

Governance of the Extractive Industry and Public Policy in Fostering Sustainable Development: A Systematic Literature Review in Developing Countries

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Abstract: This systematic literature review (SLR) provides an analysis of 41 scholarly articles on extractive industry governance and sustainable development in developing countries published between 2008 and 2025. It uses a combined quantitative bibliometric approach using VOSviewer and an in-depth qualitative analysis to examine the research trends, themes and evolution in this field. The study's novelty lies in its use of VOSviewer for public administration research and its integration of both quantitative and qualitative methods for holistic interpretation. The findings indicate a sharp increase in publications, reaching a maximum in 2024. Although the review period extends to 2025, the slight decrease in the final year reflects a partial data collection period (up to August 2025) rather than a decrease in academic interest, underscoring the ongoing urgency of sustainability issues. Geographically, the research is concentrated in the resource-rich countries of Africa and Latin America, with Nigeria and Australia being the most studied countries. Cluster analysis revealed two primary themes: sustainable development, which links extractive governance to global agendas such as the Sustainable Development Goals (SDGs), and the governance approach, which is focused on internal frameworks and mechanisms such as stakeholder theory and decision-making. Transparency initiatives such as the Extractive Industries Transparency Initiative (EITI) and the Social License to Operate (SLO) are a central focus in the reviewed literature. This study contributes to the landscape of academic knowledge and provides an evidence-based strategic guide for policymakers while also identifying research gaps for future exploration.

Keywords: Systematic literature review, Extractive industry governance, Public policy, Sustainable development, Developing countries

INTRODUCTION

Over the past few decades, the extractive industry, which encompasses the mining of minerals, oil and gas, has been a key pillar of the global economy, particularly in developing nations. This sector frequently serves as a significant source of export revenue and a primary driver of economic growth. However, a reliance on natural resource wealth also introduces complex challenges, which is a phenomenon famously known as the “resource curse” or “paradox of plenty” (Sachs and Warner, 2001). This paradox refers to the phenomenon

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in which resource-rich countries often experience poverty, inequality, conflict and environmental degradation. These failures underscore the need for effective governance and sound public policy to ensure the sustainable management of natural resources.

The significance of extractive industry governance has evolved rapidly from a mere regulatory issue into a strategic imperative that influences sustainable development at various levels, ranging from local to global. For governments, the primary objective is to ensure that mineral wealth is transformed into long-term well-being for their citizens. This shift indicates that public policy issues related to the extractive industry are now centred on an evolving concept of responsibility, having shifted from purely economic returns to a broader consideration of diverse stakeholders. The increased awareness of social and environmental impacts has led to significant changes, prompting companies and governments to integrate aspects of sustainable development into their strategies and operations.

Although the extractive industry can contribute substantially to achieving the United Nation's Sustainable Development Goals (SDGs), particularly in the areas of poverty reduction and economic growth, our understanding of how governance and public policy can effectively achieve these outcomes remains fragmented. Many initiatives and frameworks have been introduced, such as the Extractive Industries Transparency Initiative (EITI), which is aimed at increasing accountability and transparency (Phillips and Whiting, 2016). However, a review reveals that EITI is often too heavily focused on the fiscal dimension and is inadequate for addressing broader environmental and social issues; thus, it does not actually contribute to holistic sustainable development.

The main objective of this article is to conduct a systematic literature review (SLR) of scholarly publications on extractive industry governance and public policy that were published between 2008 and 2025. The SLR approach is used to identify the major trends, topic categories, dominant theoretical frameworks and methodologies employed in prior studies. In doing so, this article presents a comprehensive synthesis of the ways in which extractive industry governance has been examined in academic and professional contexts over the past decade. This systematic review is also aimed at identifying the remaining research gaps and offering potential directions for future research, such as the limitations of the current studies that integrate governance with the specific context of developing countries facing the challenges of the global energy transition (Cohen and Raineri, 2025).

The contribution offered by this article is twofold: first, the study serves as a map of academic knowledge to help researchers understand the current landscape of extractive industry governance research; and second, the study offers a strategic guide for practitioners and policymakers to inform the creation of evidence-based policies. Amid increasing regulatory demands and societal expectations for sustainable business practices, a comprehensive literature synthesis becomes increasingly relevant and urgent. The goal of this review is to provide a more systematic, structured and critical understanding of extractive industry governance and its implications for business and global sustainable development. Good governance is recognised as an essential tool in environmental, social and economic management that enables academics and policymakers to predict and assess the impact of government policies and projects on sustainability.

The increasing popularity of studies on extractive industry governance is reflected in the growing number of related publications, which underscores its capacity for driving sustainable and evidence-based decision-making. This trend affirms the increasingly recognised strategic role of governance in promoting policies and development that are environmentally, socially and corporately aware (Everingham et al., 2013). This surge in research studies is driven by worsening global environmental conditions and the complexity of the interactions between industrial activities and ecological systems. Rapid urbanisation, industrial expansion and climate change demand a framework with the capacity for assessing and mitigating the potential impacts on sustainability (Bainton, Skrzypek and Lèbre, 2025). Without the application of strong governance principles, extractive projects risk causing detrimental environmental and social impacts, such as water pollution, a loss of biodiversity and governance issues that exacerbate environmental crises (Boafo and Arthur-Holmes, 2025). Previous studies have explored the development of this literature, with a frequent focus on specific initiatives such as EITI or Social License to Operate (SLO) (Meesters and Behagel, 2017).

Despite offering valuable insights, these studies have several limitations. For example, Kinda's (2025) analysis of EITI shows that EITI membership can increase tax revenues, but the broader social and environmental impacts of the extractive industry may not have been comprehensively examined in this research. Studies on SLO have highlighted both the ambiguity and critiques of the concept, which is often seen as a tool for neutralising negative impacts rather than as a holistic framework for guiding sustainable development (Meesters and Behagel, 2017). The existing systematic reviews are often focused on single cases or initiatives, thus limiting the generalisability of the findings. Furthermore, much of the research is fragmented, highlighting single challenges such as corruption or conflict without presenting an integrated picture of the interactions that occur among the various governance factors, policies and development outcomes.

By analysing the cases of Nigeria and EITI, this study makes an important contribution by showing that, although the level of transparency has increased, the challenges in actualising EITI goals, such as the need for better institutional capacity and broader local participation, remain (Uzoigwe and Nwokolo, 2025). However, its exclusive focus on a single country and a single initiative limits the generalisability of the findings. Similarly, other research focusing on specific issues, such as mining conflicts or the impact of energy transition (Lapeyronie and Szedlacsek, 2025), have provided in-depth insights but do not offer a broad analytical framework for all aspects of governance and public policy. These limitations underscore the need for a more comprehensive and systematic review.

Figure 1 illustrates the annual publication trend regarding the theme of extractive industry governance in developing countries over the period of 2008 to 2025, indicating a significant increase in research interest. This study is aimed at expanding and enriching previous SLRs by conducting a bibliometric analysis of the related articles during the period of 2008 to 2025, with a specific focus on public policy. Bibliometric analysis is a quantitative tool used for assessing the impact and interconnectedness of previous research on a specific topic. Synthesising the existing research can accelerate knowledge development in an academic discipline.

