



WHY IS THE IMPLEMENTATION OF GOOD ENVIRONMENTAL GOVERNANCE ESSENTIAL? (A SYSTEMATIC LITERATURE STUDY)

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Abstract

This study aims to clarify the adverse effects stemming from the absence of Good Environmental Governance (GEG) practices. This investigation employed a methodical approach to review the literature, focusing on nine research articles selected using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. GEG, as a transformative mechanism, holds significant potential for mitigating the effects of global warming. However, in various regions worldwide, numerous individuals continue to struggle with the effective implementation of GEG. Forests represent the areas most adversely affected by the absence of GEG implementation. Numerous environmental challenges persist, including issues related to air quality, water standards, urban waste management, transportation systems, land use, deforestation, and shifts in climate patterns. The absence of GEG implementation manifests in adverse trends such as diminished rule of law, weakened institutional capacity, insufficient community engagement, and a lack of transparency and accountability. This study aspires to serve as a reference for governments in the pressing need to implement GEG, aiming to construct a more sustainable environmental framework that mitigates the effects of global warming.

Keywords: Good Environmental Governance, Implementation, PRISMA, Systematic Literature Study.

Abstrak

Penelitian ini bertujuan untuk mengetahui dampak negatif dalam kurangnya penerapan Good Environmental Governance (GEG). Penelitian ini menggunakan metode Systematic Literature Review (SLR) terhadap 9 artikel penelitian yang dipilih menggunakan Preferred Reporting Items for Systematic Reviews and Metaanalyses (PRISMA). GEG sebagai sebuah bentuk reformasi merupakan hal yang penting untuk diterapkan dalam meminimalkan dampak dari global warming. Nyatanya di berbagai belahan bumi, masih banyak yang belum optimal dalam menerapkan GEG. Hutan merupakan lokasi yang paling banyak terkena dampak negatif dalam kurangnya penerapan GEG. Masih banyak permasalahan lingkungan seperti polusi udara, kualitas air, limbah padat kota, transportasi, penggunaan lahan, deforestasi, dan perubahan iklim. Lemahnya supremasi hukum, kapasitas institusi dan kelembagaan, partisipasi masyarakat, serta transparansi dan akuntabilitas ikut menjadi tren dari dampak negatif dalam kurangnya penerapan GEG. Diharapkan dengan adanya penelitian ini dapat menjadi rujukan bagi pemerintah dalam urgensi penerapan GEG untuk membangun kerangka kerja lingkungan yang lebih berkelanjutan sehingga bisa meminimalkan dampak dari global warming.

Kata Kunci: Penerapan, PRISMA, Studi Literatur Sistematis, Tata Kelola Lingkungan yang Baik.

I. INTRODUCTION

Environmental issues have become increasingly prominent due to the effects of climate change. The primary causes of climate change might originate from natural phenomena or human activities. Natural

factors contributing to climate change include alterations in the carbon cycle, astronomical shifts in the Earth-Sun configuration, significant volcanic eruptions, asteroid collisions, and fluctuations in solar radiation intensity. Conversely, anthropogenic causes

in climate change arise from human activities that emit greenhouse gases into the atmosphere, including carbon dioxide (CO₂) and methane (CH₄). Among these, anthropogenic influences are the primary accelerators and exacerbators of climate change (Xi-Liu & Qing-Xian, 2018).

Climate change presents a significant concern that requires vigilant monitoring. Its profound effects of climate change manifest as increasing temperatures, referred to as global warming. Even if greenhouse gas concentrations are restored to pre-industrial levels, the altered climatic conditions may be irreversible in numerous regions, particularly in many developing nations (Kim et al., 2022). Consequently, governments globally have commenced the pursuit of environmental sustainability objectives to tackle prevailing environmental challenges.

