



# Langkawi's Ecological and Economic Renaissance: A Study of Blue and Green Opportunities

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**Keywords:**

Blue economy,  
Green economy,  
Tourism,  
Sustainable.

**Abstract.**

This article delves into the potential of the blue and green sectors situated in Langkawi Island, Malaysia. With its abundant marine and terrestrial resources, the island needs to strike a balance between its economic growth and environmental preservation imperatives. By leveraging the potential of green and blue sectors such as tourism, fisheries, renewable energy, agriculture, and forestry, Langkawi Island can serve as a model for responsible development, all while preserving its innate natural beauty and biodiversity. A survey was conducted involving 104 local respondents at various attraction points across Langkawi Island to assess the progress of these sectors. Overall, the respondents were predominantly in agreement regarding the impacts of development stemming from both the blue and green economies, coupled with the positive spill-over effects witnessed on the island. The descriptive findings indicate that the potential for growth within these blue and green economies is promising, buoyed by anticipation from both governmental and private sectors. As such, it becomes imperative for policymakers to formulate a comprehensive development plan that can adequately bolster the expansion of these sectors. This preparation will be crucial in ensuring the sustainable growth of Langkawi Island's blue and green economies, ultimately fostering a harmonious coexistence between economic progress and environmental conservation.

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**Kata Kunci:**

Ekonomi biru,  
Ekonomi hijau,  
Perlancongan,  
Lestari.

**Abstrak.**

Artikel ini mengulas potensi sektor biru dan hijau yang berlokasi di Pulau Langkawi, Malaysia. Dengan sumber daya laut dan darat yang melimpah, pulau ini perlu menemukan keseimbangan antara pertumbuhan ekonomi dan kebaruan pelestarian lingkungan. Dengan memanfaatkan potensi sektor hijau dan biru seperti pariwisata, perikanan, energi terbarukan, pertanian, dan kebutuhan, Pulau Langkawi dapat menjadi contoh pengembangan yang bertanggung jawab, sekaligus menjaga keindahan alam dan keanekaragaman hayatinya yang asli. Untuk menilai perkembangan sektor-sektor ini, dilakukan survei yang melibatkan 104 responden lokal di berbagai titik atraksi di Pulau Langkawi. Secara keseluruhan, responden sebagian besar sepakat mengenai dampak pembangunan yang berasal dari kedua sektor ekonomi biru dan hijau, serta efek positif yang terlibat di pulau ini. Temuan deskriptif menunjukkan bahwa potensi pertumbuhan dalam sektor ekonomi biru dan hijau ini sangat menjanjikan, didukung oleh antipati dari sektor pemerintah dan swasta. Oleh karena itu, menjadi sangat penting bagi pembuat kebijakan untuk merumuskan rencana pembangunan yang komprehensif yang dapat memadai memperkuat perluasan sektor-sektor ini. Persiapan ini akan menjadi kunci untuk memastikan pertumbuhan berkelanjutan dari ekonomi biru dan hijau Pulau Langkawi, akhirnya mendorong keberadaan harmonis antara kemajuan ekonomi dan pelestarian lingkungan

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## 1. Introduction

Langkawi Island, often referred to as Langkawi, is an archipelago in the Andaman Sea near the north-western coast of Peninsular Malaysia. The island's economy primarily revolves around two key sectors: tourism and trade. Tourism serves as a vital economic driver in Langkawi, influencing various sectors and contributing significantly to the island's prosperity. The hospitality industry, encompassing a range of accommodations, caters to a diverse array of tourists, while iconic landmarks and recreational activities draw visitors seeking both adventure and relaxation. Duty-free shopping and culinary experiences further enhance Langkawi's appeal, stimulating economic activity and creating job opportunities. The island's rich cultural heritage, historical sites, and tourism-related events contribute to its dynamic reputation. Tourism's impact extends beyond direct revenue, fostering infrastructure development, job creation, and the growth of local businesses. Langkawi's status as a duty-free and culturally rich destination positions it as a hub for sustainable economic growth through the tourism sector.

On the other hand, the agriculture sector in Langkawi has undergone significant transformations from the past until now. Historically, agriculture played a crucial role in the island's economy, with rice cultivation, rubber plantations, and fishing being primary activities. However, with the rise of tourism and urbanisation, the emphasis shifted towards other economic sectors. In recent years, there has been renewed interest in promoting sustainable agriculture in Langkawi. Initiatives include organic farming, agro-tourism, and the cultivation of local crops. The government has implemented programs to support farmers and enhance agricultural practices. While the tourism sector remains dominant, the resurgence of interest in agriculture reflects a broader commitment to sustainable development, diversification of the economy, and the preservation of Langkawi's natural resources. The agriculture sector is poised to contribute to the island's economic and environmental sustainability, aligning with global trends in promoting locally sourced and sustainable produce.

The duty-free status has a substantial impact on the economic growth of Langkawi, contributing significantly to the island's development and tourism industry. The duty-free designation means that visitors can purchase goods such as electronics, chocolates, alcohol, and other products at reduced prices compared to mainland Malaysia. This has been a major draw for tourists, encouraging a higher volume of visitor spending on the island. The duty-free status has stimulated economic activity, particularly in the retail sector, as tourists are incentivised to shop for a variety of products. This additional economic influx has led to the creation of jobs, the development of retail infrastructure, and increased revenue for businesses. Langkawi's duty-free status has become a key element of its appeal as a tourist destination and has played a pivotal role in sustaining the island's economic growth.

