Legal Analysis of Compensation for Marine Pollution in Bintan

Lia Nuraiani[1)], Ayu Efritadewi[2)], Irwandi Syahputra[3)]

{ lianuraini@umrah.ac.id[1] ,ayuefritadewi@umrah.ac.id[2] , irwandisyahputra@umrah.ac.id[3]}

Faculty of Social and Political Sciences, Raja Ali Haji University Tanjungpinang, Indonesia[1,2,3]

Abstract. Bintan is one of the largest islands in the Riau Archipelago, and the beauty of the sea is very famous, even in the Bintan region many resorts have been built as famous tourist destinations. Bintan's land area is 2.21%, this only means that 97.79% is marine area. Local people also use Bintan's marine area to catch fish and other marine resources either for daily consumption or for sale. Bintan's location is also very strategic because of direct contact with the South China Sea and Singapore, but problems arise, namely marine pollution due to oil spills (oil spills) continuously, so there is a need for an assessment to see material and immaterial compensation caused by marine pollution of Bintan. This study examines how the legal analysis of compensation caused by the sea in the Bintan region. This study uses qualitative analysis with interviews with informants.

Keywords: Legal Analysis, Compensation, Marine Pollution.

1 Introduction

One of the main issues preventing the development of marine ecological civilization is marine pollution. The marine economy cannot be promoted at the expense of the marine natural environment, as General Secretary Xi Jinping has noted.[1]

Bintan is one of the regencies in the Riau Archipelago with an area of 88,038.54 Km2, but its land area is only 2.21%, 1,946.13 Km^2 while the rest is an ocean area which is 97.79% 86,092.41. The vast marine area of Bintan, it has an impact on the livelihoods of residents who are fishermen and the use of marine resources for both local governments and foreign investors. Making the Bintan Sea area an ecotourism object such as in the Lagoi area.[2] The beauty of the Bintan sea in the past 10 (ten) years has been polluted. Bintan coastal sea is polluted sludge *oil dumped by foreign ships in the Straits border waters*Malacca. After being dumped, the north monsoon brings oil to the coast of Bintan Island . Black oil waste pollutes the coast in Malang Meeting Village, Bintan Regency, precisely leading to the South China Sea. Not only destroying the underwater ecosystem but, this B3 waste also has an impact on fishermen, in addition to decreasing catches, their fishing gear is also damaged.[3]

The Riau Islands provincial government has yet to find a solution to this problem, even though it happened 10 years ago. This event is repeated every year in the northern season .The north wind season occurs because of low pressure in the southern hemisphere (BBS), so the wind blows from the northern hemisphere (BBU) to the southern hemisphere (BBS). Usually in this season there will be strong winds and high waves. The average wind speed reaches 10-30 kilometers per hour and the wave height can reach up to 2.5 meters – 5 meters. The north wind

MaCiFIC 2022, September 28-October 01, Tanjungpinang, Indonesia

DOI 10.4108/eai.28-9-2022.2328366

season on the north coast of Bintan Island generally occurs during winter, where the current movement at that time is also towards the south, so it can be concluded that in the north wind season the wind and currents move in the direction from north to south. This is what causes all the dirt or garbage floating in the north of Bintan Island to be brought ashore, especially on the north coast of Bintan Island.[4]

"Marine Pollution under Government Regulation No 19/1999 relating to marine pollution control and/or devastation where the entry or introduction of organisms, substances, energy, and/or other components into the environment marine environment due to human activities that degrade to a certain extent renders the marine environment unsuitable for quality and/or functional standards."

As a result of marine pollution that occurs in Bintan, it causes losses both in terms of the economy of the community, ecotourism actors or domestic and foreign investors as well as environmental impacts that require recovery due to marine pollution. Therefore, this study aims to analyze losses due to marine pollution in the Bintan region.

