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The Role of Environmental Insurance as the Prevention Effort of Environmental Pollution

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ABSTRACT

Various efforts have been developed to reduce the environmental pollution, such as the approach of policy, company management, and social support. In the level of policy, there is a corporate social responsibility as formulated in Law Number 40 of 2007 on Limited Company besides the system of environmental impact analysis (AMDAL) as regulated in Law Number 32 of 2009 on Environmental Protection and Management. In the level of law enforcement, the principle of strict liability demanding the doers give an impact on the environment showing that they are not responsible for the reverse verification system as the intended efforts. In the level of company management, the introduction of ISO 14000 as the management system that places the environment as the basis for its implementation is another approach attempting to reduce the level of environmental pollution. However, the level of environmental pollution is not decreased significantly. The concept of environmental insurance implementation is the effective way to reduce the environmental pollution.

Keywords: Approach, Environmental Damage, Environmental Insurance, Environmental Pollution, Environmental Protection and Management.

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1. Introduction

Environmental damage has now reached a terrible stage, although Rachel Carson in her book “*Silent Spring*” in 1962 finally revealed the awareness of the development impact on the environment that can threaten the ecosystem and human's life. This book became the trigger of the world to pay attention to the environment that delivered the first UN Conference on Environment in 1972. Since then, an evaluation of the environmental damage caused by human activities has been regularly conducted, and the results show that environmental damage remains happening both sporadically and systematically to this day (Soemartono, 1996: 37).

Several instruments have been developed to resolve the environmental damage, including the policy, management, tools, facilities, and infrastructure. Among those policies, there is a law that

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should be obeyed; Environmental Impact Analysis (henceforth called as AMDAL) as formulated in Law Number 32 of 2009 on Environmental Protection and Management and its implementation of the regulation. AMDAL is a study on a huge and important impact of activity in environment that is required for the process of decision-making about the implementation of the activity in Indonesia. AMDAL is created when planning a project that is expected to affect the surrounding environment so that only the AMDAL activity that has been approved and permitted can carry out its activity. Another instrument is environmental management or also known as ISO 14000 that is an international standard in the field of environmental management to assist an organization/company to improve the effectiveness of environmental management.

Nevertheless, those efforts have not been effective due to the continual environmental damage that keeps occurring. During this time, the burden of managing the environment is placed on organizations/entrepreneurs who are trying to keep this burden as light as possible. Thus, only minimal obligations are implemented; this makes that the effort of environmental management is not running well. Unlike taxes that have the opportunities of refusal for the taxpayers not to carry out their obligation that only bring to the low state revenue; if the refusal is related to the environment, the damage will remain real and become a vital issue for people.

For that reason, different approaches are required in order to not burden the organizations/entrepreneurs, yet it develops a system enabling the neutral third party who is authorized to implement the environmental management. An insurance system is a mechanism that brings through the management burden does not rely on the organizations/entrepreneurs. Instead, it relies on the insurance companies. Nevertheless, it should be noted that the application of insurance to the environment is not similar to the insurance of health, safety, or accident.

The main difference between conventional and environmental insurance is the object. In health insurance, for example, the level of one's health can be predicted by considering his age and medical history; similarly, the labor insurance including work accident and pension time insurances can be predicted from his types of work and working period. Whereas in environmental insurance, the object is the risk of activity towards the environment. Even though it is predictable based on the activity, yet the impact on the environment seems unreal since the effect can emerge years after the activities are implemented; while the main purpose of environmental insurance is the environmental functions return to its original condition. The technique of protecting the environment by employing insurance mechanism does not have its regulation, meanwhile the obligation to maintain and bring back a healthy environmental function for a living and human's life is clearly regulated in the Article 28 H section (1) and Article 33 section (4) of the 1945 Constitution of the Republic of Indonesia. The principles of eco-friendly development are set in both articles, which then stated by Jimly (2009:91) that the 1945 Constitution of the Republic of Indonesia is called the green constitution. Further regulation is the obligation to maintain and restore the function of environment because the development activities are formulated in Law Number 32 of 2009 on Environmental Protection and Management. Nonetheless, there is no apparent regulation regarding environmental insurance as the alternative way to bring back the environmental function. Therefore, research on the model of environmental insurance should have been conducted as in line with its purpose to return the environmental function according to the prevailing laws.

1.1 Problem statements

1. How is the role of environmental insurance in tackling the environmental waste from industrial activities?
2. What are the obstacles of the implementation of environmental insurance in tackling the environmental waste from industrial activities?

