

Operationalising the *Ultimum Remedium* Principle in Indonesian Mining Law: Administrative Sanctions, Mining Work Plan and Budget Compliance, and Criminal Enforcement Thresholds

Oheo Kaimuddin Haris^{1*}, Herman¹, Hariyanto², Fareed Mohd Hassan³, Wahyu Aliasa¹

¹ Faculty of Law, University of Halu Oleo, Indonesia

² Faculty of Sharia, Universitas Islam Negeri Profesor Kiai Haji Saifuddin Zuhri Purwokerto, Indonesia

³ Faculty of Syari'ah and Law, Universiti Sains Islam Malaysia

*Corresponding Author Email: oheo.haris@uho.ac.id

ABSTRACT

This study examines how the *Ultimum Remedium* principle is operationalised in Indonesian mining law enforcement, particularly with respect to administrative sanctions, compliance with the mining Work Plan and Budget (*Rencana Kerja dan Anggaran Biaya*, RKAB), environmental restoration, and criminal enforcement thresholds. Although the principle is widely recognised as requiring the use of criminal law as a last resort, its practical application in the mining sector remains unclear. This study adopts a socio-legal research design combining semi-structured interviews, questionnaire data, regulatory review, and comparative legal analysis. The empirical data consist of interviews with 24 informants and questionnaire responses from 68 respondents representing government officials, mining company representatives, civil society organisations, and affected communities. The comparative analysis examines selected materials on mining and environmental enforcement from Australia, Canada, Chile, and Indonesia. The findings show that stakeholders generally accept the *Ultimum Remedium* principle, but they attach different operational meanings to it. Government officials frame it as a proportional enforcement procedure, mining companies associate it with legal certainty, civil society organisations emphasise accountability, and affected communities evaluate it through environmental restoration outcomes. The PT GMS case further illustrates weak sequencing between RKAB-related non-compliance, administrative correction, restoration obligations, and possible criminal escalation. Comparative legal findings indicate that Australia, Canada, and Chile situate punitive enforcement within broader systems of compliance supervision, administrative correction, restoration, and documented escalation mechanisms. The study implies that Indonesian mining enforcement requires a staged but flexible model that distinguishes correctable administrative non-compliance from serious, repeated, fraudulent, corrupt, obstructive, or environmentally harmful conduct. The originality of this study lies in its integration of stakeholder perceptions, RKAB compliance, an illustrative mining case, and comparative enforcement models to operationalise *Ultimum Remedium* as an institutional sequencing framework rather than merely a criminal law doctrine.

Keywords: administrative sanctions; criminal enforcement; environmental restoration; *Ultimum Remedium*; mining law; RKAB compliance.

ABSTRAK

Penelitian ini mengkaji bagaimana prinsip *Ultimum Remedium* dioperasionalkan dalam penegakan hukum pertambangan di Indonesia, khususnya terkait sanksi administratif, kepatuhan terhadap Rencana Kerja dan Anggaran Biaya (RKAB), pemulihan lingkungan, serta ambang batas penegakan pidana. Meskipun prinsip ini secara luas diakui sebagai dasar bahwa hukum pidana harus digunakan sebagai upaya terakhir, penerapannya di sektor pertambangan masih belum jelas. Penelitian ini menggunakan desain sosio-legal yang menggabungkan wawancara semi-terstruktur, data kuesioner, telaah regulasi, dan analisis hukum komparatif. Data empiris terdiri atas wawancara dengan 24 informan dan respons kuesioner dari 68 responden yang mewakili pejabat pemerintah, perwakilan perusahaan pertambangan, organisasi masyarakat sipil, serta masyarakat terdampak. Analisis

* Copyright (c) 2026 **Oheo Kaimuddin Haris et al.**

This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

Received: May 5, 2026; Revised: July 9, 2026; Accepted: September 9, 2026

komparatif menelaah bahan-bahan terpilih mengenai penegakan hukum pertambangan dan lingkungan dari Australia, Kanada, Chili, dan Indonesia. Temuan menunjukkan bahwa para pemangku kepentingan pada umumnya menerima prinsip *Ultimum Remedium*, tetapi mereka melekatkan makna operasional yang berbeda pada prinsip tersebut. Pejabat pemerintah memahaminya sebagai prosedur penegakan yang proporsional, perusahaan pertambangan mengaitkannya dengan kepastian hukum, organisasi masyarakat sipil menekankan akuntabilitas, dan masyarakat terdampak menilainya berdasarkan hasil pemulihan lingkungan. Kasus PT GMS lebih lanjut menggambarkan lemahnya urutan penegakan antara ketidakpatuhan terkait RKAB, koreksi administratif, kewajiban pemulihan, dan kemungkinan eskalasi ke ranah pidana. Temuan hukum komparatif menunjukkan bahwa Australia, Kanada, dan Chili menempatkan penegakan yang bersifat menghukum dalam sistem yang lebih luas, yang mencakup pengawasan kepatuhan, koreksi administratif, pemulihan, serta mekanisme eskalasi yang terdokumentasi. Penelitian ini mengimplikasikan bahwa penegakan hukum pertambangan di Indonesia memerlukan model yang bertahap tetapi fleksibel, yang membedakan ketidakpatuhan administratif yang masih dapat diperbaiki dari perbuatan yang serius, berulang, curang, koruptif, menghalangi pengawasan, atau merusak lingkungan. Orisinalitas penelitian ini terletak pada integrasinya antara persepsi pemangku kepentingan, kepatuhan RKAB, kasus pertambangan ilustratif, dan model penegakan komparatif untuk mengoperasionalkan *Ultimum Remedium* sebagai kerangka pengurutan kelembagaan, bukan sekadar doktrin hukum pidana.

Kata kunci: sanksi administratif; penegakan pidana; pemulihan lingkungan; *ultimum remedium*; hukum pertambangan; kepatuhan RKAB.

INTRODUCTION

The principle of *Ultimum Remedium* (UR), or “last resort,” is widely recognised as a fundamental doctrine in criminal law. It requires criminal sanctions to be positioned at the final stage of legal enforcement, after preventive, administrative, and restorative mechanisms have proven inadequate. In environmental and mining law, this principle is particularly important because mining governance must balance economic development, regulatory compliance, ecological protection, and community rights (Tegnan et al., 2021; Mancini & Sala, 2018). Although mining contributes significantly to national development, it also creates substantial risks of environmental degradation, social conflict, and legal uncertainty. For this reason, the application of *Ultimum Remedium* in mining law is not merely a doctrinal issue, but also a practical question of how enforcement should be structured.

In Indonesia, mining law enforcement continues to face tension between administrative regulation and criminal prosecution. On the one hand, weak administrative oversight may allow non-compliance with Work Plan and Budget (*Rencana Kerja dan Anggaran Biaya*, RKAB) obligations, production reporting, environmental management plans, and reclamation duties to persist. On the other hand, premature or disproportionate use of criminal sanctions may create legal uncertainty without necessarily producing environmental restoration or community redress (Pardede et al., 2023; Huang et al., 2022). This imbalance indicates that the central problem is not whether criminal sanctions should exist, but how they should be positioned within a proportionate and accountable enforcement framework.

Administrative instruments such as written warnings, administrative fines, license suspension, compliance orders, and restoration obligations should play an important role in mining governance. However, previous studies suggest that these instruments are often not optimally integrated into enforcement practice, while punitive approaches may be used without a clearly documented administrative sequence (Kirin et al., 2024; González-González et al., 2021; Scheau et al., 2020; Turnip et al., 2025). Such conditions may weaken both regulatory effectiveness and the doctrinal meaning of *Ultimum Remedium*. When administrative correction is ineffective, unclear, or disconnected from

restoration, criminal law may be used either too early or too late. Both situations undermine proportionality, accountability, and sustainable resource governance.

Existing scholarship has discussed the *Ultimum Remedium* principle in general criminal law and has separately examined environmental enforcement, administrative sanctions, corporate accountability, and mining governance. However, these strands of literature are often treated separately. Few studies have specifically examined how *Ultimum Remedium* can be operationalised within the institutional and technical structures of mining law, particularly through the relationships among RKAB compliance, administrative sanctions, environmental restoration, and thresholds for criminal enforcement. This gap is important because mining violations vary in nature and seriousness. Some involve correctable administrative non-compliance, while others may involve intentional falsification, repeated violations, corruption, obstruction of supervision, or serious environmental harm.

