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Research Article

Law, Ecology, and Indigeneity: A Mitigation Model for Flash Flood Disasters in the Lake Toba Region, Indonesia

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Abstract

This study aims to seek solutions to environmental degradation caused by the operations of a pulp and rayon industrial company in the Lake Toba region, North Sumatra, Indonesia. From its inception, this industrial activity has faced opposition from various local community groups—particularly Indigenous peoples—due to its violation of Indigenous rights, deforestation, air and water pollution, ecosystem destruction, the triggering of floods and landslides, the disruption of river flows into Lake Toba, and a continuous decline in the lake's water level. Recent flash floods have occurred across the island of Sumatra (in Aceh, North Sumatra, and West Sumatra). This research employs both normative-juridical and empirical methods. Data were collected through literature reviews and empirical examination of primary, secondary, and tertiary legal materials. A descriptive-analytical approach was used, incorporating qualitative, normative-juridical data analysis. The uniqueness of this study lies in the fact that corporate activities have triggered environmental and social disasters around Lake Toba—involving various criminal acts and legal violations—yet the government has failed to take effective action to protect the community. The findings indicate that, to date, Indonesia lacks a standardized framework governing the responsibilities of the state and corporations—across civil, criminal, environmental, and administrative law—regarding disasters resulting from legal violations. This gap weakens protection strategies for Indigenous communities living in flood-prone areas. The study recommends the development of a national roadmap to protect affected Indigenous communities, the strengthening of sustainable environmental regulations, and the establishment of clear dispute-resolution mechanisms to ensure accountability for flood-related disasters and the provision of compensation. Taking firm action against companies that damage the environment of Lake Toba—including revoking their operational permits—and revising relevant laws and regulations, as well as water management planning for Lake Toba, in order to save it from destruction and extinction.

Keywords

Indonesia, Indigenous Peoples, Legal Model, Ecological Tragedy

1. Introduction

The Minister of Environment and Forestry prioritizes the acceleration of the Confirmation of Forest Areas in strategic areas; one of them is customary forest which is part of the customary territory of the indigenous people. Hydrological damage in the Lake Toba catchment area, [1] are caused by PT

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Toba Pulp Lestari's operations. The Lake Toba Catchment Area is 390,000 hectares (Lake Toba has a water area around 112,000 hectares and the land area around 279,000 hectares). [2]. Land Cover Analysis Results (1990-2019) and TPL Deforestation during 2001-2025, the Participatory Mapping Work Unit (UKP3) AMAN Tano Batak analyzed land cover results sourced from webgis data from Indonesia's Ministry of Forestry and several other spatial data.

The results show significant changes in land cover or forests around the PT. Toba Pulp Lestari concession over the past 30 years. In 1990, TPL had a Plantation Forest of 38,000 hectares and forest cover in the concession area was 67,196 hectares. In 1996, the area of this plantation forest was still the same. In the period 1996-2000, the area of plantation forests increased to 44,565 hectares and natural forest cover (primary and secondary) decreased to 59,000 hectares or shrank by around 8,000 hectares in 4 years: In 2000-2006, there was no expansion of plantation forests; In 2006-2009, or within 3 years, there was massive forest clearing for eucalyptus plantations. Of the 44,000 hectares, around 10,000 hectares of natural forest (primary and secondary) were lost in the expansion of eucalyptus plantations. Of the 59,000 hectares, plantation forests became 60,000 hectares. On the other hand, forest cover shrank to 49,000 hectares, from 44,000 hectares; In 2009-2019, or within a decade, the area of plantation forests increased to 72,000 hectares or an increase of around 12,000 hectares; Since the Indorayon era until now (more than 3 decades), the company has cleared 72,000 hectares of forest and land. In 2 decades (2001-2020) the loss of forest cover/deforestation (primary or secondary) by TPL activities was 67,000 hectares. That is the amount of forest landscape lost throughout the concession. [3]

The World Bank reports that outdoor air pollution to health-related economic losses around $5.7 trillion globally, which represents approximately 4.8% of the global GDP. Meanwhile, the financial impact of early deaths and illness ranges between 5% and 14% of individual countries' GDP. To address the various problems experienced by residents around Lake Toba Area due to alleged violations by PT. TPL, community groups in Jakarta and North Sumatra, Indonesia, formed the People's Movement Alliance to close PT. TPL, consisting of the Lake Toba Lovers, submitting a request to President Prabowo Soebianto, to close TPL, because its presence has caused environmental pollution that has resulted in damage/tragedy of the ecosystem, forest damage, Lake Toba, and so on. [4] Because since the presence of the pulp company, it has caused more horizontal conflicts with the local community and is suspected of actively colonizing customary land and community land with fraudulent practices. Indigenous communities have reported these frauds to the local government and authorities, but it seems that they often experience a dead end, so they complain to environmental and indigenous community institutions, and so on.

To save the Lake Toba area as an icon of the Batak people from environmental damage, must be able to fight to advocate for the Indonesian government to immediately close PT. TPL and prevent futher ecological disaster. Environmental activists and indigenous peoples need to agree to create a narrative to build collective awareness against TPL which has at least committed many criminalization actions. [5] The community in the Lake Toba area has experienced "colonization" for more than 40 years since the presence of PT.IIU in the 1980s, which has caused horizontal conflicts with the local community and customary law in several customary forest areas. The conflict has been prolonged and has not found a bright spot in the resolution, [6] therefore it is deemed necessary to conduct in-depth research to find problems and solutions, the recommendation.

