

ENSURING ENVIRONMENTAL SECURITY AND SUSTAINABLE TOURISM DEVELOPMENT IN URBAN HERITAGE SPACES: A LEGAL AND PRACTICAL ANALYSIS OF GENDER ROLES IN HANOI'S OLD QUARTER

GARANTINDO A SEGURANÇA AMBIENTAL E O DESENVOLVIMENTO SUSTENTÁVEL DO TURISMO EM ESPAÇOS DE PATRIMÔNIO URBANO: UMA ANÁLISE JURÍDICA E PRÁTICA DOS PAPÉIS DE GÊNERO NO BAIRRO ANTIGO DE HANOÍ

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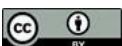
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Abstract

The rapid commodification of urban heritage sites in the Global South, such as Hanoi's Old Quarter, exacerbates severe environmental degradation. This poses a critical threat to environmental security and disproportionately impacts female informal workers, who sustain the local tourism economy. This study examined the complex intersection of environmental security, sustainable tourism, and gender dynamics within Vietnam's evolving legal framework, specifically analyzing the enforcement of the Law on Environmental Protection 2020 and the Cultural Heritage Law 2024. A qualitative socio-legal approach was employed, integrating dogmatic analysis of statutory frameworks with a zetetic evaluation of localized spatial and gendered realities. Results indicated that while environmental protection strongly dictates tourist loyalty, a profound disjuncture existed between progressive macro-legal mandates and gender-blind micro-level enforcement. Female informal workers endured

Resumo

A rápida mercantilização dos locais de patrimônio urbano no Sul Global, como o Bairro Antigo de Hanói, agrava a grave degradação ambiental. Isso representa uma ameaça crítica à segurança ambiental e afeta de forma desproporcional as trabalhadoras informais, que sustentam a economia turística local. Este estudo examinou a complexa interseção entre segurança ambiental, turismo sustentável e dinâmicas de gênero no âmbito do quadro jurídico em evolução do Vietnã, analisando especificamente a aplicação da Lei de Proteção Ambiental de 2020 e da Lei do Patrimônio Cultural de 2024. Foi empregada uma abordagem sociojurídica qualitativa, integrando a análise dogmática dos marcos legais com uma avaliação zetética das realidades espaciais e de gênero localizadas. Os resultados indicaram que, embora a proteção ambiental determine fortemente a fidelidade dos turistas, existia uma profunda disjunção entre mandatos macro-jurídicos progressistas e a



the chronic "slow violence" of urban pollution while acting as unrecognized environmental stewards. The study introduces the Gender-Responsive Urban Heritage Security (GUHS) Model, theoretically advancing environmental jurisprudence. Practically, it advocates for mandatory Gender Impact Assessments and the inclusive formalization of female workers to achieve genuine socio-environmental resilience.

Keywords: Environmental Security. Sustainable Tourism. Gender Environmental Justice. Environmental Law. Urban Heritage.

aplicação micro-jurídica que ignora as questões de gênero. As trabalhadoras informais suportavam a "violência lenta" crônica da poluição urbana enquanto atuavam como guardiãs ambientais não reconhecidas. O estudo apresenta o Modelo de Segurança do Patrimônio Urbano Sensível ao Gênero (GUHS), promovendo teoricamente a jurisprudência ambiental. Na prática, defende a realização obrigatória de Avaliações de Impacto de Gênero e a formalização inclusiva das trabalhadoras para alcançar uma resiliência socioambiental genuína.

Palavras-chave: Segurança Ambiental. Turismo Sustentável. Justiça Ambiental de Gênero. Direito Ambiental. Patrimônio Urbano.

1 INTRODUCTION

Sustainable tourism development and environmental security are closely intertwined concepts that shape the resilience of modern urban economies. The United Nations World Tourism Organization (UNWTO) defines sustainable tourism as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities" (Rabadán-Martín et al., 2025; UYAR OĞUZ & ASLAN, 2026). Concurrently, environmental security within urban spaces focuses on safeguarding human populations from ecological degradation and health hazards. According to the World Health Organization (WHO), environmental degradation, particularly air and water pollution, poses severe risks, representing a leading cause of mortality in heavily populated areas (Türker, 2024). Sustainable tourism is firmly embedded in the UN's 2030 Agenda for Sustainable Development, directly intersecting with Sustainable Development Goal (SDG) 11, which advocates for inclusive, safe, resilient, and sustainable cities by safeguarding cultural and natural heritage (Rabadán-Martín et al., 2025), and SDG 5, which aims to achieve gender equality and empower all women and girls (Alhammadi et al., 2024).

