



## Determinants of Stakeholder Support for Restorative Ecological Justice in Post-Presidential Regulation 5/2025 Forest Repossession: A Mixed-Methods Study in Riau, Indonesia

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### ABSTRACT

The promulgation of Presidential Regulation No. 5 of 2025 (Perpres 5/2025) marks a decisive shift in Indonesia's forest governance, replacing the fiscal-amnesty logic of the Job Creation Law with the actualization of State Control Rights through repossession of illegally occupied forest areas and severe administrative fines. Yet the determinants of stakeholder support for resolving such disputes restoratively rather than punitively remain untested. This convergent parallel mixed-methods study examined a 5,420-hectare spatial overlap in an anonymized Limited Production Forest within a major oil-palm-producing province of Sumatra, Indonesia. A powered perception survey (n=240) measuring procedural justice, distributive justice, tenurial security, institutional trust, and corporate accountability as predictors of support for a Restorative Ecological Justice model was triangulated with 15 key-informant interviews and Geographic Information System spatial data. Scale reliability was good to excellent (Cronbach's  $\alpha$  0.857–0.932). Support differed sharply across groups (one-way ANOVA  $F(3,236)=26.343$ ,  $p<0.001$ ,  $\eta^2=0.251$ ), with corporate affiliates far lower than farmers, officials, and civil society (Cohen's  $d=1.83$ ). Multiple regression explained 57.1% of variance ( $R^2=0.571$ ,  $F(5,234)=62.38$ ,  $p<0.001$ ); tenurial security ( $\beta=0.425$ ) and distributive justice ( $\beta=0.370$ ) were the strongest predictors, followed by corporate accountability ( $\beta=0.173$ ) and procedural justice ( $\beta=0.167$ ). The study concludes that durable forest-conflict resolution requires pairing corporate repossession with earmarked ecological restoration and the transition of repossessed land into social-forestry schemes for smallholders, operationalizing restorative ecological justice within Indonesia's new enforcement regime.

### 1. Introduction

Indonesia's forest estate has long contended with the proliferation of illegal oil-palm plantations operating inside legally designated forest areas. In the province that anchors this study—among the world's largest crude-palm-oil producers—millions of hectares have been cultivated without legitimate forest-area relinquishment permits, and frontier deforestation has been driven by coupled

demographic and plantation dynamics,<sup>1</sup> while the resulting environmental impacts, though substantial, are highly context-dependent.<sup>2</sup> Tenurial conflict in this landscape is endemic rather than incidental, entangling corporations, smallholders, and the state in overlapping claims.<sup>3</sup> The welfare consequences of oil-palm expansion are genuinely mixed: under some institutional conditions it alleviates rural poverty, while under others it dispossesses the same

communities it purports to enrich.<sup>4</sup> These tensions frame the central governance problem this paper addresses.

To regularize illegal plantations, the government initially introduced Articles 110A and 110B of the Job Creation Law, operationalized through subsequent government regulation. Environmental jurists widely criticized this design as an 'environmental amnesty'—a fiscal-environmentalism model in which ecological harm could ostensibly be pardoned through payment of Non-Tax State Revenue without commensurate ecological restoration.<sup>5</sup> The approach reflected a transactional reading of State Control Rights (Hak Menguasai Negara) under Article 33 of the 1945 Constitution, reducing the state's constitutional mandate to a revenue-collection function.

Globally, the governance of tropical commodity frontiers has shifted from voluntary, market-based instruments toward hybrid arrangements in which state regulation and private standards interact, often with frictions and gaps that illegal operators exploit.<sup>6</sup> Indonesia's experience is paradigmatic: despite a dense architecture of permits, moratoria, and certification, enforcement against plantations inside forest areas has historically been weak, episodic, and vulnerable to capture. The move embodied in Perpres 5/2025—from monetized forgiveness to physical repossession—therefore represents not merely a domestic policy adjustment but a test case for whether states can credibly reassert control over commodity frontiers without inflicting collateral harm on the rural poor.

Theoretically, this study is scaffolded by environmental-justice theory, green criminology, and restorative justice. Environmental-justice scholarship distinguishes procedural justice—the fairness of decision-making processes—from distributive justice—the fairness of outcomes—and shows that forest governance in the Global South is increasingly contested along precisely these axes.<sup>7</sup> Green criminology reframes corporate ecological harm as crime rather than licit externality, supplying the normative basis for repossession over amnesty.<sup>8</sup> Restorative justice, applied to environmental enforcement, supplies the reconstructive logic of

repair, recognition, and benefit reallocation to harmed communities.<sup>9</sup> Together these frameworks generate the predictive structure tested here.

