

ANALYSIS OF THE BROKEN LAW ENFORCEMENT CHAIN OF REGIONAL REGULATION NO. 4/2019 SANCTIONS: A STUDY ON APPARATUS CONSTRAINTS (ENVIRONMENTAL SERVICES) AND PERCEPTION OF SANCTION CREDIBILITY IN PAYAKUMBUH CITY

* Rico Irvanda¹, Aldri Frinaldi² and Rembrandt³

¹ Master Program of Environmental Science, Postgraduate School-Universitas Negeri Padang, Indonesia,

²Department of State Administration Science, Faculty of Social Science-Universitas Negeri Padang, Indonesia,

³Faculty of Law, Univeritas Andalas, Indonesia.

*Email: ricoirvanda@gmail.com

ABSTRACT

Payakumbuh City Regional Regulation No. 4 of 2019 was enacted to strengthen waste management sanctions, responding to the failure of the previous regulation. However, existing research (Syafer & Putera, 2024; Fadillah & Yuliarti, 2025) and internal government data (PTMP, 2023) confirm that the implementation of this Regulation continues to fail, public participation remains low, and sanctions are not being enforced. A research gap exists regarding why these sanctions fail to be executed. This study aims to analyze the juridical and sociological factors causing the broken law enforcement chain. Using a qualitative socio-legal approach, primary data were collected through in-depth interviews with the Environmental services (DLH) and community members, supported by document analysis. The findings reveal that the failure of sanction enforcement is systemic. The law enforcement chain is broken upstream (apparatus) due to two critical barriers within the Environmental Services: (1) A juridical barrier, namely the absence of a derivative City Regulation as the technical Standard Operating Procedure (SOP) for enforcement; and (2) A structural barrier, namely the shortage of supervisory personnel (only 1 Environmental Supervisor or PPLHD). The chain is broken downstream (public) because: (1) Sanctions lack credibility (the public has "never" witnessed fines or arrests); and (2) Apathy is entrenched by systemic failure (sorted waste is "mixed again" by officers). The strict Rp 50 Million sanction in the Regional Regulation (das sollen) has become a "paper tiger" (das sein) due to apparatus dysfunction and a lack of political will.

Keywords: Sanction Enforcement; Waste Regulation; Legal Effectiveness; Socio-Legal; Payakumbuh City

INTRODUCTION

Urban waste problems have become a crucial issue in line with the increasing population and changing consumption patterns (Kaza et al., 2018; Ferronato & Torretta, 2019). Payakumbuh City faces serious challenges in waste management that impact environmental health and urban aesthetics. As a juridical response, the Payakumbuh City Government has established Regional Regulation No. 4 of 2014 concerning Waste Management. This Regulation comprehensively regulates rights, obligations, and prohibitions, including the fundamental obligation for every person to sort waste (Article 11) and the prohibition of littering (Article 18), which is also accompanied by the threat of criminal sanctions (Article 47).

However, in its implementation, Regional Regulation No. 4 of 2014 was not effective a phenomenon often observed in various regions in Indonesia where environmental

regulations remain symbolic (Nisa & Suharno, 2020). Years after its ratification, public compliance in sorting waste remained low. Recognizing this failure, and driven by the consideration for "stricter sanction enforcement so that law enforcement [...] is more effective" (Recitals of Regional Regulation 4/2019), the Payakumbuh City Government revised the Regulation through Regional Regulation No. 4 of 2019. This amendment explicitly strengthens the sanction mechanism, encompassing both administrative sanctions (Article 45) and criminal sanctions of imprisonment or a maximum fine of Rp. 50,000,000 (Article 47).

Now, several years after the 2019 Regional Regulation came into effect, the conditions on the ground show a significant gap between *das sollen* (strict legal text) and *das sein* (implementation reality) illustrating a classic compliance gap found in developing legal systems (Van Rooij, 2018). The internal technical report of Environmental Services of Payakumbuh Municipality (DLH), namely the Technical Planning and Waste Management (PTMP) 2024-2033, explicitly confirms this failure. The report states that the 2023 waste reduction target was only achieved at 7.22% of the Jakstrada target of 27%, and identifies key problems including "No waste sorting yet" and "Sanctions in the existing regulation have not been enforced" (PTMP, 2023).

These internal findings are reinforced by independent academic research. Research by Syafer & Putera (2024) found that public participation in Payakumbuh is "still low" and "only limited to receiving instructions." On the other hand, research by Fadillah & Yuliarti (2025) concluded that the Environmental Services waste management program is "not yet effective" due to minimal socialization, limited human resources, and inadequate facilities.