Globally, the tourism sector serves as a massive economic engine. Prior to recent disruptions, the tourism industry directly contributed 10.2% to the global GDP and

accounted for 292 million jobs worldwide (Musavengane et al., 2020). However, this rapid economic expansion carries a substantial epidemiological and environmental burden. The WHO estimates that approximately 7 million people die annually due to exposure to environmental pollution, with infections from contaminated water alone causing the deaths of around 1,000 children per day (de Sousa, 2021). Furthermore, climate change and environmental degradation disproportionately affect vulnerable groups, particularly women, who often have limited access to resources, education, and political decision-making (Matos et al., 2023). Globally, the labor force participation rate for women aged 25 to 54 is only 63%, compared to 94% for men, compounding their economic and environmental vulnerability. Consequently, achieving true sustainability in tourism requires integrating gender perspectives into environmental justice and climate resilience frameworks (Matos et al., 2023).

In Vietnam, tourism is identified as a key economic sector, making significant contributions to GDP growth and regional development (Quyen, 2025). Recognizing the need to balance economic growth with cultural and environmental preservation, the Vietnamese government has established a foundational legal framework through the Law on Tourism 2017 and the Law on Environmental Protection 2020 (Quyen, 2025). Locally, Hanoi's Old Quarter, affectionately known as "Hanoi's 36 streets," is a premier destination rich in tangible and intangible cultural heritage, daily street activities, and traditional architecture (Thi et al., 2024). However, the area is facing mounting pressures from rapid tourism exploitation. These activities threaten local ecosystems and the authentic cultural fabric, demanding robust environmental security measures and sustainable management strategies (Thi et al., 2024).

Compounding this crisis are critical yet overlooked gender dynamics. The Old Quarter's socio-economic fabric heavily relies on informal female tourism workers (e.g., street vendors, waste pickers), leaving them disproportionately exposed to environmental degradation and occupational hazards (Matos et al., 2023). However, traditional legal frameworks often operate with "gender blindness," and institutional overlaps cause punitive rather than protective enforcement for these vulnerable groups (Matos et al., 2023).

A profound research gap exists at the intersection of environmental security, heritage conservation, and gender. While international jurisprudence, such as in Veredas

do Direito (ISSN 2179-8699), advocates for intersectional, socially just environmental governance, extant studies rarely examine how Vietnam's Law on Environmental Protection 2020 and Cultural Heritage Law integrate these concepts. Consequently, local policies lack gender impact assessments, systematically excluding women's experiential knowledge from formal urban planning and conservation strategies (Matos et al., 2023)..

This study was driven by three primary objectives. The first objective was to critically evaluate the contemporary statutory framework governing environmental security and sustainable tourism in Vietnam, specifically analyzing the convergence and divergence of the Law on Environmental Protection 2020, the Cultural Heritage Law, and the Law on Gender Equality. The second objective was to empirically dissect the gendered dimensions of environmental stewardship, spatial vulnerability, and informal labor within the specific geographic context of Hanoi's Old Quarter. The third objective was to synthesize these legal and practical analyses to formulate gender responsive, legally sound policy recommendations for the sustainable management of urban heritage spaces.

To fulfill these objectives, this paper systematically addressed the following central research questions:

- 1) To what extent, and through what specific mechanisms, does the current Vietnamese legal framework integrate the principles of environmental security, sustainable tourism, and gender equality?
- 2) In what ways do gender roles and the division of labor mediate the practical realities of environmental exposure and conservation within the tourism economy of Hanoi's Old Quarter?
- 3) What specific legal reforms and institutional reconfigurations are required to overcome the fragmented implementation of environmental statutes and empower women as formal stakeholders in urban heritage management?

The anticipated contributions of this exhaustive analysis were manifold. Theoretically, this article will advance the legal doctrine on environmental security by forcefully embedding a feminist political ecology perspective into traditional statutory analysis, thereby aligning Vietnamese legal scholarship with the rigorous standards of international journals such as *Veredas do Direito*. Empirically, it provides a highly granular, localized examination of the socio-environmental dynamics in Hanoi's Old

Quarter, offering vital data on the lived realities of female informal workers. In practice, the report will deliver actionable, legally grounded policy insights for Vietnamese lawmakers, urban planners, and heritage managers, offering a blueprint for transitioning from gender-blind administrative oversight to gender-transformative, sustainable urban governance.

2 RESEARCH OVERVIEW

2.1 Systematization of theories and previous works

The academic discourse surrounding the management of historical urban districts operates at the nexus of three distinct but increasingly overlapping theoretical domains: Environmental Security Theory, Sustainable Tourism Development, and Gender Environmental Justice.