Governments globally can attain environmental sustainability objectives by providing financial support. Under the Copenhagen Agreement of 2009, developed nations committed to allocate US\$30 billion in funding for the years 2010-2012 and to mobilize long-term financing of US\$100 billion annually by 2020 (Suroso et al., 2022). This funding is designated for developing nations to mitigate greenhouse gas emissions and adapt to the effects of climate change in the most susceptible countries. These financial resources are utilized to establish Good Environmental Governance (GEG).

GEG represents a significant reform, particularly in the realm of forest management. Forest management frequently emphasizes the harvest of natural resources through logging or hunting. This may indeed jeopardize the integrity of the forest. Nugroho et al. (2022) asserted that GEG can transform the paradigm of governmental policy in forest management from exploitation to a pro-conservation approach. The pro-conservation strategy prioritizes sustainable management over immediate financial gains. Consequently, GEG must be extensively adopted to ensure sustainable forest management and mitigate the effects of global warming.

Forests occupy a substantial portion of the Earth's surface. Forests encompass around

30.8% of the Earth's terrestrial area, amounting to around 4.06 billion hectares. Forests are defined as areas over 0.5 hectares, characterized by trees taller than 5 meters and a canopy cover exceeding 10 percent, or trees that can attain these criteria, excluding land primarily utilized for agriculture or urban development (FAO, 2020).

Forests are essential to the Earth's environment. Trees and plants in forests sequester carbon dioxide, a greenhouse gas, and emit oxygen through photosynthesis. This facilitates the regulation of the Earth's carbon cycle and sustains a healthy oxygen equilibrium in the atmosphere. Moreover, trees assist in filtering and purifying the air by capturing pollutants and dust particles. Forests also provide essential ecosystem goods and services, including food, water, shelter, and nutrient cycling, and play a vital role in conserving biodiversity (Morales-Hidalgo et al., 2015).

Every country plays a significant role in forest management. This is due to the fact that few countries possess forest areas exceeding 10% of the world's total forest coverage. Only two countries possess forest areas exceeding 10% of the world forest area: the Russian Federation and Brazil. The Russian Federation possesses the greatest forested area on the planet. Graph 1 indicates that the Russian Federation encompasses a total forest area of 815 million hectares, accounting for 20% of the world's forested regions. Brazil ranks second, with a total forest area of 496 million hectares, which constitutes 12% of the global forest area. Consequently, worldwide collaboration in forest management is crucial for mitigating the effects of global warming.

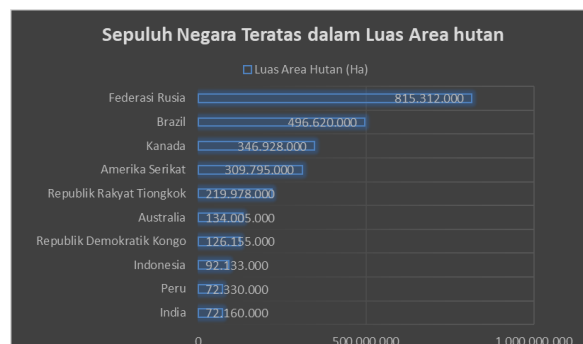


Chart 1. Top Ten Countries with Forest Area
Source: FAO, 2020

Protected areas are a key approach to achieving sustainable forest management. However, only a few nations are committed to managing forests sustainably through designated protected areas. Globally, forests within protected regions cover a total of 726 million hectares, accounting for 18% of the world's forest area. Brazil has the largest protected forest area globally. As shown in Graph 2, Brazil's protected forest area spans 149 million hectares, representing 21% of the global protected forest area. Furthermore, Brazil is the sole nation with protected forest areas exceeding 10% of the total global protected forest area.



Chart 2. Top Five Countries with Forest Area in Protected Areas
Source: FAO, 2020

The government's commitment to forest management and conservation is undoubtedly fraught with challenges. One major issue is the persistent occurrence of forest and land fires. Forest fires are often a consequence of climate change, which can exacerbate drought conditions, leading to more extensive and destructive fires (Grünig et al., 2023). Consequently, Good Environmental Governance (GEG) is becoming increasingly essential for the government, particularly in the context of forest management.