2. Research Methodology

This research employs a doctrinal legal research method, specifically normative legal research, combined with a Reform Oriented Research approach. Normative legal research involves examining legal products, legal principles, legal systematics, legal synchronization, both vertically and horizontal legal synchronization, and comparative law, including historical legal analysis. This research also incorporates the Reform Oriented Research method. This method evaluates the adequacy of existing regulations and recommends necessary changes. [7] This method empowers researchers to propose new legal principles that can be incorporated into the legal framework, potentially informing future law enforcement practices. [8]

2.1. Research Approach

The method used in this study is the normative legal research method, with a descriptive analytical approach. Descriptive analytical means describing and depicting something that is the object of research critically through qualitative analysis. Therefore, what is to be studied is within the scope of legal science, the normative approach includes: legal principles, synchronization of laws and regulations, including efforts to find inconcreto law. In this study, the researcher focuses on several cases concerning the postponement of the execution of death row convicts which is a serious violation of human rights. In a normative legal study, the use of a statute approach is a definite thing. [9] It is said to be definite because, logically speaking, normative legal research is based on research conducted on existing legal materials. [10]. Even though, for example, research is conducted because there is a legal vacuum, the legal vacuum can be identified because there are already legal norms that require further regulation in positive law. [11] According to Johnny Ibrahim, in relation to normative research, 7 (seven) approaches can be used, namely: Statute Approach; Conceptual Approach; Analytical Approach; Historical Approach; Philosophical Approach, Case Approach. Compare this with the opinion of Peter Mahmud Marzuki who only categorizes 6 (six) methods of approach

used in legal research, namely: Statute Approach; Conceptual Approach; Analytical Approach; Historical Approach; and Case Approach. [12]

2.2. Research Specification

The research specification to be conducted is descriptive analytical in nature, which will provide an explanation of the postponement of the execution of the death penalty as a violation of human rights. The analysis is conducted legally by studying the principles and relevant legal theories to find the best solution concept for death row convicts who have not/have not been executed even though their rights are violations of human rights, as an effort to provide legal protection for the death row convicts has been completed. [13].

2.3. Types and Sources of Legal Materials

Because the approach method in this study is a legislative approach, the data collection tool is focused on documents or library materials, in the form of: legal materials obtained through literature studies, including browsing on several internet sites. [14] The legal materials reviewed in this study include: Primary legal materials (Authoritative legal) materials, including: in the form of various laws that are directly or indirectly related to the main problem of the research; Secondary legal materials (provide explanations about primary legal materials, including: literature, writings and seminar papers, as well as opinions from several legal experts that have been published, especially related to research problems.; Tertiary legal material, provide further information about primary legal materials and secondary legal materials, in the form of: Kamus Besar Bahasa Indonesia; Black's Law Dictionary Sixth Edition; Dutch-Indonesian Legal Dictionary. [15] In addition to the three types of legal materials, this study will also use primary data or non-legal materials, namely: the results of interviews with several legal experts. The results of this interview are primary data or non-legal materials, because even though the interviews were conducted based on a list of written questions that the researcher had prepared. The interview process was carried out freely, verbally and not bound by the researcher's list of questions, so that it could take place flexibly with a more open direction, thus, the data and information obtained would be much richer and more varied. According to Peter Mahmud Marzuki, the results of an interview are not basically legal material, but can be used as secondary legal material if the researcher compiles several questions or presents legal issues in writing, so that the interviewee can provide his opinion in writing.

2.4. Legal Material Collection Technique

The data obtained in the form of primary, secondary and tertiary legal materials, are analyzed qualitatively normatively in the sense that they are arranged systematically and completely. [16] Then, the collected data is reviewed and analyzed in the form of a description without using mathematical formulas. Furthermore, the analysis is expressed in a logical, systematic, philosophical and practical discussion construction, [17]

2.5. Legal Material Analysis Technique

The legal materials obtained from the literature research are then analyzed, [18] in the following manner:
The primary, secondary and tertiary legal material, obtained are arranged systematically to obtain a clear and comprehensive picture of the discussion on the in Indonesia; The tthree legal material are analyzed legally and historically. Legally includes a legal study of the legal protection for indigenous communities against unlawful acts by companies that damage the environment. While the historical approach is carried out to understand the philosophy of legal rules from time to time; After the analysis of the three legal materials has beencompleted, the results of the analysis obtained based on library research are matched with primary data or non-legal materials, namely: in the form of interview results from sources, so that from both of them a conclusion can be drawn regarding the problem being researched, especially based on the main problems raised in this study.

2.6. Research Sites

Kaldera Lake Toba, North Sumatera, Jakarta, Indonesia

3. Literatur Review

Lake Toba located in North Sumatra Province, Indonesia, was caused by a great explosion of a very powerful volcano, releasing 2,800 km^3 and 2,000 km^3 of volcanic eruption material, was formed, while the magma that had not yet come out, pressed from bottom to top causing the formation of an island in the middle of the lake, namely Samosir Island. There are seven districts in North Sumatra: Karo, Simalungun, Samosir, Dairi, Toba, Humbang-hasundutan, and North Tapanuli surround Lake Toba. Geologist from Eastern Illinois University, [19], the eruption buried the Indian Ocean. According to records from the Department of Geology at San Diego State University, America, the eruption of Krakatau only killed around 36,417 people. The thickness of the volcanic dust reached the stratosphere so that the sun could not penetrate the earth, the world was pitchblack.

According to literature, [20] about six years of sunlight did not enter the earth, this affected the lives o f flora and fauna, as well as humans. The Toba eruption is also estimated to have triggered a dust storm for 200 years in the world. Gregory A.Zielinki, a geologist from the University of Massachusetts, [21] and the discoverer of 2 to 4 megatons of sulfuric acid in the Greenland ice core in the early 1990s predicted a major explosion in the period 71,000-75,000 ago. The researchers finally reached Toba, the eruption of Mount Toba also broke

the chain of migration of homo sapiens or the ancestors of modern humans. According to Gagarin, [22] Sumatra Island is on the ring of fire. Reinout Willem Van Bemmelen, a Dutch geologist, known as the Father of Lake Toba, [23] was the first discovered the theory that Lake Toba was a crater from a volcanic eruption, while exploring Lake Toba in 1939. After observing numerous volcanic rock deposits or ignimbrite rocks on land, Bemmelen concluded Lake Toba was a giant volcanic crater. He named Mount Toba the Batak Tumor. The results of his research, Mount Toba is not cone-shaped like mountains in general. Mount Toba has erupted 4 times.

