

# Sustainable forest-based law enforcement against corporate illegal logging: A comparative study of Indonesia and Malaysia

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**Abstract:** This research is based on the condition of the ever-rampant events of illegal logging perpetrated by companies in various areas in Indonesia and Malaysia. The issue of corporate illegal logging happened due to a concerning level of conflict of interest between companies, the government, and local societies due to economic motives. This paper aims to analyze the law enforcement on corporate illegal logging in Indonesia and Malaysia as well as the law enforcement on corporate illegal logging that is based on sustainable forestry. This research used the normative legal approach that was supported by secondary data in the forms of documents and cases of illegal logging that happened in Indonesia and Malaysia. This paper employed the qualitative analysis. Results showed that Indonesia had greater commitment and legal action than Malaysia because Indonesia processed more illegal logging cases compared to Malaysia. But mere commitment is not enough as the illegal logging ratio in Indonesia compared to timber production is 60%. Meanwhile, in Malaysia, it is 35%. This shows that the ratio of law enforcement in Malaysia is more effective when comparing the rate of illegal logging and timber production. The phenomenon of forest destruction in Indonesia happened due to a disharmonic situation or an improper social relationship between society, the regional government, the forestry sector, business owners, and the law-enforcing apparatus. The sustainable forest-based law enforcement concept against corporate illegal logging is carried out through the integration approach that involves various parties in both countries.

**Keywords:** sustainable forest; law enforcement; illegal logging; corporation; comparative study; Indonesia; Malaysia; law

## 1. Introduction

Around 63% of Indonesia's territory consists of land, which includes the forest area which reaches 120.6 million hectares. Based on their functions, forest areas in Indonesia are classified into three, i.e., (1) production forests with an area of 68.8 million hectares or 57% of the forest area; (2) conservation forests with an area of 22.1 million hectares or 18% of the forest area and (3) protected forests, with the area of 29.7 million hectares or 25%. Protected forests hold an important role in protecting the environment, preventing floods, controlling erosion, maintaining land fertility, and providing food for human life. Even so, the condition of the Indonesian forests has been degraded due to excessive exploitation and illegal logging, especially during the Reformation Era in 1998. Therefore, the Indonesian government applied safety steps of forest protection in an effort to conserve its forests, such as undergoing forest certification, applying a chain of custody to guarantee the legality of wood, mapping, permit issuing, enforcing the law, and strengthening the forest production system

(Ministry of Environment and Forestry of the Republic of Indonesia, 2018).

The issue of forestry that happens in Indonesia is related to the issue of conflict of interests between companies, the government, and local society, which has entered a concerning level (Absori et al., 2020). The lack of law enforcement and the high interests of capital owners towards the illegal felling of timber become issues in Indonesia. The high rate of illegal timber felling in some areas, such as the islands of Java, Sumatra, Kalimantan, Sulawesi, and West Nusa Tenggara, has caused terrible destruction of the Indonesian forests. Even worse, these cases cause new issues amongst the surrounding society (Abood et al., 2015).

One of the causes of forest destruction in Indonesia is illegal logging. The issue of illegal logging is triggered by various factors, such as the issue of forest area utilization by society, administrative issues concerning the timber felling permit, permits given to timber business owners, as well as administrative and criminal violations on timber stockpiles (Golar et al., 2024). Other issues that happen in society concern the issue of companies that violate the stipulations of their permits. They commit illegal logging as they excessively cut down trees in an amount that exceeds the permit. Meanwhile, the issue of regional governments and societal communities is that the latter deems the former as unjust as the communities were driven away from the forests even though have lived in forest areas for decades from generation to generation (Anugrahsari et al., 2020).

Administrative issues in this case were in the form of misuse of permits issued to companies to cut down trees. They misuse these permits by committing illegal logging activities. Influencing or authorized figures also misuse business permits issued by the government. Administrative and criminal violations were carried out through various cases of illegal logging. If nothing is done to this condition, it will leave a negative precedent for law enforcement in Indonesia (Purnomo et al., 2023).

Forest destructions due to illegal logging and fire which happened to North Sumatra, South Kalimantan, and West Kalimantan Provinces cause floods (Boediningsih and Tandiono, 2023). But it had made the speed of forest degradation reach 2.83 million hectares annually. Of the 12.05 million hectares of forest area, more than 590 thousand hectares are in critical condition. The forest destruction affected global warming which leads to climate change.

Indonesia has a rather extensive area of forests (Forest Watch Indonesia, 2002, 2019). Almost 90% of the world's forests are owned collectively by Indonesia and 44 other countries. Even, this country is called the world's lungs. Unfortunately, this state's assets have been destroyed by irresponsible individuals through illegal logging (Tacconi et al., 2004). Forests in the bordering areas between Indonesia and Malaysia, such as in Indonesia's West Kalimantan province, reach 14,680,700 hectares, consisting of 3,812,740 hectares of protected areas and 10,867,960 hectares of cultivation areas. Unfortunately, these forests' areas have decreased. In 2002, 2,163,570 hectares out of 2,978,700 hectares of forest was destroyed, making them become critical areas and causing floods reached. These forest destructions were caused by felling committed by permit holders of Forest Management Rights which exceeded the permitted forest areas. They were also caused by illegal logging, land opening for plantations, and forest fires (Potter, 2009).

Research conducted by Kusmayadi and Suparmoko in 2003 found that illegal

logging in the bordering areas of Indonesia's West Kalimantan province and Malaysia's Sarawak rampantly happen. Such actions were perpetrated in companies which do not have permits. Their impacts include causing destruction to the forest ecosystem, while also bringing impacts to the social, economic, political, defense, and security aspects. In this case, illegal logging was committed certain groups of people, including companies, by exploiting forests as well as illegally stealing, felling, managing, transporting, trading, and smuggling timber (Kusmayadi and Suparmoko, 2003).

The factors that cause the rampant illegal logging in the bordering areas of Indonesia and Malaysia include weak law enforcement, the weak legal awareness of society, people's lack of understanding of the law, people's compulsion due to economic motives, the weak legal sanctions for perpetrators that lacks a deterrent effect, as well as the limited amount of proper job opportunities for the people (Haniff et al., 2021). Therefore, there needs to be law enforcement against illegal logging perpetrators as well as the organization of anti-illegal logging socializations and campaigns. Adequate job opportunities must be available and there must be routine operations in the bordering areas that involve the Police Force and the regional government (Hernanda et al., 2023).

An interesting issue to analyze is that both Indonesia and Malaysia have interesting law enforcement issues for corporations that damage forests. These two countries generally have issues related to corruption (bribery, gratification, and collusion between apparatuses and corporations). The significant difference is that Indonesia has a greater ability to carry out measured actions by acting upon illegal logging cases as statistics proved that there was an increase in legal actions. Meanwhile, in Malaysia, legal actions on corporations tend to decrease. This situation can contextually be understood as damages due to illegal logging is more massive in Indonesia. Based on the effectiveness of these countries' actions, Malaysia has succeeded in decreasing the rate of illegal logging to 35% of the total Malaysian timber production compared to Indonesia's ratio of 60% (Noor et al., 2021).

Another significant existing issue is that in Malaysia, less illegal logging occurs on customary lands compared to the illegal logging in Indonesian customary lands. This was because Malaysia provides a greater right for customary societies. Thus, local communities (customary societies) actively participate in capturing tree-felling perpetrators and report cases to the apparatus.

From the aspect of the modus operandi or criminal motive, many corporations in Indonesia illegally fell trees in forests under the excuse of "clearing" or cleaning the companies' forest land concession. Meanwhile, the modus operandi in Malaysia is the over-area felling of trees in concession lands (exceeding the legal area) or still continuing the felling even though the concession period has exceeded the schedule.

