# Role of Country Governance for Improved Environmental Performance

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Abstract: Environmental issues are gaining significant attention at the organizational and country levels because of the growing pollution and greenhouse gas emissions. This study aimed to examine the relationship between country governance (CG) and environmental protection (EP) at the country level. In addition, the study further examined the outcome of EP in developing and developed countries. Neoliberal environmental governance theory was used as an underpinning theory. The data for CG were obtained from the Worldwide Governance Indicators and Environmental Performance Index for the period between 2006 and 2016. Two control variables, namely, Primary School Enrollment and Country Population, were also considered. The panel regression model was used for data analysis. The findings revealed that CG had a significant relationship with EP. Considering that governments have the power to foster governance practices, companies are prompted to enhance their governance performance, invariably leading to greater engagement in sustainability by improving their regulatory environment and enforcement mechanisms. The findings of the study will assist policymakers and decision-makers in setting priorities for the government to achieve sustainable development goals.

Keywords: country governance, developed countries, developing countries, environmental performance.

Article info: Received 18 March 2022 | revised 6 June 2022 | accepted 8 September 2022

Recommended citation: Ong, T. S., Soh, W. N., Tan, C. L., Teh, B. H., & Ong, T. C. (2022). Role of Country Governance for Improved Environmental Performance. *Indonesian Journal of Sustainability Accounting and Management*, 6(2), 278–290. https://doi.org/10.28992/ijsam.v6i2.574

# INTRODUCTION

Environmental deterioration is worsening and poses threats to the preconditions of human growth Issa et al. (2021). Environmental protection, including integrating environmental considerations into development plans and enacting environmental legislation and other environmental measures, is critical for human development, poverty alleviation, and long-term economic prosperity. A growing understanding exists that governance has a significant impact on sustainable development (United Nation, 2012; Maji et al., 2020).

When viewed from country level perspective, country governance (CG) can be observed as a better factor to minimize environmental degradation and improve environmental conservation. The CG was widely defined as actions administered through government institutions to change the negative impact on the efficiency of a country's means of operation, such as minimizing or eliminating corruption, pollution, poor regulations



and others (Oluwatobi et al., 2015). CG is the government's ability to implement workable, participatory, transparent and accountable policies that effectively promote the rules of law principle across all the aspects of the governing activities, including implementing sustainable EP (Curti & Mihov, 2018; Orazalin & Mahmood, 2021). The International Monetary Fund (IMF) suggested in 2016 that promoting CG at all levels, including the rule of law, improving the efficiency and accountability of the public sector, and tackling corruption, will enable economic prosperity and promote SED (Admas, 2019).

Prior literature showed that CG encourages foreign direct investment (FDI) and drives efficient economic growth (Siriopoulos et al., 2021). Based on the World Justice Project's Rule of Law Index (2020), a country's interventionist government and strongly politicized judiciary have actively rejected FDI in recent years. Sena et al. (2018) discovered that the effectiveness of the government and the rule of law promoted higher levels of innovation and facilitated economic growth. The CG also demonstrated that higher levels of regulatory quality reduced information asymmetry, increased accountability, and curtailed corruption.

Developed countries proved that a scientific, systematic, and effective governance system could improve society, public perception, and the environmental performance (EP) (Kostka & Mol, 2013). Developing countries have lower environmental standards and regulations. Thus, the countries become "pollution heavens" due to pollution-intensive industries and poor CG or inefficient CG (Cai et al., 2018).

Several researchers have proved that excessive economic development causes environmental damages (Mazzarino et al., 2020). Proper CG and EP can be maintained simultaneously and may achieve sustainable economic development (SED). Thiel (2017) mentioned that CG is shaped by trust, authoritative means, and institutional and enforcement standards to drive environmental responsibilities while simultaneously championing SED. Conversely, (Coumans, 2019) stated that a weak CG would create distortions in economic policies and result in poor government delivery systems. Without clear demarcation lines between the public and private governance, the scenario seems out of control. If weak CG exists, the government's function will be undermined, and EP will be jeopardized. CG is just a different perspective CG is essentially a difference perspective on economic, cultural, and legal elements in developing and developed countries, which impacts the EP endeavor (Adu et al., 2022).

Xu & Yano (2017) highlighted that CG has many functions and contributions, such as enhancing a country's investment ambience, generating more economic activities, encouraging innovations, promoting economic growth, and maintaining or harmonizing the laws and regulations. Effective CG will attract local and foreign investors which promote EP as a sustainable development option. Furthermore, effective CG and EP consciousness encourages conservation sentiments due to stable regulatory standards and minimizes corruption or mismanagement (Drugov, 2010). This evidence suggests that the quality of CG plays a dominant role in altering government behavior and promoting conservation.

