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Government-Corporate Cooperation and Community Participation in Boosting Indonesia's Green Economy

Ilham Robbi[1], Andi Muh. Iswan Pangerang[2]

[1,2] *Regional Planning and Developing Agency of Palopo City* (BAPPEDA Palopo), bidekosospem@palopokota.go.id

Abstract

Environmental issues are currently an interesting topic, especially for developing countries. This condition is inextricably linked to the economic policies of developed countries, which have begun to adopt the concept of a green economy. Indonesia continues to prioritise economic growth over environmental considerations. However, the government is attempting to address environmental issues through green growth policies. The government cannot do it alone; synergy with business actors is needed to create a green economy. The data used in the quantitative method is sourced from BPS environmental statistics for 2013-2020, and Bank Indonesia quarterly 2019-2020 regional financial statistics. The results show that the government's implementation of greening the national economy has been progressing well. Corporations apply ESG principles, encompassing CSR, community development, and environmentally friendly business practices. It was found that community support has not been maximised due to the ineffectiveness of education in emphasising the importance of the environment for future generations. Massive education is needed through the education system to inform the community, and the provision of rewards (incentives and tax relaxation) for companies will ultimately lead to Indonesia's economy and environment being green.

Keywords: Green Economy, Environmental Issue, Business Actors, Government Policy
JEL Classification: Q51, Q56, Q57, Q58

INTRODUCTION

Developed countries often impose environmental issues on developing countries. Ecological problems are deliberately created as a means to suppress third-world countries, thereby preventing the economic interests of developing countries from displacing those of developed countries, especially in regions such as Asia and the Middle East. As is well known, for a long time, the world has been characterised by a dichotomy between developed and less developed countries. The division is carried out by Western economists or the North with the intention of controlling and exploiting the rich natural resources in southern countries or developing countries (Jhingan, 2012). History proves that the natural wealth existing in third-world countries was exploited by developed countries through colonisation and colonialism, using means such as gold, gospel, and glory. This method has proven to be a success; it can be seen that now developed countries have glory because they have been stealing the start for a long time. On the contrary, less developed countries are just starting, while developed countries have reached a steady state.(Todaro & Smith, 2006).

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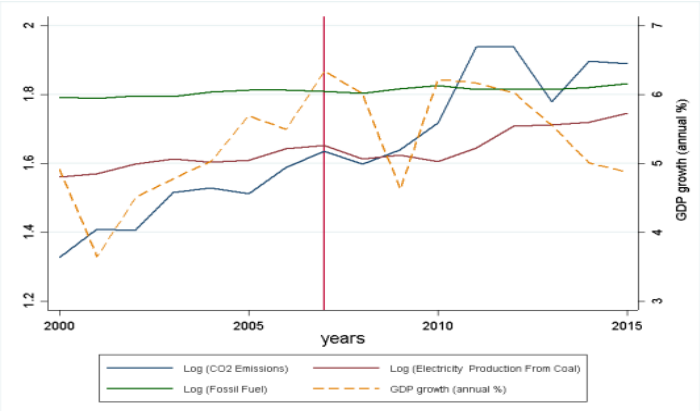
The advantages of developed countries are maintaining their economic conditions and securing social and environmental aspects for future generations. From here began to emerge the application of ecological issues in economic activities at the end of the late 19th century through the concept of *world conservation strategy* by UNEP (*United Nations For Environmental Programs*), IUCN (International Union for Conservation of Nature and Natural Resources), and WWF (*World Wide Fund for Nature*) (UNEP, 2007). The essence of the strategy concept is to carry out the development process in a sustainable manner, considering the building of physical, social, and economic aspects without sacrificing the interests of future generations. Building, in this case, is the scope of the state. Development, according to Rostow's theory, as presented in Todaro & Smith (2006), progresses through stages that must be passed to achieve a steady state. Both developed and developing countries want to make their people prosperous.

Indeed, since the founding of the Indonesian state, the concept of sustainable development has been rooted in the basis of the Pancasila state (justice, civilised humanity, and social justice) and the opening of the 1945 Constitution, particularly in the field of food security. However, according to Geertz (1974), although agricultural product production has increased, it still cannot meet national needs due to population pressure and an increasing poverty rate every year. As a result, the government began to expand agricultural land and distribute the population through transmigration programs outside Java, especially in Sumatra, Kalimantan, and Sulawesi (Soemarwoto, 1984, 1985). The implemented policy is the 5-year development plan (PELITA), which was implemented during President Soeharto's regime. As a result, by the mid-1990s, Indonesia had become a food self-sufficient country and experienced high economic growth above 5% (World Bank, 2021). The simultaneous increase in a country's economic growth and foreign investment has caused an escalation of social and environmental crises, a phenomenon known as the paradox of economic growth (Lako, 2014). This is supported by Makmun (2012), which shows that the past economic development model has tended to be extractive and short-term in nature, without considering the side effects of natural resource depletion and environmental degradation. Evidence of an economic paradox in Indonesia is evident in Figure 1.