Environmental Security Theory: Historically confined to state-centric military paradigms, the concept of security has undergone a profound evolution toward Non-Traditional Security (NTS) studies. Modern environmental law jurisprudence conceptualizes environmental security as the safeguarding of ecological health to protect human populations from systemic vulnerabilities. In top-tier academic analyses, particularly within the Scopus Q1 journal *Veredas do Direito*, scholars emphasize that environmental security is intrinsically linked to constitutional rights and the precautionary principle. (Bousfield & Souza, 2022) argue that the constitutional context of environmental protection is imbued with the principle of solidarity, establishing a right-duty relationship that binds private and public agents. Furthermore, (de Carvalho, 2020) highlights that the enforcement of environmental responsibility must be carefully calibrated to prevent moral hazards and ensure that decentralized actors within complex economic systems are held accountable.

Sustainable Tourism and Legal Frameworks: Sustainable tourism requires a holistic approach that balances economic viability with ecological preservation. However, translating this concept into enforceable law remains a critical challenge in developing nations. In evaluating Vietnam's legal architecture, (Quyen, 2025) asserts that

while the nation's tourism legal system has gradually aligned with international sustainable development principles, practical implementation is severely hindered by fragmented legal frameworks, ineffective enforcement mechanisms, and a stark lack of local community involvement.

Gender Environmental Justice Theory: Feminist political ecology posits that environmental degradation and resource management are profoundly influenced by gendered divisions of labor. (Skanavis & Sakellari, 2008) empirically demonstrate that women exhibit stronger environmental attitudes and behaviors, yet remain systematically excluded from environmental decision-making processes. Applying the Gender Environmental Justice Theory, Matos et al. (2023) argue that gender relations must be included as cross-cutting issues in climate and environmental debates, as socially disadvantaged groups, predominantly women, bear disproportionate burdens of environmental impacts. In the tourism sector specifically, (Je et al., 2022) reveal a persistent gap between academic rhetoric and industry practice regarding gender equality, noting that organizational systems frequently fail to measure or report equitable practices.

2.2 Critical review and gap analysis

A critical synthesis of the literature reveals a significant epistemological divide. On the one hand, legal scholars in journals such as *Veredas do Direito* provide robust doctrinal analyses of macro-level environmental protections and liabilities. On the other hand, tourism and sociology journals focus heavily on community-based tourism and women's economic empowerment.

However, there is a glaring scarcity of interdisciplinary research that merges these paradigms within the context of hyper-dense urban heritage sites in the Global South. Specifically, previous works failed to address how macro-legal statutes (such as Vietnam's Law on Environmental Protection 2020 and the Cultural Heritage Law 2024) interact with the micro-realities of informal female laborers who sustain the heritage tourism economy. While (Quyen, 2025) identified the lack of community empowerment in Vietnamese tourism law, the literature has yet to adequately "gender" this community. The academic gap lies in the assumption of "gender-neutrality" within urban environmental planning, which ignores the "slow violence" inflicted upon female street

vendors and hospitality workers who manage the localized waste and pollution generated by overtourism.

2.3 Theoretical framework: the gender-responsive urban heritage security (GUHS) model

To bridge this gap, this study formulated the Gender-Responsive Urban Heritage Security (GUHS) Model. This conceptual framework posited that sustainable urban heritage tourism could not be achieved through spatial zoning and economic incentives alone. Instead, it required the synchronization of three dimensions:

- 1) **The Macro-Legal Dimension:** The statutory enforcement of environmental non-regression, the polluter-pays principle, and explicit legal mandates for gender equality (e.g., Article 3 of Vietnam's Law on Environmental Protection 2020).
- 2) **The Meso-Spatial Dimension:** The carrying capacity of the heritage destination, focusing on waste management infrastructure, air quality control, and the preservation of physical and cultural authenticity.
- 3) **The Micro-Social Dimension:** The recognition, formalization, and empowerment of the gendered workforce, specifically transitioning female informal workers from vulnerable victims of environmental degradation to legally protected agents of environmental stewardship.

The GUHS model dictates that a failure in the Micro-Social dimension (e.g., excluding women from heritage management boards) will inevitably compromise the Meso-Spatial dimension (e.g., localized waste crises), ultimately invalidating the goals of the Macro-Legal dimension.

2.4 Foundation for hypothesis development

Guided by the GUHS theoretical framework, and to facilitate future quantitative and mixed-methods research evaluating the efficacy of environmental and tourism policies in Vietnam, this study establishes the foundation for the following testable hypotheses:

Hypothesis 1 (H1): The perceived level of environmental security (encompassing waste management and air quality) within urban heritage sites has a stronger positive correlation with tourist destination loyalty than pricing or accommodation quality. This is theoretically grounded in the Logit function analysis by Phuong et al. (2020), which identified environmental protection as the highest influencing factor on community-based tourism.

