

The Effectiveness of the Role of Civil Servant Investigators in Enforcement of Environmental Law

M Taufiqurrahman^{1*}, Joni Emirzon², Ardiyan Saptawan³

¹Student of Environment Management, Graduate Program, Universitas Sriwijaya, Indonesia

²Lecturer at Faculty of Law, Universitas Sriwijaya, Indonesia

³Lecturer Faculty of Social and Politics, Universitas Sriwijaya, Indonesia

*Corresponding Author: opicksky@gmail.com

Article history

Received	Received in revised form	Accepted	Available online
24 November 2022	22 January 2022	04 April 2022	05 April 2022

Abstract: The lack of handling cases of environmental destruction and pollution that have reached the investigation stage conducted by Civil Servant Investigators (PPNS) raises a question. Based on this, research is needed on the effectiveness of the role of PPNS in environmental law enforcement. This study aims to determine the effectiveness and explain the state of implementation of the role of PPNS in the work area of the Sumatera Environmental and Forestry Law Enforcement and Security Center (BPPHLHK Sumatera) Region III Palembang Section, which is deemed not optimal and to identify factors that influence the role PPNS in environmental law enforcement. This study uses a qualitative descriptive method to determine informants involving people who act as key persons using purposive sampling. The results showed that the role of PPNS has been carried out based on Law Number 32 of 2009 but has not been effective since there is no standard operating procedure (SOP) that can be used as professional guidelines as a guide and assess the effectiveness of the role of PPNS in implementing environmental law enforcement. The factors that influence the role of PPNS in environmental law enforcement include legal factors, law enforcement official's factors, facilities factors, infrastructure factors, community factors, cultural factors, and organizational factors.

Keywords: *civil servant investigator, environmental law enforcement, investigation*

1. Introduction

The purpose of environmental management is to implement sustainable development and control the use of natural resources. Environmental management problems can be considered as one of the leading causes of environmental damage. The end of all ecological problems is the development that is carried out without paying attention to environmental balance factors which in turn will cause environmental damage and pollution [1]. Pollution is also a problem that needs to get seriously handled by all parties to overcome the harmful consequences that often occur, even as much as possible prevented. [2].

Environmental damage occurs due to two factors, natural and human factors. Natural factors come from natural disasters, and erratic weather, such as floods, landslides, tsunamis, volcanic eruptions, or earthquakes, which are dangerous for the safety of humans and living things can also cause environmental damage [3]. Environmental damage caused by humans occurs when humans exploit natural resources excessively [4]. Environmental functions that continue to be degraded due to prolonged and ongoing damage harm the survival of living things, including humans [5]. Environmental

problems are getting bigger, broader, and more serious, which are not only local or trans-local, but regional, national, trans-national, and global [6].

One of the instruments that are expected to solve the problem of environmental disasters is environmental law. Environmental law regulates reciprocal relationships between humans and other living things, which, if violated, can be subject to sanctions [7]. In terms of environmental pollution and damage, it is necessary to take repressive efforts in the form of effective, consistent, and consistent law enforcement against the pollution and environmental damage that has occurred. Environmental law enforcement can be interpreted as the use or application of instruments and sanctions in administrative law, civil law, and criminal law to force legal subjects who are the target to comply with environmental laws and regulations [8].

Enforcement of environmental law is closely related to all aspects of human life since the environment supports the life of living things on this earth [9]. The law enforcement process is carried out both through the court and outside the court. The investigation of environmental crimes is formally carried out by the appointed Police and Civil Servant Investigators (PPNS) [2]. Law enforcement is a process to make legal wishes come true [10]. Civil servant investigator officers from a certain environment in accordance with the law form the basis of their authority and have the position as special investigator officials in the

environment specified in the law which forms the basis of their authority[11].