Comparative regulatory experiences also offer useful analytical insights, although they cannot be directly transplanted into the Indonesian legal system. Studies and regulatory discussions on mining and environmental governance in jurisdictions such as Australia, Canada, and Chile show the importance of connecting administrative enforcement, compliance monitoring, restoration obligations, and escalation mechanisms within a clearer regulatory structure (Yildiz et al., 2024; Yoserwan & MH, 2021; Mamo & Ayele, 2024; Salman et al., 2022). These experiences suggest that effective enforcement does not require eliminating criminal sanctions. Rather, criminal law should be preserved for serious, repeated, intentional, or environmentally harmful violations, while administrative and restorative mechanisms should address correctable regulatory failures.

Indonesia's regulatory development, including reforms related to the Job Creation Law and subsequent mining and environmental regulations, has created new momentum to reconsider the relationship between administrative and criminal enforcement in the mining sector (Anggono & Firdaus, 2020; Anggraeni & Amrullah, 2023). Nevertheless, implementation remains challenged by bureaucratic fragmentation, weak supervisory capacity, unclear escalation criteria, and risks of regulatory capture. These challenges indicate the need for a more structured approach that links administrative correction, RKAB supervision, environmental restoration, and criminal liability within one coherent enforcement pathway (Martín et al., 2020; Chen et al., 2023; Munandar et al., 2021; Noor et al., 2021; Oanta, 2022; Rohmy et al., 2021).

Against this background, this article examines how the *Ultimum Remedium* principle can be operationalised in Indonesian mining law. It argues that criminal sanctions should not be abolished, but should be repositioned as the final stage within a staged and transparent enforcement framework. By integrating doctrinal analysis, limited empirical insights, and comparative perspectives, this study contributes to the development of a more proportionate, accountable, and environmentally responsive model of mining law enforcement in Indonesia. The article specifically connects the *Ultimum Remedium* principle to RKAB compliance, administrative sanctions, environmental restoration, and criminal enforcement thresholds, thereby offering a more operational understanding of the principle in mining governance (Faisal et al., 2022; Hidayat et al., 2023; Teijo, 2023).

RESEARCH METHOD

This study adopts a socio-legal research design that combines doctrinal and comparative legal analysis with limited empirical inquiry. This approach was selected because the research not only examines the *Ultimum Remedium* principle as a legal doctrine but also investigates how it is understood and applied in mining law enforcement practice. A socio-legal design allows the study to connect legal

norms with institutional implementation, stakeholder perceptions, regulatory behaviour, and compliance dynamics in the mining sector.

The doctrinal component of the study examines legal norms governing mining law, administrative sanctions, RKAB compliance, environmental obligations, and criminal liability. The comparative component analyses selected legal and regulatory frameworks from Australia, Canada, and Chile to identify how other jurisdictions structure administrative enforcement, restoration obligations, and escalation to criminal or court-based enforcement. The empirical component focuses on stakeholder perceptions and enforcement practices in Indonesia, particularly regarding the operationalisation of the *Ultimum Remedium* principle in mining governance.

The units of analysis in this study include legal norms, enforcement practices, case-based analyses, stakeholder perceptions, and comparative legal frameworks. Legal norms refer to provisions governing mining regulation, administrative sanctions, environmental restoration, and criminal enforcement. Enforcement practices refer to the use of administrative and criminal sanctions in mining governance. The case-based analysis focuses on RKAB-related compliance issues, including the PT GMS case, which is presented as an illustrative, anonymised example. Stakeholder perceptions refer to the views of government officials, mining company representatives, civil society organisations, and affected communities. These units are integrated to examine how the *Ultimum Remedium* principle operates across normative, practical, and comparative dimensions.

Participants were selected through purposive sampling based on their direct involvement in mining regulation, compliance practices, environmental governance, advocacy activities, or community impacts of mining. The empirical component consisted of two groups of participants: interview informants and questionnaire respondents. A total of 24 semi-structured interview participants were involved in this study, comprising 6 government officials, 6 mining company representatives, 6 civil society organisation representatives, and 6 affected community members. In addition, the questionnaire included 68 respondents: 15 government officials, 18 mining company representatives, 17 civil society organisation representatives, and 18 affected community members. This composition enabled the study to capture diverse perspectives on the implementation of the *Ultimum Remedium* principle in Indonesian mining law enforcement.

Semi-structured interviews were conducted in Southeast Sulawesi, both in person and online. Each interview lasted approximately 30 to 60 minutes. The interviews were conducted with informed consent, audio-recorded, and transcribed for analysis. The identities of all participants were anonymised. The interview guide covered several key themes, including participants' understanding of the *Ultimum Remedium* principle, the application of administrative sanctions, RKAB compliance and monitoring, conditions for criminal enforcement, and environmental restoration practices.

A structured questionnaire was also used to capture broader stakeholder perceptions. The questionnaire used a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. It included statements concerning the use of criminal sanctions as a last resort, the effectiveness of administrative sanctions in ensuring compliance with mining regulations, the priority of environmental restoration over criminal punishment, and the consistency and fairness of current enforcement practices. The questionnaire was distributed online to 68 respondents. Since the questionnaire was used only to generate descriptive insights, this study does not employ independent, mediating, or dependent variables and does not conduct inferential statistical analysis.

Data were analysed through three complementary procedures. First, legal materials were examined using qualitative doctrinal interpretation, focusing on the structure of sanctions, the relationship

between administrative and criminal enforcement, and the consistency of mining law enforcement with the *Ultimum Remedium* principle. Comparative legal analysis was then used to identify enforcement patterns in selected jurisdictions, particularly regarding administrative correction, restoration obligations, and escalation thresholds. Second, interview data were analysed thematically through transcription, initial coding, theme identification, categorisation by stakeholder group, and interpretation in relation to legal doctrine and enforcement practice. Third, questionnaire data were analysed descriptively using frequency distributions, percentage analyses, and mean score comparisons. The questionnaire findings are therefore interpreted as indicative of stakeholder perceptions rather than statistically generalizable results.

To strengthen analytical validity, this study applies methodological triangulation by integrating doctrinal legal analysis, interview findings, questionnaire results, case-based analysis, and comparative legal insights. Triangulation was used to compare legal norms with enforcement practices, examine consistency between stakeholder perceptions and regulatory frameworks, and validate findings across different data sources. This process enabled the study to identify whether the *Ultimum Remedium* principle is merely recognised normatively or has been operationalised through clear administrative, restorative, and criminal enforcement mechanisms.

This study acknowledges several limitations. The empirical component is limited in scale and is not intended to represent all mining enforcement practices in Indonesia. The questionnaire provides descriptive insights rather than causal explanations. The PT GMS case is used as an illustrative case and does not constitute a final judicial or administrative determination. The comparative analysis is also limited to selected jurisdictions and is not intended for direct legal transplantation. Nevertheless, by integrating doctrinal analysis, comparative legal review, and limited empirical data, this study provides a contextually grounded understanding of the operational challenges of applying the *Ultimum Remedium* principle in Indonesian mining law enforcement.

RESULTS

Stakeholder Perceptions of the *Ultimum Remedium* Principle in Mining Enforcement

This section addresses the first research objective by examining how stakeholders perceive the *Ultimum Remedium* principle in mining enforcement. The findings are based on semi-structured interviews with 24 informants and questionnaire responses from 68 respondents representing four stakeholder groups: government officials, mining company representatives, civil society organisations, and affected communities. The results are presented through participant distribution, descriptive questionnaire findings, thematic patterns from interview data, and selected interview excerpts.

Table 1. Distribution of Interview Informants and Questionnaire Respondents by Stakeholder Group

Stakeholder group	Interview informants (n)	Questionnaire respondents (n)	Questionnaire respondents (%)
Government officials	6	15	22.1
Mining company representatives	6	18	26.5
Civil society organisations	6	17	25.0
Affected communities	6	18	26.5
Total	24	68	100.0

Note: Percentages are calculated from 68 questionnaire respondents and may not total exactly 100 due to rounding. Interview informants were anonymised using standardised stakeholder codes: GO for government officials, MC for mining company representatives, CSO for civil society organisations, and AC for affected communities.