Despite being one of the most famous tourist attractions in Malaysia, Langkawi Island stands as a remarkable case study in pursuit of sustainable development, particularly in the realms of the blue and green economies. Designated as a UNESCO Global Geopark in 2007 due to its unique geological and ecological features (UNESCO, 2007), Langkawi Island has drawn significant international attention for its potential to harmonise economic growth with environmental conservation. This study embarks on a comprehensive investigation into the prospects of blue and green economic

surges in Langkawi, aiming to contribute to the broader discourse on sustainable development in island communities.

Tourism is a prominent component of the blue sector in Langkawi's economy. While it contributes significantly to the island's income, it also overlaps with the green sector due to the island's emphasis on preserving its natural beauty. Tourists are drawn to Langkawi's lush rainforests and beaches, and the island has taken steps to ensure sustainable tourism practices, balancing economic growth with environmental conservation. The blue economy focuses on the sustainable use of marine resources to foster economic growth while preserving marine ecosystems, and the green economy, which emphasises sustainability within terrestrial ecosystems, represents two pivotal paradigms in contemporary sustainable development (UNEP, 2019). Langkawi, endowed with lush rainforests and pristine coastal areas, is uniquely positioned to leverage both paradigms synergistically. This research seeks to shed light on the potential for integrating blue and green economic principles, elucidating how these approaches can simultaneously drive socioeconomic advancement while safeguarding Langkawi's natural treasures.

In essence, Langkawi's economy represents a blend of blue and green sectors. While tourism and trade contribute to the blue sector due to their economic significance, the island also places a strong emphasis on environmental conservation and sustainable practices, aligning with the green sector's goals. Concerns over Langkawi Island's long-term economic and ecological sustainability have arisen. It has sparked a growing interest among policymakers and stakeholders in balancing economic growth and environmental preservation (Tang et al., 2018). The insights derived from this study will serve as a valuable resource for informing policies, strategies, and practices that align with international sustainable development goals (SDGs) (UN, 2015), particularly within the unique context of Langkawi's delicate ecosystems.

This research employs a multidisciplinary approach, drawing from environmental economics, ecology, tourism studies, and sustainable development to accomplish its objectives. By analysing the latest data and synthesising contemporary literature, this study aims to guide policymakers, researchers, and businesses committed to advancing sustainable development in island communities in accordance with Malaysia's national goals. In subsequent sections, this study will delve into the core components of blue and green economies within Langkawi's context, examining the current state of affairs and offering recommendations to unlock the full potential of these economic surges. Through rigorous research and analysis, this study endeavours to establish a robust foundation for informed decision-making, emphasising the vital importance of responsible resource management and sustainable development in preserving the ecological integrity of Langkawi Island.

## 2. Literature Review

In this section, we delve into the concepts of blue and green economics. Additionally, we elucidate the concepts of tourism and environmental sustainability from a policymaker's standpoint.

### 2.1. *Blue and Green Economies in Island Environments*

The convergence of blue and green economies in island regions is a topic of growing significance (UNEP, 2019). Scholars have highlighted the unique opportunities and challenges associated with sustainable development in such locales (Tang et al., 2018). Langkawi's status as an island makes it an intriguing case for understanding how these paradigms can be efficiently integrated. Langkawi Island's exceptional geological and ecological attributes, recognised by UNESCO (2007), underscore its potential to harness blue and green economic principles. Researchers have emphasised the importance of preserving the island's rich biodiversity while promoting economic growth (UNESCO,

2007). The preservation of Langkawi Island's rich biodiversity is not only essential for the health of its ecosystems but also integral to the sustainable economic development and cultural integrity of the region. Balancing economic growth with environmental conservation is crucial for the long-term well-being of both the island and its inhabitants.

Effective resource management and policy formulation are vital components of achieving sustainable development in Langkawi. Studies often emphasise the role of informed policymaking in addressing ecological and economic concerns (Tang et al., 2018). Informed policymaking ensures that decisions are grounded in scientific understanding, expert knowledge, and a holistic appreciation of the interconnectedness between ecological health and economic well-being. It fosters the development of policies that promote sustainable practices, resilience to environmental challenges, and the long-term flourishing of both ecosystems and economies. It is also essential for navigating the intricate relationship between ecological and economic concerns. Policies grounded in scientific understanding and collaboration can contribute to a sustainable and harmonious balance between environmental conservation and economic development. Exploring the synergies between blue and green economies is a relatively novel but promising avenue. Researchers have highlighted that when these paradigms are integrated effectively, they can yield economic and environmental benefits simultaneously (UNEP, 2019).

