

Research paper

Gendered Exploitation in Halmahera's Nickel Mining: A Feminist Perspective

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ABSTRACT

Mining activities in Halmahera, Indonesia, have accelerated economic growth while simultaneously intensifying poverty among local women and contributing to the emergence of a commercial sex economy in mining areas. This paradox reflects the structural dynamics of extractive capitalism, in which patriarchal systems disempower women through the erosion of subsistence livelihoods, exclusion from formal employment, and the commodification of their bodies within an economy over which they have a little control. This article presents a conceptual and doctrinal-cum-socio-legal analysis based on documentary sources, including legislation, court decisions, policy instruments, statistical data, government and NGO reports, as well as secondary scholarship. Employing a feminist socio-legal approach, the article integrates four theoretical perspectives: intersectionality, epistemic injustice, feminist political economy, and constrained agency. It advances three principal arguments. First, women in Halmahera's mining areas experience double invisibility, as the intersection of gender, class, and ethnicity marginalises their experiences within legal and policy frameworks. Second, this marginalisation is conceptualised as structurally produced through accumulation by dispossession, the masculinisation of mining labour, and the emergence of a commercial sex market as a neglected component of extractive economies. This argument is presented as a theoretical explanation requiring future empirical investigation. Third, existing legal responses inadequately address exploitation because they often criminalise its consequences rather than transform the structural conditions that produces vulnerability. The article therefore proposes both immediate protective reforms and transformative approaches to redefine development, accountability, and justice within extractive contexts.

Keywords: resource extraction, sex workers, feminist political economy, epistemic injustice, Halmahera

In 2023, Indonesia's nickel reserves amounted to 55 million tonnes, representing 42% of the global total. Indonesia supplied just over half (50.5%) of the global nickel ore, followed by the Philippines (11%) and New Caledonia (5.6%) (Rivota & Wardhana, 2026; U.S. Geological Survey, 2024). To finance national development, State strategy has prioritised resource extraction, including mining, with a focus on downstream processing policies (Warburton, 2024). As a result, mineral-rich territories have been transformed into major industrial hubs; notable among these in Halmahera, which holds some of the country's largest nickel deposits (Fitrianto et al., 2025; Konopka et al., 2022; Libassi, 2026). Through the Indonesia Weda Bay Industrial Park (IWIP) in Central Halmahera, the region has become the largest nickel processing centre in Asia (ChuanYu et al., 2025; Karim, 2025; Tilley, 2026).

Official development narratives frequently highlight the region's transformation, with North Maluku's Regional Gross Domestic Product soaring from IDR 3 trillion in 2020 to over IDR 21 trillion in 2022. By the second quarter of 2023, the province recorded an economic growth rate of 23.89% – nearly five times the national average (Badan Pusat Statistik Provinsi Maluku Utara, 2026; Pardede et al., 2023). However, behind this optimistic narrative, a profound socio-economic paradox has taken root: over the same period, the impoverished population in North Maluku increased from 79,870 to 83,800 (Afifa & Fauziyah, 2024; Nugraha & Hermawan, 2024). This divergence demands an inquiry not merely into how such inequality occurs, but rather why it remains unacknowledged as an inherent structural consequence of the selected development model.

Such phenomenon operates across two interrelated yet often distinct dimensions in both policy and academic analysis. When considering personal experiences, women in mining areas, such as in Halmahera, face a complex intersection of pressures. They are women within a patriarchal system, a poor group marginalised from formal economic access, and a local community confronted with a large influx of migrant workers. Referring to population data, the population of Central Halmahera surged from 57,809 in 2021 to 59,096 in 2022, then increased sharply to 96,977 in 2023—a nearly 64% increase over two years—largely due to the arrival of mining workers from various regions (Jaringan Advokasi Tambang, 2024; Nurkholis, 2025). This massive, male-dominated wave of migration has created demographic and economic imbalances that directly impact local women. As noted by Srivastava (2022), the loss of traditional livelihoods, combined with the disproportionately large presence of male migrant workers, has pushed women into conditions of extreme economic precarity. These three pressures do not operate in isolation but reinforce one another, creating conditions of vulnerability that cannot be adequately explained through a single analytical dimension. At the structural level, these conditions are neither accidental nor merely the consequence of policy implementation failures. Instead, they reflect the logic of extractive capitalism, which has historically relied on gendered subordination and the exclusion of women from formal economic sectors. Such exclusion is not simply an unintended consequence but a functional prerequisite for capital accumulation (Benkler, 2025; Özsu, 2019; Shiva, 2010). Consequently, efforts to address women's economic marginalisation must extend beyond individual-level interventions and confront the broader structures that reproduce gender inequality. This imperative is also reflected in the United Nations Sustainable Development Goals, which recognise gender equality as a fundamental global development priority (Saraswati, 2025; Sembiring & Garunja, 2026; Suherman et al., 2026).

In line with these dynamics, there has been a documented growth in the commercial sex economy and an increase in HIV/AIDS cases in mining areas. The analysis below reconstructs the structural conditions making these dual events understandable, moving beyond simple claims of direct measurable causal effect. Empirical data clearly illustrates this trajectory: in 2021, two HIV cases were recorded—divided between Lelilef Health Centre and Weda Regional General Hospital. This number increased to 12 cases in 2022, then surged to 43 cases in 2023, and reached 65 cases by 2024. By January 2025, a further 13 new cases were detected, with the highest concentration reported by PT. IWIP Primary Clinic and Weda Regional General Hospital (Didi, 2025). Additionally, Lutfi Djafar, the Head of the Central Halmahera Health Department, has confirmed a 75% rise in regional HIV/AIDS prevalence in the region over the past six years, attributing this primarily to the high mobility of mining workers (Koridor Indonesia, 2024). Despite this alarming trend, the response from both the state and the academic community has largely been reactive, focusing on experience rather than implementing structural reforms to address the issue. Consequently, while international legal instruments – such as the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and the Palermo Protocol – require states to take proactive measures to prevent sexual exploitation and human trafficking, these normative obligations remain under-enforced.

At the domestic level, Article 28G (2) of the 1945 Constitution of the Republic of Indonesia guarantees protection against treatment that degrades human dignity, whilst Law No. 3 of 2020 on Mineral and Coal Mining is intended to regulate the social impacts of mining activities. However, the gap between *law-on-the-book* and *law-in-practice* in Halmahera is stark – the commercial sex economy expands without meaningful legal intervention, HIV rates increase without an adequate regulatory response, and women involved in prostitution still lack access to the legal protection that is theoretically available to them. This article argues that this gap is not merely due to weak implementation, but also because the law is formulated within a conceptual framework that fails to recognise the structural exploitation produced by the mining industry as a valid legal issue that must be addressed.