Although PPNS has played an active role in law enforcement, its function is still considered ineffective. This condition indicates that there is a problem in the role of PPNS in environmental law enforcement. Preliminary data obtained indicate a relatively high difference between the forestry and the environmental sectors. The handling of environmental destruction and pollution cases has reached the stage of investigation carried out by Civil Servant Investigators (PPNS) in the working area at BPPHLHK Sumatera Region III Palembang Section Office is still minimal. The role of PPNS in environmental law enforcement is crucial in supporting law enforcement in Indonesia. Therefore, assessing the effectiveness of the role of PPNS in enforcing environmental law is needed to determine the effectiveness of the role of PPNS in carrying out law enforcement duties in the environmental field and to find out what efforts should be made thus the role of PPNS can be more optimal and/or improved.

This study aims to determine the effectiveness and explain the state of implementation of the role of PPNS in the work area at BPPHLHK Sumatera Region III Palembang Section Office in supporting environmental law enforcement, which is deemed not optimal and to identify factors that influence the role PPNS in environmental law enforcement.

2. Materials and Methods

2.1. Materials

The research was conducted at the BPPHLHK Sumatera Region III Palembang Section Office (Pramuka IV Street KM. 5.5 RT.21 Srijaya Village, Alang-alang Lebar District, Palembang, South Sumatra-Indonesia).

This research was descriptive using a qualitative method, used to examine the condition of the natural object. Researchers as a key instrument and research results emphasize meaning rather than generalization [12]. This qualitative method is a research method that produces analytical descriptive data, namely what is stated by the respondent in writing or verbally as well as real behavior, which is researched and studied as a whole.

2.2. Methods

This research involved the key person using purposive sampling. Informants in this study are:

- PPNS in the working area at BPPHLHK Sumatera Region III Palembang Section Office as the main informant as many as 12 people.
- Officials whose scope of work is in charge of environmental law enforcement issues as supporting informants. The Head of Region III

Section Office and PPNS Coordinator of Region III Section Office as many as 2 people.

- Business actors who carry out business activities that have an impact on the environment in place of supporting informants as many as 2 people.
- Community leaders who know and understand environmental management issues and environmental law enforcement in place of supporting informants as many as 2 people.

Data collection techniques used in this study were observation, interviews and documentation.

2.2 Data Analysis

This study was used qualitative data analysis techniques using the Interactive Analysis Model from Miles and Huberman, which divides the steps in data analysis activities into several parts, namely data collection, data reduction, data display, and conclusion drawing/verification [12]. Compilation of the results of data collection in the form of a matrix of interviews with informants will be useful in the process of reducing data, presenting data and drawing conclusion to interpret the effectiveness of the role of PPNS in environmental law enforcement.

3. Results and Discussion

The following are the results and discussion based on the the process of reducing data, presenting data and drawing conclusion that have been done.

3.1 The Role of PPNS in Enforcement of Environmental Law

The basis for the authority of the Environmental PPNS to be able to play a role and carry out duties in enforcing environmental law is Law Number 32 of 2009 concerning Environmental Protection and Management, Article 94 paragraph (1) which states that "In addition to investigators from the Indonesian National Police (POLRI), certain civil servants within government agencies whose scope of duties, responsibilities are in the field of environmental protection and management are authorized as investigators as referred to in the Criminal Procedure Code to conduct investigations of environmental crimes."

Meanwhile, based on Article 94 paragraph (2) of Law Number 32 of 2009 concerning Environmental Protection and Management, the authority of PPNS is stated as follows, that PPNS is authorized:

- conducts an examination of the veracity of reports or information relating to criminal acts in the field of environmental protection and management;
- conducts an examination of every person suspected of committing a crime in the field of environmental protection and management;
- request information and evidence from everyone regarding criminal acts in the field of environmental protection and management;
- conducts an examination of books, records, and other documents relating to criminal acts in the field of environmental protection and management;
- conducts inspections at certain places where evidence,

- books, records, and other documents are suspected;
- f. confiscate materials and goods resulting from violations that can be used as evidence in criminal cases in the field of environmental protection and management;
 - g. request expert assistance in the context of carrying out the task of investigating criminal acts in the field of environmental protection and management;
 - h. stops the investigation;
 - i. enters certain places, take pictures, and/or make audiovisual recordings;
 - j. carries out a search of the body, clothing, room, and/or other places suspected of being the place where the crime was committed; and/or;
 - k. arrest and detain criminals.

