



Innovation and breakthroughs in the natural resources and environment sector for sustainable development in Vietnam

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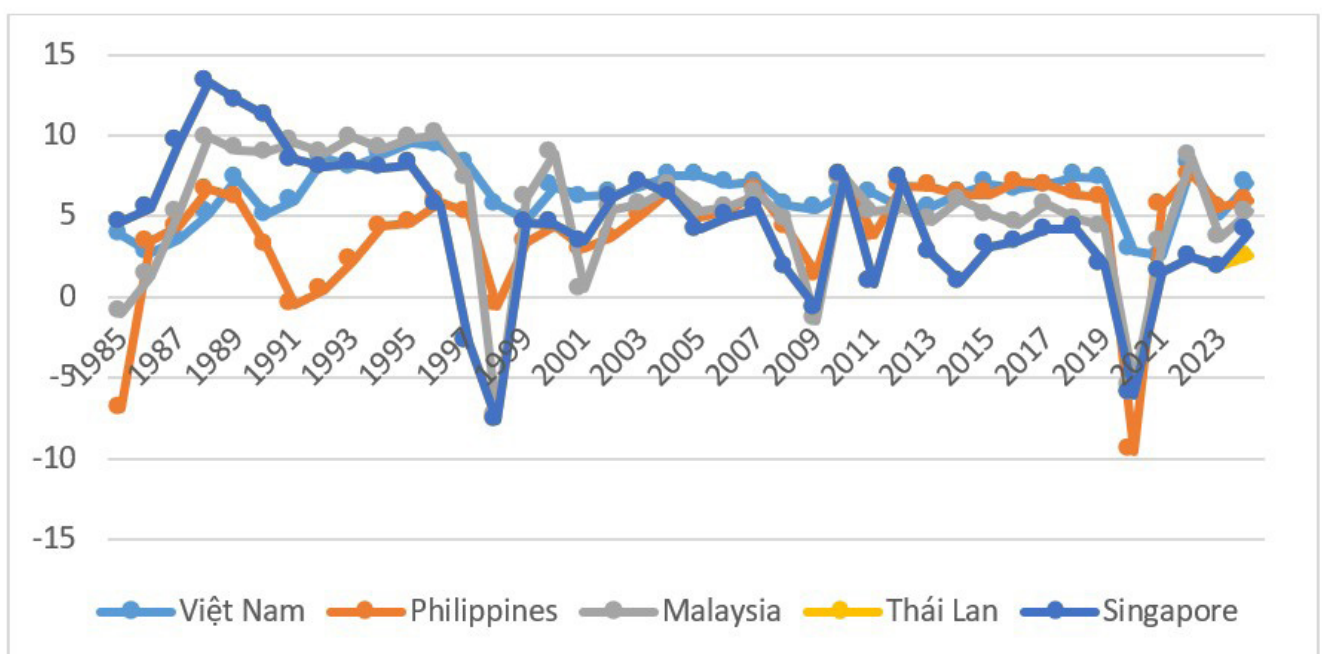
1. ECONOMIC INNOVATION AND VIETNAM'S GROWTH AND DEVELOPMENT OVER 40 YEARS

Over the past 40 years, Vietnam has maintained an impressive GDP growth rate, averaging 6.37% per year, the highest in ASEAN compared to the Philippines (4.17%), Malaysia (5.34%), Thailand (4.48%), and Singapore (4.51%). This achievement reflects Vietnam's stability and adaptability, especially in the face of regional fluctuations. From 1985-1990, the Doi Moi (Renovation) policy helped Vietnam's GDP grow from 3.81% (1985) to 7.36% (1989) due to extensive economic reforms. Meanwhile, the Philippines faced a recession (-6.86% in 1985), while Thailand and Malaysia experienced high but unstable growth rates. From 1990-1997, Vietnam experienced rapid growth, peaking at 9.54% (1995) thanks to economic integration and investment attraction. The 1997 Asian financial crisis led to negative growth in Thailand and Malaysia, but Vietnam sustained a growth rate of 5-8% due to its relative isolation from international financial markets. From 2000-2008, Vietnam's economy boomed, achieving 6-7.5% growth after joining the WTO (2007), while ASEAN economies stabilized at lower growth rates. Despite the global financial crisis (2008), Vietnam still managed to grow at 5.66% in 2008.

From 2009-2019, Vietnam solidified its position with a growth rate of 5.4-7.5%, outperforming Thailand and Malaysia, while Singapore grew at a slower rate (2-4%). During 2020-2024, the COVID-19 pandemic posed a major challenge, but Vietnam maintained positive growth at 2.86% (2020), far exceeding the Philippines (-9.52%), Malaysia (-5.46%), and Thailand (-6.05%), demonstrating strong economic resilience.