2 Research Objectives and Methodology

The aim of this study can be achieved by using a normative research method based on the statutory approach and case approach. Researching Law documents to achieve two goals, namely:

- Knowing the legal analysis of compensation due to marine pollution in the Bintan area
- Knowing the legal remedies that can be taken as an effort to return compensation due to marine pollution in Bintan

3 Literature Review

3.1 Compensation

Compensation can be filed for two reasons, either as a result of default or as a result of a breach of the law. Indemnification for default is a form of compensation for a debtor who fails to fulfill the contents agreed upon between the creditor and the debtor. Compensation for default is specified in "Book III of the Civil Code from Article 1243 to Article 1252", while compensation for illegal acts is a form of compensation applicable to the at-fault person causing damage to other parties.[5]

"According to Civil Code Article 1365,If an illegal act (an onrechtmatige daad) causes harm to another person, that person is responsible for compensating the victim.the fact that something happens;b. Violations of the law;c. The perpetrator is responsible for the crime ; d. The victim suffers a loss ; e. There is a link between what you do and what you lose."

Violation of the Law :The definition of an illegal act has grown since the Hoge Raad Decision of January 31, 1919."consisting of one of the following:1) Violation of other people's rights;2) Go against what they are legally required to do;3) Transgressions of modesty;4) Behaviors that go against common sense or are necessary for maintaining good social relationships."

One of the elements of Article 1365 of the Civil Code is the loss suffered by the aggrieved party (the plaintiff).Illegal acts can result in both material and immaterial losses, in contrast to deputy-level losses where only material losses are recorded. Articles 1371 and 1372 of the Civil Code implicitly provide regulations regarding claims for immaterial compensation in lawsuits for unlawful acts. Immaterial losses are often interpreted as intangible so it is difficult to

describe the form and measure the amount of immaterial losses. The form of immaterial losses can be in the form of losses or loss of benefits that occur in the future. The plaintiff in demanding immaterial compensation is still obliged to describe in what form the loss is, why the loss appears, details of the amount of loss and the most important thing is that the immaterial loss must be proven. Compensation due to marine pollution refers to acts against the law.

3.2 Marine Pollution

The expansion of global environmental policy over the past 25 years shows that one of the most active subfields has been the law of marine pollution. Countless regional and international conventions have been ratified, and the majority of technical regulations have appropriately focused on pollution prevention and control.[6]

This oil spill has a negative impact on sea creatures, Even birds that can swim and dive die because of his body was covered with oil. Likewise with mollusks, worms, cucumbers the sea, and the stones fell because they were covered with oil. In addition, eggs and Fish larvae on shallow shores also die from oil pollution. As Oil spills into coastal areas have caused Mangroves are damaged.[7]

As required by Law No.Article 1 Number 32 of 2009, Environmental Management and Protection and Management, Article 1 No. 4 reads: “The introduction of living organisms, substances, energy, or components into the environment is known as environmental pollution.into the environment in such a way that they exceed the known quality of the environmentIn this sense, marine pollution is any substance or energy that humans either directly or indirectly introduce into the sea that is harmful to humans, prevents marine activities, lowers the quality of the sea's water, and destroys marine and coastal ecosystems.”[8]

An examination of the pollution caused by microplastics in the ecosystem of the islets in Bintan Regency, Riau Islands province, Indonesia, revealed that the average quantity of microplastics floating from 11 coastal stations around Bintan Island was 122.8 67.8 pieces per station or 0.45 pieces per m3 station. Polyethylene (PE),low-density PE (17.6 5.5%), and oxidized LDPE (Polymer identification by using Infrared Total Reduction-Fourier) were all successfully identified using ATR-FTIR in another study by Syakti et al.LDPE (22.9 percent), PS (19.5%), PP (16.6%), PET (10.4%), HDPE (9.2%), PVC (7.2 percent), PU (4.9 percent), polyester (4.7 percent), polyamide (4.3 percent), and styrene/butadiene (0.3 percent) were among the (macro) plastic waste that washed up on the beaches of Bintan Island.[9]

Pollution of the marine environment that occurs in Bintan waters also comes from oil spills originating from various activities of utilizing coastal and marine resources, such as; sea transportation, ports, and marine drilling, causing marine ecosystems to be polluted and their functions threatened. The main source of marine pollution in the waters of Bintan is not only sourced from the waters of Bintan, but also from outside the waters of Bintan, such as; waters of Singapore and Malaysia. The results of the study prove that pollution occurs on the coast and small islands in the study area. The results of the study identified the presence of oil spills in the form of tar attached to rocks, sand, cages, nets, and fishing gear. From the trajectory analysis carried out, it can be seen that areas that are prone to the impact of oil spills are the waters east of Bintan Island such as; Sand Grounded Island, Mangrove Grounded Island. Nikoi Island, Mapur Island, and small islands around the area. In addition to the direction of the spread of the oil spill that occurs, which is predicted by the trajectory of the distribution of the oil spill with the approach of wind patterns, sea surface currents and waves, it is also very important to know the level of oil pollution that occurs. The volume of the spill and the physical evidence of the presence of an oil spill in the form of the discovery of tar (oil layer) on rocks, corals, and mangrove trees, indicate that the volume of spills and the frequency of spills occurred in the

