

Urban Vulnerability, the Right to the City, and Ecovocation: Migrant Women in Covert Spa-Based Sex Work in Jakarta

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Abstract

This article presents a secondary interpretive reanalysis of qualitative material from a Jakarta research program on migrant women engaged in covert spa-based sex work. It asks how labor-market exclusion, gendered responsibility, socio-spatial marginalization, institutional protection gaps, and socio-ecological disadvantage interact, and how those findings can inform a conceptually bounded ecovocation framework within Population and Environmental Education (PEE). The analytic corpus contains pseudonymized interview material from migrant women/SPA workers and contextual informants in legal-aid/NGO, academic, public-sector, and community settings, supported by observation and documentary material from the original research. The reanalysis identifies six interacting dimensions of vulnerability—economic, labor, legal/protection, symbolic, citizenship, and environmental—and traces a cumulative pathway from livelihood disruption and constrained migration to insecure work, stigma, uneven protection, and environmental exposure. Ecovocation is developed as an integrative rights-capability proposition linking critical urbanization literacy, environmental justice literacy, legal and labor literacy, non-stigmatizing vocational empowerment, and citizenship advocacy. The framework is not presented as an intervention whose effectiveness has already been established. Its contribution is to connect PEE with substantive freedom, environmental justice, and the right to the city while distinguishing empirical findings from conceptual interpretation and future policy implications.

1. Introduction

Urbanization can expand economic opportunity while also redistributing risk unevenly. In rapidly growing metropolitan regions, the benefits of urban development are mediated by education, documentation, labor-market position, housing, social networks, gender, and access to public institutions. The analytical problem is therefore not simply that migration increases competition for jobs; it is that some groups enter the city with systematically weaker capabilities to convert urban growth into secure work, safe housing, legal protection, and meaningful participation (Adger et al., 2020; Gadgil & Baker, 2017; Niva et al., 2019; Padawangi, 2022).

Jakarta provides an important setting for examining this problem. Official statistics show that in February 2025 the labor force comprised 5.47 million people, 5.14 million were employed, 62.05% of workers were in formal employment, and the open unemployment rate was 6.18%. In September 2024, 449.07 thousand residents (4.14%) were classified as living in poverty (BPS-Statistics DKI Jakarta Province, 2025a, 2025b). These indicators do not explain migrant women's experiences by themselves; their function is to situate the qualitative case within a labor market and urban economy in which access to secure employment and resources is uneven.

Research has documented gendered migration, informal labor, urban exclusion, environmental vulnerability, and the marginalization of sex workers (Berg, 2015; Nooteboom, 2019; Patnaik, 2023; Utomo et al., 2013). Indonesian research further shows that education and migration are spatially differentiated and do not automatically translate into secure mobility (Malamassam, 2022). What

remains less developed is an integrated account of how labor, legal/protection, symbolic, citizenship, and environmental conditions become mutually reinforcing for migrant women in covert spa-based sex work and what this means for PEE. Internationally, the closest broader field is environmental and sustainability education, which increasingly emphasizes critical, system-oriented and lifelong learning rather than information transfer alone (Sterling, 2010; Wals & Benavot, 2017).

This article addresses two linked gaps. Empirically, relevant scholarship often examines migration, informal labor, environmental inequality, gendered precarity, and sex-work marginalization in parallel rather than as an interacting vulnerability system. Conceptually, PEE has rarely been articulated as an educational framework that simultaneously addresses environmental exposure, labor rights, livelihood capabilities, and substantive urban citizenship. The article therefore develops ecovocation as a bounded rights-capability proposition that connects ecological conditions with labor protection, feasible livelihood choices, recognition, and participation.

The present article is explicitly differentiated from two earlier publications from the same Jakarta research program. One examined PEE as social advocacy for migrant women, while the other evaluated ecovocation as rights-based learning (Syaifudin et al., 2025, 2025). The current article does not claim a new primary dataset. Instead, it undertakes a distinct secondary interpretive reanalysis focused on the interaction among vulnerability domains and on the theoretical relationship among the Capability Approach, environmental justice, the right to the city, and PEE. This disclosure is important for both methodological transparency and the delimitation of the article's novelty.

Accordingly, the study asks: (1) How do urban labor, socio-spatial, institutional, and environmental conditions in Jakarta produce and reproduce structural vulnerability among migrant women engaged in covert spa-based sex work? (2) How can the empirical findings inform a conceptually bounded ecovocation framework within PEE that links capability expansion, environmental justice, and the right to the city?

2. Literature Review and Theoretical Positioning

The review is organized around three bodies of scholarship corresponding to the study's empirical and conceptual problem: urbanization and gendered informal labor; the right to the city and differentiated citizenship; and PEE in relation to capability, environmental justice, and transformative sustainability education. Each literature explains a significant part of the problem, but none by itself integrates livelihood capability, socio-ecological exposure, rights literacy, and rights-claiming within a single educational response. Ecovocation is positioned at this intersection rather than as a replacement for established theories.