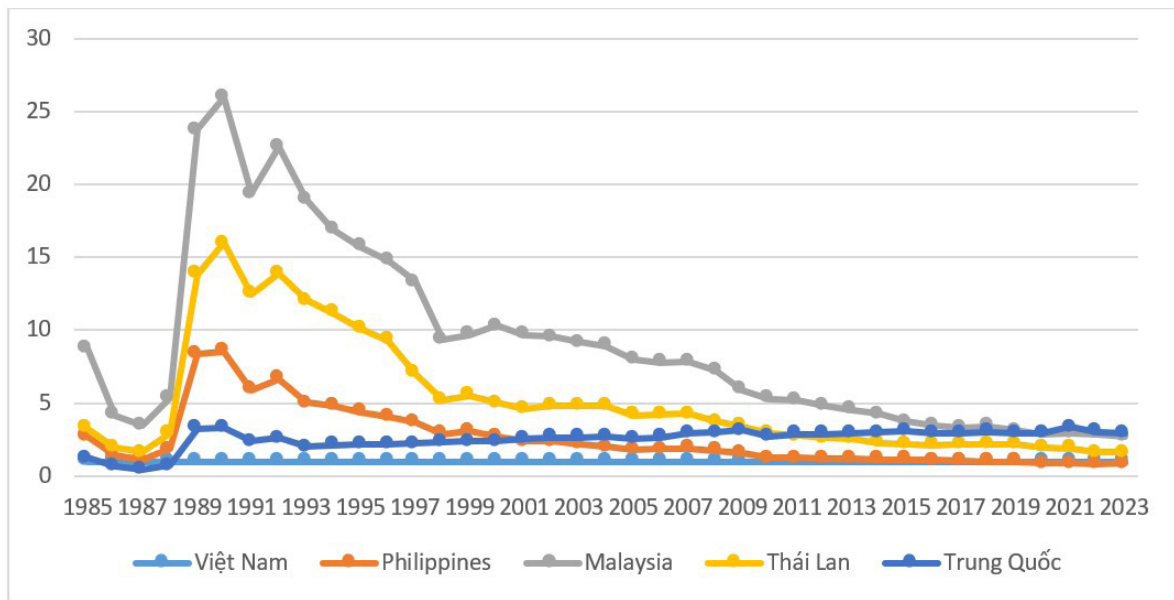
Vietnam has made strong changes but still has a large gap with other countries in the region. In 1985, Vietnam's GDP per capita was only 235.65 USD, much lower than that of the Philippines (637.83 USD), Malaysia (2,065.09 USD), Thailand (768.87 USD), and Singapore (7,001.77 USD). Since 1986, Vietnam has implemented Doi Moi, shifting from a planned economy to a socialist-oriented market economy, helping GDP per capita increase from 430.19 USD (1986) to 585.30 USD (1987). Since 2000, economic growth has been stronger, with GDP per capita increasing

GDP growth rate of Vietnam and other countries



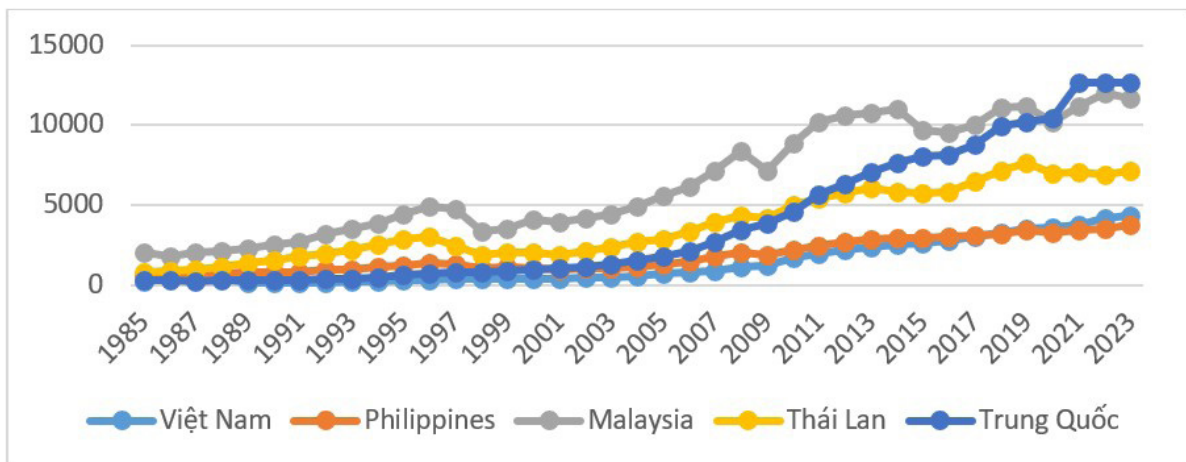
(Source: World Bank)