A feminist socio-legal approach – integrating theories of intersectionality, epistemic injustice, feminist political economy and constrained agency – is employed to pose three interrelated questions. First, how do the intersections of gender, class, and ethnicity shape women's concrete experiences in the Halmahera mining zone in such a way that their suffering becomes invisible or epistemically unrecognised by the existing legal and policy systems? Second, what structural mechanisms are produced by extractive capitalism, through the patriarchal logic inherent within it, such that women's sexual and bodily labour is absorbed as residual resources in a mining economy that officially claims to be gender-neutral? And third, why do existing legal and policy responses fail to break this cycle

of exploitation, and what paradigmatic shifts are required to make substantive protection for women in mining zones to be possible?

These three questions form an argumentative arc progressing from lived experience to structural mechanics, from structural dynamics to the law's failure, and from the law's failure to the need for a paradigm shift. This article consciously positions itself as a conceptual basis and theoretical foundation for ongoing and future field research in Halmahera, where primary data will subsequently be collected to test, refine, and, where appropriate, revise the proposed framework. It should be emphasised that the analysis conducted is limited to the socio-economic and legal dimensions. The ecological dimension—particularly climate change, which Farley (2022) identifies as a long-term amplifier of women's vulnerability in areas surrounding extractive zones—remains equally important and will be the focus of subsequent empirical field data.

This article lies in three contribution aspects. Theoretically, it offers the integration of four theoretical traditions within a coherent analytical framework to conceptualise, describe, and understand the commercial sex economy in mining areas, something that has not previously been systematically undertaken in the existing literature. Empirically, it positions Halmahera as a geographically specific context, distinct from previous studies focusing on sub-Saharan Africa, indigenous communities, or East Kalimantan, whilst simultaneously highlighting the 'resource curse' operates as localised expression of global structural patterns (Farley, 2022a; Kounta et al., 2019; Laite, 2009; Mahy, 2011). Normatively, this article critiques the boundaries of legal reformism – which has long dominated the discourse on women's protection in mining areas, and argues that substantive protection requires not merely improvements to the system but fundamental changes in how the development paradigm is conceptualised and measured.

METHODS AND MATERIALS

This is a conceptual and socio-legal article; therefore, primary empirical fieldwork is not reported, and no interview, survey, or ethnographic data were generated by the author. It aims to build an integrated analytical framework and examine the legal and policy architecture within the Halmahera nickel zone landscape, allowing subsequent fieldwork to be designed based on explicit theoretical foundations. As a result, the following analytical section is presented as a conceptual analysis, and are presented as structural explanations to be tested, rather than as causal findings.

In this process, three analytical procedures are combined. First, a doctrinal legal analysis is utilised to reconstruct the normative framework that formally regulates the protection of women in extractive zones. The doctrinal corpus consists of binding instruments: the 1945 Constitution of the Republic of Indonesia (specifically Article 28G (2); Law No. 3 of 2020 concerning Mineral and Coal Mining; as well as international obligations arising under CEDAW, the Palermo Protocol, and the ICESCR. These documents are then articulated based on their definitive purpose, namely, how they shape legal subjects, harms, obligated parties, and thresholds for intervention, rather than on their enforcement records.

Second, the analysis of socio-legal documents relies on different and unequal sets of materials, which are evaluated with varying epistemic weight and status. Official statistical sources (such as BPS Indonesia for North Maluku, provincial and district health office reporting) serve as primary, publicly accessible quantitative indicators; these are treated with an awareness of coverage limitations and reporting biases, particularly regarding stigmatised behaviour. Civil society and NGOs reporting (e.g., JATAM, Forest Watch Indonesia, and Global Forest Watch) is classified while explicitly acknowledging – rather than obscuring, their advocacy postures. Journalistic reporting is further positioned at the weakest level of evidence and used only for contextual illustration or for statements that can be attributed to named officials, and never as independent evidence of structural claims. These disparate sources converge, a stronger empirical alignment is established; where they diverge, and discrepancies are maintained analytically rather than resolved by unilateral decisions.

Third, conceptual theory-building is employed to integrate the four traditions outlined in the following section into a single analytical framework. This represents the main contribution of this article, notwithstanding its major methodological limitations: the framework was generated abductively from documentary records and previous comparative studies of extractive zones, and its explanatory adequacy cannot be assessed within this article.

In keeping with Hunter's (2013) explanation of feminist socio-legal methods, this analysis is conducted based on a stated perspective rather than from a claim of neutrality. This commitment carries a corresponding obligation of reflection – where the authors formulate from outside the communities discussed, without access to the self-descriptions of the women whose situations are analysed, and the framework proposed should be read as provisional and subject to revision based on these self-descriptions once field data becomes available.

Terminology note

Some terms used in this article are not interchangeable and belong to different legal, feminist, and policy traditions, as distinguished as follows: Prostitution is only used if the legal source or its instrument uses the term, and if the moral framework conveyed is precisely what is being analysed; this term is retained as this article's argument concerns how Indonesian law defines and thus shapes the phenomenon. Sex work refers to the sale of sexual services understood as labour within the rights-based and decriminalisation-oriented tradition; specifically, this terminology is used when reporting studies adopting this premise. Commercial sex economy is adopted as the primary descriptive term for the aggregate market operating within the mining zone, as it denotes a structural context rather than describing the women within it. Conversely, sexual exploitation refers to the appropriation of sexual labour under very limited conditions in Halmahera, referring specifically to the appropriation of sexual labour under severely constrained circumstances; this claims a structural critique rather than an attribution of personal victimhood for any individual. Human trafficking refers to the meaning of the Palermo Protocol, which requires exploitative acts, means, and ends. Consequently, the term is only used if the cited source proves recruitment through deception or coercion, treating the mere existence of a commercial sex economy as evidence of human trafficking. This conceptual distinction is analytically important: the main claim of this argument contends that Indonesian law focuses predominantly on the first term while overlooking the latter, a selectively that functions as the primary mechanisms of hermeneutical injustice in question.

Scope and limitations

Four limitations are introduced as a consequence of this research design. First, and most importantly, this article does not demonstrate a causal relationship between mining expansion and the growth of the commercial sex economy. Rather, it presents a structurally specific and comparatively supported explanation of why such a relationship can be expected, and why existing legal categories are constitutionally incapable of capturing it. The correlational material data compiled here – notably the similarities between regional GDP growth, increasing poverty rates, demographic migration, and increased HIV reporting – is consistent with this explanation but does not distinguish it from other explanations, including those highlighting the effects of migration independent of extraction, or increases in HIV case detection relative to underlying prevalence. Second, this empirical basis is entirely secondary; the women whose situations are analysed have not been consulted – which is a substantive limitation, not merely a technical one, and for an argument based on epistemology. Third, official data on stigmatised behaviours are systematically underreported, and the figures cited should be treated as lower bounds with unquantifiable uncertainties. Last, this analysis is limited to socioeconomic and legal dimensions; ecological dimensions – including increased climate-related vulnerability – are not specifically discussed in this article.