2.1 Urbanization, informal labor, and gendered vulnerability

Urbanization reorganizes access to employment, housing, services, and social recognition. Migrants with limited educational credentials, weak networks, or insecure administrative resources are more likely to

enter informal or precarious work (Gadgil & Baker, 2017; Malamassam, 2022). For women, labor-market segmentation intersects with gendered responsibilities for care and family income, so migration may expand earning opportunities while reproducing precarity (Nooteboom, 2019; Utomo et al., 2013; Zoomers, 2018). Migration decisions are therefore better understood as choices made within unequal opportunity structures and uncertainty rather than as expressions of unconstrained preference (Zingari et al., 2023).

This study adopts the concept of constrained agency rather than assuming either complete victimhood or complete autonomy. That distinction is essential for analyzing covert spa-based sex work. The term is used here only for the study population described in the source material: women working in spa establishments in which sexual services could occur covertly within broader service arrangements. It is not used as a synonym for trafficking. Trafficking, coercion, exploitation, and consensual sex work are analytically distinct and should only be attributed when supported by specific evidence (Berg, 2015).

2.2 The right to the city and disconnected citizenship

The right to the city directs attention beyond formal residence toward meaningful access to urban resources, participation in decisions, safety, recognition, and the collective capacity to shape urban life (Harvey, 2008; Padawangi, 2022; Putri, 2020). In this article, 'disconnected citizenship' describes a gap between physical presence in the city and effective access to protection, services, dignified recognition, and voice. It does not imply that participants lack formal citizenship status; rather, it captures constraints on the practical exercise of urban rights.

This perspective is particularly relevant to marginalized workers. Governance can make populations highly visible as objects of regulation while leaving them comparatively invisible as claimants to labor protection, legal assistance, housing security, or health-supportive infrastructure. Research on sex-work governance and urban informality shows how regulatory and moral framings may narrow room for maneuver and intensify dependence on intermediaries (Berg, 2015; Patnaik, 2023; Simone & Rao, 2012).

2.3 PEE, the Capability Approach, and environmental justice

A second theoretical anchor is the Capability Approach, which focuses on substantive freedoms to achieve ways of living people have reason to value (Sen, 1999). In migration and sustainability research, capability-oriented analysis shifts attention from aggregate demographic pressure toward the social freedoms and opportunities that shape mobility, adaptation, and well-being (Barnett & Adger, 2018; Zingari et al., 2023). Environmental justice complements this perspective by asking how environmental burdens and benefits are distributed, whether affected groups are recognized, and whether they can participate meaningfully in decisions shaping environmental conditions (Schlosberg, 2007).

These perspectives expose a limitation in technocratic versions of PEE. In Indonesia, population and environmental education has an established educational lineage, but its international relevance is clearer when connected to environmental and sustainability education and critical learning (Mithen et al., 2021;

Sterling, 2010; Wals & Benavot, 2017). Education that emphasizes cleanliness, conservation, or individual behavior can miss that exposure to flooding, polluted water, overcrowded housing, or unsafe neighborhoods is structured partly by income, work, infrastructure, and institutional access. Likewise, vocational education that focuses only on individual skills can overstate personal responsibility when access to secure work depends on credentials, networks, care responsibilities, and institutional support.

2.4 The conceptual gap and the ecovocation proposition

Ecovocation is not proposed as a replacement for the Capability Approach, environmental justice, the right to the city, transformative sustainability education, or vocational empowerment. Its contribution is integrative and pedagogical. The Capability Approach foregrounds substantive freedoms; environmental justice explains unequal exposure, recognition, and participation; the right to the city emphasizes access to urban resources and collective urban agency; and transformative education foregrounds learning that can interrogate unsustainable systems (Harvey, 2008; Schlosberg, 2007; Sen, 1999; Sterling, 2010). Ecovocation connects these traditions within PEE by asking how education can simultaneously strengthen critical understanding of urban risk, rights literacy, feasible livelihood choices, and capacity to claim safer and more inclusive urban conditions.

The framework is therefore bounded in three ways. First, it is an educational and rights-capability framework, not a causal theory of migration or sex work. Second, it does not assume that training alone can overcome structural inequality; institutional access is part of the framework. Third, in this article ecovocation is a conceptual proposition derived from qualitative findings. Its effectiveness as an intervention remains to be tested in future implementation research.

3. Methods

3.1 Research design, data provenance, and case boundary

This article uses a critical qualitative single-case design combined with secondary interpretive analysis. Jakarta is the bounded urban case; the purpose is analytical depth rather than statistical generalization (Yin, 2018). Secondary qualitative analysis is appropriate when existing qualitative material is revisited to answer a substantively distinct question, provided that provenance, fit with the new question, and interpretive limits are made explicit (Ruggiano & Perry, 2019). The critical orientation directs attention to power, unequal access, recognition, and institutional arrangements rather than treating vulnerability as an individual deficit.

The qualitative material derives from the same Jakarta research program reported in earlier publications (Syaifudin et al., 2025, 2025). Those studies focused respectively on PEE as social advocacy and on educational evaluation of ecovocation. The present article reanalyzes the available pseudonymized interview evidence and associated contextual material to examine cross-domain vulnerability and to develop a more explicit theoretical synthesis. No new fieldwork or new participant recruitment is claimed in this article.