Table 1 shows the distribution of participants in the empirical component of the study. The interview component involved 24 informants, equally distributed across the four stakeholder groups. The questionnaire component involved 68 respondents, with the largest proportions drawn from mining company representatives and affected communities, followed by civil society organisations and government officials.

Table 2. Stakeholder Agreement with the Statement that Criminal Sanctions Should Be Used as a Last Resort in Mining Enforcement

Stakeholder group	Respondents (n)	Agree, n (%)	Neutral, n (%)	Disagree, n (%)	Mean score
Government officials	15	13 (86.7)	1 (6.7)	1 (6.7)	4.35
Mining company representatives	18	15 (83.3)	2 (11.1)	1 (5.6)	4.18
Civil society organisations	17	12 (70.6)	2 (11.8)	3 (17.6)	3.98
Affected communities	18	13 (72.2)	2 (11.1)	3 (16.7)	3.92
Total	68	53 (77.9)	7 (10.3)	8 (11.8)	4.10

Note. “Agree” combines “agree” and “strongly agree”; “Disagree” combines “disagree” and “strongly disagree.” Percentages are calculated based on the number of respondents in each stakeholder group. Mean scores are calculated on a five-point Likert scale, where 1 = strongly disagree and 5 = strongly agree. The total mean score is calculated as a weighted mean, weighted by the number of respondents in each stakeholder group.

The questionnaire results show that most respondents agreed that criminal sanctions should be used as a last resort in mining enforcement. Government officials recorded the highest level of agreement, with 13 of 15 respondents (86.7%) expressing it. This was followed by mining company representatives, with 15 of 18 respondents (83.3%) expressing agreement. Civil society organisations and affected communities also showed majority agreement, although their levels of agreement were lower, at 70.6% and 72.2%, respectively. These findings indicate that the *Ultimum Remedium* principle is broadly recognised across stakeholder groups, although the degree of agreement varies among them.

Table 3. Thematic Summary of Interview Findings on Stakeholder Perceptions

Stakeholder group	Dominant theme	Summary of finding
Government officials	Procedural framing of proportional enforcement	Government officials tended to understand the <i>Ultimum Remedium</i> principle as a procedural requirement that places criminal sanctions after administrative measures.
Mining company representatives	Legal certainty and predictable enforcement procedures	Mining company representatives associated the principle with legal certainty, predictable procedures, and opportunities for compliance correction before criminal escalation.

Stakeholder group	Dominant theme	Summary of finding
Civil society organisations	Concern over inconsistent enforcement sequencing	Civil society organisations emphasised the gap between the principle's normative recognition and inconsistent enforcement practices in the field.
Affected communities	Priority on environmental restoration outcomes	Affected communities evaluated the principle mainly through concrete outcomes, particularly whether enforcement leads to environmental restoration.

Note. The table summarises recurring themes identified across interview data from each stakeholder group.

The interview findings further illustrate the thematic patterns presented in Table 3. Government officials tended to frame the *Ultimum Remedium* principle as part of proportional enforcement procedure. One government official stated that “criminal sanctions are not the first option; administrative measures should be prioritised, especially for compliance-related violations” (GO-3, interview, 2025). This view suggests that government officials generally understand the principle as a procedural mechanism to ensure that criminal law is not invoked prematurely in mining enforcement.

Mining company representatives also supported the principle, but placed greater emphasis on legal certainty and procedural predictability. As one company representative explained, “We agree that criminal law should be the last resort, but the process must be clear and predictable” (MC-2, interview, 2025). This view suggests that mining companies associate *Ultimum Remedium* with the need for clear enforcement stages, especially where administrative correction and compliance adjustment remain possible.

Civil society organisations and affected communities expressed more outcome-oriented concerns. A civil society representative noted that “in practice, the principle is not always followed. Sometimes criminal sanctions are used without ensuring that administrative steps have been completed” (CSO-4, interview, 2025). This response indicates concern over inconsistent enforcement sequencing and the lack of transparent criteria for moving from administrative measures to criminal prosecution. Similarly, a community member emphasised that “we hear about *Ultimum Remedium*, but what matters is whether the damage is fixed. Often, enforcement does not prioritise restoration” (AC-5, interview, 2025). This statement shows that affected communities tend to evaluate the principle not only through legal procedure, but also through the concrete outcome of environmental restoration.

The questionnaire and interview findings show that the *Ultimum Remedium* principle is widely recognised among stakeholders, but it is not uniformly understood. Government officials emphasise procedural proportionality, mining company representatives emphasise legal certainty, civil society organisations emphasise enforcement accountability, and affected communities emphasise environmental restoration. These findings indicate that the principle has broad normative acceptance, while its operational meaning differs across stakeholder groups. This variation suggests that the main challenge is not the absence of recognition of *Ultimum Remedium*, but the lack of a shared understanding of how the principle should guide the sequencing of enforcement in mining law.

RKAB Compliance and Administrative Enforcement in the PT GMS Case

This subsection addresses the second research objective by examining how the *Ultimum Remedium* principle operates in a concrete mining enforcement case, particularly in relation to RKAB compliance, administrative sanctions, corrective opportunities, environmental restoration, and criminal enforcement

thresholds. The PT GMS case is used as an illustrative and anonymised case label to examine how RKAB-related non-compliance may generate administrative and criminal enforcement issues. The analysis is based on interview data, stakeholder perceptions, questionnaire findings, and regulatory review. It does not reconstruct the case as a final judicial or administrative finding. The available materials do not establish that a final administrative sanction or criminal judgment has formally occurred. Accordingly, this subsection uses cautious legal language, including expressions such as “informants reported,” “the available data indicate,” and “the case suggests potential administrative non-compliance.”

Table 4. Summary of Empirical Findings on RKAB Compliance, Administrative Enforcement, Restoration, and Criminal Escalation in the PT GMS Case

Case issue	Empirical indication	Administrative finding	Restoration finding	Escalation finding
RKAB quota issue	Informants reported production beyond the approved RKAB limits.	The issue was framed mainly as potential administrative non-compliance requiring verification, correction, and possible administrative sanction.	Restoration was not clearly positioned as a central enforcement response.	Criminal escalation criteria were perceived as unclear.
Reporting inconsistency	Informants described inconsistencies in production and sales reporting.	Corrective mechanisms included reporting data correction, audits, record synchronisation, and administrative monitoring.	Weak reporting was perceived as potentially affecting the traceability of environmental impacts.	Escalation was associated with intentional falsification, concealment, manipulation of records, or repeated non-compliance.
MOMS/E-PNBP monitoring weakness	Informants noted weak synchronisation between monitoring systems.	Early administrative review was linked to cross-checking MOMS, E-PNBP, production realisation, and RKAB approval data.	Weak monitoring was perceived as potentially delaying the identification of environmental harm.	No clearly documented rule was identified for moving from administrative review to criminal investigation.

Case issue	Empirical indication	Administrative finding	Restoration finding	Escalation finding
Corrective opportunity	Government and company informants emphasised the importance of opportunities to correct RKAB and reporting issues.	Corrective mechanisms were perceived as insufficiently structured or inconsistently documented.	Restoration was not clearly integrated into the correction process.	Escalation was difficult to assess where correction, sanction, restoration, and evaluation were not clearly documented.
Restoration concern	Civil society and community informants perceived restoration as insufficiently prioritised.	Administrative enforcement was associated with restoration orders, rehabilitation requirements, implementation timelines, and verification of recovery outcomes.	Restoration was perceived as marginal in the enforcement response.	Escalation was linked to serious environmental harm, ignored restoration orders, or continuing non-compliance.
Enforcement consistency and fairness	Questionnaire data showed support for administrative sanctions before criminal law, but lower confidence in the fairness of enforcement.	A gap appeared between support for staged enforcement and perceptions of actual enforcement practice.	Low confidence in the consistency of enforcement may weaken public trust in restoration enforcement.	Stakeholders perceived the absence of clear thresholds separating administrative violations from criminal liability.

