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Green Extractivism and the Crisis of Spatial Justice: Indigenous Land Conflict within the Morowali Nickel Industrial Corridor

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A B S T R A C T

The global energy transition has increased demand for transition minerals, particularly nickel, as a strategic component in electric vehicle battery production and low-carbon energy systems. Indonesia has positioned itself as a global nickel hub through downstream industrialization policies and the development of the Indonesia Morowali Industrial Park (IMIP). However, the rapid expansion of the nickel industry in Morowali has also triggered environmental degradation, agrarian conflict, and indigenous land dispossession. This study aims to analyze the relationship between green extractivism, spatial planning, agrarian conflict, and indigenous land rights within the Morowali nickel industrial corridor. The research employs a socio-legal approach with a political ecology perspective using qualitative analysis. Data were collected from spatial planning documents, mining regulations, scientific journals, media reports, and publicly available interviews involving indigenous communities, academics, and government institutions. The findings indicate that nickel industrial expansion has produced spatial injustice through land-use change, mining concession expansion, and industrial zoning that marginalize indigenous communities and local living spaces. Spatial planning instruments function not as neutral governance tools but as mechanisms legitimizing green extractivism and land dispossession. This study contributes to spatial planning law by integrating environmental justice, political ecology, and socio-legal studies in understanding the spatial crisis within Indonesia's transition mineral industry.

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INTRODUCTION

The global energy transition has significantly increased demand for transition minerals such as nickel, lithium, and cobalt, which are essential components in electric vehicle battery production and low-carbon energy technologies. Within the global decarbonization agenda, nickel has emerged as a strategic mineral supporting the acceleration of the green transition and the expansion of the electric vehicle industry (Libassi, 2025). This condition has positioned Indonesia as one of the most important actors in the global green energy supply chain due to its vast nickel reserves and aggressive downstream industrialization policies. Through the prohibition of raw nickel ore exports and the promotion of domestic processing industries, the Indonesian government has accelerated nickel industrialization through the construction of smelters, industrial zones, and large-scale foreign investment projects, particularly in Central Sulawesi and North Maluku (Warburton, 2024).

Morowali has consequently developed into one of the largest nickel industrial corridors in Indonesia through the establishment of the Indonesia Morowali Industrial Park (IMIP), which integrates nickel smelting, stainless steel production, and electric vehicle battery materials. This industrialization process has generated substantial economic growth and transformed Morowali into a symbol of Indonesia's downstream industrial success. By 2025, IMIP had attracted hundreds of trillions of rupiah in investment and involved dozens of industrial companies integrated into the global nickel supply chain (IMIP, 2025). Nevertheless, behind the narrative of green industrialization and economic development, the rapid expansion of the nickel industry has also produced serious environmental degradation, spatial transformation, agrarian conflicts, and the marginalization of indigenous and local communities.

The expansion of the nickel industry in Morowali has triggered large-scale spatial reorganization through mining concession expansion, industrial estate development, coastal reclamation, and extractive infrastructure construction, including hauling roads, industrial ports, and captive power plants. Forest areas, agricultural land, coastal zones, and indigenous living spaces have gradually been transformed into extractive industrial corridors to support the global electric vehicle supply chain. Lo et al. (2024) found that nickel mining expansion in Sulawesi significantly contributed to forest cover loss and land-use change in nickel-producing regions. In this context, spatial planning no longer functions merely as a technical instrument for regulating development but has become a political arena in which the state, corporations, and local communities compete over territorial control.

Agrarian conflicts in Morowali have intensified alongside industrial expansion and spatial restructuring. Numerous reports indicate land evictions, overlapping mining concessions with indigenous territories, loss of fishing grounds due to coastal reclamation, and the criminalization of communities resisting extractive activities. The Agrarian Reform Consortium (KPA) reported that the mining sector has become one of the largest contributors to agrarian conflicts in Indonesia, particularly in transition mineral regions such as Central Sulawesi (KPA, 2024). Similarly, WALHI Central Sulawesi documented that

nickel industrialization in Morowali has resulted in land dispossession, coastal degradation, and the exclusion of local communities through industrial expansion and hauling road construction (WALHI, 2024). These conditions demonstrate that the global green energy transition paradoxically reproduces new forms of extractivism and spatial inequality rather than ecological justice.