Source: World Bank, 2021

Figure 1. The Relationship of Economic Growth to Carbon Emissions and Energy Consumption in 2000-2015

According figure.1 If this condition continues to pursue economic growth (as shown by the red line), numerous natural and social disasters, such as floods, landslides, land damage, and water shortages, will be caused by climate change (Soemarwoto, 1996). The wise use of natural resources is a short-term solution; however, the use of science and technology in managing and replacing fossil resources is a long-term solution that all leaders and technocrats worldwide must consider today. According to Lako (2014) and Suroso et al. (2022), the government has been actively supporting the green economy since 2007. One of which is being an active member of the Rio+20 Summit and the Paris Agreement, and implementing sustainable development programs through the MDGs (Millennium Development Goals) and SDGs (Sustainable Development Goals) pillars (Salsiah Alisjahbana & Endah, 2018). Lako (2011) explains that the company's efforts to be a green company, through its environmentally friendly business practices and corporate governance, require it to carry out an SR (Sustainability Report) and adhere to environmental social responsibility as regulated in Peraturan Pemerintah No. 47 of 2012. Then, in order to create sustainable growth in the financial sector in Indonesia, the OJK (financial services authority) issued Peraturan Otoritas Jasa Keuangan rules No. 51/POJK.03/2017 regarding the implementation of sustainable financing for the financial services sector and companies through the ESG concept (Maftuchah et al, 2018).

The government is now attempting to implement a development scheme based on a green economy and a sustainable economy; however, economic actors must also support it. Due to the limited funds available to the government, participation from the private sector, or in this case, financial actors, both within the country and abroad, is necessary (Suroso et al., 2022). The synergy between the government and economic actors must be mutually beneficial, as they are symbiotic. In basic economics, it is concerned with the availability of public goods and private goods. Public goods are the use of public facilities without charge or exception, whereas private goods can be excluded (Nordhaus, D., & Samuelson, A., 1993). These private goods are the domain of business actors or economic actors whose main goal is profit maximisation, where only people who make payments can access the services and benefits. In the SDGs pillar, business actors are also required to develop environmentally sound technology (Bappenas, 2017). It is from this sector that a country's economy can thrive or falter; it is only up to the government to prepare the public goods needed by business actors and the community. One of the efforts to align development programs between the government and business actors towards green growth or a green economy is through the three Ps: People, Planet, and Profit (Elkington, 1997; Grey & Bebbington, 2001; Lako, 2014).

The Objectives of this research are to assess Indonesia’s progress in implementing ESG. First, the role of the government in supporting the green economy, and second, how business actors apply green technology.

LITERATURE REVIEW

The paradox of economic growth that emerges is caused by the impacts of a package of development policies that must be implemented while taking into account all the risks that arise (Lako, 2014), like two sides of a sword where the state must

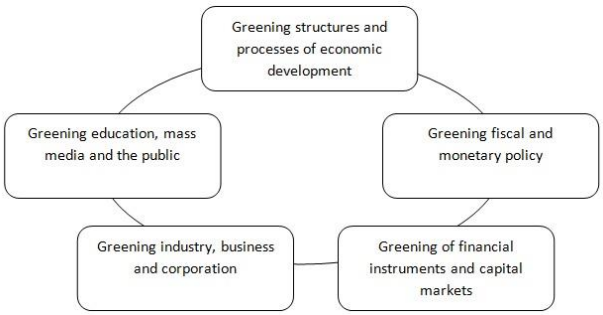
struggle to use it to break the chain of poverty, while the other side is used to cut trees or look for all kinds of natural resources in Indonesia for the sake of development and prosperity of the country. The development and economic activities of a country, with environmental aspects, have causal relationships, such as an increase in pollution, degradation of air quality, water, and the environment (Grossman & Krueger, 1991, 1995; Panayotou, 1993; Mahdu & Geetilaxmi, 2015; Robbi et al., 2020). According to Jhingan (2012), developing countries, also known as the Third World, are rich in natural resources. Essays UK (2018) reveals that, with abundant natural resources, the country's economy is heavily dependent on nature, which will ultimately lead to a decline in environmental quality in the long term.

Environmental damage, also known as environmental degradation, refers to the impact of externalities resulting from economic activity. Nordhaus, D., & Samuelson, A. (1993). For economic actors, the effect of externalities has not been factored into the formulation of prices or production costs. Compensation for the use of natural resources by economic actors requires the government to make environmental regulations and restrictions on exploitation (Cochrane, 2015). Then Halicioglu (2009) pushed for laws related to emission reductions through the imposition of emission taxes. Therefore, it is necessary for the company to strive for social costs that it must incur for the affected community and environment through Corporate Social Responsibility (CSR) (Carroll, 1999; Crisóstomo & Vasconcellos, 2011; Lako, 2011). This is supported by Mahdu and Geetilaxmi (2015), who suggest that environmental degradation can be reduced through cost recovery from economic activities, as well as the use of environmentally friendly energy and technology.