Tan et al. (2021) stated that, as a developing country, in Malaysia, government-linked companies and the companies listed on the Malaysian stock exchange, Bursa Malaysia, advocate for economic and environmental sustainability measures as the key to the country's success. A holistic approach to business management by incorporating economic, environmental, governance considerations and maintaining good financial performance must be in place.

Flynn & Hacking (2019) focused on the neoliberal environmental governance (NEG) theory, characterized by four major processes. The first process is the prominence of governance and justice libertarians. Governance and justice are defined as the rational pursuit of sovereign self-interest between governance and the environment. The second is economic marketization, in which economic or market mechanisms, public and private sector engagements for SED, are viewed as the most effective and efficient forms of governance and

environmental control. The third process is governance by disclosure with the primary objective to maintain harmony concerning EP. Exclusivity is the final process were multilateral decision-making shifts from consensus to mini literalism between government affairs.

Ciplet & Roberts (2017) stated that neoliberal environmentalism governance is a part of the growing EP towards the neo-liberalization of the environment. This theory emphasizes solving environmental problems through CG, commercialization, and commodification of natural resources and ecosystems. The erosion of CG favoring economic mechanisms and public-private partnerships and increasing government sector dominance in EP (Corson, 2010) tend to minimize normative concerns that deviate from economic activities or narrowly defined science-based principles (Gareau, 2013).

Neoliberal Environmental Governance (NEG) theory emphasizes the approach to solve environmental problems through CG, commercialization and commodification of natural resources and ecosystems. The erosion of CG in favor of economic mechanisms and public-private partnerships increased the dominance of the government sector in EP (Corson, 2010) and the minimizing of normative concerns that deviate from economic activities or narrowly defined science-based principles (Gareau, 2013). This analysis explains how CG is conceptualized across a range of scales and how the NEG theory can assist or hinder EP, which is a proponent of standards and assists CG achieve the required sustainability for EP. Therefore, the NEG theory is relevant to explain the impact of CG on EP.

World Bank (2017) considers inefficient CG a significant challenge to end extreme poverty by 2030 and boost shared prosperity for the poorest 40% of developing countries. The EP analysis showed that the growing demand for scarce natural resources and pollution contributed to environmental stress, possibly caused by poor CG due to corrupt practices. Ortas et al. (2015) stated that economic sustainability and strategy research had predominantly focused on financial aspects rather than EP or CG scores. In other words, SED depends on government policies for environmental conservation, which eventually affects economic and environmental sustainability. The governance responsibilities of the institution that contribute to the overall financial, economic, and EP scores are critical and impactful. Hence, this study examined the influence of CG on EP comprehensively, both in developing and developed countries. The study objective is to examine the relationship between CG and EP in developing and developed countries.

### **METHODS**

In this study, CG is measured through the Worldwide Governance Indicators (WGI). With the presence of CG, economic development works within the laws and regulations that ensure EP achieves the desired outcome. The WGI published aggregate and individual governance indicators for over 200 countries from 1996 to 2015. Six dimensions evaluate the effectiveness of CG. The EP was measured using the Environmental Performance Index (EPI). The EPI data is divided into two categories: Environmental Health and Ecosystem Vitality, which are the main objectives of the EPI report. Environmental Health measures human health due to environmental degradation, whereas Ecosystem Vitality measures environmental protection and natural resources management. Environmental Health and Ecosystem Vitality are proactive environmental management approaches towards sustainable environmental development. The approaches aim to improve environmental sustainability without compromising the quality, performance, functionality, aesthetics, and cost (Johansson, 2002; Nielsen & Wenzel, 2002).

The control variables in this study were Primary School Enrolment (SCH) and Country Population (POP). The SCH refers to acquiring knowledge and high literacy rates that produce more knowledgeable and rational thinking citizens. Offering relevant, high-quality education, attaining higher education enrolment, and sharing conservation efforts with decision-makers are the solution for complex environmental and conservation issues (Toomey et al., 2017). For the size of POP, the general assumption is that the bigger the country's population, the more challenging it is to fulfil EP (Bulkeley & McCormick, 2018). The POP used the size of the country's population, indicating the burden and resources allocated for the citizen.

The CG performance was measured using data obtained from the WGI. According to the (World Bank, 2017) CG is defined as traditions and institutions, where authorities or governments carry the mandate and responsibilities, as per the entitlement of laws and regulations, by preserving the citizen's safety, wellbeing, and freedom from any external threats. The WGI data was published annually from 1996 to 2018 and is owned by a division within the World Bank group.