United Nations Educational, Scientific and Cultural Organization (UNESCO) finally recognized the Toba Caldera as a Global Geopark at 209th Session on July 7, 2020 in Paris, after long struggle for nine years since it was proposed in 2011. It is predicted that its thickness will reach 500 meters. [24] Research capabilities are not yet optimal; there is still a lot of potential from the Toba eruption that is neglected. Toba Lake also holds the status as the deepest lake, with a depth reaching 450 meters. Its area is 1,145 km^2, almost twice the size of Singapore. Lake Toba has various functions with a fairly intensive level of utilization, including as a water source for Hydroelectric Power Plants, tourism activity areas, fishing and cultivation areas, and as a source of raw water. [25] The status of the Toba Pulp Lestari Limited Liability Company area is still in the form of an allocation directive (designation), but the government has issued a concession on it.

Lake Toba (Tao Toba) is a large natural lake, which located in the caldera of a super volcano, across seven districts in North Sumatra Province, Indonesia. It is 100 kilometers (62 mi) long, 30 kilometers (19 mi) wide, 508 meters (1,667 ft.) deep, and surface elevation about 900 meters (2,953 ft.). Streching from 2.88 ℕ 98.52 ℇ to 2.35 ℕ 99.1 ℇ, it is recognized as Indonesia's largest lake and the world's largest volcanic lake [26]. Formed as the result of a VEI 8-level supervocalno eruption about 69,000 to 77,000 years ago, [27]; [28] which triggered global climate change. Using current best estimates dating method: the eruption happened around 74,000 years ago, [29] was the largest explosive eruption on Earth in 25 million years. Based on Toba catastrophe theory, [30] the eruption is thought to have mass deaths and major popuations loss, especially in East-Central Africa and India, affecting genetics of populations to the present. [31]. Scientists agree that the Toba eruption triggered a volcanic winter that caused global temperatures to drop by 3 to 5 ℃ (5.4 to 9.0 ℉), and up to 15 ℃ (27 ℉) in high latitudes. Further research in Lake Malawi, East Africa, found ash deposits from the Toba eruption, but found no evidence of major climate change in East Africa. On June 18, 2018, a ferry disaster occurred on Lake Toba, drowning more than 190 people. [32]

Most of the inhabitants of Lake Toba are Batak. Their traditional houses can be recognized by the shape of their roofs (the ends curve upward like a boat) and bright colors [33] The surrounding population largely depends on developing freshwater fisheries. [34] Lake Toba has various types of phytoplankton, also surrounding rainforest, including tropical Sumatran pine forest in the higher areas. [35] Lake Toba also has several species of zooplankton, benthic animals, and rare native Batak fish [36]. The species is threatened by sediment from deforestation, water contamination and level changes, also the presence of new fish species. [37]. Other native fish species [38], Osphronemus goramy, [39], and Xiphophorus hellerii. [40]. In May 2012, the Samosir Regency Government issued a decree of the Samosir Regent No. 89 dated May 1, 2012, concerning the Granting of a Location Permit covering an area of 800 hectares in the Tele Forest, in the villages of North Sumatra, to PT Gorga Duma Sari. It is alleged that this permit allowed PT GDS to cut down natural wood in the forest without having an AMDAL. [41] This caused three environmental activists from North Sumatra to return all the award certificates that had been given by the Ministry of Forestry, and the State Palace. [42] At the time, Environment Minister Balthasar Kambuaya, who issued the business license and person in charge, gave administrative sanctions to close business activities. [43]

4. Finding and Disscussions

4.1. Overlapping Concessions with Customary Law

Initially, it was for planting domestic capital, PT. Indorayon Inti Utama (IIU/TPL) then changed to foreign investment. The foreign investors who entered were Cellulosa International S.A. (6.2%), and Scann Fibre Co. S.A. from Luxemburg (9.3%). Domestic shareholders were Sukanto Tanoto (24.3%), Polar Yanto Tanoto (5.8%), PT Adimitra Rayapratama (25.2%), PT Inti Indorayonesia Lestari (18.5%), Hendrik Muhamad Affandi, Semion Tarigan, and Hakim Haryanto. President Soeharto approved the expansion of Indorayon, on November 20, 1990. Additional investment took place. Minister of Forestry Hasjrul Harahap increased Indorayon's HPH to 269,060 hectares, on June 1, 1992. The concession area includes North Tapanuli, South Tapanuli, Dairi, Simalungun, and Center Tapanuli.

Based on the research results metadata, it can be stated that various violations of the law, criminal acts committed by PT. TPL are not benefits, but rather disasters and misery that have emerged more, since PT. Inti Indorayon Utama (IIU/TPL) obtained a permit from the Investment Coordinating Board at the end of 1983. The corporation owned by tycoon Sukanto Tanoto (Tan Kang Hoo) has caused endless problems from the beginning until now. Its behavior is very exploitative, naughty, divides society, and causes misery for many people, which are the causes. The Minister of Forestry. gave permission to Indorayon (IIU) in 1984 to work on 86 thousand hectares of pine forest in North Sumatra (Sumut). In 1986, this corporation also received a forest concession of 150 thousand hectares

from the authority. However, the problem was that some of these concessions overlapped with customary land, including customary forests (Customary Law Communities).

Table 1. Significant changes in Land Cover and Forest Ownership Around PT. TPL Concession.

No.	Year Period	Land Ownership
1.	1990	Has a Plantation Forest of 38,000 hectares and forest cover in the concession area of 67,196 hectares.
2.	1996	The area of this plantation forest is still the same as before.
3.	1996-2000	The area of the plantation forest increased to 44,565 hectares and the natural forest cover (primary and secondary) decreased to 59,000 hectares or shrank by around 8,000 hectares in 4 years.
4.	2000-2006	Expansion of plantation forests did not occur.
5.	2006-2009 (3 Years)	Massive forest clearing for eucalyptus plantations. Of the 44,000 hectares, around 10,000 hectares of natural forest (primary and secondary) were used up for the expansion of eucalyptus plantations. Of the 59,000 hectares, plantation forests became 60,000 hectares. On the other hand, forest cover decreased to 49,000 hectares, from 44,000 hectares.
6.	2009-2010 (1 Decade)	The area of plantation forests increased to 72,000 hectares or increased by around 12,000 hectares.
7.	2002-2020 (2 Decade)	Loss of forest cover/deforestation (primary or secondary) by TPL activities 67,000 hectares.
8.	1995-2025 (3 Decade)	Since the Indorayon era until now (more than 3 decades) the company has cleared 72,000 hectares of forest and land.