Although these studies have identified the failure of program implementation (by Environmental Services) and low participation (by the public), there is a clear research gap: no study has specifically analyzed why the sanctions fail to be enforced. Yet, sanction enforcement is the core of the 2019 Regional Regulation revision. A "broken chain" of law enforcement occurs, involving the Environmental Services as the technical supervisor and Satpol PP (Municipal Police Unit) as the sanction executor.

Therefore, this research is crucial to filling this gap. The problem statement in this research is: Why is the enforcement of sanctions in Regional Regulation No. 4 of 2019 ineffective, viewed from the constraints on the supervisory apparatus (Environmental Services) and the public's perception of sanction credibility? Theoretically, this study contributes to the development of Soerjono Soekanto's legal effectiveness theory by specifically highlighting how the dysfunction of the "apparatus structure" factor serves as the primary determinant that triggers the failure of other factors (community and culture) in the context of environmental administrative law enforcement.

RESEARCH METHODS

This research employs a socio-legal approach, which seeks to understand the gap between the legal text (Regional Regulation No. 4/2019) and the social reality on the ground. The research location is focused on Payakumbuh City, specifically the office of the Environmental services (DLH) and several sample sub-districts representing densely

populated areas and areas prone to illegal dumping.

Informant selection was carried out using purposive sampling to obtain in-depth data. This study involved a total of 6 (six) key informants. The first group represents the law enforcement apparatus, consisting of 1 (one) key official, the Head of the Supervision Division at the Environmental Services of Payakumbuh Municipality (DLH), who is responsible for technical supervision and enforcement coordination. The second group represents the target community, consisting of 5 (five) informants selected to represent various social layers: 1 Community Leader (Neighborhood Head), 1 Business Actor, 1 Employee, 1 Housewife, and 1 Private Sector Workers.

Primary data were collected through semi-structured in-depth interviews. The data collection process was conducted in October 2025. Each interview session lasted between 30 to 60 minutes. Secondary data were obtained from document studies covering Regional Regulation No. 4 of 2014, Regional Regulation No. 4 of 2019, City Regulation No. 54 of 2021 (Environmental Services of Payakumbuh Municipality Organizational Structure), the PTMP Report (2023), and supported by journal findings (Syafer & Putera, 2024; Fadillah & Yuliarti, 2025).

Data analysis techniques used the Miles & Huberman interactive model (data reduction, data display, and conclusion drawing). Data validity was ensured through source triangulation, by comparing and cross-checking the interview findings from the Environmental Services of Payakumbuh Municipality (apparatus perspective) with interview findings from the public (target perspective), and comparing both with secondary data (PTMP Report and journals).

RESULT AND DISCUSSION

3.1 Construction of the Apparatus Role in Regional Regulation 4/2019

The implementation of the Waste Regional Regulation in Payakumbuh involves a law enforcement chain consisting of two main institutions with different roles. Based on City Regulation (Perwako) No. 54 of 2021, the Environmental services (DLH) through the Supervision Division (Article 8) acts as the technical supervisor. Their duties are to oversee compliance, provide guidance, and manage waste operational activities.

On the other hand, Regional Regulation No. 4/2019 de jure appoints the Municipal Police Unit (Satpol PP) as the sanction executor (Article 45 for administrative sanctions and Article 47 for criminal sanctions of imprisonment/fine). The ideal law enforcement chain is that the Environmental Services (DLH), as the technical supervisor, finds a violation, makes an official report or Examination Report (BAP), and delegates the case to Municipal Police Unit (Satpol PP) to be followed up with sanction enforcement (Minor Crime/fine).

3.2 Constraints at the Technical Supervisor Level (Environmental services)

This section analyzes the interview findings with key informants at the the Environmental Services of Payakumbuh Municipality (DLH). Field findings confirm secondary data (PTMP, 2023; Fadillah & Yuliarti, 2025) that the Environmental Services faces classic programmatic constraints, but the main findings of this study are the existence

of juridical and structural constraints that cause the broken sanction enforcement chain.

3.2.1. Finding 1: Confirmation of Programmatic Constraints (Facilities, Socialization, and Field HR)

Interviews with the Head of the Supervision Division Environmental Services of Payakumbuh Municipality (DLH) confirmed that the main constraints on the implementation of the 2014 Regional Regulation were "public behavior that still has not cultured the habit of sorting waste" and "lack of awareness."

