CORRUPTION'S IMPACT ON THE ENVIRONMENT: A CASE STUDY IN THE STATE OF PERAK

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ABSTRACT

Forests are vital natural resources that offer significant economic, social and environmental benefits crucial for a nation's socioeconomic progress. When managed sustainably, forests generate enduring positive impacts. Conversely, illegal logging poses a formidable barrier to comprehensive forest management initiatives. This is attributable to its detrimental effects on environmental equilibrium, government revenue streams, and the livelihoods of communities reliant on forests, particularly in countries where logging plays a pivotal role in the economy. This study delves into the nexus between corrupt politics and logging challenges within the state of Perak. Employing a qualitative approach, it conducts thematic analysis using the Atlas.ti software to scrutinise the data collected and translated for examination. The findings elucidate the intricate connection between political corruption and the challenges elucidated in this study. The research illuminates the role and repercussions of political corruption in the context of logging in Perak, where illicit logging activities cast a shadow jeopardising governance, political stability and environmental sustainability. Moreover, the study's outcomes underscore the pervasive influence of corruption across ecological, social and political systems, yielding far-reaching ramifications. The objectives underscore the critical need for a comprehensive strategy addressing not only immediate issues but also systemic corruption within the logging sector. This research underscores the urgent imperative for collaborative efforts aimed at mitigating corruption's adverse effects on Perak's natural resources and political landscape.

Keywords: Corruption, politics, logging, Malaysia, governance

INTRODUCTION

Environmental issues have far-reaching implications for human development and lifespan. Within a country, political institutions play a pivotal role in shaping environmental legislation and its successful implementation. While economics undoubtedly influences environmental management, it is inextricably linked with the political framework. Hence, environmental concerns should not be viewed in isolation from economic factors (Hu et al. 2021). These environmental challenges are complex, impacting both socioeconomic and biophysical aspects, including agricultural and food productivity. Thus, it is imperative for governments to delve deeper into these issues to develop effective strategies (Useche and Reyes 2020).

Forests are invaluable natural resources that yield economic, social, and environmental benefits vital for a nation's socioeconomic progress. Well-managed forests can yield enduring, positive outcomes. Conversely, illegal logging hinders various forest management endeavours, negatively affecting environmental stability, government revenue, and the livelihoods of forest-dependent communities, particularly in countries reliant on timber production (Muhammad Nur Haniff, Rokiah and Suriyani 2018).

Table 1 offers a detailed overview of the average domestic prices for various wood products in Peninsular Malaysia for December 2023. These tables include data on logs, sawn timber, plywood, and medium-density fiberboard (MDF), categorised by species, size and thickness. The prices, presented in Malaysian Ringgit, reflect the market value of these products, showcasing the diversity in wood types and their respective demand. This information is crucial for industry stakeholders, including producers, traders and consumers, to make informed decisions in the timber market.

The log table indicates the variance in prices based on the wood species, with chengal being the most expensive, indicating its superior quality and demand in the market. The sawn timber table reflects similar trends, with variations in prices based on the type of wood and its application, such as GMS, strips, and scantlings. The plywood and MDF tables show a clear relationship between thickness and price, with thicker sheets being more expensive due to the increased material and processing costs. These price differences highlight the diverse range of wood products available and their varying applications in the industry.

Table 1: Average prices of sawn timber in Ringgit Malaysia (RM) by species and size in Peninsular Malaysia, December 2023

Species	General market specification	Strips	Scantlings
Chengal	9,887	4,944	9,887
Balau	3,290	2,059	3,857
Red balau	2,754	2,472	2,419
Merbau	3,754	3,072	3,725
Mixed heavy hardwood	1,344	1,092	1,246
Keruing	3,072	2,445	2,189
Kempas	2,189	2,154	2,542
Kapur	1,746	1,118	1,877
Mengkulang	1,434	1,436	2,013
Tualang	1,820	1,748	2,105
Dark red meranti	2,631	1,942	3,566
Red meranti	1,871	1,801	2,307
Yellow meranti	1,836	1,389	1,977
White meranti	2,507	1,801	1,977
Mersawa	1,989	1,565	2,154
Nyatoh	1,530	1,548	1,412
Sepetir	1,707	1,436	1,520
Jelutong	2,083	1,554	1,819
Mixed hardwood	1,352	1,118	1,201
Hevea brasiliensis (Rubberwood)	1,305	1,380	1,490

Table 2 presents the average prices of various timber species in Malaysia from 2013 to 2022. The data is categorised into three main groups: Heavy hardwood (HHW), medium hardwood (MHW), and light hardwood (LHW). The prices are indicative of market trends and provide insights into the timber industry's dynamics over the past decade.

