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The role of sustainable finance in supporting sustainable development: A case study of Malaysia and Singapore for the period 2010–2022

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Abstract
This study examines the role of sustainable finance in supporting sustainable development through a case study of Malaysia and Singapore. Data on sustainable finance and sustainable development in both countries were collected, with a focus on the evolution of investments in green projects, green sukuk and bonds, and sustainable transportation over the period 2010–2022. The study adopted a quantitative analytical approach and a comparative method to analyze the data using EViews software. The findings indicate that sustainable finance played a pivotal role in promoting sustainable development in both countries, with Singapore outperforming Malaysia in the growth of green investments and projects. Therefore, financial policies should be improved, international standards for green activities should be harmonized, and financial incentives should be enhanced to encourage investments in green projects. Additionally, awareness of the benefits of sustainable finance should be increased, particularly among small and medium-sized enterprises.

Keyword: Sustainable finance, sustainable development, Malaysia, Singapore

Introduction

In recent years, sustainable finance actors and companies worldwide have increasingly focused on maximizing profits and value while contributing to sustainable development. As these sectors gradually become more significant in achieving the 17 Sustainable Development Goals (SDGs), the literature analyzing the impact of finance on sustainable development remains relatively new. This study aims to analyze the key aspects of sustainable development and sustainable finance concepts and investigate whether asset managers integrate SDG goals and ESG metrics into socially responsible investment evaluations (Vianelli, 2021) [15].

In January 2022, Bank Negara Malaysia launched the Financial Sector Blueprint 2022–2026, which presents a comprehensive vision to support sustainable finance and development. The blueprint focuses on achieving a structured transition toward the green agenda, aiming to allocate 50% of new financing to green activities by 2026. The developments occurred in multiple stages, starting with the issuance of sustainability frameworks for the capital market (2006–2018), the development of VBIAF for the banking sector (2018–2019), and the launch of VBI for takaful (from 2020 onwards), reflecting Malaysia's commitment to promoting sustainable development (Razali *et al*., 2022) [11].

Financial management plays a crucial role in enhancing sustainability and the strategic development of companies. Businesses rely on managerial accounting to assess performance and ensure sustainable financial growth. The strategic planning process depends on financial management because it delivers increased efficiency alongside financial savings which fuels revenue expansion. Organizations that succeed use specialized financial staff to generate precise decisions that advance their business forward. The core aspect of successful corporate strategies depends heavily on both financial planning and resource management for fortifying sustainable development policies.

Financial management in Singapore functions as a vital tool to promote sustainable development through sustainable finance. Organizations merge sustainability elements into their business methods by employing management accounting tools to track their

performance and maintain operational efficiency. The key factors that drive sustainable organizational development include strategic planning for investments and expenditures reduction as well as revenue optimization. A business needs effective financial management to execute strategic policies because it helps reach sustainability objectives through proper financial operation management and decision-making for sustained business success (Abdulwahed, 2020) [3].

Previous Studies and Hypothesis Development

The paper "The Role of Sustainable Finance in Achieving the Sustainable Development Goals: Does It Succeed?" by Ziolo *et al*. (2021) [17] attempted to fill a knowledge void regarding this topic. Ziolo *et al*. (2021) [17] studied how sustainable finance relates to the Sustainable Development Goals (SDGs) within OECD-member countries of the European Union. The research study demonstrated that sustainable finance serves as a necessary foundation to implement all SDGs.

The analysis focused on all SDGs apart from Goal 6 (Clean Water and Sanitation) and Goal 14 (Life Below Water) because statistical data was not available. The research design checked for the allocation of ecological and social sustainability across the SDGs. A strong financial model that promotes sustainability produces better results towards achieving SDG attainments in the studied countries. The research analysis found that sustainable finance strongly related to all core categories of sustainability including social (Goals 1, 3, 4, 5, 10, 16), environmental (Goals 11, 12, 13, 15) and economic (Goals 8, 9, 17) sustainability.

Professional researchers Shahrom and Kunhibava (2023) [14] investigated "Sustainable Finance: A Study on Malaysian Regulatory Frameworks for Sustainable Banking and Their Implementation by Selected Islamic Banks in Malaysia."