Vietnam's GDP per capita gap compared to other countries



Source: World Bank

Vietnam's GDP per capita compared to other countries (USD)



(Source: World Bank)

from 394.58 USD to 1,684.01 USD (2010), contributing to poverty reduction and improving living standards. During the 2011-2024 period, this figure continued to increase, reaching 4,346.77 USD (2023) and is expected to reach 4,649 USD (2024). However, Vietnam is still far behind the Philippines (3,725.55 USD), Malaysia (11,648.67 USD), Thailand (7,171.81 USD), and Singapore (84,734.26 USD) in 2023. Major challenges include low labor productivity, poor infrastructure, dependence on traditional industries, and environmental issues, climate change, and resource management, which hinder sustainable development.

Over the past 40 years, Vietnam has emerged as one of the fastest growing economies in Southeast Asia, affirming its international position. Transforming from a planned economy to a socialist-oriented market economy, Vietnam has achieved many remarkable achievements,

with GDP increasing from 14.1 billion USD (1985) to 429.7 billion USD (2023), expected to reach 468.49 billion USD (2024). After Doi Moi in 1986, the economy has flourished thanks to extensive reforms, especially in the 2001-2020 period with high growth rates thanks to international integration, industrialization, and investment attraction. By 2023, Vietnam will surpass Malaysia (399.6 billion USD), catch up with the Philippines (437.1 billion USD), and narrow the gap with Thailand (514.9 billion USD) and Singapore (501.4 billion USD). To maintain growth momentum, Vietnam needs to invest in infrastructure, improve labor productivity, and respond to climate change, aiming to become a developed country and consolidate its position in the region.



2. SOLUTIONS TO MOBILIZE ENVIRONMENTAL RESOURCES SO THAT VIETNAM CAN ACHIEVE BREAKTHROUGH GROWTH IN THE COMING TIME

Since the 12th Party Congress, Vietnam has focused on institutional reform, infrastructure development, and human resource development to improve growth quality, ensure stability, and achieve sustainable development. Despite numerous achievements, Vietnam's economy still depends on investment capital and low-cost labor, while labor productivity and technological innovation are limited. Environmental challenges, climate change, and regional competition, especially from the Philippines, require Vietnam to quickly improve. Leveraging its 40-year foundation, Vietnam has the potential to maintain high growth through technology investment and building a more sustainable and competitive economy.

First, Vietnam should refine its legal framework and strengthen coordination between authorities at all levels and private investors in urban development planning along key transport routes such as expressways, high-speed trains and subways. This approach will help reduce dependence on private vehicles and form sustainable economic and urban corridors. These areas should be planned with business centers, high-density residential areas, green spaces and close public transport connections, to balance urban and rural development and reduce traffic and population pressure in large cities. The development strategy based on the TOD (Transit-Oriented Development) model emphasizes planning high-density, multi-functional, pedestrian-friendly urban areas around public transport routes. This is a solution to reduce traffic pressure while promoting sustainable economic, social and environmental growth. Auctioning development rights, reclaiming adjacent land, and planning according to the TOD model will optimize land resources and create transparent and effective financial resources from the added value of transport infrastructure. The auction process needs to be conducted publicly and fairly, with a clear commitment from investors to sustainable development and ensuring community benefits, while encouraging the private sector to participate in the urban development process.

Second, Vietnam needs to focus on training high-quality human resources and increase investment in research and development (R&D) in the field of semiconductor technology and rare earth elements. With the world's second largest rare earth elements reserves, Vietnam has the potential to become an important supply center in the global value chain, especially when rare earth elements is an essential component in the production of semiconductor components, permanent magnets and modern electronic devices. To effectively exploit this advantage, Vietnam needs to develop investment incentive policies to attract domestic and foreign enterprises to participate in the exploitation and