Source: Toba Pulp Lestari (TPL) Limited Liability Company Data Concession

Massive deforestation around Lake Toba for the past 3 decades has caused environmental disasters, flash floods that killed a number of residents, d amaged property, and people's agricultural land. For example, in Samosir Regency: Sabulan and Ransang Bosi Villages, Sitiotio District, (April 29, 2010); Bonan Dolok Village, Sianjur Mulamula District (March 8, 2018); Habeahan Naburahan Village, Aek Sipitudai Village, and Sarimarihit Village, Sianjur Mulamula District (March 21, 2019); Buntu Mauli I and Ransang Bosi Villages, Sitiotio District, (May 3, 2019); and Holbung Village, Sitio-Tio District (December 8, 2019), Simangulampe Hill Landslide, Bakkara, Samosir (2024), flash floods from the Sihotang hills as a result of eucalyptus cutting hit 4 villages: Siparmahan, Dolok Raja, Sampur Toba and Tupru Limbong Village January 2024), and various other disasters. Deforestation in the upstream of Lake Toba also resulted in flash floods. [44]

Samosir Island now faces various serious threats that are interrelated and worsen environmental conditions: Massive Illegal Logging, Ecosystem Fragmentation and Degradation, Erosion and Land Destruction, Lack of Technical Regulations and Governance, Absence of Regional Government. This crisis is not just a technical matter, but a reflection of the bureaucracy's lack of seriousness in managing ecological heritage for future generations. The change in status to Protected Forest through SK.44/Menhut-II/2005 and later strengthened by SK.579/Menhut-II/2014 legally provides additional protection for this area.

Table 2. Administrative Area of PT Toba Pulp Lestari.

No.	Regency/City	Habinsaran	Aek Raja	AekNauli	Tele	Tapanuli Selatan	Total	Percentage (%)
1.	Toba	11.559	-	-	-	-	11.559	7
2.	Tapanuli Utara	15.206	33.735	-	-	-	48.941	29
3.	Simalungun	-	-	18.874	-	-	18.874	11
4.	Asahan	-	-	1.486	-	-	1.486	1
5.	Tapanuli Tengah	-	2.662	-	-	-	2.662	2
6.	Humbang Hasundutan	-	9.165	-	9.614	-	18.779	11

No.	Regency/City	Habinsaran	Aek Raja	AekNauli	Tele	Tapanuli Selatan	Total	Percentage (%)
7.	Dairi	-	-	-	4.420	-	4.420	3
8.	Samosir	-	-	-	30.657	-	30.657	18
9.	Pakpak Barat	-	-	-	2.194	-	2.194	1
10.	Tapanuli Selatan	-	-	-	-	13.265	13.265	8
11.	Padang Lawas Utara	-	-	-	-	13.265	13.265	8
12.	Kota Padang Sidimpuan	-	-	-	-	1.839	1.839	1
	Total	26.765	45.562	20.360	46.885	28.340	167.912	100

Source: PT. Toba Pulp Lestari Tbk: https/www.tobapulp.com

Poor waste management, hazardous chemicals usages results water and air pollution, harmed aquatic ecosystems, also adversely affect human health. Legal Violations in the Forestry Sector in Concession Areas, illegality of PT TPL's Areas and Concessions:

Table 3. *Illegality of PT TPL Area and Concession, after being revised 8 (eight) times, The latest SK 307/Menlhk/Setjen/HPL.0/7/2020, PT Toba Pulp Lestari's permit area is now 167,912 hectares, spread across 10 districts.*

No.	Sector	Outside area (Hectares)	Regency
1.	Tele	46.885	Samosir, Pakpak Barat dan Humbang Hasundutan
2.	Aek Nauli.	20.360	Simalungun.
3.	Aek Raja	45.562.	Tapanuli Utara, Tapanuli Tengah, Humbang Hasundutan
4.	Habinsaran	26.765	Toba dan Tapanuli Utara
5.	Padang Sidempuan	28.340	Tapanuli Selatan
	Total	167.912	

Ecological Justice for the Community Local communities in geopark Toba Caldera are not only victims, but also witnesses of the systematic environmental degradation process. The lack of legal recognition of customary forests places the community in a vulnerable position, both ecologically and socially. In facing the complexity of this crisis, a multi-dimensional approach is needed that is not only reactive, but also proactive and supports sustainability: Reforestation must be carried out with an ecosystem approach; Ecological restoration needs to consider endemic plant species; The government is required to immediately issue regional regulations that recognize the existence and management rights of indigenous communities over their forests; All perpetrators of forest destruction must be dealt with firmly. The law must be present as a tool of ecological justice; Forest area management planning must be carried out transparent, including participation from media. It is time for the government to stop being passive and take real action. This ecological crisis is a loud alarm if not addressed immediately, not only will Samosir Island suffer, but the entire ecosystem of Lake Toba will be destroyed.

4.2. The International Law Communities

Global declarations and persuasive research indicate that there is a relationship between the rule of law and sustainable development. Some parties question the strength and direction of causality in this relationship. However, the correlation beteen societal compliance with the rule of law and progress towards stability and development need not be questioned any further [45]. The international community has identified the rule of law as the foundation and safeguard for good governance and associates good governance and the rule of law with sustainable development [46]. This statement serves as a catalyst in this study to measure the extent to which the law enforcement process, one of the pillars of the rule of law, organizes and manages the environment in Indonesia as a develop-

ing country in support of sustainable development. Some studies question whether legal reforms have been effectively implemented in developing countries concerning their performance in terms of accountability, fair laws, open governance, and accessible and impartial dispute resolution [47].

