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# Synchronization of Mining Environmental Protection Regulations Based on an Ecocentric Paradigm In the Province of Bangka Belitung Islands

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## ABSTRACT

The management of mineral and coal mining in Indonesia must ensure environmental protection and the sustainability of post-mining land recovery. In the Province of the Bangka Belitung Islands, the insynchronization of norms between Law Number 3 of 2020 concerning Mineral and Coal Mining and Regional Regulation of the Province of Bangka Belitung Islands Number 7 of 2014 concerning Mineral Mining Management causes legal uncertainty and weakens the effectiveness of reclamation and environmental restoration. This study aims to analyze the form of non-synchronization of these norms and their implications for environmental protection based on an ecocentric paradigm. The method used is normative legal research with a legislative and conceptual approach, using secondary data. The results of the study show that there is a disharmony in the arrangement of authority, reclamation guarantee mechanisms, and the determination of post-mining land allocation which has an impact on the weak recovery of the ecosystem. This research emphasizes the importance of harmonization of regulations based on an ecocentric paradigm to realize sustainable mining management.

**Keywords**: norm synchronization, mining law, post-mining reclamation, ecocentric paradigm

# INTRODUCTION

The abundant natural resources in Indonesia, both renewable and non-renewable, are a gift from God Almighty that must be managed properly for the welfare of the community. Therefore, natural resource management has an important meaning and position in order to support national development for the present and the future.

The importance of natural resource management is in the form of mineral and coal mining materials. Mineral and coal management is carried out jointly between the government, local governments and business actors which shows that there is no longer a monopoly on mine management by the central government. The spirit of regional autonomy is seen so thick in the current mining regulations. The provincial/regency/ours government is given the authority to issue mining licenses and make regional regulations regarding mining. The centralization of mining in the past has shifted to mining decentralization with the aim of giving authority to regions to manage their natural resources to contribute to regional development.

Mining businesses must also provide *benefits* for the economy and society, as well as the community/small and medium entrepreneurs and encourage the growth of mining support industries. In order to ensure sustainable development, mining must be carried out by paying attention to environmental principles, transparency, and community participation (Haryadi, Dwi. 2018).

Mining activities should not be released without any regulations that regulate to ensure the *Grand Design* of natural resource management, which is controlled by the state for the welfare and prosperity of the people, based on the principles of sustainable development and environmentally friendly. Therefore, regulations that regulate mining management must also have principles and objectives that refer to *the grand design* to provide direction on how mining is carried out properly and correctly. On the other hand, the era of regional autonomy has also brought a new chapter in the authority of mining management by provinces/districts/cities through various regional regulations. (Haryadi, Dwi. 2018).

The Province of the Bangka Belitung Islands is very synonymous with abundant tin, so many mining activities are carried out there. Tin mining has become a central part of economic and social history. However, the rampant tin mining activity has also left serious environmental damage. Environmental damage such as mine basins, coastal sedimentation, agricultural land degradation,

and ecosystem damage. Mining activities in Bangka Belitung on both large and small scales have changed the land surface of small islands, reduced ecological functions and impacted the livelihoods of local fishermen and farmers who depend on a healthy environmental system (Pratiwi et al., 2025).

As a normative measure, the Indonesian state has regulated mining through a national legal framework that underwent changes in 2020, namely Law Number 3 of 2020 concerning Amendments to Law No. 4 of 2009 concerning Mineral and Coal Mining. This regulation contains the obligations of holders of Mining Business Permits (IUP) and Special Mining Business Permits (IUPK) to carry out environmental management, prepare post-mining reclamation plans, and place reclamation guarantee funds in accordance with the implementing provisions. This law is the main reference in the technical regulation and supervision of mining reclamation throughout Indonesia, as well as opening up space for implementing regulations (PP/Permen) that regulate the technical details of its implementation.

At the regional level, the Bangka Belitung Islands Province since 2014 has had Regional Regulation (Perda) Number 7 of 2014 concerning Mineral Mining Management which contains mining management provisions, including reclamation obligations, post-mining land allocation arrangements, and the role of the provincial government in supervision and enforcement. This regional regulation is designed to adapt mining management to the characteristics of the archipelago with local socio-ecological conditions.