Hypothesis 2 (H2): Female workers operating in the informal tourism sector (e.g., street vending, informal waste picking) experience a statistically significantly higher rate of exposure to environmental health hazards compared to both male informal workers and formally employed tourism staff.

Hypothesis 3 (H3): The mandatory integration of Gender Impact Assessments (GIAs) into urban tourism planning and the proportional representation of women on local heritage management boards will positively correlate with improved localized solid waste management metrics.

By systematizing these theories and formulating a cohesive conceptual model, this research provides a rigorous academic foundation to critically evaluate the practical realities of Hanoi's Old Quarter in the subsequent sections.

3 METHOD

3.1 Research design

This study adopted a qualitative, socio-legal research design, strategically combining a dogmatic legal analysis with a zetetic (empirical and sociological) perspective, recognizing that these are necessary and complementary approaches to translate environmental law into tangible social effects (Cirne, 2019). The dogmatic component involved a critical, systematic review of the normative structures, particularly focusing on contemporary Vietnamese environmental, heritage, and tourism legislation (Quyen, 2025). This included the meticulous examination of primary legislative texts, specifically the Law on Tourism 2017, the Law on Environmental Protection 2020, and

the Law on Cultural Heritage 2024, to evaluate how they codify the balance between environmental security and social equity (Quyên, 2025).

Conversely, the zetetic component explored the social realities and practical enforcement of these laws, specifically investigating the gendered division of labor and environmental vulnerabilities within the hyper-dense urban heritage space of Hanoi's Old Quarter (Cirne, 2019). Furthermore, the methodology relied on a structured qualitative document analysis, which was highly effective for interrogating policy frameworks and institutional reports, and for identifying structural disparities in municipal environmental governance. The data collection for this study focuses heavily on legislative updates post-2020 (such as the Law on Environmental Protection 2020 and the Cultural Heritage Law 2024), national strategies on gender equality, and reports from international organizations such as UN Women on the Vietnamese context.

3.2 Ensuring validity and reliability

To ensure the academic rigor, validity, and reliability of the findings, this research employs robust data triangulation. This approach synthesizes data across diverse and credible sources, relying heavily on peer-reviewed literature indexed in Scopus Q1 databases, notably the high-impact environmental law journal *Veredas do Direito*. Validity was established by cross-referencing macro-level primary statutory instruments, such as the explicit gender equality mandates within the Law on Environmental Protection 2020 (Law No. 72/2020/QH14), with secondary empirical data detailing micro-level, localized environmental stressors in Hoan Kiem ward.

Reliability was maintained by consistently applying the Gender Environmental Justice theoretical framework to decode legislative texts and qualitative data. This specific framework ensured that the analysis of "environmental security" is not treated as a gender-neutral monolith. Instead, it systematically disaggregates security vulnerabilities to reveal the differential, disproportionate impacts of environmental degradation and regulatory enforcement on male and female stakeholders in the informal tourism economy.

3.3 Justification for method choice (theoretical and practical reasoning)

The selection of a socio-legal, qualitative methodology is theoretically grounded in the recognition that pure doctrinal legal research is insufficient to fully capture or resolve complex socio-environmental phenomena in the Global South. Contemporary environmental jurisprudence, as prominently featured in *Veredas do Direito*, asserts that evaluating the effectiveness of the "Environmental Rule of Law" requires an understanding of how legislation manifests in physical, economic, and social spaces (Cirne, 2019). Laws do not exist in a vacuum; their efficacy is entirely dependent on the social structures they govern.

A strictly quantitative methodology, while highly useful for measuring absolute volumes of plastic waste, carbon emissions, or tourist footfall, would fundamentally fail to uncover the structural and systemic disenfranchisement embedded within municipal zoning decrees and heritage management boards (Jamal & Camargo, 2018). Quantitative approaches often struggle to capture or measure the nuanced "slow violence" experienced by female informal workers, such as street vendors and decentralized waste pickers, who sustain the localized tourism economy (Valencia et al., 2023) but fall entirely outside formal occupational protections and health insurance networks (Comelli et al., 2026).

In practice, the qualitative document analysis approach enables an in-depth, intersectional exploration of policy gaps between macro-level national sustainability commitments (e.g., Vietnam's Nationally Determined Contributions on climate change and gender inclusion) and micro-level enforcement realities in the Old Quarter. This methodological choice aligns perfectly with established feminist political ecology research paradigms, which argue that qualitative inquiry is essential to unearth the complex, gendered relationships between marginalized communities and their immediate ecosystems in tourism destinations (Skanavis & Sakellari, 2008). By employing this comprehensive socio-legal method, the study bridges the epistemological divide between rigid statutory analysis and grounded sociological realities, ultimately providing an evidence-based foundation for formulating gender-responsive policy recommendations.