THEORETICAL FRAMEWORK

Intersectionality and epistemic injustice: Interpreting women's experiences

The starting point of the analysis employed lies in the recognition that women's experiences in the mining zone of Halmahera cannot be fully understood through a single analytical category. Crenshaw (1989) critiques developed in the United States regarding anti-discriminant doctrine, argued that the legal system and policies consistently fail to protect Black women because they are only capable of recognising either gender discrimination or racial discrimination, but not both simultaneously. This failure, according to Crenshaw (1989), is not a coincidence but a product of an analytical framework designed to assess the intersections between various axes of oppression. The concept of intersectionality posits that gender, race, class, and other social identities do not operate additively but constitutively; that is, the intersection between them produces an experience qualitatively different from each component when considered in isolation.

In the context of Halmahera, intersectionality operates through three interlocking axes. The gender axis positions women in a subordinate position within a patriarchal order reinforced by a masculine mining culture—a phenomenon consistently documented in global mining literature, where mine workers are culturally associated with masculinity, thereby structurally excluding women from formal participation. The class axis places local women in an increasingly difficult economic position, particularly as the subsistence livelihoods they previously managed are undermined by mining expansion offering inadequate compensation. Furthermore, the axes of ethnicity and locality position local communities as the losing side in power relations with outsiders—whether migrant workers from other parts of Sulawesi or across Indonesia, or transnational corporations operating under state protection. These three axes cannot be separated from the concrete experiences of women in the Halmahera mining zone; their poverty condition is the poverty of local women confronting the expansion of external capital within a patriarchal order, and these three dimensions must be interpreted in tandem.

Nevertheless, intersectionality is not sufficient to explain why such situation persists in the absence of recognition as a legitimate issue by the legal system and policymakers. At this point, Fricker's (2007) theory of epistemic injustice becomes increasingly relevant. Fricker (2007) identifies two forms of epistemic injustice that influence each other. Testimonial epistemic injustice occurs when a person's testimony is accorded less credibility than it deserves because of the social identity of the person giving the testimony. In this context, women involved in prostitution in mining areas – who are also poor local women – face a systematic devaluation of their credibility when giving testimony.

In other words, the experiences of exploitation endured are not recognised as a valid form of knowledge by the legal apparatus or policymakers, nor are they acknowledged as a subject within the dominant academic discourse. Hermeneutical injustice is a deeper and more fundamental form of injustice that occurs when a person lacks the conceptual framework to articulate their experiences as unjust. In this case, women in Halmahera who enter the commercial sex economy following the collapse of the subsistence economy may lack a socially available conceptual framework through which to understand and articulate their experiences of exploitation as structurally produced, rather than as the result of poor moral choice or individual failings. Instead, their experiences can be understood as predictable consequences of a specific economic system operating through specific gender structures.

The condition of epistemic invisibility has a long-documented historical precedent. Laite (2009) demonstrates that almost all mining areas analysed comprehensively reveal that the experiences of women involved in prostitution in mining areas are consistently rendered invisible by three factors: mining companies that tolerate prostitution for the sake of production but do not acknowledge the causal link between their operations and the growth of prostitution in their vicinity; local authorities who define prostitution as a moral issue rather than as a result of extractive economic policies; and academic discourse that positions prostitution merely as a footnote to the mining history rather than as a factor that helps shape and define the dynamics of the area. This three-layered pattern of invisibility identified by Laite (2009) in the historical context of the 19th and early 20th centuries has subsequently reproduced in the 21st century in Halmahera, serving as an indication that this is not merely a local failure but a structural pattern inherent in the relationship between extractive capitalism and the organisation of sexuality around mining areas.

Feminist political economy: Tracing the structural production of dispossession

If intersectionality and epistemic injustice become the key tools for interpreting women's experiences, then feminist political economy is used as a key tool for understanding the mechanisms that produce such conditions. This theoretical tradition is based on the premise that capitalism never operates in a gender-neutral vacuum; rather, actively requires and reproduces gender subordination as a condition for its accumulation (Agenjo-Calderón, 2021; Armstrong & Connelly, 1989; Fraser, 2014; LeBaron & Roberts, 2010; Nelson, 1996; Rao & Akram-Lodhi, 2021).

Harvey (2003), in his concept of 'accumulation by dispossession', demonstrates that contemporary capitalism accumulates value not only through the production process but also through the appropriation of assets previously outside the logic of the market: communal land, natural resources, public services, and local knowledge. In Halmahera, such mechanism is manifested in concrete terms. The expansion of mining concessions has appropriated agricultural land and forests that local communities have managed for generations, thereby dismantling the subsistence economy on which their livelihoods depend. At the same time, it has failed to provide equivalent access to the formal economy to replace these lost sources of livelihood (Niko et al., 2024). According to data from Global Forest Watch, Central Halmahera has lost 26,100 hectares of forest cover due to nickel mining activities, resulting in environmental degradation, declining fisheries productivity caused by marine pollution, and the loss of income sources previously managed by local communities (Afifa & Fauziyah, 2024; Sawal, 2024). However, Harvey, as criticised by several feminists, does not provide adequate attention to the gender dimension of dispossession, and is even more inclined to treat the dispossessed subject as a gender-neutral entity (Fraser, 2023; Mies, 1998; Rose, 1993; Sassen, 2014).

There is a historical dimension to this mechanism, which Laite (2009) has systematically documented in her comparative study of prostitution in mining areas. This documentation states that in almost all the mining areas studied—ranging from the gold rushes of the American West and Canada, through Chile's copper mines, to the copper and gold mines of South Africa and Kenya—local women were consistently excluded from formal employment in the mining industry. This exclusion was achieved through a combination of corporate policies and cultural constructs that associated mining work with aspects of masculinity. This cannot simply be interpreted as a by-product but rather as a condition deliberately produced, as demonstrated in the case of the Anaconda Copper Mining Company in Butte, Montana, which explicitly recognised that tolerating prostitution around their operational areas was an effective way to ensure male labour remained productive without incurring long-term social responsibilities towards the local community. Prostitution within such a framework is not an anomaly that disrupts production but rather a complementary mechanism that actually facilitates it. This historical pattern

identified by Laite (2009) reinforces Mies's (1998) argument that the subordination of women within the mining economy is not a coincidence but a logic deliberately employed in industrial capitalism from its very inception.

Mies (1998) offers an argument to address this gap—offering a more foundational proposition: that capitalism has historically been built upon the subordination of women, without which the capitalist system cannot function. In her analysis of accumulation on a global scale, Mies (1998) demonstrates that women's labour—whether reproductive work within the household or low-paid labour in the informal sector—is not merely a manifestation of the system but a prerequisite for capital accumulation in the formal sector. 'Housewifisation', the central concept proposed by Mies (1998), defines as a process whereby women are ideologically and structurally constructed as performers of reproductive labour that holds no significant economic value, meaning that such labour is easily exploited without commensurate compensation.

In the Halmahera mining zone, this mechanism manifests through the systematic exclusion of women from formal mining employment – a sector culturally and structurally constructed as a masculine domain – alongside the concurrent erosion of the economic sphere in which women have traditionally operated. Consequently, a situation has arisen in which women are dispossessed from the subsistence economy without access to a formal economic alternative; this is nothing less than a double dispossession – a hallmark of patriarchal capitalism.