waters of Bintan. Mapur Island, and small islands around the area. In addition to the direction of the spread of the oil spill that occurs, which is predicted by the trajectory of the distribution of the oil spill with the approach of wind patterns, sea surface currents and waves, it is also very important to know the level of oil pollution that occurs. The volume of the spill and the physical evidence of the presence of an oil spill in the form of the discovery of tar (oil layer) on rocks, corals, and mangrove trees, indicate that the volume of spills and the frequency of spills occurred in the waters of Bintan. Mapur Island, and small islands around the area. In addition to the direction of the spread of the oil spill that occurs, which is predicted by the trajectory of the distribution of the oil spill with the approach of wind patterns, sea surface currents and waves, it is also very important to know the level of oil pollution that occurs. The volume of the spill and the physical evidence of the presence of an oil spill in the form of the discovery of tar (oil layer) on rocks, corals, and mangrove trees, indicate that the volume of spills and the frequency of spills occurred in the waters of Bintan. It is also very important to know the level of oil pollution that occurs. The volume of the spill and the physical evidence of the presence of an oil spill in the form of the discovery of tar (oil layer) on rocks, corals, and mangrove trees, indicate that the volume of spills and the frequency of spills occurred in the waters of Bintan. It is also very important to know the level of oil pollution that occurs. The volume of the spill and the physical evidence of the presence of an oil spill in the form of the discovery of tar (oil layer) on rocks, corals, and mangrove trees, indicate that the volume of spills and the frequency of spills occurred in the waters of Bintan.[8]

4 Case Studies

4.1 Legal Analysis of Compensation caused by Marine Pollution

Based on the results of interviews with the Office of Environment and Forestry of the Province of Riau Islands, it is found that marine pollution in Bintan always occurs every year during the North monsoon (early season: January- April, and year-end: October-December). The Table 1 for the Bintan area where marine pollution occurs annually is as follows:

Tabel 1. the Bintan area where marine pollution occurs annually

No.	Bintan Utara
1.	Bintan Pesisir Pantai Sakera
2.	Lagoi
3	Berakit

No.	West Binta Region
1.	Trikora Beach
2.	Teluk dalam
3.	Teluk Bakau
4.	Mapur Island

5.	Cempedak Island
6.	Nikoi Island

Source: DLHK Riau Islands

Figure 1. a satellite map of the Bintan area where marine pollution occurs:

Figure 2. Bintan marine pollution based on data from the DLHK of the Riau Islands Province, Indonesia

Based on the results of interviews with DLHK of the province of Riau Islands, the type of marine pollution occurring in Bintan waters is a black oil spill. This, of course, can cost the community and tourism businesses in the Bintan region. When pollution cannot be prevented, it is essential that polluters be held accountable for any loss or damage they cause. polluted. [10] The 1969 International Convention on Civil Liability for Oil Pollution Damage (CLC, 69) was established to make it easier to compensate those who suffered oil pollution damage from ship. From the distribution of pollution in Bintan, it can be seen that the polluted sea is the sea used as a busy traffic lane and is close to neighboring countries such as Singapore. Pollution of the

Bintan Sea also comes from the irresponsibility of foreign ships pouring oil into the Bintan Sea area.

The international regime consists of two sets of co-existing international conventions, namely the CLC Fund Conventions and the IOPC Fund Conventions. Both of these conventions' objectives are to compensate the victims of oil pollution damage caused by tankers in the respective contracting states through a tiered or layered system, whereby the liability of the polluting vessel is supplemented by additional compensation available from a fund, which is financed by oil cargo receivers in contracting states.