However, achieving environmental quality in Indonesia to promote green growth and a green economy requires cooperation from various stakeholders, including the private sector, represented by economic actors, as well as the community. The concept of green economy according to Elkington (1997); Gray & Bebbington (2001); Lako (2014) through by the people profit planet. Green economic growth will be created if there is growth that is friendly to the environment (planet), then is able to improve the welfare of the community (people), and ultimately is able to maintain sustainable economic growth. Real actions taken by the government to achieve a green economy have been carried out through an active role in world organizations and signing and ratifying various environmental agreements CITES (Convention on International Trade of Endangered Species); Basel Convention on Hazardours Waste; Vienna convention on The Protection of The Ozone Layer; UNCBD (United Nations Convention on Biological Diversity); UNFCCC (United Nations Framework Convention on Climate Change); and the Kyoto protocol (Lako, 2014; Suroso et al., 2022). implementing sustainable development programs through the MDGs and SDGs (Bappenas, 2017; SalsiahAlisjahbana&Endah, 2018). Makmun (2012) states that the regulations issued by the government to support sustainable development include Law No. 23 of 1997 on environmental management, the 1999 forestry law, which prohibits forest burning in the context of forest clearing and holds the concession holder responsible in the event of a forest fire.

The private sector, or economic actors, is also required to support the creation of a green economy in Indonesia. The company is obliged to go green by running an environmentally friendly business and its governance (green corporate governance). The financial or banking sector can support the government's efforts towards green growth because it is closely related to business capital financing in the private sector (Frankel & Rose, 2002; Yuxiang & Chen, 2010; Aye & Edoja, 2017; Xing, Jiang, & Ma, 2017). In Indonesia, the "Environmental Aspects of Banking Credit Management" regulation has been implemented, with the issuance of Bank Indonesia Regulation (PBI) No.7/2/2005 concerning Asset Quality Assessment of Commercial Banks, which stipulates that the assessment of business prospects as an element of credit quality includes assessment to the efforts made by the debtor in the context of preserving the environment. This is a follow-up to the signing of a joint agreement on increasing the role of the banking sector in supporting environmental management between Bank Indonesia and the Ministry of the Environment (Bank Indonesia, 2005). In the agreement, each party commits to cooperating in increasing the participation of the banking sector to support environmental management through outreach activities, research collaborations, and capacity building of banking human resources. Although the banking world does not have a direct relationship with ecological management, the application of GCG (Good Corporate Governance) principles encourages banks to create added value for their products by increasing their social role in the environment. Awareness of the importance of practising environmentally oriented social responsibility has become a global trend, alongside increasing concern for environmentally friendly products. To foster sustainable growth in the financial sector in Indonesia, the OJK (Financial Services Authority) issued POJK No. 51/POJK.03/2017 regarding the implementation of sustainable financing for the financial services sector and companies through the ESG concept (Maftuchah et al, 2018).

According to Lako (2014), the national development strategy implemented by the previous government (the Presidential SBY era) put forward four pillars of development oriented towards pro-growth, pro-job, pro-poor, and pro-green, which was part of Indonesia's development towards a green economy that is environmentally and socially friendly, including the current government's Nawacita development program (The Presidential Joko Widodo's era), which prioritises the SDGs program (Bappenas, 2017). It is not only the government (central and regional governments) and economic actors that implement the strategy in the field. Lako (2014) describes one of the strategies to green the national economy as follows, as shown in Figure 2.



Source : Lako, 2014

Figure 2. Strategy of greening the national economy

According to the strategy implemented by Lako in 2014, there was an inseparable role between the government and economic actors. Communities are in a position as recipient objects only through education and socialisation, facilitated through various government and private programs, as well as social responsibility programs provided by the company. The process of changing the community's mindset to maintain the conditions of their social environment requires a substantial amount of long-term funding. In line with Beckerman's (1994) explanation, when a comfortable and proper social environment exists, the country must become a wealthy one. Rich countries are characterised by their high per capita income. With high income levels, people will have the ability to afford and purchase environmentally friendly technology, ensuring environmental and social quality is guaranteed.

From the explanation above, it is evident that currently the government and economic actors in Indonesia are trying to create a green economy, this concrete evidence must be accompanied by proof through the results of research that has been carried out previously related to the process of Indonesia's transformation towards green growth and a green economy. Countries that have adopted green growth strategies are already at the turning point of the Environmental Kuznets Curve (EKC) (Panayotou, 1997; Stern, 2004). Referring to the results of previous research in ASEAN countries, the process of economic development is often accompanied by environmental degradation, resulting in an economic paradox. Ali Nasir et al. (2019) examined the variables of FDI (Foreign Direct Investment), economic growth, and the financial sector, finding a negative effect on the environment. This suggests that the increasing economy in ASEAN may override environmental sustainability. Oktavilia et al. (2017) in Singapore, which is already at the turning point of the EKC, indicate that other ASEAN countries, including Indonesia, are still heavily dependent on the exploitation of natural resources but have begun to shift from the agricultural sector to industry. In line with these results, Robbi et al. (2020) found that economic growth, the financial industry, and trade openness have a long-term effect on environmental damage. However, in the short term, per capita income encourages improvements in environmental quality.