Fraser (2023) then introduces an additional dimension through her concept of 'cannibal capitalism'—a form of capitalism that systematically consumes the social conditions that enable its own reproduction, including care work, natural ecosystems, and community cohesion, without ever acknowledging or compensating for this consumption. This logic operates on two levels simultaneously in Halmahera. Firstly, the mining industry consumes natural capital—the very foundation of local communities' livelihoods—without factoring the costs of this destruction into its economic calculations. Secondly, the mining industry indirectly consumes women's bodily labour through the commercial 'sex' markets that flourishes around it, while persistently acknowledging any causal relationship between mining expansion and the growth of the sex markets – much less classifying them as a social cost that must be accounted for. Within the terms of the framework set out by Fraser (2023), the commercial sex economy of the Halmahera mining zone is not merely an unwanted side-effect, but rather a structured and predictable form of capital's consumption of women's bodies – a dynamic systematically rendered invisible from both economic and legal accountability.

Constrained agency: Moving beyond the victim–freedom binary

The two previous layers of theory risk producing an overly deterministic picture, one that portrays women in the Halmahera's mining zone as passive objects of the structures that oppress them, leaving little room for subjectivity or agency. This third layer serves to correct that tendency, while simultaneously rejecting the opposite extreme: the liberal narrative of free choice. That reduces prostitution to merely another form of work, freely chosen by individuals regarded as sovereign over their own bodies.

Spivak (2023), in her seminal essay '*Can the Subaltern Speak?*', questions the possibility of the subaltern subject—those at the very bottom of the social, economic, and epistemic hierarchies—to articulate their experiences within a framework that dominant power structures can hear. Spivak's (2023) central question is not whether subaltern subjects are capable of speaking—indeed, they are—but rather whether their voices can be heard as valid knowledge within a context in which those in positions of power determine the very framework through which knowledge is recognised and validated. In the context of Halmahera, women involved in prostitution speak through their bodies, actions, and the choices made under extremely limited conditions. However, their voices are never heard as a rational response to structural conditions they did not create themselves.

Saba Mahmood (2001), in her study of the women's Islamic revivalist movement in Egypt, develops a more nuanced concept of agency: it does not necessarily constitute to dominant norms; rather, and it invariably operates within, and is shaped by, the very structures that constrain it, rather than existing outside or beyond them. Mahmood (2001) further demonstrates that women can act agentively even in circumstances where their choices appear limited from a liberal feminist perspective. What distinguishes agency from determinism is not the absence of structures, but rather the subject's ability to navigate those structures according to their own logic and interests, even though these interests are themselves shaped by structural conditions.

The synthesis proposed by Spivak (2023) and Mahmood (2001) yields a concept of '*constrained agency*' advanced in this article: women within Halmahera extraction zones make real decisions based on rational calculations of their immediate realities, yet those very conditions—which determine the horizon of possible choice—are predetermined by the overarching of extractive capitalism and patriarchy, operating entirely beyond individual control. Essentially, this does not constitute autonomous agency in the liberal sense: meaningful freedom cannot exist when the system has closed all other doors.

However, this does not imply a lack of agency. Women who engage in the commercial sex economy as a survival strategy for themselves and their families act agentively, utilising the only remaining resource that has not yet been appropriated by the very structures that have dispossessed them of almost everything else. Mahy (2011), in her

study of sex workers in the mining areas of East Kalimantan, demonstrates that women in this context are not merely passive victims but economic actors responding to structural constraints with strategies they perceive as the most rational under the circumstances. Referring to data collected by Farley (2022b) from research across various countries, 89-90% of the women surveyed stated that they engaged in prostitution solely because no viable economic alternatives were available. Furthermore, ILO data cited by Farley (2022b) indicate that 96% of respondents in Indonesia expressed a desire to leave prostitution. This finding suggests that their continued involvement should not be interpreted simply as an exercise of free choice. Rather, it reflects structural conditions that have severely limited meaningful alternatives, allowing agency to operate only within the narrow space permitted by those conditions. This understanding has direct implications for intervention design. Although the policing of prostitution remains globally contested—ranging from moral condemnation and abolition to criminalisation, decriminalisation, legalisation, and community mobilisation—approaches focused solely on women's individual behaviour are unlikely to succeed (Patnaik, 2023). Criminalisation, moralising, and rehabilitation programmes misidentify the source of the problem by overlooking the broader economic, social, and institutional structures that constrain women's choices.

Feminist socio-legal: Law as social practice

The three previous layers of theory have established an understanding of experience, structure, and agency. This fourth layer shifts the focus to the legal dimension. However, the concept of law employed here does not refer to law in the relatively narrow doctrinal sense. Rather, it is understood as a social practice embedded in power relations and produced by specific historical conditions.

Cotterrell (1984) laid the foundations for this perspective by arguing that the law cannot be fully understood in isolation from the social conditions it upholds and reproduces. Cotterrell's (1984) sociology of law subsequently rejects the autonomisation of the law from its social context. The law defines as an expression of existing power relations, and changes to the law cannot be separated from changes in those power relations. In the context of Halmahera, this indicates that the law's inability to protect women in the mining zone is not merely a matter of legislation or weak enforcement, but a reflection of deeper power relations between extractive capital, the state, and local communities that allow this exploitation to continue without any meaningful legal accountability.

Smart (1989), in her work "*Feminism and the Power of Law*", argues that the law does not merely fail to protect women; rather, it actively produces gender subordination through a mechanism known as *the law's power to define*. In this sense, the law has the capacity to define reality. It determines the power to classify: defining what constitutes a crime, who qualifies for victim status, and which occurrences warrant legal intervention. In the context of prostitution in mining areas, this institutional framing operates selectively. Indonesian law defines prostitution as a moral and public order issue—a deviation from social norms that must be regulated—rather than as a product of structural conditions created by extractive economic policies supported and legitimised by the state itself. By defining such issue at the individual and moral level, the law effectively shifts its focus away from the structural level where the problem is actually produced. This is the point at which the accounts of Smart (1989) and Fricker (2007) converge: *the law's power to define* operates as an institutional mechanism of *hermeneutical injustice*; in other words, the law becomes one of the most powerful institutions that determines the conceptual resources available socially for understanding experiences of exploitation.

Hunter (2013) translates this critique into a concrete research methodology through the *feminist socio-legal* approach: an approach that places the experiences of marginalised women at the starting point of legal analysis, challenges the gendered assumptions embedded in seemingly neutral legal doctrines, and is oriented towards description and transformation. Hunter (2013) also asserts that *standpoint epistemology*—the commitment to analyse the law from the perspective of those most affected—is not a methodological weakness to be overcome, but rather an epistemological prerequisite for producing more comprehensive and just legal knowledge. Legal research that pretends to be neutral does not produce neutrality; rather, it produces the perspectives of the dominant, disguised as universality. This article explicitly adopts this methodological commitment, not as a statement of bias, but as an act of epistemological honesty regarding where this knowledge is produced and for whom it is intended.