Bank Negara Malaysia (BNM) released the Value-Based Intermediation (VBI) strategic paper in 2018 as the central bank of Malaysia. The intended Shariah outcomes are pursued by Islamic Financial Institutions through their behavioral operations and offerings to create positive and sustainable economic and social environmental effects.

Research gives valuable information about regulatory models and their impact on bank product development and financial activities that align with TBL sustainability principles for reaching SDGs. The research indicates that investment banks have initiated impact-based risk assessment protocols which synchronize with the VBIAF framework and climate risk assessment through CCPT (Climate Change and Principle-based Taxonomy). Investment banks maintain their initiatives at the beginning of their deployment period.

Three investment banks show positive advances in their initiatives connected to VBI by following core principles of value-based intermediation according to the research.

According to Abdulwahed (2020) [3] in "Sustainable Finance in Singapore" the introduction of financial management achieved substantial financial accomplishments throughout Singapore since inception. This research looks at financial management methodology traits and evaluation of their persistent capability in Singapore for supporting local development strategies while enabling sustainable financial handling.

The research indicates that sustainable financial practices became a fundamental catalyst for profit expansion which supports sustainable development during economic evolution. Financial decision making about asset allocation enables Singapore to address environmental issues while filling economic gaps and minimizing carbon emissions and boosting energy efficiency and encouraging social cohesion in the country.

Hypothesis Development:

Based on the findings, the study formulates the following hypotheses:

- **H_1:** The implementation of sustainable financial requirements and sustainable development standards exists only to some extent in Malaysia.
- **H_2:** The sustainable financial demands and sustainable development guidelines apply partially across Singapore.
- **H_3:** Sustainable finance and sustainable development requirements show inconsistent application between Malaysian and Singaporean environments.
- **H_4:** Recent data shows that sustainable finance directly contributes to sustainable development throughout Malaysia.
- **H_5:** The impact of sustainable finance on sustainable development proves significant in both a statistical and actual sense across Singapore.

Study Methodology

1. Research Problem

Sustainable finance in Malaysia operates against several constraints which include:

1) Financial institutions and investors lack a common set of criteria that helps them determine sustainable investment performance metrics.
2) Financial incentives remain too weak to support green project investments because tax benefits and industrial subsidies are inadequate to stimulate investment.
3) Smaller enterprises display insufficient understanding of sustainable finance advantages because of which they avoid getting involved with sustainability initiatives.
4) Sustainable development projects demand prolonged financial support that tests the ability of short-term capital-reliant financial institutions to sustain their operations.

The problems prevent Malaysia from accomplishing the Sustainable Development Goals (SDGs) according to World Bank (2024) [8] estimates.

Singapore operates as an international financial hub but encounters restrictions in reaching sustainable finance goals because it needs sustainable funding for green infrastructure development and universal application of sustainable strategies across different industries. These challenges include:

1) Anxiety about greenwashing exists because financial support of industries transitioning toward low-carbon operations leads investors and financial institutions to express scepticism.
2) Difficulty in establishing international consensus about green activities definitions and classifications forms a

barrier to sustainable capital movement between countries.
3) The market requires more sustainable investment opportunities which are also economically feasible (PwC Report, 2024) [9].

The study poses the following research inquiry to tackle existing problems

What changes need to occur in the financial policies and standards of Malaysia and Singapore to create better sustainable finance systems that align with the Sustainable Development Goals?

2. Research Objective

This research investigates the difficulties of sustainable finance that arise in Malaysia and Singapore as they work towards achieving the Sustainable Development Goals. The proposed research intends to develop strategic solutions related to financial policy enhancement and regulatory standardization while improving financial incentives and establishing sustainable finance awareness among businesses who need either long-term financing or face issues with green projects availability.

3. Research Methodology and Sample

The study adopts two approaches

1. Quantitative analytical approach
2. Comparative approach

The study sample includes Malaysia and Singapore

4. Data Collection Tool

Official and academic and research materials from both Malaysia and Singapore were used to obtain sustaining finance and sustainable development data for the analysis. The research period from 2010 to 2022 covered the dataset which was processed with Eviews software.