Another interesting legal issue is that the legal concept in Indonesia acknowledges corporate legal action. This means that corporations which commit tree felling can institutionally be imposed with legal sanctions (such as having the corporation dissolved or closed) apart from punishing the employees and business owners with imprisonment. Such a facility is yet to exist in Malaysia.

The significance of this research is that forests are the lungs of the globe and Indonesia is one of the countries where illegal logging rampantly occurs. The rate of

illegal logging is very massive and horrifying, causing terrible environmental disasters. On the other hand, Malaysia has been able to limit the cases of illegal logging even though these two countries share a border. Another significance of this research is that the authors realize that Indonesia requires a sustainable policy on forest management which does not solely view forests as a source of the timber commodity (Setiawan et al., 2023).

A study conducted by Indonesia Corruption Watch (ICW) in Central Kalimantan in 2011 found that it is crucial to calculate the area of Indonesia's forests by calculating the rate of loss due to the opening of forests for the interests of oil palm plantations and illegal logging conducted by irresponsible parties, including corporations (Indonesia Corruption Watch, 2011). Therefore, there needs to be a concept of sustainable forest management so that the forest and ecologic resources can be enjoyed by the current and future generations. A clear regulation on forest management is also required, as well as decisive law enforcement towards perpetrators that illegally shift forests' functions for plantations and illegal loggers (Ridwan et al., 2022).

From the description above, the problems of this research are: What is the law enforcement on corporate illegal logging like in Indonesia? How does it compare with the law enforcement on illegal logging in Malaysia? Then, what is the law enforcement on corporate illegal logging that is based on sustainable forestry like?

## **2. Materials and methods**

This was normative legal research which was based on document data in the form of illegal logging cases that happened in Indonesia and Malaysia. This method is required as the researchers dominantly studied documents, reports, and some research. This normative type of research allows the researchers to elaborate on many types of data, including data from previous studies which portray using the sociological mechanism. With this normative method, the authors can perceive a wider spectrum. The analysis was carried out qualitatively by making categories of cases. Then, these cases were described and abstracted into a more general scale with national characteristics in the scales of Indonesia and Malaysia. The experimental data of this research was that this research collaborated data from Indonesian and Malaysian researchers in hope that each author may produce valid data. The experimental data were obtained from official institutional reports from these two countries as well as both sociological and normative research and scientific publications from various writers that studied corporate illegal logging (Wardiono, 2019). These data were then validated and processed as part of the experimental design. After the data were processed, the data from Indonesia and Malaysia were compared. Lastly, the conclusion was drawn.

The quality of research data was accurate and detailed considering that data comparisons from various sources allowed this research to portray accurate and quality data. The authors carefully selected the data and attentively examined every data, reference, and report to ensure data accuracy and preciseness (Fatih, 2023). Data collection, data processing, and data analysis were separately carried out. These steps were conducted by different researchers to prevent bias. The analysis was carried out using the descriptive qualitative approach to provide an accurate description of this

research and its results. This Research that has been conducted in Indonesia was compared with research on law enforcement in Malaysia. In the finalization section of the research, the researchers strived to formulate a concept of law enforcement on corporate illegal logging that is based on sustainable forestry.

### **3. Results and discussion**

#### **3.1. Law enforcement against corporate illegal logging in Indonesia**

Some cases of illegal logging perpetrated by companies caused losses in the forms of destruction towards the environment, state financial losses, as well as causing disasters such as floods. Some of these illegal logging cases have been put to trial, including:

- (1) The case of illegal logging in Indonesia carried out by Adelin Lis, Director of General Finance of Kaeng Nam Development Limited Company in Indonesia. Lis was indicted of carrying out felling on forests that were outside of the Annual Work Plan in the Mandailing Natal area of North Sumatra. She did not carry out the obligations of felling and collecting forest produce according to the Decision of the Ministry, including carrying out the silviculture system. The indictment was arranged by combining the cumulative and subsidiary indictments using the Law on Corruption Criminal Act and the Law on Forestry. On 5th November 2007 the Medan District Court gave a verdict of freeing Lis as her actions were deemed to only be categorized into the administrative area. Then, at the Cassation level, on 13th July 2008 the Judge Assembly that was led by Bagir Manan gave a verdict of imprisonment to Lis for 10 years and the obligation to pay a compensatory payment of Rp. 119,802,393,040 and US \$2,938,556.24 as a subsidiary of six months of imprisonment and a fine of one billion rupiahs. She was proven to have committed the criminal act of corruption through her actions in committing illegal logging.
- (2) In 2022, the director of CV Rizki Mandiri Timber Company named Sutarmi and an attorney named Salahudin were indicted for carrying out the act of illegal logging. They were put to trial in the Makassar District Court, South Sulawesi, absently. Sutarmi was the director of CV Rizki Mandiri Timber Company and the owner of 29 illegal wooden containers with the merbau/Moluccan ironwood type (Intsia bijuga) with a volume of 579 m<sup>3</sup>. Then, Salahudin was the attorney of CV Mevan Jaya company and owner of 3 illegal wooden containers with a volume of 59.96 m<sup>3</sup>. In their decision that was given in absentia, judges of the Makassar District Court punished each of them with 5 years of imprisonment and fines of 2.5 billion rupiahs based on Article 83 clause (1) letter b and Article 12 letter e of Law No. 18 of 2013 on the Prevention and Eradication of Forest Destruction. Judges gave the verdict in absentia as defendants were never present in the trials although they have been summoned many times. It was hoped that this decision may become a lesson for anyone, especially perpetrators of illegal logging and other crimes against the environment, so that they are deterred from repeating their actions.
- (3) The case of illegal logging and forest fires in Riau was perpetrated by corporate parties by felling trees in the protected forests of Riau Province. In 2021, the

Regional Police Force of the Riau Province uncovered 20 cases of illegal logging with 24 perpetrators. The law enforcement was a corporation between the Riau Regional Police Force, the Ministry of Environment and Forestry, as well as other related parties, including society. This showed that the Indonesian government has carried out decisive actions of law enforcement. It has also proven that the government is present in such issues and that it cannot lose against the crime of illegal logging as such a brings severe impacts towards environmental destruction. The law enforcement against illegal logging and forest fires in Riau Province has previously been carried out by bringing its perpetrators to trial. To uphold the environmental law, in 2016, the Ministry of Environment and Forestry filed a lawsuit against National Sago Limited Company, a subsidiary company of Sampoerna Limited Company which was located in Jakarta. The Ministry of Environment and Forestry claimed that the National Sago Limited Company destroyed 3000 hectares of forest area in Merantai, Riau. In this lawsuit, the Ministry of Environment and Forestry simultaneously took four routes, namely the mediation method, administrative method, criminal method, and civil method. The method of mediation has been conducted but an agreement failed to be met as there was no agreement on the amount of compensation that must be paid. In the civil method, the Ministry of Environment and Forestry demanded a compensation of 1.079 trillion rupiahs. Apart from that, this Ministry demanded the revocation of this company's business permit. In the criminal route, the police force handed this case over to the Attorney General and the attorney demanded 5 billion rupiahs as well as the environmental recovery fund of 1.4 trillion rupiahs. Then, the manager was demanded with 18 months of imprisonment and a fine of 1 billion rupiahs. The judicial decision stated that National Sago Limited Company was guilty and negligent as it did not have adequate means to protect the environment that was burned due to illegal logging. In their decision, the judges gave the perpetrator a verdict of paying 2 billion rupiahs.