Previous research has explored the concept of Good Environmental Governance (GEG). Research by Blackmore & Armstrong (2017) indicates that the aims of the proposed tsetse fly eradication initiative are unconstitutional, in violation of multiple multilateral accords ratified by South Africa, and were inconsistent with GEG. Secondly, Purniawati et al. (2020) conducted study elucidating GEG within the context of

environmental conservation and management in Indonesia.

Prior research has primarily focused on issues pertaining to the implementation and legal framework of Good Environmental Governance (GEG) within a specific region. This study examines the adverse effects of inadequate GEG implementation using the Systematic Literature Review (SLR) methodology. The SLR approach was selected for its capacity to transparently and credibly synthesize the findings of prior investigations concerning GEG. This study revealed that forests, which are integral to the ecosystem and vital for the planet's health, are the areas most adversely impacted by insufficient GEG adoption. This study is expected to serve as a reference for governments, emphasizing the urgent need to implement GEG to establish a more sustainable environmental framework, thereby mitigating the effects of global warming.

LITERATURE REVIEW

Good Environmental Governance

In the 21st century, the notion of good governance has gained prominence within governmental discourse. Nevertheless, effective governance alone is insufficient to address environmental challenges (Purniawati et al., 2020). Consequently, the notion of good governance became associated with objectives of environmental sustainability. This integration gave rise to a new concept known as Good Environmental Governance (GEG).

GEG denotes the proficient administration and supervision of environmental policies, practices, and resources by government entities and other stakeholders (Yolanda & Septianda, 2023). The objective of GEG is to guarantee sustainable development, environmental conservation, and fair allocation of environmental advantages and disadvantages. GEG is essential for establishing environmental justice, commonly known as ecojustice (Putrijanti & Pinilih, 2023). However, the implementation of GEG remains suboptimal, as demonstrated by the severe coastline erosion in Bengkalis Regency, Indonesia (Rusadi et al., 2024). Moreover,

GEG serves as a framework for developed nations to support developing countries in aligning with global sustainability goals. Moreover, GEG serves as a framework for developed nations to support developing countries in aligning with global sustainability goals.

Principles of Good Environmental Governance

Belbase (2010 in Rusadi & Yusraini, 2021) asserted that the fundamental concepts of GEG encompass: Rule of Law, which mandates the establishment of explicit environmental laws and regulations; Engagement and Representation, which includes the participation of communities, stakeholders, and the public in environmental protection; the provision of transparent and comprehensive information regarding environmental issues and policy to the public; Transparency and Accountability, which guarantee that institutional performance is accessible, clear, and answerable to the public; Decentralization which enables local governments to make determinations regarding their environment and resources; the enhancement of institutional capacities, which strengthens the capabilities of environmental organizations to efficiently implement policies and initiatives; and facilitating Access to Justice, by providing individuals and communities with legal and non-legal remedies for environmental harm or administrative misconduct.

Systematic Literature Review

Systematic Literature Review (SLR) is a method used to synthesize the findings of existing research papers (Schweizer & Nair, 2017). It is performed to identify all relevant published studies addressing a certain research question based on predefined criteria. Systematic literature reviews entail a meticulous and transparent methodology to guarantee the incorporation of all pertinent studies and to minimize bias in the evaluation process. However, the application of SLR is more advanced in the medical field compared to areas like public policy or innovation (Glor, 2021).

Systematic literature reviews frequently employ the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) procedure in their execution. PRISMA is recognized for its straightforward and concise methodology, making it preferable to alternative approaches (Astridita et al., 2024). The PRISMA protocol ensures that the exclusion process during study selection is transparent to other researchers. As a result, PRISMA enhances the credibility of systematic literature review research.

II. METHOD

This study employs a qualitative approach utilizing the Systematic Literature Review methodology. This study adheres to the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) protocol, as illustrated in Figure 1. This procedure was selected due to its clear methodology, which enhances the trustworthiness of the study findings. This study employs prominent databases commonly used by Indonesian scholars, including Scopus and DOAJ. The phrase employed is "Good Environmental Governance". The search was conducted using the phrase "Good Environmental Governance," with results obtained on May 28, 2024. The preliminary search identified 70 documents. Exclusion criteria were subsequently applied to ensure data quality, resulting in a final selection of 9 documents to address the study questions.