The existence of Customary Law Communities in the Republic of Indonesia is recognized by the constitution. Therefore, they must be protected. The Constitution, in the 1945 Constitution Article 18B (2) Chapter VI concerning Regional Government, states: "The State recognizes and respects customary law community units and their traditional rights as long as they are still alive and in accordance with the development of society and the principles of the Unitary State of the Republic of Indonesia, which are regulated by law." The 1945 Constitution Article 28l (3) Chapter XA concerning Human Rights states: Cultural identity and the rights of traditional communities are respected in accordance with the development of the times and civilization.

Law number 32 of 2009 concerning Environmental Protection and Management, Article 1 point 31 reads: Community groups that have traditionally lived in a certain geographical area because of ties to ancestral origins, a strong relationship with their environment, and a value system that determines economic, political, social and legal institutions. Constitutional Court (MK) Decision No.31/PUU-V/2007, defines Customary Law Communities as a single customary law community along with its traditional rights that are still de facto existing and/or alive if they contain at least the following elements: a community whose citizens have group feelings, customary government institutions, customary assets or objects, customary legal norms, and customary legal territory. Constitutional Court Decision No. 35/PUU-X/2012: First, placing customary forests as part of state forests is a disregard for the rights of customary communities. Second, customary forests are removed from state forests and then categorized as rights forests.

Articles 13, 14 and 15, Right to Develop Oneself; Article 17, Right to Obtain Justice Everyone, without discrimination, has the right to obtain justice by filing applications, complaints, and lawsuits, both in criminal, civil, and administrative cases and being tried through a free and impartial judicial process, in accordance with procedural laws that guarantee objective examination by honest and fair judges to obtain a just and correct decision. However, in practice, legal discrimination is often experienced by indigenous peoples in the TPL concession area. This can be seen from the difference in the police's response to TPL's complaints against indigenous peoples (very fast) and, on the other hand, the response to indigenous peoples' complaints against TPL's actions.

Articles 29, 30, 31, 33, and 35, the Right to a Sense of Security Indigenous peoples who are struggling to defend their customary territories often experience acts of violence, criminalization, and intimidation. The right to a sense of security guaranteed by law is a rare commodity that is difficult to obtain. Data collected by the North Sumatra Legal Aid and Advocacy Association, [48] shows that since 2002 there have been 16 cases of criminalization of indigenous peoples carried out based on TPL reports to the Indonesian National Police. Of the 16 cases, there were 12 indigenous communities and 93 indigenous people who were victims of criminalization. Of the 93 people who were criminalized, 40 were brought to court. Of them, 39 people were found guilty by the panel of judges and 1 person was acquitted. In addition, there were 47 people who were suspects and 6 people with reported status. The loss of the Right to a Sense of Security was experienced by indigenous communities. They were afraid when working in customary areas. If there was a mass action, the police often conducted sweeps into villages and customary forests to look for men. In 2013, dozens of men from the Pandumaan-Sipituhuta indigenous community were forced to flee the village because they were being hunted by the police after being reported by TPL. This condition also caused trauma among women and children.

The following are several cases of the loss of the Right to a Sense of Security experienced by indigenous communities in Tano Batak due to the presence of TPL, for example: In January 2021, TPL reported 3 members of the indigenous community (Anggiat Simanjuntak, Pirman Simanjuntak, and Risna Sitohang), Huta Natumingka, Borbor District, Toba Regency, on charges of destroying crops belonging to PT. TPL; Tuesday, May 18, 2021. A total of 12 residents were injured and bleeding due to violence by TPL workers. The victims were Jusman Simanjuntak (Ompu Leo, 76 years old), Jepri Tambunan (34 years old), Swardi Simanjuntak (28 years old), Ricard Simanjuntak (21 years old), Samson Hutagaol (34 years old), Hasiholan Hutapea (38 years old), Hisar Simanjuntak (56 years old), Setio Minar Simanjuntak (56 years old), Tiurlan Sianipar (45 years old), Nursita Simanjuntak (35 years old), Sabar Sitorus and Agustin Simamora (26 years old); Since 2002, TPL has criminalized 5 Sihaparoas residents. In 2002, the police arrested Arisman Ambarita. Then, on September 6, 2004 at 16.00 WIB, members of the Indonesian Police Mobile Brigade together with TPL security arrested Mangitua Ambarita and Parulian Ambarita.

Articles 36, 37, 38, and Article 40 of the Right to Welfare. Frankincense is the main source of livelihood for generations of indigenous people in Tano Batak. The occurrence of social conflict, violence, intimidation, and criminalization against farming families and indigenous peoples in the concession area has also traumatized children. The right to be kept away from acts of social unrest and other events containing elements of violence as regulated in the Human Rights Law is often ignored. [49] In the early hours of February 2013, for example, hundreds of police officers conducted a sweep and searched the homes of Pandumaan-Sipituhuta residents. The incident left trauma for women and children. The sound of gunshots, screams, and beatings experienced by their parents were like a dark fog that lingered in their memories. Similar incidents often occur in other concession areas. In Sihaporas,

among others. Missing The lack of living space and the main source of family livelihood also adds to the burden on children. They should have the right to protection from economic exploitation and any work that endangers them. That way, their education, physical health, morals, social life, and spiritual mentality will not be disturbed. Currently, many children in the concession area have to work hard in the rice fields and fields after their parents lost their jobs in the frankincense forest. The loss of economic independence that farming families once had in Tano Batak has become a burden for children. They must be involved in increasing family income by working harder in the fields and fields.

4.3. Committing Human Rights Violations

Alleged Violations of Law No. 39 of 1999 concerning Human Rights (HAM), define Human Rights as a set of rights inherent in the nature and existence of humans as creatures of God Almighty and are His gifts that must be respected, upheld and protected by the state of law, government, and every person for the sake of honor and protection of human dignity. For more than 40 years of operation, PT Toba Pulp Lestari has been a company that is not friendly to Human Rights. History records various human rights violations that it has committed. Referring to Law No. 39 of 1999 concerning Human Rights: Article 9, Right to Life. The damage to the function of the Watershed Area also plays a role in the decline in the number of rice fields in the downstream tourist destinations (DTA) area. Data from the Toba Regency Agriculture Service recorded that over the past 5 years there has been a conversion of rice fields from 19,917 Ha to 17,089 Ha. The area of rice fields in Toba Regency which is famous as a rice barn in the Lake Toba area has decreased by 2,830 ha.; Articles 13, 14 and 15, Right to Develop Oneself; Article 17, Right to Obtain Justice Everyone, without discrimination, has the right to obtain justice by filing an application, complaint, and lawsuit, whether in criminal, civil, or administrative cases and be tried through a free and impartial judicial process, in accordance with procedural law that guarantees an objective examination by an honest and fair judge to obtain a fair and correct decision.