The studies adopted the EPI to evaluate the country's achievement on environmental issues for the EP data. The EPI also provided the ranking and statistical analysis for member countries on the performance and reaction to high impact environmental issues. The environmental impact issues were divided into two segments. The first segment was on the preservation of environmental issues and the prioritization of human wellbeing. Conversely, the second segment focused on protecting the vitality of the ecosystem and promoting sustainable natural resources management. The SCH rate was obtained from the published data by the World Bank, while the POP data was also retrieved from the World Bank database.

The model below was developed to investigate the impact of the CG influence on the EP. The estimation model was conducted for the pooled sample of developing and developed countries.

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EP(1-5) = \alpha o + \beta 1 \text{ VAit} + \beta 2 \text{ PSAVTit} + \beta 3 \text{ GEit} + \beta 4 \text{ RQit} + \beta 5 \text{ RLit} + \beta 6 \text{ CCit} + \beta 7 \text{ SCHit} + \beta 8 \text{ POPit} + \epsilon it Where, EP(1-5):
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HI = Health ImpactWR = Water Resources

BH = Biodiversity and Habitat

PNR = Productive Natural Resources

CE = Climate and Energy

CG:

VA = Voice and Accountability

PS AVT = Political Stability and Absence of Violence/Terrorism

GE = Government Effectiveness

RQ = Regulatory Quality

RL = Rule of Law

cc = Control of Corruption

CV:

SCH = Primary School Enrolment

POP = Country Population

The data were tested using panel regression via STATA. The Lagrange Multiplier (LM) and Hausman tests were conducted to identify the most appropriate estimation to apply. In addition, several robustness tests were carried out, such as autocorrelation, heteroscedasticity, and collinearity, to ensure the reliability of the results. The XTGLS and XTSSC codes were applied to data that contained any diagnostic error.

# **RESULTS AND DISCUSSION**

Based on Table 1, the mean for developing countries for Health Impact (HI), Water Resources (WR), and Biodiversity and Habitat (BH) was lower than the developed countries, except for the Product Natural Resources (PNR) and the Climate and Energy (CE). Overall, developing countries exhibited a much lower mean value than developed countries, except for PNR, because developed countries place EP above other economic activities and prioritize environmental conservation. In contrast, developing countries less prioritize EPI but pay attention to economic sustainability and fulfil the needs of the general public for food, healthcare, education, and employment opportunities.

Six proxies represent the WGI: Voice and Accountability (VA), Political Stability and the Absence of Violence or Terrorism (PSAVT), Governance Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL), and Control of Corruption (CC). Based on Table 1, the WGI results for developing countries show negative mean values across the board than developed countries. Similarly, the mean value between developing and developed countries revealed a significant difference and indicated that the results were in absolute contrast between these two categories of countries. For example, the CC had a recorded mean value of -0.4756 for developing countries compared to developed countries at 1.0652. Developed countries focused on containing corruption as a part of the effective governance policies while developing countries treated CC as a part of the culture of informal policies.

Overall, developed countries had a better mean value compared to developing countries across the six proxies. Thus, developed countries performed far better in CG and integrity than developing countries and matched the perception that developed countries emphasize governance as a part of the effective government delivery system (Azam & Okitasari, 2015).

The analysis examined the respective variables of WGI (VA, PSAVT, RQ, and CC) and the control variable of SCH, POP, R-square, and F-Test towards the EPI variables (HI, WR, BH, PNR, and CE) to investigate the relationship between WGI and EPI. The data are pooled in Table 1, while the data for developing and developed countries are in Table 2.

Most SED variables in the pooled sample are insignificant, except for RQ, which is negatively regressed with BH, while CC is positively regressed with HI. The coefficient for the RQ is -1.721, indicating that every 1% increase in RQ will negatively reduce 1.721 to the HI of the developing countries. (Collins et al., 2018) stressed that regularity quality could undoubtedly decrease the combustion of fossil fuels, which helps to reduce the emissions of criteria pollutants, including Sulphur dioxide (SO2), oxides of nitrogen (NOx), and fine particulate matter (PM2.5). These pollutants have been linked to cardiopulmonary disease, premature mortality, and other acute and chronic adverse health-related issues, which can minimize the HI in developing countries.

The relationship between CC and HI is positively significant. The coefficient shows that every 1% increase in CC will contribute 1.4050 to the HI of the developed countries. The citizen of a country consists of people who are eligible to vote, known as voters, and provide a mandate to chosen representatives from political parties. The literature on continual, progressive economic development and corruption demonstrates how improving

developing economic conditions increases voters' education, awareness, and information levels. Voters who are better educated and informed often threaten or pressure the government's ability to stay in power since they may uncover the politicians' corrupt behavior (Neudorfer, 2018). Therefore, research on democracy and corruption discusses that transparency unveils corrupt behavior. In contrast, political rights empower voters to oust corrupt politicians due to the awareness from the middle-class and a better lifestyle quality which demands corruption-free societies, including environmental conservation.