The table highlights the fluctuating prices of different timber species over the years, reflecting market demand and supply dynamics. Notably, chengal, a premium hardwood, consistently commands higher prices, while rubberwood, commonly used in furniture manufacturing, remains relatively affordable. The data also shows a general increase in prices for most species, indicating a rising demand for timber in Malaysia and globally.

Table 2: Average prices of timber species in Malaysia (2015–2022)

Timber group/ species	2015	2016	2017	2018	2019	2020	2021	2022
HHW								
Balau	1,599	1,667	1,664	1,722	1,833	1,894	1,869	1,696
Red balau	1,387	1,403	1,239	1,222	1,236	1,267	1,252	1,547
Chengal	2,222	2,051	2,427	2,502	2,549	2,793	2,675	2,818
Merbau	1,438	1,496	1,421	1,743	1,826	1,988	1,944	1,787
Keranji	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Resak	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Mixed heavy hardwood	514	525	527	530	556	634	653	695
MHW								
Kapur	942	944	943	944	940	941	956	1,055
Kempas	738	885	961	1,018	1,055	948	952	1,204
Red kelat	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Keruing	723	832	856	708	803	873	941	1,072
Kulim	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Mengkulang	613	657	647	736	725	733	742	912
Tualang	723	767	776	778	786	799	842	710
Mixed medium hardwood	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
LHW								
Gerutu	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Jelutong	571	611	623	619	617	619	665	623
Medang	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Melantai	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Melunak	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Dark red meranti	914	981	967	1,000	1,004	1,000	1,015	1,228
Light red meranti	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Old red meranti	992	1,056	1,137	1,167	1,159	1,047	1,087	1,166
Yellow meranti	626	660	642	667	683	703	727	1,013
White meranti	575	589	688	822	826	818	828	846
Merawan	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Mersawa	821	826	824	882	950	951	942	900
Nyatoh	500	507	666	722	730	715	821	754
Ramin	n.a	n.a	n.a	n.a	n.a	n.a	n.a	806
Sepetir	472	577	642	761	751	738	763	812
Rubberwood	82	83	102	103	90	100	116	117
Mixed light hardwood	558	667	566	494	520	592	604	588

Note: n.a = not available

Countries in Southeast Asia, such as Malaysia, Indonesia and Laos, are prominent timber producers (Hoare 2015). Recent research indicates that Malaysia's illicit timber production constitutes 35% of its total output, with Malaysia supplying 10% of illicit timber to the global market (Hoare 2015). Illegal logging accounted for 14% to 25% of Malaysia's total timber production in 2010, with an increase in subsequent years (Lawson and MacFaul 2010). Global Witness (2017) has assigned a grade four to cases of logging outside approved boundaries, including logging on steep slopes and excessive harvesting (Nature Communications 2018).

While cases of illegal logging decreased between 1991 and 2016, incidents of forest abuse have risen. The State Forestry Act 1984 (Act 313) serves as the primary legislation to combat illegal logging and forest-related crimes. Every state in Peninsular Malaysia has adopted Act 313 to standardise forestry laws (Mohd Gani 2013). In 1993, this act underwent amendments to increase fines and imprisonment durations related to illegal logging. However, despite these legal measures, illegal logging and forest crimes have persisted since the inception of the 1984 State Forestry Act.

Data analysis from a study by Muhammad Nur Haniff, Rokiah and Suriyani (2018) identifies "inadequate facilities and equipment" as the most significant factor facilitating illegal logging activities. The study highlights that enforcement efforts can be severely compromised if the personnel lack sufficient transportation, supervision, monitoring capabilities, communication tools and protective gear. Equipment shortages limit enforcement capacity, hindering surveillance, effective communication and the tracking of illegally logged timber.

The Malaysian timber industry has faced significant economic losses due to corruption and leakages. According to estimates from EMIR Research, Malaysia has lost approximately RM4.5 trillion over the last 26 years due to these issues. This figure encompasses both direct monetary losses and opportunity costs, taking into account the multiplier effect of every cent injected into the economy. The timber industry, being one of Malaysia's major natural resource sectors, has undoubtedly been impacted by this widespread corruption, which has undermined the country's ability to promote sustainable and inclusive growth.

This study is important because it addresses a critical issue in the timber industry that has significant environmental, economic and social implications. Illegal logging not only leads to deforestation and loss of biodiversity but also undermines legal trade, resulting in substantial economic losses for countries like Malaysia. By examining the factors facilitating illegal logging activities and assessing the effectiveness of existing laws and enforcement mechanisms, this research aims to

contribute to the development of more effective strategies for combating illegal logging and promoting sustainable forest management. This is crucial for ensuring the long-term viability of the timber industry, preserving natural resources and supporting the livelihoods of communities dependent on forests.