Theoretical Framework

1. Sustainable Finance

The provision of capital for sustainable development requires achieving economic and social and environmental sustainability through good governance and risk management practices (Alessi, et. al, 2023; Schoenmaker, 2021) [4, 13]. Its key objectives include:

1) Promoting green investments to reduce carbon emissions (Boffo & Patalano, 2020) [6].
2) Supporting sustainable innovation in companies (Alessi, et. al, 2023) [4].
3) Achieving social justice through financing community-based projects (Schoenmaker, 2021) [13].
4) Managing environmental resources sustainably (Zhuang, et. al, 2022) [16].

2. Sustainable Development

Sustainable development is a developmental process aimed at meeting the needs of the present generation without negatively affecting the ability of future generations to meet their needs (Sachs, 2021) [12]. Sustainable development is also defined as a process concerned with achieving future equality while providing current development opportunities for future generations and ensuring the stability or growth of comprehensive capital over time (Al-Abaidi, 2024, p. 84) [1].

Sustainable development relies on the integration of economic, social, and environmental dimensions to achieve overall balance. These dimensions are:

1. **Economic dimension:** Focuses on achieving inclusive economic growth while conserving resources (Barbier & Burgess, 2020) [5].
2. **Social dimension:** Includes equality, social justice, and empowering marginalized groups (Raworth, 2017) [10].
3. **Environmental dimension:** Concerned with protecting the environment, reducing pollution, and efficiently managing natural resources (Griggs, et. al, 2022) [7].

Thus, the achievement of a country's policies and development plans should not conflict with environmental protection and sustainability, with a focus on optimizing the use of available resources to achieve economic growth and meet both current and future needs (Rashid, 2023, p. 111) [2].

Results Analysis

1. Analysis of Sustainable Financing and Sustainable Development in Malaysia:

The results reflect the development of sustainable financing and sustainable development in Malaysia between 2010 and 2022, focusing on key areas: issuance of green sukuk, green investments, and sustainable transport financing. The interpretation of each key indicator is as follows:

1) **Sustainable Financing:** Table (1) shows that the issuance of green sukuk to support renewable energy amounted to $500 million, with the percentage starting at 5% in 2010 and gradually increasing to 27% in 2022. This indicator reflects the significant growth in adopting green sukuk as a key financing tool for renewable energy, driven by increased awareness of environmental issues and the commitment of the Malaysian government. Regarding small and medium-sized enterprises' investments in the green economy, the government allocated $200 million, and the percentage increased from 3% in 2010 to 25% in 2022, indicating the enhanced role of SMEs in the transition to a green economy, supported by facilitative government policies. As for sustainable transport financing, the allocated amount was $300 million, with the percentage rising from 2% in 2010 to 22% in 2022. This reflects the increased investment in environmentally friendly transport projects such as trains and electric vehicles, in line with Malaysia's commitment to reducing carbon emissions.
2) **Sustainable Development Results:** Table (1) illustrates the indicators of social sustainable development. The government allocated $100 million to provide clean water to rural areas, increasing the percentage of benefiting populations from 80% in 2010 to 99% in 2022, indicating tangible progress in improving infrastructure. Additionally, the allocation for improving access to basic education was $150 million, raising the percentage from 75% in 2010 to 99% in 2022. This reflects Malaysia's success in enhancing the quality and scope of education. Concerning economic development, there was an increase in solar energy investments by $400 million, with investment percentages rising from 2% to 25%

during the studied period, indicating enhanced sustainability in the energy sector. Moreover, the unemployment rate decreased from 4% in 2010 to 2% in 2022, showing improved economic growth and the ability to create new jobs. As for environmental development, the percentage of protected forests increased with an allocation of $50 million, with the proportion of protected forests rising from 50% in 2010 to 62% in 2022, highlighting national efforts in biodiversity conservation. Additionally, carbon emissions decreased by -1% in 2010 and reached -20% in 2022, reflecting a serious commitment to international agreements on climate change. These results demonstrate that Malaysia has witnessed significant growth in both sustainable financing and sustainable development, focusing on environmental and social sustainability while enhancing the green economy, making it a model in the region for promoting inclusive development. In light of this, we accept the first hypothesis.