Table 1 Descriptive statistics for WGI, EPI, and CV

		Pooled		Developing Countries		Developed Countries	
Grouping	Variables	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
	HI (%)	54.49	34.37	46.39	30.16	73.15	36.20
	WR (%)	44.71	35.60	40.81	33.98	53.70	37.62
	BH (%)	48.97	32.58	47.96	31.67	51.30	34.51
	PNR (%)	51.00	28.94	51.87	28.42	48.97	30.05
EP	CE (%)	42.87	32.79	42.72	33.69	43.22	30.67
	VA	0.04	0.94	-0.29	0.79	0.78	0.81
	PSAVT	0.00	0.93	-0.33	0.88	0.75	0.52
	GE	0.01	0.94	-0.45	0.61	1.07	0.65
	RQ	0.02	0.92	-0.43	0.63	1.06	0.62
	RL	0.01	0.95	-0.46	0.63	1.10	0.59
CG	CC	-0.01	0.97	-0.48	0.62	1.07	0.76
	School enrollment (%)	73.24	22.94	62.49	23.31	89.85	6.79
CV	Population (million)	37.13	138.65	44.49	162.71	20.16	46.23
	Observation	1110 (100%)		774 (69.73%)		336 (30.27%)	

#### Notes:

EP : Environmental Performance (data from Environmental Performance Index)

HI : Health Impact
WR : Water Resources

BH: Biodiversity and Habitat
PNR: Product Natural Resources

CE : Climate and Energy

CG : Country Governance (data from Worldwide Governance Indicators)

VA : Voice and Accountability

PSAVT: Political Stability and Absent of Violence or Terrorism

GE : Government Effectiveness

RQ : Regulatory Quality
RL : Rules of Law
CV : Control Variable
CC : Control of Corruption
SCH : School Enrolment

POP : Population

The SCH reported a significant negative relationship towards WR, PNR, and CE for the control variable. Education is the only way to tackle human-induced problems, as (Toomey et al., 2017) emphasized. Their study stated that environmental education is a conservation effort that creates the required synergies in engaging various stakeholders and facilitating opportunities for government agencies, scientists, decision-makers, and community members to converge and dialogue. Foregrounds for local knowledge, enhanced experience, and values and practices for joint efforts in environmental conservation can be shared through environmental education and awareness programs.

Another control variable, POP, is significantly related to HI and BH. Governments continue to allocate significant budgets and higher per capita income on healthcare services. Developed countries spend half as much of the budget compared to developing countries. Therefore, developing countries with a greater population face more health-related issues, including shorter life expectancy, obesity rates, and poor prevention of chronic illnesses, such as diabetes and asthma (Aven & Renn, 2020; Holtz, 2020).

The R-square is within 3% (PNR) to 16.7% (CE), which is considered weak reliability in this model building. The low level of R-square shows that the CG is not a vital element in explaining EPI. However, CG and EPI results are consistent after separating them into developing and developed countries. All of the pooled sample regression reported significant results for the F-test.

Table 2 The Pooled Results for the Relationship of GC and EPI

Variables	НІ	WR	ВН	PNR	CE
Constant	-55.001**	9.737	-49.783***	-11.867	15.357
	(0.027)	(0.678)	(0.008)	(0.680)	(0.500)
VA	0.304	-2.329	0.790	0.413	-1.934
	(0.387)	(0.134)	(0.395)	(0.478)	(0.183)
PSAVT	0.022	-0.088	-0.109	0.147	0.458
	(0.794)	(0.763)	(0.248)	(0.225)	(0.255)
RQ	-1.442	-1.589	-1.721*	-1.658	-0.179
	(0.132)	(0.186)	(0.088)	(0.198)	(0.845)
CC	2.309*	0.556	0.979	1.657	0.991
	(0.065)	(0.649)	(0.158)	(0.194)	(0.117)
School Enrollment	-0.262	-4.494***	0.189	-1.010*	-4.210***
	(0.534)	(0.001)	(0.193)	(0.060)	(0.000)
Population	3.739**	1.045	3.359***	1,224	0.408
	(0.026)	(0.481)	(0.006)	(0.528)	(0.771)
Within R-Square	0.110	0.159	0.103	0.030	0.167
C Tost	155.990***	10.570**	976.000***	17.590***	147.150***
F- Test	(0.000)	(0.010)	(0.000)	(0.003)	(0.000)

Significant at 0.1(\*), 0.05 (\*\*), 0.01(\*\*\*) level or significant at 10%, 5% and 1%. P-value is in parentheses

