Compensation for Oil Pollution Due to Tanker Accidents in the Indonesian Legal System in a Justice Value Perspective

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Abstract: The sea potentially fulfills the interests of sea transportation; for example, the transportation of tankers. The Indonesian sea is included in the seas with the dense traffic of tankers causing the risk of oil pollution due to tanker accidents. For example, the three cases of oil contamination caused by tanker accidents occurred in the Cilacap Sea which is the largest oil refinery in Indonesia. This study aimed to find the value of justice for oil pollution losses due to tanker accidents considering that Indonesia has ratified the international convention of the civil liability of oil spill by tanker, *Convention on Civil Liability* 1969, and its amendment of *Convention on Civil Liability* 1992, along with its supplementary protocol. The international law principles (*polluter pays principle, precautionary principle,* and *strict liability*) for oil tanker losses caused by tankers have been applied to the national legal system. There were still overlapping authorities and the conflicts of authorities among the institutes in the period before 2015 before the establishment of the Coordinating Ministry of Marine Affairs. After the periodization of 2015 with the formation of the Coordinating Ministry of Marine Affairs, it is expected to resolve the loss of oil pollution as a result of tanker accidents using the right method of calculating the loss of natural resources, taking into account the willingness to pay and the willingness to accept between the insurance and victims.

Keyword: Justice, oil pollution, state responsibility, the legal system.

1. INTRODUCTION

Indonesia's sea area which reaches 3.11 million km2 makes the potential of the marine sector invaluable, especially from its marine natural resources sector (Lilley, 1999). The potential of marine wealth is so important as prioritized by Indonesia in the concept of green economy and blue economy which leads to sustainable development as conveyed by the

President of the Republic of Indonesia during his remarks at the Rio + 20 Conference (United Nations Conference on Sustainable Development) in Rio de Janeiro, Brazil on 20-22 June 2012.

The marine environment is part of a country's economy (Albert Gore, 1995). With a coastline of approximately 95,181 km, Indonesian waters have high potential. This measure is second only to Canada as a country that has the second-longest coastline in the world. The economic value of the sea is estimated at the US $ 3 trillion - the US $ 5 trillion or equivalent to Rp. 36,000 trillion - Rp. 60,000 trillion per year (Media Finance, 2015). This figure does not include other potentials that come from the wealth of biotechnology, marine tourism, and marine transportation development. Indonesia's huge maritime potential is captured as one of the flagship visions and missions of President Jokowi's current administration. Apart from that, the huge economic and ecological potential that is stored as a maritime country, the potential for natural damage that can be caused by excessive exploration which can threaten the sustainability of development should also receive attention. For this reason, the government is currently promoting maritime economic policies with a blue economy model. Blue economy combines economic development and environmental preservation (Bullard, 1994).

Natural resources are used as efficiently as possible so that there is minimal / no waste. Indonesia has direct marine potential and resources such as fisheries (pelagic and demersal fish, shrimp, shellfish, seaweed). The potential of this direct marketed product (market) continues to be an increasing foreign exchange earner (Fritjof Capra, 1996). On the other hand, the indirect non-market potential of marine tourism still needs to be developed, as well as the potential for renewable energy (including ocean currents, tides, ocean waves,

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Ocean Thermal Energy Conversion), minerals on the seabed, oil, and gas. earth, shipping, maritime industry, and marine services, still potential to be developed. It is estimated that this potential reaches a value of US $ 171 billion per year, the details can be stated as follows: Fisheries: US $ 32,000,000,000/year (IPB, 1997), Coastal areas: US $ 56,000,000,000 per year (ADB 1997), Biotechnology : US $ 40,000,000,000 per year (PKSPL-IPB, 1997), Marine Tourism: US $ 2,000,000,000 per year, Petroleum: US $ 21,000,000,000 per year (ESDM 1999) and Sea transportation: US $ 20,000,000,000 per year.

Considering the very strategic role of the sea because some people rely on the sea for their livelihoods and livelihoods, the sea needs to get major attention in law enforcement, especially from the effects of ecosystem damage due to pollution (John B., 1992). Sources of marine pollution can come from: (1) pollution caused or originating from ships; (2) pollution originating from oil drilling installations; (3) sources of pollution on land; and (4) air pollution. The problem of oil pollution due to ship (tanker) accidents in Indonesia needs serious attention about the right to sue (ius standi), evidence related to scientific verification to explain causal relationships, application of the principle of compensation, coverage, and extent of environmental issues to determine the amount of compensation, and environmental restoration criteria related to the formal truth system adopted in the civil compensation prosecution system.