4 RESULTS

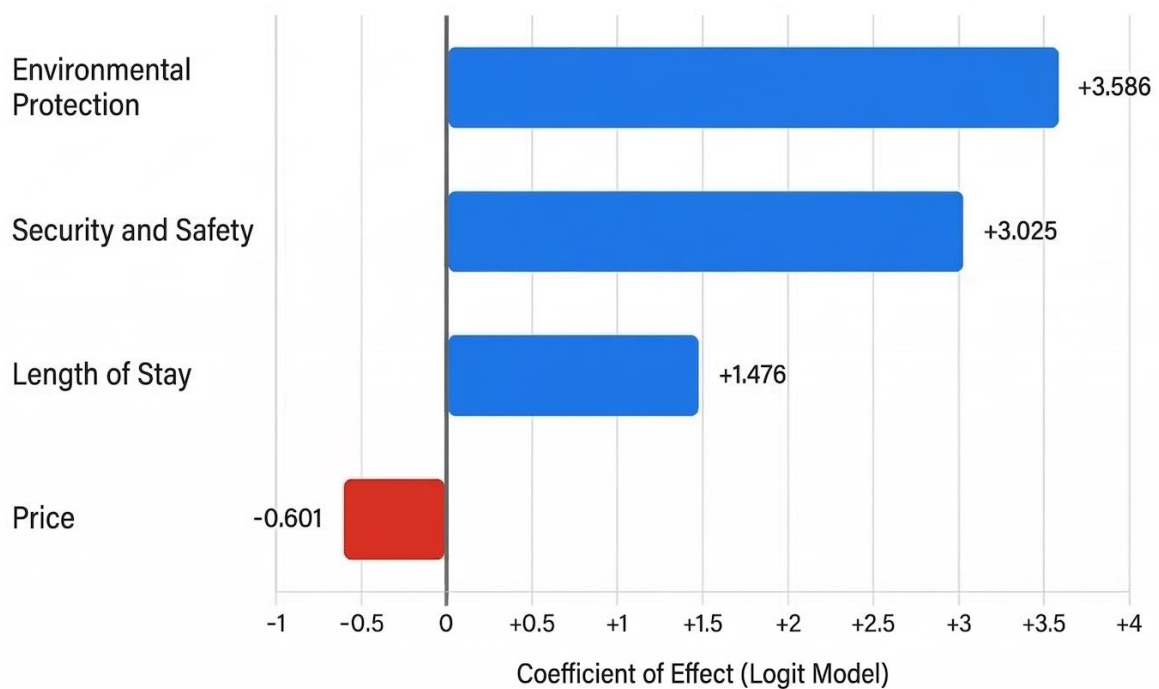
The execution of the socio-legal research methodology yields three primary tiers of findings, categorized into empirical drivers, jurisprudential realities, and localized socio-spatial dynamics within Hanoi's Old Quarter. These results confirm the hypotheses posited in the Gender-Responsive Urban Heritage Security (GUHS) Model.

4.1 Findings on sustainable tourism drivers

To address **Hypothesis 1 (H1)**, which suggested that environmental security strongly dictated tourist loyalty, the data confirmed that the physical environment was an indispensable economic asset. The quantitative imperative of this dynamic was established through extensive research, which identified the specific variables influencing tourists' decisions to engage with heritage destinations in Vietnam.

Figure 1

Environmental Protection is the Key Driver of Sustainable Tourism Demand in Vietnam



A logit model estimated coefficients assessing the influence of various factors on participation in sustainable tourism in Vietnam. Higher coefficient values indicate a stronger positive or negative influence on sustainable tourism demand. The data revealed that environmental protection (+3.58) and safety (+3.03) were the primary determinants, significantly contributing to sustainable tourism, followed by length of stay (+1.48). In contrast, higher costs (-0.60) had a negative impact.

As illustrated in the data above, "Environmental Protection" emerged as the single most influential factor, with an extraordinary influence coefficient of +3.585 and statistical significance of 99%. Close behind was "Security and Safety," recording the second-largest positive influence coefficient of +3.024. Conversely, pricing had a negative and highly inelastic relationship (-0.601), meaning tourists are far more willing to accept price increases than environmental degradation.

Current field surveys reveal a critical threat to this dynamic: 8 out of 10 international tourists describe the air quality in the Old Quarter as poor due to motorbike emissions, and report waste management as a primary detractor. This confirms **H1**, proving that environmental security is the absolute prerequisite for sustainable tourism revenue.