Although the 2019 Regional Regulation was ratified, programmatic constraints still occur. Regarding socialization, the informant admitted that "specific socialization of the regulation (containing sanctions) does not exist"; what exists is only "socialization related to household waste management" routinely. This socialization method is also limited to meetings in sub-districts, as well as installing announcement boards and banners in strategic locations and where citizens litter. This face-to-face socialization program is constrained by human resources, where the Environmental Services "only has 10 personnel to conduct socialization, including the head of the agency, and two division heads." From the perspective of legal effectiveness theory, this condition indicates a fundamental failure in the "Law Enforcement Apparatus Factor." The quantity and quality of the apparatus do not match the scope of duties required by the regulation, rendering the law unenforceable from the start. This aligns with Guerrero et al. (2013) who identified that lack of institutional capacity and skilled personnel is a primary barrier in developing countries.

Regarding facilities (Article 13), the provision of sorted waste bins is still very limited and "only placed in a few locations" because the Environmental Services evaluation showed that "waste dumped by the public into the sorted bins is still mixed."

3.2.2. Finding 2 (New Focus): The Broken Law Enforcement Chain from the Environmental Services Side

The most significant finding of this study is the analysis of why the Environmental Services, as the 'first door' of law enforcement, failed to initiate the enforcement process.

First, structural personnel constraints. The Environmental Services does not have adequate human resources to carry out legal supervision. Interviews revealed that the Supervision Division "lacks personnel." To carry out proactive supervision throughout the city, the Environmental Services "only has 1 PPLHD (Environmental Supervisor)." The absence of technical supervisory personnel (PPLHD) and investigators (PPNS) in the Environmental Services makes this institution structurally incapable of carrying out proactive supervision and filing cases of Regional Regulation violations.

Second, juridical-procedural constraints. When asked why the criminal sanction (Rp 50 Million fine/imprisonment) in Article 47 has never been applied, the Environmental Services informant explicitly answered: "it has never been carried out." The heaviest sanction ever applied was only "social sanctions [...] dressing the Regional Regulation violator in special clothing."

The main reason for this sanction enforcement failure, according to the informant, is "besides the absence of a derivative rule from this regulation" (a derivative rule in the form of a City Regulation (Perwako) about technical enforcement mechanisms), also because the sanction is considered "quite heavy". The absence of such implementing regulations creates a legal vacuum that hinders administrative action (Rammando et al., 2024). Furthermore, regarding the severity of the fine, as noted by Faure and Svatikova (2012), disproportionately strict sanctions often lead to enforcement hesitancy among officials. This finding confirms the weakness of the "Legal Factor" (Substance). Without derivative regulations (Perwako) acting as operational Standard Operating Procedures (SOP), the Regional Regulation acts merely as a political declaration rather than an enforceable legal

instrument.

These findings indicate that the law enforcement chain is broken upstream. The Environmental Services cannot (due to lack of supervisory HR) and is reluctant (due to the absence of a derivative a City Regulation (Perwako) and the sanction being deemed too heavy) to delegate cases to Municipal Police Unit (Satpol PP). As a result, the existing coordination is only limited to "formal (coordination meetings) and informal," but never reaches the stage of delegating violation cases.

3.3 Constraints at the Public Level (Perception of Sanctions)

Interview findings from various layers of society (Housewives, Employees, Neighbourhood Head, Business Actors) consistently show three main sociological barriers that fail the implementation of the Regional Regulation downstream.

3.3.1. Finding 1: Low Legal Awareness (Knowledge of Sanction)

Most informants (4 out of 5) are aware of the existence of the Regional Regulation or waste rules, but their source of knowledge is limited to "no littering signs" or "written at the TPS (Temporary Disposal Site)." None of the informants specifically knew about Regional Regulation No. 4 of 2019.

More importantly, none of the informants knew the severity of the sanction. One informant (Housewife) stated, "I know there is a fine but I don't know it's up to 50 million." The Neighbourhood Head who often attends meetings only "heard there was a sanction and a fine" but did not know the amount. These findings directly confirm the Environmental Services's admission that "specific socialization of the regulation (sanctions) does not exist," so the Regional Regulation fails to create a deterrent effect. Theoretically, this reflects a disruption in the "Community Factor" specifically regarding legal knowledge. The law cannot be effective if the target community has zero knowledge of the severity of the sanctions imposed.