CONCEPTUAL ANALYSIS

Invisible at the intersection: How mining zones make women's suffering epistemically invisible

The complexity of women's circumstances in Halmahera cannot be described merely through statistics on the commercial sex economy or HIV/AIDS prevalence figures only, but rather through the most fundamental question: why have these conditions, despite being documented and widely known by local government authorities, never been addressed as a manifestation of a structural crisis requiring systemic intervention? This answer does not lie in administrative weaknesses or policy negligence. It tells in how women in the mining zones of Halmahera face a condition that might be termed as '*invisibility at the intersection*' – a condition in which the oppression they

experience simultaneously from various directions actually renders them even more invisible to the very system that is supposed to be protected.

Crenshaw (1989) argues that legal and policy systems are designed to address one axis of discrimination at a time. They tend to view gender discrimination, class discrimination or ethnic discrimination as separate issues that can be addressed in isolation. In reality, however, when these three axes operate together and reinforce one another, the system suffers from a kind of structural blindness. There is no legal category designed to capture the experience of women who are simultaneously poor, local, and marginalised by the expansion of capital (Cho et al., 2013; McCall, 2005; Verloo, 2006).

In Halmahera, this blindness has more tangible consequences. Women engaged sex in mining areas are not seen as victims of mining policies because the mining system does not define its social impacts within a gender framework (Bashwira et al., 2014; Bryceson et al., 2013; Macdonald, 2018). They are disregarded as victims of structural poverty because the poverty alleviation system lacks the tools to capture the poverty specifically produced by the expansion of the extractive industry. Moreover, they are overlooked as legitimate subjects of legal protection because the legal system defines them as perpetrators of moral deviance, rather than as victims of conditions they did not create (Farley, 2022b).

The documentary record for Halmahera aligns with this pattern, although it does not, in isolation, establish a direct causal relationship. Central Halmahera's population expanded by almost 64% in two years, driven exclusively by the massive influx of mine workers from various regions of Indonesia (Forest Watch Indonesia, 2023). This rapid demographic surge, dominated by a male workforce, has created an imbalance that directly impacts local women in two interrelated ways. On the one hand, it creates substantial demand for sexual services unaddressed by the formal economy. Then, the broader industrial expansion destroys the existing subsistence economic base that previously served as the livelihood of local women through marine pollution that reduces fish catches, the conversion of agricultural land into mining concessions, and the destruction of forest ecosystems that support the livelihoods of local communities. The structural explanation developed here attempts to explain the combination of two independent effects of a single industrial process, rather than a causal relationship between them. Dispossessed of their subsistence economic base and lack access to the newly formed formal mining economy, local women confront what may be conceptualised as a *hermeneutical gap*: the absence of adequate conceptual resources to name their condition as a form of structural exploitation requiring a systemic response.

The injustice of these women's experience operates on several levels simultaneously. At the institutional level, the Central Halmahera Health Department identifies sex workers as a 'key population' as a potential source of HIV/AIDS transmission and who need to be 'sought out' by health workers. This framing positions them as vectors of health risk, rather than as individuals in need of protection and support. At the social level, the presence of red-light districts around mining areas is viewed as a public order issue that local government should address through raids and dispersal, rather than as a symptom of the failure of mining policy to integrate gender dimensions into the planning and management of its social impacts. At the academic level, existing research on commercial sex in Indonesian mining areas tends to focus its analysis on health risk factors and individual behaviour, rather than on the structural mechanisms that produce such conditions. Thus, at every available level of analysis, these women's experiences are attributed back to them as individual problems to be resolved individually, whilst the structures that produce them remain untouched and invisible. One point requires emphasis: the repetition of patterns of women's invisibility, as documented by Laite (2009), cannot plausibly read as an administrative failure correctable through better regulation alone; rather, it recurs wherever industrial capitalism organises resource extraction around a migrant male workforce.

The *hermeneutical injustice* at work in Halmahera has several implications that extend beyond the individual experiences of the women involved. It also means that policy and academic communities lack an adequate conceptual framework to ask the right questions about the relationship between mining expansion and the commercial sex economy. As long as this relationship is viewed as a coincidental social correlation, rather than a structural causal link, the resulting responses will always be reactive and individualistic. Reports of HIV/AIDS cases in Central Halmahera have increased by 75% over the past six years, coinciding with the expansion of the nickel mining industry. However, these figures cannot support causal claims: the increase in cases likely reflects enhanced diagnostic detection rather than a true rise in prevalence, and the two trends may be driven independently. What remains empirically evident and analytically significant here is that no institutional actor has addressed the question of their relationship as a necessary one. This failure represents a fundamental epistemological failure concerning how the impact of the selected development model is conceptualised and measured.

Development's other product: How extractive capitalism produces female precarity

Whereas the previous section demonstrated how women in the mining zone of Halmahera have been rendered invisible by the very system that is supposed to protect them, this section moves on to a further question: what

mechanisms actively produce these conditions? The argument put forward that the precariousness of women in Halmahera is not an unwanted by-product of mining-based development. It refers to a theoretically anticipated pattern of extractive capitalism operating through a patriarchal logic, in which women's exclusion from the formal economy is treated as a precondition for, rather than a consequence of, capital accumulation.

The most striking paradox of Halmahera's mining economy is what might be termed as a '*gendered resource curse*' – a situation in which extraordinary macroeconomic growth occurs alongside deepening poverty, which is felt disproportionately by local women. Data from the Central Statistics Agency (BPS) indicates that North Maluku's Gross Regional Domestic Product (GRDP) surged from IDR 3 trillion in 2020 to over IDR 21 trillion in 2022, with economic growth in the second quarter of 2023 reaching 23.89%—five times the national average. During the same period, the number of people living in poverty in North Maluku increased from 79,870 to 83,800; yet, tragically, Central Halmahera—as the centre of the nickel industry—recorded a poverty rate of 12%, with the *poverty depth index* continuing to rise. Economist Bhima Yudhistira from the Centre for Economic and Law Studies in Jakarta explains this paradox by pointing out that nickel expansion has disrupted the local economy, which previously relied on agriculture and fisheries. As forests and farmland are cleared and the sea becomes polluted, local communities lose their sources of income and are trapped in poverty.

In Halmahera, the above paradox manifests itself in two interrelated layers. At the first level, the spatial expansion of mining concessions has encroached upon communal lands that historically underpinned the local community's subsistence economy. Subsequent deforestation and environmental degradation have triggered widespread flooding, soil erosion, and water pollution, which directly reduce the productivity of local fishermen. Furthermore, mining companies in Halmahera consistently fail to comply with free, prior, and informed consent procedures. Affected communities report receiving very little or no compensation for these ecological burdens. At a secondary level, this *dispossession* has a gendered dimension: the eroded subsistence base is precisely the domain in which women play a central role as managers of agricultural land, processors of fish catches, and stewards of forest resources. When this economy is destroyed, women lose their source of income and the economic and social standing they have long held within the community. Both layers of the concept are none other than Harvey terms 'accumulation by dispossession'.