1.2 Research objectives

1. To determine the role of environmental insurance in tackling the environmental waste from industrial activities.
2. To find out the obstacles of the implementation of environmental insurance in tackling the environmental waste from industrial activities.

2. Discussion

2.1 The role of environmental insurance in tackling the environmental waste from industrial activities

Environmental insurance is defined as a business insurance form for the companies and protects them from the unexpected environmental obligation that may be encountered from their business activities (Knebel, 2011). Somehow, this kind of insurance is different from other insurances of property, accident or labor; the doers of the activities should also be able to restore the environmental functions to what it is, so that they need to provide the funding. The amount of funds that must be spent is beyond the companies' capabilities in order that the risk can be transferred to other parties in the form of insurance.

According to Article 43 section (3) letter f of Law Number 32 of 2009 on Environmental Protection and Management, environmental insurance is "insurance that provides protection when environmental pollution and/or damage occurs". On that ground, this law does not regulate the process and mechanism of the intended environmental insurance; it is only oriented in the insurance output.

This type of insurance arises because of the principle of environmental liability, which based on the law, it is on the doers without any prior evidence for that, or known as strict liability. As a result, all the doers of activities that impact on the environment should make an effort to bring back the environmental function that has been damaged without waiting for the court verdict. It is deniable that not all development activities will impact on and destroy the environment; but the impacts and damages are potential that may occur years after the activities have been implemented.

The emergence of environmental insurance began in the 1970s when lots of companies faced court verdict to be obliged to return the environmental function due to the emerging pollution, which is excluded in the conventional insurance they already have. Since that time, various environmental insurance companies offer compensation payments or other actions necessary to bring back the environmental function. Nevertheless, this approach is merely acknowledged as a business approach, not a comprehensive approach to the interests of the environment itself (Horkovich, Hertzog, and Halprin, n.d.).

2.2 Regulatory framework of environmental insurance in Indonesia

Constitutionally, the basic principles underlying the development and protection of Indonesian environment are contained in the Preamble of the 1945 Constitution of the Republic of Indonesia, the fourth paragraph that is "to protect the whole Indonesian nation and the whole of Indonesia's blood spill and to promote the commonweal". Specifically, the regulation regarding the environment is formulated more concretely in Article 28 H section (1) and Article 33 section (4). Article 28 H section (1) states that:

"Every person shall have the right to live in physical and spiritual prosperity, to have a home and to enjoy a good and healthy environment, and shall have the right to obtain medical care".

Article 28 H section (1) indicates that the 1945 Constitution of the Republic of Indonesia very respects the existence of human rights to enjoy a good and healthy environment. Therefore, Constitution of the Republic of Indonesia is pro-environment, so that it can be called as the green constitution. The provision of Article 28 H section (1) of the 1945 Constitution of the Republic of Indonesia means that environmental norms have already been constitutionalized into constitutional content as the supreme nation of laws. In line with this, all policies and actions of government and development shall be subject to the provisions concerning human rights towards a good and healthy environment.

Environmental quality as regulated in Article 28 H section (1) if related to economic activity which often connected with the environment, the concept can be called ecosystem economics as formulated in Article 33 section (4) of the 1945 Constitution of the Republic of Indonesia that reads:

"The organization of the national economy shall be conducted on the basis of economic democracy upholding the principles of togetherness, efficiency, justice, sustainability,

environmental perspective, self-sufficiency, and keeping a balance in the progress and unity of the national economy”.

Based on Article 33 section (3), it is extensively interpreted that the environment must be managed for the sake of development based on sustainable and eco-friendly principles to be pro-environment or green-nuanced. This becomes a formidable challenge when faced with economic activities aimed at obtaining profit as much as possible. Human activities in development that are intended to be able to improve the economy and welfare of the society can also cause negative effects of environmental damage and/or pollution. In Article 1 number '14' and '16' of Law Number 32 of 2009 on Environmental Protection and Management, environmental pollution shall be the incoming or inclusion of creature, substances, energies and/or other components into the environment by human activities so as to exceed the stipulated environmental quality standard. On the other hand, environmental destruction shall be human actions changing directly or indirectly physical, chemical and biological characteristics of the environment so as to exceed the standard criteria for environmental destruction.

Environment is a space occupied by humans alongside other creatures, each of which does not stand alone in the process of life, instead, they interact and need each other in the ecosystem order. As a whole, environment cannot be discussed partially, but it must be viewed holistically and contains a regular system as well as put all the elements in it equally. The principle of environmental insurance as regulated in Article 35 section (1) of Law Number 32 of 2009 on Environmental Protection and Management states:

“The person in charge of a business and/or activity that has huge and significant environmental impacts, which uses hazardous and toxic materials is ultimately responsible for any losses incurred, with the obligation to pay compensation directly and immediately at the time of environmental pollution and/or damage occurs”.

