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ESG Governance, Stakeholder Engagement, and Sustainable Resource Management in Indonesia's Extractive Sector: The Mediating Roles of Corporate Environmental and Social Performance

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Abstract

Extractive companies in emerging economies are under growing pressure to demonstrate that Environmental, Social, and Governance (ESG) commitments translate into responsible resource use. This study examines whether internal ESG governance mechanisms ESG policy implementation (ESG_PI), stakeholder engagement (SE), corporate governance quality (CGQ), environmental management systems (EMS), and social responsibility initiatives (SRI) are associated with sustainable resource management (SRM) in Indonesia's extractive sector, and whether corporate environmental performance (CEP) and corporate social performance (CSP) mediate these associations. A cross-sectional survey was administered to 415 managerial and technical professionals responsible for ESG, sustainability, environmental management, or governance functions in mining, oil, and gas companies located in Indonesia's extractive economic hubs, selected through purposive sampling. Data were analysed with SPSS and covariance-based structural equation modelling (AMOS). All five direct paths to SRM were positive and significant, with the strongest association for SRI (β = 0.184) and the weakest for CGQ (β = 0.072). The largest indirect association ran from ESG_PI through CEP to SRM (indirect effect = 0.203), whereas the indirect associations through CSP were smaller (CGQ: 0.044; SRI: 0.064), indicating partial mediation. Because all constructs reflect the perceptions of company employees, the findings describe the corporate side of ESG governance; they do not measure community experiences, greenwashing, or social justice. The study contributes evidence on how ESG governance mechanisms relate to resource-management outcomes in an under-researched emerging-market setting and outlines how community-level constructs could be operationalised in future research.

Keywords: *ESG governance, Stakeholder Engagement, Sustainable Resource Management, Corporate Environmental Performance, Corporate Social Performance, Extractive Industry, Indonesia.*

INTRODUCTION

The contemporary business environment is putting increased pressure on corporations to embrace responsible and sustainable business practices that meet societal expectations and global sustainability requirements, in line with the long-standing ideal of development that meets present needs without compromising those of future generations (World Commission on Environment and Development, 1987). Investors, consumers, regulators, and civil society mount pressure on organisations to be more accountable for their environmental and social performance (Gurzawska, 2020; Wong et al., 2023). As a result, Environmental, Social, and Governance (ESG) practices have become a pivotal system for measuring corporate responsibility and long-term

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performance (Alsayegh et al., 2020). ESG performance has become one of the major indices for evaluating the credibility, transparency, and ethical governance of a firm, especially in industries with a high environmental footprint. Firms with good ESG performance are commonly viewed as more resilient, reliable, and able to manage risks related to environmental degradation and social conflict (Sholikin et al., 2025).

Employing ESG principles in corporate strategy is expected not only to increase firm value but also to contribute to the responsible management of natural resources and sustainable development (Dorfleitner and Utz, 2024; Aluchna et al., 2022). Nevertheless, as ESG adoption rises, an important question remains as to whether corporate sustainability commitments are converted into actual practices rather than remaining symbolic programmes. The literature has described one form of this gap as greenwashing, that is, the disclosure of misleading or exaggerated environmental information that creates an image of responsibility not reflected in practice (Laufer, 2003; Delmas & Burbano, 2011). Concerns about such gaps motivate the present study; however, the study does not measure greenwashing directly. Instead, it examines a necessary precondition for closing the gap between commitment and practice, namely whether internal ESG governance mechanisms are associated with sustainable resource-management outcomes.

These questions are particularly salient for Indonesia's extractive sector, which encompasses mining, oil, and gas operations. The sector contributes significantly to national growth, export revenues, employment, and infrastructure (Sholikin et al., 2024; Sholikin, 2026). At the same time, extractive activities are associated with considerable environmental and social impacts, including ecosystem disturbance, soil erosion, biodiversity loss, and conflicts with host communities (Sholikin, Sarsale, & Shoimah, 2026; Anwar & Sonni, 2026). These impacts have raised questions about environmental stewardship and corporate accountability in the industry (Samkin et al., 2024), and governments, non-governmental organisations, and local communities frequently question extractive companies about their environmental practices and social obligations (Hassan et al., 2023).

Although extractive activities contribute to the macro-economy, they have frequently generated tensions between economic development and environmental conservation, including land conflicts, resettlement, and social inequalities in mining areas (Sholikin, 2026; Anwar & Sonni, 2026). These tensions impede progress towards the UN Sustainable Development Goals (SDGs) in emerging markets. The environmental intensity and limited transparency of many extractive operations also create opportunities for symbolic sustainability reporting, especially where regulatory oversight is weaker (Korca et al., 2021; Cherono et al., 2025). Understanding how internal governance mechanisms, stakeholder engagement, and environmental and social performance relate to resource-management outcomes is therefore important for improving sustainability governance in this industry (Sholikin, 2026).

Despite a growing literature on sustainability reporting and ESG, empirical evidence on how ESG governance mechanisms operate within extractive companies in developing economies remains limited (Samkin et al., 2024). Most studies concentrate on developed countries with robust regulatory frameworks, governance structures, and transparency mechanisms, leaving the institutional and regulatory context of emerging markets such as Indonesia comparatively under-examined (Yu and Xiao, 2022; Moodaley and Telukdarie, 2023). Moreover, prior studies tend to examine ESG pillars in isolation, and few test whether environmental and social performance act as distinct channels through which governance mechanisms relate to resource-management outcomes in resource-intensive industries (Wang et al., 2024).