Table 3 The Results for the Relationship of GC and EPI, categorized in Developing and Developed Countries

	НІ		WR		ВН		PNR		CE	
Variable	Developing	Developed	Developing	Developed	Developing	Developed	Developing	Developed	Developing	Developed
	-17.781**	-90.465**	81.757**	-74.289***	-13.924	-85.50***	29.187**	-38.531	83.790***	-49.549**
Constant	(0.039)	(0.020)	(0.024)	(0.001)	(0.115)	(0.001)	(0.024)	(0.291)	(0.001)	(0.014)
	-0.469	4.982**	-1.892	2.002	0.676	3.672*	0.137	3.430*	-0.741	-0.924
VA	(0.108)	(0.048)	(0.132)	(0.355)	(0.438)	(0.085)	(0.828)	(0.090)	(0.613)	(0.552)
	0.164	-1.326	0.154	-1.907***	0.005	-1.091	0.229***	-0.084	0.489*	0.727
PSAVT	(0.234)	(0.162)	(0.452)	(0.004)	(0.936)	(0.200)	(0.006)	(0.896)	(0.057)	(0.532)
	-1.278*	-1.964	-2.137*	-0.086	-1.493	-2.628	-1.567	-1.378	-0.198	-0.579
RQ	(0.074)	(0.516)	(0.050)	(0.964)	(0.110)	(0.154)	(0.113)	(0.612)	(0.857)	(0.600)
	2.277**	1.176	-0.144	-0.815	0.295	1.034	1.112	1.227	-0.475	1.419
CC	(0.010)	(0.430)	(0.841)	(0.729)	(0.401)	(0.334)	(0.159)	(0.420)	(0.510)	(0.188)
School	0.719***	-0.168	-3.051**	1.521	1.047**	1.557	0.118	-2.225**	-2.799***	0.262
Enrollment	(0.003)	(0.821)	(0.015)	(0.432)	(0.033)	(0.376)	(0.670)	(0.039)	(0.002)	(0.846)
	1.132**	5.915**	-3.964*	4.664***	0.866	5.229***	-1.646**	3.101	-4•345***	3.290**
Population	(0.039)	(0.012)	(0.052)	(0.001)	(0.145)	(0.001)	(0.032)	(0.222)	(0.002)	(0.023)
Within R-Square	0.079	0.212	0.256	0.147	0.078	0.180	0.045	0.095	0.257	0.116
	654.00***	10.43**	155.78***	168.84***	5.17**	3.45*	21.57***	3.25	126.14***	432.03***
F- Test	(0.000)	(0.011)	(0.000)	(0.000)	(0.046)	(0.098)	(0.002)	(0.108)	(0.000)	(0.000)

Significant at 0.1(\*), 0.05 (\*\*), 0.01(\*\*\*) level or significant at 10%, 5% and 1%. P-value is in parentheses

Table 3 shows that the VA is positively related to HI, BH, and PNR for developed countries. (de Boer et al., 2011) suggested that positive healthcare includes happiness, wellbeing, and life satisfaction, promoting freedom of voice and better accountability among the citizens. Zallé (2019) investigated the effect of democracy in developed countries on growth, which was distinctive in resource-rich societies, such as Norway, Netherlands, US, and Australia, due to the strong check and balances culture. The check and balance culture crucial for accountability is often missing in newly established democracies or developing countries.

The PSAVT in developed countries is negatively significant to WR. Hence, political stability can minimize environmental degradation. A stable government is typically from a mature economy in developed countries. Environmental conservation regulations, such as water conservation programs, are enforced as a set of regulatory instruments through the governments of developed countries to reduce environmental pollution. Thus, the importance of political stability in the country's government is a crucial success factor for environmental conservation (Eiadat & Fernández-Castro, 2022).

Compared to developed countries, the results of PSAVT for developing countries is positively significant related to PNR and CE. The country's political stability affects the government's performance. A stable government promotes environmentally friendly products. The use of the latest Information Communication

Technologies (ICT) promotes political stability. Erum & Hussain (2019) further endorsed ICT, especially in developing countries, as ICT promotes information availability, accountability, transparency, connectivity, and participation between various authorities and across various governmental departments.

The RQ shows a negative and significant relationship between HI and WR for developing countries. Arguably, regulatory quality can be constructed as an exercise of sovereignty through various environmental regulations or emissions controls and remediation towards CE. These actionable means could be construed as an exercise of sovereignty through relevant environmental regulations, policies for pollution or emissions controls, and remediation of impacted sites. Without these controls, the discharge of pollutants and hazardous substances will impact human life, endanger the climate, and cause inefficient energy use (Hossain et al., 2022). However, no evidence found the regulation significant in developed countries, possibly due to having well-established regulations in developed countries. The CC is only positively significant related to HI in developing countries. This result is in tally with the finding in the pooled sample.