3.3.2. Finding 2: Apathy Due to System Failure (System Distrust)

Although informants are aware of the obligation to sort waste ("I know, it's often conveyed"), sorting behavior at home generally does not occur consistent with Dhokhikah et al. (2015) who found that household participation is heavily dependent on available infrastructure. The main reason is not just that it's "troublesome" or "not one understanding" at home, but because of a fundamental distrust in the system.

One informant (employee) summarized this sentiment perfectly: "actually sorting is not troublesome, but later at the TPS or the sub-district's motor rickshaw, the waste is mixed again." This apathy arises because citizens see that their efforts to sort waste upstream (home) will be in vain because it will be mixed again by officers downstream (truck/TPS). This creates a breakdown in institutional trust, which is a critical determinant for public pro-environmental behavior (Vassanadumrongdee & Matsuoka, 2018). The Environmental Services's failure to provide sorted facilities and workflow (as admitted in PTMP, 2023) directly creates apathy in the public. In Soekanto's framework, this demonstrates how the failure of the "Facilities/Infrastructure Factor" (lack of segregated trucks) directly degrades the "Cultural Factor" of the society, creating a culture of apathy and distrust toward the legal system.

3.3.3. Finding 3: Sanctions Lack Credibility (Lack of Credible Threat)

This is the core finding that connects public perception with apparatus failure. When asked if they had ever seen Municipal Police Unit (Satpol PP) arrest or fine a violator, the answer from all informants was uniform: "never."

The public's perception of Municipal Police Unit (Satpol PP) role is not as a sanction enforcer, but as a guard. An informant (employee) stated, "I have never seen or heard of anyone being arrested, but I often see Municipal Police Unit (Satpol PP) officers guarding the closed TPS." Another informant (Male) reinforced this, "I see Municipal Police Unit (Satpol PP) conducting raids and guarding [...] but it seems to be only to warn."

These findings prove that Regional Regulation No. 4/2019 is a "paper tiger." The strict sanction on paper (Rp 50 Million) has no credibility whatsoever in the eyes of the public because it is never executed. This reality aligns with deterrence theory, which posits that the certainty of detection is more effective than the severity of the punishment (Thornton et al., 2005).

3.4 Critical Analysis of the "Broken Chain" of Law Enforcement

The primary research results from the Environmental Services and the public indicate that the failure of Regional Regulation 4/2019 sanction enforcement is systemic and occurs due to a "broken chain" at every line:

Chain 1 (Law to Apparatus): The 2019 Regional Regulation is not accompanied by a "derivative rule" City Regulation (Perwako) on technical enforcement mechanisms. Consequently, the Environmental Services (as admitted by the Head of the Supervision Division) is reluctant to act due to the absence of an operational legal basis.

Chain 2 (Internal Environmental Services Apparatus): The Environmental Services experiences structural failure. With only "1 PPLHD," the Environmental Services is de facto unable to conduct proactive supervision. Their focus, as admitted in the PTMP Report and interviews, is consumed by the operational task of transporting mixed waste, not on legal supervision.

Chain 3 (Environmental Services to Municipal Police Unit Coordination): This chain is completely broken. The Environmental Services has never delegated violation cases to Municipal Police Unit (Satpol PP) for criminal sanction/fine enforcement.

Chain 4 (Apparatus to Public - Socialization): The Environmental Services failed to socialize the sanctions of the Regional Regulation. The public only knows general prohibitions from banners, but does not know the severity of the threat (Rp 50 Million fine).

Chain 5 (Apparatus to Public - Credibility): Because chains 2, 3, and 4 are broken, Municipal Police Unit (Satpol PP) does not act as a sanction executor. Public perception confirms this; they only see Satpol PP "guarding" the TPS, not "enforcing" against violators.

Feedback Loop (Public to System): The public responds to this system failure with apathy. They are not afraid of sanctions (because they lack credibility) and are reluctant to sort (because the waste is "mixed again").

3.5 Theoretical Discussion and Contextualization

When analyzed using Soerjono Soekanto's (2008) framework of legal effectiveness, the failure of Regional Regulation 4/2019 in Payakumbuh occurs due to dysfunction in four of its five main factors:

Legal Factor (Substance): Macro, the law (Regional Regulation 2019) is strict. But micro, this law is paralyzed due to the absence of the City Regulation (Perwako) as a derivative rule. This finding is crucial, as the absence of a technical SOP (City Regulation) makes the apparatus in Chain 1 (Environmental Services) reluctant to act.