The exclusion of women from formal mining employment follows the Mies's pattern identifies: the industry is culturally and structurally coded as a masculine domain, so that women are excluded from formal participation before any explicit discriminatory policy is required. At IWIP Halmahera, with around 24,000 employees, the majority of whom are male migrant workers from Java, Sulawesi, and China. In other sense, the absence of local women in the formal workforce is not merely a statistic: it is an expression of the way extractive capitalism organises access to economic resources based on pre-constructed gender categories.

Fraser (2023) theoretical framework of the uncompensated appropriation of social reproductive labour provides the conceptual basis for understanding this dynamic as a form of "co-production." The mining industry simultaneously drives macroeconomic growth—often celebrated as evidence of successful development—and creates the conditions under which a commercial sex economy is likely to emerge and expand in surrounding communities. The arrival of tens of thousands of comparatively well-paid male mining workers plausibly generates substantial demand for sexual services, thereby linking extractive growth to gendered social costs that remain largely unacknowledged in official economic assessments, regulatory frameworks, and mining policies. This aligns with Mahy's (2011) empirical findings, which suggest that East Kalimantan—as the Indonesian mining region most contextually similar to Halmahera—shows that the sex economy around mines always follows the rhythm of the mining economy: expanding during the construction phase alongside short-term contract labour, and decrease during the operational phase with long-term or permanent contract labour. Correspondingly, the reported distribution of commercial sex venues along the corridor from Weda to Central Weda directly tracks the mobility routes of IWIP workers. The spatial correspondence is suggestive rather than probative, but it becomes the pattern of the framework advanced here would predict. The collapse of the subsistence economy previously managed by women has created a *pool* of women with no economic alternatives to meet their needs. The convergence of these two dynamics is best understood not as coincidental, but as a theoretically anticipated outcome of the way the mining industry structures local economies. Although this claim is explanatory and structural—and therefore requires further validation through primary data—neither state institutions nor corporate actors acknowledge the causal relationship involved. As a result, the expansion of the commercial sex market is excluded from regulatory frameworks, economic assessments, and mining policies, despite constituting a significant social cost of extractive development.

The narrative of the global green transition sits in a difficult relation to these conditions. Halmahera nickel is touted as an essential component of the world's clean energy future. The electric vehicle batteries that will reduce global carbon emissions require vast quantities of nickel. Indonesia, with the world's largest nickel reserves, is positioning itself as a key supplier of this energy transition material. Guterres, the UN Secretary-General, rightly observed that "a world powered by renewable energy is a world hungry for critical minerals". However, what is

never included in this global energy transition narrative is the gendered cost borne by local women in Halmahera. The gendered social costs borne at the point of extraction are systematically absent from the accounting by which the transition is judged sustainable.

At the individual level, the conditions described in this macro-level analysis are reflected in what Farley (2022b) terms of '*desperation exchanges*'. This refers to the exchanges in which a person who lacks access to necessities is willing to incur serious losses for the sake of their survival. Farley (2022b) further quotes Radin and Sunder (2004) that a situation in which the commodification of one's own person becomes the only means of survival for the powerless is morally unacceptable to a society that claims to respect human rights. In Halmahera, women displaced from their customary subsistence economic base due to mining expansion – yet excluded from alternative formal employment – occupy precisely in the conditions described: a state of impoverishment that is not an one structural and intentionally produced by specific policy configurations that benefit certain actors whilst imposing the costs on local women.

Neither victim nor free: Rethinking agency at the limits of possibility

The two preceding sub-sections established the structural conditions that produce women's vulnerability in the Halmahera mining zone. This subsection addresses a distinct yet equally important question: how the conceptualisation of women's subjectivity and agency within such restrictive structural conditions? Far from a purely theoretical concern, this inquiry bears direct implications for the types of interventions deemed appropriate and effective, as well as for how the legal system and policies should position women engaged in commercial sex within mining zone.

The literature on commercial sex in mining areas is generally divided between two positions, each of which contains a partial truth but fails to capture the full complexity of the actual conditions. The first position – dominant within the abolitionist tradition and much of the human rights literature – positions women in prostitution as victims devoid of meaningful agency: their choice to engage in prostitution is interpreted strictly as a product of conditions so restrictive that it fails to constitute choice in any substantive sense. This position has the strength of identifying oppressive structural conditions. However, it also risks reproducing a portrayal of women as passive objects of forces beyond their control, which paradoxically renders their own subjectivity and knowledge of their circumstances invisible. Conversely, the second position – prevailing within liberal feminism tradition and the sex workers' rights movement – conceptualises involvement in prostitution as an expression of agency and a choice that must be respected. On this view, women choose this work much like any other, meaning the criminalisation or stigmatisation of their choice infringes upon their personal autonomy. Although this stance affirms women's self-determination, it risks overlooking the structural conditions that make this specific 'choice' available whilst systematically foreclosing viable alternatives (Doezema, 2018; Hewer, 2021; Natalis, 2025; Outshoorn, 2005; Sanders et al., 2017; Shamir, 2019; Weitzer, 2012).

This article, however, does not fall between the two but occupies a third position, proposed to transcend this binary through the concept of *the constrained agenda*. The question of whether subaltern subjects can speak poses the wrong theoretical question: they do speak, act, and navigate their material realities using the logic and resources at their disposal. The critical question instead concerns the conditions under which their speech and actions are – or are not – legitimised as valid knowledge by the dominant structures. In this context, agency does not always mean resistance to existing norms: it encompasses the strategic navigation of and through those norms, leveraging accessible spaces within the structure to achieve self-defined goals, even when both those goals and the means to attain them remain conditioned by structures beyond their individual control (Wagenaar et al., 2017; Wagenaar & Altink, 2012).

In the context of women in the mining zone of Halmahera, *constrained agency* operates in concrete ways. Women involved in sex make rational economic calculations – in conditions where the subsistence economy has collapsed, access to the formal economy is closed off, and there is no adequate social protection system, selling sex thus offers a higher and faster income than the available alternatives. This is a logic that can be understood and even respected as a form of economic agency. In the East Kalimantan study discussed above, Mahy (2011) reports that women in these circumstances are economic actors pursuing strategies within a constrained field rather than passive victims reacting to external pressure.

The full scope of women's subjective experiences within the commercial sex economy of mining areas can never be fully captured through writing only, regardless of its form; however, it can at least be discerned through the available layers of data. In her field study in East Kalimantan, Mahy (2011) further documented that women working around the mines came from outside the region, were aged between their teens and 40, and none claimed to have been born and raised in the area. Philosophically, this detail is significant: these migrant women relocated to the area not out of an autonomous career choice to enter commercial sex as a career path, but through a chain of decisions—often mediated by promises of other jobs, economic pressure from their home communities, or recruitment networks exploiting their vulnerabilities—began long before their arrival. Indeed, the US Department

of State's *Trafficking in Persons* Report explicitly identifies the mining areas of Maluku as sites where women and girls are subjected in *sex trafficking*, with recruitment methods including offers of work in restaurants or factories as a cover. This reveals another critical dimension of the concept of constrained agency: for some women, even the initial decision to migrate is not based on accurate information. Their agency has been constrained not only by the absence of meaningful alternatives, but also by the falsification or withholding of information needed to make a properly informed decision ultimately.