- (4) Law enforcement against illegal logging in North Kalimantan was carried out by the Law Enforcement Agency of the Ministry of Environment and Forestry, where three suspected perpetrators of illegal logging in Nunukan Regency, North Kalimantan were caught with evidence of 2000 processed logs. The three perpetrators were deemed guilty and they were detained in the Police Headquarters of Samarinda City. Investigators of the Ministry of Environment and Forestry sued the three perpetrators with Article 83 clause (1) letter b which was changed into Article 12 letter e of Law No. 18 of 2013 on the Prevention and Eradication of Forest Destruction with a threat of 5 years of imprisonment and a maximum fine of 2.5 billion rupiahs. Other illegal logs were smuggled to Nunukan Regency without official documents and these logs were to be sold in that regency. Due to their actions, these perpetrators were sued with Article 12 letter e of Law No. 18 of 2013, Article 3 of Law No. 6 of 2023 on Job Creation, Article 323 clause (1), as well as Article 219 clause (1) of Law No. 17 of 2008 on Sailing with the accusation of sailing while bringing illegal wood without a Sailing Warrant issued by the Harbormaster.
- (5) In West Kalimantan, the forest destruction due to illegal logging that was perpetrated by companies is becoming worse and out of control. The timber logs

that were the result of illegal logging were suspected to be sold to timber processing industries as well as to the neighboring country of Malaysia. According to a key informant, Jamiat Wakadol, the condition of the decreasing forests in West Kalimantan forced the people to participate in felling local class 3 timber. But what was strange was that when they fell the trees alone, they were caught by the police.

On the contrary, large companies that cut timber wood for the reason of land clearing were not imposed by legal imposition by the law enforcing apparatus. The forest management in the form of forest bee farms applied in Kapuas Hulu Regency by the local society that has been made legal by the Regional Decision of Kapuas Hulu Regency was prohibited by the law enforcing apparatus. This happened even though the Regional Decision was aimed at supporting the wise management of forest bee farms based on local wisdom and bringing welfare to the local society. The people who lost their jobs in managing forests and forest produce changed their work. They worked by crossing the borders of state regions and they worked in oil palm plantations in Malaysia (Interview with Jamiat Akadol, 2023).

From the five cases above, it can be analyzed that forest destruction through illegal logging carried out by corporations often happens due to the economic motive to enrich oneself or other parties. They fell trees by increasing the felling capacity to supply timber industries. The actions they carried out were not supported by an analysis of the forest condition and the environmental buffering capacity and neither do they respect the natural rights of the forests that are attached to the local indigenous people (Yuspin et al., 2023). The corruption practice conducted by the illegal logging mafia were played by companies and other related parties. Apart from that, the perpetrators of illegal logging also perceived forests as industrial plants that will be used as raw materials. They have the tendency to see the forest as an economic potential that will greatly bring profits to companies and other parties (Arizona and Illiyina, 2024).

There needs to be efforts to neutralize the perspective that Indonesia is a country that is known as a destructor of the environment that caused victims of various disasters. Natural disasters happen more often and environmental destruction become more rampant in various areas due to uncontrolled illegal logging. A report from Jawa Pos media on Tuesday 4 September 2007 entitled "Illegal Logging" stated that from the Reformation of 1998 to the beginning of 2017, forest destruction became even more apparent due to illegal logging in various areas in Indonesia. Such an action caused the degradation of forests, land, and the environment as well as caused natural disasters (Prasetyanto et al., 2023).

According to Nurdjana et al. (2008), illegal logging is a set of actions in the forestry sector to use and manage wood produced from the forests through actions that violate the applicable legal regulations and that have the potential to destroy forests. Sitorus et al. (2023) explained that there are two types of illegal logging: (1) illegal logging carried out by valid operators that violate the stipulations of the permit they have; and (2) timber thieves, where trees are cut by people who have no right to fell trees (Sitorus et al., 2023).

Concerning illegal logging, apart from the existence of legal regulations that regulate it, the government has also issued a special policy in the form of the

Instruction of President No. 4 of 2005 which ordered the Head of the Republic of Indonesia's Police Force and the Attorney General to act decisively to perpetrators and process them through a quick and complete law enforcement from the investigation, demanding, to the execution processes (Rosyadi et al., 2021). The operational policies in eradicating illegal logging issued by the government are carried out in several areas in Indonesia. operations as well as the forest operations in Lestari Forest Village and its community (Insani et al., 2023). But so far, these policies have not been able to eradicate the crime of illegal logging.

Illegal logging is visibly carried out by companies in various areas in Indonesia. It seemed like what they carried out was not touched by law. Even, they have ignored the governmental policies on conservation programs to save forests from destruction. Unfortunately, the rampant illegal logging defeats the fertility of the forest ecosystem (Rohmy et al., 2021).

Another issue emerged concerning land encroachment and control which involves the local society. The activities of refugees or “encroachers acting as refugees” become even more worrying. The condition of the Leuser Mountain National Park area is very concerning. Therefore, the ecosystem mechanism, animal habitat, as well as the development of biodiversity are highly disturbed. According to the Yayasan Leuser Indonesia (YLI/Leuser Foundation Indonesia), refugees control the Leuser Mountain National Park land with an average of 10–15 ground chains (0.5 hectares for every family) as planting grounds. Ninety percent (90%) of refugees work as perpetrators and labor of illegal logging. The documentation of YLI showed that 50 chainsaw units operate every day to destroy the Leuser Mountain National Park area (Surono, 2009).

The issue of illegal logging carried out by companies involved local societies and it was supported by some individuals from the law enforcement apparatus. Local people around the location currently tend to be part of the mass that is directly involved in this action, while some others reject such illegal practices. Then, another group consists of people that are indirectly involved. Society supports this phenomenon as an alternative source of economic income in fulfilling their daily life needs and obtaining additional income (Marilang et al., 2021).

In some areas, part of society rejects and resists the crime of illegal logging while others support such practices. Even, their services tend to be used by outside parties, such as business owners, to aid such practices, considering that the people who live around the forests have more knowledge of the area. They know secret passages to discreetly bring vehicles that transport timber. It was found that the impacts of forest destruction have started to be seen and felt by society. Floods have stroked various areas in Indonesia.

The advantage of the illegal logging handling system in Indonesia is that in this country, a single law applies equally. Another advantage is that the sanctions imposed are much more severe as the fines imposed may reach billions of rupiahs (which is equivalent to millions of Malaysian ringgits). Meanwhile, in Malaysia, the fines only reach tens of thousands of ringgits. Then, its other advantage is that companies which commit illegal logging may institutionally be sanctioned (such as dissolved or made bankrupt). Without this regulation, sanctions will only be imposed on corporate employees or managers, leaving the corporation free to damage forests in the future.



Even so, Indonesia also has some disadvantages, including the fact that the phenomenon of forest destruction in Indonesia happened due to a disharmonic situation or improper social relationship between society, the regional government, the forestry sector, business owners, and the law-enforcing apparatus. Society and business owners expect the forest areas to be maximally used for social welfare. Society and especially the customary society have limited access to the forest. They are faced with obstacles in the form of strict regulations which cause them to violate applicable formal regulations by carrying out actions that are deemed illegal by the forestry apparatus. Apart from that, business owners often provide bribes to pay corrupt officials. There is an unhealthy practice related to the act of letting illegal logging perpetrators go under their reason that their action was carried out to “clear” forest land under concession. Departing from the phenomenon above, all social relationships certainly have a certain level of antagonism, tensions, and emotions as a result of individuals’ desires to increase their welfare, power, prestige, social support, or other achievements (Poloma, 1987).