The government has established and implemented regulations related to environmental issues in Indonesia to promote sustainable and environmentally friendly growth. Every company is required to conduct an AMDAL (Analisis Dampak Lingkungan) and implement ecological management efforts (Soemarwoto, 1996). Reports related to environmental management are reported periodically by business actors through annual reports to stakeholders, which include SR and CSR disclosures (Margaretha & Witedjo, 2014). Murwaningsari (2009) explains that there is a relationship between CSR and green company governance, which affects increasing profits. Lako (2011) sustainability report, conducted by companies in Indonesia, serves as a model for reporting corporate information to stakeholders, integrating financial reports, social reports, environmental reports, and corporate governance, all of which are essential components of a green company. The increasing number of corporations reporting sustainability reports suggests that the greening of industries, businesses, and corporations is underway. One of the basic pillars of a green corporation is the green business process (Young & Ernst, 2012).

One of the innovations in the production process that business actors have widely applied to reduce environmental impacts is the use of internet technology and R&D research (Aries et al., 2016; Maksimovic, 2017; Parilli et al., 2022). Setiawan (2016) implemented internet technology in marketing MSME businesses in the city of Bandung, which can reduce production waste and production costs. Then, Hadibrata (2018) noted that the use of digital technology in the Indonesian banking world affects the compliance of the annual sustainability report with stakeholders. Some of the innovations introduced by these business actors suggest that the fundamental pillars of green corporations are beginning to be implemented in Indonesia. The effectiveness and running of government regulations in environmental preservation bring the industrial sector to respect the environment (Luzzati, 2015).

METHODOLOGY

This research employed a combination of quantitative and qualitative methods. Quantitative methods (econometric evidence) are used to demonstrate that, currently, in Indonesia, there is still an economic trade-off between economic growth and environmental damage. Then, the qualitative method is employed to explain the role of government and business actors in the Indonesian state's success in achieving a green economy, based on the results of a quantitative discussion analysis.

The data used in the quantitative method is sourced from BPS environmental statistics for 2013-2020, and Bank Indonesia quarterly 2019-2020 regional financial statistics. Using panel data from 34 Indonesian provinces with a dynamic panel model to see the short-run and long-run effects. The operational definitions of variables and references to previous research are presented in Table 1.

Table 1. Variable Definition

Variable	Description	Definition	Source
Environment Index	Log(IKLH)	The environmental quality index, as measured by the overall index of soil, water, and air, ranges from 0 to 100, with higher values indicating a healthier living environment quality (a proxy for environmental quality).	Oktavilia (2017), *Environmental Degradation, Trade Openness, and Economic Growth in Southeast Asian Countries, Social Sciences & Humanities*
Air Index	Log(IKU)	The air quality index measures air quality on a scale of 0-100, where higher values indicate better air quality (a proxy for	Robbi (2020), Stern (2004), *The Rise and Fall of the Environmental Kuznets Curve, World Development*

Variable	Description	Definition	Source
		environmental quality).	
GDP Growth (%)	GDP	Regional GDP growth at constant prices in 2010	Mahdu Sehrawat & Geetilaxmi (2015), *The Impact of Financial Development, Economic Growth, and Energy Consumption on Environmental Degradation, Management of Environmental Quality* Frankel & Rose (2002), *An estimate of the effect of common currencies on trade and income, Quarterly Journal of Economics; Beckerman (1994), Economic growth and the environment: whose growth? Whose environment, world development journal;* Suroso dkk., (2022)*Revisiting the role of international climate finance (ICF) towards achieving the nationally determined contribution (NDC) target: A case study of the Indonesian energy sector*
APBD LH (Rp)	Log(APBD_LH)	The amount of the provincial regional expenditure budget for environmental activities	
GDPKap (Rp)	Log(GDP_Kap)	The average income per capita	Aye & Edoja (2017), *Effect of economic growth on*

Variable	Description	Definition	Source
		of the population in one province	*C02 emission in developing countries: Evidence from a dynamic panel threshold model, Cogent Economics and Finance*
Corporate capital expenditure (PMA&PMDN) - Investment (Rp) - Capital (Rp)	Log(PT)	Total investment plus working capital is used as a proxy for production costs incurred by the company per quarter.	Ali Nasir, dkk (2019) *Role of financial development, economic growth & foreign direct investment in driving climate change: A case of emerging ASEAN, Journal of Environmental Management*
	Log(UMKM_M)		Tsaurai (2019), *the impact of financial development on carbon emissions in Africa, Journal of Energy Economics and Policy*
- Micro Enterprise (Rp)			Yuxiang & Chen (2010), *financial development and environmental performance: evidence from China, Environment and Development Economics*
		Financing/loans provided by banks to MSME business actors on a quarterly basis.	
- Small Enterprise (Rp)	Log(UMKM_K)		Setiawan, dkk (2016), *technical efficiency and environmental factors of the SMEs in Bandung city, International Journal of Globalisation and*
- Medium Enterprise (Rp)	Log(UMKM_MDM)		

Variable	Description	Definition	Source
			Small Businesses; Parilli, dkk (2022) *Environmental innovation across SMEs in Europe*

Source: Author's compilation

The IKLH variable represents the aggregate index value of environmental quality per province for a given year. To convert it into quarterly data, it is calculated using the following equation (Insukindro, 1993):

$$y_{t1} = \frac{1}{4}\{y_t - \frac{4{,}5}{12}(y_t - y_{t-1})\}$$
$$y_{t2} = \frac{1}{4}\{y_t - \frac{1{,}5}{12}(y_t - y_{t-1})\}$$
$$y_{t3} = \frac{1}{4}\{y_t + \frac{1{,}5}{12}(y_t - y_{t-1})\}$$
$$y_{t4} = \frac{1}{4}\{y_t + \frac{4{,}5}{12}(y_t - y_{t-1})\}$$

……..…...…..**(1)**

From equation (1) y_{t1}- y_{t4}The time quarter of a year Yt, 1,5; 4,5 is constant, and 12 is the total number of months in a year.