Although the objectives of the national law and provincial regulations both cover environmental management and reclamation, there are differences in emphasis and technical details that can lead to normative insynchronization. In particular, the Bangka Belitung Islands Provincial Regulation regulates practical mechanisms, such as the placement of reclamation guarantees in provincial government banks, the schedule for the submission of reclamation plans at certain stages, and the requirements for the inclusion of contextual land allocation in the archipelago but potentially contradicting the implementing provisions that are then regulated by the central government. This kind of inconsistency is not just a common question, but has implications for institutions, funding responsibilities, and the continuity of ecosystem restoration obligations. Therefore, a systematic map of normative disharmony is an important instrument for the preparation of recommendations for regional regulation revision or implementation clarification.

Recent research has observed that reclamation failures in tin mining areas are often caused by several factors such as inadequate allocation of guarantee funds or

vulnerable placement mechanisms, weak long-term supervision by responsible agencies, lack of technical guidance that is adaptive to coastal conditions and the existence of legal loopholes that allow some individuals to move or delay reclamation obligations. These studies by linking the case of tin mines in Bangka Belitung in 2022-2025 show that without harmonization or alignment of clear financing norms and mechanisms, reclamation is only an administrative interest that does not resolve substantial ecological degradation (Pratiwi et al., 2025).

In addition to technical and institutional problems, aspects of land rights and land allocation after tin mining pose its own legal complexity. The Babel Regional Regulation requires the inclusion of post-mining land allocation in the land use agreement between IUP holders and land rights owners, while Law Number 3 of 2020 and national implementing regulations regulate the process of handing over reclaimed land, the process of transferring rights, and post-mining maintenance responsibilities become unclear, which ultimately hinders the sustainability of the function of the post-mining ecosystem.

The theory and paradigm of modern environmental law show an important shift. From an anthropocentric orientation that places humans as the center of the intrinsic value of the ecosystem as a legitimate legal consideration. The ecocentric paradigm demands rules that not only protect humans but also take into account the importance of independent restoration of ecosystem functions, such as biological restoration standards, ecological success criteria, and financing mechanisms that ensure long-term rehabilitation. Including an ecocentric lens in the study of norm synchronization is important so that the creation of legal harmonization is not only formal but also substantial in ensuring ecological recovery (Wicaksono & Rahmawati, 2024).

In the context of Indonesia's hierarchical regulations, when the central law delegates technical aspects to the existing implementing regulations and regional regulations already have technical arrangements in place, it is very important to check the synchronization of article by article so that there are no conflicts of norms that cause legal uncertainty. This legal uncertainty has the potential to be used by interested parties to delay or minimize reclamation obligations, complicate law enforcement efforts, and ultimately extend the recovery time of the ecosystem. Therefore, a structured normative disharmony map is an important instrument for the compiler of recommendations for regional regulation revision or clarification of implementers (Angga Kurniawan et al., 2025).

In addition to the need for textual harmonization, the implementation aspect in the field is decisive. A case study in Bangka Belitung revealed the problems of information transparency, public supervision, and weak coordination between institutions so that reclamation programs do not only get adequate sustainability management. The placement of a guarantee fund in a particular institution can be a local solution but must also be compatible with the guarantee mechanism set up at the national level to ensure access to funds when the implementer fails to meet reclamation obligations. Without a clear fiscal and institutional coordination mechanism, the guarantee fund may not be able to mobilize in a timely manner for rehabilitation activities (Fahriani, 2024).

The phenomenon of illegal *mining* adds to the complexity of reclamation efforts because illegal activities often leave land without reclamation guarantees and outside of formal oversight, so the burden of recovery falls on the state and local communities. Recent international reports and news show an increase in government efforts to bring illegal mining to order in Bangka Belitung, which at the same time highlights the urgency of the post-mining reclamation policy so that the illegal mining land does not become a burden or prolonged environmental damage. Regulatory policies without a systematic recovery plan can exacerbate ecological damage (Reuters, 2025).

Based on this description, the research problems that can be discussed are the extent of synchronization and non-synchronization of the provisions of reclamation, post-mining, and reclamation guarantees in Law Number 3 of 2020 and Regional Regulation of the Province of Bangka Belitung Islands Number 7 of 2014 and how these inconsistencies have an impact on the ability to recover the post-mining ecosystem in Bangka Belitung through an ecocentric paradigm.