Claims for compensation based on the interests of the marine environment as well as the blue economy concept proclaimed by the government must, of course, be the basis for the claims of losses given by polluters to restore victims, both human victims (fishermen) and victims of the marine ecosystem, considering that several international instruments have been ratified by the system. national law regarding provisions regulating compensation for oil pollution by tankers (Coleman, Jules, 1992). Recently, in Teluk Penyu Beach, Cilacap, there was a problem of prosecuting compensation for oil contamination. On Monday, 25 May 2015, there was a huge oil spill in the Cilacap sea. On Monday, 25 May 2015, residents and fishermen were busy collecting the spilled crude oil that had contaminated the tourist area of Teluk Penyu Beach in Cilacap Regency, Central Java. The spills came from the leakage of the pipeline for the loading and unloading facilities of Pertamina Refinery Unit IV Cilacap which was damaged on Wednesday night, May 20, 2015 (Magnis Finesso, May 29, 2015).

The chairman of the Indonesian Fishermen's Association (HNSI) in Cilacap assessed that as a result of this incident, fishermen were very disadvantaged. Head of HNSI Cilacap Indon Cahyono said that the spilled oil belonging to Pertamina, apart from making fishermen unable to go to sea, also damaged nets and also polluted fishing boats. Compensation was filed because 13,900 fishermen did not go to sea, damaged nets, and dirty boats and boats. The calculation of losses is calculated by the thousands of fishermen who cannot go to sea for 15 days. The replacement of damaged nets is for 21,200 nets. Meanwhile, the cost of cleaning ships from oil is for thousands of seated, compreng, and jukung ships. This compensation claim was addressed to PT Pertamina RU IV Cilacap. A copy of the claim for compensation was sent to several parties from the President of the Republic of Indonesia, several commissions in the House of Representatives, Central Pertamina to the Cilacap Regency Government. In addition to demanding compensation, there are other demands, namely for Pertamina to clean up oil spills both at sea level and under the sea.

Claims for direct marine pollution compensation by fishermen without the participation of the state are not per the state's obligations as regulated in the constitutional basis of the 1945 Constitution, Article 33 Paragraph 3 which states that "the earth and water and the natural resources contained therein are controlled by the state. and used for the greatest prosperity of the people". Oil pollution in the Cilacap Sea leaves many problems, therefore this study seeks to examine the problem of the fair value of compensation for oil pollution due to tanker accidents that need to be studied in depth considering the function of the sea as a potential natural resource.

2. RESEARCH AIM

The purpose of this study is to analyze the compensation for oil pollution due to tanker accidents that have met the value of justice in the Indonesian legal system. This is aimed at the extent of compensation made by the company if there is oil pollution caused by a tanker accident.

3. LITERATUR REVIEW

3.1. The Theory of Justice

The theory of justice which is used to discuss the problem will begin with the theory of social justice and ecology which will then be understood as a theory of

eco-social justice as a justice that is expected to be achieved. The theory of eco-social justice in the discussion of compensation for oil pollution due to tanker accidents needs to be supported by the theory of justice from John Rawls and Aristotle.

In the Indonesian concept, justice is understood as social justice as conveyed by Soekarno in his discussion of the Indonesian State Foundation at the BPUPKI session (1 June 1945) as follows; A society or the nature of a society is just and prosperous, happy for everyone, no humiliation, no oppression, no exploitation. There is no exploitation de'homme par l'homme. Everyone is happy, has enough clothing, enough food, gemah ripah loh jinawi, kerta raharja rule (Soekarno, 2006).

Through proportional justice, humans can avoid disgraceful traits, such as greed, corruption, want to win alone, arbitrarily and cruelly (The fifth precept of social justice becomes a need for a state of "Just and civilized humanity", so the fifth principle which reads, " Social Justice for all Indonesian people ", is the final goal of the Pancasila ideology (Asmoro Achmadi, 2009).

In this understanding of justice, the social meaning means that the problem of the distribution of various resources is carried out based on the parliamentary legislative process rather than the consequences of the unfavorable political-socio-economic structure. Justice is not only enforced if all benefits are distributed equally but also if the unequal distribution has the effect of providing equal benefits for all people, as illustrated in John Rawls's statement, "Injustice, then, is simply inequalities that are not to the benefit of all ".