## 2.2. *Sustainable Development*

In recent times, the tourism industry has been significantly impacted by the imperative of sustainable development, as noted by various scholars (Sachs, 2015). The popularity of the sustainable development concept stems from its commitment to maintaining a current standard of living while acknowledging the unsustainable use of the global environment practised in the past (Ritchie, Goeldner, & McIntosh, 2003). The late 1980s saw increased awareness of climate change, natural resource depletion, and pollution, leading to the recognition of the concept of sustainable development (Emas, 2015). Emas (2015) emphasised that a fundamental principle underlying sustainable development is the integration of environmental, social, and economic considerations into all decision-making processes. Previous literature has demonstrated that the incorporation of sustainability extends beyond socio-cultural and environmental aspects (Kuhlman & Farrington, 2010).

Numerous scholars have extensively incorporated the concept of sustainability within the realm of tourism (Pan et al., 2018). Various researchers have posited that sustainable tourism development entails improving the quality of life for the local community while catering to the needs of tourists (Mathew & Sreejesh, 2017). The objective of sustainable tourism is to strike a balance between safeguarding the environment, preserving cultural integrity, fostering social justice, and promoting economic benefits, thereby addressing the host population's needs for enhanced living standards in both the short and long term (Higgins-Desbiolles, 2018). Sustaining tourism development necessitates the prolonged preservation of the viability of high-quality natural and human resources. According to Basiago (1998), beyond the primary actor (the local community), three key pillars—economic, social, and environmental impact—play a crucial role in determining tourism sustainability.

Irrespective of the perspective taken, it can be inferred that in sustainable development, emphasising a certain degree of harmony between tourism stakeholders and tourism development would ensure a consistently positive impact on the community's quality of life (Mathew & Sreejesh, 2017). The tourism industry holds the potential to contribute to sustainable development, notably through job creation, with a focus on employment opportunities for women and marginalised groups (Cárdenas et al., 2015). However, while tourism development can bring about positive economic impacts, it also gives rise to various consequences related to environmental and social issues. Marafa (2008) asserted

that a range of recreational and leisure activities makes the environment more susceptible to human-induced impacts.

In the context of small islands, uncontrolled visitation and the overuse of beaches have been identified as factors leading to the degradation of beach conditions and the destruction of flora and fauna, representing negative impacts stemming from uncontrolled tourism development (Hanafiah et al., 2013; Ridderstaat et al., 2016). Consequently, it is imperative for local stakeholders, especially residents, to engage in environmentally responsible behaviour as a measure to preserve natural resources and the environment. Such active participation would facilitate a more balanced approach to tourism development that carefully considers the impact on the quality of life and way of life of the local community (Mathew & Sreejesh, 2017).

### *2.3. Tourism and Environmental Sustainability*

The rapid development of Langkawi as a tourist destination has raised concerns about the ecological sustainability of the island (Tang et al., 2018). This issue is a common theme in island sustainability literature, where researchers often explore the balance between tourism-driven economic growth and environmental preservation (Wan Athmar et al. 2021; Zainal et al. 2020). Tang et al. (2018) have pointed out that policymakers and stakeholders in Langkawi are increasingly grappling with the challenge of striking a balance between economic expansion and ecological conservation. Balancing economic expansion and ecological conservation in Langkawi presents a multifaceted challenge. The island's popularity as a tourist destination creates pressure for economic growth, particularly through tourism, yet uncontrolled development poses threats to its diverse ecosystems. Effective land use planning, sustainable tourism practices, and community engagement are pivotal in maintaining Langkawi's biodiversity while supporting economic activities.

The findings of Hashim & Abd Latif (2015) indicated that the socio-economic well-being of the islanders has been positively influenced by political factors involving government intervention, particularly in the realm of eco-tourism. Through astute navigation of circumstances, adept adaptation to change, and strategic utilisation of the island's landscapes, the local population can consistently secure socio-economic sustenance by forming a thoughtful alliance with the unspoiled environment and the pristine geo-parks that Langkawi has been endowed with. However, to this day, the tension of achieving a balance between economic expansion and ecological conservation is a central theme in studies on sustainable development in island communities. In order to understand and address the complexities of the blue and green economies in Langkawi, a multidisciplinary approach is essential. Field researchers emphasise the need to draw from environmental economics, ecology, and tourism studies (Tang et al., 2018).

Striking a balance necessitates thoughtful consideration of infrastructure development, resource extraction, and climate change resilience. Successful navigation of this challenge requires a collaborative, regulated approach, incorporating technological innovations and emphasising the long-term sustainability of both the economy and the environment. Aligning with international sustainable development goals (UN, 2015) is a crucial consideration in the context of Langkawi's development. Aligning with international sustainable development goals is not only a strategic move for Langkawi's global standing but also a commitment to creating a resilient, inclusive, and sustainable future for the island and its inhabitants. It provides a comprehensive framework that addresses the interconnected challenges of the 21st century and promotes a balanced approach to development. Researchers often stress the importance of integrating local development initiatives with global sustainability targets (UN, 2015). Sustainable tourism development is a critical aspect of Langkawi's growth. Researchers have identified challenges such as infrastructure development, waste management, and community involvement as significant areas that need attention (Tang et al., 2018). While existing literature provides valuable insights, there is a need for further research to comprehensively evaluate

Langkawi's potential in the blue and green economies. Future studies can delve deeper into specific strategies, policies, and practical implementations for sustainable development on the island.