Within the perspective of green extractivism, the transition to green energy does not eliminate extractive practices but merely shifts extractive dependency from fossil fuels to strategic minerals such as nickel Dunlap et al., 2024.). In Morowali, the discourse of green development and downstream industrialization has been used to legitimize mining expansion, spatial reorganization, and indigenous land dispossession in the name of national strategic development and global energy demand. Consequently, spatial planning instruments such as Regional Spatial Planning (RTRW), industrial zoning, and mining permits function not only as administrative mechanisms but also as instruments legitimizing extractive expansion and territorial exclusion. Local and indigenous communities increasingly experience land dispossession, restricted access to natural resources, and marginalization within spatial governance systems. Agrarian conflict in Morowali, therefore, should not be understood merely as a land ownership dispute but as a territorial conflict emerging within the global green transition regime.

Existing studies on the nickel industry in Indonesia have largely focused on environmental degradation, economic growth, or social conflict in partial and fragmented ways. Febriany & Akbar (2024), for example, emphasized ecological losses resulting from nickel mining expansion, while Lampe et al. (2025), examined the social impacts on coastal communities and local fishers. However, limited studies have integrated spatial planning, indigenous land rights, green extractivism, and socio-legal governance into a single analytical framework. This gap is significant because agrarian conflict in nickel industrial regions cannot be adequately understood solely as a land dispute or environmental problem but must also be analyzed as a structural consequence of the relationship between spatial governance, law, extractive industries, and global energy transition politics.

Based on these conditions, this study aims to analyze the relationship between green extractivism, spatial planning, agrarian conflict, and indigenous land rights within the Morowali nickel industrial corridor. Using a socio-legal approach and a political ecology perspective, this research argues that spatial planning in Morowali does not operate as a neutral governance instrument but rather functions as a mechanism legitimizing extractive industrial expansion and spatial inequality under the global green transition agenda. This study contributes to the development of spatial planning law, environmental justice, and political ecology by explaining how extractive industrialization reproduces agrarian crises and spatial injustice in transition mineral regions in Indonesia.

LITERATURE REVIEW

The global transition toward low-carbon energy systems has significantly increased the demand for transition minerals such as nickel, lithium, and cobalt, which are essential components in electric vehicle batteries and renewable energy technologies. Nickel, in particular, has emerged as a strategic mineral within the global decarbonization agenda, positioning resource-rich countries such as Indonesia as key actors in the green energy supply chain (Libassi, 2025). In response, the Indonesian government has implemented downstream industrialization policies, including the prohibition of raw nickel ore exports and the promotion of domestic processing industries. These policies have accelerated the development of smelters, industrial zones, and foreign investment projects, especially in Central Sulawesi and North Maluku (Warburton, 2024). As a result, regions such as Morowali have transformed into major industrial corridors, particularly through the establishment of the Indonesia Morowali Industrial Park (IMIP), which integrates nickel processing into global production networks (IMIP, 2025).

Despite the economic growth generated by nickel industrialization, existing literature highlights significant environmental and social consequences. The expansion of mining activities has triggered large-scale spatial transformation, including deforestation, land-use change, coastal reclamation, and the construction of extractive infrastructure such as hauling roads and industrial ports. Lo et al. (2024) demonstrate that nickel mining expansion in Sulawesi has contributed to forest cover loss and ecological degradation. Furthermore, agrarian conflicts have intensified due to overlapping land claims, land dispossession, and the marginalization of indigenous and local communities. Reports from the Agrarian Reform Consortium (KPA, 2024) and WALHI (2024) indicate that the mining sector is a major driver of agrarian conflicts, particularly in transition mineral regions. These conditions suggest that the benefits of industrialization are unevenly distributed, with local communities disproportionately bearing environmental and social costs.

From the perspective of green extractivism, the global energy transition does not eliminate extractive practices but instead shifts dependency from fossil fuels to strategic minerals such as nickel (Dunlap et al., 2024). In this context, spatial planning instruments such as Regional Spatial Planning (RTRW), industrial zoning, and mining permits play a crucial role not only as regulatory frameworks but also as mechanisms that legitimize extractive expansion and territorial control. While previous studies have examined environmental impacts or social conflicts separately (Febriany & Akbar, 2024; Lampe et al., 2025), limited research integrates spatial planning, indigenous land rights, and socio-legal governance within a unified analytical framework. Therefore, this study seeks to fill this gap by analyzing how spatial planning operates within the political economy of green extractivism and contributes to the reproduction of agrarian conflict and spatial inequality in Morowali.