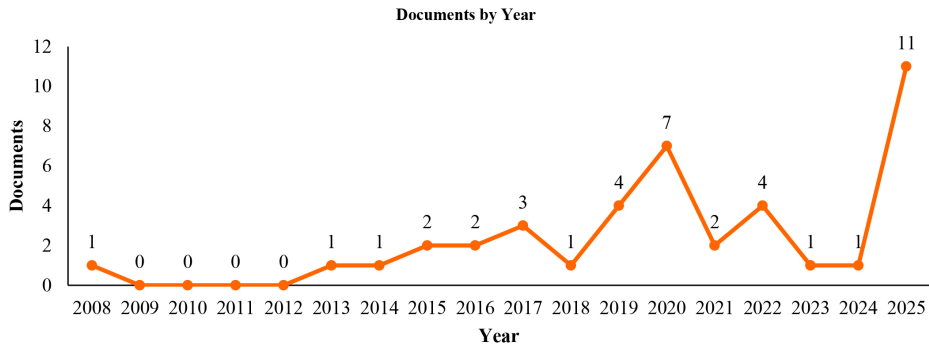


Figure 1. Total number of extractive industry governance and sustainable development publications in the field of social science in the Scopus database

Source: Scopus database (2008–2025)

Compared with previous studies, this study introduces several innovations. First, it uses the VOSviewer software to quantitatively analyse the evolution of research themes within the extractive industry governance literature, which is a rare application in the field of public administration. Second, the study integrates VOSviewer-based bibliometric analysis with qualitative methods, thereby offering a logical interpretation of the content analysed. Third, by including literature ranging from 2008 to 2025, this study provides a more

comprehensive analytical foundation than prior studies have offered and illustrates the evolution of governance within the public policy discipline. By extending the coverage period of the literature database, the study is aimed at producing more robust and reliable findings while bridging gaps in the meta-analysis of extractive governance.

The main research questions involve the identification of the countries, levels of government and sectors that are most frequently examined in the publications on extractive industry governance in developing countries, as well as how those publications are classified within the public policy discipline. Furthermore, this research is meant to determine the most common antecedent factors and impacts that are found in the articles. Finally, which research questions can serve as new directions for public policy scholars in this field is explored. This study makes three main contributions. First, it offers a contextual understanding of the development of academic research over the past 12 years while also highlighting the underexplored contexts, such as countries, levels of government and sectors. Second, it provides new perspectives on various research streams by representing different areas and themes, which is crucial for future academics seeking to expand their knowledge. The study synthesises hundreds of articles on extractive industry governance in public policy that were published from 2008 to 2025, thereby providing theoretical insights and an evidence-based review of the main research clusters. Third, the identification of the antecedent and impact factors in the articles enriches the understanding of the factors that influence governance effectiveness. A final contribution is the proposal of future research directions for public policy academics.

LITERATURE REVIEW

Concepts, Typologies and Theories of Extractive Industry Governance

The concept of extractive industry governance is rooted in the challenges faced by resource-rich countries, which are often caught in the “resource curse”. This idea has evolved from the recognition that the exploitation of natural resources often leads to negative impacts, thus creating a need to integrate environmental and social issues into the business framework. This development indicates that good governance does not emerge spontaneously but is rather developed through an evolution of thinking about broader corporate responsibility. Various frameworks have been developed to counteract these negative effects. One such framework is SLO, which is focused on community acceptance and trust (Meesters and Behagel, 2017). However, this framework has been criticised for its ambiguity and its capacity for neutralising negative impacts rather than integrating long-term solutions. In response to this critique, a more holistic framework was proposed, namely,

the Sustainable Development License to Operate, which was designed to facilitate the integration of the SDGs into extractive governance (Pedro et al., 2017).

In 2003, the EITI was officially introduced to promote open and accountable resource management. The EITI is aimed at linking revenue transparency with sustainable development, as driven by the Publish What You Pay coalition (Kinda, 2025). Regulations such as those implemented in Nigeria through the Nigerian EITI demonstrate a transition from a voluntary approach to a legal obligation, reflecting the growing importance of transparency in corporate governance and global economic policy (Obi, 2018). These developments underscore the evolution of the governance concept, which has shifted from mere a technical regulation to a framework with the aim of addressing structural inequalities (Phillips, 2025). In terms of typology, extractive industry governance is divided into three interconnected dimensions: economic, social and environmental. This classification helps policymakers and stakeholders systematically measure and compare governance performance (as shown in Table 1).

Table 1. Typology of extractive industry governance

Typology	Definition	Source	Substance
Economic	This dimension relates to the management of state revenues, the allocation of investments and the creation of local value-added from extractive activities.	Ovadia (2016)	This dimension covers issues such as EITI, fiscal policy, macroeconomic impacts (e.g., Dutch Disease) and local content.
Social	This dimension covers the responsibility for the welfare of local communities, community rights and conflict resolution.	Rillo et al. (2015)	The social aspects include the SLO, community participation, benefit-sharing, and conflict mitigation.
Environmental	This dimension refers to efforts for the reduction of ecological impacts, such as waste management, resource conservation and climate change mitigation.	Boafo and Arthur-Holmes (2025)	This dimension involves issues such as the impacts of illegal mining, land restoration, carbon emissions and conservation.

The three dimensions of extractive industry governance, namely, economic, social and environmental, are complementary and inseparable in achieving overall sustainability. The economic dimension is focused on optimising financial benefits for the state and the public through the effective

revenue management of taxes and royalties, the targeting of investments for economic diversification and the enhancement of transparency (Kinda, 2025). Concurrently, this dimension addresses critical issues, such as the Dutch disease, while striving to create local employment opportunities and stronger value chains through local content policies. Furthermore, the social dimension reflects the dynamic relationship with communities and stakeholders and encompasses the protection of human rights, thorough community consultation, and equitable benefit sharing. Within this context, the SLO is crucial for building public trust (Meesters and Behagel, 2017). However, robust governance must necessarily move beyond mere licensing, as it demands authentic participation and the explicit recognition of any negative impacts that might be generated (Holcombe and Kemp, 2020). Finally, the environmental dimension underscores the responsibility for mitigating ecological impacts, which includes emissions management, energy efficiency and resource conservation (Boafo and Arthur-Holmes, 2025). This area faces major concerns such as illegal mining and pollution, along with the increasing environmental degradation resulting from the increased demand for critical minerals that has been necessitated by the energy transition (Bainton, Skrzypek and Lèbre, 2025). Ultimately, the integration of these three dimensions into a company's strategy is paramount for creating long-term value for all stakeholders.

Theoretical Development in Extractive Industry Governance Studies

From a theoretical perspective, a multitude of frameworks have been used to examine the governance of the extractive industry. While these are detailed in Table 2, it is important to note that theories such as institutional economics, political ecology and stakeholder theory have emerged as the most dominant analytical lenses across the reviewed literature. Institutional approaches are frequently taken to address regulatory failures, whereas political ecology and stakeholder theory are predominantly utilised to dissect power asymmetries and socioenvironmental conflicts. These theories, which provide a multidimensional framework for understanding why and how companies research extractive industry governance, include law and political economy, stochastic frontier analysis, the sustainability transition paradox, the community capital framework, institutional economics and innovation systems, compound exposure, institutional accountability, political ecology, structural functionalism, participatory mapping, systems thinking and system dynamics, neutralisation theory, geocybernetic theory and the geocybernetic assessment matrix, biopolitics and governmentality (Foucault, 2008), stakeholder theory and state-firm bargaining. These conceptual foundations explain the increasing importance of extractive industry governance in the process of sustainable development.