Approximately 40 years of operation, PT. IIU/TPL, is a company that is not friendly to Human Rights. History records various human rights violations. Referring to Law. No. 39 of 1999 concerning Human Rights, article 9, the Right to Life. Resistance from the community around the area has continued since it began operating until now, but the company continues to implement various strategies so that it can continue to operate. Loss of the Right to a Sense of Security of indigenous communities, when working in customary areas. Police often conduct sweeps into villages and customary forests to search for men. In 2013, the damage to the function of the Watershed Area (DAS) played a role in the decline in the number of rice fields in the downstream DTA area. Data from the Toba Regency Agriculture Service recorded that over the past 40 years there has been a conversion of rice fields from 19,917 Ha to 17,089 Ha. Over the past five years, the rice field area in Toba Regency, which is famous for being a rice barn in the Lake Toba area, has decreased by 2,830 ha. [50]

Committing Criminal Acts of Crimes Against Humanity and Divide-and-Rule Politics, to sharpen the discussion and analyze this problem, the results of legal research conducted by: Agustin Simamora, Wilson Nainggolan, and Domu D. Ambarita (Coordinator) can be presented, which found that: the chronology of PT. TPL's presence in the Lake Toba caldera area, began when PT Inti Indorayon Utama (PT IIU) proposed the establishment of a factory in an area of 200 hectares in Sosor Ladang, Porsea, on October 31, 1984, pros and cons immediately emerged. A Joint Decree (SKB) was issued by two ministers, BJ Habibie and Emil Salim regarding the operational requirements of Indorayon, on November 13, 1986. The contents were "concerning the requirements that must be met by PT IIU in carrying out the construction and operation of an integrated pulp and rayon project/factory with environmental insight. [51]

Destroying the Order of Local Wisdom Dalihan Natolu, is a socio-cultural philosophy of various tribes in North Sumatra. The terms and names of this social institution vary but the essence is the same. In the Toba, Simalungun, and Angkola-Mandailing Bataks it is called Dalihan Natolu. In the Karo Community, Rakut Sitelu and in the Pakpat people, Sangkep Nggeluh. Dalihan Natolu is a triangular framework that includes kinship relationships due to blood or marriage relationships that connect groups. The sound of this philosophy is somba marhulahula (attitude of respect and worship to the wife's family), elek marboru (attitude of protecting and persuading daughters), and manat mardongan tubu (attitude of being careful with friends of the same clan). [52] Dalihan Natolu is not only a social institution, but also a binding customary legal system, dynamically applicable in society, unified, and not contradictory to religious law and positive law. Thus, it contributes positively to a society that wants to live in unity, harmony, peace, togetherness, respect, and mutual cooperation. Even so, the principles that have been practiced for generations for hundreds of years have been damaged and threatened with destruction due to the divide and rule politics of Indorayon.

4.4. Customary Law Community Protection Act

The community is criminalized, the existence of customary law communities is not recognized. The community has never occupied the forest. The Indigenous Community has controlled their customary land for generations since the 1700s. However, the customary area is claimed by the state which granted a concession permit to PT Indorayon, which later changed its name to PT TPL. According to criminal law expert, Dr. Ahmad Sofyan, the indictment based on Law No. 11 of 2020 concerning Job Creation is inappropriate because the law has been declared conditionally unconstitutional by the Constitutional Court and revoked by Perppu No. 2 of 2022, which

was then stipulated as Law No. 6 of 2023. Thus, the indictment must be based on the current applicable law, namely Law No. 6 of 2023. This conflict should not be included in the criminal realm. Meanwhile, constitutional law expert, Yance Arizona, stated that the land conflict between PT TPL and indigenous peoples occurred because the state ignored the rights of indigenous peoples. Based on the Constitutional Court Decision No. 35 of 2012, [53].

Customary Forests are Not State Forests. The state should be present to resolve this conflict administratively, not criminally. The Ompu Umbak Siallagan Indigenous Community has filed a request for their customary territory to be excluded from the PT TPL concession, which has been processed by the Ministry of Environment and Forestry through Decree No. 352/MENLHK/SETJEN/KUM.1/6/2021. Considering that the policy in Simalungun Regency has not provided a Regional Regulation on the recognition and protection of indigenous legal communities, the principle of restoring and advancing the rights of indigenous peoples can be followed up by the Ministry of Environment and Forestry. “The best opportunity for handling land conflicts in Simalungun is to use the Regulation of the Minister of Environment and Forestry Number 9 of 2021 concerning Social Forestry Management, especially the sixth section, paragraph 4, article 73, which allows an integrated team to facilitate the identification and mapping of customary law community areas.

In general, the Provincial and Regency Governments of Toba and North Tapanuli expressed positive appreciation and were prepared to support the work of the Integrated Verification Team, so that the resolution of customary territory disputes in Lake Toba can be resolved immediately. One important note conveyed by Dr. Suryo Adiwibowo in this meeting was the need to seek "wisdom" from this verification process. The processes of proving the existence of Customary Law Communities (CLC), its Customary Territory with all its dynamics will not be possible if all parties only adhere to their respective positions. Through these efforts, the value of its commodities can continue to be developed through entrepreneurial activities for the independence of indigenous communities, [54].

