**Law Journal Borobudur International**
**Vol 2 No 2, January 2025**

**ISSN: 2809-9664**

# LEGAL RESPONSIBILITIES OF MINING BUSINESS ACTORS IN CARRYING OUT RECLAMATION IN BATAM WATERS

Zudy Fardy[1] Ampuan Situmeang[2]
Correspondence : ismail1970fitri@gmail.com

**Abstract:** Natural resources are everything that comes from the earth, biosphere, and atmosphere, whose existence depends on human activity. All parts of our natural Energy and Mineral Resources such as grains, trees, soil, water, air, sun, rivers are natural resources. Natural resources are elements consisting of plant natural resources, namely plants and animal natural resources or animals with non-living elements around them which as a whole form an ecosystem. Natural resources have a role in fulfilling human needs. In compiling this research, the author uses a normative research method. Normative legal research is legal research that places law as a building of a norm system. The norm system that is built is about the principles, norms, rules of laws and regulations, court decisions, agreements, and doctrines/teachings. The legal research process carried out by the author by examining library materials or secondary data consisting of primary legal materials, secondary legal materials, and tertiary legal materials. These materials are arranged systematically, reviewed, then a conclusion is drawn in relation to the problem being studied. Mining activities in Indonesia must be closely monitored to avoid illegal mining which often ignores the negative impacts that arise after mining. Every mining industry needs to recover Energy and Mineral Resources at the post-operational stage of mining activities so that detrimental impacts can be minimized.

Keywords: *Legal Responsibility, Mining, Reclamation*



[1]Magister Program Student of Law Faculty, Internasional Batam University, Indonesia
[2] Lecture Magister Program of Law Faculty, Internasional Batam University, Indonesia

**Law Journal Borobudur International**
**Vol 2 No 2, January 2025**

**ISSN: 2809-9664**

## Introduction

According to its linguistic meaning, reclamation comes from the English vocabulary, to reclaim which means to repair something that is damaged. Specifically in the English-Indonesian Dictionary published by PT. Gramedia, the meaning of reclaim is stated as making land (from the sea). Still in the same dictionary, the meaning of the word reclamation is translated as the work of obtaining land. Experts have not defined or provided many definitions of coastal reclamation. Coastal reclamation activities are technological efforts carried out by humans to change a natural Energy and Mineral Resources Source into an artificial Energy and Mineral Resources Source, a typology of estuary ecosystems, mangroves and coral reefs into a land landscape.

Reclamation is an activity carried out by people in order to increase the benefits of land resources in terms of Energy and Mineral Resources and socio-economics by means of filling, drying land or drainage (Law No. 27 of 2007). Another definition of reclamation is a job/effort to utilize an area or land that is relatively useless or still empty and watery into useful land by drying it. For example, in coastal areas, swampy areas, offshore/at sea, in the middle of a wide river, or in a lake. Basically, reclamation is an activity to change coastal waters into land. Reclamation is intended to change the low land surface (usually affected by waterlogging) to be higher (usually not affected by waterlogging).

According to its definition, the main purpose of reclamation is to make damaged or useless water areas better and more useful. The new areas are usually used for residential areas, industry, business and shops, agriculture, and tourist attractions. In city planning, coastal reclamation is one of the steps in urban expansion. Reclamation is practiced by countries or large cities whose growth rates and land needs are increasing rapidly but are constrained by the increasingly narrowing land area (land limitations). With these conditions, urban expansion towards the mainland is no longer possible, so new land is needed.

The reclamation method provides benefits and can help countries/cities in providing land for various purposes (city expansion), coastal area planning, marine tourism development, etc. Reclamation of water areas is an effort to form a new land area either in coastal areas or in the middle of the ocean. The main purpose of this reclamation is to turn damaged or unused water areas into a new area that is better and useful for various economic needs or for other strategic purposes. The new land area can be used for residential areas, industry, business and shops, airports,

**Law Journal Borobudur International**
**Vol 2 No 2, January 2025**

**ISSN: 2809-9664**

cities, agriculture, alternative transportation routes, fresh water reservoirs on the coast, waste management areas and integrated Energy and Mineral Resources, and as embankments to protect old land from the threat of abrasion and to become an integrated tourist area.