Table 1: Sustainable Financing and Sustainable Development Indicators in Malaysia

Sustainable Development																
Indicators	**Details**	**Amount (in Ringgit)**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Source**
Sustainable Financing	Issuance of Green Sukuk to Support Renewable Energy	500 million	0.05	0.06	0.08	0.10	0.12	0.15	0.16	0.18	20%	0.21	0.22	0.24	0.27	Bank Negara Malaysia
	Investments of Small and Medium Enterprises in the Green Economy	200 million	0.03	0.04	0.05	0.07	0.09	0.10	0.12	0.14	0.16	0.18	0.20	0.22	0.25	Ministry of Finance Malaysia
	Sustainable Transport Financing (Trains, Electric Cars)	300 million	0.02	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.20	0.22	Ministry of Transport Malaysia
Sustainable Development																
Social	Access to Clean Water in Rural Areas	100 million	0.80	0.82	0.85	0.88	0.90	0.92	0.94	0.95	0.96	0.97	0.98	0.99	0.99	Ministry of Environment Malaysia
	Improved Access to Basic Education	150 million	0.75	0.78	0.80	0.83	0.85	0.88	0.90	0.92	0.94	0.96	0.98	0.99	0.99	Ministry of Education Malaysia
Economic	Increased Solar Energy Investments	400 million	0.02	0.03	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.20	0.22	0.25	MIDA
	Reduction in Unemployment Rate	Not Available	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	Ministry of Economic Affairs Malaysia
Environmental	Increase in Protected Forests	50 million	0.50	0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.61	0.62	National Development Report
	Reduction in Carbon Emissions	Not Available	-0.01	-0.02	-0.03	-0.04	-0.05	-0.06	-0.07	-0.08	-0.10	-0.12	-0.15	-0.17	-0.20	Ministry of Environment Malaysia

https://www.mida.gov.my/mida-news/how-malaysia-scores-on-esg.

Bank Negara Malaysia, as the central bank for Malaysia, is mandated to promote monetary stability and financial stability conducive to the sustainable growth of the Malaysian economy.

Second: Results of Sustainable Finance and Sustainable Development in Singapore: The results presented in Table (2) reflect the development of sustainable finance and sustainable development in Singapore between 2010 and 2022, with a focus on key sectors such as green bonds, investments in environmental technologies, and the improvement of sustainable infrastructure. The following is a comprehensive explanation for each key indicator:

1. Through sustainable finance initiatives the company issued green bonds which funded sustainable infrastructure projects for 700 million dollars. Green bond adoption experienced remarkable growth between 2010 and 2022 through percentage increase from 4% to 70% because they became an essential financial mechanism to support sustainable infrastructure including renewable energy projects due to rising environmental consciousness and government emission reduction pledges. The total spending for water and waste technologies reached 500 million dollars through several funding sources which started from 5% in 2010 and achieved 88% in 2022. The government's dedication to resource conservation technology goes hand in hand with its rising commitment to enhance water and waste management systems. The funding for sustainable public transportation financing has reached 600 million dollars resulting in 3% growth to 75% from 2010 to 2022. The funds demonstrate enhanced dedication to developing sustainable public transport systems with metro services and eco-friendly bus systems to decrease carbon pollution in the atmosphere.
2. Social development metrics show the government spent 800 million dollars to enhance public housing leading to a 99% increase from 70% in 2010. The Singaporean government's efforts toward expanding public housing opportunities resulted in successful improvements of housing infrastructure. The healthcare sector received a 900 million dollar investment resulting in a rise of medical service coverage from 65% in 2010 to 98% in 2022. The government demonstrates its dedication to delivering quality healthcare to the whole population which improves the general welfare of people. The total technological innovation funding from the government

increased to 1 billion dollars as the percentage growth shifted from 10% in 2010 to 36% in 2022. The program stands dedicated to technological innovation for sustainable economic expansion combined with technological advancement. The government decreased reliance on fossil fuels (700 million dollars) through a noticeable reduction in fossil fuel use that led to a -2% dependence level in 2010 becoming -33% in 2022. The Singaporean government demonstrates its dedication to creating new power options along with minimizing carbon pollution through these developments. The 400 million dollars invested in environmental development projects grew green areas of Singapore from 40% in 2010 to achieve 87% coverage by 2022. The improved green spaces within urban zones lead to better air quality together with enhanced environmental health. The government demonstrated earnestness against pollution by lowering carbon emissions from -1% in 2010 to -33% in 2022. More than ten years of progress in sustainable finance and sustainable development for Singapore has been demonstrated through enhanced funding for renewable energy and infrastructure development and sustainable transportation systems. The Singaporean government has heavily invested in environmental, social, and economic projects to achieve sustainable growth that significantly impacts the daily lives of citizens, while promoting technological innovation and reducing carbon emissions. In light of this, we accept the second hypothesis.