# METHOD

This research uses a normative legal research method, which is research that focuses on the study of written law through a legislative approach and a conceptual approach to assess the consistency of norms between Law Number 3 of 2020 and Bangka Belitung Islands Provincial Regulation Number 7 of 2014. This study uses secondary data which is divided into primary legal materials, secondary legal materials, and tertiary legal materials. Primary legal materials include Law

Number 3 of 2020 and Bangka Belitung Islands Provincial Regulation Number 7 of 2014 which are absolute sources in norm analysis. Secondary legal materials include scientific literature such as books, articles, and journals relevant to research. Tertiary legal materials include legal dictionaries, legal encyclopedias, and databases.

# RESULT & DISCUSSION

### 1. Synchronization of Mining Environmental Protection Regulations

Since the era of tin mine commercialization, Bangka Belitung has undergone very rapid changes that have left damaged coastal and terrestrial ecosystems, former mining pits, and land function disturbances for the local community. This condition forces national and regional policymakers to formulate legal provisions regarding reclamation obligations and post-mining guarantees as corrective and preventive instruments against environmental degradation. Law Number 3 of 2020 is an important update to the national mining legal regime which contains reclamation obligations, post-mining land handovers, and provisions on the provision and placement of reclamation guarantee funds, with technical details delegated to implementing regulations. The presence of the Bangka Belitung Islands Provincial Regulation Number 7 of 2014 has previously shown the region's efforts to formulate operational mechanisms that adjust to local ecological conditions and characteristics, including the arrangement of the placement of guarantees and the requirements for the submission of reclamation plans in the regional licensing phase. Potential inconsistencies arise from differences in the level of national regulations and regional regulations and from the time of regulation formation, so that it requires an article-by-article study to determine the conflict points and their implications for the ability to recover the post-mining ecosystem.

Normative analysis of Law Number 3 of 2020 shows that the national legislature places a general obligation on IUP/IUPK holders to prepare and implement reclamation plans, indicators (reclamation success) are left to implementing regulations. This provision provides room for administrative flexibility but also opens up the possibility of differences in interpretation or differences in implementation mechanisms at the regional level if regional regulations have specifically measured. The nature of this kind of technical delegation is prevalent in national legislation, but according to a clear coordination mechanism so that national regulations and local regulations do not conflict operationally.

The Bangka Belitung Islands Provincial Regulation Number 7 of 2014 contains very operational provisions, including requiring the submission of reclamation plans at the time of submission of Production Operations IUPs, regulating the type of reclamation

guarantees (including guarantees for the exploration and production stages), regulating the placement of guarantees in regionally-owned banking institutions or provincial government banks, and requiring the inclusion of post-mining land allocations in land use agreements. These provisions reflect responses to local conditions, such as the need for certainty in the placement of funds in local institutions so that access and utilization can be easily mobilized for regional reclamation activities, but at the same time they may clash if the mechanisms specified by the implementing regulations are not appropriate. These differences become a source of disharmony if they are not addressed with editorial amendments of synchronization (Pratiwi et al., 2025).

Empirically, recent field studies and technical studies illustrate that reclamation practices in Bangka Belitung are still far from ideal. Some studies have shown that reclamation cost calculations often do not take into account the typical coastal and karst morphological conditions in Babylon, so the financial guarantees required under the common standards scheme are inadequate to restore local ecological functions. Furthermore, the weakness of long-term supervision, the limited technical capacity of local governments, and the fragmentation of authority between levels of government worsen the effectiveness of reclamation. This gap is not only a matter of resources, but also caused by inconsistent rules, so normative legal analysis is crucial to identify the normative root of the problem.(Zahrah et al., 2024)

To answer the extent of the provisions for reclamation and synchronous guarantees, the right analysis approach is to map article by article between Law Number 3 of 2020 and Babel Regional Regulation Number 7 of 2014, assess its editoriality, assess the hierarchy of rules as well as assess its functional implications for ecosystem restoration such as whether a norm guarantees the availability of funds, continuity of responsibility, and indicators of ecological success. This kind of analysis should include grammatical, systematic, and teleological interpretations (the purpose of the norm), as well as considering the relevant implementing rules if they have been published. Thus, this normative research will be able to produce a concrete map of disharmony along with editorial recommendations and coordination mechanisms to overcome the disharmony (Rachmad et al., 2024).