The impact of the SCH on the EPI is mixed among developing and developed countries. The SCH is positive and significant to HI and BH in developing countries but negatively and significantly related to WR and CE for developing countries and PNR for developed countries. As an overall result in the pooled sample, the SCH negatively impacts the EPI. However, SCH can positively impact EPI. (Cheng, 2017) stated that quality education and SCHs could differ in developing and developed countries due to the differences in the living standards other related factors, including the living cost, public literacy levels, and healthcare perceptions.

Luy et al. (2019) confirmed that the significant reductions in mortality are reflected in strong increases in life expectancy and increasing education levels, particularly in developed countries. In addition, people with more education tend to be more concerned about the environment and engage in actions that promote and support political decisions that protect the environment. The pressure is vital to push governments towards the type of binding agreement needed to reduce greenhouse gases and control emission levels.

The R-squares are within 4.5% to 21.2%, with no evidence of the difference in R-square for developing and developed countries. The F-test results for all models are significant, except for the regression model regressed with PNR for developed countries.

This study also demonstrated that CG influences EP due to elements such as the government's effectiveness, state of corruption, laws, and regulation, negatively or positively and directly or indirectly. The relationship between CG and EP also provided an insight that summarized that CG may be potentially devastating or may improve EP across several perspectives, including governance, regulations, and enforcement.

#### CONCLUSION

The initial aim of the study was to examine the relationship between CG and EP in developing and developed countries. The statistical results were significantly favorable towards WGI on EPI (HI, WR, BH, PNR, and CE) in developing countries but insignificant towards developed countries. The findings aligned with the hypothesis that attests to the fact that developing countries less emphasize environmental conservation. Conclusively, CG impacts EPI in developing countries but not in developed countries. The study contributions serve as an input for improving CG based on WGI indicators across governments, policymakers, or institutions in developing and developed countries. The improvement of CG will be able to enhance the performance of EPI through accountability, minimize political instability, enhance government delivery systems, provide a high standard of regulatory quality and uphold the rule of law principles by minimizing corruption. The theoretical contributions

of this study serve as a primary effort to develop or empirically examine the relationship between CG and EPI. The present study is an extension of prior studies, which overlooked the framework. Previous findings focused on corruption and regulations or laws, which is insufficient to represent the government of a country. Overall, a growing understanding exists that governance factors significantly impact environmental activities and consequences. In order to enhance environmental results, measures that reinforce essential human rights values, such as the rule of law, openness, and public engagement, may be equally or more vital than specific environmental policies or initiatives. Thus, improving environmental results depends not only on legislative frameworks and the capacity of environmental agencies and sector ministries but also on external variables that constitute the 'enabling environment' to a significant extent. Further studies can take motivation to explore the external factors in prospective studies. Our study helps shed light on the differential impact of country-level governance on ecological issues. The urgency of tackling environmental concerns, particularly issues connected to climate change, and the concomitant enormous flows of finances projected as a reaction to these difficulties provide further grounds for the need for a strong CG. Large flows of financial resources and the need to spend can produce corrupt circumstances. A good CG is a crucial component in preventing societal evils such as corruption, socioeconomic isolation, and a lack of faith in authority. The necessity for a bottom-up strategy where governments are accountable to citizens is becoming more apparent. Country systems must be reinforced, and the international environmental governance system must be more efficient to enhance the implementation of environmental protection.

## **ACKNOWLEDGEMENTS**

This research was supported by a Fundamental Research Grant Scheme, Ministry of Higher Education, Malaysia, under Grant number FRGS/1/2020/SS1/MMU/02/4.

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## **REFERENCES**

- Admas, F. (2019). Quality of Early Childhood Education in Private and Government Preschools of Addis Ababa, Ethiopia. *International Journal of Early Childhood*, 51(4), 163-176. https://doi.org/10.1007/s13158-019-00248-1
- Adu, D. A., Al-Najjar, B., & Sitthipongpanich, T. (2022). Executive compensation, environmental performance, and sustainable banking: The moderating effect of governance mechanisms. *Business Strategy and the Environment*, 31(4), 1439–1463. https://doi.org/10.1002/bse.2963
- Aven, T., & Renn, O. (2020). Some foundational issues related to risk governance and different types of risks. Journal of Risk Research, 23(9), 1121–1134. https://doi.org/10.1080/13669877.2019.1569099
- Azam, M., & Okitasari, M. (2015). Environmental Governance and National Preparedness towards 2030 Agenda for Sustainable Development: A Tale of Two Countries. *Global Environmental Research*, 19(2). http://dx.doi. org/10.2139/ssrn.2682908
- Bulkeley, H., & McCormick, K. (2018). Governance of Urban Sustainability Transitions: Advancing the role of living labs JPI Urban Europe. *Impact*, 2018(4), 17–19. https://doi.org/10.21820/23987073.2018.4.17