Similarly, the regulation of other performers also formulates the principles of environmental insurance such as in Article 4 section (1) and section (2) of Government Regulation of the Republic of Indonesia Number 27 of 1999 on Analysis of Environmental Impact. Moreover, in the Decree of BAPEDAL No.02/BAPEDAL/01/1998 on The Monitoring Procedures of Toxic and Hazardous Waste Management in the Region, there is a regulation of environmental impact control in Article 5 which describes:

“Regional Government and Bapedal shall report their activities to Bapedal cq. Directorate of Toxic and Hazardous Waste Management at least once in 6 (six) months.”

Based on the above principles, in the implementation as noted by Satjipto Rahardjo that encountering a transitional condition where many problems arise, full of emergency and complication, the legal profession is demanded to take breakthrough steps in running the law, not only applying the regulation in the printed and official agreement. This is important to do because many obsolete regulations exist, and there are so many facts and contemporary problems that are hard to find in the text of the existing regulations. If only the regulations exist, many of them are not on target because they are contradictory and overlapping. Consequently, inquiry and research that become the basis of legal arguments towards an alternative of rules that fit the needs are essential.

The concept of sustainable and eco-friendly development regulated in Law Number 32 of 2009 on Environmental Protection and Management is a conscious effort and strategic plan in integrating environment, including resources in the process of development to guarantee the capability, welfare, and life quality of the current and future generation. Truthfully, the environmental issues regarding the development activities are not a simple issue. Especially in the era of regional autonomy as it is today, there is a tendency of environmental deterioration related to regional efforts to increase Regional Revenues by exploiting natural resources excessively by using not eco-friendly technology and does not pay attention to environmental aspects as it should be. This condition causes a deterioration of environmental quality along with disasters.

2.3 The function of environmental insurance to bring back the environmental function

The purpose of the environmental policy is generally to regulate people's activities to avoid, reduce, or overcome the negative impacts on nature and natural resources as well as to ensure that the

environmental changes will not give bad impacts on the people themselves (McCormick, 2001). There are two risks of environment, namely (1) risk of damage as a result of the environment such as storm, flood, tsunami, earthquake, or volcanic burst. Some of these incidents are predictable based on the statistics, and some of them are not; (2) risk of damage to the environment, including slow-growing damage due to several factors, such as vehicle pollution, light pollution, or the use of ecosystem excessively -overfishing, for example. Such damage is often difficult to reckon with, and the doer is more than one, making it hard to ask for responsibility.

To minimize the negative impacts mentioned above, one of the instruments that can be employed is to apply the compulsory environmental liability. Insurance costs can then be used as an incentive to reduce those risks. The next option is the government support, particularly for activities that cause environmental damage due to natural phenomena. Another option is the government collaborates with the insurance companies to ensure certain unpredictable risks or high costs risks. In this case, each part should be clear (McCormick, 2001).

From the perspective of the parties involved in the activities that impact on the environment, there are four interrelated groups and to some extent have responsibility for those impacts (Ahvenharju, 2011). The first group is the policymakers, including the legislators and regulators of the environment. The function of this group is to prepare the regulation in detail regarding the prevention or reduction of negative impacts of an activity on the environment. The second function is the parties that enforce the regulation: these parties are authorized to evaluate and issue the environmental permission and/or to monitor the establishment of the regulation. The third function is the parties that handle the problem of negative environmental impacts, such as environmental specialists, or other rescue institutions. The last group consists of independent institutions that evaluate incidents, investigate the causes, evaluate the impacts and make a recommendation for the repairment. In the environmental insurance framework, all parties should be involved synergistically, so that the environmental insurance can be maximized to bring back the environmental function. The function of each party in supporting the environment in the context of environmental insurance is shown in the following figure.