Table 2. Extractive industry governance theories

Theoretical Underpinning	Focus	Locus	Impact on Extractive Industry Governance	Source
Law and political economy	Used to analyse the structural role of law in shaping power dynamics and perpetuating conflict in mining governance.	Macro level, with a focus on global governance frameworks, legal instruments and their political-economic implications	Explores how mining governance is influenced by structural inequalities perpetuated by law, emphasising the need for reform to balance investor rights with human and environmental rights.	Phillips (2025)
Stochastic frontier analysis	Used to investigate the relationship between natural resource dependence and productivity and how governance and emissions affect that relationship.	Meso/macro level, with quantitative applications in 32 resource-rich countries	Provides quantitative evidence that institutional quality is crucial in the transformation of the “resource curse” into a “resource blessing”, thereby demonstrating the importance of strong governance for achieving economic efficiency.	Yap, Kamarudin and Gryzelius (2025)
Sustainability transition paradox	A conceptual framework for explaining how the global push for energy transition paradoxically worsens sustainability challenges such as illegal mining, environmental degradation and social injustice.	Macro/meso level analysis of the global demand for critical minerals and their impact in African countries	Used to critique governance models with a sole focus on global goals that lack a consideration of local impacts; highlights the need for an ethical and holistic governance approach that can directly address the harm caused by mining.	Boafo and Arthur-Holmes (2025)

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Table 2. *Continued*

Theoretical Underpinning	Focus	Locus	Impact on Extractive Industry Governance	Source
Political ecology	Examines how power dynamics and actors influence the formation of institutional socioecological traps, thereby challenging purely structural views.	Micro/meso level, utilising qualitative case studies in Peruvian fisheries	Shifts the focus of governance from technical regulation to the power dynamics of actors, showing that governance fails when powerful actors can manipulate regulations for their own interests, neglecting environmental and social protections.	Damonte, Gonzales and Higuera (2025)
Compound exposure	A conceptual framework for explaining how the push for energy transition intensifies the socioeconomic, political and ecological pressures of extraction, which reduces the local capacity to respond to climate change.	Macro/meso level exploration using a spatial analysis of extractive projects in the Pacific Islands region	Shows that effective governance must consider the combined vulnerabilities caused by climate change and resource extraction; emphasises the need for cross-scale coordination to comprehensively manage risk.	Bainton, Skrzypek and Lèbre (2025)
Institutional economics and innovation systems	Used to analyse how states can leverage natural resources to support local innovation and economic diversification through the creation of new institutions.	National/macro level, with a focus on governance challenges in Chile and Latin America	Highlights the importance of a strong institutional framework and innovation to bridge the “innovation gap” and achieve sustainable economic diversification beyond the extractive sector.	Cohen and Raineri (2025)
Community capital framework	A conceptual framework that analyses sustainable development using seven interconnected capitals: natural, social, human, financial, physical, political and cultural.	Micro/local level analysis using a qualitative case study of tourism in Tofino, Canada	Emphasises that extractive industry governance must integrate all forms of capital, not just financial capital; highlights that failing to consider social and human capital can lead to long-term conflict and unsustainability.	Dodds (2025)

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Table 2. *Continued*

Theoretical Underpinning	Focus	Locus	Impact on Extractive Industry Governance	Source
Systems thinking and system dynamics	Uses conceptual simulation models to address the complex, dynamic and nonlinear nature of the sociotechnical interface of extractive operations and the relationship between trust and performance.	Micro/corporate level, with a focus on generic mine operation models	Shows that effective governance requires a systemic approach; quantifies the relationship between intangible factors like trust and operational performance, arguing for moving beyond a “social license” to the adoption of a holistically integrated approach.	Verrier et al. (2022)
Participatory mapping	A multimethod approach based on the theory that maps are a collective expression of community values and concerns; used to capture stakeholder perspectives on socioecological impacts.	Local/regional level utilising a case study in the Western Amazon region	Enhances participatory governance through the integration of local knowledge and stakeholder values into decision-making; strengthens transparency and collaboration by directly linking social engagement with environmental governance.	Mere-Roncal et al. (2021)
Institutional accountability	Examines the mechanisms that promote accountability in institutions like the World Bank, with a focus on the principles of independence, impartiality and transparency.	Macro level analysis of the global financial landscape and the World Bank’s Inspection Panel	Highlights that effective governance requires independent oversight mechanisms; shows that while these mechanisms may have limited power, their existence can create a “prophylactic effect” that prevents corporate misconduct and ensures that project funding supports ESG goals.	Sovacool (2017)

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Table 2. Continued

Theoretical Underpinning	Focus	Locus	Impact on Extractive Industry Governance	Source
Neutralisation theory	Used to critically analyse how corporate discourse (such as SLO) can use techniques (e.g., denial of harm) to obscure or “neutralise” harmful social and environmental impacts.	Micro/meso level analysis using a qualitative case study of mining in Mongolia	Uncovers the gap between corporate social responsibility rhetoric and actual practices; highlights that the “social license” concept can be used as a tool for managing communities rather than representing an authentic commitment to reducing harm, which challenges the foundational premise of responsible governance.	Meesters and Behagel (2017)
Geocybernetic theory and geocybernetic assessment matrix	A semiquantitative framework used to evaluate EITI’s contribution to sustainable development by assessing its alignment with dynamic paradigms.	Macro level analysis of EITI’s principles on a global scale	Provides a strong critique of existing governance frameworks, pointing out that they are “fundamentally inadequate” because they overemphasise the economic aspect; advocates for more holistic and balanced governance that integrates all ESG dimensions.	Phillips and Whiting (2016)
Structural functionalism	Used to examine how political institutions should function (e.g., checks and balances) to ensure revenue transparency and promote sustainable development, and how their dysfunction leads to corruption.	National level assessment with a descriptive analysis of the political governance in Nigeria	Shows that transparent and accountable governance is crucial for transforming a resource wealth into development; argues that institutional dysfunction is the root cause of corruption and poverty, which hinders sustainable development goals.	El Hamad (2020)

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Table 2. *Continued*

Theoretical Underpinning	Focus	Locus	Impact on Extractive Industry Governance	Source
Stakeholder theory	Used to examine the relationship between companies and their stakeholders, including the perceptions of on-the-ground community relations practitioners and their lack of value to management.	Micro level, qualitative case study of a mining project in Papua New Guinea	Criticises the mismatch between corporate-level corporate social responsibility rhetoric and its on-the-ground implementation; shows that effective governance requires the sincere integration of local stakeholder knowledge and concerns to manage complex ESG risks.	Skrzypek (2020)
State-firm bargaining	Examines how foreign firms influence regulatory outcomes in host countries with weak governance frameworks.	Micro/national level analysis using a case study of copper mining in Zambia	Explains that weak governance can lead to a “race to the bottom” where companies can evade environmental and social regulations; emphasises the critical role of strong and independent regulatory institutions in ensuring the alignment of corporate behaviour with national sustainable development goals.	Haglund (2008)

The theoretical framework of extractive industry governance encompasses a diverse range of approaches for analysing the complex challenges inherent in this sector. The theory of institutional economics and innovation systems underscores the imperative for robust institutions to steer their resource wealth toward sustainable economic diversification, aligning with stochastic frontier analysis, which is used to quantitatively demonstrate that the quality of governance influences economic efficiency, thereby transforming the “resource curse” into a “resource blessing”. Furthermore, the social and environmental dimensions are explored through political ecology, which illuminates the power dynamics frequently responsible for governance failures, and participatory mapping, which empowers local communities to engage in more inclusive participation. In terms of accountability, institutional accountability theory highlights the need for independent oversight mechanisms to ensure compliance, whereas stakeholder theory highlights the persistent gap between corporate accountability rhetoric and the actual practices on the ground. Conversely, neutralisation theory reveals the mechanisms through which corporations can obscure negative impacts, geocybernetic theory criticises the existing frameworks for their excessive focus on economic aspects and state-firm bargaining explains how institutional weaknesses in host countries can precipitate a “race to the bottom” in terms of standards. Collectively, these theoretical perspectives require legal reform, a shift in power dynamics and genuine accountability to ensure comprehensive governance.