### 3. Methodology

A survey-based approach refers to a research method that involves the collection of data from individuals through the use of surveys or questionnaires. Surveys are structured sets of questions designed to gather information on specific topics, opinions, behaviours, or characteristics of a target population. For this research, a survey-based approach was employed to comprehensively understand the perspectives and attitudes of stakeholders regarding the potential of the blue and green economy in Langkawi Island. The survey comprised a series of questions designed to gauge participants' opinions on various aspects of the blue and green economy, using a scale ranging from "Strongly Disagree" to "Strongly Agree." The form is displayed in Table 1, as attached in the appendix section.

We utilized a Google survey form as well as physical survey forms to gather responses, facilitating a comprehensive data collection process. With a concerted effort, we amassed a significant sample size of 104 participants, ensuring a robust dataset for our analysis. Our participant pool comprised individuals hailing from Langkawi Island itself and local tourists exploring the area. Importantly, all respondents boasted a minimum of tertiary-level education, ensuring a certain level of education and understanding in their responses.

To reach this diverse group of respondents, we strategically deployed our survey questionnaires at various prominent tourist hotspots across Langkawi Island. These locations included but were not limited to Dataran Helang, the Jetty area, and bustling shopping districts, among others. By targeting these key areas, we aimed to capture a wide spectrum of perspectives and insights, enriching the depth and breadth of our research findings. The summary of the methodology is shown in the Table 2.

**Table 1.** Steps for Analysis

Step	Description
Data Collection	All relevant data for the variables of interest were collected.
Data Cleaning	Any errors, inconsistencies, or missing values in the data were checked and addressed appropriately.
Summary Statistics	To understand the data's central tendency and variability, basic descriptive statistics such as mean, median, mode, range, standard deviation, and variance for each variable were calculated.
Visualisation	Visual representations of the data using graphs (e.g., histograms, box plots, scatter plots) to gain insights into the distribution and relationships between variables were created.
Frequency Analysis	The frequency distribution of categorical variables to understand the distribution of different categories was examined.
Interpretation	The descriptive statistics results in the context of the research question or problem being addressed were interpreted.
Reporting	The findings of the descriptive statistics analysis clearly and concisely, often including tables, graphs, and written explanations were presented.

#### 4. Results and Discussion

The survey of this study conducted in Langkawi Island revealed a strong endorsement of initiatives aimed at promoting the Green and Blue Economy. Approximately 88% of the respondents voiced their support for rewarding entrepreneurs actively engaged in fostering this sustainable economic model. Moreover, the findings underscore the prevailing sentiment among the respondents, with 89.4% expressing the belief that transitioning towards the Green and Blue Economy is imperative for the tourism and industrial sectors on Langkawi Island. This alignment of opinion highlights the community's recognition of the need for a shift towards more sustainable practices.

Q1: "I agree that entrepreneurs promoting the Green and Blue Economy should be rewarded in Langkawi Island."

104 responses

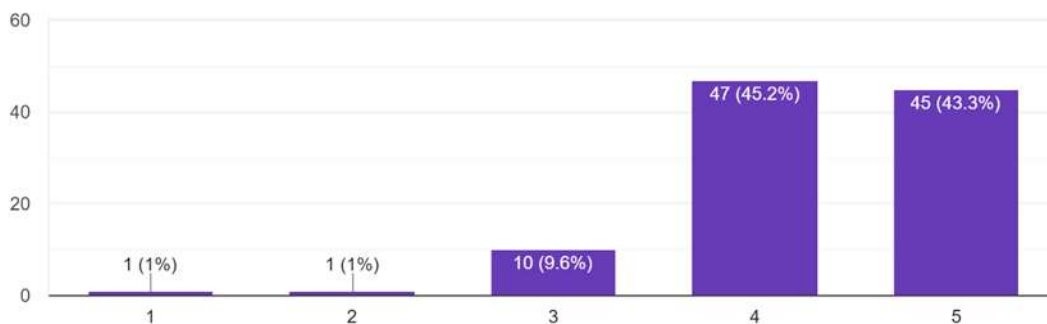


Figure 1. Promotion of Green and Blue Economy

In addition, the study further demonstrated a high degree of confidence in the long-term benefits associated with the development of the Green and Blue Economy, as 96% of the 104 respondents expressed optimism regarding the lasting advantages this transition can bring to Langkawi Island.

Q2: "I believe that the tourism and industrial sectors on Langkawi Island need to transition towards the Green and Blue Economy."

104 responses

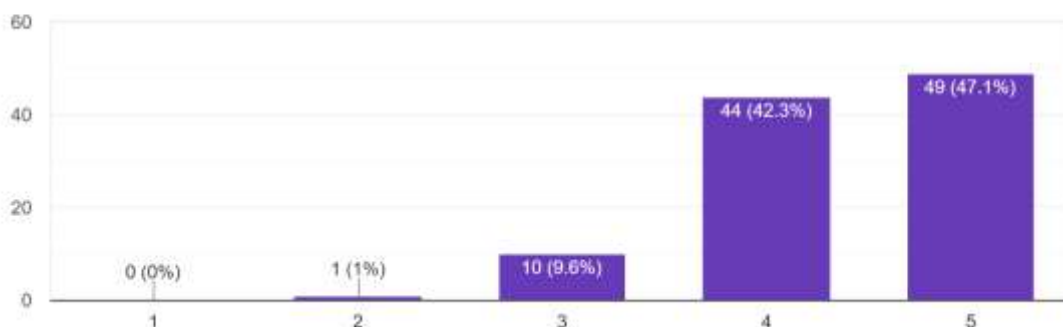


Figure 2. Transition towards Green and Blue Economy

Previous research consistently underscores the pivotal role of community support and consensus in the success of sustainable economic models. Morgera and Savaresi (2013), for example, highlighted the significance of community endorsement in effectively implementing green economic policies