Sourced from previous research references, as presented in Table 1 (Mahdu Sehrawat & Geetilaxmi, 2015; Aye & Edoja, 2017), the econometric model used to examine the relationship between economic growth and environmental damage in Indonesia is a long-term model. The run effect consists of two models. Model 1 in equation (1) is used as the influence caused by the state on environmental damage, and model 2 (Ali Nasir et al., 2019; Tsaurai, 2019) in equation (2) is used as the influence caused by economic actors on environmental damage.,

$$\log(IKU)_{it} = \alpha_0 + \beta_1 \log(GDP)_{i,t} + \beta_2 \log(GDP\_Kap)_{i,t} + \beta_3 \log(APBD\_LH)_{i,t} + \mu_{i,t} \text{.....(2)}$$

$$\log(IKLH)_{it} = \alpha_0 + \beta_1 \log(PT)_{i,t} + \beta_2 \log(UMKM\_M)_{i,t} + \beta_3 \log(UMKM\_K)_{i,t} + \beta_4 \log(UMKM\_MDM)_{i,t} + \mu_{i,t} \text{.....(3)}$$

To see the short-run effect, namely by adding the dependent variable lag into the model as an independent variable, or it can be said that the value of a variable is influenced by the variable itself in the past as described in equations (4) and (5) (Arrelano & Bond, 1991).

$$\log(IKU)_{it} = \alpha_0 \log(IKU)_{i,t-1} + \alpha_1 \log(GDP)_{i,t} + \alpha_2 \log(GDP_{Kap})_{i,t} + \alpha_3 \log(APBD_{LH})_{i,t} + \mu_i + \varepsilon_{i,t} \text{ ……..…..(4)}$$

$$\log(IKLH)_{it} = \alpha_0 \log(IKLH)_{i,t-1} + \alpha_1 \log(PT)_{i,t} + \alpha_2 \log(UMKM_M)_{i,t} + \alpha_3 \log(UMKM_K)_{i,t} + \alpha_4 \log(UMKM\_MDM)_{i,t} \mu_i + \varepsilon_{i,t} \text{ ……...(5)}$$

The qualitative method analysis is derived from the IDX (Indonesian Stock Exchange) Indonesia Bond Market Directory 2021 and other sources that can be accounted for. The research hypotheses were formulated based on research references (Table 1) and a literature review presented in the previous chapter. The research hypothesis is as follows,

H_0 1 : There is no economic paradox (economic growth and environmental quality) in Indonesia.

H_0 2 : There is no contribution from business actors in reducing environmental quality in Indonesia.

H_0 3 : There is no role for the government and business actors to realise a green economy and green technology in Indonesia.

RESULT AND DISCUSSION

Based on the results of descriptive statistics, there has been an improvement in the quality of the IKLH from 2015 to 2020, with a trend of increasing from 65.14 to 70.27. This condition is inseparable from the government's commitment to implementing the concept of sustainable development through the MDGs-SDGs, as well as the support of other stakeholders, including economic actors in implementing ESG (Environmental Social Governance) (Makmun, 2012; Maftuchah et al, 2018) and ratification of environmental agreements (Lako, 2014; Suroso et al., 2022). The results of the released IKLH report have not yet provided a strong foundation to justify Indonesia's long-term environmental condition in relation to achieving a green growth and green economy. However, the upward trend in IKLH is clear evidence of the government's efforts to improve the quality of the environment in Indonesia, as well as the changing patterns of lifestyle among the community and business actors during the COVID-19 pandemic in 2020, which has had an impact on better environmental quality.

Regarding Elkington (1997), Grey & Bebbington (2001), and Lako (2014), green growth is not only seen in terms of environmental quality improvement (as previously explained), but also in terms of people and profit (economic actors). The interaction between people and profit will move the economy of a country by using and utilizing existing resources, especially natural sources, so that there is an economic paradox/causality between the economy and the environment (Grossman & Krueger, 1991, 1995; Panayotou, 1993; Mahdu Sehrawat & Geetilaxmi, 2015; Robbi, 2020). Answer the research hypotheses related to the economic paradox that occurred in Indonesia, as presented in Table 2, Model 1.