METHODOLOGY

Research Strategy and Review Criteria

This SLR is aimed at synthesising empirical findings to examine the development of knowledge related to extractive industry governance. Through its adoption of a systematic, transparent and replicable methodology, this research is focused on five key questions recommended by Snyder (2019). The research procedures follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, which includes the stages of identification, screening, eligibility assessment, inclusion/exclusion selection, qualitative analysis and data interpretation (Page et al., 2021). The PRISMA was specifically chosen for reviewing studies on extractive industry governance and track its development in the social sciences (Moher et al., 2009). This enables an in-depth review of the progress of extractive industry governance in this context, as visually depicted in Figures 1 and 2.

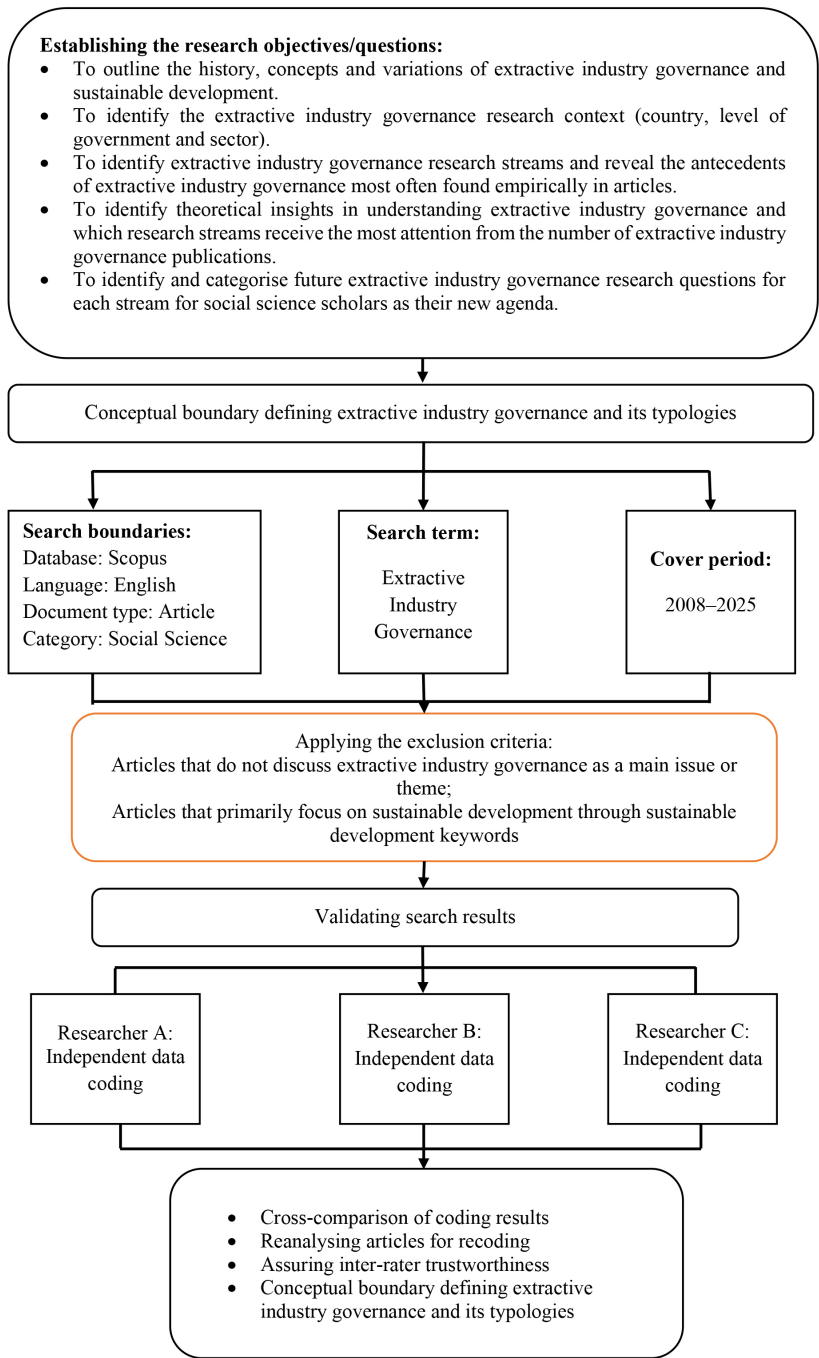


Figure 2. Summary of the SLR process

Analysis Tools and Methods

To review the 41 articles on extractive industry governance and sustainable development, a combined quantitative and qualitative approach was systematically adopted for this study. Quantitatively, the analysis was conducted by measuring the publication growth frequency of extractive industry governance articles from the period of 2008 to 2025. Additionally, VOSviewer software (Centre for Science and Technology Studies, Leiden University, Leiden, The Netherlands) was used to visualise the evolving research themes. The VOSviewer is widely recognised in bibliometric analysis for its ability to map literature, highlight the most frequently cited publications and display citation networks, which make it an effective instrument for thematic and cluster mapping (Shah et al., 2020). This tool is also acknowledged as the most widely used among similar bibliometric software packages (Pan et al., 2018).

Qualitatively, each article was reviewed in depth using Microsoft Excel (Microsoft Corporation, Redmond, WA, USA), and various aspects, including title, knowledge base, authors, objectives, methodology, unit of analysis, study location, sample, findings, limitations and recommendations for future research, were evaluated. In this study, journal articles were designated as the primary unit of analysis. This choice was based on the crucial role of journals in disseminating scientific knowledge, assessing academic reputation and recognising intellectual contributions (Pradana, Susanto and Kumorotomo, 2022).

Data Collection and Research Process

Literature search

This research began with a literature search of the Scopus database, which was selected for its broad coverage of various academic fields. The search was conducted in August 2025 and was focused on studies of extractive industry governance and sustainable development published between 2008 and 2025. The year 2008 was chosen as the starting point to align with the work of Haglund (2008), which represents the earliest entry on extractive industry governance and sustainable development recorded in Scopus. Keywords such as “Extractive Industry Governance” and “Sustainable Development”, and their related variants were used to filter articles by title, abstract or keywords, resulting in 107 relevant studies. Scopus was chosen over other databases, such as Web of Science, because of its superior bibliographic coverage (Zhu and Liu, 2020). The PRISMA process, which is detailed in Figure 3, was used to guide the research methodology.

