

### A suggested plan to increase the BE's contribution to the Omani economy

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#### Abstract

The Sultanate of Oman boasts a flourishing marine sector because of its advantageous geographic location. A successful exploitation strategy will benefit the economy. Appropriate policies must be put in place within certain timeframes in order to activate the function of B.E. activities and ensure their contribution to economic stability and variety. The research examined the evolution of the Omani economy's B.E. parameters from 1990 to 2022 using a descriptive analytic technique. The most significant of the research's findings, in terms of fishery indicators, is that artisanal fishing contributes more than other forms of fishing, followed by commercial and coastal fishing, while aquaculture accounted for the smallest percentage during the study period. In terms of licenses, the average number of licenses grew throughout the course of the study, indicating the growing significance of B.E. operations in the Omani economy. Because of the Sultanate of Oman's unique geographic position, sea transportation contributes significantly to transportation indicators, followed by land and air transportation. The increasing significance of sea transport as a B.E. industry is further supported by this.

**Keywords:** Strategy, Blue Economy (B.E.), artisanal fishing, aquaculture, licensing, maritime transport.

#### Introduction

The "B.E." is a branch of modern economics that encompasses the many economic sectors that are either directly or indirectly tied to seas, coasts, and oceans, as well as human activities. A strong and diverse body of knowledge is the basis of the B.E., and it is strengthened by instruments that foster innovation. The concept of a "B.E." aims to balance the sustainable economic benefits that the world's oceans and coasts provide with the need to protect their long-term health (CSIRO, 2015, 1).



Generally speaking, the primary elements that make up a B.E. are local raw material sourcing, local employment, the use of low-carbon energy sources, recycling, diversification of food choices and livelihoods, preservation of living and non-living marine resources, and the promotion of small-scale industries (Mohanty, 2017, 2). Seas and inland water resources are being preserved via the B.E., which is becoming more and more popular. The B.E. has the ability to improve social justice and human well-being while reducing environmental risks and resource shortages (Ramli and Waskitho, 2023, 1). Businesses that improve the long-term resilience and health of lakes, rivers, seas, and oceans are encouraged by the B.E.. The B.E. is one comprehensive strategy that promotes social justice and fairness. The B.E. concept recognises that the productivity of healthy freshwater and ocean ecosystems is a pathway to water- and sea-based economies, ensuring that landlocked countries, as well as island and other coastal nations, benefit from their resources (United Nations Economic Commission for Africa, 2018, p. 3). The B.E. aims to promote environmental sustainability, economic growth, and social inclusion within the context of ocean-related endeavours. It emphasises the need of integrating economic development with the protection and sustainable use of marine resources. The B.E. takes into account not just the well-being of coastal communities but also the resilience and long-term health of marine ecosystems. The "decoupling" of social, economic, and development activities from environmental degradation and the increasing benefits that local people get from marine resources is known as the "B.E.," according to the MoEFCC and UNDP (2023, p. 13). Healthy oceans and marine and coastal habitats ensure long-term benefits to society from economic activities like fishing, mineral extraction, transportation, and coastal tourism, as well as from rapidly growing new industries like offshore wind power, ocean energy, and blue biotechnology. Pressures like pollution, excessive resource usage, and the consequences of climate change cause ecosystems to degrade, which ultimately reduces social well-being (Kouvelis, 2021, 16). The marine economy must be developed within the framework of sustainable development in order to achieve a balanced integration between environmental conservation and economic progress (Marwa, 2024, 1). The phrase "blue growth" is an economic strategy intended to develop the marine and maritime sectors in a sustainable manner. Its main tenet is the effective management of ocean resources, and it highlights the potential of the seas and oceans for economic development and innovation (Fosse et al., 2023, 27). To perform the responsibilities associated with the B.E., the organizations and entities associated with the primary sectorial characteristics of the B.E. need to be encouraged and their capacities enhanced (AU-IBAR, 2019, 13). The increased interest in this sector has led to the adoption of certain policies that are critical to the growth of the B.E.. While some policies focus on the global aspect, others tackle the economic aspect, including money, boosting the private sector, improving skills and technology, governing, and providing the necessary data. Significant changes are occurring in how we use and exploit the oceans as well as how we relate to them. Even while the oceans are becoming a more significant source of food, energy, and commerce, we now have a greater understanding of their non-market commodities and services, which are vital to life on Earth. People are also aware that the impacts of humans on the oceans are not limitless and are increasing and often cumulative. Unhealthy and weak seas cannot sustain economic growth (The World Bank Group, 2017). Oman is a small, oil-rich country in the Middle East. The National Program for Enhancing Economic Diversification was launched in 2016 to get ready for the launch of Oman Vision 2040, which positions the economy as one of its four main pillars: governance and institutional performance,