Table 2. Estimation Result

short-run effect				*long-run effect*			
Variable	Model 1	Model 2	Variable	Variable	Model 1	Model 2	Variable
Log(IKU) lag 1	-0,1108	-0,1818***	Log(IKLH) lag 1				
	(0,1103)	(0,0029)					
	[1,00]	[63,16]					
Log(GDP)	-0,0005**	-0,0060	Log(PT)	Log(GDP)	-0,0018*	-0,0729***	Log(PT)
	(0,0002)	(0,0155)			(0,0010)	(0,0259)	
	[1,97]	[0,39]			[1,66]	[2,81]	
Log(GDP_Kap)	0,2334***	0,1532***	Log(UMKM_K)	Log(GDP_Kap)	-0,0613***	0,3710***	Log(UMKM_K)
	(0,0856)	(0,0499)			(0,0129)	(0,0363)	
	[2,73]	[3,06]			[4,73]	[10,20]	
Log(APBD_LH)	0,0123	-0,0728*	Log(UMKM_M)	Log(APBD_LH)	-0,00008**	-0,0952***	Log(UMKM_M)

	(0,0092)	(0,0381)			(0,00004)	(0,0248)	
	[1,34]	[1,91]			[2,00]	[3,84]	
		-0,0136	Log(UMKM_MDM)			-0,1385***	Log(UMKM_MDM)
		(0,0159)				(0,0289)	
		[0,86]				[4,78]	
C	0,264	1,374	C	C	2,409	1,087	C
n-obs	201	204	*n-obs*	*n-obs*	269	272	*n-obs*

( ) *standard errors*; [ ] *z-score*
Significance level 1%***, 5%**,10%*

The estimation results using model 1 show that economic growth will reduce environmental quality, both in the long and short term. Based on these results, the answer to the research hypothesis is to reject H_0 1, indicating that an economic paradox (economic growth and environmental quality) does not occur in Indonesia. Which aligned to the research results of Oktavilia., et al (2017); Robbi (2020) that Indonesia is still in a position to pursue pro growth by utilizing the wealth of natural resources, and has not yet reached the peak point of EKC that occurs in developed countries (Panayotou, 1997; Stern, 2004).

The findings in the short term indicate that income per capita has a positive influence on environmental quality in Indonesia. Per capita income can be proxied by the community's (people's) participation in protecting the environment (Elkington, 1997). As it is known that Indonesia is now a middle-income country, with increasing income, people will become more aware of protecting the environment by using eco-friendly goods, implementing the 3Rs (reduce, reuse, and recycle) approach, establishing a waste bank, and sorting organic and inorganic waste. Beckerman (1994) suggests that individuals with a high level of community income will have the ability to pay more for organic and environmentally friendly consumer goods. However, in the long term, it has a negative impact on environmental quality. The explanation that makes sense and is relevant to Indonesia now and in the future is that the annual population growth rate remains high (BPS, 2021). It can be said that the increase in per capita income is followed by an exponential rise in population, resulting in a smaller share (the number of family members per population), and ultimately, the income received is increasing.

Furthermore, the role of the government through the APBN and APBD expenditure instruments in supporting environmental activities in the short term has a positive, albeit not significant, effect; however, in the long term, it has a negative and significant effect. Establishing a good environmental quality in a country requires high costs (Beckerman, 1994; Grossman & Krueger, 1995). The current obstacle faced by the government is the limited budget, as it is known that the government's focus in using the budget is to prioritise mandatory expenses, namely health, education, and infrastructure. Public infrastructure funding for sanitation and environmental facilities can be provided by the government, although it is limited, so that in the short term, it may have a positive effect. Government spending on environmental protection during the period of 2016-2020 increased by only 5.1% (BPS, 2021).

The long term has a negative effect due to the increasing number of people and modern technology, which requires a lot of money to buy or operate, so that the increase and progress are not proportional

to the cost recovery (Mahdu Sehrawat & Geetilaxmi, 2015).

Likewise, the second research hypothesis is to reject H0 2, indicating that there is a contribution from business actors to the decrease in environmental quality in Indonesia. The answer to the hypothesis is based on the results of the estimation table. In the short and long term, business actors (including large companies in the form of PTs and SMEs) have a negative impact on maintaining environmental quality in Indonesia, except for small businesses, which have a positive influence. This condition is related to externalities generated by business actors (Nordhaus & Samuelson, 1993; Cochrane, 2015). The existence of business expansion, as well as an increase in the economic scale of a region, can lead to friction, encompassing both social and environmental issues. This is a consequence that the community must bear, and the government, in its supervisory function, ensures that everything runs smoothly and no one is harmed. Therefore, Soemarwoto (1996) is required to carry out AMDAL and environmental management efforts, as well as companies related to SR and CSR disclosures (Margaretha & Witedjo, 2014), and the application of ESG (Maftuchah et al., 2018). The estimation results in Table 2 yield interesting findings. Namely, the small business actor (MSME) variable. In the short and long term, small business actors have a positive influence on improving the quality of the environment in Indonesia. It can be explained that a few years ago, with the emergence of Industrial Revolution 4.0, business actors began to apply IoT (Internet of Things) through digital marketing facilities. The emergence of online-based third-party applications via smartphones that can be used both as a place to find raw materials for marketing. These results indicate that MSMEs have implemented technological innovations (Parilli et al., 2022), and home industries have been running in Indonesia (Setiawan et al., 2016). Meanwhile, for other MSMEs such as micro, medium and large companies, their use is still not significant because their production functions tend to be labor intensive and use raw materials from nature (especially the use and utilization of land as a means of production without paying attention to the decline in soil quality/fertility).