The role of law enforcement carried out by the Environmental PPNS is in accordance with its authority to carry out prosecutions and investigations as stated in the law with the aim of finding at least two valid pieces of evidence with that evidence to make clear the crime that occurred and to find the suspect. The target that investigators complete the handling of investigation cases, namely when the case files and suspects along with evidence are transferred to the Prosecutor's Office (Public Prosecutor).

The implementation of environmental law enforcement through environmental crime investigation activities carried out by PPNS in the BPPHLHK Sumatera Region III Palembang Section Office also referred to the Regulation of the Indonesia Ministry of Environment and Forestry Number P.83/Menlhk/Setjen/Kum.1/7/2018 concerning the working relationship for implementing environmental and forestry law enforcement in the regions, where this Ministerial regulation explained the involvement of related agencies/officers/apparatus, including the division of tasks between the said agencies/officers/apparatus according to their respective duties and functions respectively.

In the organizational structure of the BPPHLHK Sumatera Region III Palembang Section Office, the existing PPNS is not a particular position or functional position. But, PPNS is only an additional task/job for a State Civil Apparatus (ASN). On the one hand, the person concerned has the primary duties and functions as an ASN. On the other hand, he also has the role, responsibilities, and functions as a PPNS. With the status of ASN as PPNS then carry out the task of investigating environmental crimes/crimes based on the Investigation Order (Sprindik) issued by the superior/leader of the ASN in question.

PPNS in the BPPHLHK Sumatera Region III

Palembang Section Office do not carry out routine preventive tasks. PPNS is an additional position in carrying out duties and carrying out duties when a violation has occurred. As for preventive activities, the roles/duties and functions are carried out by the Environmental Supervisory Officer (PPLH) through compliance monitoring activities of the person in charge of the business and/or activity. PPLH here is a functional position, where the compliance monitoring activities carried out by PPLH are a form of preventive action (before they occur) against violations of laws and regulations in environmental protection and management. Meanwhile, PPNS has the duty and function when a violation leads to a criminal act and requires law enforcement actions for environmental crimes in the form of investigative activities.

In addition to environmental criminal law enforcement carried out by PPNS, the person in charge of businesses and/or activities committing violations in the field of environmental protection and management can also be carried out by means of law enforcement by:

1. Application of Administrative Sanctions (with due observance of the *ultimum remedium* principle, which requires the application of criminal law enforcement as a last resort after the implementation of administrative law enforcement);

Administrative Sanctions consist of:

- a. Written warning;
 - b. Government coercion;
 - c. Administrative fines;
 - d. Freezing of Business Licensing; and/or
 - e. Revocation of Business License.
2. Implementation of Civil Law Sanctions, through:
 - a. Settlement of environmental disputes out of court;
 - b. Settlement of environmental disputes in court.

The general explanation of Law No. 32 of 2009 concerning Environmental Protection and Management stated that environmental criminal law enforcement continues still pays attention to the *ultimum remedium* principle in which the application of criminal law enforcement as a last resort after implementing administrative law enforcement is considered unsuccessful. However, the *ultimum remedium* principle only applies to certain formal criminal acts, namely punishment of violations of wastewater quality standards, emissions, and disturbances, as regulated in Article 100 of Law No. 32 of 2009. Thus in this case due to the existence of other options for implementing sanctions other than criminal sanctions, namely through the application of administrative sanctions, the role of PPNS in enforcing environmental law, especially in carrying out investigations of environmental crimes, is reduced.