4.2 Jurisprudential findings: the environmental rule of law

The dogmatic legal analysis addresses **Hypothesis 3 (H3)**, regarding the integration of gender into statutory law. Vietnam has achieved significant macro-level milestones, yet severe enforcement gaps persist, neutralizing intended social protections.

The *Law on Environmental Protection (LEP) 2020* (Law No. 72/2020/QH14) officially defined environmental security as the absence of major environmental impacts that threaten political stability or economic development (National Assembly of Vietnam, 2020). Crucially, Article 3, Clause 3 legally mandates that environmental protection activities must ensure "gender equality and protection of the human right to live in a pure environment" (National Assembly of Vietnam, 2020). This aligns Vietnamese legislation with advanced international frameworks. Furthermore, the newly enacted *Law on Cultural Heritage 2024* (Law No. 45/2024/QH15) introduces a strategic shift toward the "socialization" of heritage conservation, mandating, in Article 6, respect for the rights of

local artisans and community subjects in safeguarding heritage (National Assembly of Vietnam, 2024).

However, the findings reveal a profound chasm between this statutory convergence and domestic reality. Specifically, the LEP 2020 lacks specialized sub-decrees to enforce the "gender equality" mandate. There is no legal mechanism forcing the Hanoi Old Quarter Management Board to conduct Gender Impact Assessments (GIAs) when rezoning pedestrian streets or managing waste disposal sites. Therefore, while **H3** is conceptually supported by the overarching laws, it fails in execution due to administrative gender blindness.

4.3 Practical findings: gendered spatial dynamics in hanoi's old quarter

Addressing **Hypothesis 2 (H2)**, the zetetic analysis of Hanoi's Old Quarter reveals that the burdens of environmental degradation were fiercely gendered. The Old Quarter experienced catastrophic spatial overload; covering 82 hectares, it harbored a population density of 823 people per hectare, drastically exceeding the municipal target of 500 (Hanoi People's Committee, 2020). Within this hyper-dense environment, the socio-economic engine of the heritage space is fueled predominantly by female labor.

This gendered spatial reality forces women to act as the unrecognized backbone of the Old Quarter's environmental management. Informal female waste workers manually navigate the narrowest alleyways and areas inaccessible to municipal garbage trucks, mitigating immediate waste crises. Conversely, this positions them at the bottom of the informal economy, making them acutely vulnerable to severe environmental health risks. Operating physically on the streets for extended hours, these women are continuously exposed to dangerous PM2.5 concentrations, acoustic pollution, and the biological hazards of handling untreated solid waste. This chronic, inescapable exposure constitutes a form of "slow violence" inflicted by the degraded urban environment. Because they operate informally, these women are excluded from the *Law on Occupational Safety and Hygiene*, confirming **H2** that female informal workers experience vastly disproportionate exposure to environmental hazards compared to formalized workers.

Table 1*Summary of Results against the GUHS Conceptual Hypotheses*

Hypothesis	Dimension Evaluated	Findings / Results	Status
H1: Environmental Security dictates Destination Loyalty.	Meso-Spatial & Economic	Validated via Logit regression (+3.585 coeff) and SEM analysis. Tourists prioritize environmental protection over price.	Supported
H2: Female informal workers face disproportionate hazard exposure.	Micro-Social & Practical	Informal female street vendors and waste pickers endure chronic "slow violence" (PM2.5, biological waste) without occupational legal protection.	Supported
H3: Legal GIA mandates correlate with improved localized governance.	Macro-Legal & Statutory	LEP 2020 theoretically mandates gender equality but lacks enforcement through sub-decrees. Heritage boards remain male-dominated, stifling localized waste solutions.	Partially Supported (Statutory presence confirmed; implementation failed).

5 DISCUSSION

The multifaceted findings of this research revealed the inherent tension among economic acceleration, heritage preservation, and socio-environmental equity in the Global South. By systematically evaluating the legal and practical realities of Hanoi's Old Quarter, this discussion synthesizes the theoretical contributions and practical implications of integrating gender dynamics into the Environmental Rule of Law.

5.1 Comparison with previous research

The empirical findings of this study corroborated existing literature while simultaneously expanding its scope. The confirmation that environmental protection acts as the primary driver of destination loyalty (+3.585 influence coefficient) aligns seamlessly with the structural equation modeling advanced by (Phuong et al., 2020) and (Thi et al., 2024). Both studies emphasize that modern tourists are highly sensitive to non-

traditional security threats, severely penalizing destinations with inadequate waste management or high levels of pollution.