Purpose of Reclamation Usually this reclamation activity is carried out by an authority (country, big city, area manager) that has a high growth rate and its land needs are increasing rapidly, but is constrained by limitations or availability of space and land to support the existing growth rate, so it is necessary to develop a new land area. In the context of regional development, coastal area reclamation is expected to increase the overall environmental carrying capacity of the area. Reclamation is carried out in order to increase the benefits of land resources as reviewed from the perspective of Energy and Mineral Resources and socio-economics by means of filling, drying or drainage (Law 27, 2007). This generally occurs due to the increasing human population, especially in coastal areas, so a solution needs to be found

The purpose of reclamation is also to improve unused or useless areas or areas into areas that can be utilized for various human needs, including agricultural land, housing, recreation and industry. The purpose of the reclamation program is:

1. To regain land lost due to sea waves
2. To obtain new land in the area in front of the coastline to build buildings that will function as coastal protection forts
3. For economic reasons, development or to build building construction on a larger scale.

Based on the above explanation, this article will analyze the Legal Responsibilities of Mining Business Actors in Carrying Out

## Methods

In conducting this research, the researcher used a normative legal research type. Normative legal research is conceptual legal research as contained in the statutory regulations and conceptually in other legal rules that exist in society regarding a particular legal problem. In this research, the researcher used a normative research type, namely research conducted by examining statutory regulations or other regulations that are applied in resolving a particular legal problem. This normative research is often called doctrinal research where the object of study is statutory regulatory documents and library materials which are basic data which in research

**Law Journal Borobudur International**
**Vol 2 No 2, January 2025**

**ISSN: 2809-9664**

science are classified as secondary data. According to Soerjono Soekanto, legal research can be divided into: Normative Legal Research, consisting of:

1. Research on legal principles
2. Research on legal systematics
3. Research on the level of legal synchronization
4. Legal history research
5. Comparative legal research

In accordance with the type of research, namely normative legal research (normative juridical), more than one approach can be used. In this research, the Legislation approach and the concept approach were used. The Legislation Approach is carried out to examine the Legislation rules that regulate In the perspective of legal theory, justice is the main objective of the natural law school. Where the natural law school is of the view that the law applies universally and eternally. In the context of Indonesia, justice is in line with the values stated in Pancasila as the foundation of the state.

The fifth article in Pancasila states that social justice for all Indonesian people, based on this article it can be said that justice must be aimed at all citizens without exception as a manifestation of Indonesia's diversity. To realize social justice can be done through development that is oriented towards the welfare of all Indonesian people. In comprehensive development, legal development is an aspect that cannot be separated.

**Results / Discussion**

**1. What is the legal responsibility of mining business actors in carrying out reclamation in the waters of Batam?**

Batam is the name of the largest island in this area, the only source that mentions the name Batam clearly and can still be found today is the London Treaty. The original inhabitants of Batam are estimated to be Malays known as Strait People or Sea People who have occupied this area since the era of the Tumasik kingdom which is now known as Singapore in the late 1300s or early 14th century. According to other records, Batam Island has likely been inhabited by sea people since 231 AD. Batam Island, which is a twin island with Singapore, was handed over to the Dutch Government through "Barter" in the 18th century by Lord Minto and Raffles from the British Empire. The Batam area is very strategically located on the international shipping route with a distance of only 12.5 miles (20 km) from

**Law Journal Borobudur International**
**Vol 2 No 2, January 2025**

**ISSN: 2809-9664**

Singapore. Based on this strategic location, the Indonesian Government developed this island as a Center for Economic Growth.