In this sense for Rawls social justice is no different from distributive justice, and justice should be created within the structure of society. There is a side to create a situation of social justice in society by taking into account individual rights and interests. Individuals are recognized and their existence is noticed. Starting from this opinion, we need a concept of a state that can respond and carry out a just social life. The concept that is suitable for this is the concept of a welfare state. The concept of the welfare state causes things that were previously private initiatives, are now taken over by the government, for better social justice and to prevent unemployment and create stability in the face of economic conjunctions. If we relate between the types of environmental sustainability concepts that exist with the concept of social justice, it can be said that social justice is a condition for the fulfillment of environmental sustainability (Thomas Ulen, *et al*. 2012).

Social justice seeks to have access to welfare in a social structure that can be the basis for the implementation of ecological justice. For example, if there is a social order that is socially just, then the type of ecological justice, which preserves critical natural capital for human welfare through repair, replacement, or protection, will be able to be realized (Martin ed., 2002). The relationship between social justice and ecological justice can be seen through Andrew Dobson's opinion, stating that social justice has a function to support sustainable and sustainable development. He gave an example of this functional relationship, namely when social justice overcoming the problem of poverty will have an impact on increasing environmental sustainability. So that if we pay attention, the relationship between social justice and ecological justice contains an understanding of the rights to the welfare of life (Ellen Hey, *et al*. 1996).

The linkage of justice in a state order is expected to lead to a welfare state guided by social justice which is closely related to the prosperity and welfare of the community. Of course, it cannot be separated from the meaning of ecological justice, so it is necessary to pay attention, the current generation is seen as a strong party, being generations to come as the weak. In this connection, John Rawls (offers two principles related to ecological justice, namely (Stefanie Glotzbach, (2011):

1) Each present and future person has the same indefeasible claim to a fully adequate set of essential and non-substitutable ecosystem services, which is compatible with the same set for all;

2) Inequalities in the distribution of all other ecosystem services are to be to the greatest benefit of the least-advantage members of the present and all future generations.

The two principles can be used more applicable by W. Pedersen who mentions four principles of ecological justice, namely (W. Pedersen, 2010):

(1) precautionary and prevention principles;

(2) polluter pays principle;

(3) strict liability;

(4) sustainable development principle.

The concept of development or sustainable development can fall into an economic sense. Therefore, it would be better if the principle of sustainable development was expanded into the principle of ecological sustainability so that it would also mean sustainable livelihoods.

3.2. Definition of Marine Pollution

Marine pollution according to GESAMP (Group of Experts on the Scientific Aspect of Marine Environmental Protection) is understood as: Pollution means the introduction by man, directly or indirectly, of substances or energy into the marine environment (including estuaries) resulting in such deleterious effect as harm to living resources, hazards to human health, a hindrance to marine activities including fishing, impairment of quality for use of seawater and reduction of amenities.

The United States National Oceanic and Atmospheric Administration (NOAA) in its report to the Congress on ocean dumping said, “The unfavourable alteration of the marine environment...thought the direct or indirect effect of changes in energy pattern, tradition and distribution, abundance, and quality of organisms”. The Organization for Economic Co-Operation and Development (OECD) defines marine pollution as something that is caused by humans, whether intentional or not, which affects the form of environmental damage and threats to human health and anything that can hinder marine activities including fishery activities, decreasing seawater quality and disrupting other uses of the environment (John Baylish, Steve Smith, 2005).

Two important factors in marine pollution, the first is an action taken by humans (introduction by men), whether intentional or unintentional, second is that human action causes a result in the form of damage to the environment (deleterious effect) (Ellen Hey, 1996). Furthermore, Komar Kantatmadja argues, marine pollution is a change in the marine environment that occurs as a result of the direct or indirect inclusion of materials or energy into the marine environment which results in such bad consequences that it is a loss to biological wealth, a danger to health. human, disturbance to activities at sea including fisheries, use of fair seawater, deterioration of the quality of the sea, and the deterioration of the quality of the place of settlement and recreation.

4. RESEARCH METHODS

This research is empirical normative law research (applied law research). The main point of the study is the implementation or implementation of positive legal provisions in any particular legal event that occurs in society to achieve predetermined goals. Empirical normative legal research begins with written positive legal provisions imposed on in-concrete legal events in society so that in research there are always a combination of two stages of study, namely (Abdulkadir Muhammad, 2004):

1. The first stage is a study of the applicable normative law, in this case in the form of basic principles and theories regarding compensation for oil pollution due to tanker accidents;

2. The second stage is the application of in-concrete events to achieve predetermined goals. This application can be realized through empirical research on legal cases and documents. The results of the application will create an understanding of the realization of the implementation of normative legal provisions whether it has been carried out properly or not.