across diverse regions. Likewise, Sumaila et al. (2021) emphasised the crucial role of high confidence levels in the long-term benefits of green and blue initiatives, influencing both investment and policy decisions aligned with sustainability goals. These findings, coupled with the outcomes of the current survey, underscore the enduring importance of community support and shared conviction in the ongoing shift toward a Green and Blue Economy.

Moreover, the survey conducted for this study unveiled distinctive patterns of opinion regarding the short-term and long-term prospects of the Green and Blue Economy, with notable insights into the private sector's role. Regarding short-term benefits, an overwhelming 71.2% of respondents expressed optimism, affirming their belief in the immediate gains associated with the development of the Green and Blue Economy. In contrast, approximately 18.3% adopted a neutral stance, indicating a segment of the population that appears to be withholding judgment, possibly awaiting further developments. Intriguingly, around 10% of respondents voiced disagreement with the anticipated short-term benefits, showcasing a diverse range of perspectives within the community. This diversity of opinions highlights the complexity of community attitudes toward the Green and Blue Economy and suggests the need for nuanced approaches in fostering broader community engagement and understanding.

Q3: "I am confident that there are long-term benefits from the development of the Green and Blue Economy in Langkawi Island."

104 responses

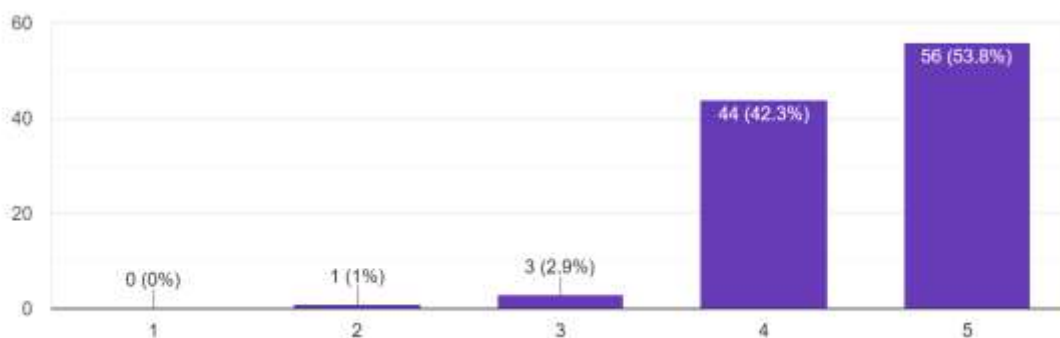


Figure 3. The Long-Term and Short-Term Benefits of Green and Blue

Q4: "I am confident that there are short-term benefits from the development of the Green and Blue Economy in Langkawi Island."

104 responses

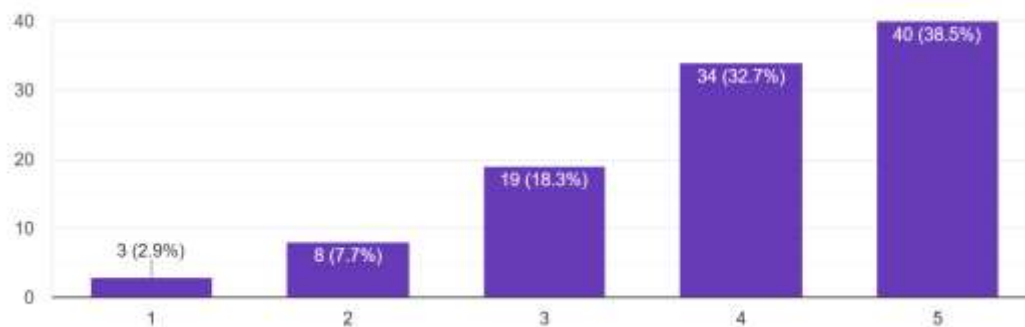


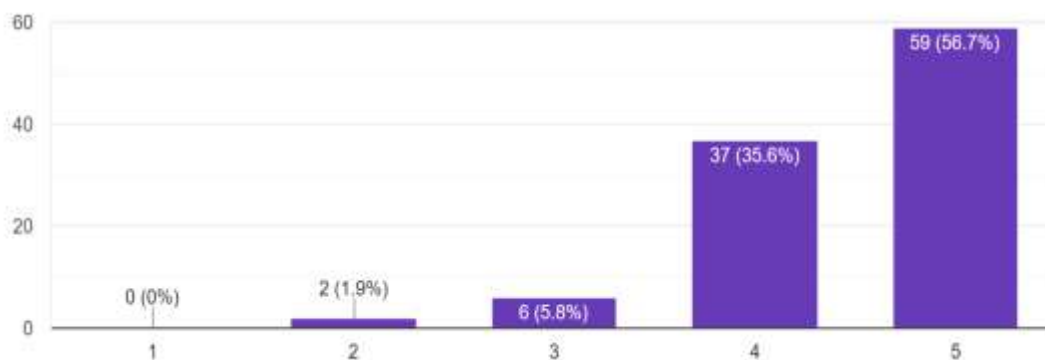
Figure 4. The Long-Term and Short-Term Benefits of Green and Blue