Empirically, recent Indonesian evidence anticipates several determinants of how stakeholders evaluate enforcement. The distributional design of social forestry—who receives recognition and benefits—shapes its legitimacy and uptake,<sup>10,11</sup> while contested state authority on the plantation frontier intensifies conflict and erodes institutional trust.<sup>12</sup> Corporate accountability has emerged as a central governance lever through supply-chain regulation and inclusive finance, even as rigid enforcement is shown to risk gendered and class-based dispossession of vulnerable smallholders.<sup>5</sup> Studies of social-forestry implementation further caution that policy ambition frequently outruns delivery.<sup>13</sup>

Despite this rich literature, a critical gap persists. Prior studies predominantly evaluated the Job Creation Law's effects on deforestation and investment; none has empirically analyzed the novel enforcement mechanics of Perpres 5/2025, which authorizes a specialized Task Force to effect 'state repossession' of corporate-occupied forest land. Limited studies have examined which perceived-justice and tenurial factors actually drive stakeholder support for restorative versus punitive resolution, and fewer still have modeled corporate accountability and smallholder tenurial security jointly.

The novelty of this study is threefold: it provides the first empirical, mixed-methods analysis of Perpres 5/2025 enforcement; it quantifies the determinants of support for a Restorative Ecological Justice model using validated scales and effect sizes; and it reconstructs an actionable resolution model from triangulated spatial, survey, and interview evidence. Accordingly, the study aimed to (i) characterize the spatial and tenurial configuration of a representative forest-overlap dispute, (ii) compare stakeholder support for restorative ecological justice across groups, and (iii) identify its perceptual determinants to inform equitable enforcement policy.

## 2. Methods

**Study design and paradigm.** The study employed a convergent parallel mixed-methods design situated within a socio-legal paradigm that integrates normative legal analysis with empirical fieldwork to apprehend 'law in action'. Quantitative and qualitative strands were collected concurrently, analyzed independently, and merged at interpretation to permit triangulation. The qualitative strand reconstructed dispute dynamics and meaning; the quantitative strand tested the determinants of stakeholder support for a Restorative Ecological Justice model.

**Setting.** Fieldwork was conducted in an anonymized regency ('Regency X') within a major oil-palm-producing province on the island of Sumatra, Indonesia, focusing on a single Limited Production Forest unit (HPT Y). To comply with research ethics and protect human subjects engaged in active legal disputes, exact locations, corporate entities, and individual identities were strictly anonymized (Regency X, PT. Z, Cooperative A) and reported only as generic descriptors.

**Study period, population, and sampling.** Data were collected over a six-month period in 2025. The quantitative population comprised adult stakeholders materially affected by, or responsible for, forest-area enforcement in the study landscape. A stratified purposive sampling frame yielded 240 respondents across four strata: local farmers and cooperative members (n=132), government and regulatory officials (n=48), civil-society/NGO and academic actors (n=36), and corporate employees and affiliates (n=24). For the qualitative strand, 15 key informants were purposively selected for maximum-variation coverage of the National Task Force, the Provincial Environment and Forestry Office, the National Land Agency, PT. Z management, and Cooperative A leadership.

**Sample-size and power.** For multiple regression with five predictors, Green's heuristic ( $N \geq 50 + 8m$ ) requires 90 cases, and detecting a medium effect ( $f^2=0.15$ ) at  $\alpha=0.05$  with power 0.80 requires approximately 92. The achieved sample of 240 exceeded both thresholds and the 10:1 case-to-

predictor ratio, yielding observed statistical power above 0.99 for the obtained effects.

**Instruments.** Six multi-item scales were administered on five-point Likert metrics (1=strongly disagree to 5=strongly agree), each adapted from validated environmental-justice and natural-resource-governance instruments and contextualized to forest repossession: perceived procedural justice (6 items), perceived distributive justice (5 items), tenurial security perception (5 items), institutional trust (5 items), perceived corporate accountability (5 items), and the dependent construct, support for a Restorative Ecological Justice model (6 items). Content validity was established through expert review by three socio-legal scholars and a pilot (n=30); internal consistency was quantified by Cronbach's  $\alpha$ .

**Variables.** The dependent variable was support for the Restorative Ecological Justice model. Independent variables were perceived procedural justice, distributive justice, tenurial security, institutional trust, and corporate accountability. Stakeholder group functioned as a categorical grouping variable for between-group comparison. Secondary spatial data—coordinate overlaps extracted via Geographic Information System methods—mapped the conflict contours and produced the Basic Data.