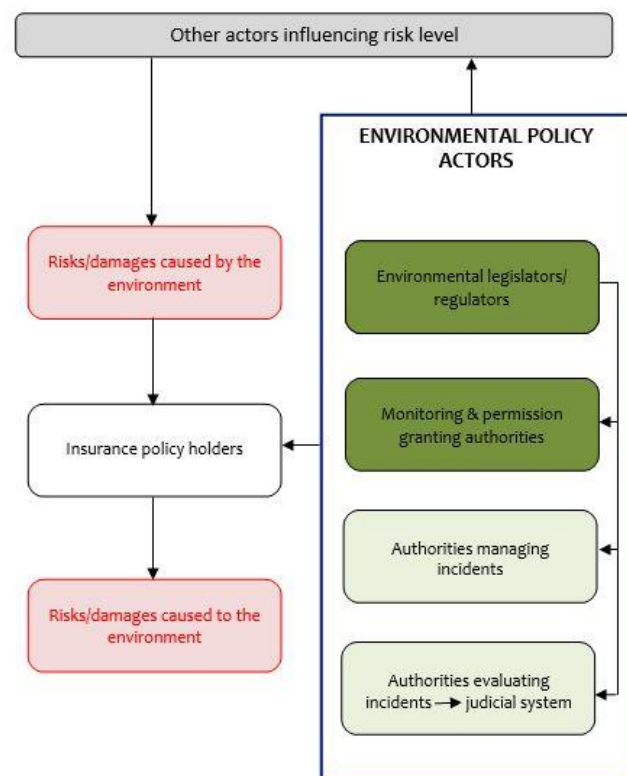


Figure 1: The Relationship among risk, insurance policy, and the doer of environmental policy. Source: Ahvenharju (2011, p. 14)

Further, in the context of environmental insurance, the provided protection towards the undesirable incident is financially based. The insurer can provide long-term protection for damages and/or environmental liability that arise that may not be seen immediately at that time. Insurance companies provide compensation for environmental damage based on market mechanisms where insurance rates determine the coverage to be covered. Insurance rates are usually calculated on the basis of actuarial techniques which are based on data and estimates of possibility and measure of potential claims. The premium amount is influenced by some factors, including monetary value, loss potential, and insurance policy requirements taken. Such transfer of risk can attract the doers of the activities because they do not have to bear the full costs of environmental restoration. If this mechanism is conducted as it should be, the role of environmental insurance towards the effort of environmental function restoration will be clearly illustrated as follows.

2.4 The obstacles of applying environmental insurance in tackling the environmental waste from industrial activities

Environmental pollution and/or damage has a devastating effect on humans' life. Without a good and healthy environment, it is difficult to achieve other human rights. The rights formulation of a good and healthy environment seen from its form and content is classical human rights that require the ruler to avoid interfering with the individual's freedom to enjoy his environment.

We should be aware that the pollution issues continue to grow seriously in the future in which the efforts to prevent or minimize the impact are needed. Development strategies that concentrate on the industry sectors currently being implemented by the Government need to be supported by adequate environmental policy instruments that will not incur high costs for economic and social growth in Indonesia. One of the ways to always support the strategy of economic growth is by applying the concept of environmental insurance.

In order to preserve the environment, a great environmental fund is required to finance environmental management in preserving the environment. Not to mention that if the environmental pollution and/or damage takes place, a great cost is required to improve and restore the damaged environment along with the compensation to the societies who are harmed.

Environmental insurance is basically similar to general insurances, which is a transfer of risks from a person or a business to an insurance business. This insurance will be able to run if a business exposed to the risk of polluting the environment is willing to transfer such risks and do risk pooling to the insurance business in the field of environmental insurance. The implementation mechanism is by giving money as a premium, so that they may experience less risk of loss.

In accordance with the principle of insurance, one of the implementations of this environmental insurance is by applying the concept of risk transfer, in which an insurance business guarantees some or all risks that may be faced by the industry in corresponding to the paid premium. In practice, it can be analogous to insurance losses, yet in this case, the insured is the risk of pollution or damage to the environment caused by industry.

Based on above description, environmental pollution is a crucial issue in people's lives that a very rapid industrial growth cannot be avoided. Thus, this must be balanced with solutions that can be applied to protect the environment. On the other hand, the existing regulations have not been maximally regulated such as synergistic prevention effort. This can be seen in the regulation of environmental insurance in Law Number 32 of 2009 on Environmental Protection and Management. However, this law does not further explain how this insurance is applied.

Regarding this, [Knebel \(2011:24\)](#) argues that it is hard to determine an activity that may damage the environment, particularly to decide the exact time of environmental insurance is required. If the real environmental damage arises, it should also be questioned whether such damage should be already insured? The next question is when does the environmental damage occur?