people and society, economy and development, and sustainable environment. All national activities that will advance the achievement of the objectives stated in the vision are built upon this pillar. In this sense, implementing Vision 2040 has become the key to the economy, with the aim of expanding and enhancing the economic and enabling sectors' capacity and efficiency so they can perform their roles. Economic growth will be the primary driver of progress during the next 20 years. This vital industry has been developed in accordance with the latest global trends and plans, with an emphasis on competitiveness and concerted efforts to encourage youth involvement via employment created by initiatives and projects or engaging in entrepreneurship and small and medium-sized enterprises. These development plans will also enable sector regulators to construct follow-up models in accordance with international standards and processes, as well as dashboards and indicators to monitor performance (Implementation Follow-up Unit, Oman Vision 2040, 2020, 8).

Oman's economy has grown significantly over the last several decades, mostly due to its exports of petrol and oil. In order to guarantee economic development and sustainability in the nation, the Omani government has unveiled its revised Vision 2040 (Al-Alawi and Jawarneh, 2023, 432). Oman has a 3,165-kilometer stretch of immaculate coastline that stretches to the Arabian Gulf's entry, the Indian Ocean, the Sea of Oman, and the Arabian Sea. On the peninsula, fishing is one of the oldest occupations and pastimes (World Bank Group and Ministry of Agriculture and Fisheries Wealth, 2015, 7). The Sea of Oman and its shores are home to internationally important biodiversity and highly productive marine ecosystems, in addition to being a site for economic and entrepreneurial growth. Oman is lucky to have a rich and varied maritime environment because of this trait, which improves the marine ecosystem. This promotes internationally important marine biodiversity and productive fisheries (Cefas, 2021, 4). The potential of the fishing industry, which has not yet been fully realized, makes it a promising industry. At the start of the Ninth Development Plan (2016), this sector's proportion of the GDP was less than 0.5%, which is considered relatively small given the Sultanate's prestigious coastline position. Despite this, the Sultanate may attain higher development rates in the fisheries sector due to a number of factors, albeit increasing output necessitates resolving a number of issues. The Ministry of Agriculture and Fisheries created a strategy for the sector's growth from 2013 to 2020 that included these difficulties. Particular difficulties include the present fishing fleet's poor efficiency, especially the tiny size of fishing boats and their unsuitability for erratic sea conditions, which now account for almost 96% of the nation's fish output. The absence of comprehensive infrastructure, such as fishing ports and unloading facilities, is another difficulty. Basic amenities including wholesale and retail marketplaces throughout the Sultanate's governorates are also absent from the present fish marketing system. This is on top of the low caliber of fish that are sold, the high waste rate, and the fishing industry's shortcomings. Additionally, the significance of aquaculture investment projects and the need of building innovative projects to propel sector expansion and encourage private sector investment (Supreme Council for Planning, 2016, pp. 50-51). The majority of Oman's harvest comes from the artisanal fishing sector, which continues to dominate the country's fisheries (Elliott et al., 2021, pp. 8). In the meanwhile, other forms of transportation are subordinated to sea transportation.

### **1. Literature Review**

#### **1.1. The Concept and Importance of Strategy**

##### **1.1.1. The Concept of Strategy**

Strategy encompasses the art and science of formulating, executing, and assessing cross-functional choices that facilitate an organization in attaining its goals (David, 2011, 6).

Determining how to succeed in the future is another definition of it. The long-term course and extent of an organization's activities are determined by its strategy. It should establish the organization's distinctive position and communication, how resources are distributed to satisfy market and stakeholder demands, and how organizational resources, competences, and abilities are combined to provide a competitive edge (Bukhari, 2019, 1).

Plans, which are the product of a very thorough planning process, often formalize strategies, which are composed of three steps: formulation, execution, and adaptation. In a similar vein, these plans specify, organize, and coordinate intermediate (or operational) goals, strategic goals, higher-level choices, and key objectives (Carvalho et al., 2021, 525).