3.2 Factors Affecting the Effectiveness of the Role of PPNS in Enforcement of Environmental Law

Factors that affect the effectiveness of the role of PPNS in environmental law enforcement, which include the following:

1. Legal Factors

a. In its role of implementing environmental law enforcement, the existing PPNS only refers to and is guided by Law Number 32 of 2009 and the Criminal Procedure Code. There is no Standard Operating Procedure (SOP) made explicitly for Environmental PPNS at the BPPHLHK Sumatera Region III Palembang Section Office in implementing environmental law enforcement, especially environmental crime investigation activities. This can affect the effectiveness of the role of PPNS in implementing environmental law enforcement which causes the role of PPNS to be less than optimal. SOPs are very much needed in planning and scheduling/timing of the implementation of the investigation thus investigation activities can be carried out and measured according to the time target that has been planned according to the stages.

b. Environmental cases are cases that have intricate and somewhat complicated evidence, such as the example in Article 69 paragraph (1) the letter of a in the Law Number 32 of 2009, which reads, "everyone is prohibited from doing actions that result in pollution and/or environmental destruction," here PPNS is not only are required to be able to prove the existence of an element of pollution and/or environmental destruction that has occurred but must also be able to prove the element of the act of the perpetrator who did/caused the pollution and/or damage as well. Related to this evidence, PPNS is not only required to have the ability to prove formally or materially, but also to have special abilities in the context of collecting evidence and evidence. A series of evidence that is interconnected and explains each other. This is where the characteristics of proving environmental crimes that require special competence (scientific evidence) and are not widely owned by everyone, including involving experts, are sometimes challenging to get competent experts. For example, in cases of river water pollution where there are many factories (pollutants sources) around/along the river, PPNS is required to not only be able to prove that pollution has occurred but is also required to be able to find the source/perpetrator of the pollution. There are many factories in the location/along the river.

c. There are other options/options in environmental law enforcement for those in charge of businesses and/or activities that commit violations in the environmental field, not only criminal law enforcement but also law enforcement, through the mechanism for applying administrative sanctions and resolving environmental disputes. Therefore in this case the role of PPNS to implement and implement environmental criminal law enforcement through investigation activities will indirectly experience obstacles as it will first be considered for administrative sanctions compared to direct

implementation of criminal law enforcement through the investigation process by PPNS.

2. Factors of Law Enforcement Apparatus

a. There is a different understanding between law enforcement officers, in this case, the Police as the Coordinator and Supervision (Korwas) with PPNS in understanding the rules that can affect the effectiveness of the PPNS role in enforcing environmental law that occurs in the field, namely in terms of understanding the Criminal Procedure Code Article 7 paragraph (2) and Law 32 of 2009 Article 94 paragraph (5), in which case files on environmental case investigations should be submitted directly by PPNS to the Public Prosecutor/Prosecutor, must first go through the Police as Korwas. This causes the effectiveness of PPNS in carrying out investigative activities be not optimal if viewed from the point of view of the implementation time.

In practice in the field, there was a different understanding between the Police as the Coordinator and Supervision (Korwas) and PPNS in understanding the rules that can cause difficulties in enforcing environmental laws that occur in the field, namely where according to the applicable Procedural Law (KUHAP) Article 7 paragraph (2), which reads "Investigators as referred to in Article 6 paragraph (1) letter b have the authority in accordance with the law which is the legal basis for each and in carrying out their duties are under the coordination and supervision of the investigators referred to in Article 6 paragraph (1) letter a" thus the conduct of investigations by PPNS is under the coordination of POLRI Investigators, while based on Law 32 of 2009 Article 94 paragraph (5) which reads "civil servant investigators notify the commencement of investigations to the public prosecutor with a copy to the investigators of the State police officers of the Republic of Indonesia" and paragraph (6) which reads "the results of the investigation that have been carried out by civil servant investigators are submitted to the public prosecutor", this implies that PPNS only provides copies/notifies that they have conducted environmental investigations. Thus, the investigatory case file should be submitted directly by PPNS to the Public Prosecutor. It must first go through the Police as the Korwas. This can cause the effectiveness of PPNS role in carrying out investigative activities to be not optimal when viewed from the point of view of implementation time and create gaps for intervention.