Additionally, the study not only emphasises the significance of community support but also highlights a robust consensus on the crucial role of the private sector in driving the advancement of the Green and Blue Economy. An overwhelming 92.3% of respondents voiced their support for private sector engagement, acknowledging its pivotal role in steering the transition toward sustainability. This resounding endorsement signifies a shared belief within the community that the private sector should play an active and influential role in shaping the future of the sustainable economic landscape. The high percentage of respondents expressing support for private sector involvement suggests a widespread expectation among community members that businesses and industries will actively contribute to and invest in initiatives aligned with the principles of the Green and Blue Economy. This collective stance reflects a strong conviction that collaboration with the private sector is indispensable for achieving meaningful progress in sustainable economic development. Conversely, a minimal 5.8% of respondents adopted a neutral stance, indicating that the vast majority of survey participants lean towards advocating and encouraging private sector engagement in the pursuit of environmentally friendly and economically sustainable practices. This overwhelming endorsement underscores the community's proactive stance and eagerness to forge partnerships with private enterprises as key allies in the shared journey toward a more sustainable and resilient economic future.

Q5: "I agree that the private sector needs to support the development of the Green and Blue Economy in Langkawi Island."

104 responses

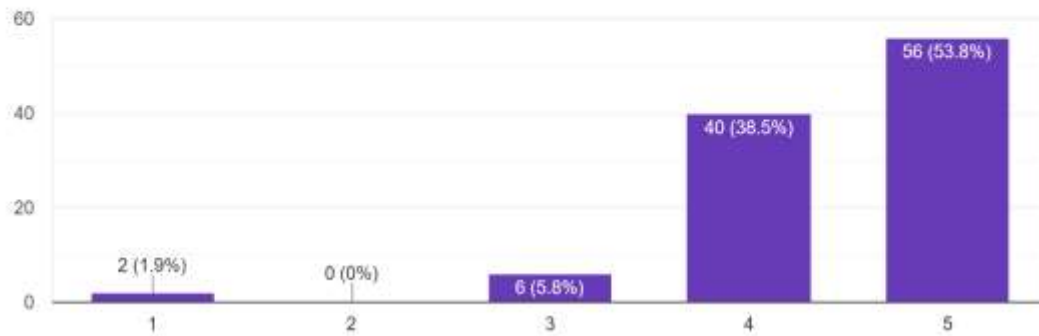


**Figure 5.** The Support from Private Sector

The survey conducted in this study sheds light on the potential metamorphosis of Langkawi Island into a highly attractive investment destination, courtesy of the development of the Green and Blue Economy. An overwhelming 92.3% of respondents demonstrated a strong belief in this transformative potential, illustrating their optimism about the long-term prospects of the initiative. Furthermore, Bourletidis's (2014) study accentuates the significance of private-sector collaborations in cultivating appealing investment environments within the realms of green and blue economic sectors. These scholarly insights provide substantial support for the community's conviction that Langkawi Island has the potential to become a compelling investment destination through the continued development of the Green and Blue Economy.

Q6: "I believe that the development of the Green and Blue Economy can make Langkawi Island a potential investment destination."

104 responses

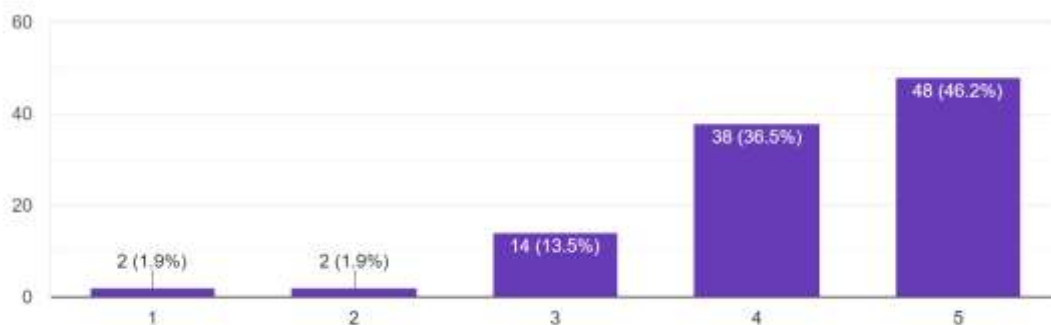


**Figure 6.** Potential Investment Destination

The findings not only highlight the economic potential but also reveal a community deeply engaged with the concept of a Green and Blue Economy and its broader implications. A notable 82.7% of respondents expressed their belief that the development of the Green and Blue Economy holds the power to promote social justice for the local population. This overwhelming sentiment underscores a prevailing belief within the community in the potential for the Green and Blue Economy to contribute to a more equitable and inclusive society. The survey results suggest that community members view the initiative not only as an economic driver but also as a means to address social disparities and foster a more just and inclusive environment for the local population. This multifaceted perspective further solidifies the community's commitment to the principles of sustainability and social responsibility embedded in the Green and Blue Economy framework.