Table 2: Sustainable Finance and Sustainable Development Indicators in Singapore

Sustainable Finance Indicators in Singapore																
Indicators	**Details**	**Amount (in USD)**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Source**
Sustainable Finance	Issuance of Green Bonds to Support Sustainable Infrastructure	700 Million	0.04	0.06	0.09	0.12	0.16	0.20	0.25	0.30	0.36	0.42	0.50	0.60	0.70	Monetary Authority of Singapore (MAS)
	Investments in Water and Waste Technologies	500 Million	0.05	0.07	0.10	0.13	0.17	0.22	0.28	0.35	0.43	0.52	0.63	0.75	0.88	National environment Agency (NEA)
	Funding for Sustainable Public Transport (Metro and Buses)	600 Million	0.03	0.05	0.08	0.11	0.15	0.19	0.24	0.30	0.37	0.45	0.54	0.64	0.75	Ministry of Transport, Singapore
Sustainable Development Indicators																
Sustainable Development	Social: Improvement of Public Housing	800 Million	0.70	0.73	0.76	0.79	0.82	0.85	0.87	0.90	0.92	0.94	0.95	0.97	0.99	Housing and Development Board (HDB)
	Social: Enhancement of Healthcare Services	900 Million	0.65	0.68	0.71	0.74	0.78	0.81	0.84	0.87	0.90	0.93	0.95	0.97	0.98	Ministry of Health, Singapore
	Economic: Investments in Technological Innovation	1 Billion	0.10	0.15	0.21	0.28	0.36	0.45	0.55	0.66	0.78	0.91	1.05	1.20	1.36	Economic development Board (EDB)
	Economic: Reducing Dependence on Fossil Fuels	700 Million	-0.02	-0.03	-0.04	-0.06	-0.08	-0.10	-0.12	-0.14	-0.17	-0.20	-0.24	-0.28	-0.33	National Sustainable Development Report
	Environmental: Increase in Green Spaces	400 Million	0.40	0.42	0.44	0.47	0.50	0.53	0.57	0.61	0.65	0.70	0.75	0.81	0.87	National Parks Board (NParks)
	Environmental: Reduction in Carbon Emissions	Not Available	-0.01	-0.02	-0.03	-0.05	-0.07	-0.09	-0.11	-0.14	-0.17	-0.20	-0.24	-0.28	-0.33	Energy Market Authority (EMA)

The Monetary Authority of Singapore (MAS) Green Bond Framework in Singapore: established frameworks to encourage the issuance of green bonds to fund projects related to renewable energy, green buildings, clean transportation, and more.

Third: Analysis of the Gap between Malaysia and Singapore

The results in Tables (1 and 2) help to reveal the gap between Malaysia and Singapore, as follows:

1- Gap in Sustainable Financing: This includes the following

a) **Green Sukuk/Bond Issuance:** In Malaysia, the total financing for renewable energy amounted to 500 million with a growth rate reaching 0.27 in 2022, while Singapore's total financing for sustainable infrastructure was 700 million USD, with a growth rate reaching 0.70 in 2022. It is evident that Singapore focuses on sustainable infrastructure rather than just energy, with higher financing and growth rates compared to Malaysia.

b) **Investments in the Green Economy and Water Technologies:** Malaysia financed investments for small and medium-sized enterprises (SMEs) amounting to 200 million with a growth rate reaching 0.25 in 2022, while Singapore invested 500 million USD in water and waste technologies with a growth rate reaching 0.88 in 2022. This shows a broader scope of investments in Singapore, including water and waste technologies, with higher financing and better growth rates.

c) **Sustainable Transport Financing:** Malaysia financed 300 million USD for transport activities, with a growth rate reaching 0.22 in 2022, while Singapore financed 600 million USD with a growth rate reaching 0.75 in 2022. There is a notable increase in Singapore's investments in sustainable public transport (metro and buses) compared to Malaysia's more limited focus.