Note. The PT GMS case is treated as illustrative and anonymised. The table summarises interview findings, stakeholder perceptions, questionnaire results, and regulatory review. It does not represent a final judicial or administrative determination.

The case findings indicate that the alleged issue was primarily framed by informants as RKAB-related administrative non-compliance. Interviewees described the problem as involving production beyond the approved RKAB quota and inconsistencies in production and sales reporting. A government official stated that the main issue was “production exceeding what was approved in the RKAB, combined with reporting inconsistencies” (GO-2, interview, 2025). Another official noted that “monitoring systems are not always synchronised,” creating gaps in early detection (GO-5, interview, 2025). These findings indicate that the case was understood by informants mainly through the framework of administrative compliance, reporting accuracy, and monitoring effectiveness.

The enforcement response was perceived as lacking a clearly documented sequence. Civil society and government informants indicated that regulatory review and consideration of sanctions occurred, but the available data do not clearly show whether administrative correction had been fully applied before

possible escalation. This finding is supported by questionnaire data showing that approximately 74% of respondents agreed that administrative sanctions should be applied before criminal law is invoked, with a mean score of 4.08. At the same time, only approximately 42% of respondents agreed that enforcement processes were consistent and fair, with a mean score of 3.04. These results indicate a gap between stakeholder support for staged enforcement and their perception of how enforcement is applied in practice.

The case also shows that environmental restoration was not perceived as central to the enforcement response. Civil society and community informants emphasised that compliance and punishment were often prioritised over restoration. One civil society representative stated that enforcement often focuses on “compliance and sanctions, but not always on whether environmental impacts are properly restored” (CSO-4, interview, 2025). A community member similarly stated that communities expect “restoration first, not merely punishment” (AC-3, interview, 2025). These responses indicate that affected communities evaluated enforcement not only on administrative legality but also on whether it produced concrete environmental recovery.

The PT GMS case indicates that RKAB-related non-compliance, administrative correction, environmental restoration, and criminal escalation were not connected through a clearly documented enforcement sequence. The findings show that the case was perceived less as a purely criminal matter and more as an example of uncertainty in determining when administrative non-compliance should remain within administrative enforcement and when it should warrant criminal prosecution. These findings indicate that the operationalisation of *Ultimum Remedium* in the PT GMS case was perceived as depending on the sequence of compliance supervision, administrative correction, restoration, and escalation thresholds.

Comparative Legal Findings on Mining Enforcement Models

This section addresses the third research objective by presenting the findings of the comparative legal analysis. The comparison examines how selected jurisdictions structure administrative enforcement, restoration obligations, and escalation toward criminal or court-based enforcement in mining and environmental regulation. The purpose of this section is not to propose direct legal transplantation, but to identify comparative enforcement patterns that are relevant to the operationalisation of the *Ultimum Remedium* principle in Indonesian mining law.

The comparative analysis was based on selected statutes, regulations, regulator guidance, official enforcement records, compliance programme materials, sanction records, and government reports from Australia, Canada, Chile, and Indonesia. These materials are listed separately in the Legal Materials section to distinguish primary legal materials and official documents from academic references. For Australia, the analysis focused on Western Australian mining and rehabilitation materials and Commonwealth environmental enforcement materials, including mining approval, mine closure, rehabilitation, and EPBC Act compliance mechanisms (*Mining Act 1978* (WA); *Mining Regulations 1981* (WA); *Mining Rehabilitation Fund Act 2012* (WA); *Environmental Protection Act 1986* (WA); *Environment Protection and Biodiversity Conservation Act 1999* (Cth)). For Canada, the analysis focused on British Columbia mining enforcement materials and federal environmental compliance materials (*the British Columbia Mines Act*; *the Health, Safety and Reclamation Code for Mines in British Columbia*; *the Administrative Penalties (Mines) Regulation*; and *the Canadian Environmental Protection Act, 1999*). For Chile, the analysis focused on the national environmental enforcement framework centred on the *Superintendencia del Medio Ambiente* (SMA), including compliance programme, sanctioning, public enforcement record, and repair-plan mechanisms

(*Law No. 19.300 on General Bases of the Environment; Law No. 20.417; Law No. 20.600; Decreto Supremo No. 30/2012; Sistema Nacional de Información de Fiscalización Ambiental [SNIFA]*). For Indonesia, the analysis considered the mineral and coal mining framework, RKAB approval and reporting rules, administrative sanctions, environmental protection regulation, reclamation and post-mining obligations, and the empirical findings presented in Sections 3.1 and 3.2 (*Law No. 4 of 2009 on Mineral and Coal Mining; Law No. 3 of 2020; Law No. 2 of 2025; Government Regulation No. 96 of 2021; Government Regulation No. 25 of 2024; Government Regulation No. 39 of 2025; Minister of Energy and Mineral Resources Regulation No. 17 of 2025; Minister of Energy and Mineral Resources Regulation No. 6 of 2026; Government Regulation No. 22 of 2021*).

Table 5. Comparative Findings on Administrative Enforcement, Restoration, and Criminal or Court-Based Escalation

Jurisdiction	Administrative- restorative pathway	Escalation threshold	Comparative finding
Australia: Western Australia and Commonwealth materials	The reviewed materials link mining approvals, environmental conditions, reporting, mine closure planning, progressive rehabilitation, and rehabilitation funding mechanisms. Commonwealth environmental materials also identify tools such as audits, infringement notices, enforceable undertakings, remediation, civil penalties, and criminal penalties.	Escalation is linked to breach of approval conditions, significant environmental impact, failure to comply with remediation or audit requirements, false or misleading information, and the seriousness of harm.	Australia shows a visible connection between approval conditions, monitoring, rehabilitation obligations, and court-based enforcement. Criminal or court-based measures are situated within a broader compliance and remediation framework.
Canada: British Columbia and federal materials	The reviewed materials show a pathway involving inspection, verification of compliance, voluntary compliance where possible, orders to remedy non-compliance, administrative monetary penalties, reclamation obligations, use of security, investigation, and prosecution.	Escalation is linked to the gravity and magnitude of contravention, actual or potential adverse effects, significant risk, failure to comply with orders, inability to secure voluntary compliance, serious incidents, or evidence requiring investigation.	Canada, particularly British Columbia, provides a documented pathway connecting inspection, administrative orders, monetary penalties, reclamation duties, investigation, and prosecution.

Jurisdiction	Administrative- restorative pathway	Escalation threshold	Comparative finding
Chile	The reviewed materials show a centralised environmental enforcement pathway through inspection, formulation of charges, sanctioning procedure, compliance programme, verification of compliance, sanctions where compliance is not achieved, and repair plans for environmental damage.	Escalation is linked to the seriousness of infractions, environmental effects, non-compliance with environmental approvals or regulatory instruments, failure to implement an approved compliance programme, and environmental damage requiring repair.	Chile provides the clearest example of centralised administrative environmental enforcement among the jurisdictions reviewed, with public enforcement records, compliance programmes, and repair-oriented mechanisms.
Indonesia	The Indonesian framework contains RKAB approval and reporting obligations, written warnings, administrative sanctions, suspension or restriction of activities, permit-related consequences, reclamation and post-mining obligations, and environmental administrative sanctions.	The legal framework recognises administrative and criminal instruments, but the empirical findings indicate uncertainty about when RKAB-related administrative non-compliance should be addressed through administrative correction and when it should warrant criminal prosecution.	Indonesia has formal administrative and environmental enforcement instruments, but the findings suggest a weaker operational linkage among RKAB compliance, administrative correction, restoration obligations, and criminal enforcement thresholds.

Note. The table summarises selected primary legal and official enforcement materials reviewed for comparative purposes. It does not imply that foreign legal models can be directly transplanted into Indonesian law. The full list of statutes, regulations, regulator guidance, official enforcement records, and government materials should be included separately under Legal Materials.