At present, the people of Batam City have mixed various cultures (heterogeneous) because Batam is also known for its industry so that there are many immigrants, but the more famous and widespread culture is Malay culture. The population of Batam City continues to increase with a fairly fluctuating population growth rate. The population of Batam City in 2000 was 437,358 people and in 2011 it increased to 1,056,701. The largest growth rate during the period 2000 - 2011 was in 2007-2008, which was 23% and in 2000 - 2001 it was 21%, in 2004 - 2005 it was 16%. This increase in population is assumed to be due to the increasing investment, both national and foreign private investment in Batam City.

The following is a series of legal responsibilities in the efforts of mining business actors in carrying out reclamation in the waters of Batam. PP No. 22 of 2010

a) Mining Area (WP) is an area that has mineral and/or coal potential located on the surface of the land or underground, in land or sea areas for mining activities that have the criteria of indicating mineral and/or coal-bearing formations and have the potential for mining resources.
b) WP preparation is carried out in 2 activities, namely WP Planning which is carried out through the stages of mining potential inventory and preparation of WP plans. Inventory is intended to collect data and information on mining potential as a basis for preparing a WP determination plan carried out through mining investigation and research activities.
c) Data and information on the results of mining investigations and research conducted by the Minister of Energy and Mineral Resources, governors, regents/mayors and research institutions must be processed into a map of mineral and/or coal potential and must be reported to the Minister for evaluation by the Minister as material for preparing the WP plan. The WP plan is determined by the Minister to become WP after coordinating with the governor, regent/mayor and consulting with the House of Representatives (DPR) which can be reviewed once every 5 years.
d) WP may consist of Mining Business Areas (WUP), WUP is determined by the Minister after coordinating with the local governor and regent/mayor. Specifically, the determination of WUP for non-metallic and rock mineral mining can be delegated to the governor. WUP may consist of: Radioactive Mining Business Permit Areas (WIUP), metal mineral WIUP, coal WIUP, non-metallic mineral WIUP, and/or rock WIUP. Metal mineral and/or coal WIUP is determined by the Minister after coordinating with the local governor and regent/mayor.

**Law Journal Borobudur International**
**Vol 2 No 2, January 2025**

**ISSN: 2809-9664**

People's Mining Areas (WPR), and/or WPR are determined by the local regent/mayor after coordinating with the provincial government and consulting with the Regency/City DPRD. The determination of WPR is submitted in writing by the regent/mayor to the Minister and the governor of the State Reserve Area (WPN). WPN is determined by the Minister after obtaining approval from the DPR. The Minister prepares a plan to determine an area within the WP to be a WPN based on a map of mineral and/or coal potential and a map of mineral and/or coal reserve potential. Areas within the WP that meet the criteria are designated as WPN by the Minister after considering regional aspirations and obtaining approval from the DPR.

WPNs that are designated for certain commodities, including copper, tin, gold, iron, nickel, bauxite and coal, can be cultivated in part after changing their status to Special Mining Business Areas (WUPK). Special Mining Business Areas (WUPK) WUPK are designated by approval from the DPR based on the Minister's proposal. To determine a Special Mining Business Permit Area (WIUPK) in a WUPK, it must meet the following criteria: geographical location, conservation principles, carrying capacity of Energy Sources and

**2. What are the obstacles faced by mining business actors in carrying out reclamation in the Batam area.**

The following are the obstacles faced considering the condition of Batam City as an archipelago that has uniqueness which is also the strength of this region. The Batam city area consists of 400 large and small islands, with 329 named islands, which are connected to each other by waters. The scattered islands are generally the remains of erosion or the emergence of pre-tertiary land that stretches from the Malay Peninsula in the north to Moro Island, Kundur, and Karimun in the south.