processing of rare earth elements, while strictly controlling these activities to ensure transparency, environmental protection and the interests of local communities. Developing rare earth elements to participate in the semiconductor value chain not only enhances Vietnam's position in the global high-tech industry but also requires the construction of a complete industrial ecosystem. This includes the exploitation of rare earth elements, refined processing and the production of high-tech products. Investment in modern processing technology is key to increasing the value of resources instead of just exporting them in their primary form, while processing plants need to comply with high technical standards to minimize negative impacts on the environment. In addition, Vietnam needs to promote strategic cooperation with countries with developed semiconductor industries such as Japan, South Korea and the United States to transfer technology, expand markets and ensure stable output for rare earth products. However, Vietnam is facing many challenges in attracting investment, especially in the context of other countries implementing attractive support packages and the application of the Global Minimum Tax (GMT) mechanism. The GMT requires multinational enterprises to pay a minimum tax rate of 15%, reducing the effectiveness of traditional tax incentives. While the US, Poland, South Korea, and Indonesia have attracted large corporations such as Intel and LG Chem with huge financial support packages, Vietnam has failed to meet the requirements of similar investment projects. Intel, which considered a \$3.3 billion project in Vietnam, chose Poland thanks to a \$1.9 billion support package from the EU, while LG Chem decided to invest in Indonesia because Vietnam did not meet its desired 30% support cost. This highlights the need to improve Vietnam's investment policy to compete more effectively in the international market.

Third, developing special economic zones such as Phu Quoc, Van Don and Van Phong following the model of Singapore, Hong Kong and Shenzhen is a potential strategy to turn Vietnam into an economic, financial and technological center of the region. The development model of Singapore, Hong Kong and Shenzhen offers many valuable lessons. Singapore has



become a leading center of trade, finance and technology thanks to transparent policies, modern infrastructure and an attractive investment environment. Hong Kong has developed thanks to its strong legal system and preferential tax policies, while Shenzhen has risen from a small fishing village to a modern technology and manufacturing center thanks to its open-door policy and investment attraction. Phu Quoc, with its strategic location and tourism potential, can become an international financial center like Singapore, if it invests in developing synchronous infrastructure, attracting global financial corporations and establishing flexible tax policies. Van Don, with its convenient transportation system, can develop into a logistics and high-tech manufacturing hub, similar to Shenzhen, by building green industrial parks and encouraging investment in information technology, artificial intelligence and renewable energy. Van Phong, with its leading deep-water port in the region, has the potential to become an international trade and energy industry hub like Hong Kong, if it builds a flexible economic ecosystem that combines seaports, logistics and finance. To achieve success, it needs special preferential tax policies, transparent management mechanisms and a focus on training high-quality human resources. The development of these special zones needs to protect the environment and harmonize the interests of the economy, society and local communities, while improving the quality of life and maintaining indigenous culture. With proper planning and management, Phu Quoc, Van Don, and Van Phong have the potential to become exemplary special economic zones, fostering sustainable development and strengthening national competitiveness.

Fourth, developing regional financial centers in Phu Quoc, Van Don and Van Phong following the model of international financial centers such as Singapore, Hong Kong, Luxembourg and Switzerland can boost Vietnam's economic growth. These countries have succeeded by creating an open financial environment, liberalization policies, and minimizing administrative procedures, helping to attract international businesses and investors. Vietnam can apply preferential tax policies, exempting income tax, sales tax and VAT for businesses in international financial zones. At the same time, building modern infrastructure, especially transportation and information technology, will facilitate financial transactions and attract technology companies, especially in the field of FinTech. In addition, it is necessary to build a transparent legal system, protecting investors' rights to create trust and attract investment capital. If Vietnam applies liberal financial policies, builds modern infrastructure and creates a favorable legal environment, financial centers in Phu Quoc, Van Don and Van Phong will become attractive destinations, enhancing national competitiveness and sustainable development.

Fifth, Vietnam needs to shift from a line-based budget management model to a results-based budget management model, focusing on applying digital transformation and green transformation to optimize the efficiency of public finance use. This new model will improve transparency and efficiency in resource allocation, while ensuring sustainability and alignment with long-term development goals. Applying digital transformation will help allocate the budget based on specific targets, geographical units and indicators related to economic, social and environmental development. This not only optimizes budget allocation but also establishes a flexible and accurate monitoring system, clearly assessing the impact of each expenditure on sustainable development goals. Applying this model will create a mechanism to evaluate the performance of programs and projects, helping to adjust the budget appropriately and develop effective and sustainable financial strategies. In particular, the application of system of environmental economic accounting (SEEA) according to indicators of quantity, quality, circulation and monetary value, combined with location zoning, will help manage resources from "the center of the earth to the end of the atmosphere".

Vietnam needs to make breakthroughs in strategic solutions to promote sustainable growth and enhance national competitiveness, by perfecting the legal framework, building modern transport infrastructure and developing urban areas along key transport routes. These factors will create a solid foundation for economic development. Investing in high-quality human resources, especially in high-tech and research industries, will help Vietnam make the most of the potential from rare earth elements resources and technology industries. Developing special economic zones and regional financial centers following the model of advanced countries such as Singapore and Hong Kong will open up opportunities to attract international investment, promote sustainable development and enhance Vietnam's role in the international arena, not only maintaining high growth but also creating a breakthrough for the economy in the future ■