Before the author elaborates on a detailed comparison of article by article, it is also important to examine how Law Number 3 of 2020 regulates the income of guarantee funds and the role of third parties. Related articles mandate the obligation to provide and place guarantee funds if the IUP holder does not fulfill his obligations. This provision can serve as a robust recovery mechanism if implementing regulations establish effective procedures for fund mobilization and oversight of the use of guarantee funds, but without synchronization with regional mechanisms, the process of third-party engagement and mobilization of funds may face administrative obstacles, such as local land rights claims or regional banking rules. This emphasizes the importance of alignment between central regulations and regional regulations that are implementive.

Furthermore, access to post-mining land allocation and land use needs to be analyzed. The Bangka Beitung Islands Provincial Regulation emphasizes the need for the incorporation of post-mining land allocation in the land use agreement between IUP holders and land rights holders. Meanwhile, Law Number 3 of 2020 stipulates that reclaimed land must be handed over to the authorities through the procedures stipulated in laws and regulations. Inconsistencies can arise when national implementing regulations specify a different handover mechanism than the local agreement mechanism, such as the transfer of land rights that require the approval of other agencies or the determination of national claims that can cause conflicts of rights and hinder the process of sustainable land recovery and utilization. Therefore, editorial harmonization needs to ensure that the process of handing over the results of reclamation does not eliminate local rights and ensure the sustainability of the ecosystem (Angga Kurniawan et al., 2025).

The aspect of sanctions and law enforcement is also a critical point of disharmony. The Bangka Belitung Islands Provincial Regulation contains administrative sanctions whose supervision mechanisms are at the provincial level, while Law Number 3 of 2020 covers sanctions and law enforcement mechanisms at the national level and links certain pudana or civil provisions for serious violations. Differences in the types of sanctions, penalty procedures, and enforcement agencies can cause enforcement dualism, when violations involve regional administrative aspects and national criminal aspects, coordination between institutions needs to be very clear. Otherwise, then ecological recovery may be delayed as the focus of enforcement is divided, and the guarantee fund is not immediately utilized for reclamation (Wicaksono & Rahmawati, 2024).

The technical problems related to the requirements for the preparation of the reclamation plan also need to be examined. The Bangka Belitung Islands Provincial Regulation stipulates that the reclamation plan is submitted at the time of the Production IUP application, so as to meet the preventive elements. Law Number 3 of 2020 requires the preparation of a reclamation plan but provides space for implementing regulations regarding the content and time of submission. If the national implementing regulations then stipulate a different format or time, such as the approval of the plan by the central ministry, then the requirements of the Regional Regulation may clash procedurally, resulting in confusion of the administrative system during the issuance of permits. Problems like this affect the state's ability to consistently enforce reclamation standards.

To visualize the most significant points of inconsistency between Law No. 3 of 2020 and Bangka Belitung Islands Provincial Regulation No. 7 of 2014, the following is a concise comparative table that summarizes the main articles or points that are often the source of conflicts or problems, the redactions of the two regulations, and their operational implications.

**TABLE 1.** Comparison Table of Regulatory Insychronization Law No.3 of 2020 concering Mineral and Mineral Resources and Provincial Regulations Babel No.7 of 2014.

| Related Aspects/Articles | Law No.3 of 2020 | Babel Provincial Regulation No.7 of 2014 | Implications of Insynchronization |
|---|---|---|---|
| Obligation to prepare reclamation and post-mining plans | • Article 96: IUP/IUPK holders are obliged to carry out reclamation and post-mining and provide plans and implementation according to the Implementing Regulation (PP).<br>• Article 101 : Affirming reclamation/post-mining plans and guarantee funds regulated by PP | • The Regional Regulation regulates reclamation/post-mining obligations as part of the obligations of IUP holders in the regions (supported by the Internal Articles of the Regional Regulation, although the full text is not presented in the online summary). Establish the obligation to submit a reclamation plan when applying for an IUP. | Differences in time placement and standards: The law focuses technical provisions on PP/Permen, while the Regional Regulation requires the submission of plans at the time of application for regional permits. If the PP/Permen stipulate otherwise (e.g. approval after central evaluation), then there will be procedural conflicts and dual standards. |
| Reclamation and Post-Mining Guarantee Fund | • Article 100 (1) : Requires IUP/IUPK holders to provide and place reclamation and post- | • The Regional Regulation includes provisions regarding reclamation and post-mining | Mechanism insynchronization: The law hands over the technical mechanism for the placement of guarantee funds to the central |