Law Enforcement Apparatus Factor (Structure): The findings of this study show that the apparatus factor is the weakest. There is structural dysfunction (only 1 PPLHD in the Environmental Services) and coordination dysfunction (the broken Environmental Services - Municipal Police Unit chain). The apparatus (Environmental Services) prefers the role of a service provider (waste transporter) rather than a law enforcer (legal supervisor), consistent with Fadillah & Yulianti's (2025) findings.

Facility/Infrastructure Factor: The failure of facilities is not just about the lack of trucks (as mentioned in the PTMP Report), but the failure to provide a sorted system of facilities. The finding that "waste is mixed again" (Finding 3.3) shows that facility failure has directly damaged the public factor.

Public Factor (Culture): The Payakumbuh public exhibits two faces: cognitively they agree sanctions should be applied (supporting *das sollen*), but behaviorally they are apathetic (reflecting *das sein*). This apathy is a rational response to a system that lacks credibility (Finding 3.3) and failed sanction socialization (Finding 3.2).

The failure of sanction enforcement for this waste Regional Regulation is not an anomaly. This finding is similar to research in Denpasar City, where Putra & Suartha (2018) found that the enforcement of Waste Regional Regulation sanctions by Municipal Police Unit was "not yet effective" and was still limited to persuasive guidance, not prosecution. Similarly, findings in Bandung City, where Anwar et al. (2016) noted that the enforcement of K3 Regional Regulation sanctions was "still weak" and "did not cause a deterrent effect" due to the lack of supervisory personnel and inter-agency coordination. These patterns of leniency and structural weakness are further corroborated by recent national studies. Delta (2023) identified that criminal sanctions for environmental violations often face significant hurdles in execution, while Apriliani & Maesaroh (2021) observed similar compliance issues in Semarang, indicating a widespread systemic failure in Indonesian environmental law enforcement. This indicates that strengthening sanctions on paper (legislation) will not be effective without the political will to execute them on the ground.

CONCLUSION

4.1 Conclusion

The failure of the implementation of Regional Regulation No. 4 of 2019 in Payakumbuh City occurs due to a complete break in the law enforcement chain. The gap between *das sollen* (strict Rp 50 Million sanction) and *das sein* (no enforcement) is caused by the following factors:

Upstream (apparatus), there is a juridical and structural failure. Juridically, the absence of a derivative City Regulation as the SOP for enforcement makes the Environmental

Services reluctant to apply sanctions. Structurally, the Environmental Services lacks supervisory personnel (only 1 PPLHD) and is therefore unable to conduct proactive supervision and file violation reports.

Downstream (public), apparatus failure creates two main perceptions: (a) The Regional Regulation sanction is not credible, as the public has never witnessed strict enforcement (fines/imprisonment), but only preventive guarding; and (b) Waste sorting efforts are futile, as the public sees that sorted waste will be mixed again by officers.

4.2 Recommendations

For the Payakumbuh City Government: Immediately issue the City Regulation (Perwako) derivative of Regional Regulation 4/2019 that technically regulates the SOP for reporting (from Environmental Services) and enforcement (by Municipal Police Unit).

For the Environmental Services: (a) Conduct restructuring by adding PPLHD and PPNS formations to strengthen the supervision function; (b) Improve the operational transportation system so that sorted waste is not mixed again, to build public trust; and (c) Shift the focus of socialization from "appeals" to the firm socialization of sanctions

REFERENCES

- Anwar, Y., Somawijaya, Suseno, S., & Putri, N. S. (2016). Efektifitas penegakan hukum terhadap Peraturan Daerah Penyelenggaraan Ketertiban, Kebersihan dan Keindahan (K3) Kota Bandung dalam aspek ketertiban. *Prosiding "Dari Riset Menuju Advokasi"*, 263-274.
- Apriliani, D., & Maesaroh. (2021). Efektivitas pengelolaan sampah Kota Semarang melalui program Silampah (sistem lapor sampah). *Journal of Public Policy and Management Review*, 10(4), 1-15.
- Delta, R. (2023). Implementasi sanksi terhadap perusahaan yang melakukan pencemaran lingkungan hidup. *Audi Et AP: Jurnal Penelitian Hukum*, 2(2), 118-127.
- Dhokhikah, Y., Trihadiningrum, Y., & Sunaryo, S. (2015). Community participation in household solid waste reduction in Surabaya, Indonesia. *Resources, Conservation and Recycling*, 102, 153-162.
- Edwards III, G. C. (1980). *Implementing Public Policy*. Washington D.C.: Congressional Quarterly Press.
- Fadillah, R., & Yuliarti. (2025). Efektivitas program hulu ke hilir Dinas Lingkungan Hidup Kota Payakumbuh dalam pengelolaan sampah. *Dinamika Governance: Jurnal Ilmu Administrasi Negara*, 15(2), 182-190.
- Faure, M., & Svatikova, K. (2012). Criminal or administrative law to protect the environment? Evidence from Western Europe. *Journal of Environmental Law*, 24(2), 253–286.
- Ferronato, N., & Torretta, V. (2019). Waste mismanagement in developing countries: A review of global issues. *International Journal of Environmental Research and Public Health*, 16(6), 1060. <https://doi.org/10.3390/ijerph16061060>