### **3.2. The law enforcement on illegal logging in Malaysia**

The environmental, economic, and social effects of illegal logging are acknowledged by the Malaysian government, which emphasizes the need to preserve its forests and therefore stop illegal logging. Legislative authority over forests and land is the sole prerogative of state governments, as stipulated by the Malaysian Constitution’s Article 74(1), Schedule 9 (The Government of Malaysia, 1957). This section outlines the power allocation between federal and state governments. Accordingly, each state has created its own regulations regarding land and forests based on its own requirements. Thus, it is imperative to consider regional variations across Peninsular Malaysia, Sabah, and Sarawak while debating Malaysian forest policy or legislation. The national government of Malaysia has been working toward the creation of a unified forest strategy since the National Forestry Council (NFC) was established in the 1970s (Halim et al., 2024). The NFC served as a forum for the federal and state governments on problems and issues relating to forestry policy, administration and management. In 1978, consensus on forest management and administration was reached and a National Forestry Policy (NFP) was adopted (Official Website, 2024). It affirms state responsibility for forest management but stresses that forest law enforcement should be guided by the NFP. The NFP specifies that each state should maintain a minimum portion of its land as permanent forest reserves and that these forest reserves should be classified according to their purpose. Therefore, Malaysia’s forest policy has been determined by three separate bodies:

- 1) Peninsular Malaysia Forest Department in Kuala Lumpur;
- 2) Forestry Department Sabah in Kota Kinabalu; and
- 3) Forest Department Sarawak in Kuching.

Besides NFP, in Malaysia, laws related to illegal logging primarily fall under forestry and environmental legislation, with penalties for offenders outlined in these laws. Some key laws and regulations pertaining to illegal logging in Malaysia include (Maruthaveeran et al., 2022):

- 1) National Forestry Act 1984 (Revised 1993): This act provides regulations for the

conservation, management, and development of forests in Malaysia, and governs activities related to logging, timber extraction, and forest management. The act outlines regulations for obtaining logging licenses and permits, as well as penalties for illegal logging activities.

- 2) Environmental Quality Act 1974 (Act 127): This act regulates activities that may cause pollution or environmental degradation, including logging and timber extraction.
- 3) Wildlife Conservation Act 2010 (Act 716): While primarily focused on wildlife conservation, this act also prohibits activities that harm or disturb protected wildlife species and their habitats, which can include illegal logging activities that threaten forest ecosystems.
- 4) Malaysian Penal Code: Certain provisions within the Penal Code may be applicable to illegal logging cases, such as those related to theft (Section 378) or mischief (Section 425), depending on the circumstances of the offense.
- 5) State Forestry Enactments: Each state in Malaysia has its own forestry legislation, known as State Forestry Enactments, which complement the National Forestry Act. These enactments govern forestry activities within the respective states and may include specific provisions addressing illegal logging and associated penalties.

Penalties for illegal logging in Malaysia can vary depending on the severity of the offense, ranging from fines to imprisonment, as well as confiscation of illegally harvested timber and equipment used in illegal logging activities. Enforcement of these laws is typically carried out by various agencies, including the Department of Forestry, the Royal Malaysian Police, and the Malaysian Anti-Corruption Commission, among others (Derous, 2019). Generally, apart from government agencies, non-governmental organizations (NGOs) and civil society groups are vital in monitoring forests, educating the public about the effects of illegal logging, and pushing for stricter enforcement of environmental laws. The Department of Forestry oversees putting anti-illegal logging measures into action, which include issuing permits, conducting inspections, and working with other agencies and stakeholders. The Malaysian Anti-Corruption Commission (MACC) is also involved in investigating and prosecuting cases of corruption related to illegal logging. The Royal Malaysian Police also takes part in enforcement actions, conducting raids and apprehending individuals involved in illegal logging operations.

One major problem that has major social and environmental repercussions in Malaysia is illegal logging by corporation. Though logging is governed by rules in Malaysia, illegal logging by businesses persists because of several factors, including profit-driven motives, lax enforcement, and corruption. According to Tacconi (Lintangah, 2014), illegal forest activities encompass a range of activities, from the preparation of the forest to the harvesting and transportation of raw materials and completed products, as well as financial management. They also include acts connected to the establishment of land rights and corrupt practices to obtain forest concessions.

Some Malaysia's disadvantages in handling illegal logging is (Rusli and Simin, 2009):

- 1) Corruption: By enabling businesses to get around laws or acquire permits through

bribery or other illegal means, corruption in law enforcement and regulatory organizations can encourage illegal logging.

- 2) **Lax Enforcement:** Corporations can participate in illegal logging with little chance of being caught or penalized if forestry rules and regulations are not strictly enforced. Enforcement gaps are caused by a lack of resources, poor monitoring, and difficulties in patrolling large, forested areas.
- 3) **Land Conversion:** To make way for agricultural endeavors like oil palm plantations or timber estates, corporations may unlawfully log forests. When forests are converted for commercial use, important ecosystems and habitats are frequently cleared, which reduces biodiversity and degrades the environment.
- 4) **Lack of Accountability:** Some businesses may act without consequence, disobeying local laws and environmental standards in the sake of profit. Illegal logging and its related effects may be made worse by business operations that lack accountability and transparency.
- 5) **Violations of Indigenous Rights:** When businesses engage in illegal logging, they may intrude on indigenous territories, infringing upon the rights of indigenous groups that rely on forests for their traditional ways of life. Because of illicit logging, these communities frequently experience social unrest, resource loss, and displacement.

The advantage of the Malaysian legal system is that the Malaysian apparatus has a lower rate of corruption. Another advantage is that there is relatively no conflict of interest between society, customary society, law enforcing apparatuses, business owners, and the government. This makes the illegal logging ratio compared to timber production lower than in Indonesia. The next advantage is that Malaysia poses a greater respect to customary societies. Therefore, in cases where there is illegal logging in customary societies' areas, society will help capture the perpetrators or report the case to the law enforcement apparatus. This situation is rarely found in Indonesia.

In Malaysia, efforts to combat corporate illicit logging necessitate multi-stakeholder cooperation and all-encompassing tactics. To do this, it is necessary to fortify enforcement mechanisms, improve corporate practices' transparency and accountability, support sustainable forestry management, uphold the rights of indigenous people, and address the root causes of illegal logging, which include the need for timber and land conversion. Initiatives to enhance governance and fight corruption are also necessary to address this complicated problem and protect the Malaysia forest for the future generation (Mohd, 1999).

Timber harvesting became the primary source of state revenue in Sabah and was essential to the state's early development. Sabah is endowed with some of the richest rain forests on the planet (Chervier et al., 2022). As the backbone of the state's economy, forestry produced between 60 and 70 percent of the state's overall revenue in the 1970s and 1980s. Severe logging, often followed by conversion to agriculture, drastically reduced Sabah's forest cover (Yayasan Sabah, 2019). The government's revenue share from the forest industry fell over time, from 60%–70% in the 1970s and 1980s to 30%–40% in the late 1990s. Due to unchecked wood exploitation and extensive forest area conversion to other uses, particularly oil-palm plantations, Sabah's forest resources have been severely reduced (Lintangah, 2014).

Sabah Forest Enactment (1968), and Forest Rules (1969, 1995) prescribe all aspects of forest administration, planning, management, development, and regulation of the harvest of forest resources, forest revenue collection and development of forest-based industries. Part IV of the Enactment specifies penalties and procedures for dealing with forest offences. Forest offences have been recorded since the forest administration systems were introduced to regulate the forest and forest resources in the state (Mohd, 1999).

The Sabah Forest Department (SFD) divided forest offenses into several categories in 1993. These included unlawful logging, wood smuggling, log pricing transfers, undervaluing and undegrading of timber, falsely declaring shipment data, and misclassifying timber species. According to the severity of the punishments, Lintangah (2014) classified the forest infractions listed in the Forest Enactment 1968. These include unlawful felling, general offenses, evading royalties, illicit removal of timber (timber smuggling), illegal vehicles used in the extraction of timber, encroachment into state or forest reserve, damaging forests through fire, and other various crimes.