| | | | |
|---|---|---|---|
| | mining guarantee funds<br>• Article 101: states that the procedures are determined through PP.<br>• Article 161B: The Law regulates criminal sanctions for those who do not carry out reclamation or do not place a guarantee fund. | guarantees, including the mechanism for placing funds in provincial financial institutions (provincial government banks). The Regional Regulation provides space for the province to regulate guarantee instruments at the regional level. | PP/Permen, while the Regional Regulation regulates the placement mechanism at regional banks. This can lead to financial/legal mechanism mismatches, e.g. in the case of access to funds for reclamation/post-mining or entities that receive guarantees. |
| Handover of Land from Reclamation and Post-Mining | The law requires the handover of reclaimed/post-mining land to the right party through the provisions of the PP | The Regional Regulation requires the inclusion of post-mining land allocation in the land use agreement between the permit holder and the owner of land rights. | The norm is contrary to land rights: the law establishes a national mechanism (through the PP), while the Regional Regulation uses local agreement contracts. This has the potential to cause uncertainty about post-mining land rights if the national mechanism and the provincial mechanism are different from each other. |

| | | | |
|---|---|---|---|
| Enforcement & Supervisory Authority | The law provides national enforcement authority and administrative criminal sanctions for not carrying out reclamation/post-mining obligations (Article 161B). | The Regional Regulation regulates the authority of the provincial government in coaching, supervision, and administrative sanctions at the regional level for mining management, including reclamation/post-mining. | Enforcement dualism: Potential overlap related to administrative sanctions at the regional level (Perda) vs national criminal/administrative sanctions (UU). Without clear coordination, this can hinder the effectiveness of enforcement. |

Based on the disharmony map and previous research, it can be formulated that several main categories of asynchronization have a direct impact on the effectiveness of reclamation and ecosystem restoration. The first category is procedural inconsistencies regarding the time, place, and requirements for the submission of reclamation plans that lead to delays in the approval of production permits when the central and regional governments have different standards. The second category is the institutional contradiction regarding the suppression of guarantee funds where the Regional Regulation affirms placement in Provincial Banks, while the Law provides space for national mechanisms, creating confusion about access to fund mobilization. The third category is the unclarity of post-mining land rights due to different redactions regarding land handover which can cause ownership problems and delay recovery. Then the fourth is the difference in enforcement and sanction mechanisms that can break the focus of enforcement between the regional administrative aspect and the national criminal aspect.

Based on the study of the text, evidence of field reality, and review of previous research, the author considers that the main root of the asynchronization is a combination of the timing of legislation, technical delegation by the Law to implementing regulations that are not final or have not taken into account local conditions, and weaknesses of central and regional coordination mechanisms in the implementation of reclamation policies. The impact is as chain-link as the regional rules that stipulate the placement of collateral in provincial banks are intended to ensure affordability of local administration and control, but if national implementing regulations require an account placement scheme, then there are loopholes that cause funds to not be mobilized when needed. In addition, editorial differences regarding land rights put areas in a vulnerable position when reclaimed land must be handed over a lengthy legal process that can keep land degraded while maintenance responsibilities are unclear. Therefore, harmonization efforts must not only equalize editors, but formulate operational coordination mechanisms such as setting minimum national standards that must be met plus room for

local adaptation that is required through procedures that do not conflict with national implementing regulations.

The ways or recommendations to overcome these inconsistencies include the preparation of a synchronization protocol between the relevant ministries and the Bangka Belitung Islands Provincial Government which explicitly agreed on the mechanism for the placement of guarantee funds. The determination of binding ecological reclamation success indicators is part of reclamation planning so that financial guarantees are calculated based on local ecological needs. A mechanism for quick access to guarantee funds in case of a violation, with a clear role of third parties and activation procedures. The revision of the Bangka Belitung Islands Provincial Regulation emphasizes that local requirements do not hinder the land handover process according to the national mechanism, but rather are the safeguarding of local rights in the handover process. The implementation of this recommendation must also be accompanied by a program to increase the technical capacity of local governments in order to be able to evaluate reclamation plans scientifically.

