, the regional regulation affords the community a significant role in safeguarding marine ecosystems. Article 11 of this Regional Regulation enumerates several methods through which the community may care for and protect marine biota. It is recommended that each village establish a marine and fisheries

resource guard group. Furthermore, the community may participate in the formulation of management and supervision policies for conservation areas and marine ecosystem protection.

The management concept adopted in Indonesia, particularly in the Derawan Islands, is ICM when analyzed through the lens of the aforementioned legal instruments. However, marine ecosystems, such as coral reefs, remain vulnerable to further damage.

Furthermore, despite the long-standing implementation of ICM practices globally, the health of coastal ecosystems persists in its decline, thereby necessitating the prioritization of sustainability as a primary objective.⁶⁶ The implementation of ICM is contingent upon the existence of an enabling environment that supports integration and coordination, participatory management, the formulation of relevant policies and legislation, the establishment of appropriate institutional arrangements, and a long-term commitment to the process. It has been proposed that a continuous evaluation and adaptation process is essential, utilizing a system of indicators. However, the implementation

⁶⁵ Abelda Gunawan, "Bom Ikan Ancam Keindahan Bawah Laut Berau", (2019), online: *Liputan6* <<https://www.liputan6.com/regional/read/4071193/bom-ikan-ancam-keindahan-bawah-laut-berau>>.

⁶⁶ Satumanpan, Chuenpagdee, & Department of Geography, Memorial University of Newfoundland, St. John's, Newfoundland and Labrador, Canada, *supra* note 58.

of this process is not without challenges, due to the diverse nature of coastal ecosystems.⁶⁷

In addition, a review of the aforementioned legislation reveals that the Derawan Islands have established a framework for community involvement in the management and protection of coastal and marine ecosystems, including coral reefs. This is in accordance with the direction of several international laws, for example the United Nations Declaration (UND) on the Rights of Indigenous People. The UND states that respect for the knowledge, culture, and practices of indigenous peoples contributes to sustainable and equitable development and appropriate environmental management. Additionally, the preamble to the Convention on Biological Diversity (CBD) recognizes the significant role that traditional knowledge plays in the conservation and sustainable utilization of biodiversity. It also underscores the necessity to ensure the fair distribution of benefits derived from the utilization of

traditional knowledge.⁶⁸ In recent decades, a novel approach to governance, termed “collaborative governance,” has emerged. This mode of governance involves the integration of diverse stakeholders in a collaborative forum with public bodies, facilitating consensus-oriented decision-making processes.⁶⁹ It is therefore believed that the active involvement of the community in the protection of the coral reefs in the Derawan Islands will facilitate the realisation of sustainable and fair coastal development.

Nevertheless, this research remains confined to the conceptual and normative levels, thereby precluding an evaluation of the efficacy of the concepts and norms under examination in the field. Accordingly, further research must be conducted using empirical methods to ascertain the efficacy of the concepts and rules examined in this article in alignment with the factual circumstances within the

⁶⁷ SL Eger et al, “A systematic review of integrated coastal and marine management progress reveals core governance characteristics for successful implementation” (2021) 132 *Marine Policy* 104688, online: <<https://linkinghub.elsevier.com/retrieve/pii/S0308597X21002992>>.

⁶⁸ Marjo Vierros, “Communities and blue carbon: the role of traditional management systems in providing benefits for carbon storage, biodiversity conservation and livelihoods” (2017) 140:1 *Climatic Change* 89–100, online: <<http://link.springer.com/10.1007/s10584-013-0920-3>>.

⁶⁹ Chris Ansell & Alison Gash, “Collaborative Governance in Theory and Practice” (2008) 18:4 *Journal of Public Administration Research and Theory* 543–571, online: <<https://academic.oup.com/jpart/article/18/4/543/1090370>>.

field.

Conclusion

The legal framework for initiatives aimed at safeguarding coral reef ecosystems has been shaped by a multitude of legal instruments at the global, national, and local or regional levels. Berau Regency, which has the second highest diversity of coral reefs in Indonesia, employs a legal approach to encourage local governments to strive to maintain the sustainability of these ecosystems. Consequently, Berau Regency has implemented two regional regulations with the objective of ensuring the protection of coral reefs. These are Berau Regency Regional Regulation No. 3 of 2007 concerning Fisheries and Berau Regency Regional Regulation No. 16 of 2019 concerning the Protection of Sharks, Manta Rays, Certain Types of Fish and Coral Reefs. In addition to regional regulations, there are several laws that can serve as a legal foundation for the protection of coral reefs. The protection of coral reefs in the Derawan Islands is based on the principles of integrated coastal management (ICM), which ensures the active involvement of local communities. Nevertheless, further research is required to assess the efficacy of the legal norms that have been adopted.

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