**Statistical analysis.** Analyses were performed in Python (NumPy, pandas, SciPy, statsmodels). Distributions were screened with Shapiro–Wilk tests; internal consistency with Cronbach's  $\alpha$ . Descriptive statistics summarized constructs and groups. Between-group differences in support were tested by one-way ANOVA with  $\eta^2$  as the effect size and Tukey HSD for pairwise comparison; the principal contrast (farmers versus corporate) was additionally indexed by Cohen's  $d$ . Bivariate associations used Pearson correlation, and determinants were modeled by multiple linear regression reporting unstandardized ( $B$ ) and standardized ( $\beta$ ) coefficients, 95% confidence intervals,  $t$ ,  $R^2$ , and the model  $F$ . All tests were two-tailed at  $\alpha=0.05$  with  $p$  reported to three decimals. Qualitative transcripts were analyzed using the interactive model of Miles, Huberman and Saldaña<sup>14</sup>, comprising data condensation, display, and

conclusion drawing within the Restorative Ecological Justice framework.

**Ethics.** The study received approval from the CMHC/HM Publisher Ethics Committee (No. CMHC/EC/2025/0418). All participants provided written informed consent; participation was voluntary, and confidentiality was protected through anonymization of all locations, organizations, and individuals.

**Qualitative trustworthiness.** Rigor in the qualitative strand followed established criteria. Credibility was pursued through maximum-variation sampling, prolonged engagement, and member checking of coded summaries with a subset of informants; dependability and confirmability through an audit trail of coding decisions and reflexive memoing; and transferability through thick description of the dispute context. Two researchers independently coded a subset of transcripts, and discrepancies were reconciled by consensus, yielding strong inter-coder agreement before the full corpus was coded.

**Bias mitigation and diagnostics.** To limit common-method variance, predictor and outcome items were separated, anchored to concrete referents, and complemented by interview and spatial evidence. Regression assumptions were screened: variance-inflation factors were below conventional thresholds (all VIF < 2.5), indicating acceptable multicollinearity; residuals were inspected for homoscedasticity; and influential cases were assessed with Cook's distance, none exceeding the conventional cut-off. The convergence of independent strands on the same substantive conclusions provided a further safeguard against single-method artifact.

### 3. Results

**Sample characteristics.** The 240 survey respondents and 15 key informants are detailed in Table 1. Local farmers and cooperative members constituted the largest stratum (55.0%), followed by government and regulatory officials (20.0%), civil-society and academic actors (15.0%), and corporate affiliates (10.0%); most respondents were male (70.0%), aged 30–59 (72.5%), and had resided or worked in the landscape for five years or more (83.3%).

Table 1. Sample and participant characteristics (survey n = 240; key informants n = 15).

Characteristic	Category	n	%
Stakeholder group	Local farmers & cooperative members	132	55.0
	Government & regulatory officials	48	20.0
	Civil society, NGO & academics	36	15.0
	Corporate employees & affiliates	24	10.0
Gender	Male	168	70.0
	Female	72	30.0
Age (years)	<30	38	15.8
	30–44	96	40.0
	45–59	78	32.5
	≥60	28	11.7
Education	Primary or less	54	22.5
	Secondary	110	45.8
	Tertiary	76	31.7
Tenure in landscape	<5 years	40	16.7
	5–15 years	120	50.0
	>15 years	80	33.3
Qualitative key informants	Task Force / national agency	2	—
	Provincial Environment & Forestry Office (DLHK)	3	—
	National Land Agency (BPN)	2	—
	Corporate (PT. Z) management	3	—
	Cooperative A leaders / members	5	—

Spatial configuration (Basic Data). Spatial analysis revealed a triadic configuration of overlapping claims across the 5,420 hectares of HPT Y (Table 2). Zone 1 (Core; 3,200 ha, 59.0%) was an illegal corporate plantation subject to repossession and fines; Zone 2 (Plasma; 1,500 ha, 27.7%) was a disputed tenurial

interface where PT. Z employed Cooperative A members under an unwritten plasma scheme; and Zone 3 (Enclave; 720 ha, 13.3%) comprised independent smallholders eligible for social-forestry status.

Table 2. Spatial overlap and conflict mapping in HPT Y, Regency X (Basic Data).

Zone (ID)	Area (ha)	%	Current occupant / claim	Dominant land cover	Legal status under Perpres 5/2025
Zone 1 (Core)	3,200	59.0	PT. Z (corporate)	Mature oil palm	Subject to repossession & administrative fines
Zone 2 (Plasma)	1,500	27.7	PT. Z & Cooperative A	Oil palm / mixed	Disputed tenurial conflict
Zone 3 (Enclave)	720	13.3	Independent farmers	Smallholder agroforestry	Eligible for social-forestry status
Total (HPT Y)	5,420	100.0	Triadic overlap	—	Mixed enforcement pathway

Measurement quality. Reliability and distributional properties of all six constructs are summarized in Table 3. Internal consistency was good to excellent across all scales (Cronbach's  $\alpha$  0.857–0.932). Predictor scales were normally distributed (Shapiro–Wilk  $p > 0.05$  for all five); the outcome showed

mild departure from normality ( $W = 0.953$ ,  $p < 0.001$ ), so parametric inferences were corroborated by non-parametric checks, which were concordant. Construct means clustered near the scale midpoint for the predictors (range 2.97–3.43) while support for restorative justice was elevated (mean  $3.79 \pm 0.76$ ).