Q7: "I am confident that the development of the Green and Blue Economy can enhance social justice for the local population on Langkawi Island."

104 responses



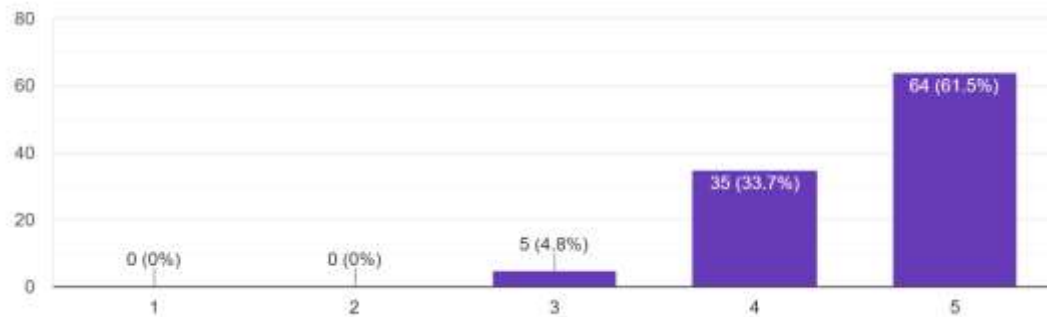
**Figure 7.** Enhancement of Social Justice for Local Population

Furthermore, the survey illuminates the pivotal role that education and public awareness play in the successful implementation of the Green and Blue Economy, as evidenced by a resounding 95.2% of respondents who advocate for the enhancement of knowledge and awareness within the Langkawi Island community. This overwhelming consensus underscores the community's recognition of the transformative potential of informed citizens in driving sustainable economic development. Notably,

a mere 4.8% maintained a neutral stance on the matter, with no dissenting voices, emphasising the widespread agreement on the imperative nature of education and awareness-building initiatives.

Q8: "I agree that education and public awareness about the importance of the Green and Blue Economy need to be enhanced among the community of Langkawi Island."

104 responses

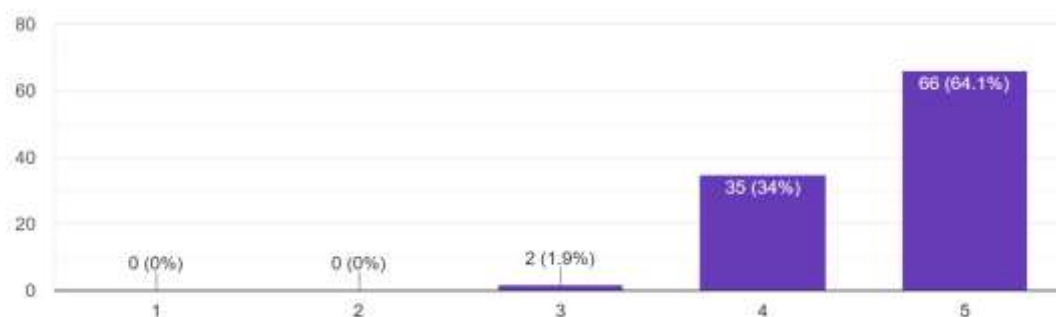


**Figure 8.** The Importance of Education and Public Awareness

The unanimous call for increased education and public awareness extends beyond an acknowledgement to active endorsement, as reflected in the survey's results. A staggering 98 individuals out of the 104 respondents firmly believe in the importance of taking concrete steps to facilitate the advancement of the Green and Blue Economy. This robust agreement underscores the community's proactive stance toward sustainability, demonstrating a collective commitment to not only understanding the principles of the Green and Blue Economy but also actively participating in its promotion. The findings highlight the community's understanding that fostering awareness and taking tangible steps toward sustainable practices are integral components of the successful transition to a Green and Blue Economy. This enthusiastic endorsement of education and proactive engagement reflects the community's eagerness to be active contributors to the ongoing transformation toward a more sustainable and environmentally conscious economic model.

Q9: "I believe that steps need to be taken to promote the Green and Blue Economy on Langkawi Island."

103 responses



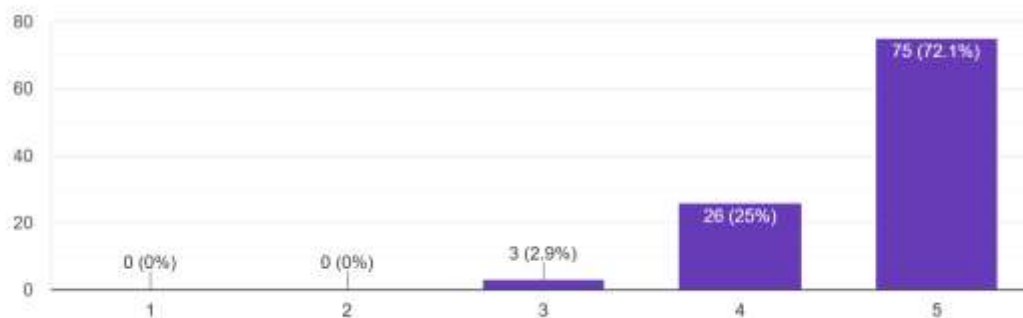
**Figure 9.** The Importance of Education and Public Awareness