METHODOLOGY

This study employs a qualitative socio-legal approach combined with a political ecology perspective to analyze the relationship between nickel industrialization, spatial planning, agrarian conflict, and indigenous land rights in Morowali, Central Sulawesi. The socio-legal approach was selected because this research does not merely examine legal norms and spatial regulations, but also investigates how spatial governance and mining policies operate in practice and affect indigenous communities and local living spaces within the context of the global green energy transition.

The research was conducted in Morowali and North Morowali Regencies, Central Sulawesi Province, which represent the main nickel industrial corridor in Indonesia, particularly within and surrounding the Indonesia Morowali Industrial Park (IMIP). These areas were selected due to the rapid expansion of mining concessions, industrial estates, and extractive infrastructure that have significantly transformed spatial arrangements and generated agrarian conflicts involving indigenous and local communities.

The study used both primary and secondary data. Primary data were obtained from publicly accessible interviews, public statements, webinars, podcasts, documentaries, and digital media involving indigenous communities, local residents, academics, government officials, and agrarian activists. Secondary data were collected through document studies, including Regional Spatial Planning (RTRW) documents, mining permits, environmental impact assessment reports (AMDAL), land and spatial planning regulations, scientific journal articles, civil society reports, and online media publications related to nickel industrialization and agrarian conflicts in Morowali.

Data were analyzed qualitatively using thematic analysis and socio-legal analysis. Thematic analysis was employed to identify major themes related to spatial transformation, land dispossession, agrarian conflict, and indigenous marginalization. Meanwhile, socio-legal analysis was used to examine the interaction between spatial planning regulations, mining governance, and extractive industrial policies in producing spatial inequality and legitimizing green extractivism in the Morowali nickel industrial corridor.

RESULTS AND DISCUSSION

1. Expansion of the Nickel Industrial Corridor in Morowali

The transformation of Morowali into the largest nickel industrial corridor in Indonesia demonstrates how the global green energy transition has driven large-scale spatial reorganization in mineral-rich regions. Nickel industrialization in Morowali not only represents economic growth through downstream industrialization policies but also reflects the emergence of an industrial corridor integrated into the global electric vehicle supply chain. Morowali has evolved from a primary extractive mining region into an integrated extractive industrial center that includes mining activities, mineral processing industries, power plants, industrial estates, special ports, and industrial logistics infrastructure.

This industrial expansion accelerated significantly after the implementation of Indonesia's raw nickel ore export ban in 2020, which stimulated the growth of

smelters and mineral processing investments. The Indonesia Morowali Industrial Park (IMIP) became the central hub of national nickel industrialization. By 2025, IMIP covered more than 5,500 hectares, hosted over 50 active industrial companies, attracted investments worth approximately IDR 696.9 trillion, and employed more than 89,000 workers (Antara News, 2025). These developments indicate that Morowali has become an industrial enclave based on transition minerals directly connected to the global demand for electric vehicle batteries and green energy supply chains.

From the perspective of green extractivism, nickel industrialization in Morowali has not only created a new production center but also expanded extractive frontiers through mining concession expansion and spatial restructuring. Increasing demand for raw materials for smelters and downstream industries has led to a rapid increase in mining permits (Izin Usaha Pertambangan/IUP) in Morowali and North Morowali. Data from the Ministry of Energy and Mineral Resources indicate that Central Sulawesi has experienced one of the highest increases in nickel mining permits in Indonesia over the last decade. Most mining concessions are concentrated in Morowali, which serves as the primary supplier of raw materials for IMIP and other nickel industrial zones. As a result, large areas of forests, coastal regions, agricultural land, and local living spaces have been converted into extractive industrial territories.

Nickel industrialization has also caused rapid land-use change. Environmental reports and satellite imagery analyses demonstrate that the expansion of industrial estates and mining concessions has transformed forest areas into open-pit mines, industrial zones, hauling roads, and mineral ports. Lo et al. (2024) found that nickel mining significantly contributed to forest cover loss in nickel-producing regions, including Central Sulawesi. In addition to forest conversion, spatial transformation has also occurred in coastal areas and local production spaces. Coastal reclamation, industrial terminal construction, and industrial expansion have reduced fishing grounds and degraded coastal ecosystems. WALHI Central Sulawesi reported that nickel industrial activities in Morowali caused marine sedimentation and declining fishery productivity among local communities.