The comparative materials reveal three main findings. First, the selected jurisdictions offer more clearly defined administrative enforcement pathways before escalation. In Australia, the reviewed materials connect mining approvals, environmental conditions, environmental reporting, mine closure planning, progressive rehabilitation, rehabilitation funding, and EPBC Act compliance tools within a broader enforcement structure (*Mining Act 1978* (WA); *Mining Rehabilitation Fund Act 2012* (WA); *Environment Protection and Biodiversity Conservation Act 1999* (Cth)). In British Columbia, mining enforcement is structured around inspections, compliance verification, orders to remedy, administrative monetary penalties, reclamation obligations, investigations, and prosecutions (*British Columbia Mines Act*;

Administrative Penalties (Mines) Regulation; Health, Safety and Reclamation Code for Mines in British Columbia). In Chile, the national environmental enforcement framework links inspection, charge formulation, sanctioning procedures, compliance programmes, public enforcement records, and repair-oriented mechanisms through the SMA and SNIFA (*Law No. 20.417; Decreto Supremo No. 30/2012; SNIFA*). In contrast, the Indonesian framework contains RKAB approval, reporting obligations, administrative sanctions, environmental sanctions, reclamation, and post-mining obligations, but the empirical findings indicate that these instruments are not always perceived as operating through a clearly documented enforcement sequence (*Law No. 4 of 2009; Law No. 3 of 2020; Law No. 2 of 2025; Government Regulation No. 96 of 2021; Government Regulation No. 39 of 2025; Minister of Energy and Mineral Resources Regulation No. 17 of 2025; Minister of Energy and Mineral Resources Regulation No. 6 of 2026*).

Second, restoration obligations are more visibly institutionalised in the selected foreign materials. Western Australia connects mine closure planning with progressive rehabilitation, environmental reporting, and rehabilitation funding (*Mining Rehabilitation Fund Act 2012 (WA); Environmental Protection Act 1986 (WA)*). British Columbia connects mining permits, reclamation obligations, orders to remedy, administrative penalties, and financial security within a compliance and enforcement structure (*British Columbia Mines Act; Health, Safety and Reclamation Code for Mines in British Columbia; Administrative Penalties (Mines) Regulation*). Chile links environmental enforcement to compliance programmes and repair plans that require regulated entities to return to compliance and address the effects of infractions (*Law No. 20.417; Decreto Supremo No. 30/2012*). By comparison, the Indonesian findings suggest that restoration exists in the legal framework but is not always perceived by stakeholders as a central enforcement stage in RKAB-related non-compliance cases (*Government Regulation No. 22 of 2021; Government Regulation No. 96 of 2021; Government Regulation No. 39 of 2025; Sections 3.1 and 3.2*).

Third, the comparative materials show more explicit criteria and institutional tools for determining escalation. Australia uses statutory and regulatory tools for significant impacts, breaches of approval conditions, remediation, injunctions, civil penalties, and criminal penalties under its environmental enforcement framework (the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*). British Columbia applies a compliance and enforcement model in which escalation may be associated with contravention, risk, actual or potential adverse effects, failure to comply with orders, and the need for investigation (*British Columbia Mines Act; Administrative Penalties (Mines) Regulation*). Chile uses infraction classification, compliance programme assessment, repair mechanisms, and sanctioning procedures through the SMA (*Law No. 20.417; Decreto Supremo No. 30/2012; SNIFA*). In Indonesia, the comparative problem identified in this study is not the absence of legal instruments, but the limited visibility of an operational threshold separating administrative non-compliance from criminal liability (*Law No. 4 of 2009; Law No. 3 of 2020; Law No. 2 of 2025; Government Regulation No. 96 of 2021; Government Regulation No. 39 of 2025; Sections 3.1 and 3.2*).

The comparative legal analysis indicates that Australia, Canada, and Chile do not eliminate criminal or court-based enforcement. Rather, the reviewed materials situate punitive enforcement within broader regulatory structures that also include compliance supervision, administrative correction, restoration, and documented escalation mechanisms (*Environment Protection and Biodiversity Conservation Act 1999 (Cth); British Columbia Mines Act; Law No. 20.417; Decreto Supremo No. 30/2012*). The Indonesian framework contains comparable legal instruments, but the empirical findings from stakeholder perceptions and the PT GMS case suggest that the relationship among RKAB compliance, administrative sanctions, restoration obligations, and criminal enforcement thresholds remains less clearly defined in operational terms (*Law No. 4 of 2009; Government Regulation No. 96 of 2021; Government Regulation No.*

39 of 2025; Minister of Energy and Mineral Resources Regulation No. 17 of 2025; Minister of Energy and Mineral Resources Regulation No. 6 of 2026; Sections 3.1 and 3.2).

DISCUSSION

The findings of this study show that the operationalisation of the *Ultimum Remedium* principle in Indonesian mining law is shaped by three interrelated issues. First, stakeholders generally accept the principle at the normative level, but they attach different operational meanings to it. Government officials tend to understand it as a procedural requirement for proportional enforcement; mining companies associate it with legal certainty and predictable compliance pathways; civil society organisations connect it with accountability; and affected communities evaluate it by the concrete outcome of environmental restoration. Second, the PT GMS case illustrates weak sequencing between RKAB compliance, administrative sanctions, corrective opportunities, restoration, and criminal escalation. Third, comparative legal materials from Australia, Canada, and Chile indicate that more structured enforcement models rely on clearer administrative procedures, enforceable remedy obligations, and more clearly defined escalation thresholds. These findings suggest that the central problem is not the formal absence of *Ultimum Remedium*, but the lack of an operational enforcement sequence that translates the principle into regulatory practice.

The findings of this study indicate that the main challenge in applying the *Ultimum Remedium* principle in Indonesian mining law lies not in its doctrinal recognition, but in its weak operational translation into enforcement sequencing. Stakeholders generally accepted the principle as a normative basis for placing criminal sanctions as a last resort, but they attached different practical meanings to it. Government officials tended to understand the principle as a procedural requirement for proportional enforcement; mining company representatives associated it with legal certainty and predictable compliance pathways; civil society organisations connected it with accountability; and affected communities evaluated it through the concrete outcome of environmental restoration. This variation shows that *Ultimum Remedium* is not rejected by stakeholders, but its operational meaning remains fragmented across institutional positions and social experiences.

This finding confirms previous scholarship that treats criminal law as an instrument of last resort rather than the first response to regulatory violations (Sulistiani & Fakhriah, 2023; Yoserwan et al., 2019; Yoserwan, 2021). However, this study extends that literature by showing that doctrinal recognition alone is insufficient in the mining sector. The principle becomes difficult to apply consistently when it is not translated into a shared institutional pathway connecting administrative correction, RKAB supervision, environmental restoration, and criminal enforcement. In this sense, the problem is not simply whether criminal law should be delayed, but how enforcement authorities determine when administrative and restorative measures are sufficient and when criminal escalation becomes necessary.

The empirical findings also show that each stakeholder group evaluates enforcement through a different institutional lens. Regulators emphasise proportionality and flexibility; companies emphasise predictability; civil society organisations emphasise accountability; and affected communities emphasise restoration. Without a clear enforcement sequence that reconciles these expectations, enforcement may move in two problematic directions. On the one hand, administrative tolerance may become too broad where correction, monitoring, and restoration are weakly documented. On the other hand, criminal escalation may occur prematurely, where authorities respond to perceived seriousness without first explaining whether administrative and restorative mechanisms have been applied or why they are inadequate. The PT GMS case illustrates this difficulty because the available data indicate uncertainty over

whether RKAB-related non-compliance, reporting correction, administrative sanctioning, and restoration were connected through a transparent sequence before criminal enforcement was considered.

The findings contribute to debates on administrative sanctions and environmental enforcement by linking these issues specifically to RKAB compliance and enforcement in the mining sector. Previous studies have emphasised the importance of administrative sanctions as preventive and corrective instruments in environmental law enforcement (Amiq, 2018). Other scholarship on mining and environmental governance has highlighted regulatory weaknesses, environmental harm, reclamation challenges, and corporate accountability issues in Indonesia's extractive sector (Faisal et al., 2022; Pardede et al., 2023; Tegan et al., 2021; Torodji et al., 2023). This study extends those arguments by showing that administrative sanctions should not be examined only as isolated legal instruments. In the mining context, their effectiveness depends on their connection with RKAB approval, production reporting, compliance monitoring, environmental restoration, and the threshold for criminal liability.