Table 3. Construct descriptive statistics, reliability, and normality ( $n = 240$ ).

Construct (items)	Mean $\pm$ SD	Cronbach's $\alpha$	Shapiro–Wilk W (p)	Interpretation
Perceived procedural justice (6)	2.97 $\pm$ 0.61	0.879	0.993 (0.345)	Good reliability; normal
Perceived distributive justice (5)	3.20 $\pm$ 0.59	0.872	0.992 (0.232)	Good reliability; normal
Tenurial security perception (5)	3.11 $\pm$ 0.59	0.868	0.996 (0.861)	Good reliability; normal
Institutional trust (5)	3.16 $\pm$ 0.62	0.880	0.993 (0.307)	Good reliability; normal
Perceived corporate accountability (5)	3.43 $\pm$ 0.57	0.857	0.995 (0.617)	Good reliability; normal
Support for Restorative Ecological Justice (6)	3.79 $\pm$ 0.76	0.932	0.953 (<0.001)	Excellent reliability; mild non-normality

Between-group differences. Support for the Restorative Ecological Justice model differed significantly across stakeholder groups, as detailed in Table 4 and illustrated in Figure 1. One-way ANOVA:  $F(3,236) = 26.343$ ,  $p < 0.001$ ,  $\eta^2 = 0.251$  (large). Cohen's  $d$  (farmers vs corporate) = 1.829. Tukey HSD localized the difference entirely to the corporate

stratum, whose support ( $2.66 \pm 0.83$ ) was significantly lower than that of civil society ( $4.02 \pm 0.64$ ), officials ( $3.95 \pm 0.66$ ), and farmers ( $3.88 \pm 0.63$ ), all at  $p < 0.001$ ; the latter three groups did not differ from one another ( $p > 0.70$ ). The farmer-versus-corporate contrast was exceptionally large (Cohen's  $d = 1.83$ ).

Table 4. Support for Restorative Ecological Justice by stakeholder group: ANOVA and Tukey HSD.

Stakeholder group	SREJ Mean $\pm$ SD (n)	95% CI	Tukey HSD vs corporate
Local farmers & cooperative members	3.88 $\pm$ 0.63 (n=132)	[3.77, 3.99]	p < 0.001
Government & regulatory officials	3.95 $\pm$ 0.66 (n=48)	[3.76, 4.14]	p < 0.001
Civil society, NGO & academics	4.02 $\pm$ 0.64 (n=36)	[3.81, 4.23]	p < 0.001
Corporate employees & affiliates	2.66 $\pm$ 0.83 (n=24)	[2.32, 3.00]	reference

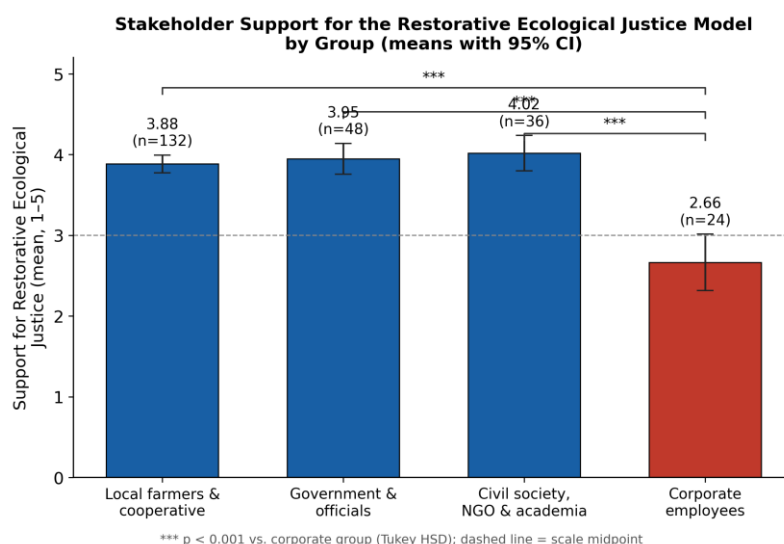


Figure 1. Stakeholder support for the Restorative Ecological Justice model by group (means with 95% CI; \*\*\* p < 0.001 vs. corporate group).