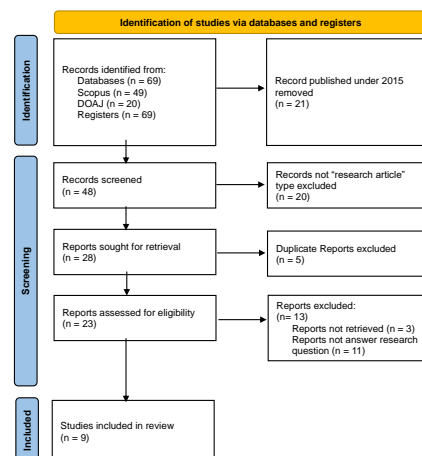


Figure 1. PRISMA Flowchart for Systematic Literature Review

Source: Adapted from Page *et al.* (2021)

This study applies multiple exclusion criteria. First, documents published before 2015 are excluded to ensure the inclusion of the most recent research data, which enhances the relevance of study findings. Second, papers classified as anything other than "research articles" are removed to ensure that the included documents meet high-quality standards based on peer review. Third, duplicate papers are excluded to the replication of study data. Fourth, inaccessible documents are excluded as they do not provide usable research data. Finally, documents that do not address the research questions are removed to ensure that the research data directly responds to the established inquiries.

III. RESULT AND DISCUSSION

Research highlighting the adverse effects of inadequate implementation of Good Environmental Governance (GEG) continues to proliferate annually. Figure 2 illustrates that there was one publication in 2019. In 2020, there were two publications. Additionally, there were three publications in both 2021 and 2022. This trend suggest that environmental degradation is progressively escalating each year. Such degradation can be attributed to the insufficient execution of GEG.

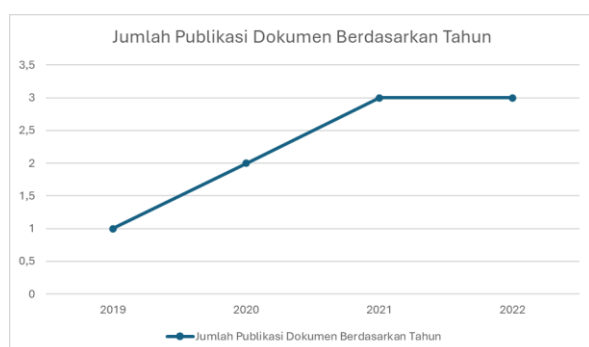


Figure 2. Number of Document Published by Year

Source: Processed Primary Data, 2024

Scholarly investigations into the deficiency of GEG implementation have been undertaken by authors from various regions worldwide. According to Figure 3, Indonesia has the highest number of study authors, totaling six. Brazil follows with five authors,

while Australia and the People's Republic of China each have four authors. Subsequently, Malaysia and the Kingdom of Morocco both have three authors. The Republic of Greece has two authors. Finally, the Republic of Fiji and Spain each have one author. The prevalence of authors from developing nations indicates that these countries are the most adversely impacted by the insufficient implementation of GEG.