LITERATURE REVIEW

Concept of Corruption

Rousseau's theory of state power's legitimacy posits that it originates from the people, making the government the executor of sovereignty. This legitimacy is grounded in trust, but the issue of corruption arises when public power veers from its original purpose and is exploited. The concept of "corruption" aligns with the idea of "abuse of public office for personal gain," a definition commonly accepted by international scholars. In China, the study of corruption as a distinct response to government administration emerged in the 1980s and 1990s. Corruption, as described by Li, Wu and Hu (2011) in Liu (2016), encompasses the misuse of public power, involving abuses and unfair exchanges.

As asserted by Bussell (2015), defining corruption comprehensively involves various approaches. Nevertheless, a one-size-fits-all definition proves impractical due to variations in the context of corrupt actions. Consequently, it becomes essential to acknowledge the diversity of corruption's manifestations and to select an appropriate definition and measurement methodology that aligns with the research objectives. This approach aligns with the current study's aim, which is to provide a nuanced definition of corruption that enhances scientific research.

Corrupt Politics

Political corruption, as widely acknowledged by political observers, entails illicit transactions between private and public sector actors, wherein public goods are exchanged for personal gains (Heidenheimer, Johnston and Le Vine 1989). Previous research has demonstrated that political influence can have adverse effects, resembling a form of detrimental taxation without commensurate benefits (Shleifer and Vishny 1993). Such influence can negatively impact firm valuation, performance, and strategic decision-making (Buchanan and Tullock 1962; Rose-Ackerman 1975; 1999; Shleifer and Vishny 1993; 1997; 1998; Durnev and Fauver 2013; Dass, Nanda and Xiao 2016; 2020; Smith 2016; Brown et al. 2019).

While the majority of studies connect political issues with political relationships, freelance studies adopt a different perspective, one that does not explore political issues solely through the lens of political relationships. Freelance researchers employ a variety of ex-ante and ex-post measures within the realm of political contention, including empowerment (actual attempts or offenses), adherence to political ethical codes, and opinions such as those conveyed by the media (Dass, Nanda and Xiao 2016; Smith 2016; Parsons, Sulaeman and Titman 2018). In his study, Smith (2016) proposes four strategies for firms to shield themselves from political influence, including cash holding strategies, debt management, reallocation, and mergers and takeovers.

This approach is taken because it can lead to other issues like "political riots" and "political relations," often subject to misunderstanding. Shleifer and Vishny (1993) define corruption as the sale of public property for personal gain by those holding positions of public trust. Lambert-Mogiliansky, Majumdar and Radner (2008) offer a broader definition of corruption as "anything contrary to established legal norms or that may be considered improper economic activity". Corruption, nepotism, misappropriation of public funds, and the inappropriate sale of state assets are examples of corrupt practices that carry social and economic repercussions (Kaufmann, Kraay and Mastruzzi 2008; Di Guardo, Marrocu and Paci 2016).

Environment

The term "environmental" defies easy definition due to its broad scope, encompassing various fields such as environmental science, natural science, ecology, atmospheric science, oceanography, biology and many others (Bahoo, Alon and Floreani 2021). The natural environment is a multifaceted and interconnected issue that profoundly impacts human existence (Di Guardo, Marrocu and Paci 2016). Environmental protection is a global concern transcending geographical boundaries, and environmental pollution affects all countries, regardless of their size, level of development, or ideological stance, in our increasingly interconnected world. The issue of environmental pollution has been a part of the human experience since ancient times, dating back to as early as Plato's era, more than 2,500 years ago (Di Guardo, Marrocu and Paci 2016). The term environment specifically refers to the natural environment or physical surroundings shared by all living organisms, including the airspace, water bodies, land, plant life, wildlife, and flora and fauna (Bahoo, Alon and Floreani 2021).

Case Studies

Corrupt politics and the environment

Corruption, as defined by the Ianchovichina, Mottaghi and Devarajan (2015) and Creswell (2003), refers to the abuse of power entrusted to individuals by public or private entities for personal gain. Dzhumashev (2014) posits that corruption tends to decrease as economies develop. This trend is attributed to rising salary levels, which increase the cost of corrupt practices and, notably, do not incentivise violence. However, contrasting this positive trend, the 2018 Corruption Perception Index (CPI) highlighted a failure by most governments worldwide to effectively combat corruption, contributing to a global democratic crisis. The CPI statistics for 2018 revealed that 80% of ASEAN countries, excluding two high-income nations, Singapore and Brunei (with scores of 85 and 63, respectively), scored below 50 points, with an average score of 42 points. This underscores the enduring weaknesses in transparency, democracy, and integrity within ASEAN countries, particularly within their public institutions (Transparency International 2018).

In their study, Wang, Yuan and Wang (2019) employed a spatial econometric model to explore the impact of the interaction between local government influence and the hidden economy on environmental pollution, using data from China's regional panel spanning 1998 to 2017. Their primary findings revealed that the hidden economy coefficient remained consistently positive, regardless of whether pollution indicators focused on the release of industrial waste gases or water pollutants. Furthermore, this held true across various weight matrices, including geographic distance, economic factors, or a combination of both. This suggests the development of hidden economies of scale, which may lead to increased pollution releases. The second key finding highlighted a significant and positive interaction between culture and the hidden economy, implying that culture could, directly and indirectly, promote pollutant releases by reducing environmental regulation stringency and expanding the hidden economy's size.