To address this gap, the study is guided by one research question: To what extent are internal ESG governance mechanisms ESG policy implementation, stakeholder engagement, corporate governance quality, environmental management systems, and social responsibility initiatives associated with sustainable resource management in Indonesia's extractive companies, and do corporate environmental and social performance mediate these associations, as perceived by professionals responsible for ESG-related functions? The study draws on Stakeholder Theory, Legitimacy Theory, and

Socio-Ecological Systems Theory (Sholikin, 2025). Because the data come from company professionals, the study captures the corporate side of ESG governance; community experiences of participation, justice, and greenwashing are discussed as conceptual motivation and as directions for future research rather than as empirical findings.

Accordingly, the objectives of the study are:

1. To describe how professionals in Indonesia's extractive companies perceive the implementation of ESG governance mechanisms and sustainable resource management in their organisations.
2. To examine the direct associations of ESG policy implementation, stakeholder engagement, corporate governance quality, environmental management systems, and social responsibility initiatives with sustainable resource management (H1–H5).
3. To examine whether corporate environmental performance and corporate social performance mediate the associations between selected ESG governance mechanisms and sustainable resource management (H6–H8).
4. To derive managerial and policy implications that are consistent with the empirical results, and to outline how community-level constructs such as Resource Democracy could be operationalised in future research.

LITERATURE REVIEW

Stakeholder Theory (ST) and Stakeholder Engagement

Stakeholder Theory, formulated by Freeman, posits that a corporation's long-term survival and success depend not only on fulfilling shareholder expectations but on balancing the diverse interests of all stakeholders, including local communities, environmental advocates, employees, and governments (Freeman et al., 2021). Extractive companies face intense external scrutiny regarding their ethical governance and accountability (Wong et al., 2023; Hassan et al., 2023). Studies indicate that when organisations institutionalise stakeholder engagement (SE) and participatory decision-making mechanisms, they tend to develop stronger social responsibility initiatives (SRI) and environmental management systems (Sholikin & Sena, 2024). This participatory approach is expected to ground corporate sustainability policies in the needs of host communities (Manning et al., 2019; Freeman et al., 2021). In this study, SE is measured as the extent to which professionals perceive that their company involves stakeholders in decision-making; it is therefore a corporate-side indicator of engagement, not a measure of the quality of participation as experienced by communities.

Positioning Resource Democracy: Conceptual Boundaries

The original motivation for this study was the idea of Resource Democracy, understood here as a normative governance ideal in which the people most affected by resource extraction hold substantive and enforceable influence over decisions about whether, how, and for whose benefit resources are extracted (Sholikin et al., 2022). Because several established concepts already address parts of this ideal, Table 1 sets out how Resource Democracy relates to and differs from them. In short, stakeholder participation and procedural justice concern the quality of decision processes (Lind & Tyler, 1988); environmental democracy concerns rights of access to information, participation, and justice (Mason, 1999); the social licence to operate concerns ongoing community acceptance (Prno & Slocombe, 2012; Moffat & Zhang, 2014); benefit-sharing concerns distributive outcomes (Wall & Pelon, 2011); free, prior and informed consent (FPIC) concerns the right of indigenous peoples to give or withhold consent (United Nations General Assembly, 2007); and polycentric governance concerns the distribution of decision authority across multiple centres (Ostrom, 2010). Resource Democracy, as used here, integrates procedural influence, distributive fairness, and accountability at the site of extraction into a single normative standard.

Table 1. Resource Democracy and related concepts

Concept	Core focus	Typical unit / actor	Relation to Resource Democracy
Stakeholder participation	Involvement of stakeholders in corporate decisions	Firm and its stakeholders	A necessary procedural element; participation may be consultative without conferring influence
Procedural justice	Perceived fairness of decision processes (voice, neutrality, respect)	Individuals and groups affected by decisions	Provides the evaluative criterion for the process dimension
Environmental democracy	Rights of access to information, participation, and justice in environmental matters	State–citizen relationship	Supplies the rights-based foundation; Resource Democracy applies it at the site level and to corporate actors
Social licence to operate	Ongoing community acceptance of an operation	Community–company relationship	An outcome that may follow from Resource Democracy, but acceptance can exist without influence
Benefit-sharing	Distribution of revenues and benefits to affected communities	Company, state, and community	Supplies the distributive dimension
FPIC	Right of indigenous peoples to give or withhold consent	Indigenous peoples	The strongest form of procedural influence; Resource Democracy extends the principle beyond indigenous status
Polycentric governance	Multiple, overlapping centres of decision authority	Governance system	Describes the institutional architecture in which Resource Democracy could be embedded

Note: Compiled by the authors from the cited literature.

Under this definition, Resource Democracy can only be assessed with data from affected communities and other external stakeholders (for example, perceived influence over decisions, procedural fairness, and the distribution of benefits and harms). The present study does not measure it. The constructs analysed here particularly SE, SRI, and CSP capture the corporate mechanisms that may be preconditions for Resource Democracy, as reported by company professionals. The concept is therefore used only as a framing lens and as an agenda for future research, and the study's empirical claims are restricted to the constructs actually measured.

Legitimacy Theory (LT) and Social Licence to Operate

Legitimacy Theory (LT) explains corporate behaviour regarding ESG disclosure and sustainability practices. LT is based on the notion of a "social contract" between a business and the society in which it operates; a company must continuously demonstrate that its actions are desirable, proper, and appropriate within socially constructed norms to maintain its legitimacy (Deegan, 2019). In the extractive sector, formal regulatory compliance is often insufficient to secure a social licence to operate (SLO) at the local level (Prno & Slocombe, 2012). Consequently, companies use ESG policies and corporate governance quality (CGQ) to signal commitment to environmental and social responsibility (Alessa et al., 2024). LT also explains why such signals may be decoupled from practice: when legitimacy pressure is high but the cost of structural change is substantial, companies may separate formal sustainability reporting from operational practice (Deegan, 2019; Delmas & Burbano, 2011). LT therefore implies that governance mechanisms are associated with resource-management outcomes mainly to the extent that they are translated into tangible corporate social performance (CSP).