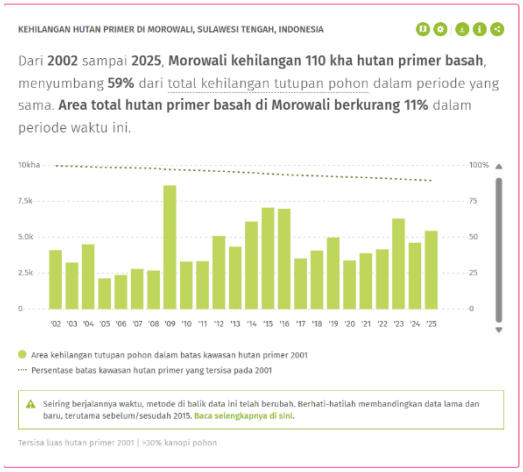

Diagram 1. Nickel Industrialization and Rapid Land-Use Transformation
Sumber : https://www.globalforestwatch.org/

Data on primary forest loss further illustrate the ecological consequences of extractive expansion in Morowali. According to Global Forest Watch, between 2002 and 2025 Morowali lost approximately 110 thousand hectares of humid primary forest, accounting for around 59% of total tree cover loss in the region. During the same period, total humid primary forest cover declined by approximately 11%. The data indicate fluctuating but increasing rates of forest loss, particularly following the acceleration of nickel industrialization during the 2010s. This trend strongly correlates with mining concession expansion, smelter construction, hauling road development, and other industrial infrastructure projects in Morowali and North Morowali. These findings suggest that nickel downstream industrialization and the global green energy transition have not only stimulated economic growth but also intensified ecological degradation and spatial transformation in the tropical forest landscapes of Central Sulawesi.

Spatially, the development of the nickel industry in Morowali reveals the formation of an industrial corridor stretching from mining areas to industrial estates and export ports. Infrastructure such as hauling roads, captive coal power plants, and special terminals has been developed to support the circulation of raw materials and industrial products. From a political ecology perspective, this industrial corridor illustrates how space is reproduced to facilitate global capital accumulation. Consequently, indigenous territories and local living spaces have become increasingly marginalized by industrial expansion and mining concessions. Thus, nickel industrialization in Morowali represents not only economic development but also the production of extractive space that reproduces spatial inequality and agrarian conflict within the global green energy transition regime.

2. Spatial Transformation and Indigenous Land Dispossession

Spatial transformation in Morowali demonstrates that the expansion of the nickel industry is not merely a process of economic industrialization, but also a process of spatial reorganization that reshapes power relations over land and indigenous living territories. Spatial planning no longer functions as an instrument for protecting community living spaces; instead, it has become a mechanism for legitimizing extractive industrial expansion through zoning changes, mining permits, and the development of national strategic areas. As a result, indigenous peoples and local communities experience land dispossession and lose control over their own living spaces.

Spatial transformation in Morowali has accelerated rapidly following the development of the Indonesia Morowali Industrial Park (IMIP) and the increasing global demand for nickel as a transition mineral. Areas previously consisting of forests, agricultural land, coastal zones, and indigenous territories have gradually been converted into industrial estates, mining concessions, hauling roads, special ports, and extractive industrial infrastructure. From Henri Lefebvre's perspective, this condition illustrates the process of the production of space, in which space is reproduced to support capital accumulation through the domination of the state and corporations over territorial control. One of the most significant impacts of this transformation is the conversion of indigenous spaces,

where territories traditionally managed by local communities have been transformed into mining concessions or industrial zones without effective recognition of indigenous territorial rights or meaningful public participation in spatial planning processes.

WALHI Central Sulawesi reported that the expansion of nickel industrial zones in Bungku Barat and Bahodopi Districts resulted in massive land acquisition and the destruction of agricultural and coastal areas. In Ambunu Village, approximately 14 hectares of community-owned oil palm plantations were reportedly cleared for industrial infrastructure development without adequate consultation mechanisms. In addition, the construction of hauling roads and coastal reclamation projects caused local communities to lose access to production areas and traditional economic routes that had been used for generations. These conditions reflect practices of land grabbing, namely the appropriation of community land and living spaces through legal instruments, investment schemes, and development policies. In Morowali, land grabbing does not always occur through direct eviction, but also through administrative mechanisms such as spatial planning revisions, mining business permits (Izin Usaha Pertambangan/IUP), and the designation of national strategic industrial zones.