METHODOLOGY

This study adopts a qualitative approach, employing an interview process with respondents from the Corruption Prevention Commission in Perak. Respondents were selected based on their in-depth knowledge of environmental issues in Perak. The selection of these respondents is crucial, as they represent the unit of analysis for this study, and their insights are instrumental in achieving the study's objectives, which revolve around assessing perceptions of the natural environment.

Regarding sample selection, purposive sampling aims to select specific individuals relevant to the study. In this case, individuals working at the Perak State Corruption Prevention Commission were selected to provide targeted and specific responses to the study's inquiries. This approach ensures that the study's subjects can provide comprehensive and relevant answers, aligning with the research questions and objectives. Additionally, this study will gather reports on land issues to complement the analysis, thereby supporting the findings of the study.

For data collection, the researcher employed the interview method to ensure the acquisition of pertinent data that aligns with the study's objectives. While utilising a qualitative approach, the researcher conducted interviews with selected participants. Field study methodologies, including case studies, interviews and observations, are employed to address the research questions (Walliman 2011). In this study, an interview approach was utilised, with participants selected by the investigator. Hackett (2003) stressed that well-structured interviews lead to the selection of more suitable candidates, providing guidance on various approaches and procedures. Consequently, the interviewer meticulously organised the interviews, assessing potential facts to draw well-informed conclusions.

Interviews serve as a means of gathering primary data, defined as information collected during the course of a research project. Face-to-face interviews were employed to obtain primary information, utilising structured interviews with predetermined questions. The questions, aligned with the study's objectives, were meticulously prepared and presented to the participants. This approach encouraged participants to provide precise responses. While the interview questions were composed in English, the interviews were conducted in the participants' native language (Malay) to ensure accurate answers and facilitate qualitative data analysis.

The flow of research analysis in the methodology section of this study involves several key steps:

1. Data collection: The researcher conducted face-to-face structured interviews with selected participants from the Perak State Corruption Prevention Commission. These participants were chosen based on their in-depth knowledge of environmental issues in Perak.

2. Data preparation: The collected data from interviews were transcribed verbatim. Since the interviews were conducted in Malay, translations into English were performed to facilitate analysis.

3. Data analysis: The study employed qualitative data analysis techniques. The analysis involved coding the transcribed data to identify recurring

themes and patterns related to the perceptions of the natural environment. This process was aided by qualitative data analysis software to ensure systematic and rigorous analysis.

4. Triangulation: To enhance the validity of the findings, the study used triangulation by comparing interview data with reports on land issues in Perak. This approach helped to corroborate the findings from different data sources.

5. Interpretation: The final step involved interpreting the coded data and themes to draw conclusions about the respondents' perceptions of the natural environment from the Corruption Prevention Commission in Perak.

By following this structured approach to research analysis, the study aims to provide in-depth insights into the perceptions of the natural environment and the factors influencing these perceptions among key stakeholders in Perak.

RESULTS

The results section of this study presents the findings from interviews with anti-corruption officials and other respondents, shedding light on the multifaceted impacts of corruption in the logging industry. The insights reveal the environmental consequences of illegal logging, such as deforestation and biodiversity loss, as well as the social and economic repercussions on marginalised communities. Furthermore, the findings highlight the significant role of corrupt politics in exacerbating these issues, with corruption providing protection for those profiting from illegal logging, leading to environmental degradation and economic instability. The study also explores the importance of containing corruption in environmental issues, emphasising the need for collaborative efforts to enhance transparency and accountability within the logging industry. Lastly, the role of social programmes and the impact of corruption on foreign investment and trade in the logging sector are discussed, underscoring the importance of whistleblowers, educational programmes, and regulatory measures in combating corruption and promoting sustainable development.

The Relationship between Corruption and Logging

Anti-corruption officials have underscored the significance of this impact, with a particular focus on the environmental consequences stemming from illegal logging, which encompass deforestation, soil erosion, and biodiversity loss.

Additionally, they highlight the social and economic repercussions of illegal logging, especially on marginalised communities, such as indigenous peoples (Cisneros, Kis-Katos and Nuryartono 2021; Cozma et al. 2021). Indicators like the extent of deforestation, declines in species diversity, and alterations in ecosystem health serve as quantifiable measures of these impacts (Meehan and Tacconi 2017). Furthermore, the decrease in industrial output adversely affects the nation's economy and hampers its potential for economic growth (Humphrey 2016). Regarding the findings of this study, respondent 5 offered insights into the factors and consequences associated with this issue:

> There are various legal measures to combat corruption in the logging industry, including anti-corruption laws, regulations, and international agreements. The government may also establish independent anti-corruption agencies to investigate and prosecute corruption cases, and implement transparent and corruption-free public investigation processes.