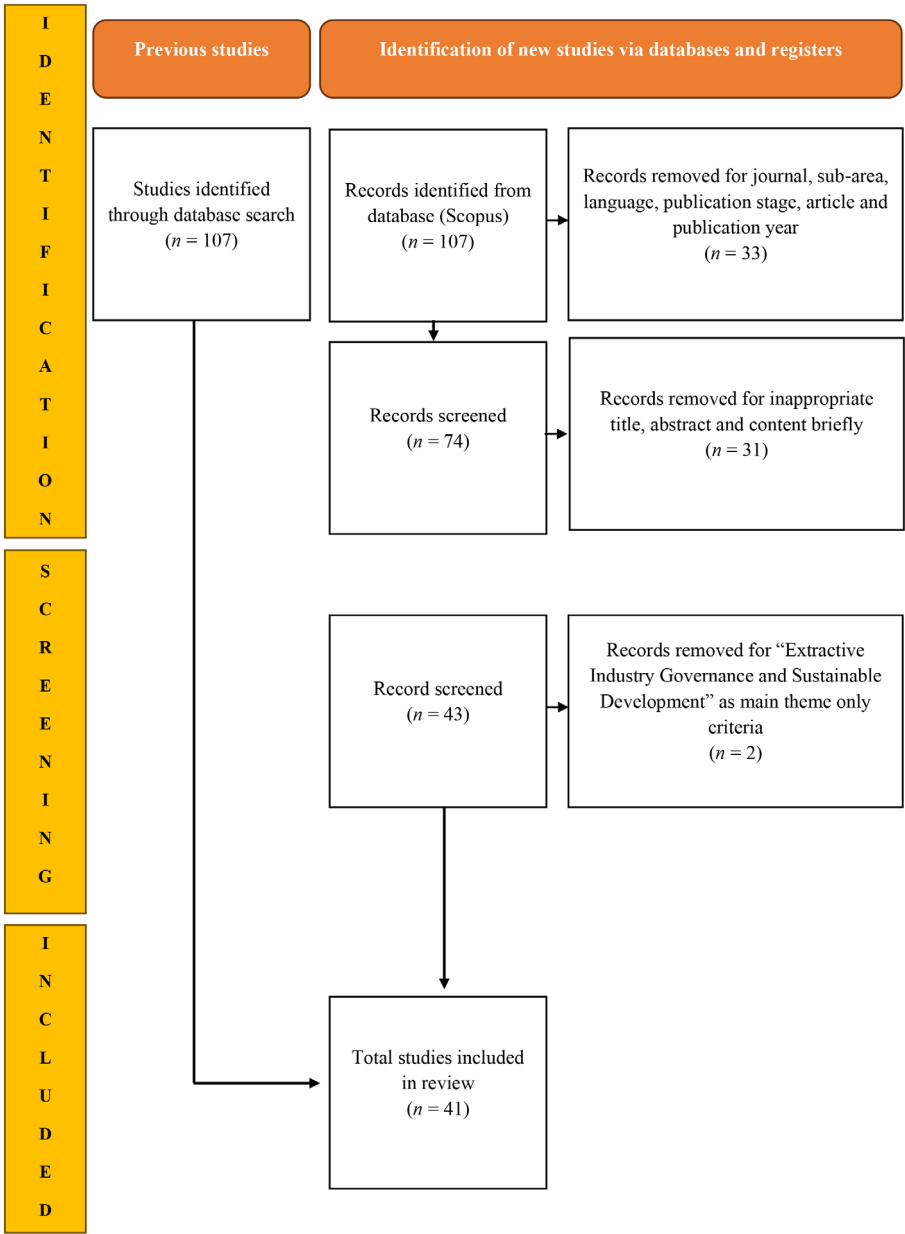


Figure 3. PRISMA flow chart

Eligibility or inclusion criteria

Specific eligibility criteria were established on the basis of PRISMA guidelines to select articles for the systematic review (Page et al., 2021). The inclusion criteria required articles that: (1) were focused on extractive industry governance within a social science journal, (2) explicitly mention “extractive industry governance” and “sustainable development” in the title or abstract, (3) use empirical or theoretical methods to explore the evolution and implementation of extractive industry governance and its link to sustainable development, (4) were published between January 2008 and December 2025, (5) were written in English and (6) appear in an internationally recognised journal. Through this process, 107 articles were initially identified.

Exclusion criteria and study selection

A two-stage exclusion process informed by previous SLR studies (Johannes et al., 2023) was then applied. In the first stage, after screening their titles, abstracts and keywords, 33 articles were excluded. In the second stage, following a detailed review of their relevance to the core theme of extractive industry governance and sustainable development, another 33 articles were removed. This left a final set of 41 articles for qualitative analysis. These 41 articles were independently analysed by three researchers using Microsoft Excel and structured around a pre-agreed coding protocol encompassing themes such as knowledge base, methodology and findings. To ensure methodological rigour and interrater reliability, the initial agreement rate—defined as the percentage of absolute consensus across the coded categories—was calculated at approximately 85%. Any subsequent discrepancies in data extraction or thematic classification were resolved through deliberate, consensus-building discussions in the final review stage, with reference to established SLR guidelines (Cabrera, Cabrera and Cabrera, 2023), until complete agreement was achieved. The PRISMA flow chart for this process is presented in Figure 3.

RESULTS

Countries, Affiliation, Author and Funding Sponsor

The geographic distribution of the authors’ institutional affiliations, which highlight a strong concentration of knowledge production from the Global North, particularly the United Kingdom, Australia and the United States, is illustrated in Figure 4. However, an in-depth qualitative analysis reveals a distinct contrast in terms of the actual geographical focus of the case studies. While the institutional backing has predominantly been Western,

the empirical subjects of these investigations are heavily concentrated in resource-rich developing nations. Notably, Nigeria and Australia serve as the most frequently examined contexts (each featured as study locations in four articles), followed by Indonesia, Zambia and Peru.

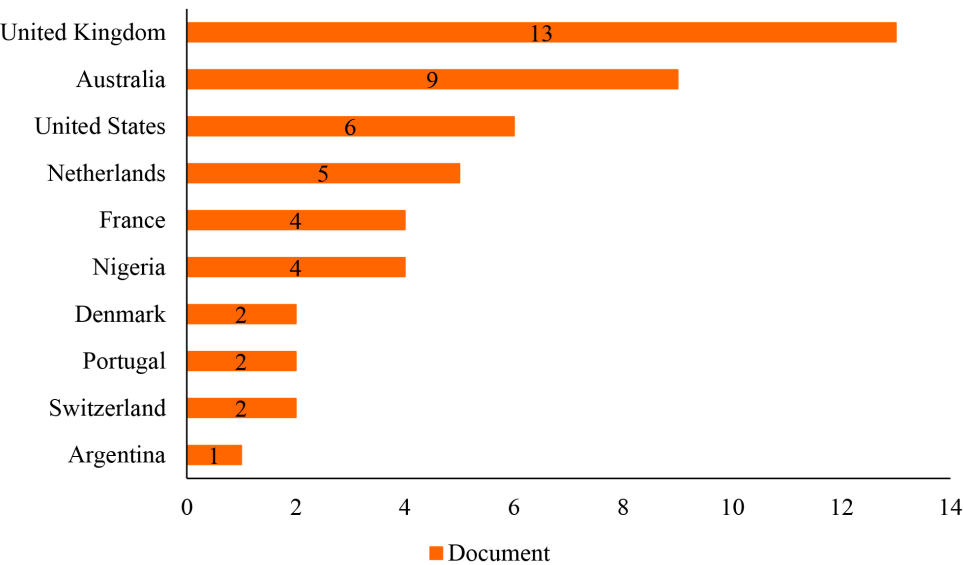


Figure 4. Spread of extractive industry governance research

This distribution underscores the critical relevance of governance challenges, including corruption, revenue management and socioenvironmental impacts, in countries heavily reliant on this sector. A substantial portion of scholarly work is aimed at the evaluation and design of effective governance frameworks, although existing concepts, such as the EITI, face criticism. The EITI is often deemed an “inadequate tool” when it lacks the support of robust institutions or is too narrowly focused on purely economic aspects. Consequently, this critique is fuelling a shift toward more holistic and transformative approaches, which are exemplified by socially and politically integrated environmental impact analyses. The most prolific authors in this field, namely, Nicholas Bainton and Emilia E. Skrzypek (each contributing to two articles), frequently place their focus on social and environmental dynamics, particularly in regions such as Papua New Guinea and the Pacific Islands. Their work employs interdisciplinary theoretical approaches, including political economy and systems theory, to gain a more comprehensive understanding of complex governance challenges.