- Guerrero, L. A., Maas, G., & Hogland, W. (2013). Solid waste management challenges for cities in developing countries. *Waste Management*, 33(1), 220–232. <https://doi.org/10.1016/j.wasman.2012.09.008>
- Kaza, S., Yao, L., Bhada-Tata, P., & Van Woerden, F. (2018). *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050*. Washington, DC: World Bank.
- Nisa, A. N., & Suharno. (2020). Penegakan hukum terhadap permasalahan lingkungan hidup untuk mewujudkan pembangunan berkelanjutan. *Jurnal Bina Mulia Hukum*, 4(2), 294-312.
- Pemerintah Kota Payakumbuh. (2014). *Peraturan Daerah Kota Payakumbuh Nomor 4 Tahun 2014 tentang Pengelolaan Sampah*. Payakumbuh: Lembaran Daerah Kota Payakumbuh.
- Pemerintah Kota Payakumbuh. (2019). *Peraturan Daerah Kota Payakumbuh Nomor 4 Tahun 2019 tentang Perubahan Atas Peraturan Daerah Nomor 4 Tahun 2014 tentang Pengelolaan Sampah*. Payakumbuh: Lembaran Daerah Kota Payakumbuh.
- Pemerintah Kota Payakumbuh. (2021). *Peraturan Walikota Payakumbuh Nomor 54 Tahun 2021 tentang Kedudukan, Susunan Organisasi, Tugas dan Fungsi serta Tata Kerja Dinas Lingkungan Hidup*. Payakumbuh: Berita Daerah Kota Payakumbuh.
- PTMP. (2023). *Laporan Akhir Perencanaan Teknis dan Manajemen Persampahan (PTMP) Kota Payakumbuh Tahun 2024-2033*. Payakumbuh: Dinas Lingkungan Hidup Kota Payakumbuh.
- Putra, I. M. W., & Suartha, I. D. M. (2018). Efektivitas penegakan sanksi administratif oleh Satpol PP Kota Denpasar terhadap pelanggaran Perda Nomor 3 Tahun 2015 tentang Pengelolaan Sampah. *Jurnal Kertha Negara*, 6(3), 1-13.
- Rahardjo, S. (2009). *Hukum dan Masyarakat*. Jakarta: Kompas.
- Rammando, A., Qushoyyi, N., Mardayanti, I., Mathias, I., & Iskandar, I. (2024). Efektivitas penerapan sanksi administratif lingkungan di Indonesia. *Kultura: Jurnal Ilmu Hukum, Sosial, dan Humaniora*, 2(11), 776–786.
- Soekanto, S. (2008). *Faktor-Faktor yang Mempengaruhi Penegakan Hukum*. Jakarta: RajaGrafindo Persada.
- Syafer, E., & Putera, R. E. (2024). Analisa partisipasi masyarakat dalam pengelolaan sampah di Kota Payakumbuh. *Innovative: Journal of Social Science Research*, 4(5), 4568-4583.
- Thornton, D., Gunningham, N., & Kagan, R. A. (2005). General deterrence and corporate environmental behavior. *Law & Policy*, 27(2), 262–288. <https://doi.org/10.1111/j.1467-9930.2005.00200.x>
- Van Rooij, B. (2018). Do people obey the law? The state of the science on legal compliance. In D. D. Sokol & B. van Rooij (Eds.), *The Cambridge Handbook of Compliance* (pp. 3-23). Cambridge: Cambridge University Press.
- Vassanadumrongdee, S., & Matsuoka, S. (2018). Risk perceptions and effectiveness of enforced laws on illegal dumping: A case study of Thailand. *Journal of Material Cycles and Waste Management*, 20, 153–166.
- Wahab, S. A. (2012). *Analisis Kebijakan: Dari Formulasi ke Implementasi Kebijakan Negara*. Jakarta: Bumi Aksara.