The CLC Fund Conventions and the IOPC Fund Conventions are two sets of international conventions that coexist in the international regime.Through a tiered or layered system, both of these conventions aim to compensate victims of oil pollution damage caused by tankers in the contracting states. The liability of the polluting vessel is increased by additional compensation from a fund that is funded by oil cargo receivers in contracting states.See the comparison to China in this case.

The shipowner loses the right to limit his liability if it is established that the pollution damage was caused by an individual act or omission done with the intention of causing such damage or recklessly and with knowledge that such damage would likely occur.Oil pollution victims in a State Party to the 1992 Fund Convention who do not receive full compensation under the 1992 Civil Liability Convention for one of the following reasons are eligible for compensation from the 1992 Fund:3a) because the shipowner is able to use one of the exemptions in this Convention, the shipowner is exempt from liability under the Civil Liability Convention of 1992;or (3b) the shipowner does not have enough money to fulfill all of his obligations under the Civil Liability Convention of 1992 and does not have enough insurance to pay for pollution damage claims;or (3c) the shipowner's liability under the Civil Liability Convention of 1992 is exceeded by the damage.Before November 1, 2003, the 1992 fund had a maximum payout of 135 million SDR, including the amount paid by the shipowner or his insurer.The limit was raised to 203 million SDR on November 1, 2003, and it applies to incidents that occurred after that date.On March 3, 2005, an International Oil Pollution Compensation Supplementary Fund was established to supplement the 1992 Fund Convention's compensation.[11]

In principle, compensation related to environmental pollution and its damage (especially at sea) provides a sense of fairness and security to potential victims involved when pollution occurs. and damage occurs, the perpetrator is held accountable by not questioning whether there is an element of fault on the part of the polluter, so this principle is in the context of protection. evidence of the consequences or effects of loss from activities at sea.[12]

The damage that "actors" in the tourism industry must endure as a result of oil pollution is determined by factoring in compensable damage, which is damage that can be made up. calculation using the income-based approach All profit components are valued based on current market pricing.[13]

Details regarding the amount of compensation due to marine pollution of Bintan can be done by calculating the economic valuation as an examplethe results of the analysis of consumer surplus before being polluted for capturing fisheries resources of Rp. 5,498.70 per kilogram with an economic value of Rp. 7,852.79 per kilogram. However, following exposure to pollution as a result of the oil spill, the value of consumer surplus decreased to Rp. 5,205.64 per kilogram with an economic value of Rp. 7,434.26 per kilogram. Thus, the difference in the economic value of resources based on the surplus of captured fisheries consumers in Bintan waters is Rp.3.703.902.608.70 per year. In other words, due to pollution, the economic value of lost resources is 3.7 billion per year. This value is estimated from catch fishery activities with 3 main

fishing gear, namely, traps, nets, and fishing rods.[14] So detailed data is obtained regarding the number of claims for compensation for marine pollution cases in Bintan.

Economic valuation of environmental impact is a process of quantifying and assigning a value (valuation) to economic impact to environmental impact after the first is determined. Valuation Economics is needed in an effort to show that environmental aspects are not an obstacle to growth but with significant long-term potential. So Efforts to approach environmental values should be made to remind decision-makers about the magnitude of the impact arising from an activity on Environment.[15]

4.2. Legal Measures That Can Be Taken As An Attempt To Recover Compensation For Marine Pollution In Bintan

In lawsuits for illegal acts, the Civil Code's Articles 1371 and 1372 implicitly establish guidelines for claims for immaterial compensation. Because immaterial losses are frequently interpreted as intangible, it is challenging to describe their form and quantify their magnitude. Immaterial losses can take the form of future losses or benefits that are no longer available. When a plaintiff asks for immaterial compensation, they still have to explain what the loss is, why it appears, and how much it is. Most importantly, they have to show that the loss is immaterial. The jurisprudence of the Supreme Court of the Republic of Indonesia, Number 588 K/Sip/1983, dated May 28, 1984, which, among other things, reads: Details of the loss in whatever form the claim is based must accompany every claim for compensation. The claim for compensation must be rejected because it lacks these specifics because is unclear or imperfect.[5]

"Referring to the Decision 26/PDT.G/2009/PN.TPI dated 6 May 2010 — Aswardi (plaintiff) VS. PT. Regarding marine pollution, Cahaya Bintan Abadi (defendant) issued the following decision:

1. partially granted the claim of the plaintiff.
2. declaring that the defendants have engaged in illegal activity.
3. declaring the plaintiff's legitimacy as a class member representing the Senggarang, Kel, coastal fishing community.Kec, Senggarang Due to the mining and stockpiling of docks carried out by Defendants I, II, and 4, Tanjung Pinang City, Tanjung Pinang City, Riau Islands Province is a victim of marine environmental pollution.
4. claiming that Defendant I, Defendant II, and Defendant III's bauxite mining and port construction for docks that had been stockpiled or stockpiled on the edge of the pier tainted the seawater, killed fish, and destroyed marine habitats where Plaintiffs I and Plaintiffs lived their livelihoods were illegal.
5. To assert that polluting the sea is an illegal act because the construction of docks and/or ports by defendants II and III does not fulfill the function of environmental supervision.
6. To declare that the actions of Defendant I, Defendant II, and Defendant III, who failed to take preventative measures, caused the flow of hazardous and toxic marine waste to pollute sea water and damage the environment, resulting in the death of fish in the places where Plaintiff I and Plaintiff II earned their livelihoods. Both Plaintiff I and Plaintiff II are harmed by the law, which is material and immaterial.
7. To declare that Defendant IV, Defendant V, and Defendant VI have violated the law by failing to carry out their responsibilities as agencies that are required to provide technical guidance on the implementation of environmental management and monitoring as part of the permit, as

stipulated in Article 28 of Government Regulation Number 27 of 1999.

8. describing the actions of defendants IV, V, and VI, who failed to perform their responsibilities under Article 63 (3) of Law no.Article 32 of Government Regulation No. 32 of 200927 of 1999, which caused the plaintiffs to lose money, was illegal.
9. imposing a sentence and directing Defendant I, Defendant II, and Defendant III to pay immediate cash and direct compensation to Plaintiffs I and II in the form of: Material Detriments: I. A representative for Class I: Rp.2.880.000.000,- (two billion eighty million rupiahs) II Representative of Class II: Rp 2.880.000.000, - (two billion eight hundred and eighty million rupiahs) in addition to Rp losses that are not significant.5,000,000,000, -, or five billion rupiah, making the total Rp.2.880.000.000,-+ Rp.2.880.000.000,- + Rp.5,000,000,000,- = Rp.Ten billion seven hundred and sixty million rupiahs, or 10,760,000,000,-
10. Ordered the settlement of the compensation dispute between Plaintiff I and Plaintiff II via a nine-member compensation payment commission consisting of three representatives from each class representative (plaintiffs), one representative each from Defendant I, Defendant II, Defendant III, Defendant IV, Defendant V, and Defendant VI, with the compensation distribution mechanism determined by the Compensation Payment Commission.
11. denying the remainder of the plaintiff's claim. Rejecting the Counterclaim Plaintiff/Defendant II of the Defense in its entirety in RECONPENSION.IN THE CONPENSION AND RECONPENSATION-Burning Defendants I, II, III, IV, V, and VI, as well as Plaintiff for Compensation/Defendant II. In this instance, contributions are jointly and severally responsible for paying Rp for all costs.966,000,- (Nine hundred sixty-six thousand rupiah).

This provides an opportunity for the people of Bintan to file lawsuits through litigation against those who have polluted the sea in Bintan, by filing a class action lawsuit, opening up space forit is clearer to the public to fulfill compensation due to pollution of the Bintan sea. “Based on Article 87 of UUPLH No. 32 of 2009 which reads:Every person in charge of a business and/or activity who commits an unlawful act in the form of environmental pollution and/or destruction that causes harm to other people or the environment is obliged to pay compensation and/or take certain actions.” By using the theory of absolute liability to the perpetrators, which obliges the burden of proof on the party who carried out the pollution,the element of error does not need to be proven by the plaintiff as the basis for payment of compensation. The provisions of this paragraph are lex specialis in lawsuits regarding unlawful acts in general. The amount of compensation that can be charged to polluters or environmental destroyers according to this Article can be determined to a certain extent. Business actors who cause environmental pollution and/or damage cannot release their responsibilities. As in the case on August 21, 2009 the Montara oil well sourced from the Montara Field The Montara Well Head Platform in the West Atlas Block of the Timor Sea in Australian waters leaked and spilled light crude oil. There was an incident that caused marine pollution that had an impact on the Indonesian sea area, precisely in the Timor Sea. With this incident, the company is required to resolve this issue with the aggrieved party. In this case, the party that was harmed was the state of Indonesia, because the distribution of the spilled oil as a result of the explosion had entered the Indonesian Exclusive Economic Zone.