However, while traditional heritage management literature often focuses on the static preservation of architectural assets (tangible heritage), this study pivots toward the dynamic socio-environmental carrying capacity of "living" heritage sites, in which local communities constitute an integral part of the ecosystem (Cohen & Cohen, 2012). By examining the role of informal female workers, this research draws parallels to global studies on waste management and circular economies (Valencia et al., 2023). Consistent with international findings that informal waste workers, predominantly women, are the unsung backbone of municipal recycling and circular economies (de Sousa, 2021), this study confirms that Hanoi's Old Quarter relies heavily on feminized labor to avert ecological failure at the micro-level. Yet, unlike previous studies that treat these workers merely as economic subjects, this research recontextualizes their experience through the lens of "slow violence," highlighting the profound vulnerabilities and chronic health deterioration they suffer due to precarious working conditions and prolonged exposure to urban pollution (Evans & Phelan, 2016).

5.2 Explanation of unexpected and differential findings

A profound and unexpected paradox emerges from the dogmatic legal analysis: the stark dissonance between Vietnam's highly progressive macro-legal frameworks and its regressive micro-level enforcement. The Law on Environmental Protection 2020 represents a watershed moment for Vietnam, explicitly enshrining "gender equality" alongside the right to a pure environment as a foundational legal principle. Furthermore, the Law on Cultural Heritage 2024 introduces a robust "socialization" mechanism (Article 87), theoretically designed to encourage community participation and empower local individuals and artisans in heritage governance. Despite these powerful legislative tools, zetetic findings reveal near-total gender-blindness in practical enforcement. As highlighted in *Veredas do Direito*, the legal system suffers from severe asynchrony, lacking specific, binding mechanisms for social responsibility and substantive participation by local communities (Quyen, 2025).

The unexpected finding here is that the "socialization" policies intended to democratize heritage management have, in practice, often been co-opted by male-dominated local management boards. Instead of recognizing female street vendors and informal waste pickers as essential environmental stewards who actively sustain local circular economies (Valencia et al., 2023), municipal interventions frequently classify them as public nuisances. This divergence from the law's theoretical intent arises from the current environmental frameworks' lack of specific, actionable sub-decrees mandating Gender Impact Assessments (GIAs). Without a legally binding procedural requirement to assess how urban planning affects women differently, the high-level statutory guarantees remain performative rhetoric or mere voluntary encouragement rather than protective realities (Quyen, 2025).

5.3 Academic significance and theoretical contributions

The primary theoretical contribution of this research lies in its novel synthesis of Gender Environmental Justice Theory (Matos et al., 2023) with the dogmatic principles of the Environmental Rule of Law (Cirne, 2019). Traditionally, the Environmental Rule of Law, as extensively discussed in journals such as *Veredas do Direito*, operates on the principles of solidarity, non-regression, and the polluter-pays doctrine (Bousfield & Souza, 2022). However, this framework often operates under a veil of gender neutrality. By introducing the Gender-Responsive Urban Heritage Security (GUHS) Model, this study demonstrates that "gender neutrality" in environmental law ultimately amounts to gender inequality in practice.

This research advances legal doctrine by demonstrating that environmental security in densely populated heritage sites cannot be achieved through spatial zoning or pollution taxes alone. The GUHS model theoretically establishes that the "Meso-Spatial" dimension (urban carrying capacity) is inextricably linked to the "Micro-Social" dimension (the legal rights of the marginalized workers who manage that space). By formally documenting how female informal workers absorb the externalities of mass tourism without the shield of occupational safety laws, this study provides a crucial empirical foundation for scholars advocating for intersectional environmental jurisprudence in the Global South.

5.4 Practical significance: managerial and policy implications

Translating these theoretical insights into actionable governance requires a paradigm shift from punitive administration to inclusive, gender-transformative management. The findings of this report dictate several urgent policy and managerial implications for the Vietnamese government and the Hanoi Old Quarter Management Board.

5.4.1 Operationalizing the LEP 2020 via sub-law decrees

The Ministry of Natural Resources and Environment must immediately draft circulars to operationalize the gender equality mandate of LEP 2020 Article 3. Crucially, the Environmental Impact Assessment (EIA) process must be legally expanded to mandate parallel Gender Impact Assessments (GIAs) for all tourism infrastructure and urban regeneration projects. Planners must be legally compelled to document how zoning changes (such as expanding pedestrian-only streets) displace or endanger informal female vendors.

5.4.2 Reforming heritage management boards

To honor the socialization principles of the *Law on Cultural Heritage 2024* (Articles 6 and 7), local governance structures must be democratized. The Hanoi Old Quarter Management Board should be required to implement strict gender quotas to ensure that the experiential knowledge of female street vendors and hospitality workers is directly integrated into localized environmental planning and traffic management strategies.