b. When compared to the work area, there was a lack of existing PPNS, where BPPHLHK Sumatera Region III Palembang Section Office has a working area covering 4 (four) provinces. Currently, PPNS consists of 12 people. This number is still not optimal when implementing law enforcement through investigation activities. When conducting the investigation process, PPNS works in the form of a team. A team usually consists of five PPNS. For example, if at the same time only three cases are handled with different locations/provinces, it will be challenging to implement. Therefore in this case, the number of PPNS affects the effectiveness of the role of PPNS in implementing environmental law enforcement through investigation activities.

c. PPNS sometimes find it difficult to get competent Experts to serve as expert witnesses, such as handling cases in the field of forest and land fires (Karhutla) and environmental pollution, where to prove the occurrence of pollution and/or environmental damage requires opinion and technical assistance from competent experts. This is due to the characteristics of proving environmental crimes that require special competence (scientific evidence), which not many people have.

d. The involvement of agencies/officers/apparatures with each other greatly affects the smooth coordination between law enforcement agencies which ultimately affects the role of PPNS in implementing environmental law enforcement, especially in completing investigations of environmental crime cases. This is because the criminal justice system in Indonesia indeed regulates the duties and authorities of each of these components. This criminal justice system emphasizes that in implementing environmental law enforcement, Environmental PPNS does not stand alone but is also related to other parties/agencies. The involvement of other agencies/officers/apparatus occurs when PPNS at BPPHLHK Sumatera Region III Palembang Section Office conducts investigations of environmental crimes, namely from the beginning of the investigation until the completion of the investigation process.

e. The existing PPNS profession is not a particular position or functional position, but PPNS is only an additional task/job for a State Civil Apparatus (ASN). Thus in carrying out investigation activities it is not a primary task and function, this certainly affects the effectiveness of the implementation of the role of PPNS itself, since the main tasks and functions as investigators become unfocused, on the one hand as an ASN with the main tasks, functions, and responsibilities, on the other hand, a PPNS has to handle environmental crime cases.

3. Factors of Facilities and Infrastructure

With the broad scope of the work area of the BPPHLHK Sumatera Region III Palembang Section Office, which covers 4 (four) provinces, PPNS should be supported by facilities and infrastructure and an optimal budget.

a. The absence of laboratory tools and equipment for testing pollution and/or environmental damage at BPPHLHK Sumatera Region III Palembang Section Office is one example of a lack of facilities and infrastructure that can affect the role of PPNS. Through the characteristics of pollution and environmental damage that are easily biased and quickly lost, easy-to-carry laboratory equipment and equipment are needed that function as equipment for the purposes of proving and looking evidence for PPNS. For example, in the case of river pollution

and/or forest fire. In that case, if there is no security and sampling of evidence as soon as possible, the evidence in the location where the incident occurred will be easily lost or biased. This is because of the characteristics of the evidence of environmental pollution are easily lost or biased, consequently to get evidence quickly and precisely, laboratory equipment and equipment are needed that are easy to carry to the field. Therefore, the function of laboratory equipment lies to be more optimal in securing and retrieving evidence.

b. Regarding budget support, BPPHLHK Sumatera Region III Palembang Section Office still have a low budget with the vast of work area covered by Section III, which covers 4 (four) provinces, of course, it requires a relatively large budget. An excellent financial administration system must support it. This is because the position of PPNS is in Palembang. At the same time, the work areas in 4 (four) provinces, for example when handling cases in the Province of the Bangka Belitung Islands, will require a budget for the implementation of their activities.

In addition, some obstacles often occur in the field, namely the existence of "coordination costs" with other related agencies whose budgets are not available and cannot be administratively accounted for.