Socio-Ecological Systems (SES) Theory

To account for the environmental side of extractive operations, the study incorporates Socio-Ecological Systems (SES) Theory, which provides a framework for analysing the dynamic interactions between social and ecological systems (Ostrom,

2009). The extractive industry exemplifies an SES, in which extraction alters ecological conditions that subsequently affect the livelihoods, health, and social stability of local communities (Ostrom, 2009; Sholikin et al., 2025). From an SES perspective, sustainable extraction requires environmental management systems (EMS) that mitigate ecological degradation (Sholikin, 2021), and corporate environmental performance (CEP) is the immediate outcome through which environmental policies affect the resource base. Sustainable resource management (SRM) thus requires organisations to treat environmental stewardship and social conditions as interdependent (Zameer et al., 2024).

Hypotheses Development and Conceptual Framework

Table 2 and Figure 1 show which theory anchors each hypothesised path. Stakeholder Theory primarily supports the paths that run through engagement with, and initiatives for, external stakeholders (H2, H5, H8); Legitimacy Theory supports the paths through which formal policies and governance structures are expected to be associated with outcomes (H1, H3, H7); and SES Theory supports the paths that operate through environmental systems and environmental performance (H4, H6).

ESG policy implementation (H1). ESG policies formalise targets for resource efficiency, waste, emissions, rehabilitation, and community relations. From a legitimacy perspective, implemented policies (as opposed to merely announced ones) commit the organisation to observable standards and are therefore expected to be associated with better SRM.

Stakeholder engagement (H2). Stakeholder Theory suggests that involving stakeholders in decisions brings information about local environmental and social conditions into management and creates accountability for how resources are used. Engagement is therefore expected to be positively associated with SRM.

Corporate governance quality (H3). Effective boards, oversight structures, and internal controls are expected to monitor whether sustainability commitments are met (Manning et al., 2019). Under LT, governance quality also signals accountability to regulators and investors, and is expected to be associated with SRM.

Environmental management systems (H4). Under SES Theory, EMS are the operational mechanisms through which firms monitor and reduce their ecological impacts; they are expected to be directly associated with SRM because they govern day-to-day resource use.

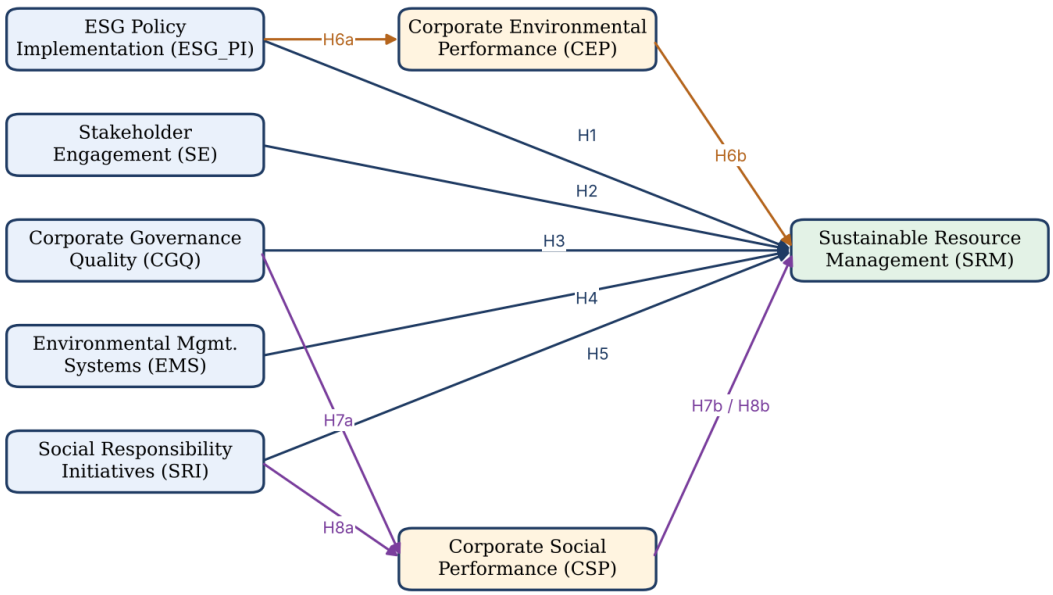
Social responsibility initiatives (H5). Programmes in community development, local employment, and welfare are expected to reduce social pressures on operations and support the long-term conditions for resource management, consistent with Stakeholder Theory.

Mediation through CEP (H6). ESG policies are expected to be associated with SRM partly because they set environmental targets that are reflected in environmental performance (SES Theory). CEP was specified as the mediator only for ESG_PI because ESG_PI is the broadest policy-level construct, whereas EMS is itself an operational environmental mechanism that overlaps conceptually with CEP; modelling EMS → CEP would have risked treating two closely related environmental measures as cause and effect.

Mediation through CSP (H7, H8). Governance quality and social responsibility initiatives are expected to be associated with SRM mainly through the social pillar: governance structures oversee community commitments (LT), and social initiatives are inputs whose immediate result is social performance (Stakeholder Theory). CSP was therefore specified as the mediator for CGQ and SRI. These mediation paths were specified a priori from theory; alternative specifications (for example, CEP and CSP mediating all predictors) were not estimated in this study and are suggested for future research.