Strategies are characterized by their adaptability, flexibility, incrementally, and so on. It's important to distinguish between strategies and tactics. It would seem more acceptable to think of the former as a long-term idea since it deals with decision-making over major issues, as opposed to the latter which may be thought of as short-term (Carvalho et al., 2021, 530).

A roadmap that outlines future directions is called strategic planning. Forecasts are part of it. It is a well-planned series of activities that assist a business in structuring its current operations according to the goals of the desired future. When creating a complete plan that incorporates both long-term and strategic features, an organization needs a strategic plan. The strategic plan has to be straightforward, unambiguous, and well-defined, and it should be grounded in the current circumstances (Anastasiia, 2021, 75).

### **1-1-2 the Importance of Strategy**

Since there will always be a changing component to strategy, the need for market success makes planning essential. Organizations must foresee and plan for the future at every level in order to take full use of the possibilities that are now accessible (Bukhari, 2019 1).

As long as companies use suitable and successful organizational strategies, strategy is crucial to their profitability (Esmaeili, 2015, 122). Financial and non-financial advantages are the two primary components of this. Since good strategic management may help an organization accomplish its goals, every increase in sales, profitability, and productivity has a financial advantage. Additionally, there are non-monetary advantages that may be described as follows (Anastasiia, 2021, 76-77):

- Greater staff productivity and heightened awareness of strategic risks from rivals in the immediate surroundings.
- Assisting in avoiding opposition to change and investigating further options.
- A greater capacity to prevent issues by enhancing communication across different sectors.
- Establishing discipline and order.
- Creating a structure for organizing and keeping track of activities.
- Enhancing intersect oral communication and cooperation.
- Gaining the ability to think strategically about every aspect of the economy.

It facilitates the development and use of strategies targeted at accomplishing the organization's aims, the application of the required tactics to accomplish them, according to Alharbi (2024:3). Finding and outlining tactics that might be used to get a competitive edge and increased productivity is its main goal.

### **1-2- The Theoretical Framework of the B.E.**



### 1-2-1- The Concept of the B.E.

B.E. has no universally accepted meaning. When used narrowly, the phrase it refers to a collection of industries associated with seas, coastlines, and oceans (Martens et al., 2022, 238). This explicitly encompasses human activities that are directly or indirectly associated with the sea. The United Nations' concept of the green economy provided the framework for this system. (Gouvello and Simard, 2024, 5). It expands the focus formerly given to terrestrial ecosystems to marine and navigational areas, building on dominant policy discourses that advance environmental concerns in the context of their economic potential (PENCA, 2019, 70). The sustainable use of ocean resources to promote economic growth, improve lives and job prospects, and protect ocean ecosystems and health is referred to as the Blue Economy, according to the World Bank. It seeks to move beyond routine and create a balance between ocean health and economic growth (Romano et al., 2023, 2). The B.E. refers to the aggregation of economically and socially responsible commercial enterprises, products, services, and investments that depend on and impact marine and coastal resources (Huang and Morgan, 2022, p. 1).

The B.E. sees economic growth and ocean health as complementary ideas, going beyond the status quo. This is a result of the realization that alterations in ocean ecosystems brought about by humans cannot be sustained, much less accelerated. The B.E. minimizes or drastically cuts down on environmental hazards and harm brought on by economic activity. Consequently, the long-term capacity of ocean ecosystems to support such activities while maintaining resilience and health is harmonized with economic endeavors. Consequently, it is a long-term strategy designed to enhance human well-being, social equity, and environmental conservation, while simultaneously fostering sustainable economic growth through ocean-related sectors and activities (World Bank and United Nations Department of Economic and Social Affairs, 2017, p. 5). The B.E. concerns sustainability against unsustainability, rather than the dichotomy of old vs. new temporally (Spalding, 2016, p. 6). Development concepts surpass environmental and planetary limitations since the B.E. framework is grounded in several disciplines, including geo-economics, politics, economics, and sociocultural studies. Moreover, notable occurrences have instigated an intensified need to re-examine the environmental and economic landscape and to reconsider the worldwide marine/bio economic connection (Lee et al., 2020, 2).