Extractive Industry Governance Research Clusters in the Social Science Context

On the basis of the bibliometric analysis and cluster visualisation generated by VOSviewer, the research on extractive industry governance and sustainable development can be divided into two main clusters: sustainable development (as shown in Figure 5) and the governance approach. Each of these clusters reflects a distinct yet interconnected thematic focus in the field of extractive industry governance and sustainable development research.

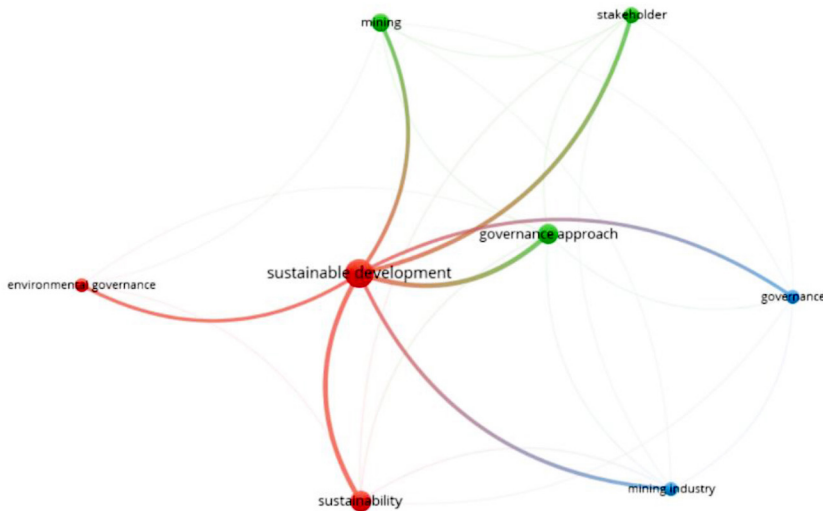


Figure 5. Sustainable development cluster

Source: Scopus database (2008–2025)

The first cluster, sustainable development, is focused on macro and strategic issues such as SDGs and sustainable finance. The research in this area fundamentally links governance practices in the extractive industry, including mining, oil and gas, with the global development agenda and its supporting funding instruments. This connection highlights the critical shift from simple environmental compliance to the full integration of sustainability issues into business strategies and financial frameworks. The financial sector now plays a crucial role in the promotion of sustainable development through green financing and responsible investments. This is supported by evidence that capital markets respond positively to corporate SDG commitments, thereby indicating a positive relationship between SDG performance and company valuation, which encourages extractive companies to take their sustainability practices more seriously.

The second cluster, namely, the governance approach (as shown in Figure 6), is focused on. This cluster shows a strong link among governance approaches, decision-making, and stakeholder theory, highlighting the importance of corporate governance as the basis for successful ESG practices. The research in this area has explored the ways that governance structures, the role of boards of directors and interactions with various stakeholders, including local communities, investors and governments, influence the adoption and performance of ESGs in the extractive sector. Additionally, this cluster is closely related to practical issues such as risk assessment and the handling of uncertainty and crises, such as the impacts of COVID-19, in the extractive industry. Recent studies have also emphasised the importance of governance transparency and auditing as vital tools for mitigating the environmental and social risks inherent to the extractive industry.

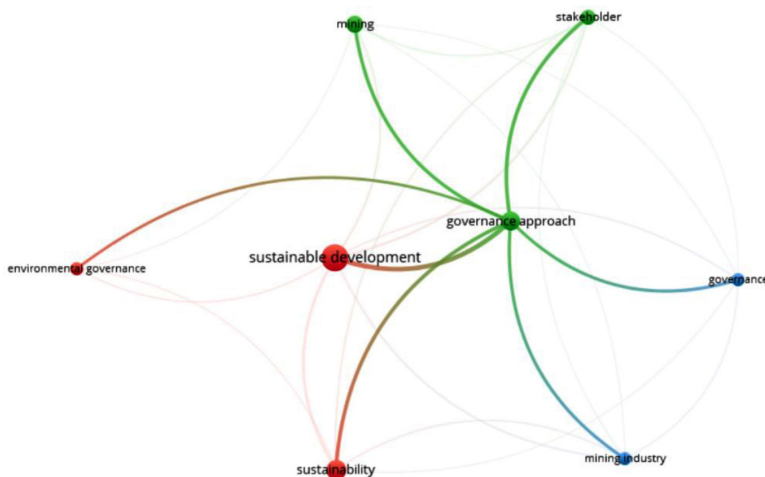


Figure 6. Governance approach cluster

Source: Scopus database (2008–2025)

Collectively, these two clusters illustrate the evolution and diversification of research on extractive industry governance. From an initial, narrow focus on corporate social responsibility, research has significantly expanded to encompass a governance approach as an implementation foundation, which ultimately links these practices to sustainability performance and global agendas. The relationships between these clusters reflect the transition from distinct concepts to an integrated, holistic framework, which has now taken the centre of important discussions in the business and academic worlds. This dynamic also demonstrates a constructive feedback loop between public policy and market initiatives, in which government regulations not only regulate but also encourage the adoption of better ESG practices by

the private sector. Simultaneously, the evolution of corporate practices often influences the formulation of more ambitious public policies, driving a transition toward a more responsible and sustainable economy.

Future Research Questions Suggested in the Current Extractive Industry Governance Literature

On the basis of a qualitative analysis, several future research questions representing each extractive industry governance research area in the social sciences are identified, as shown in Table 3.

Table 3. Research topic cluster in extractive industry governance

Research Topic Cluster	Source	Future Research Questions
Financial transparency and accountability	Kinda (2025); Obi (2025); Nnaa, Kia and Nwibor (2015); Riter (2019)	How can the implementation of more in-depth and specific EITI at the subnational level improve revenue transparency? To what extent can international tax treaties be integrated into the EITI framework to prevent tax avoidance by extractive companies?
Power dynamics and social-environmental conflicts	Phillips (2025); Damonte, Gonzales and Higuera (2025); Meesters and Behagel (2017); Bainton, Skrzypek and Lèbre (2025); Meadows, Annandale and Ota (2019)	How can governance models bridge the differences in “value language” (e.g., economic value versus socioecological value) between companies and communities? How can we ensure authentic participation rather than simple formalities in the mining decision-making process?
Energy transition and sustainable development	Yap, Kamarudin and Gryzelius (2025); Bofo and Arthur-Holmes (2025); Lapeyronie and Szedlacsek (2025); Bainton, Skrzypek and Lèbre (2025); Cohen and Raineri (2025)	How can national policies effectively allocate revenues from critical minerals to drive economic diversification? How can the “paradox of the sustainability transition” be mitigated through strong governance to prevent environmental and social damage in mineral-producing countries?
Institutional and policy reform	Haglund (2008); Ovadia (2014); Sovacool (2017); Okoloise (2020); Everingham et al. (2013)	How can the institutions in developing countries reform themselves to effectively negotiate fair deals with foreign investors? Future research should examine the role of digital technology in improving regulatory oversight and reducing corruption in extractive supply chains.

DISCUSSION

A deep analysis of the data indicates that the governance of the extractive industry and sustainable development is not merely a technical issue but rather a complex interaction involving multiple dimensions of regulation, markets, social justice and nonstate actors. This discussion explores the ways that these relationships manifest within the context of the extractive industry. To logically bridge the quantitative bibliometric findings with this qualitative synthesis, the subsequent discussion is structured to directly reflect the two primary VOSviewer clusters that were identified earlier. Specifically, the governance approach cluster is analytically unpacked through an examination of regulation and enforcement and the influential role of nonstate actors and market dynamics. Concurrently, the sustainable development cluster provides the foundational context for exploring critical issues of social justice and inclusive policy.