Data from the Agrarian Reform Consortium (KPA) indicate that the mining sector has become one of the primary contributors to agrarian conflicts in Indonesia. In 2023 alone, KPA recorded 241 agrarian conflicts covering approximately 638,188 hectares and involving more than 135,000 families. A significant portion of these conflicts occurred in the nickel industrial regions of Central Sulawesi, particularly Morowali and North Morowali, which have experienced massive mining concession expansion and downstream industrialization projects. From David Harvey's perspective, these conditions can be understood as a form of accumulation by dispossession, namely the accumulation of capital through the appropriation of community spaces and resources legitimized by spatial regulations, national strategic projects, and nickel downstream industrial policies.

Spatial transformation in Morowali has also altered power relations over space. Prior to industrialization, local communities maintained social control over agricultural land, forests, and coastal territories through customary relations and local governance systems. However, following the expansion of the nickel industry, control over space shifted to the state and corporations through concession systems, spatial planning mechanisms, and industrial zoning. From a political ecology perspective, spatial planning is not a neutral technocratic instrument, but rather a political arena that determines who has the right to control and utilize space. Through spatial planning and licensing systems, the state has produced new industrial spaces that integrate Morowali into the global electric vehicle battery supply chain, while local communities increasingly experience spatial exclusion. This condition highlights the gap between the legal recognition of indigenous rights and the realities of extractive industrial development, where the implementation of the Basic Agrarian Law of 1960 and Constitutional Court Decision No. 35/PUU-X/2012 remains weak within nickel

industrial governance. Consequently, spatial transformation in Morowali has not only altered the physical landscape but has also reproduced unequal power relations over space and intensified agrarian conflicts within the regime of green extractivism.

3. Agrarian Conflict and Spatial Injustice

The expansion of the nickel industry in Morowali has not only generated economic transformation and spatial restructuring but has also intensified agrarian conflicts and spatial injustice. The conflicts occurring in the region are not merely administrative land disputes; rather, they represent struggles over territorial control between local communities, the state, and corporations within the regime of extractive industrialization. In this context, indigenous peoples, farmers, and coastal communities have become the groups most vulnerable to marginalization due to spatial reorganization driven by the interests of the nickel industry.

Agrarian conflicts in Morowali have escalated alongside the expansion of mining concessions, industrial estate development, coastal reclamation, and the construction of extractive infrastructure such as hauling roads and special industrial terminals. Spatial arrangements that were previously based on community living spaces have been transformed into extractive industrial production zones integrated into the global electric vehicle supply chain. Consequently, local communities have lost access to land, fishing grounds, production areas, and social spaces that historically served as the foundation of their livelihoods. Data from the Agrarian Reform Consortium (KPA) show that in 2023 Indonesia experienced 241 agrarian conflicts covering approximately 638,188 hectares and involving more than 135,000 families. The mining sector became one of the largest contributors to agrarian conflict nationwide, particularly in transition mineral regions such as Central Sulawesi, including Morowali and North Morowali.

Conflicts in Morowali occur in various forms, ranging from land evictions, overlapping mining concessions, coastal reclamation, and environmental pollution to the criminalization of residents opposing industrial expansion. WALHI Central Sulawesi reported that the development of nickel industrial zones in Bungku Barat District caused communities to lose access to production areas and traditional living spaces. In Ambunu Village, community land was cleared for hauling roads and industrial infrastructure projects without meaningful public participation. In addition, coastal reclamation and marine sedimentation caused approximately 115 seaweed farmers in Tondo and Ambunu Villages to lose their livelihoods due to the destruction of fishing grounds and coastal ecosystems. In several cases, communities protesting industrial activities also faced intimidation, legal prosecution, and criminalization.

Table 1. Patterns of Agrarian Conflict in the Morowali Nickel Industrial Area

No	Conflict Location	Form of Conflict	Actors Involved	Main Impact
1	Ambunu Village, Bungku Barat	Land eviction and hauling roads	Communities vs nickel companies	Loss of land and production access
2	Tondo Village, Morowali	Coastal reclamation	Fishers vs industrial companies	Loss of fishing grounds
3	Bahodopi	Overlapping mining concessions	Indigenous communities vs mining companies	Indigenous land conflict
4	North Morowali	Expansion of mining permits (IUP)	Farmers vs mining companies	Conversion of agricultural land
5	Bungku Barat	Criminalization of residents	Local activists vs authorities/companies	Intimidation and legal prosecution

Source: Compiled from WALHI Central Sulawesi, KPA, AMAN, and various online media reports (2023–2025).