The SFD is responsible for overseeing and arranging the documentation and communication of forest offenses according to the primary classifications found in Section 20 (trespassing within forest reserves), Section 23 (trespassing within state land), Section 30 (1) (g) (illegal possession of forest product, Section 30 (A) (b) (evasion of royalty), Section 20 (1) (c) (i) (trespassing within forest reserves), Section 20 (1) (b) (iii) (illegal cultivation in forest reserves), and Other categories of forest offenses (violations of logging license conditions, etc.). in order to solve the issues, the state government of Sabah has introduced a scheme to involve private enterprise in rehabilitation and long-term management of the State's forests. Logged over forests covering 2.7 million ha has been allocated in 27 Forest Management Units. In exchange for cutting rights, the unit managers employ professional foresters to prepare forest management plans, implement low impact logging methods, and rehabilitate degraded forests.

From 2001 to 2013, there were 3054 cases of forest offenses reported, with a general downward trend in the frequency of occurrence. The years with the greatest number of instances were 2002 (372 cases), 2003 (299 cases), and 2005 (331 cases). The year with the lowest number of cases was 2013 (95 cases). 36% of all instances fell under the category of "other categories," which includes violating licensing requirements, according to the breakdown of cases by kind of offense. There were more incidences in this category, with an average of three cases annually (Omran and Schwarz-Herion, 2019).

The Forest Enactment, 1968's Section 30 (1) (g) offenses accounted for 18% of all cases, with an average of 5 instances year, and a decreasing trend in incidence. According to Section 20 (1) (c) (i), accessing a forest reserve without authorization accounts for 16% of all instances, with an average yearly decrease of 7 cases. Sections 20 and 23, which deal with illegal logging in forest reserves and state land areas, respectively, recorded 12% decreases in annual averages of 17 and 11 cases, respectively, for illegal logging in forest reserves and state land areas, respectively. Section 20 (1) (b) (3)'s illicit cultivation inside forest reserves was the cause of 4% of all cases, with an average of 9 cases annually on the rise. Section 30 (A) (b) of the law

reported 2% of all cases involving royal evasion, with an average yearly reduction of 4 cases. During the period of 2001 to 2013, 1758 individuals were arrested for forest offenses. Out of all those detained, 1203 (68.43%) have been brought before the court; of those, 1054 (87.51%) have been found guilty and given sentences (Lintangah et al., 2014). The management of the state's forests is still hampered by forest offenses (Allen and Barnes, 1985). Nonetheless, the overall pattern of the reported forest instances was declining.

The Sabah Forestry Department significantly improved its response to forest crimes between 2001 and 2010. According to Lintangah et al. (2014) the Sabah Forestry Department took significant measures to address the issue, including updating the law, organizing the department, and increasing the number of enforcement and investigation staff, which may have contributed to the increased frequency of forest offenses after 2001. Furthermore, since the Investigation, Enforcement, and Prosecution Division was formed in 2001, there has been a significant improvement in the data recording of forest offense cases. The Forestry Department's primary problem remained to be violations falling under other categories, which included violating license requirements. In addition to recruiting Honorary Forest Rangers to handle forest crimes in the state, SFD has arranged multiple investigation and prosecution courses involving staff ranging in level from Forest Rangers to Forestry Officers.

According to Lintangah et al. (2014), the high conviction rate of individuals who are detained and brought before the court suggests that the personnel involved in the process has improved their capacity for investigation and prosecution. The ideal degree of cooperation for enforcing forest laws has made it easier for employees and other State agencies—such as the Secretary of Natural Resources, Sabah Forestry Department, Lands and Surveys Department, District Office, Police, etc.—to coordinate effectively. The adequate logistics and infrastructure supplied by the federal and state governments was another feature that helped to sustain the enforcement programs and activities. These included field staff's continuous ground patrols, especially on weekends and public holidays, and the sporadic aircraft surveillance that all District Forestry Officers conducted. The Sabah Forestry Department recently started a new initiative wherein they provided selected Forestry Officers with firearms to deter and defend themselves from criminals (Jilimin et al., 2011).

Types of Forest Law Infractions in Sabah these are the types of forest law infractions (Qamar et al., 2013): Violations of the Forest Enactment committed by holders of forest licenses, logging contractors outside of their authorized zones of operation, and other non-right holders of timber harvesting and forest use. Violations of the terms of the forest license by logging contractors and holders of forest licenses inside the designated areas of the licenses.

The Forest Department's Enforcement Unit handles all illegal actions, and the punishments for them include fines, imprisonment, or both. The Forest Enactment and individual forest licenses both specify the penalties for different types of offences. Penalties: Forest offenses are subject to processes and penalties that are outlined in Part IV of the Sabah Forest Enactment 1968. Additionally, a different schedule of fines for "Breaches of License Conditions" is included with every forest license.

Out of all the 13 Malaysian states, the state of Sarawak, located in East Malaysia on the Island of Borneo, has the biggest amount of forest, covering 68 percent of its total area (8.3 million hectares). A permanent (production) forest estate (PFE) has been established on almost 4 million hectares of this forest to provide steady supplies of raw materials for the expanding forest products sector in the state. The predominant vegetation in the state's steep interior, mixed dipterocarp woods, make up Sarawak's forests (Hurst, 1990).

The Sarawak Forest Ordinance (1958, revised in 1996) describes three types of forest land and the procedures for administering them (Blakeney, 2000).

- 1) Permanent Forest Estate (PFE) for commercial forest harvesting and for indigenous communities to hunt, fish and gather forest produce for their own use.
- 2) Totally Protected Area (TPA) National parks, nature reserves and wildlife sanctuaries, where collecting forest produce, hunting, and fishing is prohibited.
- 3) State Land Forest (SLF) includes areas not reserved as forests under the Forest Ordinance.

Sarawak's National Parks Ordinance (1956) and Wildlife Ordinance (1958) complement the Sarawak Forest Ordinance and are also administered by the Sarawak Forest Department. Types of Forest Law Infractions and their underlying causes are (Diway et al., 2023).

- 1) Management Offences

Offences committed by Forest License Holders and Logging Contractors within their approved forest license areas. Examples of Management Offences by Licensees and Logging Contractors.

- a) Logging in coupes which have been closed;
- b) Logging in coupes without valid Permission to Enter Coupe (PEC);
- c) Harvesting of Undersized and Protected Trees by Licensees;
- d) Harvesting of species not covered by license document (e.g., Belian license holder cutting Meranti trees, etc.);
- e) Low risk of detection. Illegal activities are often committed in remote locations;
- f) Illegal logs can be quickly converted to sawn timber, which is mixed with timber from legal (documented) sources, thereby destroying the evidence.

- 2) Illegal Forestry Activities

Offences committed by forest license holders, logging contractors, etc. outside of their sanctioned operating areas, or by other parties who have no timber harvesting or forest use rights. Examples of Illegal Forestry Activities are:

- a) Logging by licensees or contractors in areas outside of their approved forest license;
- b) Illegal felling and forest encroachment for agricultural cultivation;
- c) Illegal logging by unauthorized parties in forest reserve, state forest, protected area;
- d) Blockades, sabotage, and other forms of civil disobedience by native land rights claimants, designed to hinder operations of forest licensees or logging contractors;
- e) Transporting, processing, marketing of illegally harvested timber.

Penalties for specific infractions are specified under Section VI of the Forests

Ordinance (1958) and Amended Ordinances (1996) along with procedures for dealing with various infractions of forest law. Punishment is commensurate with the severity of the case and whether it is settled out of, or in, court (Bryan et al., 2013). Fines are generally based on the quantity and value of timber involved. For instance, it is 200 per stump for illegally felled trees. If the case is settled between the Forest Department and the offender, the fine is generally twice the value of timber involved plus the royalty applicable. If the case goes to court the penalties can be much more severe, i.e., 10 times the value of the timber, plus a RM 50,000 fine, plus a jail sentence of up to 5 years (Haniff et al., 2021).

Examples of penalties which apply to various types of forest law infractions are listed below (Muadi, 2021).