- Cai, W., Liu, C., Zhang, C., Ma, M., Rao, W., Li, W., He, K., & Gao, M. (2018). Developing the ecological compensation criterion of industrial solid waste based on emergy for sustainable development. *Energy*, 157, 940–948. https://doi.org/10.1016/j.energy.2018.05.207
- Cheng, M. (2017). Reclaiming quality in higher education: A human factor approach. *Quality in Higher Education*, 23(2), 153–167. https://doi.org/10.1080/13538322.2017.1358954
- Ciplet, D., & Roberts, J. T. (2017). Climate change and the transition to neoliberal environmental governance. *Global Environmental Change*, 46, 148–156. https://doi.org/10.1016/j.gloenvcha.2017.09.003
- Collins, M., Dempsey, S., & Curtis, J. (2018). Householder Preferences for the Design of an Energy Efficiency Retrofit Subsidy in Ireland. *The Economic and Social Review*, 49(2), 145–172.
- Corson, C. (2010). Shifting Environmental Governance in a Neoliberal World: US AID for Conservation. *Antipode*, 42(3), 576–602. https://doi.org/10.1111/j.1467-8330.2010.00764.x
- Coumans, C. (2019). Minding the "governance gaps": Re-thinking conceptualizations of host state "weak governance" and re-focussing on home state governance to prevent and remedy harm by multinational mining companies and their subsidiaries. *The Extractive Industries and Society*, 6(3), 675–687. https://doi.org/10.1016/j.exis.2019.06.003
- Curti, F., & Mihov, A. (2018). Fraud recovery and the quality of country governance. *Journal of Banking & Finance*, 87, 446–461. https://doi.org/10.1016/j.jbankfin.2017.11.009
- de Boer, J. (Coby), Lok, A., van't Verlaat, E., Duivenvoorden, H. J., Bakker, A. B., & Smit, B. J. (2011). Work-related critical incidents in hospital-based health care providers and the risk of post-traumatic stress symptoms, anxiety, and depression: A meta-analysis. *Social Science & Medicine*, 73(2), 316–326. https://doi.org/10.1016/j. socscimed.2011.05.009
- Drugov, M. (2010). Competition in bureaucracy and corruption. *Journal of Development Economics*, 92(2), 107–114. https://doi.org/10.1016/j.jdeveco.2009.02.004
- Eiadat, Y. H., & Fernández-Castro, A. M. (2022). Do formal and informal institutions matter for firm-level strategic environmental actions? A multi-level perspective from Jordan. *Journal of Environmental Planning and Management*, 65(3), 461–489. https://doi.org/10.1080/09640568.2021.1887826
- Erum, N., & Hussain, S. (2019). Corruption, natural resources and economic growth: Evidence from OIC countries. Resources Policy, 63, 101429. https://doi.org/10.1016/j.resourpol.2019.101429
- Flynn, A., & Hacking, N. (2019). Setting standards for a circular economy: A challenge too far for neoliberal environmental governance? *Journal of Cleaner Production*, 212, 1256–1267. https://doi.org/10.1016/j. jclepro.2018.11.257
- Gareau, B. (2013). From Precaution to Profit: Contemporary Challenges to Environmental Protection in the Montreal Protocol. Yale University Press.
- Holtz, C. (2020). Global Healthcare: Issues and Policies. Jones & Bartlett Learning.
- Hossain, M., Ong, T., Heng, T., Mohd Said, R., & Siow, M. L. (2022). Nexus of Stakeholder Integration, Green Investment, Green Technology Adoption and Environmental Sustainability Practices: Evidence from Bangladesh Textile SMEs. Pertanika Journal of Social Science and Humanities, 30(1). https://doi.org/10.47836/pjssh.30.1.14
- Issa, S. O., Yunusa, N., & Hamman, A. M. (2021). Impact of Monitoring Mechanisms on Environmental Disclosure Quality in Nigeria. *Indonesian Journal of Sustainability Accounting and Management*, 5(2), 299–310. https://doi.org/10.28992/ijsam.v5i2.322
- Johansson, G. (2002). Success factors for integration of ecodesign in product development: A review of state of the art. Environmental Management and Health, 13(1), 98–107. https://doi.org/10.1108/09566160210417868