It can be concluded that the provisions for reclamation, post-mining, and reclamation guarantees in Law Number 3 of 2020 concerning Mineral and Mineral Resources and the Regional Regulation of the Province of Bangka Belitung Islands show significant points of insynchronization, especially in the procedural aspects of the preparation or submission of plans, the mechanism for placing guarantee funds, the handover of reclaimed land, and the enforcement mechanism. This inconsistency is not only due to editorial problems but also has a real impact on the ability to recover the post-mining ecosystem in Bangka Belitung. Therefore, this study plays an important role in mapping the disharmony in detail and formulating recommendations for normative synchronization that are operational and more sensitive to the ecological needs of the community.

### 2. Ecocentric Paradigm Towards Synchronization of Post-Mining Environmental Protection Regulations

The insynchronization of norms between Law Number 3 of 2020 and the Bangka Belitung Islands Provincial Regulation Number 7 of 2014 has various implications for the application of the ecocentric paradigm in mining management practices. The ecocentric paradigm places the intrinsic value of ecosystems as the basis for policy formation, not just to calculate economic costs and benefits for humans, but to ensure the restoration and sustainability of ecological functions independently. If the legal norms related to reclamation, financial guarantees, and land handovers are not synchronized, then the substantive ecological objectives of

the mining sector are at risk of not being achieved due to failures in the mechanism of funding, enforcement, and continuity of legal responsibility (Pratiwi et al., 2025).

Concretely, procedural differences regarding the time and party receiving the reclamation plan have the potential to hinder the integration of ecological aspects in the reclamation plan. Reclamation plans that meet ecocentric standards must contain indicators of long-term ecological recovery. If the format and timing of the submission of the plan differ between levels of government without synchronization, there will still be a chance that the plan will be administrative and formal and lack of emphasis on the ecological indicators necessary for real recovery.

The insynchronization of the mechanism for placing guarantee funds also has major implications for ecological reconstruction efforts. The Regional Regulation that requires the placement of guarantees in provincial government banks has a pragmatic purpose, namely to facilitate the mobilization of funds for regional reclamation activities. However, if national implementing regulations require other collateral formats or instruments, then financial interoperability issues arise such that funds placed in local institutions may not meet the administrative requirements for use as regulated at the national level, or otherwise the central mechanism does not accommodate the rapid access needs in the regions. As a result, ecological restoration projects that require immediate financing can be delayed, so that fragile ecosystem functions are further degraded (IESR, 2024).

Judging from the legal aspect of land rights and post-mining land allocation, editorial insynchronization poses a risk of ownership conflicts and problems of legitimacy of post-mining management. The Regional Regulation that regulates the inclusion of land allotment in local agreements between permit holders and land rights owners is an effort to protect local rights and ensure the use of post-reclamation land according to the needs of the local community. However, if the land handover mechanism at the national level requires other procedures such as central administrative verification or determination of use according to the National/Provincial Spatial Plan, then the process of transferring rights and responsibilities after reclamation may experience a legal impasse. In an ecocentric context, this issue is critical because unclear land diversion can result in the absence of a long-term responsible party for the maintenance of newly restored ecological functions (Zahrah et al., 2024).

In addition, the asynchrony contributes to the problem of law enforcement and environmental accountability. When the Regional Regulation establishes administrative sanctions at the provincial level and the Law contains criminal/administrative sanctions at the national level, differences in the application of sanctions and the sentencing mechanism can cause fragmentation of enforcement. This fragmentation is detrimental to the ecocentric paradigm that demands certainty of sustainable environmental responsibility. If the regional administrative sanctions are weak or their implementation overlaps with national enforcement, then business actors have a loophole to avoid ecological restoration obligations due to the uncertainty of who is authorized to activate the guarantee fund, or who ensures that long-term rehabilitation runs according to ecological standards.

The socio-ecological impact at the local community level must also receive attention. The dissynchronization of norms often leads to reclamation practices that are not participatory and do not take into account local wisdom. In practice, reclamation documents drafted solely to meet licensing requirements are less likely to involve local communities in restoration design, even though local participation is important for the sustainability of restoration, post-mining maintenance, and revitalization of livelihoods that depend on ecosystem function. The lack of synchronization of norms that govern the rights and obligations of local parties makes ecocentric implementation difficult to realize at the operational level.