- 1) Unlawful trespassing in a Forest Reserve, perpetrators are imposed with fines with the amount of RM 50.
- 2) Obstructing a forest road, perpetrators are punished with 2 years in prison and fines with the amount of RM 6000 plus RM 50 per day for every day the road remains blocked.
- 3) Illegal felling in Forest Reserves and Protected Areas, perpetrators are imposed with fines with the amount of RM 200 per stump, e.g., unauthorized tree felling, felling under-sized trees, and felling protected species.
- 4) If the case goes to court and the offender is found guilty, he may have to pay a fine to the Forest Department of 10 times the value of the forest produce, plus a RM 50,000 fine to the court and up to 5 years imprisonment. Actions which are threatened with these punishments include illegal timber export or exceeding the prescribed annual production limit.
- 5) False use of government license marks, perpetrators are punished with 2 years of imprisonment and fines with an amount of RM 5000.
- 6) Unlawful possession of forest produces, perpetrators are punished with 5 years in prison and fines with an amount of RM 50,000.
- 7) If the forest produce has no government mark, an additional fine of 10 times its value is imposed.
- 8) Compensation for damage caused by commission of an offence against the forest ordinance. The compensation is 10 times the value or RM 2000, whichever is greater.
- 9) All penalties are doubled if the offence occurs at night or for second conviction.
- 10) The arresting forest officer can also remove persons from the forest who he believes committed forest offenses and seize their vehicles and equipment. The officer can also demolish buildings and other property used in committing the offense.

### **3.3. The concept of sustainable forest-based law enforcement on illegal logging**

Law enforcement on the crime of illegal logging perpetrated by companies using legal stipulations to sue and punish its perpetrators in Indonesia and Malaysia has not fulfill the legal need, which is to protect society and the environment. The efforts of law enforcement to handle the crime of illegal logging in the forestry sector in

Indonesia and Malaysia are still unable to satisfy all parties. The governments of Indonesia and Malaysia have carried out regional cooperation with ASEAN and international countries to handle the crime of illegal logging. This was one of the efforts conducted to cut the network of illegal logging crime, especially in the forms of the trading, smuggling, and exporting of timber from illegal sources (Colchester, 2019).

The issue of illegal logging recently obtained attention from countries across the globe (Winkel et al., 2017). Apart from the fact that such an action makes various parties concerned due to its impacts that are deemed to have caused natural disasters such as floods, landslides, as well as water supply scarcity, illegal logging has also caused a different perception of its concept. This different perception of the illegal logging concept certainly brings impacts and even conflicts in applying a legal regulation, in this case, the national law (Kishor and Lescuyer, 2012).

The crime of illegal logging can be categorized as an extraordinary crime, considering the terrible impacts this crime may cause (Sari et al., 2009). Two dimensions of time are impacted by this practice, i.e., the dimension of the current society and the dimension of future generations. In other words, illegal logging causes direct impacts (felt by the current society) as well as indirect impacts (that will be felt by future generations). In its practice, illegal logging involves multiple actors. It is not only carried out inter-regionally but it is a trans-national crime (Sari et al., 2009).

The issue of illegal logging perpetrated by companies and environmental crises is not only a national issue of countries such as Indonesia and Malaysia but it must also be perceived as an international issue. Countries must commit to actively taking the role of decreasing the emission of waste gasses and the greenhouse effect that will cause the occurrence of global warming. The destruction of the Indonesian or Malaysian forests as countries in the tropical climate means the destruction of part of the world's lungs. This generally contributes towards the increase of the earth's temperature and the occurrence of global warming, which threatens the livelihood of human beings.

**Table 1** is comparison law enforcement between Indonesia and Malaysia how to handle the forest destruction caused by illegal logging committed by companies, a spirit of the deep ecology movement must be encouraged.

Actions on destructing and encroaching forests that happen to part of the world in certain countries are deemed unethical behavior (Mustafa, 2009). Sustainable forests are a part of the perspective on sustainable development in which its existence must be placed as a need and aspiration of humans of the current and future generations. Therefore, human rights which include economic, social, cultural, and developmental rights can help clarify the direction and orientation in formulating the concept of sustainable development. More concretely, it cannot be denied that the human right to a good and healthy environment becomes a crucial part of human rights. Efforts to create sustainable forests cannot be separated from the stipulation that the developmental process must improve the dignity of humans and the environment. In this case, the existence of sustainable forests must continually be maintained to create a just and equitable human welfare (Purwanto et al., 2024).



**Table 1.** The table law enforcement comparison between Indonesia and Malaysia.

No	Point of Comparison	Indonesia	Malaysia
1	Degradated areas	2.83 million hectares annually (Forest Watch Indonesia, 2002, 2019)	1,426,987 hectares annually (Qamar et al., 2013)
2	Sanction based on the law	Article 83 clause (1) letter b which was changed into Article 12 letter e of Law No. 18 of 2013 on the Prevention and Eradication of Forest Destruction regulated a threat of 5 years of imprisonment and a maximum fine of 2.5 billion rupiahs	Section VI of the Forests Ordinance (1958, 1996) regulated fines with an amount of Rm 200 per tree and imprisonment with a maximum period of 5 years
3	Special Sanction	Corporations could be closed by court decision	Perpetrators are banned from forestry corporations or any forestry-related businesses
4	Total perpetrators	The number of perpetrators in the year 2020 was 1429; in 2021 it was 2267; in 2022 it was 2567; and in 2023 it was 2962 (Direktorat Jenderal Penegakan Hukum Lingkungan Hidup Dan Kehutanan Kementerian Lingkungan Hidup Dan Kehutanan, 2024).	The number of perpetrators in the year 2020 was 397; in the year 2021 it was 467; in the year 2022 it was 642; and in the year 2023, it was 779 (Ebrahimian and Nurrudin, 2024).
5	The ratio of illegal logging to timber production (Noor et al., 2021)	60%	30%
6	Total fine	Rp. 20.79 trillion (Direktorat Jenderal Penegakan Hukum Lingkungan Hidup Dan Kehutanan Kementerian Lingkungan Hidup Dan Kehutanan, 2024).	RM 4.2 million (Malaysia Ministry of Forestry, 2023)

There is a philosophical basis of the law enforcement against illegal logging perpetrated by companies based on sustainable forests. It is a perspective of life and a commitment to all life-supporting components. It encompasses the cooperation of various parties, i.e., the state, companies, as well as national and international societies. Companies that are so far deemed as having a role in forest destruction must obtain an understanding of their responsibility towards the existence of forests and the environment. This may be manifested in the form of compensatory payment for environmental services that will then be used to fund the recovery of destroyed forests and the environment. In developed countries, the compensation payment for forests and the environment has been put in the budget of the company's plans of funding and expenditures long before. These funds will routinely be issued to compensate for environmental rehabilitation (Djafar et al., 2023).

In this case, sustainable forest-based law enforcement against illegal logging is part of the realization to achieve holistic sustainable development. Its aspects include:

(1) equality and social justice; (2) respect for the diversity in forest areas, where biodiversity is maintained; (3) usage of the integrative system, i.e., sustainable development which emphasizes the relationship between humans and the natural environment, including forests; and (4) in the long-term perspective, society tends to perceive that the current period is more important than the next. Therefore, there must be an encouragement on the perspective that it is important to consider the interests of future generations.

#### **4. Conclusion**

The law protection against illegal logging in Indonesia is still ineffective due to the existence of conflicts of interest between society, customary societies, governmental apparatuses, business owners, and the government. As a consequence, the law enforcement is not in order. Even so, there is the existence of a single legal system in Indonesia. Apart from that, the level of corruption in Indonesia is much higher than that in Malaysia. Even though more criminals were punished in Indonesia and its sanctions are more severe compared to that in Indonesia, it was shown that only a small ratio of illegal loggers have been processed by the law. Indonesia also lacks appreciation in the form of acknowledgement to customary societies. Therefore, the law tends to side with corporations in the case of forest resource conflicts with customary societies.