3.2 Analytic corpus, original sampling, and inclusion boundaries

The analytic corpus available for this reanalysis contains 16 pseudonymized informant codes: eight migrant women/SPA workers (IT, RN, DS, WD, DA, NA, LA, RA) and eight contextual informants—three NGO/legal-aid advocates (SI, RO, TA), two academics (ID, AH), two public-sector informants (HD, NM), and one community actor (JT). These codes describe the material available for the present analysis; they should not be interpreted as a population estimate or as evidence of prevalence. Table 1 makes the composition of the analytic corpus explicit.

The original research documentation describes purposive sampling for participants with direct or professionally relevant experience and snowball recruitment where access to the hidden worker population depended on trust-based referral. For the worker material, inclusion required adult status, migration to or residence in Jakarta from another locality, and direct experience in a spa setting relevant to the study. Contextual informants were included because of professional or community knowledge relevant to legal protection, labor conditions, urban exclusion, or social support (Syaifudin et al., 2025, 2025). Because the present article is a secondary reanalysis, it reports only recruitment and inclusion information that can be verified from the retained research documentation and prior methodological accounts; it does not reconstruct missing fieldwork metadata.

Table 1
Composition of the pseudonymized analytic corpus used in the secondary reanalysis.

Informant group	Codes	n	Primary analytical contribution
Migrant women / SPA workers	IT, RN, DS, WD, DA, NA, LA, RA	8	Migration, work, stigma, protection, environmental conditions
NGO / legal-aid advocates	SI, RO, TA	3	Rights advocacy, legal protection, referral pathways
Academics	ID, AH	2	Urban exclusion, citizenship, policy interpretation
Public-sector informants	HD, NM	2	Governance, programs, implementation constraints
Community actor	JT	1	Local social context and livelihood access
Total	—	16	Analytic corpus available for reanalysis

3.3 Source materials and data scope

The source materials were generated in the original research through semi-structured interviews, limited participant observation, and document analysis (Syaifudin et al., 2025, 2025). The interviews addressed migration trajectories, education and employment histories, working conditions, family obligations, stigma and enforcement, housing and environmental conditions, access to assistance, rights, and

livelihood alternatives. Contextual informants addressed protection mechanisms, social programs, labor-market barriers, and urban governance. For this secondary reanalysis, the three source types are used to contextualize and triangulate interpretations, not as interchangeable forms of evidence. Exact interview-duration and translation-audit metadata are not reconstructed where they are not preserved in the retained analytic materials; the article therefore avoids precision that cannot be verified.

3.4 Data analysis and trustworthiness

The reanalysis followed an iterative thematic procedure informed by thematic-analysis principles (Braun & Clarke, 2006). Pseudonymized interview and contextual material were reread to identify recurring experiences and institutional conditions; descriptive coding focused on employment loss, migration pressure, educational barriers, wage uncertainty, stigma, enforcement, legal assistance, housing, sanitation, flooding, and service access. Related codes were grouped into higher-order categories and compared across worker and contextual-informant accounts. The resulting six vulnerability dimensions—economic, labor, legal/protection, symbolic, citizenship, and environmental—were then examined relationally. In a final interpretive stage, these dimensions were read through the Capability Approach, environmental justice, and right-to-the-city scholarship to refine the ecovocation proposition. This final stage constitutes the distinctive analysis undertaken for the present article.

Trustworthiness was pursued through triangulation across source types; comparison of perspectives across participant groups; retention of pseudonymized evidence trails linking analytical claims to participant codes; and explicit separation among empirical evidence, theoretical interpretation, and policy propositions. These practices align with qualitative quality criteria emphasizing credibility, transparency, ethics, and meaningful coherence (Tracy, 2010). Code counts are used only to map the available corpus and are not interpreted as statistical prevalence.

3.5 Ethics and confidentiality

The study protocol was reviewed and approved by the Ethics Committee of the Institute for Research and Community Service, Universitas Negeri Jakarta; the committee did not issue an approval reference number. All research was performed in accordance with the relevant institutional guidelines and regulations, specifically the Universitas Negeri Jakarta institutional ethical guidelines and procedures for research involving human participants and the protocol approved by the committee. All participants were adults and provided informed consent on their own behalf before data collection; therefore, guardian or legally authorized representative consent was not required. Participants were informed of the study purpose, the voluntary nature of participation, their right to decline questions, and their right to withdraw without adverse consequences. Because the study involved a socially vulnerable and potentially stigmatized population, additional safeguards included non-coercive, trust-based recruitment; privacy during interviews; pseudonymized participant codes; removal or generalization of potentially identifying details; restricted access to qualitative materials; and procedures designed to minimize psychological, social, legal, and reputational risk.

3.6 Contextual indicators

Table 2 provides selected official indicators to contextualize the Jakarta case. The statistics establish the scale and structure of the urban labor and poverty context but are not used to infer the characteristics of the qualitative participants.

Table 2
Selected official labor-market and poverty indicators for Jakarta relevant to the case.