Indigenous legal communities, accused of controlling forests claimed by PT. TPL concessions, Head of Indigenous Community Sentenced to 2 Years in Prison and a Fine of IDR 1 Billion. The panel of judges at the Simalungun District Court found the Head of the Dolok Parmonangan Indigenous Community Sorbatua Siallagan guilty of occupying a forest area and burning state forests claimed by PT. Toba Pulp Lestari's concession. Sorbatua was sentenced to two years in prison, a fine of IDR 1 billion, subsidiary to six months. The legal team also filed a pretrial lawsuit regarding the legality or otherwise of the arrest of the five indigenous peoples with the Simalungun District Court. Various groups of people were kidnapped, kicked, beaten and even electrocuted during the arrest. This is not in accordance with the procedure for arresting someone, there was no arrest warrant and it was carried out in the early hours of the morning. Therefore, it needs to be followed up so that there is no more narrative of indigenous people being kidnapped. [55]

Customary communities are the same as customary law communities. "It's just a matter of naming. The same as naming customary rights, customary land or wcustomary area. That means that the Batak people are clearly indigenous people. The state has admitted to being negligent and ignorant regarding customary forests in accordance with Law No. 41 of 1999 which states that customary forests or rights forests are located within state forest areas. Constitutional Court Decision No. 35 of 2012 confirms that customary forests belong to indigenous peoples. In fact, Toba Regency has recognized the existence of indigenous peoples through Regional Regulation No. 13 of 2000 concerning the Empowerment and Preservation and Development of Customs, Community Habits and Institutions and Regional Regulation No. 1 of 2022 concerning the Customary Rights of the Toba Customary Law Community. The current condition is a regression because there are already regulations. Minister of Home Affairs Regulation No. 52 of 2014 is no longer relevant to use because the 2 regional regulations already exist. In Permendagri 52 of 2014, the historical and customary territory requirements are mandatory. Meanwhile, customary institutions, customary laws and historical objects are considered complementary because they are dynamic. On the other hand, SK 352 KLHK has been followed up during the administration of the North Tapanuli Regent [56]

The Minister of Environment and Forestry prioritizes the acceleration of the Confirmation of Forest Areas in strategic areas; one of which is customary forests which are part of the customary areas of indigenous peoples. The ratification of the Indigenous Peoples Bill is important as a large umbrella to regulate the complexity of the interaction between customary law and state law in the social space [57] The Ministry of Human Rights will soon discuss the Indigenous Peoples Bill. The fate of indigenous peoples is increasingly threatened by development, various investment projects that are carried out actually harm the human rights values of indigenous peoples. The Indigenous Peoples Bill must bridge this problem [58].

Local Community Activity Restriction Regulations, one of the issues examined in this research is related to environmental law enforcement, including its arrangement, management, and applic ation against those who pollute and damage the environment [59]. Among them are Presidential Regulation No. 81 of 2014 concerning the Spatial Plan for the Lake Toba Area & Surroundings, PUPR Ministerial Regulation No. 28 of 2015 concerning the Determination of River and Lake Boundary Lines, to the local level, namely Samosir Regional Regulation No. 3 of 2018 concerning the Regional Spatial Plan of Samosir Regency.

In Chapter II, which addresses the role and function of the spatial plan as well as the scope of the Lake Toba area, the first section—concerning the role and function of the Lake Toba area spatial plan—states in Article 3: The spatial plan for the Lake Toba area serves as an operational instrument for

the national spatial plan and as a coordination tool for the implementation of development within the Lake Toba area, with the aim of improving environmental quality, socio-cultural conditions, and the well-being of the community.[60]

The potential for eviction still exists, this regulation allows for 'control if necessary (Article 20 paragraph (1) of PUPR Regulation No. 5/PRT/M/2015). The community is not excessively vigilant, because the implementation of regulations and policies that are centralistic, take place and are effective immediately. For this reason, state power will be mobilized with all efforts to implement the Regulations and policies on the boundaries of the lake and river. The potential for eviction still exists, this regulation allows for 'control if necessary (Article 20 paragraph (1) of PUPR Regulation No. 5/PRT/M/2015). The prohibition on raising livestock and dumping waste, even though the majority of the population in the Lake Toba area, especially the areas bordering the lake and rivers, are livestock breeders and farmers. Lake Toba is experiencing fertility (eutrophication) which causes the biota in Lake Toba to be uncontrolled. If we observe the fish species in Lake Toba, then the dominant population is the immigrant species, which is invasive (red devil) and similar populations, dominating the fish species in Lake Toba. [61]

4.5. The Universal Tano Batak Community Resistance Movement

PT. Inti Indorayon Utama (IIU) which has now changed its name to PT. Toba Pulp Lestari (TPL) has made a long history of community resistance in Tapanuli. The entrepreneurs and implementers active in the government believe it has less influence since environmental issues may be solved as long as maintenance and law enforcement are carried out. The tools to minimize the side effect of the development is law enforcement but the research did not elaborate how the law enforcement should be carried out. The people in the Lake Toba area, have experienced colonization for more than 40 years. customary law communities. it is deemed necessary to submit a request to President Prabowo Soebianto, to close TPL, because its presence has caused environmental pollution which has resulted in damage/ecosystem tragedy, forest damage, and so on.

As a form of concern and moral responsibility of the community in Tano Batak and the Church Leader (Ephorus) of the Batak Protestant Christian Church, Dr, Viktor Tinambunan, as personally, and most likely the majority of the community in Tanah Batak, it is a striking irony, PT. TPL is a large-scale company that has been operating for decades on the ancestral land of the Batak people, but its basic social relations and communication with the surrounding community, remain foreign and undeveloped. In the context of business ethics and corporate social responsibility, as well as customary norms that are lived, the absence of this relationship is a structural failure and a form of neglect of the ethics of living together in society. PT. TPL has gained enormous financial benefits from the utilization of natural resources in the Tano Batak area.