In terms of health, data from the Leilef Community Health Centre (PKM) indicates that the sexual ecosystem developing around the Halmahera mining area encompasses a broader spectrum than merely conventional heterosexual commercial sex. It also includes sexual relations between men, as well as *waira*. All of these dynamics manifest within an environment marked by a critical scarcity of accessible, non-stigmatising health services. This finding reinforces Fricker's (2007) argument regarding hermeneutical injustice in a concrete way: not only are women's experiences of exploitation denied epistemic recognition by dominant institutions, but their bodies are also left to bear the health consequences are created and produced by an economic system that disavows responsibility for its own externalities from those consequences.

However, recognition of this agency must not be used to obscure the structural conditions that limit the agency from the outset. Indeed, what needs to be emphasised is not that these women 'choose' prostitution freely, but rather the conditions which make selling sex as the most rational option available to them are manifestations of conditions that are structurally produced and can be structurally changed. The distinction between "choosing prostitution" and "being forced to choose prostitution because all other doors have been closed" is not merely a moral one. It is a distinction that determines at which level intervention must take place. If women are understood to have freely "chosen" to engage in prostitution, the appropriate intervention is framed at the individual level through counselling, rehabilitation, or education. However, if the conditions that make selling sex the only meaningful option are structural, then the appropriate intervention must address the structures that produce those conditions.

The implications of the *constrained agency* concept for the design of policy and legal interventions are significant. This concept demonstrates that the approaches which have long dominated policies on the management of commercial sex in mining areas—whether based on criminalisation, moralisation or rehabilitation—have failed because they operate at the wrong level. Criminalising women who engaged in sex does not alter the structural conditions that produce such outcome; indeed, such criminalisation merely adds yet another layer of oppression to an already oppressive situation. Rehabilitation programmes that are not accompanied by structural changes in women's economic access merely shift women from one form of precarious situation to another. What is required, instead, is intervention that targets the conditions under which *constrained agency* becomes the only form of agency available, including improved access to the formal economy, adequate social protection, and mining policy reforms that substantively integrate gender dimensions.

Defining the problem away: How the law criminalises symptoms whilst protecting structures

The three preceding sub-sections have constructed an argument regarding women's experiences, structural production, and agency in the mining zone of Halmahera. This sub-section shifts the focus to the role of law in these dynamics. The argument put forward is that the law, in the context of Halmahera, does not merely fail to protect women: it actively contributes to the reproduction of the conditions that oppress them through how it defines the problem, identifies the subjects entitled to protection, and sets the thresholds at which intervention is considered appropriate.

Step one: What the law promises?

At the level of statutory law, the existing normative framework offers substantial protection to women vulnerable to sexual exploitation. At the international level, CEDAW obliges States Parties to take all appropriate measures to eliminate discrimination against women and ensure equality of access to economic opportunities. The Palermo Protocol obliges further states to prevent and combat human trafficking, which includes sexual exploitation driven by conditions of economic vulnerability (Fox, 2021; Natalis & Djohan, 2025). The ICESCR recognises everyone's right to an adequate standard of living and obliges states to take the necessary steps to realise this right, including by protecting individuals from economic conditions that force them into situations of exploitation. At the national level, Article 28G (2) of the 1945 Constitution provides constitutional protections against treatment that degrades human dignity. Law No. 3 of 2020 on Mineral and Coal Mining sets out the obligations of mining companies to manage the social impacts of their operations, including through community empowerment programmes and environmental management.

Step two: What happened in Halmahera?

At the law-enforcement level, a substantial gap remains between normative promises and realities on the ground. The increase in local HIV prevalence is an indirect consequence of the high mobility of mining workers and the proliferation of red-light districts around mining areas. Accommodation facilities, boarding houses, and cafés suspected of being venues for commercial sex are widespread throughout the region from Weda to Weda Tengah, yet meaningful legal intervention. The obligation of mining companies to manage the social impacts of their operations, as stipulated in the Mining Law, is not implemented in a manner that acknowledges or addresses the correlation between mining expansion and the growth of commercial sex economy in the surrounding areas. Women involved in prostitution often fail to access the legal protections available to them, whether because they are unaware of their existence, because legal processes remain inaccessible, or because the legal system defines them as perpetrators of deviant behaviour, rather than as subjects entitled to protection.

The pattern is further illustrated by the treatment of commercial sex within the framework of Indonesian law. Between 2013 and 2019, the government closed 160 red-light districts across various provinces, including in North Maluku without providing adequate economic alternatives for the sex workers affected, particularly women. Meanwhile, the impact of brothel closures is consistently highlighted in the research conducted by Beattie et al., (2013), which states that closures without adequate economic alternatives merely encourage sex workers to operate in scattered locations that are actually more dangerous. Furthermore, in the Halmahera mining area, commercial sex is now transacted in various forms utilising guesthouses, shared accommodation, and cafes scattered along the Weda corridor rather than within red-light districts, which are actually easier to monitor. This outcome was, in fact, a predictable consequence of the closure policy implemented without the provision of viable economic alternatives. It represents a concrete manifestation of the “law’s power to define”, described by Smart (1989). By defining prostitution as a moral problem that must be eliminated, the law simultaneously creates conditions that are more dangerous for women who have no alternative to escape such circumstances, whilst claiming that it has fulfilled its regulatory responsibility.

Step three: Why does this gap exist?

The gap between *written law* and *reality* in Halmahera is typically explained as an implementation problem: good laws are not properly enforced due to limited capacity, corruption, or a lack of political will. This explanation contains a grain of truth, which fails to capture a more fundamental dimension. This gap is partly due to the legal conceptual framework’s inability to recognise structural forms of exploitation that lack a single, legally identifiable perpetrator. No single actor within this system can readily be held legally accountable for the conditions experienced by women in the mining zones of Halmahera. Mining companies do not violate applicable mining laws; local governments do not act unlawfully by failing to intervene in conditions not defined as legal issues; and women selling sex are, in fact, at risk of being treated as perpetrators of legal violations. The legal system lacks a concept to capture the structural exploitation produced by a specific configuration of economic policies which, although individually legal, collectively result in exploitative conditions.

Step four: Smart criticism

Smart (1989) argues that this failure is no accident but rather an expression of *the law’s power to define*. Indonesian law defines prostitution as a matter of public morality and public order, rather than as a symptom of the economic conditions created by state-sponsored mining policies. By defining the problem at the level of individual morality, the law effectively diverts attention from the structural level where the problem is actually produced. This is not merely an intellectual failure; rather, it defines as a mechanism of power that allows the structures producing these exploitative conditions to continue operating without accountability. When the law defines women selling sex as subjects who need to be disciplined or rehabilitated, it simultaneously defines mining companies and mining policies as entities outside the scope of the problem. The legal definition of who is the perpetrator and the victim in this context actively protects the structures most responsible for the conditions being complained about.