However, qualitative analysis evidence shows that government-business actors continue to pursue economic growth and profit, while allowing environmental conditions to be compromised. The existence of the advantages of the Indonesian state, which has extraordinary natural wealth stored from Sabang to Merauke, can be used as added value to accelerate the development of the Indonesian people and towards a Golden Indonesia. These efforts have yielded results, specifically that Indonesia has become a high-income country, ranking as the 15th largest economic power in the world (Suroso et al., 2022). On the contrary, certain circumstances are overlooked in

these results, namely the decline in environmental quality in Indonesia, as evidenced in Figure 1, and the increasing carbon emissions and decreasing forest area. At the same time, developed countries have introduced new environmental issues in all aspects of life, regardless of their presence. Indonesia must adapt to this situation (Lako A, 2014; Salsiah Alisjahbana & Endah, 2014). To achieve sustainable development, the government must garner support from various parties, especially business actors.

Implementing the strategy (Figure 2) to green Indonesia will lead to green growth and a green economy. Of the five strategies to green the economy in Indonesia, the government has successfully implemented four methods, and there is a full commitment from business actors and economic stakeholders. The only strategy that has not worked effectively is greening education, mass media, and the public.

The government has implemented green initiatives in the structure and development process through international commitments, including the signing and ratification of environmental agreements (Lako, 2014; Suroso et al., 2022). The application and enforcement of laws on environmental management (Soemarwoto, 1996; Makmum, 2012), and the latter is to implement these ecological governance instruments in the bureaucratic system of both central and regional government through the MDGs and SDGs as a development reference (Bappenas, 2017; Salsiah Alisjahbana & Endah, 2018).

The greening of fiscal and monetary policies is related to government and private sector financing, as well as the sources of funding and loans available to business actors. The implementation is carried out in accordance with the principles of Good Corporate Governance (GCG). GCG encourages banks to create added value for their products through increasing social roles in the environment. Then, the support from the financial sector in Indonesia, through the OJK institution, was issued in POJK rules No. 51/POJK.03/2017, concerning the application of sustainable financing for the financial services sector and companies through the ESG concept (Maftuchah et al., 2018). The government's proactive participation in environmental activities, as an active member of the Rio+20 Summit (Lako, 2014) and the Paris Agreement, has had a significant impact, particularly in securing funding from international institutions and other countries related to environmental issues, such as climate change, through the International Climate Finance (ICF) initiative (Suroso et al., 2022). The funding assistance is part of Indonesia's commitment to reduce greenhouse gas emissions by 29% using domestic funding sources, and 41% international support up to the 2030 target. Sources of financing in climate change issues in Indonesia are presented in Table 3.

Table 3. Source of Climate Change Financing in Indonesia

Public Financing		Private Financing
Domestic	Internasional	
APBN	Government/Other countries	*Green Bonds* (Green Obligation) taken from,
Indonesia Climate Change Trust Fund – ICCTF (Bappenas)	Funds sourced from the World Bank, ADB, UNFCCC	SMI (sarana multi infrastruktur)
Environmental Fund Management Agency (Kemenkeu)	*Global Environment Fund* from an NGO	OCBC-NISP Banks
Green Sukuk and *Green Bonds*		
Foreign loan and Grant		
Donor Country Loans 96%	Grant 4%	

Source: BKF (Environmental Fund Management Agency), 2019 and Suroso, 2022

The greening of financial instruments and capital markets is a step taken by business actors to enhance corporate governance in the economic system, investment, and business operations (Lako, 2014; Maftuchah et al., 2018). This step is taken to enable the company to generate, maintain, and increase profits while upholding environmentally friendly and sustainable company values. All corporate governance towards green corporate must consider environmental and social aspects, or ESG. Implementing this step does require high operational costs for the company, but according to Murwaningsari (2009), it is proportional to the increase in profit. Lako (2011) companies (PMA/PMDN) that have conducted their business activities in Indonesia and entered the capital market are required to provide an annual report, which includes the SR. This step is a step towards Greening the industry. According to Young & Ernst (2012), the elaboration of SR involves a CSR report or corporate social responsibility that encompasses the company's internal scope (employee career paths, improving employee quality), the social scope of society, and the environment. To see the statistics of companies that have taken the floor in the capital market (IDX, 2021) and carry out SR and CSR reports.