These conflict patterns demonstrate that agrarian conflicts in Morowali are closely related to spatial transformation resulting from nickel industrial expansion. The conflicts involve not only land ownership but also control over coastal territories, production access, and community social spaces. From Edward Soja's perspective, this condition reflects a failure of spatial justice because the distribution of space and development benefits remains highly unequal. The state and corporations obtain legal legitimacy and extensive access to territory through mining concessions and national strategic projects, while local communities experience spatial exclusion and the loss of their living spaces. Therefore, agrarian conflicts in Morowali represent a structural consequence of the extractive development model within the global green energy transition agenda and reflect a broader spatial justice crisis in the control of land and natural resources.

4. Spatial Planning as an Instrument of Green Extractivism

One of the main findings of this study is that spatial planning in Morowali does not operate as a neutral instrument of development control, but rather as a legal and political mechanism facilitating the expansion of extractive industries within the global green energy transition agenda. In the context of nickel industrialization, spatial planning does not merely regulate land use; it also produces new industrial spaces integrated into the global electric vehicle supply

chain. Consequently, spatial planning functions as a central instrument in reproducing green extractivism within the Morowali nickel industrial corridor.

Normatively, Regional Spatial Planning (Rencana Tata Ruang Wilayah/RTRW) is intended to balance economic interests, environmental protection, and social sustainability. In practice, however, spatial planning in Morowali has been continuously adjusted to accommodate nickel industrial expansion, including the enlargement of industrial estates, smelter construction, hauling roads, special ports, and industrial energy infrastructure. Spatial planning has therefore shifted away from protecting community living spaces and instead prioritizes spatial certainty for extractive industrial investment. Changes in zoning for forest areas, coastal zones, and community production spaces into industrial and mining areas have been implemented through formal spatial planning and licensing mechanisms, positioning RTRW as an instrument of legalization for nickel industrial expansion.

Various civil society reports indicate that many areas previously functioning as community production spaces and indigenous territories were transformed into industrial zones and mining concessions following regional spatial planning revisions and the designation of strategic industrial areas. This condition demonstrates that spatial planning is not merely a technical document, but a political instrument that determines who has the right to occupy and control space and who becomes excluded from it. From Henri Lefebvre's perspective, this process reflects the production of space, in which space is reproduced to support the logic of capital accumulation. Through spatial planning and development policies, the state actively produces extractive industrial spaces compatible with global investment interests, while indigenous living spaces are reduced to resource frontiers that can be converted for the benefit of transition mineral industries.

The role of the state in producing industrial space becomes increasingly visible through the designation of National Strategic Areas (Kawasan Strategis Nasional/KSN) and National Strategic Projects (Proyek Strategis Nasional/PSN) in the nickel downstream sector. Through these mechanisms, nickel industrial zones receive priority in land allocation, infrastructure provision, and licensing acceleration. However, the designation of KSN and PSN has also centralized spatial decision-making processes and reduced opportunities for meaningful local participation. In many cases, affected communities do not occupy equal positions within the formulation of spatial plans or the establishment of strategic industrial zones. Spatial planning consequently functions as a form of top-down spatial governance that prioritizes investment interests over indigenous rights protection and ecological sustainability.

Nickel industrialization in Morowali also illustrates the expansion of extractivist-based industrial zoning. Industrial estates, smelters, special ports, and industrial logistics networks have been developed in an integrated manner through spatial configurations designed to accelerate the circulation of mineral commodities. As a consequence, local communities experience spatial exclusion and lose access to land, coastal territories, forest areas, and traditional production spaces. Spatial planning therefore operates as a mechanism of exclusion that

reshapes power relations over territory. Through legal and administrative instruments, the state and corporations obtain dominant control over space, while local communities are positioned as subordinate actors within industrial spatial governance.

These conditions reveal the existence of a state-corporate nexus, namely a structural relationship between the state and corporations in the production of extractive spaces. The state acts not only as a regulator but also as a facilitator of industrial expansion through regulatory frameworks, spatial planning adjustments, accelerated licensing, and strategic infrastructure development. From the perspective of green extractivism, this relationship reflects the paradox of the green energy transition, in which the global decarbonization agenda simultaneously generates new forms of extractivism that reorganize space and intensify land dispossession. This study therefore argues that spatial planning in Morowali functions as an instrument of green extractivism operating through concession legalization, industrial zoning, and strategic spatial arrangements to support the accumulation of capital within the global nickel industry.