Table 2. Theoretical anchoring of the hypothesised paths

Hyp.	Path	Primary theory	Mechanism
H1	ESG_PI → SRM	Legitimacy Theory	Implemented policies commit the firm to observable standards
H2	SE → SRM	Stakeholder Theory	Stakeholder input and accountability in resource decisions
H3	CGQ → SRM	Legitimacy Theory	Oversight and monitoring of sustainability commitments
H4	EMS → SRM	SES Theory	Operational control of ecological impacts
H5	SRI → SRM	Stakeholder Theory	Community programmes that stabilise the social context of operations
H6	ESG_PI → CEP → SRM	SES Theory	Policies translated into environmental performance
H7	CGQ → CSP → SRM	Legitimacy Theory	Governance translated into social performance
H8	SRI → CSP → SRM	Stakeholder Theory	Social initiatives translated into social performance



Solid dark arrows: direct paths (H1–H5). Coloured arrows: indirect paths via CEP (H6) and CSP (H7, H8).
Stakeholder Theory: H2, H5, H8 · Legitimacy Theory: H1, H3, H7 · Socio-Ecological Systems Theory: H4, H6

Figure 1. Conceptual model

The hypotheses are as follows:

- **H1:** ESG policy implementation (ESG_PI) is positively associated with SRM in Indonesia's extractive sector.
- **H2:** Stakeholder engagement (SE) in decision-making is positively associated with SRM.
- **H3:** Corporate governance quality (CGQ) is positively associated with SRM.
- **H4:** Environmental management systems (EMS) are positively associated with SRM.
- **H5:** Social responsibility initiatives (SRI) are positively associated with SRM.
- **H6:** CEP mediates the association between ESG_PI and SRM.
- **H7:** CSP mediates the association between CGQ and SRM.
- **H8:** CSP mediates the association between SRI and SRM.

Because H7 and H8 share the CSP → SRM path, that path is estimated once; the two hypotheses differ in their antecedent paths (CGQ → CSP and SRI → CSP) and therefore in their indirect effects.

METHOD

Research Design

The study uses a quantitative explanatory design with a cross-sectional survey (Hair et al., 2019). It examines associations between ESG governance mechanisms and SRM in Indonesia's extractive companies; because the data are cross-sectional and perceptual, the results are interpreted as associations rather than causal effects.

Population, Sampling, and Data Collection

The target population comprises managerial and technical professionals in extractive companies (mining, oil, and gas) who perform sustainability, ESG compliance, environmental management, or corporate governance functions, located in Indonesia's extractive economic hubs where environmental and social governance issues are most prominent. Purposive sampling was used because only employees in these functions can be expected to have sufficient knowledge of the practices being assessed; respondents were selected specifically on the basis of their knowledge of and experience with ESG and sustainability practices in their organisations. The questionnaire was administered online through a survey platform, e-mail invitations, and professional networks in the industry in order to reach respondents across companies and subsectors.

A total of 415 usable responses were obtained and analysed. Because the questionnaire was disseminated through open online channels and professional networks, the total number of professionals reached could not be determined precisely, and a response rate is therefore not reported; this is acknowledged as a limitation. Table 3 summarises the sampling design, and the profile of respondents is reported in Table 4.

Table 3. Summary of the sampling design

Item	Description
Research design	Quantitative explanatory, cross-sectional survey
Industry coverage	Extractive companies: mining, oil, and gas
Geographic coverage	Indonesia's extractive economic hubs
Target respondents	Managerial and technical professionals in sustainability, ESG compliance, environmental management, and corporate governance functions
Sampling technique	Purposive sampling (knowledge of and experience with ESG and sustainability practices)
Data-collection channels	Online survey platform, e-mail invitations, professional networks
Instrument	40 items, eight constructs, 5-point Likert scale
Usable responses	415

Research Instrument

The structured questionnaire contains eight constructs ESG_PI, SE, CGQ, EMS, SRI, SRM, CEP, and CSP each measured with five items on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), giving 40 items. The constructs were operationalised on the basis of the theoretical framework and literature reviewed above, and the questionnaire was administered in Bahasa Indonesia. The operational definition of each construct and the item codes are reported in Appendix A, and the item-level response distributions in Appendix B.

Ethical Considerations

The study was conducted under the BIMA research grant scheme of the Ministry of Education, Culture, Research, and Technology (see Acknowledgements). Respondents

took part in their professional capacity, and the data are reported only in aggregate form so that no individual respondent or participating company can be identified. Because the questionnaire concerns potentially sensitive assessments of corporate governance and environmental behaviour, no company names are reported in this article.

Common-Method Bias

Because all constructs were measured with the same self-reported instrument completed by the same respondents, common-method variance, social-desirability bias, and organisational self-presentation bias are possible; employees may be reluctant to evaluate their own company's environmental and social performance negatively (Podsakoff et al., 2003). The risk was assessed statistically with Harman's single-factor test and with a full collinearity assessment based on variance inflation factors (Kock, 2015); the results are presented in the Measurement Model section and are taken into account in interpreting the findings.

Data Analysis

IBM SPSS Statistics was used for descriptive statistics, one-sample t-tests against the scale midpoint, reliability analysis (Cronbach's alpha), Pearson correlations, exploratory factor analysis, and collinearity diagnostics. Discriminant validity was examined through the inter-construct correlations and variance inflation factors (Hair et al., 2019). IBM SPSS AMOS was used to estimate the structural model, and model fit was evaluated with x^2 and its probability, CMIN/DF, GFI, AGFI, NFI, IFI, TLI, CFI, RMR, and RMSEA (Hu & Bentler, 1999; Kline, 2016). For the mediation hypotheses, the indirect effect was computed as the product of the component paths (a × b), its significance was tested with the Sobel test (Sobel, 1982; Preacher & Hayes, 2008), and the direct, indirect, and total effects are reported.