Because this type of research is empirical normative legal research, the data required is secondary data and primary data. This research aims to be change-oriented (reform-oriented research) (Peter Mahmud, 2007), which is research that intensively evaluates the fulfillment of existing regulations and recommends changes to any regulations that are needed. This legal research is explanatory (explanatory legal study), which aims to test the appropriateness of the application of the theory and practice of oil pollution compensation due to tanker accidents. Explanatory truth expression is an expression of the truth of a study that aims to explain the data found in research activities.

The data in this study are interpreted as questionable variable information in the research problem. In this study, the data sources used were primary, secondary, and tertiary. Secondary data in the form of positive principles and laws regarding compensation for oil pollution by tankers are needed as the main data in this study which is used to test the application of compensation for oil pollution due to tanker accidents in Indonesia and its institutionalization in the national legal system.

The method/technique of collecting data to collect primary data in this study is by interview. The data collection tool used was in the form of an interview guide that was prepared based on the researcher's understanding of the object of research. Secondary data is obtained through a document study or literature study. Document studies are carried out on statutory regulations, documents, and court decisions as well as legal materials relating to compensation for oil pollution by tankers. Secondary data collection methods/techniques are carried out by the method of documentation, tracking literature, and legal materials while the techniques used to collect primary data are using in-depth interviews, recording and, documentation.

5. DISCUSSION

5.1. Compensation for Oil Pollution Due to Tanker Accidents in the Indonesian Legal System in a Justice Value Perspective

Article 33 of the 1945 Constitution of the Republic of Indonesia is based on people's economy. Therefore it is necessary to understand the spirit of state domination in Article 33 of the 1945 Constitution relating to Pertamina's authority as an oil business actor. This is very important for the stakeholders to understand so that the settlement of compensation for oil pollution due to tanker accidents can have the expected fairness value. Law number 22 of 2001 has reduced the functions of a company that was previously very broad (performing both regulatory and commercial functions), to a parallel (commercial function only) with other oil and gas companies (Mailinda Eka Yuniza, *et al*., 2016).

This role shows that oil companies owned by the state function as executing operators, so that as operators, Pertamina is obliged to obey regulators and market regulators, in this case, the state so that the ideal ideals of populist economic justice as the basis of Article 33 of the 1945 Constitution can be ideally fulfilled. Empirically, there is still an unfair settlement of claims for compensation due to a misunderstanding of the state oil company as a business actor. The right to control the state, Article 33 of the 1945 Constitution needs to be well understood, the right to control is not interpreted as "the state owns", but in the sense that the state only formulates policies (beleid), makes arrangements (regelendaad), administers (bestuursdaad), management (beheersdaad) and supervision (toezichthoundendaad).

Direct state responsibility is very important in implementing an ideal value that is expected to be achieved in solving oil pollution due to tanker accidents based on the value of justice. The Dictionary of Law says that the state's responsibility is "an obligation of a state to make reparation arising from a failure to comply with a legal obligation under international law." This means that the responsibility of the state is an obligation to make improvements arising from the mistakes of a country to comply with legal obligations under international law. Istanto believes that Accountability means the obligation to provide an answer which is a calculation of all the things that have happened and an obligation to provide recovery for the losses that may be caused. Every individual, group or state who commits an action that is detrimental to others can be sued and held accountable (Elizabeth A. Martin, 2002).

From this understanding, the state's responsibility is an error arising from non-compliance with international obligations, so in the case of oil pollution caused by tankers, the state must be responsible for making recovery for the losses incurred. The responsibility of the state is needed to realize the value of justice from the problem of oil pollution due to tanker accidents. To fulfill the value of justice as a form of state responsibility for the calculation and recovery of losses, an approach using an economic legal system is needed. Support is needed for economic interests through the application of legal rules as a strategy for the development of Indonesian economic law. It is necessary to also pay attention to the concept of sustainable economic law development, which carries out development no longer merely 'unloading' articles in a law. new laws or legislation, but taking into account other aspects, namely economic aspects. The value of justice like this is expected to create a democratic or kinship economic legal system (Von Schomberg (eds), *et al*. 2006).