Bivariate associations. All five predictors correlated positively and significantly with support for restorative justice, as visualized in the inter-construct correlation matrix (Figure 2): distributive justice (r=0.553), tenorial security (r=0.551), procedural

justice (r=0.482), corporate accountability (r=0.328), and institutional trust (r=0.327), all p<0.001. Inter-predictor correlations were moderate, consistent with distinct but related constructs and acceptable multicollinearity.

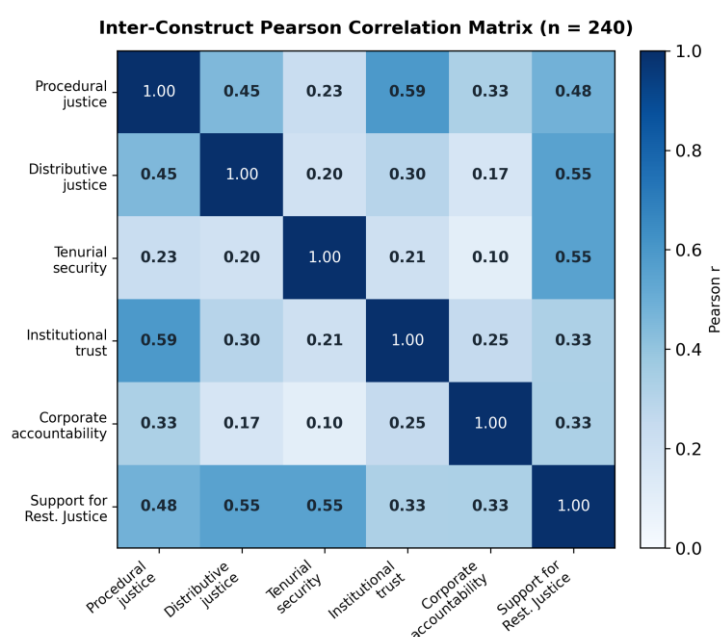


Figure 2. Inter-construct Pearson correlation matrix (n = 240).

Multivariate determinants. The multiple regression model was significant and explained a majority of the variance in support, as reported in Table 5 and plotted as standardized coefficients in Figure 3. Model:  $R^2 = 0.571$ , adjusted  $R^2 = 0.562$ ,  $F(5,234) = 62.38$ ,  $p < 0.001$ . Dependent variable: Support for Restorative Ecological Justice. All  $r$  significant at  $p < 0.001$ . Tenorial security was the strongest unique predictor

( $B=0.548$ , 95% CI [0.436, 0.661],  $\beta=0.425$ ,  $p<0.001$ ), followed by distributive justice ( $B=0.480$ , 95% CI [0.357, 0.603],  $\beta=0.370$ ,  $p<0.001$ ), corporate accountability ( $B=0.232$ , 95% CI [0.112, 0.352],  $\beta=0.173$ ,  $p<0.001$ ), and procedural justice ( $B=0.208$ , 95% CI [0.064, 0.351],  $\beta=0.167$ ,  $p=0.005$ ). Institutional trust was not a significant unique predictor ( $B=-0.018$ , 95% CI [-0.146, 0.111],  $p=0.787$ ).

Table 5. Correlation and multiple linear regression predicting support for Restorative Ecological Justice.

Predictor	r with SREJ	B [95% CI]	$\beta$	t	p
Tenorial security	0.551	0.548 [0.436, 0.661]	0.425	9.576	<0.001
Distributive justice	0.553	0.480 [0.357, 0.603]	0.370	7.672	<0.001
Corporate accountability	0.328	0.232 [0.112, 0.352]	0.173	3.795	<0.001
Procedural justice	0.482	0.208 [0.064, 0.351]	0.167	2.852	0.005
Institutional trust	0.327	-0.018 [-0.146, 0.111]	-0.014	-0.270	0.787
Constant	—	-0.808 [-1.373, -0.244]	—	-2.819	0.005