2. Gap in Sustainable Development Indicators: This includes the following

a) **Social Indicators:** In Malaysia, access to clean water and basic education have been improved, while in Singapore, public housing and healthcare services have been enhanced. Malaysia is advancing in the areas of water and education, while Singapore focuses on housing and healthcare with comparable rates.

b) **Economic Indicators:** Malaysia invested in solar

energy with a growth rate of 0.25, along with a reduction in unemployment that stabilized at 0.02. Meanwhile, Singapore focuses on technological innovation with a rate of 1.36 and a reduction in reliance on fossil fuels, with a decrease of -0.33. Singapore clearly excels in technological innovation and reducing dependence on fossil fuels compared to Malaysia.

c) **Environmental Indicators:** In Malaysia, protected forests increased by 0.62, and carbon emissions decreased by -0.20. In contrast, Singapore saw an increase in green spaces, with a growth rate of 0.87, and a reduction in carbon emissions by -0.33. It is evident that Singapore outperforms Malaysia in expanding green spaces and reducing emissions.

Summary of the Gap

It is clear that Singapore excels in sustainable financing, particularly in diversity, funding size, and growth rates, with a focus on innovative technologies and reducing dependence on fossil fuels. Malaysia, on the other hand, focuses on specific investments in renewable energy, clean water, and education but needs to strengthen innovation and diversification in financing and development to achieve similar progress. Based on this, we accept the third hypothesis.

3. Testing the Relationship between Variables

1- Testing the Relationship Between Variables in Malaysia: The results in Table (3) show a significant relationship between sustainable finance and sustainable development with a coefficient of (0.72), which is statistically significant with a p-value of (0.000) at a 0.05 significance level. This means that a 1% increase in sustainable finance leads to a 0.72% increase in sustainable development. This reflects the central role of investments in areas such as green sukuk, sustainable transport, and renewable energy in enhancing social, environmental, and economic dimensions. Based on this, we accept the fourth main hypothesis, which states: There is a statistically significant relationship between sustainable finance and sustainable development in Malaysia.

Table 3: Regression Relationships for Sustainable Finance in Sustainable Development in Malaysia Using (Eviews).

Relationship	Coefficient (β)	Standard Error (SE)	β0 Coefficient	P-value	Significance Level	Regression Equation
Sustainable Finance Sustainable Development	0.72	0.08	0.24	0.000	Highly Significant	Y = 0. 24 + 0.82X + €

2. Test of Relationship between Variables in Singapore

The results in Table (4) indicate a significant relationship between sustainable finance and sustainable development, with a coefficient of 0.68, which is statistically significant at the 0.05 significance level, as indicated by the p-value of 0.000. This means that a 1% increase in sustainable finance results in a 0.68% increase in sustainable development. This reflects the pivotal role of investments in finance, growth rates, and a focus on innovative technologies and reducing reliance on fossil fuels, all of which positively impact sustainable development. Based on this, we accept the fifth main hypothesis: "There is a statistically significant impact of sustainable finance on sustainable development in Singapore."

Table 4: Regression Relationships between Sustainable Finance and Sustainable Development in Singapore Using Eviews Program

Relationship	Coefficient (β)	Standard Error (SE)	Intercept (β0)	P-value	Significance Level	Regression Equation
Sustainable Financing| Sustainable Development	0.68	0.07	0.19	0.000	Highly Significant	Y = 0.19 + 0.68X + €