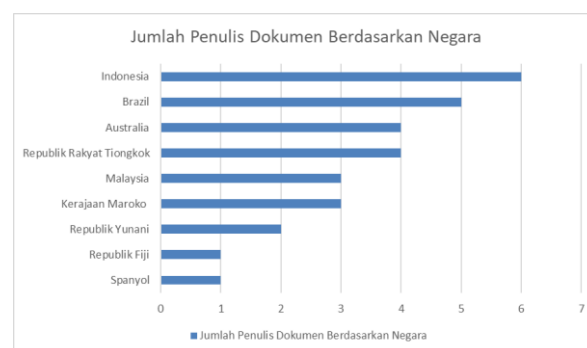


Figure 3. Number of Document Authors by Country

Source: Processed Primary Data, 2024

The sites of adverse effects resulting from the absence of GEG implementation are diverse. According to Figure 4, forests are the most adversely impacted areas, accounting for 3 locations or 30% of the total successfully identified sites (Ghouat et al., 2021; Silva et al., 2020; Sukadi et al., 2020). Forests represent areas with the greatest profit potential and are therefore highly susceptible to exploitation. The sea (Ghouat et al., 2021; Prihatiningtyas, 2019), rivers (Du et al., 2022; Renaldi & Frinaldi, 2022), and unidentified locations each account for 2 sites, representing 20% of the total successfully identified locations. Subsequently, the coast accounted for one site, representing 10% of the total identified locations (Lawless et al., 2021).

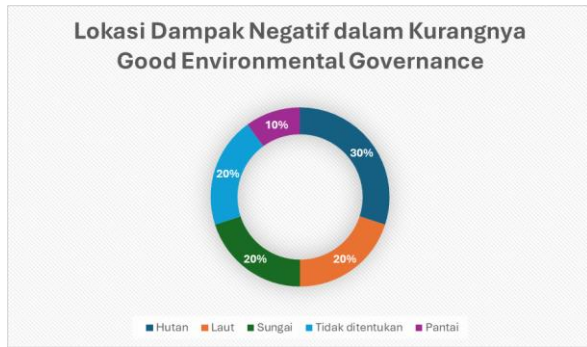


Figure 4. Location of Negative Impacts due to the Lack of Good Environmental Governance

Source: Processed by authors, 2024

The quantity of article citations serves as a metric to assess an article's impact factor (Kumar et al., 2020). Only three studies have received more than ten citations. According to table 1, the paper by Lawless et al. (2021), which has received 94 citations, is the most significant research addressing the adverse effects of insufficient GEG adoption. The study conducted by Li and Oliveira (2021) has received 27 citations, followed by the research conducted by Du et al. (2022), which has garnered 25 citations.

Table 1. Result of Systematic Literature Review

No	Article Title	Writer (Year)	Citation	Result
1	<i>Pengelolaan Wilayah Laut oleh Pemerintah Daerah Berdasarkan Prinsip-Prinsip Good Environmental Governance</i>	Prihatin ingtyas, 2019	6	The numerous legal regulations overseeing the management of coastal and marine areas in Indonesia logically result in the issue of regulatory discord. This discord arises from the clash of norms within the pertinent regulations, both vertical and horizontal

				norm conflicts. This results in overlapping authorities and institutions.
2	<i>Penerapan Good Environmental Governance Pada Praktik Perdagangan Karbon Di Proyek Katingan Mentaya</i>	Sukadi et al., 2020	6	The emergence of sectoral egos and repeated deviations, frequently observed in the Katingan Mentaya Project, can be attributed to a lack of sanctions and the bureaucratic licensing process.
3	Implementation of Batang Arau Watershed Management with Good Environmental Governance Perspective	Renaldi & Frinaldi, 2022	5	The Batang Arau River Basin continues to face water pollution problems. These issues stem from low public awareness, ineffective environmental protection laws, lack of access to industrial waste information, sectoral egos, lengthy bureaucratic process, insufficient environmental responsibility, inadequate budgets and resources, weak supervision, non-integrated IPAL facilities, illegal

				logging, and challenges in cross-sectoral coordination.
4	Who Is Going To Save The Brazilian Amazon Forest? Reflections On Deforestation, Wildlife Eviction, And Stewardship Behavior	Silva <i>et al.</i> , 2020	9	The Amazon's high rate of deforestation is blamed on agribusiness, along with the illegal timber trade, and poor oversight due to lack of budget and human resources.
5	Gender Equality Is Diluted In Commitments Made To Small-Scale Fisheries	Lawless <i>et al.</i> , 2021	94	Gender equality commitments and investments across the Pacific Islands region remain limited and outdated.
6	Environmental Governance Deficiency Of Protected Areas In Morocco . Case Of Al Hoceima National Park	Ghouat <i>et al.</i> , 2021	1	Al Hoceima National Park is managed under outdated laws, with no specific regulations addressing its marine environment. Institutional contributions are inadequate with very limited human resources. Coordination and consultation between the various operational actors in the