5. Environmental Justice and the Failure of Spatial Governance

The expansion of the nickel industry in Morowali demonstrates that agrarian crises and environmental degradation are not solely caused by mining activities themselves, but also by the failure of spatial governance in protecting indigenous rights and ensuring environmental justice. Spatial planning and industrialization policies, which should ideally balance economic development, ecological protection, and community rights, have instead been directed toward facilitating accelerated nickel investment and supporting the national downstream industrialization agenda.

One of the clearest manifestations of this governance failure can be seen in the weak protection of indigenous territories and local living spaces. Although the Basic Agrarian Law of 1960 (*Undang-Undang Pokok Agraria/UUPA*) and Constitutional Court Decision No. 35/PUU-X/2012 formally recognize indigenous peoples' territorial rights, the implementation of such recognition remains highly limited within nickel industrial governance. Many indigenous territories in Morowali have not received formal recognition within Regional Spatial Planning (*RTRW*) frameworks or the national land administration system, making them vulnerable to overlapping mining permits and industrial concessions. The Indigenous Peoples Alliance of the Archipelago (AMAN) reported that by 2024 only a small proportion of indigenous territories in Indonesia had obtained formal legal recognition, while the majority remained threatened by extractive industrial expansion and national strategic projects. In Morowali, this weak recognition places indigenous communities in a legally vulnerable position when confronting mining corporations and industrial estates.

This study also finds that community participation in spatial planning and industrial licensing processes remains highly limited. In many cases, affected communities are not substantively involved in the formulation of RTRW documents, environmental permit issuance, or the designation of strategic

industrial zones. Public consultation processes tend to be merely administrative formalities that fail to provide equal deliberative space for local communities. This condition reflects *procedural injustice*, namely inequality in decision-making processes and the distribution of power within environmental governance. From the perspective of environmental justice, justice is not only concerned with the distribution of ecological benefits and burdens, but also with communities' rights to meaningfully participate in determining the future of their living spaces. However, in the context of nickel industrialization in Morowali, spatial planning and licensing processes remain largely controlled by the state and corporations through a top-down development approach.

In addition to procedural injustice, nickel industrialization in Morowali also generates *distributive injustice*, namely unequal distribution of development benefits and burdens. The economic benefits derived from nickel downstream industrialization are largely accumulated by the state, investors, and industrial corporations, while local communities bear significant ecological and social consequences. WALHI Central Sulawesi reported that coastal reclamation and nickel industrial activities in Morowali have caused marine sedimentation, degradation of coastal ecosystems, and declining productivity among local fishers. Meanwhile, communities losing land due to industrial expansion often receive inadequate compensation and unequal access to the economic benefits of industrialization. From Joan Martinez-Alier's perspective, these conditions reflect an *ecological distribution conflict*, namely conflicts arising from the disproportionate distribution of ecological losses among the state, corporations, and local communities.

The failure of spatial governance in Morowali also reveals unequal power relations between the state, corporations, and local communities. Through spatial planning, national strategic projects, and downstream industrial policies, the state actively facilitates nickel industrial expansion but has failed to establish effective protection mechanisms for indigenous rights and ecological sustainability. Consequently, spatial planning functions more as an instrument for producing industrial space than as a mechanism for protecting community living spaces. From the perspective of environmental justice, this condition reflects the state's failure to guarantee the three primary dimensions of environmental justice: distributive justice, procedural justice, and recognitional justice. Therefore, the agrarian crisis in Morowali represents not only a conflict over land and resources, but also a broader crisis of environmental justice and spatial governance failure within the regime of green extractivism that reproduces unequal power relations and the marginalization of indigenous communities under the global green energy transition agenda.

6. Morowali and the Paradox of the Green Energy Transition

Morowali represents one of the most significant paradoxes within the global green energy transition agenda. On the one hand, nickel industrialization is promoted as part of the global decarbonization strategy through the development of electric vehicle batteries and low-carbon energy systems. On the other hand, the expansion of the nickel industry has generated ecological

degradation, agrarian conflicts, indigenous marginalization, and large-scale extractive spatial reorganization. This condition demonstrates that the green energy transition is not necessarily synonymous with ecological justice, but may also reproduce new forms of extractivism and global inequality.