Corruption's social and economic ramifications extend to local communities, leading to adverse effects like loss of livelihood, displacement and heightened poverty levels. These consequences can be gauged by examining indicators such as income fluctuations, alterations in employment rates, increases in social inequality, and disparities in access to essential services, including healthcare and education. The impact of corruption on these aspects becomes evident through feedback obtained during interviews, as exemplified by the insights shared by the respondent 10:

> Corruption in the logging industry can have a significant impact on trust in government and political institutions, because it defines the sovereignty of the law and creates an environment in which a small group of individuals can control resources and benefits. If corruption spreads freely, it can undermine the public's trust in government and political institutions, thereby leading to social and political instability.

In fact, the feedback from the respondent 3 is almost similar:

> Corruption in the logging industry can have a major impact on trust in government and political institutions. If corruption runs rampant and is not contained, it undermines the legitimacy of royal institutions and can lead to a lack of trust and confidence in the political system. This may result in a decline in civic engagement, increased political polarisation and reduced support for sustainable development policies.

These findings indicate that transparency and accountability play a crucial role in addressing challenges within the forest sector. Such deficiencies can exacerbate corruption and amplify the adverse consequences of illegal logging on both the environment and society. Consequently, combating corruption becomes an essential prerequisite for fostering accountability and ensuring sustainable development within the logging sector (Cheng and Zaum 2016; Prescott et al. 2017; Scullion et al. 2019).

The Significant Impact of Corrupt Politics

Based on interviews with anti-corruption officials, a range of impacts stemming from political corruption on both the environment and society have come to light. Corruption, particularly in the form of "corruption," contributes to the degradation of the natural environment through illegal logging, resulting in deforestation, biodiversity loss and various other detrimental effects. Measuring this impact involves indicators such as the extent of deforestation, declines in species diversity, and shifts in ecosystem health (Meehan and Tacconi 2017).

Furthermore, the negative consequences of corruption on economic growth and development were underscored. Corruption leads to illegal logging, which in turn, undermines environmental integrity and industrial stability. The resultant reduction in industrial output has an adverse effect on the country's economy, hindering its potential for growth (Humphrey 2016). Additionally, corruption is perceived as providing protection to criminals involved in profiteering from illegal logging, ultimately leading to environmental degradation, social upheaval, and economic instability (Tegegne et al. 2016; Lin, Lee and Liu 2021).

These findings align with the perspective expressed by respondent 6, who stated, "Corruption can harm the stability of the logging industry community by undermining trust in public institutions, promoting illicit activities, and further exacerbating social and economic inequality."

In addition, the results of the study found that other respondents (respondents 5, 7 and 9) were of the opinion:

> Corruption can have a big impact on public service in the logging industry. If civil servants are involved, they may divert funds that would otherwise be used for public services, and use them for their own personal interests or to support criminal activities. This can lead to weak infrastructure, poor service delivery and lack of trust in the government.

Corruption can introduce instability into communities involved in the logging industry, fostering an atmosphere of mistrust and eroding the rule of law, ultimately leading to social unrest and conflict. This observation aligns with independent research studies that elucidate how unscrupulous logging controllers manipulate laws and conspire with corrupt officials to circumvent legal consequences (Leipold and Winkel 2016; Lim et al. 2017; Tacconi, Rodrigues and Maryudi 2019).

Furthermore, corruption's impact on political stability emerges as a critical facet of this issue. Weak institutions, limited access to justice, and waning public trust in government bodies hinder effective responses to environmental and social challenges. Measuring the influence of corruption on political stability can be achieved through indicators such as public unrest, political violence, and the level of public trust in government institutions (Khalid and Thompson 2019; Tacconi and Williams 2020; Kansanga et al. 2021).

Containing Corruption Politics in Environmental Issues in the State of Perak

The study's findings shed light on the logging industry's susceptibility to corruption, a trend that exerts detrimental effects on decision-making processes, poverty rates, environmental well-being, and public trust. Collaborative efforts among relevant stakeholders are emerging as a crucial approach to addressing this concern by fostering transparency, accountability, and upholding legal principles. As indicated by insights from respondent 5, the study revealed:

> Increasing transparency in the logging industry and government can be achieved through a variety of measures, including the implementation of open government initiatives, increasing public access to information, and the creation of independent oversight organisations. Other steps that can be taken to increase transparency include the establishment of conflict of interest regulations for government employees, the implementation of public recruitment processes that are transparent and free from corruption, and the establishment of effective systems for detecting and reporting fraud.