RESULTS

Respondent Profile

Table 4 summarises the respondents' profile. All respondents were professionals working in sustainability-, ESG-, environment-, or governance-related functions in mining, oil, and gas companies. The largest age groups were 21–30 years (36.5%) and 31–40 years (34.2%); 56.2% of respondents were male and 43.8% female. Most held a Bachelor's degree (37.1%) or a Master's degree (30.4%), and 33.8% had 5–10 years and 29.5% had 11–15 years of professional experience.

Table 4. Respondent profile (N = 415)

Characteristic	Category	%
Age	21–30 years	36.5
	31–40 years	34.2
	Other age groups	29.3
Gender	Male	56.2
	Female	43.8
Education	Bachelor's degree	37.1
	Master's degree	30.4
	Other levels of education	32.5
Professional experience	5–10 years	33.8
	11–15 years	29.5
	Other experience groups	36.7

Note: "Other" categories are the remaining share of respondents in each characteristic (100% minus the categories reported).

Descriptive Statistics and Reliability

Table 5 reports descriptive statistics and reliability. Construct means ranged from 3.842 (EMS) to 3.982 (CSP), and Cronbach's alpha ranged from 0.781 (SRM) to 0.912 (CGQ), above the 0.70 threshold. One-sample t-tests were conducted against the scale

midpoint (test value = 3, neutral) to assess whether respondents, on average, agreed with the statements; a test value of zero would not be meaningful because it lies outside the 1–5 response scale. All construct means were significantly above the midpoint (t = 21.12 to 27.25, p < 0.001), with large standardised differences (Cohen's d = 1.04 to 1.34). Item-level response distributions are reported in Appendix B. The generally high agreement should be read in light of the self-presentation bias discussed in the Common-Method Bias section.

Table 5. Descriptive statistics, reliability, and one-sample t-tests against the scale midpoint (N = 415)

Construct	Items	Mean	SD	SE	t (μ = 3)	p	Cohen's d	Cronbach's α
ESG_PI	5	3.931	0.805	0.040	23.58	< 0.001	1.16	0.892
SE	5	3.892	0.798	0.039	22.77	< 0.001	1.12	0.887
CGQ	5	3.915	0.815	0.040	22.85	< 0.001	1.12	0.912
EMS	5	3.842	0.812	0.040	21.12	< 0.001	1.04	0.844
SRI	5	3.881	0.802	0.039	22.40	< 0.001	1.10	0.838
SRM	5	3.961	0.718	0.035	27.25	< 0.001	1.34	0.781
CEP	5	3.902	0.814	0.040	22.56	< 0.001	1.11	0.875
CSP	5	3.982	0.819	0.040	24.43	< 0.001	1.20	0.891

Note: SE = standard error of the mean (SD/√N). t = (Mean − 3)/SE, df = 414. d = (Mean − 3)/SD.

Measurement Model

An exploratory factor analysis on the eight construct scores showed that a single factor explained 72.1% of the variance (KMO = 0.915; Bartlett's x^2 = 3012.514, df = 28, p < 0.001). Because this analysis was performed on aggregated construct scores rather than on individual items, it cannot establish construct validity. Moreover, the dominance of one factor suggests that the constructs may not be fully distinct empirically and that common-method variance may be present (Podsakoff et al., 2003). The result is therefore interpreted as a diagnostic for common-method variance (Harman's single-factor test), and construct distinctiveness is examined below through reliability, inter-construct correlations, and collinearity diagnostics.

Internal consistency was satisfactory for all constructs (Cronbach's α = 0.781–0.912; Table 5). Discriminant validity was examined through the inter-construct correlations in Table 6. All correlations were positive and significant (p < 0.01), and several were high: EMS–SRI (0.846), SRI–CSP (0.818), SE–CGQ (0.815), and EMS–CSP (0.808). Correlations above 0.80 indicate that these pairs of constructs, while conceptually distinct, overlap considerably in respondents' perceptions; the results involving these constructs are therefore interpreted with caution, and the issue is acknowledged as a limitation.

Table 6. Inter-construct correlations

	ESG_PI	SE	CGQ	EMS	SRI	SRM	CEP	CSP
ESG_PI	1							
SE	0.79	1						
CGQ	0.77	0.82	1					
EMS	0.75	0.74	0.74	1				
SRI	0.74	0.75	0.74	0.85	1			
SRM	0.55	0.57	0.56	0.58	0.63	1		
CEP	0.40	0.41	0.42	0.45	0.48	0.76	1	
CSP	0.80	0.79	0.79	0.81	0.82	0.64	0.49	1

Note: Pearson correlations of construct scores (lower triangle), rounded to two decimals; all p < 0.01 (two-tailed).

Collinearity was assessed with full collinearity variance inflation factors (VIFs) computed from the construct correlation matrix, in which each construct is regressed on all others (Kock, 2015). As shown in Table 7, all VIFs were below 5 (range 2.43–4.89), so severe multicollinearity is unlikely by conventional standards (Hair et al., 2019).

However, six of the eight VIFs exceeded the more conservative threshold of 3.3 proposed by Kock (2015) as an indicator of common-method bias. In the regression of SRM on its seven predictors, VIFs ranged from 1.35 (CEP) to 4.83 (CSP).