Indicator	Figure	Year/Period	Source
Labor force	5.47 million people	February 2025	BPS-Statistics DKI Jakarta Province
Employed population	5.14 million people	February 2025	BPS-Statistics DKI Jakarta Province
Formal employment share	62.05%	February 2025	BPS-Statistics DKI Jakarta Province
Open unemployment rate	6.18%	February 2025	BPS-Statistics DKI Jakarta Province
Poor population	449.07 thousand people	September 2024	BPS-Statistics DKI Jakarta Province
Poverty rate	4.14%	September 2024	BPS-Statistics DKI Jakarta Province

Sources: (BPS-Statistics DKI Jakarta Province, 2025a, 2025b).

4. Results

The results are presented as an empirical account before broader theoretical interpretation. Participant codes are included with quotations so that claims can be traced to the qualitative evidence. Tables 3 and 4 synthesize patterns in the analytic corpus; they are descriptive maps, not prevalence estimates. Table 5 subsequently shows how empirical problems are translated into the ecovocation proposition.

4.1 Constrained migration and limited conversion of education into secure work

A recurring pathway begins with livelihood disruption or limited employment options before migration, followed by entry into Jakarta with weak bargaining resources. Participants did not describe migration as a simple progression toward better work. Instead, accounts emphasized economic urgency, limited credentials, lack of work experience, and family obligations. These conditions narrowed the range of feasible choices available on arrival.

“I’m from Cianjur. At first, I worked in a factory, but after my contract ended it wasn’t renewed. A friend offered me work in Jakarta, saying it was as an SPA therapist. Since there was no income left back home, I just went along.” (Participant IT, migrant woman/SPA worker)

“I finished high school, but I couldn’t retrieve my diploma because I still owed school fees. When I came to Jakarta, I basically had no capital at all.” (Participant NA, migrant woman/SPA worker)

“I graduated from a vocational school in beauty, but it was still hard to find a job. Most places ask for experience. In the end, I tried working at an SPA.” (Participant WD, migrant woman/SPA worker)

These accounts show that education mattered, but educational attainment alone did not guarantee access to formal employment. In the available interviews, the conversion of schooling into secure work was mediated by possession of credentials, prior experience, networks, and immediate income needs. Table 3 summarizes the evidence linking migration pressure, educational barriers, formal labor-market exclusion, and constrained agency.

Table 3
Interview evidence on migration, education, and labor exclusion.

Theme	Supporting codes	Indicative evidence	Analytical significance
Reactive migration after livelihood disruption	IT, LA, NA	Loss of work or household income pressure	Migration initiated under economic urgency
Educational/certification barriers	NA, WD, RN	Unavailable diploma, limited schooling/credentials	Schooling did not automatically translate into formal employment
Formal labor-market exclusion	IT, WD, RN	Experience, credentials, and networks required	Narrower feasible employment set
Gendered family responsibility	LA	Remittance and caregiving obligations	Income pressure constrained occupational choice
Constrained agency	IT, LA, WD, NA	SPA work described as a survival option	Choice exercised within restricted alternatives

4.2 Insecure labor relations, stigma, and uneven access to protection

Participants also described insecurity within the labor relation itself. The reported problems included unclear wage-sharing arrangements, deductions, unpaid overtime, and absence of accessible complaint mechanisms. These features reduced workers' ability to negotiate conditions or seek redress.

“It’s a profit-sharing system, but the calculations are never clear. Wages are deducted under the excuse of operational costs.” (Participant LA, migrant woman/SPA worker)

“If you want more money, you just have to endure working extra. Overtime doesn’t count.” (Participant DS, migrant woman/SPA worker)

Labor insecurity was compounded by stigma. Participant RN described social rejection after others learned of her work, while Participant RA described an enforcement encounter in which workers rather than establishment owners were removed and legal assistance was unavailable.

“Once people found out I worked at an SPA, friends immediately distanced themselves. Even though I work hard.” (Participant RN, migrant woman/SPA worker)

“We’re the ones dragged away, not the owners. There’s no legal assistance.” (Participant RA, migrant woman/SPA worker)

The evidence supports a cautious institutional claim: participants experienced a mismatch between exposure to discipline and access to protection. The interviews do not establish the effects of all Jakarta policies or enforcement agencies. Rather, they show how the specific encounters reported by participants could intensify insecurity when legal status, complaint routes, and access to assistance were unclear.

4.3 Urban presence without secure access: evidence for disconnected citizenship

Several participants described Jakarta as economically necessary but socially selective. Their accounts focused on safe housing, employment, dignity, and the ability to remain in urban space without harassment. This pattern underpins the study's use of disconnected citizenship: participants were physically present and economically active in the city, yet perceived their access to protection and recognition as conditional.

“For us, the right to the city means having a safe place to live. But in reality, we’re treated like urban waste. When there’s a raid, we’re chased away. Even though we’re also city residents trying to survive.” (Participant IT, migrant woman/SPA worker)

“This city is only friendly to people with money and diplomas. Those of us from villages feel like we have no rights at all.” (Participant RN, migrant woman/SPA worker)

“The right to the city shouldn’t just mean raids. There should be access to more decent jobs for them.” (Participant JT, community actor)

These statements do not demonstrate formal disenfranchisement. They demonstrate perceived and experienced barriers to substantive urban membership—especially secure livelihood, safety, recognition, and access to protective institutions. The distinction is important because it keeps the analytical concept tied to the evidence.