Violations within the logging industry can have profound implications for human rights, encompassing the exploitation of workers, hazardous working conditions, community displacement, and the erosion of their livelihoods and cultural heritage. Such infringements extend to individuals' rights to development and participation in decision-making processes. This sentiment aligns with insights gleaned from the interview with respondent 8, who emphasised:

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> Handling corruption in the logging industry at national and international levels is a complex task. However, some steps that can be taken to reduce corruption include: increasing transparency by governments and international organisations can strive to increase transparency in the logging industry by publicly disclosing information about logging permits and contracts. Strengthening the legal framework through action by the government may strengthen laws and regulations that address corruption in the logging industry, such as anti-corruption laws, environmental laws and human rights laws. Improving accountability to free monitoring and reporting mechanisms may be established to ensure companies operating in the logging industry are accountable for their actions.

Additional measures aimed at enhancing transparency and accountability encompass broadening public access to information regarding the logging industry and governmental operations, instituting financial reporting and disclosure mandates, bolstering transparency in government revenue procedures, establishing an anti-corruption agency, and implementing robust monitoring and reporting mechanisms.

Respondent 4 underscored that:

> We should take additional steps to increase transparency and accountability. This includes improving public access to information about the logging industry and government activities, establishing financial reporting and disclosure requirements, increasing transparency in the government's revenue process, establishing an anti-corruption agency, and establishing effective monitoring and reporting mechanisms.

This collective endeavour empowers stakeholders to promote efficient and ethical practices within the logging industry, ultimately benefiting local communities and the surrounding environment (Ji, Ranjan and Truong 2018). Furthermore, a separate study conducted by To and Mahanty (2019) underscores that corruption contributes to public skepticism and undermines the central government's political legitimacy. In alignment with this discourse, recent research by Bosch (2021) suggests that higher institutional quality is associated with a reduction in illegal logging, underscoring the pivotal role of governance and regulatory frameworks. Additionally, economic development correlates with decreased instances of illicit logging, highlighting its potential as an effective deterrent (Sundström 2016; Winkel et al. 2017; Rahman 2018; Purnomo et al. 2019).

In conclusion, this study underscores the imperative of inter-agency collaboration to combat corruption in the logging sector. Proactive measures to mitigate political corruption include enhancing transparency, involving the populace in governance and implementing effective anti-corruption strategies. Through these initiatives, governments can cultivate an environment of accountability and transparency, mitigate the adverse effects of corruption, and promote sustainable development.

Social Programmes and Roles in Exposing the Politics of Corruption in Logging

The insights garnered from interviews with anti-corruption officials regarding corruption within the logging industry indicate that it could potentially exert an adverse influence on foreign investment and trade within this sector.

As articulated by respondent 9, "Informers who expose fraudulent practices in the logging industry play an important role in holding employees and companies accountable, promoting transparency and exposing corruption."

Whistleblowers have been identified as pivotal actors in uncovering corruption within the logging industry. Their capacity to furnish information about unethical practices is instrumental in promoting accountability for individuals and companies involved. This perspective resonates with the findings of the interview conducted with respondent 7, who emphasised, "Educational programmes can help reduce corruption in the logging industry by increasing awareness about the negative effects of corruption, promoting ethical behaviour, and fostering effective governance and accountability."

Corruption prevention officials contend that educational programmes can play a pivotal role in curbing illicit activities within the logging industry. These programmes serve as a means to raise awareness regarding the detrimental societal and environmental consequences of corruption. Furthermore, they provide training in ethical business practices, fostering a culture grounded in transparency and accountability (Vasile 2019; Jones 2022; Bennett 2019). Education also empowers communities to demand increased accountability from both their governments and the private sector. Additionally, as a proactive measure against corruption within the logging industry, there is a proposal to bolster regulatory capacity and regulatory bodies (Walton and Peiffer 2015; 2017; Agerberg 2019; Cheeseman and Peiffer 2020). This includes providing training and resources to enhance efforts aimed at investigating and prosecuting criminal activities while establishing efficient mechanisms for reporting and addressing corruption.

In conclusion, corruption within the logging industry can exert significant adverse effects on foreign investment, trade, and the environment. Effective strategies to combat corruption encompass the dissemination of information, educational initiatives, law enforcement, the fortification of disseminating information, educational initiatives, law enforcement, fortifying regulatory bodies, the incentivisation of ethical conduct, and addressing the root causes of corruption. Furthermore, international agreements and conventions are deemed essential tools in the fight against corruption within the logging industry.

Based on the discussions provided, Table 3 summarises the key findings from the study on the relationship between corruption and logging, the significant impact of corrupt politics, containing corruption politics in environmental issues in the state of Perak, and the roles of social programmes in exposing the politics of corruption in logging.