Finally, the survey findings emphasize the role of collaboration among various stakeholders in driving the development of the Green and Blue Economy. An impressive 97.1% of respondents express a high level of confidence in the essential nature of cooperation among the government,

private sector, and the local community for the successful establishment of the Green and Blue Economy. This resounding agreement aligns seamlessly with the research conducted by Pitkanen et al. (2016), which underscored the paramount importance of stakeholder collaboration for the triumph of sustainability initiatives. The study's findings further solidify the notion that a synergistic partnership among different entities is crucial for navigating the complexities of implementing and sustaining green economic practices. Furthermore, the significance of stakeholder collaboration in the context of the Green and Blue Economy is echoed in the work of Holden et al. (2016). The research accentuates the potential of sustainable economic models not only to drive environmental sustainability but also to promote social justice and equality. This aligns seamlessly with the survey's findings, which indicate the community's belief in the Green and Blue Economy's capacity to foster social justice in Langkawi Island. The parallel findings between the survey and existing research underscore the interconnectedness of economic, social, and environmental dimensions within the framework of sustainable development. It reinforces the idea that a collaborative approach involving the active participation of the government, private sector, and local community is fundamental for creating a resilient and just economic future for Langkawi Island.

Q10: "I am confident that cooperation between the government, private sector, and local community is essential in developing the Green and Blue Economy on Langkawi Island."

104 responses



**Figure 10.** The Need for Cooperation between Government, Private Sector and Local Community

## 5. Conclusion and Policy Recommendations

This study clearly demonstrates that the development of the green and blue economy in Langkawi Island garners significant support from both the residents and the tourists who visit the island. The growth of these eco-friendly economic sectors not only contributes to increased revenue for the island but also leads to diversification across various industries, resulting in job creation. Furthermore, the expansion of these new sectors is expected to attract more tourists, both local and foreign, generating positive spillover effects for the local communities. In order to catalyse the sustainable development of Langkawi Island, the local state government must allocate augmented funding to the island. This financial commitment is crucial to ensuring not only immediate gains but also long-term benefits for the residents and the environment. Investing in sustainable initiatives, infrastructure, and community development will play a pivotal role in establishing a resilient economic foundation that can withstand the challenges of the future while preserving the island's unique ecological and cultural assets.

Moreover, advocating for the adoption of a holistic and multidisciplinary research approach becomes paramount in steering Langkawi Island towards sustainable development. Future studies should delve into a comprehensive analysis that considers the intricate interplay of economic, social, and environmental factors. This multifaceted research approach will provide a more nuanced understanding of the complex dynamics involved in sustainable development on the island. By examining the intersections and synergies among various elements, researchers can uncover insights that contribute to the formulation of well-informed strategies, policies, and practical implementations.

These research endeavours should not only aim to identify challenges but also focus on proposing actionable recommendations. By doing so, future studies can serve as valuable guides for policymakers, businesses, and community leaders seeking effective ways to promote sustainable practices in Langkawi Island. Recommendations should be tailored to the island's unique context, taking into account its cultural heritage, environmental sensitivity, and economic aspirations. This targeted approach ensures that the proposed strategies are not only effective but also culturally and socially sustainable, aligning with the values and needs of the local community.

In conclusion, the call for increased funding from the local state government and the advocacy for comprehensive research underscores the necessity of a concerted effort to drive sustainable development in Langkawi Island. Through strategic financial investments and informed, multidisciplinary research, the island can chart a course towards a future that harmonises economic growth, social well-being, and environmental conservation.

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## Appendix

**Table 1.** List of Questionnaire

No	Questions	SD	D	N	A	SA
1.	I agree that entrepreneurs promoting the Green and Blue Economy should be rewarded in Langkawi Island.					
2.	I believe that the tourism and industrial sectors on Langkawi Island needs to transition towards the Green and Blue Economy.					
3.	I am confident that there are long-term benefits from the development of the Green and Blue Economy in Langkawi Island.					
4.	I am confident that there are short-term benefits from the development of the Green and Blue Economy in Langkawi Island.					
5.	I agree that the private sector needs to support the development of the Green and Blue Economy in Langkawi Island.					
6.	I believe that the development of the Green and Blue Economy can make Langkawi Island a potential investment destination.					
7.	I am confident that the development of the Green and Blue Economy can enhance social justice for the local residents of Langkawi Island.					
8.	I agree that education and public awareness regarding the importance of the Green and Blue Economy need to be enhanced among the community of Langkawi Island.					
9.	I believe that steps need to be taken to promote the Green and Blue Economy in Langkawi Island.					
10.	I am confident that collaboration between the government, private sector, and local community is essential in developing the Green and Blue Economy in Langkawi Island.					

**Notes :**

SD : Strongly Disagree

D : Disagree

N : Neutral

A : Agree

SA : Strongly Agree