The provisions regulated in the 1982 Law of the Sea Convention related to the settlement of cross-border pollution cases between Indonesia and Australia, among others, are that the Law of the Sea regulates more about the "Responsibility of Each State". Although UNCLOS has regulated the rights and obligations of each country in managing the biological wealth in the sea, there are still obstacles faced in the implementation of UNCLOS in the problems that occur between Indonesia and Australia. One of them is that the determination of compensation from

a material point of view is not clearly regulated in UNCLOS. However, UNCLOS regulates more than "obligations" for compensation in other words accountability.[16]

The form of responsibility of the Australian state for the occurrence of pollution of the Timor sea due to the montara oil spill is an absolute or absolute responsibility because the Australian state has given permission to the company to drill in its country's EEZ area. As stated in UNCLOS article 139, namely, a country that causes losses to other countries due to its activities, must be subject to compensation for the impacts that harm the country.

Settlement of maritime pollution disputes, if carried out by other countries on the Bintan sea, considering its geographical location is close to other countries. The dispute resolution used by the parties in this case is a peaceful dispute resolution. There are several ways that can be done in peaceful dispute resolution including negotiation, goodwill, mediation, fact finding, conciliation, settlement through the United Nations and settlement through regional organizations.

The aim of mediation for out-of-court settlement is to swiftly and effectively defend the parties' civil rights. This demonstrates that litigating a matter typically results in a lengthy process and high expenditures. This is due to the fact that the conflict resolution process is drawn up, court costs are high, and courts are thought to be less competent at handling cases. As a result, decisions frequently fail to address issues and amass cases. Unresolved at the Supreme Court level.[17]

Environmental disputes are resolved outside of court in order to agree on the nature and scope of compensation as well as on specific activities that will be taken to prevent harmful environmental effects from happening again. adverse effects on the environment Environmental dispute settlement outside of court may. These efforts are aimed at creating international relations better based on the principle of peace and international security.[18]

Institutional Bintan Marine Pollution through the Riau Islands DLHK also seeks to prevent and remediate marine pollution in Bintan, namely:

- one. In 2014, the Riau Islands DLHK conducted data collection on mangrove communities and deep bays to provide compensation for fishing gear affected by oil waste. In the same year, the Riau Islands DLHK Company provided compensation to those entitled to it.
- In 2018, the Riau Islands DLHK established an Oil Spill Response Team in the Riau Islands Sea, consisting of vertical agencies, related agencies, communities, and NGOs.
- In 2018, DLHK of the Riau Islands performed mutual assistance in cleaning up sakera beach, in North Bintan, and carried out the transport and disposal of 55 drums of black oil waste.
- In 2020, Riau Islands DLHK collected black oil waste in Trikora (Mutiara Resort and Madu Tiga), and provided packing assistance.
- In 2020, the Riau Islands DLHK, together with the Riau Islands Oil Spill Response Team, conducted a 30-day Joint Sea Patrol (Bintan waters).
- In 2021, the Riau Islands DLHK, together with the Riau Islands Oil Spill Response Team, conducted a 7-day Joint Sea Patrol (Bintan waters)
- In 2021, DLHK Riau Islands will transport and dispose of 130 drums of black oil waste in Trikora and Lagoi.
- The Riau Islands DLHK coordinates and monitors oil spills at sea through satellite imagery with the support of Lapan and BROL.

5 Conclusions

The analysis of compensation due to sea pollution in the Bintan region can be calculated based on the economic valuation that has an impact on the community and ecotourism actors who utilize the Bintan marine area. If there is marine pollution in the Bintan area, the community

can file a lawsuit through litigation to the party who polluted the sea in Bintan, by filing a class action lawsuit opening a clearer space for the community to fulfill compensation due to marine pollution in Bintan. By using the theory of absolute liability to the perpetrators, which obliges the burden of proof on the party who carried out the pollution,the element of error does not need to be proven by the plaintiff as the basis for payment of compensation.Settlement of marine pollution disputes if carried out by other countries on the Bintan sea considering its geographical location is close to other countries, then non-litigation efforts can be taken.