These islands consist of several islands from large to small such as in Bulan District there is Buluh Island, in Galang District there are Karas Island, Galang Baru Island, Rempang Island, Air Raja Island, Subang Mas Island and Abang Island. And in Belakang Padang District there are 55 small islands that are included in the Belakang Padang District area: 1) Belakang Padang Island; 2) Sambu Island; 3) Dendang Island; 4) Lengkana Island; 5) Meriam Island; 6) Tolop Island; 7) Suwe Island; 8) Air Manis Island; 9) Corn Island; 10) Sekilak Island; 11) Leroi Island; 12) Layang Besar Island; 13) Tapung Island; 14) Suba Island; 15) Nirup Island; 16) Mercan Besar Island; 17) Sarang Island; 18) Semakau Island; 19) Serapat Island; 20) Negeri Island; 21) Penyalang Island; 22) Bertam Island; 23) Lingke Island; 24) Padi Island; 25) Bakau Island; 26) Pemping Island; 27) Labum Besar Island; 28)

**Law Journal Borobudur International**
**Vol 2 No 2, January 2025**

**ISSN: 2809-9664**

Labum Kecil Island; 29) Kasu Island; 30) Batu Ampar Island; 31) Lumba Island; 32) Sei Cudung Island; 33) Pelangi Island; 34) Ketapah Island; 35) Katung Island; 36) Buntung Island; 37) Tandut Island; 38) Panjang Island; 39) Sali Island; 40) Kepala Jeri Island; 41) Ladang Island; 42) Pecung Island; 43) Dandan Island; 44) Cumin Island; 45) Semukir Island; 46) Santo Island; 47) Bayan Island; 48) Paloi Kecil Island; 49) Paloi Besar Island; 50) Terong Island; 51) Teluk Bakau Island; 52) Telan Island; 53) Ketumbar Island; 54) Kepala Gading Island; and 55) Geranting Island and other small islands. Meanwhile, the land surface in Batam City can generally be classified as flat with variations here and there with hills with a maximum height of 160 meters above sea level. Many small rivers flow slowly and are surrounded by forests and dense bushes.

The next obstacle with the Implementation of Law Number 53 of 1999 as amended by Law Number 13 of 2000 changed the status of Batam from the Batam Administrative City to the Batam City Autonomous Region. For this reason, the structure of the region has also changed. Based on Regional Regulation Number 2 of 2005 concerning the Expansion, Change and Formation of Districts and Urban Villages within the Region, Batam City which originally consisted of 8 districts and 51 urban villages changed to 12 districts and 64 urban villages. Based on the Batam City RTRW Draft Regulation 2011-2031, land use for cultivation areas still dominates land use in Batam City.

However, the use of cultivation functions that support coastal and marine management is still lacking, such as fisheries and tourism. The cultivation functions that dominate are industry and settlements. The area of Protected Areas, Mangrove Forests and coastal boundaries is also very small when compared to the total area. It can be assumed that the developed cultivation function can damage Energy Sources and Mineral Resources if not controlled carefully because the natural capabilities reflected in the protected area are very small. The coastal area is the meeting area between land and sea, towards the land includes land both dry and submerged in water which is still influenced by the characteristics of the sea such as tides, sea breezes and salt water infiltration. Towards the sea includes parts of the sea that are still influenced by natural processes that occur on land such as sedimentation and fresh water flow, or those caused by human activities such as agriculture and pollution.

Constraints The coastal area is a transitional area between land and sea waters which is also a constraint. Physiologically defined as the area between the coastline to the land that is still influenced by the ebb and flow of sea water, with a width determined by the slope of the beach and seabed, and formed by loose clay to sand deposits and sometimes the material is gravel, in horizontal coverage, the coastal area is limited by two hypothetical

lines. First, towards the land, this region includes areas where oceanographic processes (sea breezes, tides, the influence of sea water, etc.) can still be felt. Second, towards the sea, areas where the effects of processes occurring on land (sedimentation, river currents, the influence of fresh water, etc.), or those caused by human activities on land such as deforestation and pollution. This border region brings together.