4.4 Socio-ecological exposure as an additional layer of vulnerability

The interviews also indicate that economic and labor insecurity intersected with environmental conditions. Participants referred to flooding, polluted surroundings, dense housing, poor sanitation, and unclean water. For some, flooding disrupted access to work; for others, poor-quality housing environments increased fatigue, safety concerns, or health worries. The evidence therefore supports an analysis of socio-ecological exposure, although it does not establish population-level environmental risk for all migrant women or all spa workers in Jakarta.

Participant IT linked residence near a polluted river and recurrent floods to difficulty reaching work. Participant RN described narrow, polluted alleys as part of everyday urban exhaustion. Participant DS associated flooding with safety risks, while Participant DA linked unclean boarding-house water to health concerns. Taken together, these accounts show that the capacity to pursue a livelihood was shaped not only by employment but also by the quality and reliability of the urban environment.

Table 4 **consolidates the six dimensions of vulnerability identified in the analysis. The table is not a typology of all sex work or all migrant experience; it is an empirical synthesis of the patterns represented in this case.**

Table 4
Intersecting forms of vulnerability represented in the qualitative evidence.

Dimension	Manifestation in the case	Supporting codes	Interpretive meaning
Economic	Debt, income pressure, remittance obligations	IT, LA, NA	Livelihood urgency narrowed alternatives
Labor	Unclear wages, no written security, unpaid overtime	LA, DS	Weak bargaining position within informal work
Legal/protection	Fear during raids, limited legal assistance, unclear status	RA, IT	Uneven access to protective mechanisms
Symbolic	Stigma, shame, social rejection	RN, IT	Reduced recognition and social support
Citizenship	Presence in the city without secure rights-claiming	IT, RN, JT, ID	Gap between residence and substantive urban inclusion
Environmental	Flooding, poor sanitation, pollution, dense housing	IT, RN, DS, WD, DA	Socio-ecological pressures compounded livelihood insecurity

4.5 From empirical themes to the ecovocation proposition

The five components of ecovocation did not emerge as five pre-existing categories spoken by participants. They are a second-order conceptual interpretation developed after the thematic analysis. Each component is linked to a specific empirical problem identified above: migration and labor-market uncertainty informed critical urbanization literacy; unequal housing and environmental exposure informed environmental justice literacy; wage ambiguity and limited complaint mechanisms informed

legal and labor literacy; constrained livelihood options informed non-stigmatizing vocational empowerment; and experiences of stigma and weak rights-claiming informed citizenship advocacy.

This distinction matters. The data support the diagnosis of intersecting vulnerability. Ecovocation is the authors' theoretically informed response to that diagnosis. Table 5 makes the evidence-to-concept pathway explicit and separates the observed problem from the proposed educational response and the outcome that future intervention research would need to evaluate.

Table 5
Evidence-to-concept pathway for the Ecovocation framework.

Empirical problem	Ecovocation component	Proposed educational/practical response	Status of claim
Migration under limited information and narrow job options	Critical urbanization literacy	Safe-migration, labor-market, and urban-risk literacy	Conceptual proposition derived from findings
Flooding, sanitation, polluted or dense living environments	Environmental justice literacy	Education linking environmental exposure to infrastructure and rights	Conceptual proposition derived from findings
Unclear wages, weak complaint routes, limited legal assistance	Legal and labor literacy	Worker-rights information, safe referral and complaint pathways	Conceptual proposition derived from findings
Constrained livelihood alternatives	Non-stigmatizing vocational empowerment	Skills linked to realistic labor-market access and support	Conceptual proposition; effectiveness not tested
Stigma and weak substantive urban inclusion	Citizenship advocacy	Rights-to-city, dignity, participation, cross-institutional support	Conceptual proposition; effectiveness not tested

5. Discussion

5.1 Answering the first research question: how vulnerability is produced

The first research question asks how urban labor, socio-spatial, institutional, and environmental conditions produce structural vulnerability. The findings suggest a cumulative mechanism rather than a single cause. Livelihood disruption and family income pressure encouraged migration; limited credentials, experience, and networks narrowed access to formal employment; insecure work relations weakened bargaining power; stigma reduced social recognition; reported encounters with enforcement were not matched by equivalent access to legal assistance; and poor-quality housing and environmental

conditions added practical burdens to everyday livelihood. Vulnerability therefore emerged through interaction among institutions and conditions rather than from one characteristic of the women themselves.

This interpretation extends beyond a simple 'migration creates job competition' account. The crucial issue is conversion: whether migrants can convert education, labor, and urban residence into secure functioning and substantive choice. The Capability Approach helps explain why nominal resources—such as schooling or urban employment—may not translate into secure capabilities when credentials, networks, childcare, safe housing, and legal protection are missing (Barnett & Adger, 2018; Zingari et al., 2023). The evidence from NA and WD is especially relevant: educational attainment existed, but its labor-market value was constrained by inaccessible credentials or lack of experience.