But ironically, the accumulation of capital is not directly proportional to the increase in economic welfare and income of the local community. This inequality reflects the injustice of the distribution of economic benefits, and indicates the existence of an exploitative relationship. The most painful fact is that the existence of PT. TPL has triggered various forms of crisis social and ecological: starting from the destruction of nature and the balance of the ecosystem, a series of ecological disasters (flash floods, landslides, water, soil and air pollution, climate change), loss of life and injury, loss of productive agricultural land, damage to social relations between residents, to the accumulation of anger that has not received a democratic channel due to fear and repression. This is not just an incidental impact, but a long trail of structural conflict that has not been resolved with dignity. For this reason, it is called upon the Owners and Leaders of PT. TPL, as well as the government in power, to immediately close the operations of the TPL company, which is not just an emotional urge, but a preventive step to avoid a more severe crisis in the future, for the people Nation of Tano Batak, North Sumatra, and even for ecological sustainability at the global level. [62]

Church leaders in North Sumatra also called for the closure of PT Toba Pulp Lestari (TPL), in a meeting entitled: Strengthening the Role of the Church in Maintaining the Integrity of Creation and Social Justice in Tano Batak, Ephorus of Huria Kristen Batak Protestan, Rev. Viktor Tinambunan, in the President Prabowo Subianto's Asta Cita program, which includes attention to the environment and green economy, is in line with church values. Every business activity must be monitored in terms of its impact on the environment. Responding to his loud voice demanding the closure of TPL, Ephorus emphasized that the step was not driven by fear or courage alone, but rather a call of faith. This is not for personal gain, but for the common good and the future of future generations. Meanwhile, in a different place, Father Ambrosius Nainggolan emphasized that the Catholic Church has long been consistent in voicing environmental issues. There is no reason for Catholics to remain silent. Our demands are clear: first, close TPL, second, close TPL, and third, close TPL.

The meeting was also attended by Ephorus Huria Kristen Indonesia, Rev.Firman Sibarani, Secretary General of Gereja Kristen Protestan Simalungun, Rev.Paul Munthe, Secretary General of Gereja Kristen Protentan Indonesia, Rev.Humala Lumbantobing, Rev.Minaria Purba, Gereja Majelis Indonesia, Rev.JMP Siregar, Gereja Kristen Indonesia, North Sumatra, and a number of representatives of religious organizations who care about environmental issues. [63]

Calls for the government to review the existence of the PT.TPL pulp industry in the Tanah Batak area have strengthened again. From the FISIP-UMSU, Shohibul Anshor Siregar, that rejection of the industry had emerged since the beginning of its establishment plan, when the company was still called PT.TPL, that the long history of conflict between the company and the community in Tanah Batak, reflects serious social and

ecological problems. TPL, was founded on the people's rejection, that is a historical fact [64]

Indigenous people still feel like they are the disadvantaged party. Compared to industrial practices in other countries, it pays more attention to environmental aspects and community involvement. In countries like Canada and Scandinavia, companies must go through a long process involving indigenous communities before obtaining permits. The sustainable development or green economy, it is fully understood that the sustainable development needs the government role and law enforcement. All countries agree that economic development, social development, and environmental protection are interdependent and mutually reinforcing components of sustainable development.

Expansion of industrial development can have detrimental impacts on ecosystems and exacerbate climate change and biodiversity loss. It can also lead to social conflicts and perpetuate injustices, such as dispossession, marginalization, and denial of Indigenous Peoples' rights and self-determination. Moreover, the contexts in which this occurs can greatly influence Indigenous Peoples' ability to respond. Except for some recent studies of the environmental justice struggles of Indigenous communities and the intersection of mining with "land-connected peoples," industrial development threats to Indigenous Peoples' lands worldwide remain underexplored. Equally underexplored is how national contexts might influence the vulnerability of Indigenous Peoples' lands to conversion and increase the risk of development proceeding without their consent and in ways that undermine their values and visions for the future. [65].

Thus, environmental protection needs to be considered within the legal framework of Indonesia to support sustainable development. It is very important for the state to be present firmly to prevent the potential for a wider crisis in the future. Don't wait for the damage to become unmanageable, the government must act.

5. Conclution

A series of disasters that hit the Lake Toba area, became a phenomenon that occurred due to the El Nino climate change crisis where the weather could not be predicted, extreme temperatures, prolonged rain or drought, due to human activities, Community agricultural activities are the ones that play the biggest role in causing the climate crisis, in the Lake Toba forest area, hundreds of thousands of hectares of land that TPL has exploited in the Lake Toba forest area. This phenomenon not only threatens environmental sustainability but also human life and the ecosystem as a whole. This disaster is not a natural disaster, but a disaster caused by human actions or an ecological disaster. Therefore, the community demands to: close TPL make repairs and provide compensation for damage to agricultural land. Therefore, the district government in the Lake Toba area needs to immediately make recommendations for disaster management policies, its unique topography and geology, which makes this area vulnerable to natural disasters, landslides, soil erosion, and even earthquakes, which are actually exacerbated by human deforestation activities that have been going on for a long time and have occurred massively by extractive company activities, becoming the main cause of the climate crisis and vulnerability to ecological disasters throughout the Lake Toba area.

The government must seriously involve the community, especially in disaster-prone areas, in formulating the Regional Medium-Term Development Plan and Environmental Assessment, which includes: inventory of climate change impacts, estimates of the impacts and risks that can be caused by disasters, intensity and scope of disaster areas, and threats to the protection of certain areas traditionally carried out by the community and customary law communities. The Regency Government must allocate ready funds in the Regional Budget for social assistance, including meeting living needs; restoring physical infrastructure for education, health, and agriculture; and providing trauma recovery support for both material and human victims. The District Government of the Lake Toba area, needs to immediately compile a Disaster Mitigation Portal and Disaster Hazard Map based on the Geospatial Information System, which contains disaster information such as landslides, earthquakes, floods accompanied by details of the vulnerability of the area; Needs to immediately include the Disaster Mitigation Portal and Disaster Hazard Map in a District Regulation, which regulates: that the provision of emergency facilities for education, health, and agriculture must be immediately available in the event of a disaster; Complete all disaster management activities as soon as possible including the restoration of infrastructure and community living space after the disaster. From a Theological perspective, how the relationship between humans and nature should be that it determines the survival of humans on earth, which does not belong to humans, but is entrusted by God and must be guarded. There is a mandate from God to humans to rule over the earth, but it is manipulated, politicized to exploit the earth, which should be cared for and maintained.

Abbreviations

TPL Toba Pulp Lestari

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Data Availability Statements

All relevant data are included in the paper or its Supplementary Information. All data used for this study are included within the manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

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Biography

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