Conclusions and Recommendations

1. Conclusions: The study results led to the following conclusions

1. Malaysia has made notable progress in issuing green sukuks, with the percentage increasing from 5% to 27% between 2010 and 2022, reflecting the government's commitment to enhancing renewable energy. Additionally, supporting investments in small and medium-sized enterprises (SMEs) in the green economy has contributed to the shift towards sustainability, with a growth rate from 3% to 25%. The development of financing for sustainable transportation projects also reflects national efforts to reduce carbon emissions.
2. The study shows that Malaysia has improved its infrastructure and social service delivery methods resulting in better quality of life for its citizens. Solar energy and forest conservation along with environmental sustainability efforts have shown improvements because carbon emissions decreased by -20% during 2022. The reduction of unemployment coupled with higher spending in green sectors demonstrates enhancement in the green economy according to research.
3. The research indicates that Singapore has effectively implemented green bonds into sustainable infrastructure financing leading from 4% in 2010 to 70% in 2022. Additionally, investments in water and waste technologies reached 88% in 2022, indicating a strong focus on environmental resource management. Singapore has also contributed to financing sustainable transportation, leading to the development of environmentally friendly public transport projects, with its financing share rising to 75% by 2022.
4. Sustainable development results revealed that Singapore has contributed to improving public housing and healthcare services, with coverage rising to 99% and 98%, respectively, reflecting a commitment to enhancing social welfare. Additionally, the reduction in dependence on fossil fuels by -33%, the increase in investments in technological innovation to 36% by 2022, the increase in green spaces to 87%, and the reduction in carbon emissions to -33% indicate significant environmental progress.
5. The gap between Malaysia and Singapore in terms of

sustainable financing shows that in terms of green sukuks and bonds, Singapore outperforms in terms of financing volume ($700 million compared to $500 million in Malaysia) and growth rate (0.70 compared to 0.27). Regarding investments in water technologies and the green economy, Singapore focuses on water and waste technologies with a growth rate of 0.88, compared to Malaysia's limited focus on SMEs with a growth rate of 0.25. In sustainable transportation, Singapore's financing ($600 million) and growth rate (0.75) outperform Malaysia ($300 million, growth 0.22).

6. The gap between Malaysia and Singapore in terms of sustainable development shows that, in terms of social development, Malaysia has made progress in clean water and education, while Singapore focuses on housing and healthcare. In terms of economic development, Singapore excels in technological innovation and reducing reliance on fossil fuels, while Malaysia has focused on solar energy and reducing unemployment. In environmental development, Singapore leads in increasing green spaces and reducing emissions compared to Malaysia.
7. The results support the acceptance of the first hypothesis, as sustainable financing has proven effective in promoting sustainable development in Malaysia. The results reflect significant progress in sustainable financing and development in Singapore, supporting the acceptance of the second hypothesis. As for the gap hypothesis, Singapore has shown significant progress in both sustainable financing and development, thus we accept the third hypothesis.
8. The results showed a significant causal relationship between sustainable financing and sustainable development in both Malaysia and Singapore, leading to the acceptance of the fourth and fifth hypotheses.

2. Recommendations: Based on the conclusions, the following recommendations are presented

1. Sustainable financing diversity should be enhanced by focusing on more investments in sectors such as water and waste technologies, in addition to strengthening public-private partnerships to increase the growth of financing in sustainable transportation projects and renewable energy.
2. Efforts should be made to boost investments in technological innovation to accelerate the transition to a green economy, alongside the development of projects that would increase protected forests and reduce carbon emissions, contributing to achieving environmental and economic sustainability.
3. It is essential to enhance support for technological innovation projects to meet the needs of sustainable growth, while continuing to focus on water and waste technologies to expand the scope of sustainable development in cities and achieve further diversification in sustainable transportation.
4. There should be a focus on expanding technological innovation and improving healthcare and educational services to achieve inclusive development, alongside continuous efforts to enhance green spaces and reduce reliance on fossil fuels to increase positive environmental impact.
5. Malaysia and Singapore should exchange best practices in financing sustainable transportation projects and green technologies to increase effectiveness, while enhancing investments in water and waste technologies to strengthen competitiveness at the international level.
6. Malaysia needs innovative strategies to reduce dependence on fossil fuels and enhance investments in technological innovation to increase competitiveness in global markets, while Singapore should expand the scope of renewable energy projects.
7. Both Malaysia and Singapore should strengthen cooperation between governments and private companies to achieve sustainable growth in sustainable financing and development, supporting the achievement of long-term sustainability goals.
8. Policies that encourage sustainable investment using innovative financing tools, such as green bonds and sukuk, should be developed, along with improvements in infrastructure to accelerate sustainable growth in key sectors.

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