Regulation and Enforcement: Between Theory and On-the-Ground Reality

The cluster of regulation and enforcement in extractive industry governance reveals a significant gap between the existing legal frameworks and their implementation on the ground. On the one hand, international initiatives such as the EITI are designed to enhance transparency and accountability by mandating revenue disclosure. Studies show that EITI membership can positively influence the mobilisation of tax revenues, particularly under strong implementation. However, its effectiveness is heavily dependent on the country context. In nations with weak institutions, formal regulations are often not enforced because of corruption, a lack of institutional capacity and political interference. This gap is exacerbated by power dynamics. For example, in Zambia, the combination of state-controlled Chinese corporate governance and a weak regulatory framework has led to practices such as negligent safety measures and tax evasion. Furthermore, in legal mechanisms such as investor–state dispute settlement (ISDS) and stabilisation clauses in mining contracts, investor rights have a tendency to be prioritised over environmental protection and human rights, ultimately worsening conflicts. This highlights the notion that regulation alone is not enough, and that firm and equitable implementation is key.

Social Justice and Inclusive Policy: Listening to Community Voices

The dimension of social justice is among the most crucial aspects of extractive industry governance. Social justice links environmental and social impacts with the need for inclusive and just policies. The concept of the SLO, which is often used by companies, is frequently ambiguous and can be

employed as a tool for obscuring negative impacts. In practice, companies may use “neutralisation” language to deny harm or shift responsibility, such as blaming environmental damage on climate change or overgrazing. To achieve just development, policies must move beyond a sole focus on jobs and financial compensation. Instead, an approach that empowers communities to participate meaningfully in decision-making is needed. The concept of free, prior and informed consent has emerged as a rights-based approach, but its implementation remains inconsistent. Studies have shown that approaches such as participatory mapping can serve as valuable tools for capturing local knowledge and perspectives, thereby improving governance and transparency.

The Role of Nonstate Actors and Market Dynamics: Moving Beyond Traditional Boundaries

The interaction between public policy and extractive industry governance is also heavily influenced by nonstate actors and market dynamics. In the theory of multilevel governance, the fact that policy-making is not solely the domain of central governments but also involves companies, civil society organisations (CSOs), and investors is recognised. For instance, pressure from international financial institutions and social movements prompted oil companies in Russia to adopt a more equitable benefit-sharing model with indigenous communities. However, market dynamics can also be a challenge. Studies show that environmental investments in the extractive sector can place pressure on profitability, which is indicative of the tension between environmental and financial performance. This cluster also highlights how market policies can drive innovation. For example, policies that incentivise the development of environmentally friendly technologies can prompt extractive companies to become more innovative. However, the effectiveness of these policies depends on their capacity to address governance challenges, such as ensuring that benefits do not solely accrue to the elite. Overall, this discussion shows that the effective governance of the extractive industry requires a holistic and coordinated approach. This means moving beyond mere regulation and enforcement and rather embracing market mechanisms, ensuring social justice and empowering nonstate actors to participate in the decision-making process.

CONCLUSION

Through its systematic review of the extant literature, this study makes a significant contribution to the field of extractive industry governance by illustrating its evolution from voluntary initiatives toward a structured, multistakeholder framework. Four principal clusters, namely, regulations and enforcement, market incentives and innovation, social justice and inclusive

policy, and the role of nonstate actors, which collectively reflect the sector's governance progression from a compliance-focused approach to a more comprehensive sociopolitical instrument, are identified in the research. These findings enrich the conceptual understanding by linking the clusters to key theoretical models, specifically institutional theory (explaining regulatory failures), signalling theory (attracting sustainable investment), environmental justice theory (ensuring fair distribution of costs and benefits), and multilevel governance theory (recognising the role of nonstate actors in policy-making). Overall, this research underscores the critical role of the interaction between public policies (such as the EITI) and market initiatives in driving sustainable development while highlighting the fact that policy effectiveness is a crucial factor for strengthening governance implementation in the face of inconsistent regulatory enforcement.

In developing countries, the relationship between extractive industry governance and sustainable development is both close and complex; in these nations, which are often highly dependent on natural resources, effective governance is the key determinant of whether mineral wealth sparks long-term development or exacerbates social and environmental challenges, a phenomenon known as the “resource curse”. Analysis has indicated that weak governance and widespread corruption can erode the potential of resource wealth to drive economic growth, which is a situation often compounded by a lack of effective regulatory frameworks. Although initiatives such as the EITI are aimed at increasing transparency and accountability, their effectiveness is heavily reliant on strong institutions, political will and active participation in civil society. Consequently, in developing countries, the primary challenge is not only the implementation of sound policies but also the strengthening of institutional capacity for the consistent enforcement of those policies and ensuring that the benefits from the extractive industry are shared fairly and sustainably among all of society. The limitations of this study include its reliance on a specific database and its potential bias toward English-language literature, which represent gaps that should be addressed in future research through the exploration of non-English sources and the conducting of empirical validation in which regional nuances are integrated.

REFERENCES

- Bainton, N., Skrzypek, E.E. and Lèbre, É. (2025). Compound exposure: Climate change, vulnerability and the energy-extractives nexus in the Pacific. *World Development*, 190: 106958. <https://doi.org/10.1016/j.worlddev.2025.106958>
- Boafo, J. and Arthur-Holmes, F. (2025). Sustainability transition paradox: Emerging dimensions of illegal artisanal and small-scale mining of critical minerals in Africa. *Resources Policy*, 108: 105673. <https://doi.org/10.1016/j.resourpol.2025.105673>