The PT GMS case suggests that administrative correction and criminal escalation are difficult to distinguish when enforcement stages are not clearly documented. RKAB-related non-compliance may involve correctable administrative problems, such as reporting inconsistency or quota adjustment issues. However, similar factual situations may also raise criminal concerns where they involve intentional falsification, concealment, obstruction of supervision, repeated non-compliance, corruption, or serious environmental harm. The central enforcement challenge is therefore to distinguish ordinary compliance failure from conduct that justifies punitive intervention.

This distinction is important because *Ultimum Remedium* does not require criminal enforcement to be postponed in every case. Rather, it requires authorities to explain why administrative correction and restoration are sufficient in some cases and inadequate in others. Criminal law remains necessary where administrative mechanisms fail, where regulated entities repeatedly ignore correction orders, or where the violation involves serious harm, fraud, corruption, or obstruction. At the same time, administrative enforcement loses legitimacy if it merely delays accountability without producing measurable compliance or environmental recovery. The legitimacy of *Ultimum Remedium*, therefore, depends on whether administrative measures are credible, enforceable, monitored, and connected to restoration outcomes.

The comparative findings reinforce the interpretation of *Ultimum Remedium* as a staged enforcement framework rather than a simple preference against criminal punishment. Australia, Canada, and Chile do not eliminate criminal or court-based enforcement. Instead, the selected materials show that punitive enforcement is situated within broader regulatory structures that also include compliance supervision, administrative correction, rehabilitation, remediation, repair mechanisms, and documented escalation tools. Australia links mining approvals, environmental conditions, mine closure planning, progressive rehabilitation, rehabilitation funding, and court-based environmental enforcement mechanisms (*Mining Rehabilitation Fund Act 2012* (WA); *Environment Protection and Biodiversity Conservation Act 1999* (Cth)). British Columbia links inspection, compliance verification, orders to remedy, administrative monetary penalties, reclamation obligations, financial security, investigation, and prosecution (*Mines Act*, R.S.B.C. 1996, c. 293; *Administrative Penalties (Mines) Regulation*, B.C. Reg. 47/2017). Chile links administrative environmental enforcement with compliance programmes, sanctioning procedures, public enforcement records, and repair plans through the *Superintendencia del Medio Ambiente* (*Law No. 20.417*; *Decreto Supremo No. 30/2012*).

These comparative materials show that the key issue is not whether administrative or criminal enforcement should dominate, but whether their relationship is institutionally sequenced. Administrative enforcement is meaningful when it identifies violations early, orders correction, monitors compliance,

imposes proportionate sanctions, and secures restoration where harm has occurred. Criminal or court-based enforcement becomes legitimate when the violation exceeds the corrective capacity of administrative law, particularly due to seriousness, repetition, intentionality, falsification, obstruction, corruption, or environmental damage. This comparative pattern is relevant to Indonesia because the Indonesian legal framework already contains administrative sanctions, RKAB approval and reporting obligations, reclamation and post-mining duties, and environmental administrative sanctions. The problem identified in this study is that these instruments are not always perceived as operating through a transparent and coherent sequence.

Accordingly, the contribution of this article is not to argue for legal transplantation from Australia, Canada, or Chile. Rather, the comparative analysis helps clarify the institutional conditions under which *Ultimum Remedium* can operate credibly in mining law. The principle requires not only doctrinal acknowledgement but also visible enforcement stages, documented correction mechanisms, measurable restoration obligations, and criteria for escalation. Without these elements, *Ultimum Remedium* risks being interpreted either as excessive administrative leniency or as an empty doctrine invoked after criminal enforcement has already been chosen.

The analytical implication of these findings is that Indonesian mining enforcement can be conceptualised as a staged but flexible enforcement model. Such a model would begin with preventive compliance guidance and RKAB monitoring, proceed to administrative correction and reporting adjustment where violations remain correctable, apply administrative sanctions and restoration obligations where non-compliance persists or causes harm, and move toward licence suspension, revocation, or criminal prosecution where violations are serious, repeated, intentional, fraudulent, obstructive, corrupt, or environmentally damaging. This model should not be understood as a rigid requirement that every case must pass through all stages before criminal enforcement becomes possible. Immediate escalation may be justified where the conduct involves severe environmental harm, intentional falsification, corruption, obstruction of supervision, or repeated defiance of administrative orders.

Table 6 Analytical Model for Staged Mining Law Enforcement Based on the *Ultimum Remedium* Principle

Stage	Main function	Responsible institution	Legal/regulatory basis	Escalation logic
1. Preventive compliance and RKAB supervision	Early detection of RKAB inconsistency, reporting irregularity, production control issues, or licensing non-compliance.	Ministry of Energy and Mineral Resources, Directorate General of Mineral and Coal, mining inspectors, and relevant supervisory units.	Mineral and coal mining law framework, Government Regulation No. 96 of 2021 as amended, and MEMR RKAB regulations.	The case remains administrative where non-compliance is correctable and no serious harm, fraud, obstruction, corruption, or repeated violation is identified.
2. Administrative	Written warning, correction order,	Mining supervisory and	Administrative sanction provisions	Escalation becomes

Stage	Main function	Responsible institution	Legal/regulatory basis	Escalation logic
correction and sanctions	reporting adjustment, administrative fine, temporary restriction, suspension, or permit-related consequence.	licensing authorities, with coordination from regional or delegated authorities where relevant.	under the mining regulatory framework and RKAB reporting rules.	relevant when the company ignores corrections, repeats noncompliance, manipulates reports, or poses significant regulatory risk.
3. Environmental restoration and remedial duties	Reclamation, post-mining obligations, remediation, environmental recovery, and verification of restoration outcomes.	Environmental authorities in coordination with mining authorities where mining operations cause environmental impacts.	Environmental protection framework, Government Regulation No. 22 of 2021, reclamation and post-mining obligations, and technical guidance.	Administrative enforcement remains credible only where it produces measurable compliance and recovery; failure to restore may justify stronger administrative or criminal escalation.
4. Licence suspension or revocation	Regulatory consequence for persistent, serious, or uncorrected non-compliance.	Mining licensing and supervisory authorities, with environmental authority input where environmental obligations are involved.	Mining licensing and administrative sanction framework.	Suspension or revocation may be used before or alongside criminal referral where repeated violations show the failure of administrative correction.
5. Criminal prosecution	Final enforcement response for serious, intentional, fraudulent, obstructive,	Police, prosecutors, and courts, supported by technical findings from mining and	Criminal provisions under mining, environmental, anti-corruption, or related legislation.	Immediate escalation may be justified in cases of severe harm, intentional falsification, corruption,

Stage	Main function	Responsible institution	Legal/regulatory basis	Escalation logic
	repeated, corrupt, or environmentally harmful conduct.	environmental authorities.		obstruction, or repeated defiance of administrative orders.

Note. The model is an analytical synthesis derived from the empirical findings, comparative legal analysis, and Indonesian regulatory framework. It is not presented as an existing statutory procedure. Full statutory and regulatory sources should be listed in the Legal Materials section.

This staged model is grounded in the existing Indonesian mining and environmental regulatory framework, including the mineral and coal mining law, RKAB approval and reporting obligations, administrative sanctions, reclamation and post-mining duties, and environmental administrative sanctions (*Law No. 4 of 2009 on Mineral and Coal Mining* as amended; *Government Regulation No. 96 of 2021* as amended; *Government Regulation No. 22 of 2021*; *Minister of Energy and Mineral Resources Regulation No. 17 of 2025* as amended by *Minister of Energy and Mineral Resources Regulation No. 6 of 2026*). In institutional terms, the Ministry of Energy and Mineral Resources, particularly the Directorate General of Mineral and Coal, is central to RKAB supervision, production control, reporting compliance, and mining administrative sanctions. Environmental authorities remain responsible for environmental approvals, supervision, administrative environmental sanctions, and restoration obligations, while police, prosecutors, and courts remain responsible for criminal enforcement where the violation reaches the required threshold.