### 3. What solutions can be taken by mining business actors if there is a problem in reclamation in the waters of Batam

The solution that can be taken is that the gold mining and mining industry, per day can dispose of hundreds of thousands to millions of tons of tailing waste. Tailing is solid waste from the smelting of gold or copper ore. Railing waste is generally in the form of liquid mud. Unlike other mining waste, this type of waste contains very low B3 (toxicity) elements. Many alternatives can be used to process waste containing heavy metals, especially mercury, including Low Temperature Thermal Desorption (LTTD) technology or Phytoremediation technology. In the thermal desorption system, the material is decomposed at low temperatures (<300 oC) with indirect heating and low air pressure conditions (vacuum). With these conditions, the material will be more easily evaporated than at high pressure. So in this system what happens is a physical process, there is no chemical reaction such as an oxidation reaction.

This method is very effective for separating volatile organic materials such as (volatile organic compounds/VOCs), semi-volatile organic compounds (SVOCs), (poly aromatic hydrocarbons/PAHs), (poly chlorinated biphenyls/PCBs), oil, pesticides and some metals Cadmium, Mercury Lead and non-metals such as Arsenic, Sulfur, Chlorine and others. Materials that have been separated in the form of vapor will be easier to collect again by condensing, adsorbing using filters, solutions or other media so that they do not spread everywhere. With the thermal desorption system, hazardous materials are separated so that they are easier to handle whether they will be disposed of or reused, while organic materials that are difficult to evaporate will be carbonized into charcoal. The next solution is the management of backfilling using backfill mining techniques by using waste rock to mines that have been used. Maximize the use of cover rock for reclamation Collect and monitor drainage seepage and surface flow Separate and cover reactive waste rock with non-reactive materials to prevent the formation of acid mine drainage Use non-reactive waste rock for construction purposes Provide an adequate embankment drainage system to minimize the potential for slope failure. Monitor surface water to obtain baseline data and continue monitoring activities during operations and post-mining activities Use a drainage control system to minimize infiltration.

**Law Journal Borobudur International**
**Vol 2 No 2, January 2025**

**ISSN: 2809-9664**

Management efforts: Design tailings storage areas by considering maximum rainfall conditions Consider the use of natural/synthetic layers in drainage channels Maximize the reuse of water from tailings Limit the use of chemicals for the processing process to only as needed, Provide adequate drainage channels, Build channels to prevent rupture of pipelines Collect seepage on the outer slope of the tailings settling pond

As an effort to control the impact of mining activities on water resources, vegetation and wildlife. Some of these control efforts are: Using sediment retaining structures to minimize the amount of sediment coming out of the mining site Developing a spill control system plan to minimize the entry of B3 materials into water bodies Avoiding construction activities during critical stages Reducing the possibility of cyanide poisoning in birds and wild animals by neutralizing cyanide in tailings settling ponds or by installing fences and nets to prevent wild animals from entering tailings settling ponds Minimizing the use of fences or other barriers that block wild animal migration routes. If the use of fences cannot be avoided, use tunnels, gates, and pedestrian bridges for wild animals. Limiting the impact caused by habitat fragmentation, minimizing the number of access roads and closing and rehabilitating unused roads. Prohibition of hunting wild animals in mining areas. Mining Waste Management Efforts Types of extraction waste from mining work sites Management efforts: Evaporation and reuse of mine water for processing activities. Use of surface flow control devices such as culverts and water channels. Neutralization or sedimentation or other treatment methods before being discharged into water bodies. Cleaning of blasting residues, Preparing a mine water management system at the post-mining stage, Monitoring the quality of wastewater and surface water, Building a mine water storage unit to minimize the potential for surface water pollution, Tailings sedimentation processing process, Designing a tailings storage area by taking into account maximum rainfall conditions.