Recommendations related to the problem are to disseminate information to the public and business actors about legal remedies that can be taken if they experience losses due to marine pollution and to local governments providing legal assistance to communities affected by marine pollution in providing legal assistance both through litigation and non-litigation channels.

References

[1] Yang Y, Chen L and Xue L 2021 Looking for a Chinese solution to global problems: The situation and countermeasures of marine plastic waste and microplastics pollution governance system in China *Chinese J. Popul. Resour. Environ.* **19** 352–7

[2] Diskominfo Kabupaten Bintan 2022 Geografis Kabupaten Bintan *Pemerintah Drh. Kabupaten Bintan*

[3] Eka Y S 2022 Sudah 10 Tahun, Limbah Minyak Hitam Cemari Laut Bintan *Mongabay Situs Ber. Lingkung.*

[4] Negara G S 2020 Dampak Linkungan Terhadap Pencemaran Laut Di Pesisir Utara Pulau Bintan Selama Musim Angin Utara *J. Sains Dan Teknol. Marit.* **20** 137

[5] Adiastuti H H dan A 2017 Mekanisme Penentuan Ganti Kerugian terhadap Kerusakan Lingkungan Hidup *J. Huk. Acara Perdata ADHAPER* **3**

[6] Kbaier R and Sebek V 1985 New trends in compensation for oil pollution damage *Mar. Policy* **9** 269–79

[7] Hasyim S 2021 Ratifikasi Perjanjian Internasional Tentang Tanggung Jawab Perdata Pencemaran Minyak Di Laut *Toddopuli Law Rev.* **1** 84–90

[8] James J.H. Paulus dkk 2020 *Buku Ajar Pencemaran Laut* (Yogyakarta: DEEPUBLISH)

[9] Prof. Dr. Agung Dhamar Syakti, S. Pi D 2020 *Ijma Laut Kala Cerubuk*

[10] Sabela-Rikhotso P T Z, van Niekerk D and Nemakonde L D 2021 A critical analysis of the legal frameworks governing oil spill management in South Africa *Mar. Policy* **127** 104433

[11] Ching R H F and Yip T L 2022 Marine insurance claims analysis using the Weibull and log-normal models: Compensation for oil spill pollution due to tanker accidents *Marit. Transp. Res.* **3** 100056

[12] Fikri Latukau S A U 2021 Penerapan Prinsip Strict Liability dalam Hukum Lingkungan Internasional dan Nasional Terkait Lingkungan Laut *J. Ilmu Huk. Kyadiren* **3** 47

[13] Gatot Yulianto, Mashar A, Wisudo S H, Handayani L D W, Nur I A, Supardi H, Nur A, Amalo L F, Putra M D, Wardiatno Y and Effendi H 2021 Pengembangan metode penilaian ganti rugi usaha pariwisata bahari akibat insiden pencemaran minyak di laut *J. Pengelolaan Sumberd. Alam dan Lingkung. (Journal Nat. Resour. Environ. Manag.* **11** 221–32

[14] Mujahidawati 2018 Kajian sumberdaya pesisir dan laut akibat pencemaran di perairan kecamatan gunung kijang kabupaten bintan 127

[15] Mauludiyah and Mukhtasor 2017 Perhitungan Skala Biaya Kerugian Akibat Tumpahan Minyak: Relevansinya untuk Perairan Indonesia

[16] Anis H and Sinaga T B 2021 PERTANGGUNGJAWABAN ATAS PENGRUSAKAN DAN PENCEMARAN LINGKUNGAN LAUT DI LINTAS BATAS NEGARA MENURUT INSTRUMEN HUKUM INTERNASIONAL **IX** 38–45

[17] Sawitri H W and Bintoro R W 2010 Sengketa Lingkungan Dan Penyelesaiannya *J. Din. Huk.* **10** 163–74

[18] Astiti M, Mangku D G S and Ratna A W 2019 MONTARA ANTARA INDONESIA DAN AUSTRALIA e-Journal Komunitas Yustisia Universitas Pendidikan Ganesha *J. Ilmu Huk.* **2** 11–21