- Kostka, G., & Mol, A. P. J. (2013). Implementation and Participation in China's Local Environmental Politics: Challenges and Innovations. *Journal of Environmental Policy & Planning*, 15(1), 3–16. https://doi.org/10.1080/1523908X.2013.763629
- Luy, M., Zannella, M., Wegner-Siegmundt, C., Minagawa, Y., Lutz, W., & Caselli, G. (2019). The impact of increasing education levels on rising life expectancy: A decomposition analysis for Italy, Denmark, and the USA. *Genus*, 75(1), 11. https://doi.org/10.1186/s41118-019-0055-0
- Maji, S. G., De, U. K., & Gunardi, A. (2020). Simultaneous Association between Quality of Corporate Environmental Performance and Financial Performance: Evidence from Select Asian Countries. *Indonesian Journal of Sustainability Accounting and Management*, 4(1), 78–92. https://doi.org/10.28992/ijsam.v4i1.206.
- Mazzarino, J. M., Turatti, L., & Petter, S. T. (2020). Environmental governance: Media approach on the united nations programme for the environment. *Environmental Development*, 33(1). https://doi.org/10.1016/j. envdev.2020.100502
- Neudorfer, N. S. (2018). Commodities and corruption How the middle class and democratic institutions lead to less corruption in resource-rich countries. Resources Policy, 58, 175–191. https://doi.org/10.1016/j. resourpol.2018.05.003
- Nielsen, P. H., & Wenzel, H. (2002). Integration of environmental aspects in product development: A stepwise procedure based on quantitative life cycle assessment. *Journal of Cleaner Production*, 10(3), 247–257. https://doi.org/10.1016/S0959-6526(01)00038-5
- Oluwatobi, S., Efobi, U., Olurinola, I., & Alege, P. (2015). Innovation in Africa: Why Institutions Matter. South African Journal of Economics 83(3), 390-410. https://doi.org/10.1111/saje.12071
- Orazalin, N., & Mahmood, M. (2021). Toward sustainable development: Board characteristics, country governance quality, and environmental performance. *Business Strategy and the Environment*, 30(8), 3569–3588. https://doi.org/10.1002/bse.2820
- Ortas, E., Álvarez, I., & Garayar, A. (2015). The Environmental, Social, Governance, and Financial Performance Effects on Companies that Adopt the United Nations Global Compact. *Sustainability*, 7(2), 1932–1956. https://doi.org/10.3390/su7021932
- Sena, V., Duygun, M., Lubrano, G., Marra, M., & Shaban, M. (2018). Board independence, corruption and innovation. Some evidence on UK subsidiaries. *Journal of Corporate Finance*, 50, 22–43. https://doi.org/10.1016/j.jcorpfin.2017.12.028
- Siriopoulos, C., Tsagkanos, A., Svingou, A., & Daskalopoulos, E. (2021). Foreign Direct Investment in GCC Countries: The Essential Influence of Governance and the Adoption of IFRS. *Journal of Risk and Financial Management*, 14(6), 264. https://doi.org/10.3390/jrfm14060264
- Tan, C. L., Ong, T. S., Soh, W. N., & Rahim, N. A. (2021). Sustainable Economic Development and Environmental Performance of Developing and Developed Countries. *Journal of Environmental Management and Tourism*, 12(2), 429–443. https://doi.org/10.14505//jemt.12.2(50).11
- Thiel, M. (2017). Accelerating environmental responsibility through societal governance. *Journal of Global Responsibility*, 8(1), 96–110. https://doi.org/10.1108/JGR-07-2016-0019
- Toomey, A. H., Knight, A. T., & Barlow, J. (2017). Navigating the Space between Research and Implementation in Conservation. *Conservation Letters*, 10(5), 619–625. https://doi.org/10.1111/conl.12315
- United Nation. (2012). Resilient People, Resilient Planet: A Future Worth Choosing. available at https://sustainabledevelopment.un.org/index.php?page=view&nr=374&type=400&menu=35
- World Bank. (2017). World Development Report 2017: Governance and the Law. Washington, DC: World Bank. available at http://hdl.handle.net/10986/25880.

- World Justice Project. (2020). Rule of Law Index 2020. WJP Rule of Law Index Permissions. available at https://worldjusticeproject.org/sites/default/files/documents/WJP-ROLI-2020-Online o.pdf
- Xu, G., & Yano, G. (2017). How does anti-corruption affect corporate innovation? Evidence from recent anti-corruption efforts in China. *Journal of Comparative Economics*, 45(3), 498–519. https://doi.org/10.1016/j.jce.2016.10.001
- Zallé, O. (2019). Natural resources and economic growth in Africa: The role of institutional quality and human capital. *Resources Policy*, 62, 616–624. https://doi.org/10.1016/j.resourpol.2018.11.009