## Conclusion

The following is a series of legal responsibilities in the efforts of mining business actors in carrying out reclamation in the waters of Batam. PP No. 22 of 2010 Mining Area (WP) is an area that has mineral and/or coal potential located on the surface of the land or underground, in land or sea areas for mining activities that have the criteria of having indications of mineral and/or coal-bearing formations and have the potential for mining resources. WP preparation is carried out in 2 activities, namely WP Planning which is carried out through the stages of mining potential inventory and preparation of WP plans. Inventory is intended to collect data and information on mining potential as a basis for preparing a WP determination

plan which is carried out through mining investigation and research activities. Data and information from mining investigations and research conducted by the Minister of Energy and Mineral Resources, governors, regents/mayors and research institutions must be processed into a map of mineral and/or coal potential and must be reported to the Minister for evaluation by the Minister as material for preparing the WP plan. The WP plan is determined by the Minister to become WP after coordinating with the governor, regent/mayor and consulting with the House of Representatives (DPR) which can be reviewed once every 5 years. WP can consist of Mining Business Areas (WUP), WUP is determined by the Minister after coordinating with the local governor and regent/mayor. Specifically, the determination of WUP for non-metallic and rock mineral mining can be delegated to the governor. WUP can consist of: Radioactive Mining Business Permit Areas (WIUP), metal mineral WIUP, coal WIUP, non-metal mineral WIUP, and/or rock WIUP. Metal mineral and/or coal WIUP is determined by the Minister after coordinating with the local governor and regent/mayor.

Obstacles faced by mining business actors in reclaiming waters in Batam. In Regional Regulation No. 6 of 2011 concerning the Batam City Medium-Term Development Plan (RPJMD) 2011-2016, the Vision of Batam City to be achieved is "Realizing Batam City as a Modern Civil World Port and Becoming a Mainstay of the Center for National Economic Growth". As a derivative Vision of the Batam City RPJPD Vision, While in the Batam City Spatial Planning Draft Regulation (RTRW) 2011-2031 which is currently being prepared, the objective of Batam City Spatial Planning is "The realization of a civilized world port based on industry, tourism, trade and services, which is productive, safe, comfortable, advanced, quality, with insight into Energy and Mineral Resources and sustainable and highly competitive in the global era". In the Batam City RTRW 2011-2031, In addition, obstacles regarding taxation are no less important. There are various aspects of taxation on mining business activities, In determining the mineral potential in a particular area, geological testing needs to be carried out, which is carried out using the services of a Geological Researcher as a Researcher. Services for the research can be included in the definition of technical services in accordance with the Circular of the Director General of Taxes Number SE - 08 / PJ.222 / 1984 that what is meant by technical services is the provision of services in the form of providing information relating to experience in the fields of industry, trade and science which can include For a particular project.

Solutions in dealing with the problem of Mine Reclamation to support Fishery activities, Various problems that arise in ex-mining waters/ponds include: less fertile water conditions, quite high levels of heavy metals, irregular physical shape, physical conditions without inlet and outlet, low

**Law Journal Borobudur International**
**Vol 2 No 2, January 2025**

**ISSN: 2809-9664**

pH, high phyrite content, low water oxygen levels, high sulfide content, unclear management patterns and institutional systems. In relation to this, some of the solutions presented include; increasing water pH by providing lime, absorption of heavy metals through planting aquatic plants, fertilizing waters by providing organic fertilizers, increasing oxygen content through the use of waterwheels and the formation of community-based institutions. For the development of fisheries activities, several types of fish are recommended to be kept, including: Snakehead fish (Channa striata), Betok fish (Anabas testudineus), Tilapia (Oreochromis niloticus), Catfish (Clarias gariepinus), Patin fish (Pangasius sp.), Carp (Cyprinus carpio).

**Acknowledgments**

Conducting legal counseling related to the importance of Mine Reclamation to support Fishery activities, Various problems that arise in ex-mining waters/ponds include: less fertile water conditions, quite high levels of heavy metals, irregular physical shape, physical conditions without inlets and outlets, low pH.

Mining activities in Indonesia must be closely monitored to avoid illegal mining which often ignores the negative impacts that arise after mining. Every mining industry needs to recover Energy and Mineral Resources at the post-mining operation stage so that detrimental impacts can be reduced.