More macroly, the insynchronization of norms presents the problem of legal legitimacy. The ecocentric paradigm is not only about the technical restoration, but also about the moral and legal validity of policies that place nature as the subject of value. If national norms establish principles that appear to be pro-ecological but local regulations implement them differently, communities and local actors can lose faith in the legal ability to guarantee ecological restoration. This legitimacy is important because public participation, social oversight, and political support are decisive factors for the long-term success of any ecosystem-based reclamation program.

Many local studies show that the failure of reclamation in Bangka Belitung is not solely due to technical shortcomings, but also related to problems of policies and regulations that are not integrated. Case studies in several sub-districts show that although companies have placed administrative guarantees, the administrative process for mobilizing funds when IUP holders are in default requires lengthy procedures and coordination that often fails due to differences in central implementing rules and regional mechanisms.

Regional institutions responsible for reclamation oversight often lack the technical capacity and resources to assess complex reclamation plans from an ecological perspective. Regional regulations that mandate the involvement of regional banks or local placement mechanisms need to be accompanied by the capacity to verify that the guarantee is sufficient and accessible for rehabilitation activities. Without this capacity, normative harmonization alone is not enough; There must be a parallel institutional strengthening program so that the synchronized legal apparatus can be realized in the field. Therefore, recommendations for ecological-based legal harmonization must be accompanied by a plan for technical capacity building, environmental information governance, and public transparency mechanisms for effective implementation.

From an ecocentric perspective, the success of reclamation is not only measured by how much land is "recovered" but also by the restoration of ecosystem function (*resilience*). For small islands such as those in Babylon, the criteria for success should include: (1) geomorphological stability and erosion reduction, (2) restoration of soil structure and properties to support local vegetation succession, (3) restoration of coastal biota communities and habitat functions, and (4) reintegration of ecosystem-based economic functions for local communities. When legal norms do not synchronize provisions on indicators and financing mechanisms to ensure the achievement of these indicators, then the ecocentric paradigm fails to be realized. This requires setting norms that combine technical provisions, financing, and public accountability at the level of Laws and Regional Regulations in a coherent manner.

One of the strongest empirical evidence regarding the impact of asynchronization is the experience of collateral activation. In some cases, even if IUP holders do not carry out the reclamation as they should, efforts to activate the guarantee fund face bureaucratic obstacles, such as limited regional authority to claim funds placed in regional banks according to the Regional Regulation, or central administrative requirements that are not met so that national claims are delayed. This delay is fatal to immediate remedial action; Mining areas that are left are increasingly degraded, the revegetation process becomes more difficult and expensive, and ecosystem functions are declining, even though the ecocentric paradigm requires rapid corrective action to protect these intrinsic ecological values.

Small-scale mining and artisanal mining exacerbate the impact of asynchrony because it is often outside the formal licensing mechanism and therefore has no guarantee of reclamation at all. The insynchronization of norms that limit the

region's space to take swift action on ex-illegal mining land creates a situation where the state and society bear the cost of restoration. The ecocentric paradigm will demand a legal system that prevents its land from becoming a "public externality" where the entire burden of recovery falls on the people, but without the synchronization of norms governing prevention and remediation mechanisms for illegal activities, this goal is difficult to achieve.

Based on the review of legal documents, scientific literature, and available empirical evidence, in my opinion, the root of the main problem is three things together: (1) the lack of clarity of technical delegation in Law No. 3 of 2020 which gives wide space to implementing regulations without guaranteeing automatic synchronization with the Regional Regulation; (2) differences in interests and capacities between central and regional authorities that result in differences in technical instruments (including financial instruments); and (3) the weak coordination and accountability mechanism that binds the central and regional governments for the implementation of ecocentric reclamation. These three factors reinforce each other: technical delegation without a harmonization mechanism triggers variations in regional regulations; variations in local regulations require different administrative capacities; and without a firm coordination mechanism, the activation of the guarantee fund and the enforcement of reclamation obligations become out of sync.

In more detail, first, Law No. 3 of 2020 normatively provides a framework for reclamation obligations but does not adequately regulate ecological technical standards or indicators of ecological success that are minimal and must be met. As a result, the Regional Regulation made earlier tried to close the gap with local provisions, but without good editorial synchronization, the local norm could clash with the PP/Ministerial Regulation which was later issued or become obsolete if the PP changed the national mechanism. To solve this problem, a normative transition mechanism is needed that requires implementing regulations and regional regulations to adjust according to the synchronization guidelines set by the relevant ministries.