The relationship between the *‘power to define’* proposed by Smart (1989) and *‘hermeneutical injustice’* as articulated by Fricker (2007) is crucial to understand at this point. Fricker argues that *hermeneutical injustice* occurs when the socially available conceptual resources fail to encompass experiences that need to be articulated as a form of injustice. The law is one of the most powerful institutions in shaping these conceptual resources. Existing legal concepts shape how society understands what constitutes legitimate injustice and what does not. The definition of prostitution as an individual moral issue rather than as a product of a specific extractive economic policy configuration is a sign that the law has contributed to *the hermeneutical injustice* experienced by women in mining zones: the law reinforces the absence of a conceptual framework that would allow women’s condition as victims to be recognised as a product of structural injustice requiring a systemic response.

Step five: Implications

The implications of this analysis go beyond a critique of the existing legal system. It demonstrates that legal reforms which merely modify alter the way the law treats women engaged in prostitution, without altering the way the law defines the relationship between mining policy and the social conditions it generates, are likely to reproduce the same invisibility in a new form. Substantive legal protection for women in the Halmahera mining zone requires a change in the legal definitional framework itself, recognising that the social impacts of mining policy, including the growth of the sex trade around mining areas, constitute legal issues for which all actors contributing to their production must be held accountable, not just the individuals most affected.

Implications: Towards a transformative response and beyond the limits of legal reform

The analysis presented in this article leads to an inescapable conclusion. The responses currently available to women in the Halmahera mining zone operate at the wrong level. They address the symptoms whilst the structures that produce them remain untouched. Two levels of response are required simultaneously, with a clear understanding that neither can stand alone.

At the policy level, several measures follow directly from the analysis. Mandatory, legally binding gender impact assessments must be a prerequisite for the granting of any mining license, going beyond conventional administrative formalities by explicitly identifying gender-differentiated impacts on local women's livelihoods and the subsistence economy. Affirmative access for local women to formal mining employment must be realised through quota mechanisms and specifically designed vocational training. Accessible and non-stigmatising social protection systems and health services must be established specifically for mining areas, with the funding obligation placed on mining companies as part of their social responsibility. Moreover, the implementation of CEDAW and the Palermo Protocol in mining investment regulations must be strengthened through binding due diligence mechanisms for mining companies that can be enforced.

Substantive solutions must be a main component of reformist responses, rather than merely an afterthought. Farley (2022b), who adopted the recommendations of the Beijing Platform for Action, demonstrates that normative protections have essentially no practical significance for women who, from the outset, lack access to basic needs. Effective solutions must include guaranteed access to basic needs, including physical and mental health services, as well as vocational training specifically designed for mining areas and adapted to varying conditions. Historical experience from other mining regions, documented by Laite (2009), indicates that the repression of commercial sex without concrete alternatives to address economic problems, will only push women into more vulnerable situations without freeing them from the conditions that compelled to enter those situation in the first place.

It should be noted that technical reforms to a structurally flawed system merely produce new forms of the same problems. At a transformative level—which is the minimum requirement for meaningful change—three fundamentals' components are required. First, indicators of mining development success must be redefined to include *gendered well-being indicators* that measure the distribution of benefits by gender, the loss of economic assets previously owned by women, and gender-specific vulnerabilities in mining areas. Second, accountability within the global supply chain must become an integral part of mining industry governance. Countries and companies that consume Halmahera nickel as part of their '*green transition*' narratives cannot separate the environmental sustainability they claim from the social conditions produced at the point of extraction. Third, the legal framework defining commercial sex in mining zones must be substantively reformed. This is not merely the decriminalisation of the women involved, but legal recognition that the conditions driving them into it become the product of economic policy configurations that can and must be held legally accountable.

Reform without transformation is nothing more than shifting the burden without altering the logic and structures that produce it. Transformation without reform leaves women facing concrete and urgent exploitation without protection whilst waiting for long-term structural change. What is therefore required is a strategy that implements both approaches simultaneously, with full awareness of the functions and limitations of each, whole consistently prioritising women's welfare and justice.

CONCLUSION

This study critically examines the gendered effects of extractive capitalism in Halmahera, Indonesia, with a focus on the intersection of gender, class, and mining. Despite significant economic growth driven by nickel mining – particularly through the Indonesia Weda Bay Industrial Park (IWIP) – poverty has increased, especially among local women. The analysis reveals that this paradox is not accidental but rather a predictable consequence of a development model that relies on extractive industries, which marginalise local women and their economic opportunities. The influx of male migrant workers, alongside with the destruction of traditional livelihoods, has left local women in increasingly precarious economic conditions, with the commercial sex economy emerging as

one of the few remaining income sources available to them. These conditions are further compounded by a legal system that frames prostitution as a moral problem rather than a consequence of systemic economic dispossession.

Using a feminist socio-legal approach, this study demonstrates how the experiences of these women are rendered invisible within legal and policy frameworks. The analysis identifies the structural inequalities perpetuated by the mining industry, particularly the exclusion of women from formal employment and the erosion of their subsistence economies. It introduces the concept of 'constrained agency', arguing that while women are not passive victims, their choices are severely limited due to economic and gendered exploitation. The study advocates a transformative approach that redefines mining development success to include gendered well-being indicators, holds the mining industry accountable for its role in exploitation, and ensures real economic alternatives and social protections for women.

Two qualifications should frame the interpretation of these arguments. First, the account offered here is conceptual. It specifies a structural mechanism and demonstrates that the prevailing legal framework is unable to recognise that mechanism as a form of legal harm. However, on the basis of the evidence currently available, it does not – and cannot – establish that mining expansion causes the growth of the commercial sex economy in a form that would satisfy an empirical test. The framework is offered precisely to provide a basis upon which such empirical inquiry can be designed. Second, the women whose situation is analysed in this article do not speak directly within these pages, an uncomfortable position for an argument premised on the epistemic authority of those most affected. For that reason, the field research that this article is intended to inform is not merely an optional extension of the argument but an essential condition of its integrity.

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Ethical statement

This article is based entirely on documentary and secondary sources — including legislation, court decisions, policy instruments, statistical data, government and NGO reports, and published scholarship — and does not involve the recruitment of human participants, primary data collection through interviews or surveys, or access to personally identifiable information. Accordingly, formal human-participant ethics approval and informed consent procedures were not applicable to this study.

Competing interests

There are no competing interests for this research.

Author contributions

Both authors contributed equally to all aspects of the research and manuscript preparation. Both authors read and approved the final version.

Data availability

This study is based on a secondary analysis of existing literature and publicly available data. All data supporting the findings are available in the published sources cited within this article.

AI disclosure

DeepL, ChatGPT, and Grammarly were used solely for language editing, translation support, and clarity enhancement. All content was reviewed, verified, and approved by the authors.

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