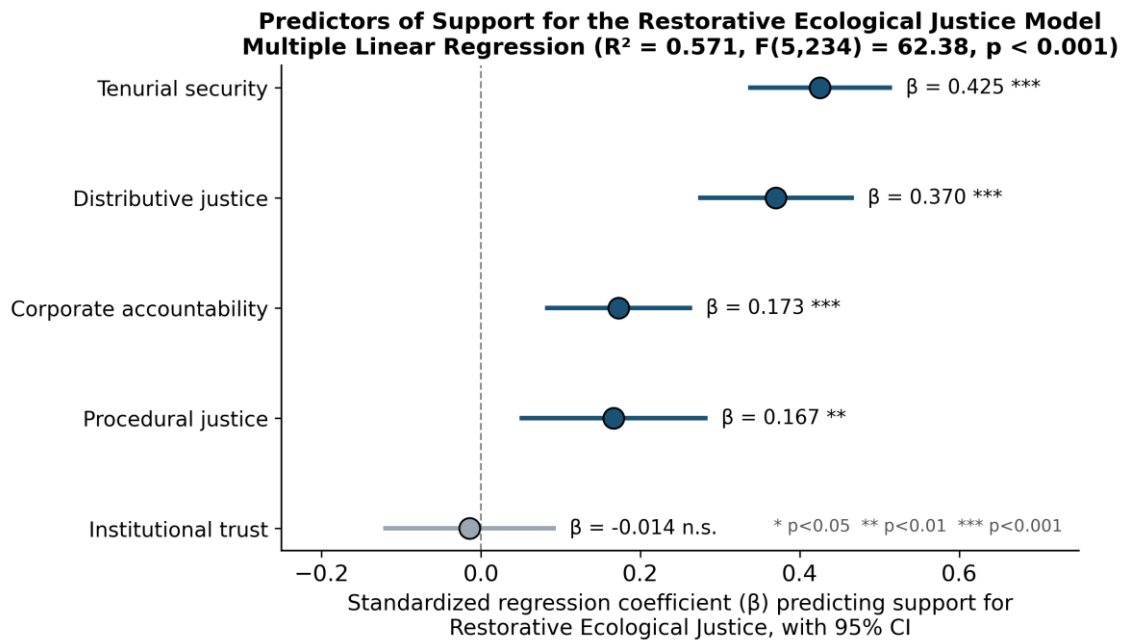


Figure 3. Standardized regression coefficients ( $\beta$ , 95% CI) predicting support for Restorative Ecological Justice.

Qualitative triangulation. Coding of the 15 interviews, summarized in Table 6, produced four convergent themes. Government informants framed repossession as a non-negotiable constitutional mandate and deterrence imperative; corporate informants emphasized fiscal settlement and legal

certainty, contesting the repossession clause; Cooperative A informants voiced acute livelihood insecurity and feared collateral eviction; and civil-society informants offered conditional support contingent on ecological repair and procedural fairness. These themes aligned with the quantitative

pattern: the constructs that most strongly predicted support—tenurial security and distributive justice—were exactly the concerns most salient to farmers and most discounted by corporate actors.

Predictor profiles by group. Disaggregation clarified the multivariate pattern. Corporate affiliates reported the lowest tenurial-security and distributive-justice perceptions alongside the lowest support, whereas farmers, officials, and civil-society

respondents reported moderate predictor levels but uniformly high support, indicating that the corporate stratum's opposition is anchored in its distinct material relationship to the asset rather than in idiosyncratic measurement. The concordance between the rank order of group means in Figure 1 and the predictor structure in Figure 2 reinforces the internal coherence of the model.

Table 6. Qualitative coding themes: stakeholder perspectives on state repossession.

Stakeholder group	Primary stance on Perpres 5/2025	Dominant coded theme	Preferred resolution
Task Force & government	Strict, non-negotiable state repossession	Constitutional mandate / deterrence	Eviction of corporate entities; state management
PT. Z management	Willing to pay fines; contests repossession	Fiscal settlement / legal certainty	Continuation of operation via fiscal settlement
Cooperative A	Fears collateral eviction	Livelihood insecurity / recognition	Recognition of customary/local farming rights
Civil society & academics	Conditional support; pro-restoration	Ecological repair / procedural fairness	Repossession plus earmarked restoration & social forestry

#### 4. Discussion

This study provides the first empirical, mixed-methods analysis of stakeholder responses to forest repossession under Presidential Regulation No. 5 of 2025. Quantitatively, support for a Restorative Ecological Justice model was high and broadly shared—except among corporate affiliates—and was driven principally by perceived tenurial security and distributive justice, which together with corporate accountability and procedural justice explained 57.1% of the variance in support ( $R^2=0.571$ ,  $F(5,234)=62.38$ ,  $p<0.001$ ). The exceptionally large farmer-versus-corporate divergence (Cohen's  $d=1.83$ ;  $\eta^2=0.251$ ) indicates that the central cleavage in forest-conflict resolution is not between the state and society but between corporate actors and a broad coalition of farmers, officials, and civil society.