4. Community and Cultural Factors

As in the results of interviews with informants, which indicated that people sometimes feel afraid and reluctant to report/provide information and/or be witnesses related to environmental pollution and destruction. Today's society feels uncomfortable when it comes to dealing with the law and law enforcement officials. This affects the implementation of the role of PPNS in carrying out law enforcement cannot be carried out optimally.

5. Organizational factors of BPPHLHK Sumatera Region III Palembang Section Office

a. The absence of routine preventive tasks is carried out by PPNS since PPNS is an additional position in carrying out duties and carrying out investigative duties when a criminal offense has occurred. For preventive activities, the Environmental Supervisory Officer (PPLH) has carried out functional activities.

b. PPNS in carrying out environmental crime investigation activities cannot stand alone. It still depends on the results of information/results from previous activities, namely the activity of collecting information (pulbaket) or initial data and information (puldation) collection activities related to the facts of the incident of environmental destruction/pollution, the more accurate the initial data, the easier the role of PPNS in the process of investigating and enforcing environmental law. This affects the role of PPNS, where investigation activities carried out by PPNS depend on the initial data obtained, which can influence and determine whether or not PPNS will carry out the investigation process.

4. Conclusion

Based on the results of the study on the effectiveness of the role of PPNS in environmental law enforcement at the

BPPHLHK Sumatera Region III Palembang Section Office, it can be concluded that:

1. The role of PPNS has been carried out based on Law Number 32 of 2009, but has not been effective because there is no standard Standard Operating Procedure (SOP) that can be used as professional guidelines to guide and assess the effectiveness of the role of PPNS in implementing environmental law enforcement.
2. The role of PPNS has been carried out based on Law Number 32 of 2009, but has not been effective since there is no standard operating procedure (SOP) that can be used as professional guidelines as a guide and assess the effectiveness of the role of PPNS in implementing environmental law enforcement
3. The factors that influence the role of PPNS in environmental law enforcement include:
 - a. Legal Factors
 - 1) There was no Standard Operating Procedure (SOP) specifically made for PPNS Environment at the BPPHLHK Sumatera Region III Palembang Section Office in carrying out environmental law enforcement, especially environmental crime investigation activities, as a guideline for the implementation of Law Number 32 of 2009.
 - 2) There is complexity in proving environmental cases because PPNS must be able to prove the elements of the act and its consequences in harmony.
 - 3) There is a lack of clarity in the criteria for applying administrative sanctions or criminal sanctions or the application of administrative sanctions as well as criminal sanctions.
 - b. Law Enforcement Apparatus Factors
 - 1) There is a different understanding between the Police as the Coordinator and Supervision (Korwas) and PPNS in understanding and applying the rules that can affect the effectiveness of the role of PPNS in enforcing environmental laws that occur in the field, namely in the Criminal Procedure Code Article 7 paragraph (2) and Law Number 32 of 2009 Article 94 paragraph (5).
 - 2) Lack of the number of existing PPNS when compared to the assigned work area, where the BPPHLHK Sumatera Region III Palembang Section Office has a working area covering 4 (four) provinces
 - 3) PPNS sometimes find it difficult to get competent Experts to serve as expert witnesses. This is due to the characteristics of proving environmental crimes that require special competence (scientific evidence), which not many people have.

- 4) Coordination between agencies/officers/ law enforcement officials in implementing environmental law enforcement, especially in completing investigations of environmental crime cases.
- 5) The assertiveness of the existing PPNS profession is not a special position or functional position, but PPNS is only an additional task/job for a State Civil Apparatus (ASN).
 - c. Facilities and Infrastructure Factors
 - 1) There are no laboratory tools and equipment for testing pollution and/or environmental damage that serves as a means of equipment for the purposes of proof and looking evidence for PPNS.
 - 2) The vast of work area covered by Section III, which covers 4 (four) provinces, requires a relatively large budget and must be supported by an excellent financial administration system.
 - d. Community and Cultural Factors