**References**

Bagus, Ida. 2018. Hukum Sumber Energi dan Daya Mineral Internasional: Perspektif Bisnis Internasonal. Bandung: Refika Aditama.

Bahder Johan Nasution, Metode Penelitian Ilmu Hukum, Cetakan kedua, Mandar Maju, Bandung, 2016

Coser dan Anthony Rosenberg. 2015. An Introduction to International Politics. New Jersey : Prentice Hall.

Erwin, Muhamad. 2018. Hukum Sumber Energi dan Daya Mineral: Dalam Sistem kebiaksanaan Pembangunan Sumber Energi dan Daya Mineral Hidup. Bandung: Refika Aditama.

Kartasasmita, Koesnadi. 2016. Organisasi dan Administrasi Internasional. Bandung: PT. Angkasa.

Kegley, Charles dan Eugene R. Wittkopf. 2017. World Politics: Trends and Transformations. New York: St. Martin's Press.

Mandalagi, J. Pareira. 2020. Segi-segi Hukum Organisasi Internasional: Suatu Modul Pengantar. Bandung: Bina Cipta.

McClelland, Charles. 2015. Ilmu Hubungan Internasional: Teori dan Sistem. Jakarta: C.V. Rajawali

Nazir, Moh. 2013. Metode Penelitian. Jakarta : Ghalia Indonesia.

Perwita B, Anak Agung dan Yani M, Yanyan. 2015. Pengantar Ilmu Hubungan Internasional. Bandung : Remaja Rosdakarya

Plano, Jack dan Roy Olton. 2019. Kamus Hubungan Internasional. Bandung: Abardin.

Rudi, T. May. 2005. Organisasi dan Administrasi Internasional. Bandung: PT. Refika Aditama.

Soemarwoto, Otto. 2021. Indonesia Dalam Kancah Isu Lingungan Global.

Jakarta: PT. Gramedia Pustaka Utama.

Silalahi, Ulbert. 2019. Metode dan Metodelogi Penelitian. Bandung: Bina Budaya.

Syaufina,Lailan. 2018. Kebakaran Hutan Dan Lahan Di Indonesia. Malang: BayuMedia Publishing.

Viotti, Paul dan Mark V. Kauppi. 1990. International Relations Theory: Realism, Pluralism, Globalism and Beyond. Allyn and Bacon.

WWF, 2004. Undang-Undang Republik Indonesia No. 41 Tahun 1999 tentang Kehutanan Pasal 49 & 50, mengatur tanggung jawab pemegang izin konsesi atas terjadinya kebakaran hutan dan larangan melakukan kegiatan yang menimbulkan kerusakan hutan di dalam areal kerjanya. WWF.

WWF. 2004. Undang-Undang Republik Indonesia UU No. 18 Tahun 2004 Tentang Perkebunan pasal 26 menyebutkan bahwa setiap pelaku usaha perkebunan dilarang membuka dan/atau mengolah lahan dengan cara pembakaran yang berakibat terjadinya pencemaran dan kerusakan fungsi Sumber Energi dan Daya Mineral hidup dan larangan ini diatur dalam pasal 48 dan pasal 49. WWF.

WWF. 2004. Undang-Undang Republik Indonesia. Undang-undang No. 23 tahun 1997 tentang Pengelolaan Sumber Energi dan Daya Mineral Hidup pasal 41 dan 42, dengan jelas mengatur perbuatan melawan hukum melakukan perbuatan yang mengakibatkan pencemaran dan/atau perusakan Sumber Energi dan Daya Mineral hidup, serta pasal 45 mengatur pidana di bidang Sumber Energi dan Daya Mineral. WWF.

CIFOR (Center for International Forestry Research). 2003. Kebakaran Hutan Di Indonesia, Penyebab, biaya, dan Implikasi Kebijakan, Occasional Paper. No. 38 (i).