This paradox can be understood through the concept of the green energy paradox, namely the condition in which efforts to address the climate crisis through green energy simultaneously create new ecological pressures due to the increasing exploitation of transition minerals such as nickel, lithium, and cobalt. In the context of Morowali, rising global demand for electric vehicle batteries has accelerated downstream industrialization policies and large-scale nickel industrial expansion. Consequently, forests, coastal areas, and local living spaces have been converted into extractive industrial zones to support the global green energy supply chain. Various studies indicate that nickel mining expansion in Central Sulawesi has significantly contributed to deforestation and environmental degradation through mining expansion and industrial infrastructure development. Furthermore, smelter operations and captive coal-fired power plants within the IMIP industrial area generate substantial carbon emissions, contradicting the "green energy" narrative used to legitimize the electric vehicle battery industry.

These conditions suggest that Morowali has evolved into an environmental sacrifice zone, namely a region ecologically sacrificed to sustain global economic demand and consumption. From Eduardo Gudynas's perspective, sacrifice zones are a consequence of extractive development models that position particular regions as spaces for intensive resource exploitation in order to satisfy global industrial needs. In Morowali, this ecological sacrifice is reflected in deforestation, coastal sedimentation, air pollution, marine degradation, the loss of fishing grounds, and large-scale spatial transformation. This phenomenon demonstrates that the global green energy transition does not eliminate extractivist practices, but merely shifts extractive dependency from fossil fuels to strategic minerals such as nickel. Alexander Dunlap conceptualizes this condition as green extractivism, namely the expansion of resource extraction legitimized through narratives of sustainability and economic decarbonization.

Within the context of the Global South, nickel industrialization in Morowali also reflects the emergence of green colonialism, a new form of economic and ecological colonialism in which developing countries are transformed into extraction zones for the energy transition needs of industrialized nations. Indonesia, particularly Morowali, has been positioned as a major global supplier of nickel for the electric vehicle industry, which is largely controlled by multinational corporations and global markets. Through foreign investment and international supply chains, land and natural resources in Morowali have been integrated into a global economic system oriented toward the clean energy demands of advanced industrial countries. However, the economic and technological benefits of the energy transition are not distributed equally. Local communities instead experience land dispossession, agrarian conflict, and environmental degradation, while the added value of industrial production and

green energy consumption is largely captured by global markets and transnational industrial actors.

This condition reflects a pattern of unequal ecological exchange, namely an unequal ecological relationship between resource-producing regions and global industrial consumption centers. From a political ecology perspective, Morowali illustrates how local spaces are restructured to support global green capitalism through spatial planning policies, national strategic projects, and industrial zones that create new resource frontiers for nickel industrial expansion. As a consequence, indigenous peoples and local communities increasingly lose control over their living spaces. This study therefore argues that Morowali represents a concrete manifestation of the paradox of the global green energy transition, in which nickel industrialization promoted as a solution to the climate crisis instead produces environmental sacrifice zones, green colonialism, and ecological inequality that deepen environmental and spatial justice crises at the local level.

CONCLUSION

This study finds that the expansion of the nickel industry in Morowali has produced a spatial crisis characterized by large-scale spatial reorganization through mining concession expansion, industrial estate development, and extractive infrastructure construction within the global green energy transition agenda. Spatial planning no longer functions as an instrument for protecting community living spaces, but instead operates as a mechanism legitimizing green extractivism through regional spatial planning policies, national strategic projects, and industrial zoning that facilitate investment interests and the global electric vehicle supply chain. Consequently, indigenous peoples and local communities experience land dispossession, loss of access to productive land and coastal areas, spatial marginalization, and escalating agrarian conflicts. These findings demonstrate that the conflict in Morowali is not merely a land dispute, but a broader crisis of spatial justice within the regime of green energy transition.

The study contributes theoretically by integrating perspectives of spatial justice, political ecology, and socio-legal studies in explaining the relationship between nickel industrialization, spatial governance, and agrarian conflict. It argues that spatial planning is not a neutral technocratic instrument, but a political mechanism that produces extractive spaces and reproduces spatial inequality within the context of global green capitalism. This research also strengthens socio-legal approaches by demonstrating how spatial planning regulations and mining governance function as legal and political instruments facilitating extractive industrial expansion.

This study highlights the urgent need for spatial governance reform that prioritizes ecological justice and indigenous rights protection. Such reform should include stronger recognition of indigenous territories within spatial planning systems, participatory spatial planning mechanisms, ecological-based zoning policies, and the implementation of the principle of Free, Prior and Informed Consent (FPIC) in nickel industrial development. Although this study is limited by its reliance on qualitative and secondary data sources, it provides

an important foundation for future research on extractive industrialization, indigenous territorial rights, and spatial justice in transition mineral regions.

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