The value of justice that is expected injustice for compensation for oil pollution due to tanker accidents in the case of exxon valdes is very valuable. This is because ecological and social justice has become the basis for solving cases. Economic calculations have become the basis for the approach to the problems faced. This benchmark is expected to be used as a measure of the ideal value of justice in Indonesia (Harald, 1994). America has adopted the understanding, everyone has an equal role in doing business, but with strict risk restrictions. Strict risk is evidenced by the obligation of business actors for civil

liability for the losses incurred (Koch, Bernhard A., 2005). The value of fairness in the Exxon Valdez benchmark is related to the application of economic analysis theory in law. This is consistent with the thought of Richard A. Posner emphasizing the principle of wealth maximization efficiency. Posner defines efficiency as the condition under which resources are allocated so that their value is maximized. In economic analysis, efficiency in this case is focused on ethical criteria in the context of making social decisions (social decision making) concerning the management of community welfare (Richard A. Posner, 1994).

Efficiency in Posner's perspective relates to increasing one's wealth without causing harm to others. In this regard, economic analysis in law like this is known as the idea of wealth maximization or in Posner's term “Kaldor-Hics” where changes in the rule of law can increase efficiency if the winning party's profits exceed the losses of the losing party and the winning party can provide compensation. losses for the losing party so that the losing party is still getting better. In this context, Posner considers one aspect of justice that includes not just distributive and corrective justice. Posner emphasizes "pareto improvement" where the purpose of legal regulation can provide valuable input for justice and social welfare (Nicholas Mercuro and Medumo, 1999).

To fulfill the fairness value in compensation for oil pollution due to tanker accidents, an approach to economic principles in the rule of law is needed (J. Tickner (eds), 1999). Economic analysis of law is a branch of the realm of legal philosophy, therefore the objectives that are expected to be fulfilled are abstract values. The expected goal is that the law is expected to achieve its ideals (ideè des recht) in the form of certainty, benefit, and justice. This goal can be achieved through other non-legal approaches. According to Postner, the role of law must be seen in terms of value, utility, and efficiency (Richard A. Postner, 1992). Economic theories that can be used to analyze the fair value of compensation for oil pollution losses due to tanker accidents, in this case, are the maximization theory, the equilibrium theory, and the efficiency theory (Hanafi, 2001).

The strategy of developing Indonesian economic law needs to pay attention to the concept of sustainable economic law development, which carries out development no longer merely 'unloading' articles in law or making new laws, but also paying attention to aspects another. The aspects referred to here cover a wide variety of dimensions, which can be summarized into three elements as follows: (1) structure, (2) substance, and (3) legal culture. There are 3 (three) factors that cause the absence of legal certainty in Indonesia, namely, first, the hierarchy of laws and regulations does not function and the regulated material overlaps, second, the apparatus is weak in implementing the rules, and third, the settlement of disputes in the field. the economy is unpredictable, hence the need for a theory of civil liability and a theory of risk transfer.

As an answer that tries to be given, apart from the need for a measure to embody an abstract value of justice, it requires the concept of civil liability for business actors through accountability based on insurance liability. Conceptually, legal responsibility (liability) is understood as a person can be subject to sanctions for his actions that are contrary or against the law. This responsibility includes the obligation to bear everything that happens (related to risks that may arise), is blamed, and sued. The risk of tanker oil contamination is a speculative risk based on the range of alternatives. Speculative risk contains two elements of hope, namely, win/gain or lose / loss.

In tanker transportation there are two risks, the possibility of profit (not paying losses) and the possibility of loss (pollution and obligation to pay). Based on this risk, Protection and Indemnity (P&I) Insurance was formed by deviating from general insurance provisions. P&I insurance is given to members or members of the P&I Club. Membership system with fees (not premiums) is the goal of P&I Club membership as a mutually beneficial association. This is different from Indonesia, which only participated in the 1969 Convention on Civil Liability (CLC) along with the 1992 Protocol amendments, while the 1971 Supplementary Fund was initially followed by Presidential Decree No. 19 of 1971 was revoked by Presidential Decree No. 41 of 1998 because it was inefficient and uneconomical.