Table 7. Collinearity diagnostics

Construct	Full collinearity VIF	VIF in SRM equation
ESG_PI	3.68	3.67
SE	4.04	4.02
CGQ	3.82	3.82
EMS	4.37	4.37
SRI	4.63	4.51
CEP	2.43	1.35
CSP	4.89	4.83
SRM	3.25	

Note: Computed from the correlation matrix in Table 6. Full collinearity VIF: each construct regressed on all other seven constructs. SRM equation: SRM regressed on ESG_PI, SE, CGQ, EMS, SRI, CEP, and CSP.

Taken together, the single-factor result (72.1% of variance on one factor) and the full collinearity VIFs indicate that common-method variance cannot be ruled out The results below should therefore be interpreted with caution, and this issue is acknowledged as a limitation.

Structural Model

Table 8 reports the fit of the estimated structural model. $x^2(18) = 29.412$ ($p = 0.044$), CMIN/DF = 1.634, CFI = 0.968, TLI = 0.958, and RMSEA = 0.043 (PCLOSE = 0.614), indicating acceptable fit by conventional criteria (Hu & Bentler, 1999), although the x^2 test is significant at the 0.05 level. AIC (85.412) and BIC (154.215) are comparative indices; because no competing model was estimated, they are reported for completeness and future comparison rather than interpreted as evidence of fit. No error covariances were specified.

Table 8. Model fit of the structural model

Index	Obtained value	Criterion	Evaluation
x^2 (CMIN)	29.412		
df	18		
p (x^2)	0.044	> 0.05	Not met
CMIN/DF	1.634	< 3.00	Met
RMR / SRMR	0.034 (RMR)	< 0.08	Met
GFI	0.952	> 0.90	Met
AGFI	0.918	> 0.90	Met
NFI	0.948	> 0.90	Met
IFI	0.968	> 0.90	Met
TLI	0.958	> 0.90	Met
CFI	0.968	> 0.90 (≥ 0.95 good)	Met
RMSEA	0.043	< 0.08 (≤ 0.06 good)	Met
PCLOSE	0.614	> 0.05	Met
AIC	85.412	Comparative	
BIC	154.215	Comparative	

Note: The p-value for x^2 is computed from $x^2 = 29.412$ and df = 18. Criteria: Hu and Bentler (1999); Kline (2016).

Table 9 reports the direct paths. All five hypothesised direct associations with SRM were positive and significant: ESG_PI ($\beta = 0.132$, $p < 0.001$), SE ($\beta = 0.145$, $p < 0.001$), CGQ ($\beta = 0.072$, $p = 0.031$), EMS ($\beta = 0.152$, $p < 0.001$), and SRI ($\beta = 0.184$, $p < 0.001$). H1–H5 are therefore supported. The magnitudes, however, are modest: using the conventional benchmarks of 0.10 (small) and 0.30 (medium) (Cohen, 1988), the coefficients for SE, EMS, and SRI are small-to-moderate and the coefficient for CGQ (0.072) is below the small-effect benchmark, so its practical importance is limited

despite statistical significance in a sample of 415. Based on the construct correlation matrix (Table 6), the predictors jointly account for approximately 69.2% of the variance in SRM (R^2 = 0.692), ESG_PI accounts for 16.1% of the variance in CEP (R^2 = 0.161), and CGQ and SRI account for 74.2% of the variance in CSP (R^2 = 0.742).

Table 9. Direct paths (H1–H5) and explained variance

Hyp.	Path	Estimate	S.E.	C.R.	p	Result
H1	ESG_PI → SRM	0.132	0.027	4.512	< 0.001	Supported
H2	SE → SRM	0.145	0.025	5.418	< 0.001	Supported
H3	CGQ → SRM	0.072	0.030	2.145	0.031	Supported (small)
H4	EMS → SRM	0.152	0.025	5.712	< 0.001	Supported
H5	SRI → SRM	0.184	0.036	4.685	< 0.001	Supported
	R^2 (SRM)	0.692				
	R^2 (CEP)	0.161				
	R^2 (CSP)	0.742				

Note: Estimate, S.E., and C.R. as obtained from the AMOS output. R^2 computed from the construct correlation matrix (Table 6) for the predictors of each endogenous construct.

Mediation Analysis

Table 10 reports the direct, indirect, and total effects for H6–H8. For the CSP → SRM path, the critical ratio of 2.114 corresponds to p = 0.035 (two-tailed). Because H7 and H8 share this path, it is reported once. The indirect effects were estimated as the product of the component path coefficients and tested with the Sobel test computed from the reported critical ratios (Sobel, 1982).

The indirect association between ESG_PI and SRM through CEP was the largest (indirect effect = 0.203, z = 7.65, p < 0.001) and accounted for about 61% of the total effect, while the direct path remained significant, indicating partial mediation (H6 supported). The indirect associations through CSP were small but significant for CGQ (0.044, z = 2.09, p = 0.037) and SRI (0.064, z = 2.10, p = 0.035), corresponding to about 38% and 26% of the respective total effects; with significant direct paths, both indicate partial mediation (H7 and H8 supported). Because the CSP → SRM path is weak (C.R. = 2.114), the evidence for H7 and H8 is considerably weaker than for H6.

Table 10. Direct, indirect, and total effects (H6–H8)

Hyp.	Path	a	b	Indirect (a×b)	Sobel z (p)	Direct	Total	Indirect/ Total	Result
H6	ESG_PI → CEP → SRM	0.412	0.492	0.203	7.65 (< 0.001)	0.132	0.335	0.61	Partial
H7	CGQ → CSP → SRM	0.381	0.115	0.044	2.09 (0.037)	0.072	0.116	0.38	Partial
H8	SRI → CSP → SRM	0.554	0.115	0.064	2.10 (0.035)	0.184	0.248	0.26	Partial

Note: a = predictor → mediator (C.R.: H6 = 8.412; H7 = 14.215; H8 = 21.512); b = mediator → SRM (C.R.: CEP = 18.342; CSP = 2.114, p = 0.035). Sobel z = $(z_a \times z_b)/\sqrt{(z_a^2 + z_b^2)}$. Total = direct (Table 9) + indirect.