The right-to-the-city perspective adds an institutional dimension. Participants did not merely report low income; they described problems of recognition, safety, secure presence, and access to protective mechanisms. This supports the concept of disconnected citizenship as a gap between urban presence and substantive access, not as a claim about formal nationality. The interpretation resonates with scholarship that treats the right to the city as a claim to access, participation, and collective power over urban life, including analyses of informality and planning in Jakarta (Harvey, 2008; Padawangi, 2022; Putri, 2020; Simone & Rao, 2012).

Environmental justice provides the third layer. Flooding, sanitation, water quality, pollution, and dense housing were not peripheral to livelihood; they shaped mobility, fatigue, health concerns, and the reliability of daily work. Environmental justice is relevant because the issue is not exposure alone but the unequal distribution of environmental burdens, recognition of affected groups, and their practical capacity to seek remedies (Schlosberg, 2007). The finding is also consistent with socio-ecological approaches that connect migration, informal settlements, infrastructure, and unequal environmental exposure (Adger et al., 2020; Niva et al., 2019; Wulandari et al., 2023). The study does not claim that these exposures are unique to spa workers; its contribution is to show how environmental pressures interact with labor and social precarity in this case.

5.2 Institutional and policy implications of structural vulnerability

The results also require a more precise account of institutions. The study does not establish that one government policy 'causes' vulnerability. Instead, vulnerability appears where institutional domains fail to connect: education and credentials do not guarantee labor access; informal work lacks clear contractual protections; social stigma reduces willingness or ability to seek assistance; enforcement encounters may occur without accessible legal support; and environmental infrastructure is experienced unevenly. These are implementation gaps across labor, social protection, legal assistance, housing, and urban services rather than evidence for a single policy failure.

This distinction avoids overgeneralization while retaining policy relevance. It suggests that isolated interventions are unlikely to address the full problem. Vocational training without job placement or credential support may leave structural barriers intact. Legal literacy without safe referral mechanisms may increase knowledge without increasing protection. Environmental awareness without improvements in housing and infrastructure may individualize a structural burden. A sustainability response therefore requires coordination across sectors rather than a morality-centered or enforcement-only approach.

5.3 Answering the second research question: what Ecovocation adds

The second research question asks how the findings can inform a bounded ecovocation framework within PEE. Ecovocation translates four bodies of scholarship into one educational architecture. From the Capability Approach, it takes substantive freedom and feasible choice (Sen, 1999). From environmental justice, it takes distribution, recognition, and participation (Schlosberg, 2007). From the right to the city, it takes access to urban resources, safety, dignity, voice, and collective urban agency (Harvey, 2008). From transformative sustainability education, it takes the premise that learning should support critical engagement with systems producing risk rather than prescribe individual adaptation alone (Sterling, 2010; Wals & Benavot, 2017). Relative to earlier publications from the same research program (Syaifudin et al., 2025, 2025), the present contribution is the explicit theoretical synthesis and the mapping of six interacting vulnerability dimensions to five bounded educational components.

The contribution is integrative rather than foundational. Ecovocation does not supersede the theories on which it draws, and this study does not demonstrate that an ecovocation intervention improves employment, safety, environmental conditions, or citizenship outcomes. Its novelty lies in the evidence-to-concept translation shown in Table 5: five educational components are derived as a coordinated response to the interacting vulnerabilities identified in the reanalysis. The framework is therefore empirically informed but still requires prospective testing.

5.4 Implications for sustainability education and urban governance

For sustainability education, the findings suggest that PEE should move beyond demographic description and individualized environmental behavior when the target population faces structural barriers. Consistent with transformative sustainability education (Sterling, 2010), critical urbanization literacy can help migrants assess labor-market conditions and migration risks; environmental justice literacy can connect everyday exposure to infrastructure and public responsibility; legal and labor literacy can make complaint and protection pathways intelligible; vocational empowerment can be designed around realistic labor demand and credential access; and citizenship advocacy can connect education with participation and non-stigmatizing services.

For urban governance, the framework implies coordination among education providers, labor agencies, local government, legal-aid organizations, community groups, and social services. The empirical

evidence supports the need for accessible protection, reliable information, and realistic livelihood pathways. Broader recommendations—such as specific regulatory reform—would require additional legal and policy analysis beyond the scope of the present qualitative case.

5.5 Limitations and future research

The study has several limitations. First, it is a secondary reanalysis of a single qualitative case in Jakarta and is not statistically representative of migrant women, spa workers, sex workers, or urban migrants more generally. Second, the hidden and stigmatized character of the original study population constrains recruitment and may privilege participants connected to particular referral networks. Third, some original fieldwork metadata - such as exact interview duration and a complete translation audit trail - are not reconstructed in the present article where they cannot be verified from the retained materials. Fourth, environmental conditions are based primarily on participant accounts and contextual observation rather than direct environmental measurement. Fifth, the study identifies institutional experiences but does not provide a comprehensive legal evaluation of Indonesian labor or sex-work regulation. Sixth, unrestricted public deposition of the raw qualitative material is not ethically appropriate because the study concerns a small, socially vulnerable, and stigmatized population for whom combinations of contextual details could create a risk of re-identification; this necessarily limits fully open independent reanalysis of the raw data. Finally, ecovocation is a conceptual framework refined through secondary analysis; its feasibility and effectiveness have not yet been tested prospectively.