				region are problematic. Furthermore, the environmental dimension is underestimated in regional development strategies.
7	Stakeholders' Perceptions Concerning Greek Protected Areas Governance	Syrou & Botetzias, 2022	2	Overall, stakeholders did not consider that Greek protected area (PA) management highly meets the criteria of Good Environmental Governance. Key governance aspects, such as a shared vision guiding PA management, the rule of law, and the effectiveness and efficiency of procedures, received very poor ratings. This indicates that environmental governance in Greek protected areas is, at best, suboptimal.
8	Environmental governance for sustainable development in Asia	Li & Oliveira, 2021	27	Asia faces substantive environmental issues, including air pollution, water quality, municipal solid waste, transportation, land use, and climate

				change. These challenges persist partly because many authoritarian governments in the region restrict confrontational public participation.
9	Evaluating The Water-Saving And Wastewater-Reducing Effects Of Water Rights Trading Pilots: Evidence From A Quasi-Natural Experiment	Du <i>et al.</i> , 2022	25	There are serious obstacles to cross-provincial water rights trade in China. This is due to the policies that are still local in nature and the sectoral egos of local officials who are more focused on maintaining the quality and quantity of water in their respective regions.

Source: Processed Primary Data, 2024

Good Environmental Governance (GEG) is essential for mitigating the effects of global warming. Indeed, numerous regions globally have yet to effectively implement GEG. In the Pacific Islands, commitments to gender equality remain constrained and underdeveloped (Lawless et al., 2021). The Asian continent continues to face numerous environmental challenges, including air pollution, water quality issues, municipal solid waste management, transportation, land use, and climate change, all exacerbated by restricted community engagement (Li & Oliveira, 2021). For instance, China encounters challenges in trading water rights across its provinces due to sectoral egos (Du et al., 2022). Similarly, Indonesia encounters various challenges, including: 1) Regulatory

conflicts and overlapping jurisdictions in coastal area management (Prihatiningtyas, 2019); 2) Sectoral egos and bureaucratic obstacles impeding effective governance in the Katingan Mentaya Carbon Project (Sukadi et al., 2020); 3) Persistent pollution in the Batang Arau River caused by insufficient awareness and inadequate oversight (Renaldi & Frinaldi, 2022). In South America, the Amazon rainforest in Brazil is undergoing significant destruction attributed to agribusiness and illicit logging (Silva et al., 2020). In Morocco, Al Hoceima National Park suffers from inadequate resources, poor coordination, and outdated environmental protection laws (Ghouat et al., 2021). In Europe, specifically in the Republic of Greece, the governance of conservation areas is less effective, particularly in terms of collaborative leadership and adherence to the rule of law (Syrou & Botetzagias, 2022). Notably, no research has been identified in North America addressing the adverse effects of insufficient GEG implementation.

Weakness of the Supremacy of Law

The absence of Good Environmental Governance (GEG) can undermine legal supremacy (Ghouat et al., 2021; Prihatiningtyas, 2019; Renaldi & Frinaldi, 2022; Sukadi et al., 2020; Syrou & Botetzagias, 2022). Table 1 indicates that there are five papers addressing the issue of weak legal supremacy. A manifestation of inadequate legal supremacy is the lack of regulatory provisions, which hinders the prosecution of individuals responsible for environmental degradation. Conversely, excessive regulations may lead to redundancy and inconsistencies among applicable laws. This may also result in divergent interpretations of current regulations, causing horizontal conflicts across authorized government entities. The absence of punishments and law enforcement further undermines the integrity of legal supremacy. The absence of fines and law enforcement may embolden perpetrators of environmental degradation, dissuading them from ceasing their harmful activities.