DISCUSSION

Summary of Empirical Findings

The results indicate that, as perceived by professionals in Indonesia's extractive companies, all five ESG governance mechanisms are positively associated with SRM, with SRI, EMS, and SE showing the strongest direct associations and CGQ the weakest. The largest association in the model runs from ESG policy implementation through corporate environmental performance to SRM, whereas the indirect associations through corporate social performance are small. These findings are cross-sectional associations based on employee perceptions; they do not establish causal effects, and they are subject to the measurement limitations reported in the Measurement Model section.

Theoretical Interpretation

Consistent with Stakeholder Theory, the positive associations of SE and SRI with SRM suggest that companies whose professionals report more stakeholder involvement and more social initiatives also report better resource-management practices. One possible interpretation is that engagement brings local information into management decisions and creates accountability for resource use. This interpretation is theoretical: the questionnaire did not measure the quality of participation from the community's side, the form of consultation (one-way or two-way), grievance mechanisms, or conflict outcomes. The results therefore show that SE, as perceived by company professionals, is associated with SRM; they do not show that engagement empowers communities, reduces conflict, or prevents greenwashing.

From the perspective of Legitimacy Theory, the small direct association of CGQ with SRM ($\beta = 0.072$) is noteworthy. One explanation consistent with LT is that formal governance structures may be partly decoupled from operational practice (Deegan, 2019); an alternative explanation is that the effect of governance is largely channelled through the other mechanisms in the model, with which CGQ is highly correlated (for example, $r = 0.815$ with SE). The present data cannot distinguish between these explanations, and the study did not measure corporate motives, restoration expenditure, or the content of sustainability reports. Testing the decoupling explanation would require comparing disclosed commitments with independently observed performance.

The mediation results suggest that environmental performance is the main channel through which ESG policy implementation is associated with SRM, which is consistent with SES Theory's emphasis on the ecological base of extraction (Ostrom, 2009). The indirect associations through CSP were small, and the CSP → SRM path was weak, so the evidence that social performance is a key channel is limited. In addition, the high correlations of CSP with SRI (0.818) and EMS (0.808) suggest that these constructs may overlap conceptually in respondents' perceptions; the mediation results for H7 and H8 should therefore be interpreted cautiously until discriminant validity is confirmed (see the Measurement Model section).

Regarding Resource Democracy and social justice, the findings provide only indirect and partial evidence. They indicate that the corporate mechanisms that could support more democratic resource governance stakeholder engagement, social initiatives, and environmental management tend to co-occur with better resource management in the perceptions of company professionals. Whether these mechanisms translate into substantive influence for affected communities, fair benefit-sharing, or reduced environmental harm cannot be determined from this sample. Such claims require data from communities and other external stakeholders and, ideally, objective indicators.

Practical Implications

The following implications follow from the associations observed in this study and should be read as indicative rather than prescriptive.

- **Corporate managers:** Because ESG policy implementation was associated with SRM mainly through environmental performance, managers should link ESG policies to measurable environmental targets and monitoring. The associations of SE and SRI with SRM support investing in structured stakeholder engagement and social programmes, while the small CGQ effect suggests that formal governance structures alone are unlikely to be sufficient.
- **Local governments:** Local governments can use company-reported ESG mechanisms as a starting point for oversight but should verify them through site-level environmental monitoring and community consultation, which the present study could not observe.
- **National regulators:** Regulators could require that ESG disclosures in the extractive sector report site-level environmental performance indicators alongside policy statements, since environmental performance was the strongest channel in the model.

- **Affected communities:** Because company employees' perceptions cannot represent community experiences, communities and their representatives should be included as independent sources of information in monitoring and grievance processes.
- **Civil-society organisations:** CSOs can contribute to independent verification by comparing company disclosures with field observations, which would also provide the data needed to study greenwashing directly.

Building on these points, a site-level ESG Justice Index is proposed as an agenda for future research rather than as a tested instrument. Table 11 links its proposed dimensions to the constructs examined in this study and identifies the data that would be required to measure them.

Table 11. Proposed dimensions of a site-level ESG Justice Index (for future development)

Dimension	Example indicators	Link to present findings	Data source / users
Procedural inclusion	Community influence over decisions; FPIC where applicable; grievance resolution	SE → SRM (H2) shows the corporate side only	Community surveys; regulators, CSOs
Environmental performance	Site-level emissions, water quality, rehabilitation progress	ESG_PI → CEP → SRM (H6) was the strongest channel	Monitoring data; regulators, local government
Social performance and benefit-sharing	Local employment, community development spending, distribution of benefits	SRI → CSP → SRM (H8) was small	Company records, community surveys; managers, communities
Disclosure–performance consistency	Gap between reported commitments and observed performance	Not measured; required to study greenwashing	Reports vs. independent data; investors, CSOs

Note: The index has not been developed or validated in this study.

CONCLUSION

This study examined how internal ESG governance mechanisms are associated with sustainable resource management in Indonesia's extractive sector, using a survey of 415 professionals responsible for ESG-related functions. ESG policy implementation, stakeholder engagement, corporate governance quality, environmental management systems, and social responsibility initiatives were all positively associated with SRM, although the association for corporate governance quality was small. Corporate environmental performance emerged as the main channel linking ESG policy implementation to SRM, whereas the indirect associations through corporate social performance were small.