Table 4. Statistics of Companies Implementing SR & CSR Reports in 2021 (%)

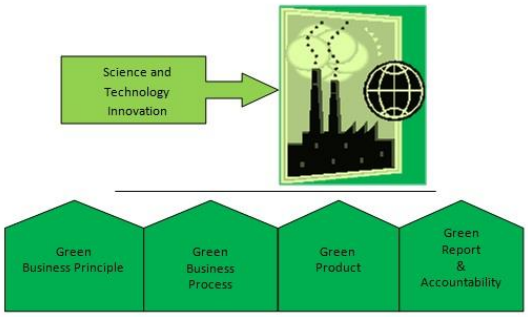
Category	SR	Unreported CSR	CSR Report		
			Internal	Social Environment	Internal and Social Environment
Basic Material	√	13.33	-	13.33	73.33
Energy	√	-	-	-	100
Financing	√	14.55	5.45	30.91	49.09
Food Beverage	√	-	-	37.5	62.5
Goods	√	-	-	100	-

Category	SR	Unreported CSR	CSR Report		
			Internal	Social Environment	Internal and Social Environment
Healthcare	√	-	-	50	50
Industry	√	20	-	60	20
Infrastructure	√	4.55	-	36.36	59.09
Logistic	√	25	-	75	-
Property and Housing	√	-	-	33.33	66.67
Telecomunication	√	-	-	-	100
Timber	√	-	-	-	100
∑ %	100	10.4	2.4	32	55.2

Source: Author's Result

Based on the results in Table 4, it is evident that 100% of companies that have gone public report SR reports in their annual reports. Then 89.6% of companies have reported their CSR in the SR report, while 10.4% did not report it or it was not disclosed. The majority of companies that do not report CSR are in the industrial, logistics, and expedition categories. This condition can be explained by the fact that the company category does not have much contact with the social environment of the surrounding community in its activities because it is generally included in the industrial area complex and warehousing / industrial localisation (Fujita & Thisse, 2002), which is located far from the social activities of the community. In line with Moir (2001), the company, in the continuation of its activities, does not directly come into contact with social and environmental problems; therefore, the company will not fulfil its environmental social obligations because it does not provide benefits to the company.

The greening of industries, businesses, and corporations, or the greening of companies and corporations, is part of the previous step (Greening of financial instruments and capital markets) as a continuous and inseparable package. The emergence of green financial instruments creates a responsibility for business actors to form a green company, adapting to ESG (Maftuchah et al., 2018). The principle of green business is evident in the consistency of business actors in implementing ESG in their business activities in a sustainable manner. Lako (2014) the main foundation in forming a green company consists of: greening business principles; greening the production process; greening production output (environmentally friendly products and the residue can be recycled); and greening reports and accountability through SR as shown in figure.3. In operating its business activities, tools are needed to organize all processes from upstream to downstream using science and technology (Parilli et al., 2022).



Source: Author's Elaboration (Lako,2014; Parilli, Balavac-Orlic, & Radicic, 2022)

Figure 3. Foundation and Green Corporate Instruments

Likewise, in Figure 3, it is evident that Indonesia has implemented technological and scientific innovations to support the creation of green companies, especially IOT technology (Aries et al., 2016; Hadibrata et al., 2018). However, according to Amara and Landry (2008), this does not apply to the MSME sector in producing eco-green products or environmentally friendly organic products, due to limited working capital and human resource capabilities. A suitable model for MSMEs, however, is the learning-by-doing method. It's business operations. Parilli & Eloin (2012) argue that the cottage industry must use innovative production procedures and interact with fellow competitors and consumers to find the most efficient way to produce quality goods. In line with this opinion, Maksimovic (2017) uses digital application platforms, which provide convenience in business operations at lower costs and are environmentally friendly. Setiawan (2016) utilised internet technology to market MSME businesses in the city of Bandung, which can reduce production waste and expenses.

Greening education, mass media and the public. The implementation of this strategy is closely tied to community education. Education from elementary to tertiary levels, encompassing the general public from villages to cities, as well as the rich and the poor, is essential to increase awareness of the importance of environmentally friendly behaviour and lifestyles. This effort aims to support the sustainability of the Earth and enhance socio-economic welfare. In fact, this condition has not happened, but there has been a setback compared to the previous period, where information technology (IT) was not as sophisticated as it is today. People who fall into the baby boomer and Gen X (born 1960 and earlier) are more educated due to traditional cultural factors and local wisdom in maintaining environmental quality than millennials, Gen Z, and post-Gen Z, who were raised in the sophistication of the digital age. This condition affects the consumptive lifestyle, which directly affects the increase in waste produced. On the other hand, at this stage, the government has not been effective in providing education, especially to the younger generation, on the importance of maintaining environmental quality.

The results of this qualitative discussion provide strong evidence to reject H_0 3 , so that it can be ascertained that there is a role for the government and business actors to realise a green economy and green technology in Indonesia

CONCLUSION AND RECOMMENDATION

The current condition indicates that the Indonesian state is still prioritising economic growth to enhance community welfare, suggesting a financial trade-off in environmental quality. However, the government does not remain silent; it is trying to improve the quality of the environment by implementing pro-environment policies, along with supporting instruments (Figure 3), to achieve green growth.

Cooperation between government and business actors is needed to support the green economy through ESG, with the support and participation of the community. There are still shortcomings in the implementation of the green economy in Indonesia, which is a lack of support from the community (people). The ineffectiveness of environmental education in the community has led people not yet to understand the importance of protecting the environment for future generations.

Policy recommendations were structured, and extensive environmental education is needed throughout the education system to reach various parties and individuals settled in the territory of the Republic of Indonesia, with regard to social and ecological preservation towards a Green Indonesia. Providing rewards for business actors who are able to carry out and apply green business principles in their business activities, either through incentive funds or tax and retribution relief.

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