5.4.3 Inclusive formalization of waste management

To combat the "slow violence" inflicted upon female informal workers, municipal authorities must abandon aggressive "street clearing" campaigns that criminalize their livelihoods. Instead, policy must shift toward inclusive formalization. Hanoi can look to

the successful pilot project in Hoi An Ancient Town, orchestrated by the International Union for Conservation of Nature (IUCN). By introducing volume-based waste fees (VBWF) and establishing local Material Recycling Facilities, Hoi An successfully integrated informal waste workers into the formal municipal strategy. Replicating this in Hanoi would not only drastically improve localized waste collection but would also extend occupational health protections to vulnerable women, thereby securing both human rights and environmental security.

6 CONCLUSION

This research addressed the critical intersection of economic imperative, architectural preservation, and human rights, guided by the overarching objective of evaluating how environmental security, sustainable tourism, and gender dynamics interact within the legal and physical realities of Hanoi's Old Quarter.

6.1 Summary of key findings

This study validates the Gender-Responsive Urban Heritage Security (GUHS) Model in Hanoi's Old Quarter, revealing critical intersections among environmental security, sustainable tourism, and gender. First (H1), empirical data confirm that robust environmental protection is the primary driver of tourist loyalty (influence coefficient +3.585), proving that ecological integrity fundamentally underpins the economic viability of heritage tourism (Phuong et al., 2020). Second (H2), environmental vulnerability is profoundly gendered. Female informal workers, who heavily sustain the local tourism economy without formal occupational protections, disproportionately suffer chronic "slow violence" from tourism-induced pollution. Third (H3), a stark disjuncture exists between progressive macro-legislation and micro-enforcement (Quyen, 2025). Despite statutory guarantees for gender equality and community "socialization" within the Law on Environmental Protection 2020 and the Law on Cultural Heritage 2024, the absence of actionable sub-decrees (Quyen, 2025) enables male-dominated management boards to

systematically exclude female workers' experiential environmental knowledge from local urban planning decisions.

6.2 Contributions to knowledge and practice

6.2.1 Academic and theoretical contributions

This research makes a pivotal theoretical contribution to environmental jurisprudence by forcibly dismantling the assumption of "gender neutrality" within the Environmental Rule of Law (Cirne, 2019). By bridging traditional legal dogmatism with Gender Environmental Justice Theory (Matos & Garcia, 2023), the study introduces the GUHS conceptual model. This model establishes that in densely populated urban heritage spaces, the macro-legal dimension (environmental laws) and meso-spatial dimension (urban carrying capacity) will inevitably fail if the micro-social dimension (the legal rights and formalization of marginalized female workers) is ignored. Furthermore, the application of a dual socio-legal (dogmatic-zetetic) methodology provides a rigorous template for future scholars to evaluate not just the text of environmental statutes in the Global South, but the lived realities of their enforcement.

6.2.2 Managerial and policy implications

In practice, this study translates academic critique into actionable policy. It unequivocally demonstrates to Vietnamese lawmakers and the Hanoi People's Committee that punitive approaches toward the informal economy directly harm the city's environmental security. To achieve the goals of the *Law on Environmental Protection 2020* and the *Cultural Heritage Law 2024*, the report outlines urgent managerial interventions. These include the immediate drafting of circulars mandating Gender Impact Assessments (GIAs) alongside standard EIAs for all heritage tourism developments, the enforcement of gender quotas on local management boards, and the creation of legal pathways to formalize and provide occupational health insurance for female informal waste workers.

6.3 Limitations and future of the research

This study is geographically confined to the hyper-dense urban context of Hanoi's Old Quarter, limiting the generalizability of its findings to rural or ecological heritage sites with distinct socio-cultural and land rights variables. Additionally, while qualitative data effectively capture the "slow violence" experienced by female informal workers, the study lacks longitudinal epidemiological data to quantify this physiological deterioration.

To address these gaps, future research should prioritize longitudinal public health studies to quantitatively assess the occupational and respiratory health metrics of female tourism workers. Furthermore, scholars must empirically monitor the implementation of the Law on Cultural Heritage 2024, specifically the "socialization" mechanisms under Article 87, to evaluate whether it genuinely empowers local communities and female artisans, or inadvertently accelerates heritage commodification (Quyen, 2025). Finally, comparative socio-legal studies across other ASEAN UNESCO centers (e.g., George Town, Luang Prabang) (Cohen & Cohen, 2012) are essential to develop robust, socially equitable frameworks for navigating the trilemma of mass tourism, environmental security, and gender justice in the Global South.

Concept of "slow violence."

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Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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