The study contributes evidence from an under-researched emerging-market setting on how distinct ESG governance mechanisms relate to resource-management outcomes and on the differing roles of environmental and social performance as mediating channels. It also clarifies the conceptual boundaries of Resource Democracy relative to established concepts and outlines how it could be operationalised.

The study has several limitations. First, all respondents are company professionals; their perceptions describe the corporate side of ESG governance and cannot represent the experiences of communities, indigenous groups, or affected households. Consequently, the study does not measure Resource Democracy, social justice, community empowerment, or greenwashing, and no conclusions about these concepts should be drawn from it. Second, the cross-sectional, single-source design, together with the absence of an item-level confirmatory factor analysis and of bootstrapped confidence intervals for the indirect effects, allows only associations to be identified and is exposed to common-method variance and social-desirability bias; the diagnostics reported indicate that common-method variance cannot be ruled out. Third, several constructs are highly correlated ($r > 0.80$), so their distinctiveness requires confirmation through an item-level confirmatory factor analysis within a two-step approach

(Anderson & Gerbing, 1988), the Fornell–Larcker criterion (Fornell & Larcker, 1981), and HTMT (Henseler et al., 2015) in future studies. Fourth, purposive sampling through professional networks, without a determinable response rate, limits generalisability to the wider extractive sector. Future research should collect data from communities and other external stakeholders, develop and validate measures of Resource Democracy and greenwashing (for example, the gap between disclosed and observed performance), combine perceptual with objective data, test alternative model specifications, and use longitudinal designs.

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APPENDIX A. MEASUREMENT CONSTRUCTS

All items were rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Each construct was measured with five items (codes 1–5). Table A1 gives the operational definition of each construct as used in this study.

Table A1. Constructs, item codes, and operational definitions

Construct	Item codes	Operational definition
ESG Policy Implementation (ESG_PI)	ESG_PI1–ESG_PI5	The extent to which the company has implemented formal ESG policies, targets, and procedures in its operations.
Stakeholder Engagement (SE)	SE1–SE5	The extent to which the company involves stakeholders (communities, government, employees, civil society) in decision-making on its operations.
Corporate Governance Quality (CGQ)	CGQ1–CGQ5	The quality of board oversight, transparency, accountability, and internal control regarding sustainability commitments.
Environmental Management Systems (EMS)	EMS1–EMS5	The presence and functioning of systems for monitoring, controlling, and reducing environmental impacts.
Social Responsibility Initiatives (SRI)	SRI1–SRI5	The company's programmes for community development, local welfare, and social responsibility.
Sustainable Resource Management (SRM)	SRM1–SRM5	The extent to which natural resources are used efficiently and responsibly with attention to long-term sustainability.
Corporate Environmental Performance (CEP)	CEP1–CEP5	The company's achieved environmental outcomes, such as reduced pollution, waste, and ecological degradation.
Corporate Social Performance (CSP)	CSP1–CSP5	The company's achieved social outcomes for employees and host communities.

APPENDIX B. ITEM-LEVEL RESPONSE DISTRIBUTION

Table B1. Percentage distribution of responses by item (N = 415)

Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
ESG_PI1	2.0	11.5	3.5	53.0	30.0
ESG_PI2	1.4	14.2	2.8	52.1	29.5
ESG_PI3	2.2	12.8	3.0	58.5	23.5
ESG_PI4	1.0	13.5	3.5	56.2	25.8
ESG_PI5	1.8	12.5	2.5	59.4	23.8
SE1	2.5	11.8	3.2	57.5	25.0
SE2	0.8	14.2	3.5	57.0	24.5
SE3	1.8	13.0	2.8	54.2	28.2
SE4	2.0	12.8	3.8	58.0	23.4
SE5	1.0	12.5	3.5	57.8	25.2
CGQ1	1.8	12.5	3.2	59.5	23.0
CGQ2	2.0	12.8	2.5	58.2	24.5
CGQ3	0.8	14.5	4.0	56.5	24.2
CGQ4	2.5	11.8	3.5	54.8	27.4
CGQ5	1.8	13.5	4.2	52.5	28.0
EMS1	2.5	12.2	3.5	54.8	27.0
EMS2	1.8	13.5	2.8	58.4	23.5
EMS3	2.0	14.5	3.0	53.5	27.0
EMS4	5.0	15.2	4.5	51.5	23.8
EMS5	5.2	14.0	4.2	51.2	25.4
SRI1	3.5	18.2	4.2	48.0	26.1
SRI2	5.5	14.8	3.5	53.0	23.2
SRI3	1.5	13.2	3.0	54.8	27.5
SRI4	0.5	14.0	2.5	47.5	35.5
SRI5	1.8	12.5	2.5	50.8	32.4
SRM1	1.5	13.8	2.5	50.8	31.4
SRM2	1.5	13.2	4.0	52.8	28.5
SRM3	1.0	14.0	3.5	56.0	25.5
SRM4	0.5	14.8	2.5	48.8	33.4

Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
SRM5	2.5	12.8	2.5	50.4	31.8
CEP1	2.2	14.8	2.8	51.2	29.0
CEP2	1.5	14.5	4.0	53.0	27.0
CEP3	1.0	15.0	2.8	59.2	22.0
CEP4	1.5	14.5	2.5	52.5	29.0
CEP5	2.0	14.2	2.8	51.8	29.2
CSP1	2.5	13.8	2.5	47.4	33.8
CSP2	0.5	14.2	2.5	50.8	32.0
CSP3	1.5	13.5	2.5	51.8	30.7
CSP4	1.5	13.0	3.5	54.2	27.8
CSP5	0.5	13.2	2.5	48.2	35.6

Note: Values in percent.