Future research should therefore evaluate ecovocation prospectively. Possible designs include participatory curriculum development with migrant women and service organizations; pilot implementation of the five components; pre-post assessment of legal, labor, and environmental literacy; qualitative evaluation of safety and acceptability; and longitudinal study of whether expanded knowledge is accompanied by improved access to services, employment, or rights-claiming. Comparative research in other Indonesian cities could also test which elements are Jakarta-specific and which travel across urban contexts.

6. Conclusion

This secondary interpretive analysis shows that the experiences represented in the Jakarta corpus are better understood through intersecting urban vulnerabilities than through a single moral, criminal, or individual-choice lens. Livelihood disruption and constrained migration interact with limited labor-market conversion, insecure work relations, stigma, uneven access to protection, and socio-ecological pressures. Vulnerability is cumulative: weakness in one domain can reduce the capacity to respond to risk in another.

The empirical contribution is the integrated mapping of economic, labor, legal/protection, symbolic, citizenship, and environmental vulnerability within one urban case. The conceptual contribution is narrower and more defensible: ecovocation reframes PEE as an educational rights-capability framework connecting critical urbanization literacy, environmental justice literacy, legal and labor literacy, non-

stigmatizing vocational empowerment, and citizenship advocacy. In relation to prior publications from the same research program (Syaifudin et al., 2025, 2025), the novelty lies in this explicit cross-domain theoretical synthesis and evidence-to-concept architecture, not in claiming a new dataset or a new general theory of migration, sex work, or urban inequality.

The practical implication is that educational responses to urban vulnerability should not isolate environmental awareness from work, rights, and citizenship. Sustainable urban inclusion requires people to understand risk, access protection, expand feasible livelihood choices, and participate in institutions that shape the conditions of urban life. Testing whether ecovocation can contribute to those outcomes is the next empirical task.

Declarations

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Conflict of Interest: The authors declare no conflict of interest.

Data Availability: This article reports a secondary interpretive reanalysis of qualitative materials from the authors' Jakarta research program. Supplementary File S1 provides the de-identified methodological documentation that can be shared with the revision, including the participant-code inventory, documented interview-topic domains retained for the reanalysis, the coding/thematic framework, and an analytic provenance summary. The available de-identified qualitative materials retained for this reanalysis can be made available to editors and referees through confidential review channels, subject to participant confidentiality, consent, and institutional ethical requirements. Full raw transcripts, audio records, and identifiable recruitment/contact records are not publicly deposited because the study concerns a socially vulnerable and stigmatized population and unrestricted disclosure could create a risk of re-identification, social harm, or legal/reputational consequences. Any further access to de-identified material will be considered on reasonable request and subject to the same ethical restrictions. No statistical scripts, modelling code, or formulae were generated because the study used qualitative thematic and interpretive analysis.

Ethics approval: The study protocol was reviewed and approved by the Ethics Committee of the Institute for Research and Community Service, Universitas Negeri Jakarta (UNJ); no ethics approval reference number was issued. All research was performed in accordance with the relevant institutional guidelines

and regulations, specifically the Universitas Negeri Jakarta institutional ethical guidelines and procedures for research involving human participants and the protocol approved by the committee.

Consent to participate: Informed consent was obtained from all participants prior to data collection. All participants were adults and were able to provide consent on their own behalf; therefore, guardian or legally authorized representative consent was not required. Participation was voluntary, and participants were informed of the study purpose, their right to decline questions or withdraw without negative consequences, and the confidentiality procedures. Additional safeguards for this vulnerable and potentially stigmatized group included non-coercive recruitment, private and non-judgmental interviewing, pseudonymization, removal or generalization of identifying details, restricted access to qualitative materials, and minimization of psychological, social, legal, and reputational risks.

Consent for publication: Not applicable; no identifiable images or personal information are reported.

References

1. Adger, W. N., de Campos, R. S., Siddiqui, T., & Szaboova, L. (2020). Commentary: Inequality, precarity and sustainable ecosystems as elements of urban resilience. *Urban Studies*, 57(7), 1588–1595. <https://doi.org/10.1177/0042098020904594>
2. Barnett, J., & Adger, W. N. (2018). Mobile worlds: Choice at the intersection of demographic and environmental change. *Annual Review of Environment and Resources*, 43, 245–265. <https://doi.org/10.1146/annurev-environ-102016-060952>
3. Berg, H. (2015). Trafficking policy, meaning making and state violence. *Social Policy and Society*, 14(1), 145–155. <https://doi.org/10.1017/S1474746414000414>
4. BPS-Statistics DKI Jakarta Province. (2025a). *Labour Situation in DKI Jakarta Province February 2025*. <https://jakarta.bps.go.id/id/pressrelease/2025/05/05/1214/labour-situation-in-dki-jakarta-province-february-2025.html>
5. BPS-Statistics DKI Jakarta Province. (2025b). *Poverty Profile of DKI Jakarta Province September 2024*. <https://jakarta.bps.go.id/en/pressrelease/2025/01/15/1193/profil-kemiskinan-provinsi-dki-jakarta-september-2024.html>
6. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>
7. Gadgil, G. U., & Baker, J. L. (2017). *East Asia and Pacific cities: Expanding opportunities for the urban poor*. World Bank. <https://doi.org/10.1596/978-1-4648-1093-0>
8. Harvey, D. (2008). The right to the city. *New Left Review*, 53, 23–40.
9. Malamassam, M. A. (2022). Spatial structure of youth migration in Indonesia: Does education matter? *Applied Spatial Analysis and Policy*, 15, 1045–1074. <https://doi.org/10.1007/s12061-022-09434-6>