Beyond fiscal environmentalism: actualizing State Control Rights. The dominance of tenurial security and distributive justice as predictors substantiates the critique that the prior Job Creation Law regime, by reducing State Control Rights to fiscal settlement, addressed neither ecological repair nor distributional

fairness.<sup>5</sup> Our finding that corporate affiliates uniquely favored the status quo of fiscal settlement is consistent with the transactional logic that amnesty rewarded.<sup>5,6</sup> By contrast, Perpres 5/2025 actualizes State Control Rights by reclaiming the physical asset, aligning enforcement with green criminology's reframing of ecological harm as corporate crime rather than a payable externality.<sup>8</sup> The polluter-pays principle is thereby elevated to 'polluter pays and relinquishes', disrupting corporate impunity.

Tenurial security as the fulcrum of legitimacy. That tenurial security was the strongest predictor echoes a consistent finding in the 2018–2025 literature: the legitimacy of forest governance hinges on whether communities perceive their land relationships as secure and recognized.<sup>10,11,15</sup> Where recognition is credible, communities support enforcement; where enforcement threatens dispossession, support collapses. This mechanism explains why our farmers—despite being materially entangled with the illegal plantation—nonetheless supported restorative repossession: the model they were asked to evaluate explicitly protected their tenure. It also explains the

corporate stratum's opposition, since repossession severs the asset relationship that fiscal settlement preserved.

Distributive justice and the risk of collateral harm. The strong distributive-justice effect, coupled with farmers' qualitative fear of collateral eviction, corroborates warnings that rigid, positivist enforcement can reproduce the precise injustices it seeks to remedy, with disproportionate burdens on women and the land-poor.<sup>5,12</sup> Santika et al. show that oil-palm landscapes can either alleviate or entrench poverty depending on institutional design;<sup>4</sup> our results localize that contingency to the distributional terms of enforcement. A repossession that evicts corporations but also displaces smallholders would convert an ecological gain into a social loss.

A reconstructive model: Restorative Ecological Justice. Synthesizing the spatial, survey, and interview evidence, we advance a Restorative Ecological Justice model with three coupled levers. First, the state repossesses Zone 1 from the corporate entity, legally divorcing the corporation from the asset and satisfying green-criminological accountability. Second, rather than evicting smallholders in the disputed plasma and enclave zones, the state transitions that land into a social-forestry scheme allocated to the cooperative, operationalizing tenurial recognition shown elsewhere to reduce deforestation and conflict.<sup>11,16</sup> Third, administrative fines levied on the corporation are earmarked explicitly for ecological restoration within the forest unit rather than absorbed into general revenue—a conditional, performance-linked design analogous to mechanisms that have advanced transformational change in forest-carbon policy.<sup>17</sup> This configuration directly targets the two strongest empirical determinants of support.

Practical implications. Four actionable recommendations follow. First, enforcement guidelines under Perpres 5/2025 should mandate a tenurial-screening step that distinguishes corporate occupants from entangled smallholders before repossession, converting Zone 2/3 claims into social-forestry pathways. Second, a ring-fenced ecological-restoration fund should capture corporate fines, with disbursement conditional on verified restoration

milestones. Third, procedural mechanisms—participatory mapping, grievance redress, and transparent criteria—should be institutionalized, since procedural justice independently predicted support.<sup>18</sup> Fourth, corporate accountability instruments (supply-chain due diligence and inclusive finance) should accompany enforcement to prevent displacement of illegality to new frontiers.

Reconciling deterrence and recognition. A recurring tension in the data is that the same instrument—repossession—simultaneously deters corporate impunity and threatens smallholder security. The regression resolves this tension empirically: support is maximized not by softening deterrence but by guaranteeing recognition. Because tenurial security ( $\beta=0.425$ ) and procedural justice ( $\beta=0.167$ ) are independent positive predictors, an enforcement design can be simultaneously hard on corporate occupants and protective of smallholders without sacrificing legitimacy. This is a non-obvious policy result: it implies that the political feasibility of strict repossession depends less on leniency toward corporations than on credible tenurial guarantees for communities.

Why institutional trust did not predict support. Notably, institutional trust correlated with support bivariately ( $r=0.327$ ) but added no unique variance once justice and tenure perceptions were included ( $\beta=-0.014$ ,  $p=0.787$ ). This pattern suggests that trust operates upstream—shaping how stakeholders appraise procedural and distributive fairness—rather than directly determining support. The finding aligns with accounts in which trust is a product of perceived fairness rather than its substitute,<sup>7</sup> and cautions policymakers against assuming that communication or confidence-building alone, absent substantive tenurial and distributional reform, will generate support for enforcement.