There is a habit of people who are afraid and reluctant to report/provide information and/or become witnesses related to environmental pollution and destruction activities.
 - e. In addition to legal factors, law enforcement official factors, facilities, and infrastructure factors, as well as community and cultural factors mentioned above, there was also organizational factors, namely:
 - 1) There are no routine preventive tasks carried out by PPNS because preventive activities have been carried out by the Functional Environmental Supervisory Officer (PPLH).
 - 2) PPNS in carrying out environmental crime investigation activities cannot stand alone. It still depends on the results of information/results from previous activities where the initial data obtained will significantly determine whether the PPNS law enforcement process continues or not.

Acknowledgement

The authors would like to thank the BPPHLHK Sumatera Region III Palembang Section Office for providing data and facilities for research and data management.

References

- [1] N. Herlina, "Permasalahan Lingkungan Hidup dan Penegakan Hukum Lingkungan di Indonesia," *Jurnal Ilmiah Galuh Justisi*, vol. 3, no. 2, pp. 162–176, 2017.
- [2] M. Nurdin, "Peranan Penyidik dalam Penegakan Hukum terhadap Pelanggaran Tindak Pidana Lingkungan Hidup," *Jurnal Hukum Samudra Keadilan*, vol. 12, no. 2, pp. 172–185, 2017.
- [3] R. Wulandari, "Metode kunjungan lapangan untuk menanamkan kepedulian terhadap lingkungan hidup," *Pedagogia Jurnal Pendidikan*, vol. 5, no. 1, pp. 67–80, 2020.
- [4] A. Jazuli, "Kebakaran hutan dan lahan di riau menurut perspektif hukum lingkungan," *Jurnal RechtsVinding Online*, vol. 4, 2014.
- [5] E. M. Niman, "Kearifan lokal dan upaya pelestarian lingkungan alam," *Jurnal Pendidikan dan Kebudayaan MISSIO*, vol. 11, no. 1, pp. 91–106, 2019.

- [6] L. Arliman, “Eksistensi Hukum Lingkungan dalam Membangun Lingkungan Sehat Di Indonesia,” *Lex Librum Jurnal Ilmu Hukum*, vol. 5, no. 1, pp. 761–770, 2018.
- [7] S. S. Rangkuti, *Hukum Lingkungan & Kebijakan Lingkungan Nasional*, Edisi 2. Airlangga University Press, 1996.
- [8] D. K. Dewi, A. Syahrin, S. Arifin, and P. Tarigan, “Izin Lingkungan dalam Kaitannya dengan Penegakan Administrasi Lingkungan dan Pidana Lingkungan Berdasarkan Undang-undang No. 32 Tahun 2009 Tentang Perlindungan dan Pengelolaan Lingkungan Hidup (UUPPLH),” *USU Law Journal*, vol. 2, no. 1, pp. 124–138, 2014.
- [9] S. Akhmaddhian, “Implementasi Penegakan Hukum Lingkungan Pada Sektor Pertambangan Di Kabupaten Kuningan,” *Jurnal Ilmu Hukum UNIFIKASI*, vol. 4, no. 1, pp. 43–53, 2017.
- [10] I. A. Kholiaief, “Peran Penyidik Pegawai Negeri Sipil terhadap Pencemaran Lingkungan (Studi Kasus Pencemaran Limbah Bahan Berbahaya dan Beracun (B3) menurut Undang-Undang Nomor 32 Tahun 2009 di Kota Depok).” Universitas Pembangunan Nasional Veteran Jakarta, 2019.
- [11] N. Siahaan, “Kedudukan Pejabat Penyidik Pegawai Negeri Sipil Ditinjau dari Kitab Undang Undang Hukum Acara Pidana (KUHAP),” *Jurnal Ilmiah Advokasi*, vol. 3, no. 2, pp. 49–56, 2015.
- [12] S. Sugiyono, “Metode Penelitian dan Pengembangan : Research and Development,” *Bandung Alfabeta*, 2017.