The value of fairness that is expected concerning insurance as the main interest in an uncertain situation of important oil pollution is the priority of the state. The presence of the state is needed to ensure the implementation of the international insurance system to guarantee certainty, justice, and benefits of oil pollution due to tanker accidents. Not long ago the government tried to find a solution through the Financial Services Authority (OJK) which pushed insurance obligations for ships (in general) to the Directorate General of Sea

Transportation following the Minister of Transportation Regulation Number 71 of 2013 concerning Salvage and/or Underwater Works. So far, Indonesian ships have bought P&I insurance policies in Singapore or London, now they are obliged to buy from insurance companies in Indonesia. Also, it is also necessary to consolidate the product format and/or uniform the P&I insurance policy.

The marketing of this product will be directed through the holding of a consortium consisting of some insurance companies, so that it is more effective in monitoring and makes it easier for consumers when a claim occurs. The plan is that the financial industry regulator will collaborate with the Ministry of Transportation. OJK will invite the Indonesian General Insurance Association to coordinate including with Indonesian actors and P&I clubs to facilitate the implementation of the obligation to purchase P&I policies in Indonesia. P&I generally covers previously unrecognized harm. This is different from ship hull and cargo insurance which guarantees the risks of the object of coverage that may occur. P&I Insurance guarantees liability to third parties that are not covered by ship hull insurance.

Risks to this third party include the responsibility of the carrier to the cargo owner if it is damaged, the responsibility of the shipowner for collisions between ships, environmental pollution to shipwrecks. The government's intention to provide solutions for the expensive insurance of tankers with Indonesian flags, in difficult practice materialized, this is because the insurance system used is not based on membership as is the P&I Club so that there are problems in the capital system. This situation will of course have an impact on the compensation that the insurance company is expected to fulfill. It is time for Indonesia to be consistent with its P&I insurance obligations which are mandated by the CLC 69 Convention on Civil Liability, although with high-cost consequences. It is time for Indonesian tanker entrepreneurs to join the P&I Club membership to ensure social and corrective ecological justice as expected.

6. CONCLUSION

The principles of national law (precautionary principle, strict liability, and polluter pay principle) are following the international legal system with the ratification of the International Conventon on Civil Liability for Oil Pollution Damage 1969 along with related regulations in the national legal system. However, there are still weaknesses in the implementation of the principles, first, in the application of the polluter pays principle and precautionary principle in the form of P&I insurance obligations, for ships sailing in the country with the Indonesian flag, are allowed to use other guarantee fund insurance with the risk of civil liability and insurance liability cannot. fulfilled. Second, the principle of strict liability does not automatically become the basis for compensation claims. This is due to the civil procedural law system that applies in Indonesia. The principle of civil liability for the environment, which underlies the principle of strict liability, is still understood as shifting the burden of proof / omkering van het bewijslast and res ipsa loquitur. The plaintiff (environmental victim) even though he used the polluter pays principle, was still burdened with the obligation to prove. The principle of strict liability is not understood as a direct and immediate responsibility to pay compensation based on a business actor's insurance certificate with an agreed insurance agreement.

The fair value of compensation for oil pollution due to tanker accidents can be realized by using an economic approach. Analysis of economic theory on law needs to be used so that the value of justice can be measured properly. Economic concepts, such as the concept of maximization (maximization theory), the concept of equilibrium (equilibrium theory), and the concept of efficiency (efficiency theory) are needed to become a benchmark for the value of justice. The calculation method required for the calculation of claimable compensation is the contingent analysis method, which is a calculation method based on the assignment of a monetary value to environmental goods or commodities, the desire to pay polluters for goods and services produced by natural resources, and the environment (willingness to pay). , as well as acceptance to accept something decreasing (willingness to accept). Furthermore, through principles that have been adjusted by the national legal system, compensation can be prosecuted based on civil liability and liability insurance.

7. SUGGESTIONS

The government needs to restructure the institutions that are responsible for prosecution and the calculation of appropriate compensation to avoid a time-consuming and complicated process of calculating losses and a loss adjuster agency is needed. The Coordinating Ministry for Maritime Affairs is expected to be the coordinator, coordinating other agencies based

on a marine database and a method of calculating compensation for all existing resources. It is necessary to make a special procedural law system for environmental compensation considering the application of the precautionary principle, the polluter pays principle, and strict liability in the case of tanker oil pollution which has special characteristics given the civil liability and liability for P&I insurance. A loss adjuster agency is needed in the prevention and control team of oil pollution due to tanker accidents during the period after the Ministry of Maritime Affairs was formed, to facilitate the calculation of losses in the event of pollution.

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