Table 3: Impact of corruption on the logging industry and environment

Impact category	Description	Indicators	References
Environmental consequences	Deforestation, soil erosion, and biodiversity loss due to illegal logging.	Extent of deforestation, declines in species diversity, ecosystem health changes.	Cisneros, Kis-Katos and Nuryartono 2021; Cozma et al. 2021; Meehan and Tacconi 2017
Social and economic repercussions	Adverse effects on marginalised communities, including loss of livelihood and displacement.	Income fluctuations, employment rate changes, increases in social inequality.	Humphrey 2016

Table 4: Legal and social responses to combat corruption in logging

Response type	Description	Actions taken	Respondent insights
Legal measures	Implementation of anti-corruption laws, regulations, and international agreements.	Establishment of independent anti-corruption agencies, transparent public investigation processes.	Respondent 5
Social and economic ramifications	Corruption's impact extends to local communities, affecting trust in government and political institutions.	Transparency and accountability initiatives.	Respondents 3 and 10

Table 5: Strategies to contain corruption in environmental issues (state of Perak)

Strategy	Description	Implementation	References
Increasing transparency and accountability	Implementation of open government initiatives, public access to information.	Establishment of conflict of interest regulations, public recruitment processes.	Ji, Ranjan and Truong 2018; Bosch 2021

Table 6: Role of social programmes in exposing corruption

Programme type	Description	Impact	Respondent insights
Whistleblower and educational programmes	Programmes to raise awareness about the negative effects of corruption and promote ethical behaviour.	Promotion of transparency and accountability, empowerment of communities to demand accountability.	Respondents 7 and 9

Tables 3, 4, 5 and 6 encapsulate the core findings of the study, illustrating the multifaceted nature of corruption within the logging industry, its widespread impacts, and the multifarious efforts needed to effectively combat it. The results underscore the essential role of legal measures, social awareness programmes, and collaborative efforts among stakeholders to ensure sustainable development and protect environmental and societal well-being.

LIMITATIONS

This study encountered several limitations that may have influenced the research process and outcomes. These limitations also offer insights into potential areas for future research.

Data Availability

The study faced constraints related to data availability. Conducting comprehensive analysis often necessitates access to extensive datasets covering a substantial timeframe. However, limited or fragmented data availability can impede efforts to establish a consistent timeline for evaluating the evolution and effectiveness of international cooperation initiatives. This limitation may compel researchers to rely on incomplete or indirect data sources, which can potentially impact the depth of analysis.

Bias of Stakeholders

The influence of biased stakeholders is another limitation. While gathering the perspectives of interested parties is essential, it can introduce a potential bias that may hinder the development of an unbiased narrative. Stakeholders might be more inclined to express views aligning with their interests or preferred narratives. Researchers must carefully assess and account for these biases, potentially employing triangulation with objective data sources to mitigate this limitation.

Complex Behaviour

The study may have simplified the analysis of corruption by employing behavioural economics or psychological frameworks that assume a rational model of behaviour. However, real-world behaviour exhibited by civil servants and logging operators may be influenced by intricate psychological factors that cannot be fully addressed within such frameworks, potentially resulting in an oversimplified understanding of their actions.

In light of these limitations, it is imperative for future researchers to acknowledge and consider these potential constraints when embarking on their study. Recognising these limitations can guide researchers in developing more robust methodologies, exploring alternative data sources, and delving deeper into the interpretation of findings. By addressing these limitations proactively, researchers can enhance the validity and robustness of their research outcomes.

RECOMMENDATIONS

The study's findings have identified several pertinent research avenues for future exploration aimed at expanding the scope of inquiry.

Research Proposal

In-depth case studies

Delving into comprehensive case studies focused on specific geographic regions or countries within the logging industry. Such a study offers the promise of a profound analysis, centred on the interplay of various factors involving crime, environmental degradation, and governance dynamics. Examining these specific contexts holds the potential to unveil subtle nuances influencing complex dynamics. Additionally, conducting comparative analyses across these cases can yield a comprehensive

understanding of corruption's diverse effects and the efficacy of corruption prevention measures.

Longitudinal analysis

Engaging in longitudinal studies to probe dimensions crucial for future study. These studies should meticulously track the trajectory and effectiveness of international cooperation initiatives aimed at combating corruption in the logging sector. Such research enables differentiation of evolving trends and critical assessment of successes and challenges encountered over time. Insights derived from this approach can provide invaluable guidance to policymakers and stakeholders engaged in collaborative endeavours.

Stakeholder perspectives

Emphasising the importance of stakeholder perspectives in future studies, recognising that a nuanced understanding of this issue necessitates a deliberate exploration of multiple viewpoints within the logging industry. This comprehensive perspective entails engagement with a diverse array of actors, including local communities, indigenous groups, non-governmental organisations (NGOs), and entities involved in logging activities. Such multifaceted engagement can illuminate corruption's diverse impacts and prevention strategies from various vantage points, culminating in a holistic understanding grounded in contextual reality.