- Cabrera, D., Cabrera, L. and Cabrera, E. (2023). The steps to doing a systems literature review (SLR). *Journal of Systems Thinking Preprints*, 23(3). <https://doi.org/10.54120/jost.pr000019.v1>
- Cohen, A. and Raineri, R. (2025). Extractives: Challenges and opportunities for the south in the energy transition. *Mineral Economics*, 38(2): 253–272. <https://doi.org/10.1007/s13563-024-00479-2>
- Damonte, G., Gonzales, I. and Higuera, S. (2025). The elusive sustainable growth: The formation of institutional socio-ecological traps in Peruvian anchoveta fisheries. *Marine Policy*, 176: 106657. <https://doi.org/10.1016/j.marpol.2025.106657>
- Dodds, R. (2025). Balancing tourism development and sustainability: A multi-stakeholder approach in Tofino over 15 years. *Sustainability*, 17(2): 609. <https://doi.org/10.3390/su17020609>
- El Hamad, W. (2020). A spectacular production: NEITI, transparency, and accountability in the extractive industry in Nigeria. PhD diss. University of Wollongong.
- Everingham, J.A., Pattenden, C., Klimenko, V. and Parmenter, J. (2013). Regulation of resource-based development: Governance challenges and responses in mining regions of Australia. *Environment and Planning C: Government and Policy*, 31(4): 585–602. <https://doi.org/10.1068/c10184>
- Foucault, M. (2008). *The Birth of Biopolitics: Lectures at the Collège de France, 1978–1979*. Basingstoke: Palgrave Macmillan.
- Haglund, D. (2008). Regulating FDI in weak African states: A case study of Chinese copper mining in Zambia. *The Journal of Modern African Studies*, 46(4): 547–575. <https://doi.org/10.1017/S0022278X08003480>
- Holcombe, S. and Kemp, D. (2020). From pay-out to participation: Indigenous mining employment as local development? *Sustainable Development*, 28(5): 1122–1135. <https://doi.org/10.1002/sd.2063>
- Johannes, A.E., Kusumasari, B., Hadna, A.H. and Retnandari, N.D. (2023). Human trafficking: A systematic review and future research agenda. *Jurnal Kebijakan dan Administrasi Publik*, 27(2): 107–129. <https://doi.org/10.22146/jkap.84709>
- Kinda, H. (2025). Driving fiscal growth: The impact of EITI membership on tax revenue mobilization in resource-rich developing countries. *Oxford Development Studies*, 53(1): 66–85. <https://doi.org/10.1080/13600818.2024.2439550>
- Lapeyronie, H. and Szedlacsek, E. (2025). Mining in Africa: Are local communities paying the price of the global energy transition? *The Extractive Industries and Society*, 21: 101565. <https://doi.org/10.1016/j.exis.2024.101565>
- Meesters, M.E. and Behagel, J.H. (2017). The social licence to operate: Ambiguities and the neutralization of harm in Mongolia. *Resources Policy*, 53: 274–282. <https://doi.org/10.1016/j.resourpol.2017.07.006>
- Mere-Roncal, C., Carrero, G.C., Chavez, A.B., Zambrano, A.M.A., Loisel, B., Gutierrez, F.V., Luna-Celino, V., Arteaga, M., Bongioi, E.S., Tomasi, A.S., Van Damme, P.A., Zapata, D.E.L. and Broadbent, E.N. (2021). Participatory mapping for strengthening environmental governance on socio-ecological impacts of infrastructure in the amazon: Lessons to improve tools and strategies. *Sustainability*, 13(24): 14048. <https://doi.org/10.3390/su132414048>
- Moher, D., Liberati, A., Tetzlaff, J. and Altman, D.G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ*, 339: b2535. <https://doi.org/10.1136/bmj.b2535>
- Nnaa, B.G., Kia, B. and Nwibor, L.B. (2015). Strengthening political governance in the extractive industry: Panacea for revenue transparency and development in Nigeria. *Mediterranean Journal of Social Sciences*, 6(2: S1): 596–603. <https://doi.org/10.5901/mjss.2015.v6n2s1p596>

- Obi, C. (2018). Nigeria: The role of civil society in the politics of oil governance and revenue management. In I. Overland (ed.), *Public Brainpower: Civil Society and Natural Resource Management*. Cham: Palgrave Macmillan, 201–216. https://doi.org/10.1007/978-3-319-60627-9_12
- Okoloise, C. (2020). Humanizing investments in the extractive industries in Africa through the IFC's sustainability policies. *Journal of Sustainable Development Law and Policy*, 11(1): 106–137. <https://doi.org/10.4314/jsdlp.v11i1.6>
- Ovadia, J.S. (2016). Oil-backed capitalist development in the global south: A case of positive oil exceptionalism? In T. Di Muzio and J.S. Ovadia (eds.), *Energy, Capitalism and World Order: Towards a New Agenda in International Political Economy*. London: Palgrave Macmillan, 79–93.
- Page, M.J., McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C., Mulrow, C.D., Shamseer, L., Tetzlaff, J.M. and Moher, D. (2021). Updating guidance for reporting systematic reviews: Development of the PRISMA 2020 statement. *Journal of Clinical Epidemiology*, 134: 103–112. <https://doi.org/10.1016/j.jclinepi.2021.02.003>
- Pan, X., Yan, E., Cui, M. and Hua, W. (2018). Examining the usage, citation, and diffusion patterns of bibliometric mapping software: A comparative study of three tools. *Journal of Informetrics*, 12(2): 481–493. <https://doi.org/10.1016/j.joi.2018.03.005>
- Pedro, A., Ayuk, E.T., Bodourolou, C., Milligan, B., Ekins, P. and Oberle, B. (2017). Towards a sustainable development licence to operate for the extractive sector. *Mineral Economics*, 30(2): 153–165. <https://doi.org/10.1007/s13563-017-0108-9>
- Phillips, J. and Whiting, K. (2016). A geocybernetic analysis of the principles of the Extractive Industries Transparency initiative (EITI). *Resources Policy*, 49: 248–265. <https://doi.org/10.1016/j.resourpol.2016.06.002>
- Phillips, S.K. (2025). The legal construct of mining conflicts. *Resources Policy*, 109: 105706. <https://doi.org/10.1016/j.resourpol.2025.105706>
- Pradana, I.P.Y.B., Susanto, E. and Kumorotomo, W. (2022). Bibliometric analysis of public sector innovation. *Jurnal Ilmu Sosial dan Ilmu Politik*, 25(3): 297–315. <https://doi.org/10.22146/jsp.69862>
- Rillo, A.G., Martínez-Carrillo, B.E., de Hoyos Martínez, L.G., Guzman, M.E.A., Valdés, V.M.E. and García, J.J. (2015). Construcción de mallas por competencias para el curso de fisiología. *Investigación en Educación Médica*, 4(14): 88–98. [https://doi.org/10.1016/S2007-5057\(15\)30007-7](https://doi.org/10.1016/S2007-5057(15)30007-7)
- Riter, J.J. (2019). An exploration of the Extractive Industries Transparency Initiative as a model for incorporating collaborative accountability into collective global governance. *University of Pennsylvania Journal of International Law*, 40(4): 839–893.
- Sachs, J.D. and Warner, A.M. (2001). The curse of natural resources. *European Economic Review*, 45(4–6): 827–838. [https://doi.org/10.1016/S0014-2921\(01\)00125-8](https://doi.org/10.1016/S0014-2921(01)00125-8)
- Shah, S.H.H., Lei, S., Ali, M., Doronin, D. and Hussain, S.T. (2020). Prosumption: Bibliometric analysis using HistCite and VOSviewer. *Kybernetes*, 49(3): 1020–1045. <https://doi.org/10.1108/K-12-2018-0696>
- Skrzypek, E.E. (2020). Extractive entanglements and regimes of accountability at an undeveloped mining project. *Resources Policy*, 69: 101815. <https://doi.org/10.1016/j.resourpol.2020.101815>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104: 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Sovacool, B.K. (2017). Contestation, contingency, and justice in the Nordic low-carbon energy transition. *Energy Policy*, 102: 569–582. <https://doi.org/10.1016/j.enpol.2016.12.045>

- Uzoigwe, M. and Nwokolo, N. (2025). Natural resource conflicts and good governance in West Africa. In A. Adeniyi, P.A. Obi, S.K. Usman and I.U. Yusuf (eds.), *Media, Conflicts and the National Security Question: Communicating (In)security in Nigeria, West Africa and the Sahel*. Cham: Palgrave Macmillan, 225–244. https://doi.org/10.1007/978-3-031-82198-1_12
- Verrier, B., Smith, C., Yahyaei, M., Ziemski, M., Forbes, G., Witt, K. and Azadi, M. (2022). Beyond the social license to operate: Whole system approaches for a socially responsible mining industry. *Energy Research and Social Science*, 83: 102343. <https://doi.org/10.1016/j.erss.2021.102343>
- Yap, W.K., Kamarudin, F. and Gryzelius, J. (2025). External debt, state ownership and technical efficiency: A stochastic frontier analysis of emerging economies. *Portuguese Economic Journal*, 24(1): 123–150. <https://doi.org/10.1007/s10258-024-00255-8>
- Zhu, J. and Liu, W. (2020). A tale of two databases: The use of Web of Science and Scopus in academic papers. *Scientometrics*, 123(1): 321–335. <https://doi.org/10.1007/s11192-020-03387-8>