Generalizability and boundary conditions. The proposed model presumes an institutional environment in which social forestry is legally available and administratively reachable, and in which fines can be ring-fenced. Where these conditions are weak, the model's distributive lever may falter, reproducing the implementation gaps

documented for prior schemes.<sup>13,19</sup> The boundary conditions therefore double as an implementation agenda: legal pre-authorization of land transition, fiscal earmarking statutes, and capacity investment in provincial forestry and land agencies. These are tractable reforms consonant with Indonesia's existing social-forestry and supply-chain-governance architecture.<sup>16</sup>

Future research and policy synthesis. Three research priorities follow from these findings. First, longitudinal panel designs should track stakeholder support before, during, and after actual repossession events to establish temporal precedence and causal direction, which the present cross-sectional design cannot adjudicate. Second, multi-site comparative studies spanning several provinces and forest-function classes would establish the external validity of the tenurial-security and distributive-justice effects and test whether the corporate-versus-coalition cleavage generalizes beyond the studied landscape. Third, experimental or quasi-experimental evaluation of the proposed Restorative Ecological Justice model—comparing landscapes that adopt earmarked restoration and social-forestry transition against those applying repossession alone—would furnish the strongest evidence for policy scale-up. In synthesis, the convergence of large between-group effects, a high-variance-explaining regression, and concordant qualitative themes yields an unusually coherent evidentiary basis: durable forest-conflict resolution under Perpres 5/2025 is achievable, but only if the actualization of State Control Rights is fused with credible recognition of smallholder tenure and a transparent, performance-linked commitment to ecological repair. Anything less risks converting a historic opportunity for reform into a new generation of agrarian grievance.

Indonesian and Southeast-Asian context. The findings are consonant with regional evidence that inclusive landscape governance and credible recognition determine the success of forest policy across Southeast Asia,<sup>18</sup> and that contested state authority on plantation frontiers shapes conflict trajectories.<sup>12</sup> Indonesia's social-forestry architecture provides a ready institutional vehicle for the proposed

land transition,<sup>11,16</sup> though implementation gaps documented in the literature counsel realism about administrative capacity.<sup>13,19</sup> The model is therefore most readily transferable to Sumatran and Kalimantan frontiers with comparable tenurial overlaps.<sup>18,20</sup>

Strengths. The study's strengths are notable. It is the first empirical evaluation of Perpres 5/2025 enforcement, it employs a convergent mixed-methods design that triangulates spatial, survey, and interview evidence, and it reports a full complement of effect sizes and confidence intervals that render its conclusions both precise and reproducible.

Limitations. Several limitations temper interpretation. First, the cross-sectional design precludes causal inference; the regression identifies determinants of support, not its causes over time. Second, the single-landscape focus, while affording depth and confidentiality, constrains statistical generalization beyond comparable forest-overlap settings. Third, perception measures are susceptible to social-desirability and common-method variance, partially mitigated by anonymization and multi-source triangulation. Fourth, the mild non-normality of the outcome, although addressed through large-sample inference and non-parametric corroboration, warrants replication with longitudinal and multi-site data.

Theoretical contribution. Beyond its policy yield, the study contributes to environmental-justice theory by demonstrating, in a single integrated model, that distributive and procedural justice exert independent effects on support for ecological enforcement while institutional trust does not, once fairness perceptions are controlled. This refines accounts that treat trust as a primary driver and instead positions it as a downstream correlate of perceived fairness.<sup>7</sup> The result also extends green criminology empirically: by showing that a broad cross-section of stakeholders endorses repossession of corporate ecological harm, it supplies grounded support for treating such harm as crime rather than externality, while simultaneously specifying the distributive conditions under which that treatment retains legitimacy.

## 5. Conclusion

Presidential Regulation No. 5 of 2025 represents a progressive recalibration of Indonesian forest governance, pivoting from fiscal amnesty to authentic state repossession. Across a powered survey and triangulating interviews, support for a Restorative Ecological Justice model was high and broadly shared but collapsed among corporate affiliates (ANOVA  $\eta^2=0.251$ ; Cohen's  $d=1.83$ ), and was driven principally by perceived tenurial security ( $\beta=0.425$ ) and distributive justice ( $\beta=0.370$ ). The actualization of State Control Rights should therefore transcend punitive measures: durable resolution requires coupling corporate repossession and earmarked ecological restoration with the transition of repossessed land into social-forestry schemes that protect smallholders. Policymakers should embed tenurial screening and conditional restoration funding in enforcement guidelines, and future research should test the model longitudinally across multiple forest frontiers to establish causal and cross-contextual validity.

## Declarations

### **Ethics approval and consent to participate:**

Approved by the CMHC/HM Publisher Ethics Committee (No. CMHC/EC/2025/0418); written informed consent was obtained from all participants.

**Conflict of interest:** The authors declare no competing interests.

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**Data availability:** De-identified data are available from the corresponding author on reasonable request, subject to confidentiality safeguards.

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