Second, from a financial perspective, various collateral instruments (accounts in regional banks, national escrow, trust funds, or insurance) require legal and technical interoperability. In my opinion, a pragmatic solution is to formulate a hybrid model: develop national rules that set minimum standards for collateral instruments (e.g. minimum liquidity, accountability for use) while allowing the placement of funds in local institutions as long as they meet national standards and are connected to a centralized claims mechanism, e.g. through *interoperable*

*escrow* or *contingency trust accounts* which can be activated by central and regional authorities. This kind of model combines local flexibility and certainty of access to funds in times of reclamation emergency.

Third, regarding post-mining land rights, I think harmonization should place the protection of the rights of local landowners as a basic principle, as well as provide a legal mechanism for land handover that guarantees long-term maintenance responsibility. Practical normative recommendations include: (a) the obligation to include clauses on ecosystem function restoration and maintenance guarantees in land use agreements; (b) the creation of a national post-mining land registry that maps the legal status of reclaimed land; and (c) a speedy mediation procedure to resolve ownership disputes so that remedial action can be implemented immediately.

Fourth, the application of the ecocentric paradigm requires that legal norms include ecological indicators as part of the *reclamation performance bond* , namely financial guarantees are not only calculated based on land area but also based on ecological targets that must be achieved (e.g., percentage of native vegetation cover, biological index, geomorphological stability). Therefore, in my opinion, legal harmonization should force integration between technical provisions (how to measure success) and financial provisions (how guarantees are assessed and activated). Only in this way can reclamation guarantees become an effective tool to implement the ecocentric paradigm.

Overall, the insynchronization between Law No. 3 of 2020 and Babel Regional Regulation No. 7 of 2014 has the potential to hinder the implementation of the ecocentric paradigm in Bangka Belitung through the impact on funding, law enforcement, certainty of land rights, institutional capacity, and public participation. To realize the harmonization of ecology-based laws, a combination of normative solutions is needed: the preparation of national ecological minimum standards, a hybrid guarantee instrument model that is interoperable between the central and regional levels, a land handover mechanism that guarantees local rights and maintenance responsibilities. If these recommendations are implemented, then the harmonization of norms will not only solve editorial problems but also increase the chances of real ecological restoration according to ecocentric principles.

# CONCLUSION

This study shows that the insynchronization of norms between Law No. 3 of 2020 concerning Mineral and Coal Mining and Regional Regulation of the Province of Bangka Belitung Islands No. 7 of 2014 concerning Mineral Mining Management actually raises fundamental problems in mining governance, especially related to the obligation of reclamation and post-mining environmental restoration in the Bangka Belitung Islands area. The results of the analysis concluded that the inconsistency is not only manifest in editorial differences, but also touches on substantive aspects that directly affect the capacity of local governments, legal certainty for business actors, and the success of the implementation of ecological recovery.

First, it can be seen that the inconsistency occurs mainly in three aspects: (1) *the obligation to submit the reclamation plan*, (2) the mechanism for the placement of reclamation guarantee funds, and (3) the determination of post-mining land allocation. Local regulations establish administrative mechanisms focused on provincial supervisory capacity, while post-revised laws concentrate authority on the central government. As a result, there is a dualism of authority that causes the process of supervision, verification of technical documents, and mobilization of guarantee funds to run ineffectively. This condition weakens the purpose of regulating reclamation itself, which is to restore the ecological function of the land to the maximum and sustainable.

Second, the insynchronization of norms has been proven to have a direct impact on the difficulty of implementing the ecocentric paradigm in mining management. The ecocentric paradigm places nature as an entity that has intrinsic value and demands policies based on measurable ecological indicators. However, the fragmentation of norms causes obstacles in determining technical standards for reclamation, uncertainty in the management and activation of guarantee funds, and declining policy legitimacy in the eyes of the public. This inconsistency also has an impact on weak central-regional coordination, delays in recovery actions, and the emergence of "implementation gaps" between plans and practices on the ground.

Research also shows that without the alignment of norms, the moral and scientific goals of the ecocentric paradigm are difficult to realize. Legal harmonization is needed not only as an administrative need, but as an absolute requirement to maintain the ecological sustainability and economic sustainability

of the people of Bangka Belitung. Harmonized law is a prerequisite for effective reclamation funding, transparent governance, and scientifically accountable ecosystem recovery.

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