Behavioural analysis

Employing a behavioural economics or psychological framework to investigate the intricacies of criminal behaviour among logging employees and controllers. This approach enables researchers to uncover the underlying motivations and cognitive processes that drive criminal conduct. It has the potential to yield rich insights into the psychological factors influencing these behaviours, thereby informing the design of targeted interventions and prevention strategies.

Baseline impact assessment

Undertaking a comprehensive assessment of the baseline effectiveness and international regulations tailored to combat corruption in the logging industry. This assessment should rigorously gauge the extent to which these measures have

mitigated corruption-related challenges. Moreover, it should highlight encountered obstacles and complexities during policy implementation while providing a roadmap for refining future anti-corruption policies.

Policy Recommendation

To address the issue of corruption in the logging industry in Malaysia, several policy recommendations are proposed to benefit specific agencies and stakeholders involved in forestry and environmental governance:

Enhancing transparency and accountability

The Malaysian Anti-Corruption Commission (MACC) should play a crucial role in investigating and prosecuting corruption cases within the logging industry. Regular audits and compliance checks with the law are essential to ensure transparency. The Forestry Department of Peninsular Malaysia, along with state forestry departments, should implement open government initiatives to increase public access to information, such as publishing logging permits and contracts online. The creation of an independent oversight organisation, such as a Forestry Ombudsman, could provide an additional layer of accountability by addressing complaints and monitoring forestry activities.

Strengthening legal framework

The Malaysian government should review and update existing forestry laws and regulations to address loopholes that facilitate corruption. This includes revising the National Forestry Act 1984 and the State Forestry Acts to incorporate stricter penalties for illegal logging and corruption. International collaboration and adherence to agreements such as the Voluntary Partnership Agreement (VPA) under the Forest Law Enforcement, Governance and Trade (EU FLEGT) Action Plan can help align Malaysia's forestry governance with global standards.

Empowering local communities and indigenous peoples

The involvement of local communities and indigenous peoples in decision-making processes related to logging activities in their territories is crucial. The Department of Orang Asli Development (JAKOA) and relevant state authorities should facilitate participatory mapping and establish community-based monitoring systems.

Promoting whistleblower protection and incentives

Strengthening whistleblower protection laws is essential to encourage individuals to report corrupt practices without fear of retaliation. The MACC and the Ministry of Human Resources should collaborate to provide incentives such as rewards for whistleblowers who provide valuable information leading to successful prosecutions.

Enhancing capacity building and training

Regular training programmes for forestry officials, law enforcement agencies, and judiciary members should be organised by the MACC, in collaboration with the Forestry Department and environmental NGOs. These programmes should focus on enhancing the understanding of corruption risks in the logging industry and improving investigative and prosecutorial skills.

International cooperation and enforcement

The Royal Malaysian Customs Department and the Department of Wildlife and National Parks (PERHILITAN) should enhance cooperation with international organisations such as INTERPOL and the World Customs Organisation to combat transnational illegal logging activities and wildlife trafficking.

By implementing these policy recommendations, Malaysia can strengthen its efforts to combat corruption in the logging industry, protect its natural resources, and promote sustainable development.

CONCLUSION

The intricate relationship between corrupt politics and the logging industry, as elucidated in this discourse, underscores the multifaceted nature of this issue. The study has examined corruption's role in fostering an environment conducive to illegal logging and its adverse effects on governance, political stability, and environmental sustainability. It is evident that the ramifications of corruption transcend financial irregularities, permeating ecological, social and political spheres. The objectives distilled from these discussions underscore the imperative for a comprehensive approach addressing both immediate and systemic challenges posed by corruption within the logging sector.

Furthermore, corruption has exhibited its capacity to exacerbate the depletion of natural resources and impede sustainable development, prompting suggestions for future research to present itself as a potential remedy to this intricate issue. Emphasis has been placed on the significance of cross-sector collaboration and agency cooperation as pivotal strategies in confronting corruption. In a world where environmental concerns transcend borders, combating corruption in the logging industry necessitates collective action. The insights provided underscore the pivotal roles of organisations such as the United Nations and the World Bank in facilitating cooperation and information sharing among governments, NGOs, and other stakeholders. Such collaboration can catalyse the exchange of best practices and contribute to the establishment of robust anti-corruption foundations.

Lastly, this discourse has unveiled the intricate dynamics at play between corrupt politics and the logging industry, highlighting the far-reaching implications for environmental sustainability, governance, and social justice. The proposed directions for future research outlined herein offer a roadmap for scholars and policymakers to address the myriad challenges involved. By employing diverse research methodologies, acknowledging potential limitations, and fostering cross-sector collaboration, the complex issue of corruption within the logging sector can be addressed with greater efficacy. Diligent efforts to combat corruption in this industry will not only safeguard our natural resources but also uphold the principles of ethical governance, social justice, and environmental well-being.

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