Although different regulations of the implementation of environmental insurance have been formulated, [Zagaski and Chester \(1992:1\)](#) notes that these regulations sometimes become a burden for industries and businesses because some of the regulations overlap with the existing ones, or even there are important issues that have not been adequately regulated. It needs a special action in tackling hazardous and toxic waste which then also influences the number of compensation payments². During these days, environmental insurance is implemented traditionally, for example through a contract in which an insurance company is obliged to pay for the risks as agreed. Nevertheless, even if this basis adequately protects the parties' interests in managing the risks, if this is applied in environmental

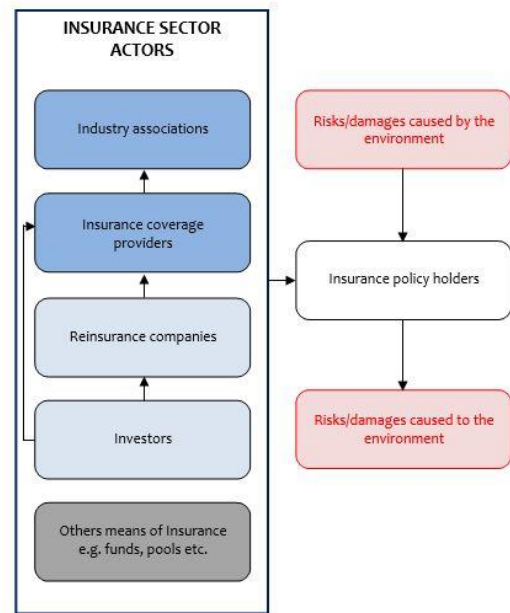


Figure 2: The Role of Environmental Insurance in Reducing Environmental Risks.

Source: Ahvenharju, 2011:18

insurance, it requires more explicit details that may be obtained from research (Freeman & Hertzog, 1997).

Organization for Economic Co-operation and Development claims that things that need to be further specified about the mechanism of calculating the risk in an environment are often too expensive and the lack of economic necessity to apply environmental insurance. The difficulties of establishing environmental insurance are due to the technique of factual risk calculation and the uncertain regulation. The general regulation is that the prospective insurance applicant must be responsible for the costs of field inspection and technical analysis, which is feasible if the insurance applicant has more than one protection. Moreover, several companies are very protective of their property. It is due to the existing regulations; when the land is contaminated, the landowner is obliged to immediately convey it to the authorities, which the pollution of the activities is revealed from the field inspection. Another thing is the difficulty for insurance companies to determine the compensation of the environmental violation because the risks of pollution are often low gradually in probability and such risks are not rationally taken into account by economic agents, even they easily ignore these risks (Organization for Economic Co-Operation and Development, 2003).

3. Conclusion

Although the Law on Environmental Protection and Management to reduce the level of environmental pollution has been introduced since 1997 through Law Number 23 of 1997 on Environmental Management (State Gazette of the Republic of Indonesia of 1997 Number 68, Additional State Gazette of the Republic of Indonesia Number 3699) which then changed and enhanced by Law Number 32 of 2009 on Environmental Protection and Management (State Gazette of the Republic of Indonesia of 1997 Number 140), it still cannot decrease the level of environmental pollution in Indonesia. Even, most of them are getting worse.

The main reason why environmental pollution management is uninteresting and does not become a priority for the doers of environmental activity is the amount of costs that must be spent to restore the environmental functions in accordance with the laws and regulations; thus, they often choose to dispose the waste surreptitiously. On that ground, another advantageous approach is required from the perspective of the doers of activities that impact on the environment, which in this case is environmental insurance. As with fire insurance, most of the doers (companies) are actively participating. Environmental insurance also spreads the risk to some of the doers of activities that impact on the environment, so that the burden is not to be endured alone. The doers of these activities do only need to pay the agreed premium amount and do not have to bear all the costs when the environmental impacts arise. Above advantageous mechanisms, although have been regulated in Law Number 32 of 2009 on Environmental Protection and Management, have not run yet after six years of the prevailing law.

4. Suggestion

Some suggestions are provided, including:

- 1) The specific regulation of environmental insurance is very significant to be applied.
- 2) Insurance companies should be supported based on the comparative study with insurance companies of countries that have successfully implemented environmental insurance so as confidence that environmental insurance is business-worthy is growing. The complexity of the calculation of risks in environmental insurance is the main reason for the unavailability of insurance companies providing environmental insurance. However, from the appropriate perspective and approach, this opportunity can be utilized by the insurance companies and strengthening the implementation of environmental insurance.
- 3) Regional Government also plays a vital role in developing the environmental insurance-based system of AMDAL permit. The authority of the Regional Government in giving AMDAL permit in accordance with the laws and regulations has to be reviewed to include the environmental insurance element in it, which surely does not result in a longer bureaucracy and harms the applicant. Therefore, all supporting elements among the Regional Government regarding environmental insurance such as the Regional Secretariat, Public Works Services, City Planning Office, and One-Stop Permit Services

Board should attempt to ensure the realization of synergistic good governance, so that the permit procedures are fast, accurate and efficient.

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