10. Mithen, M., Komansilan, A., Tuerah, R. M. S., & Mamahit, C. E. J. (2021). Science teachers abilities in integrating population and environmental education into science subjects. *Jurnal Pendidikan IPA Indonesia*, 10(1). <https://doi.org/10.15294/jpii.v10i1.27012>
11. Niva, V., Taka, M., & Varis, O. (2019). Rural-urban migration and the growth of informal settlements: A socio-ecological system conceptualization with insights through a “water lens.” *Sustainability*, 11(12), 3487. <https://doi.org/10.3390/su11123487>
12. Nooteboom, G. (2019). Understanding the nature of rural change: The benefits of migration and the (re)creation of precarity for men and women in rural Central Java, Indonesia. *TRaNS: Trans-Regional and -National Studies of Southeast Asia*, 7(1), 113–133. <https://doi.org/10.1017/trn.2019.3>
13. Padawangi, R. (2022). *Urban development in Southeast Asia*. Cambridge University Press. <https://doi.org/10.1017/9781108669108>
14. Patnaik, S. (2023). Sex-workers defying patriarchy and challenging state reform and rehabilitation projects in India: Voices from the margins. *Feminist Encounters: A Journal of Critical Studies in Culture and Politics*, 7(1), 05. <https://doi.org/10.20897/femenc/12883>
15. Putri, P. W. (2020). Insurgent planner: Transgressing the technocratic state of postcolonial Jakarta. *Urban Studies*, 57(9), 1845–1865. <https://doi.org/10.1177/0042098019853499>
16. Ruggiano, N., & Perry, T. E. (2019). Conducting secondary analysis of qualitative data: Should we, can we, and how? *Qualitative Social Work*, 18(1), 81–97. <https://doi.org/10.1177/1473325017700701>
17. Schlosberg, D. (2007). *Defining environmental justice: Theories, movements, and nature*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199286294.001.0001>
18. Sen, A. (1999). *Development as freedom*. Oxford University Press.
19. Simone, A., & Rao, V. (2012). Securing the majority: Living through uncertainty in Jakarta. *International Journal of Urban and Regional Research*, 36(2), 315–335. <https://doi.org/10.1111/j.1468-2427.2011.01028.x>
20. Sterling, S. (2010). Learning for resilience, or the resilient learner? Towards a necessary reconciliation in a paradigm of sustainable education. *Environmental Education Research*, 16(5–6), 511–528. <https://doi.org/10.1080/13504622.2010.505427>
21. Syaifudin, Purwanto, A., & Budiaman. (2025). Integration of Population and Environmental Education in Strengthening Social Advocacy among Urban Communities: A Study of Migrant Women within the Landscape of Urban Prostitution. *International Journal of Business, Law, and Education*, 6(2), 1600–1618. <https://doi.org/10.56442/ijble.v6i2.693>
22. Tracy, S. J. (2010). Qualitative quality: Eight “big-tent” criteria for excellent qualitative research. *Qualitative Inquiry*, 16(10), 837–851. <https://doi.org/10.1177/1077800410383121>
23. Utomo, A., Reimondos, A., Utomo, I. D., McDonald, P., & Hull, T. H. (2013). Female migrants and the transition to adulthood in Greater Jakarta. *The Annals of the American Academy of Political and Social Science*, 648(1), 70–86. <https://doi.org/10.1177/0002716213483427>

24. Wals, A. E. J., & Benavot, A. (2017). Can we meet the sustainability challenges? The role of education and lifelong learning. *European Journal of Education*, 52(4), 404–413.
<https://doi.org/10.1111/ejed.12250>
25. Wulandari, R. D., Laksono, A. D., Mubasyiroh, R., Rachmalina, R., Ipa, M., & Rohmah, N. (2023). Hospital utilization among urban poor in Indonesia in 2018: Is government-run insurance effective? *BMC Public Health*, 23, 92. <https://doi.org/10.1186/s12889-023-15017-y>
26. Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE.
27. Zingari, G., Riccio, B., Sakho, P., & Cissokho, D. (2023). It's only a matter of hope: Rethinking migration decision-making in contemporary Senegal; among lived immobilities, development interventions, and social inequalities. *Africa Today*, 69(3), 27–51.
<https://doi.org/10.2979/at.2023.a884141>
28. Zoomers, A. (2018). Development at the crossroads of capital flows and migration: Leaving no one behind? *Sustainability*, 10(12), 4807. <https://doi.org/10.3390/su10124807>

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