The model, therefore, seeks to clarify the relationship among institutions and enforcement instruments rather than replace existing law. Some mining violations may properly remain within the administrative domain where they involve correctable reporting errors, RKAB inconsistencies, or first-time compliance failures without serious harm. Other violations may justify immediate escalation where they involve intentional falsification, obstruction of supervision, corruption, repeated defiance of administrative orders, or severe environmental damage. This distinction is central to the operationalisation of *Ultimum Remedium*: the principle does not require criminal enforcement to be delayed in every case, but it requires authorities to justify why administrative correction and restoration are sufficient in some cases and inadequate in others.

The discussion shows that *Ultimum Remedium* in Indonesian mining law should be understood not merely as a doctrinal limit on criminal punishment, but as an institutional framework for proportional, restorative, and credible enforcement. Its effectiveness depends on the clarity of enforcement sequencing, the credibility of administrative correction, the enforceability of restoration obligations, and the transparency of criminal escalation thresholds. In this way, the principle can support legal certainty for regulated actors while preserving accountability for serious, repeated, fraudulent, corrupt, obstructive, or environmentally harmful conduct.

CONCLUSION

This study concludes that the main challenge in operationalising the *Ultimum Remedium* principle in Indonesian mining law does not lie in the absence of normative recognition, but in the lack of a clear enforcement sequence connecting administrative correction, RKAB supervision, environmental restoration, and criminal escalation. The findings show that stakeholders generally accept the principle

that criminal sanctions should be used as a last resort. However, they understand its operational meaning differently. Government officials tend to frame *Ultimum Remedium* as a matter of proportional enforcement procedures; mining company representatives associate it with legal certainty and predictable compliance pathways; civil society organisations evaluate it in terms of accountability; and affected communities assess it by concrete restoration outcomes. The PT GMS case illustrates this operational gap. The case findings suggest uncertainty about whether RKAB-related non-compliance, reporting inconsistencies, administrative correction, restoration obligations, and possible criminal escalation were connected in a transparent, documented sequence. Comparative legal findings from Australia, Canada, and Chile further indicate that more structured mining and environmental enforcement models do not eliminate criminal or court-based enforcement. Instead, they place punitive enforcement within broader systems of compliance supervision, administrative sanctioning, restoration, repair, and documented escalation mechanisms. These findings support the view that *Ultimum Remedium* should not be understood merely as a doctrine for delaying criminal punishment, but as an institutional framework for proportional, restorative, and credible enforcement.

The main contribution of this study is to operationalise the *Ultimum Remedium* principle within the specific context of Indonesian mining law. By combining stakeholder interviews, questionnaire findings, an illustrative RKAB-related case, and comparative legal analysis, this article offers an analytical model that connects compliance supervision, administrative correction, environmental restoration, licence-based consequences, and criminal prosecution. This contribution is relevant for developing a more transparent distinction between correctable administrative non-compliance and serious violations involving intentional falsification, obstruction, repeated defiance, corruption, or severe environmental harm.

This study has several limitations. The PT GMS case is treated as illustrative and anonymised, not as a final judicial or administrative determination. The questionnaire findings are descriptive and based on a limited number of respondents, so they should not be generalised to all mining enforcement contexts in Indonesia. The comparative analysis is also limited to selected materials from Australia, Canada, and Chile and does not represent a comprehensive account of all mining enforcement systems in those jurisdictions. Future research should examine additional mining cases, official enforcement records, court decisions, and regional enforcement practices to test how the proposed staged enforcement model operates.

REFERENCES

- Amiq, B. (2018). Administrative sanction in environmental law. *International Journal of Research - GRANTHAALAYAH*, 6(6), 22–37. <https://doi.org/10.29121/granthaalayah.v6.i6.2018.1331>
- Anggono, B. D., & Firdaus, F. R. (2020). Omnibus law in Indonesia: A comparison to the United States and Ireland. *Lentera Hukum*, 7(3), 319–336. <https://doi.org/10.19184/ejlh.v7i3.19895>
- Anggraeni, R. D., & Amrullah, M. K. (2023). Promoting the urgency of restorative justice to environmental law enforcement officials through civic engagement education. *Jurnal Cakrawala Pendidikan*, 42(1), 176–188. <https://doi.org/10.21831/cp.v42i1.56292>
- Chen, X. C., Choi, K. W., Wright, S., & Wu, H. (2023). The effectiveness of sanctions on disclosure regulation: Australian evidence. *Accounting & Finance*, 63(4), 3841–3872. <https://doi.org/10.1111/acfi.13073>
- Faisal, F., Rahayu, D. P., & Yokotani, Y. (2022). Criminal sanctions' reformulation in the reclamation of the mining community. *Fiat Justisia: Jurnal Ilmu Hukum*, 16(1), 11–30. <https://doi.org/10.25041/fiatjustisia.v16no1.2222>

- González-González, A., Clerici, N., & Quesada, B. R. (2021). Growing mining contribution to Colombian deforestation. *Environmental Research Letters*, 16(6), Article 064046. <https://doi.org/10.1088/1748-9326/abfcf8>
- Hidayat, S., Haris, O. K., Handrawan, Herman, Rizky, A., & Seriyati, E. (2023). Kewenangan Badan Pemeriksa Keuangan (BPK) dan Badan Pemeriksa Keuangan dan Pembangunan (BPKP) dalam menentukan kerugian keuangan negara. *Halu Oleo Legal Research*, 5(2), 592–604. <https://doi.org/10.33772/holresch.v5i2.551>
- Huang, Y., Li, X., & Liu, Y. (2022). The impact of environmental regulation or bargaining power on green total factor productivity: Evidence from Taiwan-funded enterprises in Chinese mainland. *Frontiers in Environmental Science*, 10, Article 982430. <https://doi.org/10.3389/fenvs.2022.982430>
- Kirin, R., Baranov, P., Hrytsenko, H., & Khomenko, V. (2024). Exploring and proposing appropriate provisions addressing the mineral resources subjects and governing entities within the framework of gemological law of Ukraine. *Grassroots Journal of Natural Resources*, 7(1), 43–65. <https://doi.org/10.33002/nr2581.6853.070103>
- Mamo, D. K., & Ayele, E. A. (2024). A dynamic analysis of capital, corruption, and labor market interactions. *Scientific African*, 25, Article e02312. <https://doi.org/10.1016/j.sciaf.2024.e02312>
- Mancini, L., & Sala, S. (2018). Social impact assessment in the mining sector: Review and comparison of indicators frameworks. *Resources Policy*, 57, 98–111. <https://doi.org/10.1016/j.resourpol.2018.02.002>
- Martín, A., Arias, J., López, J., Santos, L., Venegas, C., Duarte, M., Ortiz-Ardila, A., de Parra, N., Campos, C., & Zambrano, C. C. (2020). Evaluation of the effect of gold mining on the water quality in Monterrey, Bolívar (Colombia). *Water*, 12(9), Article 2523. <https://doi.org/10.3390/w12092523>
- Munandar, M. H., Arwana, Y. C., & Yusrina, A. (2021). Legal offerings increase the effectiveness of determination of coercive money and administrative sanctions on state administrative decisions. *Lex Scientia Law Review*, 5(1), 83–96. <https://doi.org/10.15294/lesrev.v5i1.46287>
- Noor, H. J., Afkar, K., & Glaser, H. (2021). Application of sanctions against state administrative officials failing to implement administrative court decisions. *BESTUUR*, 9(1), 53–67. <https://doi.org/10.20961/bestuur.v9i1.49686>
- Oanta, G. A. (2022). The application of administrative sanctions in the fight against IUU fishing: An assessment of Spanish practice. *Marine Policy*, 144, Article 105211. <https://doi.org/10.1016/j.marpol.2022.105211>
- Pardede, M., Situmorang, M., Aristeus, S., Rumadan, I., Lumban Toruan, H. D., Diogenes, Djamilus, & Nugrahani, E. L. P. (2023). Perspectives of sustainable development vs. law enforcement on damage, pollution and environmental conservation management in Indonesia. *Journal of Water and Climate Change*, 14(10), 3770–3790. <https://doi.org/10.2166/wcc.2023.417>
- Rohmy, A. M., Setiyono, H., & Supriyadi, S. (2021). Corporate criminal sanction in Omnibus Law for forest destruction in Indonesia: Review of Law Number 11 of 2020 on Job Creation. *Al-Risalah: Forum Kajian Hukum dan Sosial Kemasyarakatan*, 21(1), 49–64. <https://doi.org/10.30631/alrisalah.v21i1.789>
- Salman, M., Zha, D., & Wang, G. (2022). Indigenous versus foreign innovation and ecological footprint: Dynamic threshold effect of corruption. *Environmental and Sustainability Indicators*, 14, Article 100177. <https://doi.org/10.1016/j.indic.2022.100177>
- Șcheau, M. C., Gafta, V. N., Achim, M. V., & Bodescu Cotoc, C. N. (2020). Cyber security reactivity in crisis times and critical infrastructures. In *2020 24th International Conference on System Theory, Control and Computing (ICSTCC)* (pp. 691–698). IEEE. <https://doi.org/10.1109/ICSTCC50638.2020.9259695>