Weakness of Institutional Capacities

The absence of GEG may result in diminished institutional capability (Du et al., 2022; Ghouat et al., 2021; Renaldi & Frinaldi, 2022; Silva et al., 2020; Sukadi et al., 2020). Table 1 indicates that there are five publications addressing poor institutional and institutional capabilities. Instances of inadequate institutional capability include insufficient people resources, equipment, and funding for executing institutional responsibilities and authorities. The absence of these elements might render a government entity ineffective in executing its responsibilities and powers. Consequently, sectoral egos lead to a deficiency in cooperation among governmental entities. Insufficient coordination among government entities may lead to competition aimed at undermining one another to emerge as the sole dominant entity in a project. This eventually detracts the community, as collaboration can significantly lower expenses and enhance the efficacy of current project outcomes.

Lack of Community Participation and Representation

The absence of Good Environmental Governance (GEG) may result in diminished community engagement and representation (Lawless et al., 2021; Li & Oliveira, 2021; Renaldi & Frinaldi, 2022). Table 1 indicates that three papers address the deficiency of community participation. A manifestation of insufficient community engagement is the diminished public understanding regarding environmental protection. Without community awareness, governmental initiatives for environmental protection are unlikely to be effective. An overly authoritarian administration further weakens public oversight of governmental actions. Additionally, the absence of gender equality affects the establishment of justice in sustainable environmental use. Gender equality is particularly crucial when one gender mainly exploits natural resources in a region yet lacks substantial involvement and representation in their administration. This disparity often arises due to policies that fail to account for that gender's needs, stemming from inadequate participation and

representation. Importantly, gender equality should not be regarded solely as a women's issue. Its realization requires extensive collaboration and commitment from both men and women.

Lack of Transparency and Accountability

The lack of GEG may result in diminished openness and accountability (Renaldi & Frinaldi, 2022). Table 1 indicates that there is one article addressing the absence of openness and accountability. A manifestation of insufficient openness and accountability is limited access to information, which can create confusion and hinder the public's ability to utilize public services. This may lead to individuals contravening legislation and harming the environment due to a lack of awareness regarding prohibitions. This complicates the public's ability to evaluate the performance of current government institutions, thus diminishing public trust and affecting the government's legitimacy.

Policy Recommendations

Numerous policy recommendations exist for governments, particularly in poor nations, regarding the implementation of Good Environmental Governance, specifically: 1) Reinforcing the rule of law: Governments must establish comprehensive, non-overlapping regulations for environmental management and enforce strict penalties against violators of environmental protection laws. 2) Enhancing institutional capacity and capability: Governments must allocate sufficient budget to guarantee the quality and quantity of necessary human resources and equipment. 3) Improving Community Engagement and Representation: Governments must implement grassroots initiatives to raise environmental awareness, promote gender equality, and enhance decentralization in community engagement and representation. 4) Augmenting Transparency and Accountability: Governments must guarantee that information is readily accessible to all demographics, through both online and offline platforms.

IV. CONCLUSION

This Systematic Literature Review aims to identify the adverse effects resulting from the inadequate implementation of Good Environmental Governance (GEG). Research highlighting the adverse effects of inadequate implementation of GEG continues to proliferate annually. Indonesia has the highest quantity of study authors addressing this topic. Forests are the most adversely impacted areas due to the inadequate enforcement of GEG. Numerous environmental issues persist, including air pollution, water quality, municipal solid waste, transportation, land use, deforestation, and climate change. The weak rule of law, inadequate institutional capacity, insufficient community participation, and lack of openness and accountability are negative consequences stemming from the failure to execute GEG.

This study has several limitations. This analysis concentrates solely on the period from 2015 to 2024 and utilizes only two databases: DOAJ and Scopus. To gain a more comprehensive understanding of the adverse effects stemming from the absence of Good Environmental Governance (GEG), future research should expand the temporal scope and incorporate additional data source. Furthermore, future studies could assess the efficacy of GEG deployment in regions such as the North America through field surveys.

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