The law enforcement on illegal logging in Malaysia has a varied system between one state and another. Therefore, it is not very effective in implementing its laws. Its lower level of corruption also makes the handling ratio percentage more ideal. There is relatively a minimum amount of conflicts of interest between the various parties. At this point, Malaysia has a greater advantage compared to Indonesia. The legal sanctions for illegal logging perpetrators including fines and imprisonment are less severe in Malaysia compared to those in Indonesia. Apart from that, Malaysian law does not institutionally impose sanctions on corporations, unlike Indonesia.

The issue of illegal logging is carried out by companies by involving local societies and it is supported by some apparatus members. The law enforcement carried out by the law enforcement apparatus is not yet optimum, as proven by the rampant

cases of corporate illegal logging that happened in various areas in Indonesia. The law enforcement against corporate illegal logging perpetrated by companies based on sustainable forests is a philosophical basis, a perspective of life and a commitment towards all life-supporting components. The implication of the study from this research is that the concept of sustainable forests may be carried out through an integrative approach that involves various parties in both countries. This is to save the biodiversity and the existence of forests so that they can sustainably thrive. Apart from that, the existence of forests will give added economic value, create social justice, as well as bring welfare to society in general. Future studies related to this research can be conducted by seeking correct policies for both countries by elaborating on the advantages and disadvantages of Malaysia and Indonesia.

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## References

- Abood, S. A., Lee, J. S. H., Burivalova, Z., et al. (2015). Relative Contributions of the Logging, Fiber, Oil Palm, and Mining Industries to Forest Loss in Indonesia. *Conservation Letters*, 8(1), 58–67. <https://doi.org/10.1111/conl.12103>
- Absori, A., Nugroho, S. S., Budiono, A., et al. (2020). Indonesia as an ecocraciac country: The state's responsibility and the people's participation in preserving and in managing the environment quality. *Quality: Access to Success*, 21(179), 140–143.
- Allen, J. C., Barnes, D. F. (1985). The Causes of Deforestation in Developing Countries. *Annals of the Association of American Geographers*, 75(2), 163–184. <https://doi.org/10.1111/j.1467-8306.1985.tb00079.x>
- Anugrah Sari, I., Sardjono, M. A., Fitriyah, N., et al. (2020). Social contracts: Pillars of community conservation partnerships in Lore Lindu national park, Indonesia. *Forest and Society*, 4(1), 115–126. <https://doi.org/10.24259/fs.v4i1.8682>
- Arizona, Y., Illiyina, U. (2024). The Constitutional Court and Forest Tenure Conflicts in Indonesia. *Constitutional Review*, 10(1), 103–135. <https://doi.org/10.31078/consrev1014>
- Blakeney, J. (2000). Overview Of Forest Law Enforcement in East Malaysia. Workshop on Illegal Logging in East Asia.
- Boediningsih, W., Tandiono, S. (2023). Dampak Negative Illegal Logging Terhadap Indonesia. *Lex Journal: Kajian Hukum Dan Keadilan*, 6(2), 124–142. <https://doi.org/10.25139/lex.v6i2.5319>
- Bryan, J. E., Shearman, P. L., Asner, G. P., et al. (2013). Extreme Differences in Forest Degradation in Borneo: Comparing Practices in Sarawak, Sabah, and Brunei. *PLoS ONE*, 8(7). <https://doi.org/10.1371/journal.pone.0069679>
- Colchester, M. (2019). Legal obstacles to territorial rights recognition, sustainable commodity production and forest conservation on forest peoples' lands in Southeast Asia with a focus on Indonesia and Malaysia. *Hunter Gatherer Research*, 4(1), 81–112. <https://doi.org/10.3828/hgr.2018.5>
- Deros, M. (2019). The EU and the problem of illegal logging: The case of the EU-Malaysia VPA. *European Foreign Affairs Review*, 24(3), 327–348. <https://doi.org/10.54648/EERR2019028>

- Direktorat Jenderal Penegakan Hukum Lingkungan Hidup Dan Kehutanan Kementerian Lingkungan Hidup Dan Kehutanan. (2024). National Report 2023. Ministry of Forestry Republic of Indonesia.
- Diway, B., Yiing, L. C., Wasli, M. E., et al. (2023). Forest structure and recovery in selectively logged forests in Sarawak, Malaysia. *Tropics*, 32(1), 1–14. <https://doi.org/10.3759/tropics.MS22-07>
- Djafar, E. M., Widayanti, T. F., Saidi, M. D., et al. (2023). Forest management to Achieve Sustainable Forestry Policy in Indonesia. *IOP Science*, 1181(1). <https://doi.org/10.1088/1755-1315/1181/1/012021>
- Ebrahimian, M., Nurruddin, A. A. (2024). Quantitative assessment of past and future tropical forest transition and its dynamic to streamflow of the catchment. *IForest*, 17, 181–191. <https://doi.org/10.3832/ifer4339-017>
- Fatih, S. A. (2023). *The Development of Legal Research Methods in Indonesia (Indonesian)*. Malang. UMM Press.
- Forest Watch Indonesia. (2002). *The State of the Forest: Indonesia*. Forest Watch Indonesia.
- Forest Watch Indonesia. (2019). *Forest Watch Indonesia Forest Monitoring Network Organization*. Forest Watch Indonesia.
- Golar, G., Muis, H., Isrun, I., et al. (2024). Deforestation as a catalyst for natural disaster and community suffering: A cycle in the socioecological system. *Folia Forestalia Polonica*, 66(2), 72–88. <https://doi.org/10.2478/ffp-2024-0007>
- Halim, N. H. A., Jiang, J., Abdu, A., et al. (2024). Impact of Malayan Uniform System and Selective Management System of Logging on Soil Quality in Selected Logged-over Forest in Johor, Malaysia. *Forests*, 15(5). <https://doi.org/10.3390/f15050838>
- Haniff, M. N., Noor, M., Kadir, R., et al. (2021). Issues of Forest Enforcement Against Illegal Logging and Forest Offences in Peninsular Malaysia. *Journal of Sustainability Science and Management*, 16(7), 260–272. <https://doi.org/10.46754/jssm.2021.10.019>
- Hernanda, T., Absori, Wardiono, K., et al. (2023). The Impact of Environmental Regulation Implementation: A Meta-Analysis. *International Journal of Sustainable Development and Planning*, 18(10), 3235–3242. <https://doi.org/10.18280/ijstdp.181023>
- Hurst, P. (1990). *Rainforest politics: ecological destruction in South-east Asia*. Rainforest politics: Ecological destruction in South-east Asia. Zed Books Publishing.
- Indonesia Corruption Watch. (2011). *Calculating State Losses Due to Illegal Logging (Indonesian)*. Indonesian Corruption Watch.
- Insani, N., Ridhoi, R., Fitriyati, U., et al. (2023). Community empowerment strategies and disaster mitigation in Padusan Village, Mojokerto, East Java: A case study of the integrated agroforestry approach by the “Pesona Alam Lestari” Forest Village Community Institution (LMDH). *ICoDMC*, 1314, 012068. <https://doi.org/10.1088/1755-1315/1314/1/012068>
- Jilimin, W., Ahmad, M. N., Suara, Z., et al. (2011). *Forest Laws and Enforcement in Sabah: The Way Forward*. In: *Proceedings of the 16th Malaysian Forestry Conference; 5-9 December 2011; Renaissance Hotel, Melaka*.
- Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia. (2018). *Status Hutan dan Kehutanan Indonesia*. Ministry of Environment and Forestry.
- Kishor, N., Lescuyer, G. (2012). Controlling illegal logging in domestic and international markets by harnessing multi-level governance opportunities. *International Journal of the Common*, 6(2), 255–270. <https://doi.org/10.18352/ijc.327>
- Kusmayadi, Suparmoko, M. (2003). *Illegal Logging Activities and Their Control in the West Kalimantan Borderlands (Indonesian)?* UI Press.
- Lintangah, W., Lidadun, P. M., Empah, P. J., Jilimi, W. (2014). *Forest Law Enforcement and Mitigation of Forest Offences in Sabah: Lessons Learnt*. In: *Proceedings of the 17th Malaysian Forestry Conference (MFC 2014); 11–12 November 2014; Kota Kinabalu, Sabah*.
- Malaysia Ministry of Forestry. (2023). *Forestry report 2023*. Malaysia Ministry of Forestry.
- Marilang, M. B., Arbani, T. S., Syatar, A., et al. (2021). Establishing Omnibus Law in Indonesia: Strict Liability in Environmental Law. *Journal of Legal, Ethical and Regulatory Issues*, 24(1), 1–9.
- Maruthaveeran, S., Chen, W. Y., Morgenroth, J. (2022). *Urban forestry and arboriculture in Malaysia: An interdisciplinary research perspective*. Springer.
- Mohd, R. (1999). Factors influencing the occurrence of forest offences in a Peninsular Malaysia state. *Pertanika Journal of Social Science and Humanities*, 7(2), 91.
- Muadi, S. (2021). Policy implementation of forest fire handling and treatment in the perspective of the government of Indonesia and Malaysia. *Journal of Legal, Ethical and Regulatory Issues*, 24(1), 1–19.
- Mustafa, M. (2009). *Urban Forest protection from the perspective of environmental law in Malaysia: Issues and challenges*. In: *Proceedings of the Construction and Building Research Conference of the Royal Institution of Chartered Surveyors*.
- Ng, J. S. C., Chervier, C., Ancrenaz, M., et al. (2022). Recent forest and land-use policy changes in Sabah, Malaysian Borneo: Are