- Sulistiani, L., & Fakhriah, E. L. (2023). The effect of extra judicial settlement in criminal cases based on the principle of *Ultimum Remedium*. *Padjadjaran Jurnal Ilmu Hukum*, 10(3), 300–320. <https://doi.org/10.22304/pjih.v10n3.a1>
- Tegnan, H., Karjoko, L., Barkhuizen, J., & Bajrektarevic, A. H. (2021). Mining corruption and environmental degradation in Indonesia: Critical legal issues. *BESTUUR*, 9(2), 90–100. <https://doi.org/10.20961/bestuur.v9i2.55219>
- Teijo, C. (2023). Criminal sanctions and IUU fishing: The case of Spain. *Marine Policy*, 147, Article 105341. <https://doi.org/10.1016/j.marpol.2022.105341>
- Torodji, R., Hartiwiningsih, H., Handayani, I. G. A. K. R., & Nur, M. (2023). The role of the corporate penalty system on environmental regulation. *Journal of Human Rights, Culture and Legal System*, 3(3), 600–624. <https://doi.org/10.53955/jhcls.v3i3.179>
- Turnip, F. H., Rahmayanti, R., & Ramadani, S. (2025). Application of the *Ultimum Remedium* principle to environmental crimes in Indonesia. *Journal Research of Social Science, Economics, and Management*, 5(4). <https://doi.org/10.47679/jrsssh.v5i4.471>
- Yıldız, T. D., Güner, M. O., & Kural, O. (2024). Effects of EU-compliant mining waste regulation on Turkish mining sector: A review of characterization, classification, storage, management, recovery of mineral wastes. *Resources Policy*, 90, Article 104836. <https://doi.org/10.1016/j.resourpol.2024.104836>
- Yoserwan. (2021). *Doktrin ultimum remedium dalam hukum pidana Indonesia: Implementasinya dalam hukum pidana ekonomi*. Rajawali Pers.
- Yoserwan, Danil, E., Warman, K., & Yulfasni. (2019). The implementation of *Ultimum Remedium* principle in economic criminal law of Indonesia. *Journal of Legal, Ethical and Regulatory Issues*, 22(2), 1–5. <https://www.abacademies.org/articles/the-implementation-of-ultimum-remedium-principle-in-economic-criminal-law-of-indonesia-8167.html>

LEGAL MATERIALS

Statutes and Regulations

Australia

- Environment Protection and Biodiversity Conservation Act 1999* (Cth) (Austl.).
- Environmental Protection Act 1986* (WA) (Austl.).
- Mining Act 1978* (WA) (Austl.).
- Mining Regulations 1981* (WA) (Austl.).
- Mining Rehabilitation Fund Act 2012* (WA) (Austl.).

Canada

- Administrative Penalties (Mines) Regulation*, B.C. Reg. 47/2017 (Can.).
- Canadian Environmental Protection Act, 1999*, S.C. 1999, c. 33 (Can.).
- Health, Safety and Reclamation Code for Mines in British Columbia* (Can.).
- Mines Act*, R.S.B.C. 1996, c. 293 (Can.).

Chile

- Decreto Supremo No. 30/2012, Reglamento sobre programas de cumplimiento, autodenuncia y planes de reparación* (Chile).
- Law No. 19.300 on General Bases of the Environment* (Chile).
- Law No. 20.417 creating the Ministry of the Environment, the Environmental Assessment Service, and the Superintendencia del Medio Ambiente* (Chile).
- Law No. 20.600 creating Environmental Courts* (Chile).

Indonesia

Government Regulation No. 22 of 2021 on the Implementation of Environmental Protection and Management (Indonesia).

Government Regulation No. 96 of 2021 on the Implementation of Mineral and Coal Mining Business Activities (Indonesia).

Government Regulation No. 25 of 2024 amending Government Regulation No. 96 of 2021 on the Implementation of Mineral and Coal Mining Business Activities (Indonesia).

Government Regulation No. 39 of 2025 amending Government Regulation No. 96 of 2021 on the Implementation of Mineral and Coal Mining Business Activities (Indonesia).

Law No. 4 of 2009 on Mineral and Coal Mining (Indonesia).

Law No. 3 of 2020 amending Law No. 4 of 2009 on Mineral and Coal Mining (Indonesia).

Law No. 2 of 2025 amending Law No. 4 of 2009 on Mineral and Coal Mining (Indonesia).

Law No. 31 of 1999 on the Eradication of Criminal Acts of Corruption as amended by Law No. 20 of 2001 (Indonesia).

Minister of Energy and Mineral Resources Regulation No. 17 of 2025 on the Procedures for Preparing, Submitting, and Approving Work Plans and Budgets and Reporting the Implementation of Mineral and Coal Mining Business Activities (Indonesia).

Minister of Energy and Mineral Resources Regulation No. 6 of 2026 amending Minister of Energy and Mineral Resources Regulation No. 17 of 2025 on the Procedures for Preparing, Submitting, and Approving Work Plans and Budgets and Reporting the Implementation of Mineral and Coal Mining Business Activities (Indonesia).

Official Documents and Enforcement Materials

Australian Government, Department of Climate Change, Energy, the Environment and Water. (n.d.). *Compliance and enforcement.*

<https://www.dcccew.gov.au/environment/epbc/compliance>

Australian Government, Department of Climate Change, Energy, the Environment and Water. (n.d.). *Compliance outcomes.*

<https://www.dcccew.gov.au/environment/epbc/compliance/audit-outcomes>

Government of British Columbia. (n.d.). *Administrative monetary penalties.*

<https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/compliance-enforcement/amp>

Government of British Columbia. (n.d.). *Mining compliance and enforcement.*

<https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/compliance-enforcement>

Government of British Columbia. (n.d.). *Mines investigations unit.*

<https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/compliance-enforcement/mines-investigations-unit>

Government of British Columbia. (n.d.). *Compliance and enforcement policy.*

<https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/compliance-enforcement/compliance-and-enforcement-policy>

Government of Western Australia, Department of Mines, Petroleum and Exploration. (n.d.).

Guideline for preparing mine closure plans.

<https://www.wa.gov.au/government/publications/guideline-preparing-mine-closure-plans>

Government of Western Australia, Department of Mines, Petroleum and Exploration. (n.d.). *Mining Rehabilitation Fund.* <https://www.wa.gov.au/organisation/departments-of-mines-petroleum-and-exploration/mining-rehabilitation-fund>

- Government of Western Australia, Department of Mines, Petroleum and Exploration. (n.d.). *Prepare a mine closure plan*. <https://www.wa.gov.au/organisation/departments-of-mines-petroleum-and-exploration/prepare-mine-closure-plan>
- Government of Western Australia, Department of Mines, Petroleum and Exploration. (n.d.). *Abandoned Mines Program*. <https://www.wa.gov.au/organisation/departments-of-mines-petroleum-and-exploration/abandoned-mines-program>
- Superintendencia del Medio Ambiente. (n.d.). *Sistema Nacional de Información de Fiscalización Ambiental*. <https://snifa.sma.gob.cl/>
- Superintendencia del Medio Ambiente. (n.d.). *Programas de cumplimiento*. <https://portal.sma.gob.cl/>
- Superintendencia del Medio Ambiente. (n.d.). *Planes de reparación*. <https://portal.sma.gob.cl/>

This page is intentionally left blank