- they truly transformational? *Land Use Policy*, 121, 106308. <https://doi.org/10.1016/j.landusepol.2022.106308>
- Noor, M. N. H. M., Kadir, R., Muhamad, S. (2021). Issues of Forest Enforcement Against Illegal Logging and Forest Offences in Peninsular Malaysia. *Journal of Sustainability Science and Management*, 16(7), 260–272.
- Nurdjna. (2008). *Corruption and Illegal Logging in the Decentralization System (Indonesian)*. Pustaka Pelajar.
- Official Website. (2024). Available online: <https://www.forestry.gov.my/en/> (accessed on 2 July 2024)
- Omran, A., Schwarz-Herion, O. (2019). *Deforestation in Malaysia: The Current Practice and the Way Forward*. In: *Sustaining our Environment for Better Future*. Springer Singapore Publishing. pp. 175–193.
- Poloma, M. M. (1987). *Contemporary Sociology (Indonesian)*. Rajawali Publishing.
- Potter, L. (2009). Resource periphery, corridor, heartland: Contesting land use in the Kalimantan/Malaysia borderlands. *Asia Pacific Viewpoint*, 50(1), 88–106. <https://doi.org/10.1111/j.1467-8373.2009.01383.x>
- Prasetyanto, P. K., Juliprijanto, W., Sarfiah, S. N. (2023). Forest destruction: Analysis of economic development sub sector of oil palm plantations in Indonesia. *AIP Conference Proceedings*, 2765(127).
- Purnomo, H., Okarda, B., Puspitaloka, et al. (2023). Public and private sector zero-deforestation commitments and their impacts: A case study from South Sumatra Province, Indonesia. *Land Use Policy*, 134. <https://doi.org/10.1016/j.landusepol.2023.106818>
- Purwanto, E., Sjarief, R., Saleh, M. Z. (2024). Legal Dynamics in Environmental Accountability: A Case Study of Forest Fire Litigation in Indonesia. *International Journal of Environmental Impacts*, 7(1), 25–30. <https://doi.org/10.18280/ije.070103>
- Qamar, I., Wahab, R., Sukhairi, M. (2013). Current situation of illegal logging in Peninsular Malaysia. *International Journal of Sciences Research*, 1(2), 24–30. <https://doi.org/10.47253/jtrss.v1i2.637>
- Ridwan, R., Andriadin, A., Irawansyah, D. (2022). The Imposition of Penalties toward Drivers Transporting Timber Belonging to Business Actors (Study of Judge Decision Number 284/Pid.B/LH/2021/PN RBI). *Jurnal Jurisprudence*, 12(2), 283–298. <https://doi.org/10.23917/jurisprudence.v12i2.750>
- Rohmy, A. M., Setiyono, H., Supriyadi. (2021). Corporate Criminal Sanction in Omnibus Law for Forest Destruction in Indonesia: Review of Law Number 11 of 2020 on Job Creation. *Al-Risalah*. <https://doi.org/10.30631/alrisalah.v21i1.789>
- Rosyadi, I., Habibi, M. R., Syam, N. (2021). Implementation of Criminal Law Enforcement Concept of Environmental Sustainability (illegal logging in Indonesia). *IOP science*; 894; 012002. <https://doi.org/10.1088/1755-1315/894/1/012002>
- Rusli, M., Miskon, S. (2009). Punishing forest offenders: Out of court or by the court? *Pertanika Journal of Social Science and Humanities*, 17(1), 25–31.
- Sari, I. D. A., Diansyah, F., Yuntho, E. (2009). *Corruption in Eradicating Illegal Logging: An Analysis of Performance and Alternative Legal Framework (Indonesian)*. Indonesia Corruption Watch.
- Setiawan, F. X. A., Absori, A., Wardiono, K., et al. (2023). Implications of Citizen Lawsuits for Forest and Land Fires in Central Kalimantan Province from the Perspective of Environmental Justice. *WSEAS Transactions on Environment and Development*, 19, 1026–1036. <https://doi.org/10.37394/232015.2023.19.97>
- Sitorus, F. P., Sunyoto, A., Setiaji, B. (2023). Forest Fire Disaster Classification Using Artificial Neural Network Method. In: *Proceedings of the 6th International Conference on Information and Communications Technology (ICOIACT 2023)*; 10 November 2023. pp. 194–199.
- Surono, A. (2009). *Conflict Management over Forest Resources Utilization in Realizing Local Community Rights (Indonesian)*. In: Arinanto, S., Triyanti, N. (editors). *Memahami Hukum: Dari Konstruksi Sampai Implementasi*. Rajawali Press. p. 516.
- Tacconi, T., Obidzinski, K., Smith, J., et al. (2004). Can “legalization” of illegal forest activities reduce illegal logging? Lessons from East Kalimantan. *Journal of Sustainable Forestry*, 19(1–3), 137–151. [https://doi.org/10.1300/J091v19n01\\_07](https://doi.org/10.1300/J091v19n01_07)
- The Government of Malaysia. (1957). *Malaysian Federal Constitution*. The Government of Malaysia.
- Wardiono, K. (2019). Prophetic: An Epistemological Offer for Legal Studies. *Journal of Transcendental Law*, 1(1), 17–41. <https://doi.org/10.23917/jtl.v1i1.8797>
- Winkel, G., Leipold, S., Buhmann, K., et al. (2017). Narrating illegal logging across the globe. *The International Forestry Review*, 19, 81–89.
- Yayasan Sabah. (2019). *Malaysia Forestry Risk Profile: Sabah*. Yayasan Sabah.
- Yuspin, W., Fauziyyah, A. N., Budiono, A. (2023). The Impact of Deforestation on Sustainable Development Goals Regulations: An Empirical Studies on Tawangmangu. *International Journal of Sustainable Development and Planning*, 18(7). <https://doi.org/10.18280/ijstdp.180715>