### 1-2-2 the Origins and Evolution of the B.E.

The 1970s saw a renewed awareness of the damage being done to marine and coastal settings, first indicators of overfishing, considerable marine pollution, and the degree of terrestrial pollution impacting marine and coastal ecosystems. This led to the need for a new approach to maritime activities (Gouvello and Simard, 2024, 6). With roots in the broader sustainable development agenda, the B.E. concept is a crucial path to achieving social development, economic growth, and environmental sustainability (Youssef, 2023, 13).

The concept of blue growth via sustainable development originated from many academic conferences, the first one being during the 1972 United Nations Conference in Stockholm (Mumtaz and Smith, 2022, 74). The foundation for the future B.E... These island countries' economies rely heavily on marine and coastal resources, which are significantly more important than their land-based economies. Additionally, the increased susceptibility of island states to climate change on an economic, environmental, and social level has shown that a catastrophic event is likely to occur for this group of countries. The 1992 Rio de Janeiro, Brazil, United Nations Conference on Environment

and Development resulted in the establishment of Agenda 21, a comprehensive plan of action for sustainable development that acknowledged the role those seas, coastlines, and oceans play in advancing sustainable development. The conference, which concentrated on the economic aspect of sustainable development (Mumtaz and Smith, 2022, 74).

The evolution from the B.E. to the sustainable B.E., between 2012 and 2020, has gradually had major implications for how the B.E. is understood (Gouvello and Simard, 2024, 16).

1.2.2.1 Broadening the parameters of the sustainable B.E. to include both market and non-market economic sectors, as well as governance and strategic methodologies, complemented by a suite of legal and regulatory frameworks, to facilitate the execution of a more holistic sustainable B.E. The objective is to transcend a purely fundamental economic perspective.

1.2.2.2 Incorporating actions pertaining to the conservation, restoration, and rehabilitation of marine and coastal ecosystems within the framework of sustainable B.E., alongside ecosystem services, including environmental functions such as blue carbon sequestration.

1.2.2.3 Mandating that all activities associated with sustainable B.E. must meet the sustainability criteria established for each respective sustainable B.E. sector. All activities, even essential industries like oil and mining, may remain integral to a sustainable business ecosystem, contingent upon the reduction, minimization, or offsetting of their effects. The precautionary principle elicits apprehensions among several organizations when certain operations, such as deep-sea mining, are deemed essential.

1.2.2.4 Adherence to the United Nations Sustainable Development Goals framework (2015), with a specific emphasis on SDG 14.

The B.E. has lately emerged as a fundamental approach for sustainable development. The European Union has developed a blue growth plan that advocates for the sustainable use of marine resources. In contrast, the African Union has initiated a B.E. policy designed to foster sustainable economic growth, enhance food security, and generate employment by developing marine resources (Youssef, 2023, 13).

### 1.3 Dimensions of the B.E.

The B.E. relies on a robust and varied knowledge foundation, augmented by resources that foster and sustain innovation (World Bank and United Nations Department of Economic and Social Affairs, 2017, 7). The principles and scope of the B.E. are associated with its definition and selected goals, including a progressive degree of sustainability criteria. The concepts delineated establish the parameters of the B.E. and its application across many settings. The sequence of these principles mirrors the prioritisation of a certain B.E. purpose, akin to the arrangement of terms in the definition (Gouvello and Simard, 2024, 12-13). Every dimension encompasses concepts and methods designed to guarantee the sustainable use of ocean resources for the benefit of present and future generations (Youssef, 2023, 13).

#### 1-3-1 - The Economic Dimension

The principal components that characterize the unique attributes of the B.E. include local procurement of raw materials, utilization of local labour, adoption of low-carbon energy sources, waste recycling, diversification of food and livelihood alternatives, preservation of livelihoods and non-living marine resources, and the advancement of small-scale industries (Mohanty et al., 2017, p. 2). The B.E. fosters economic endeavors that enhance the long-term vitality and robustness of oceans, seas, lakes, and rivers. Relevant data and scientific evidence should influence policy and

decision-making, while important stakeholders must be involved in the development and protection of B.E. resources. This enhances social and environmental obligations. Understanding and recognition of the significance of both market and non-market products and services in the B.E. sector may also be cultivated. Foreign finance facilitates the advancement of inclusive economic activities that enhance the vitality of B.E. resources, bolster the rise of B.E. SMEs, and provide markets for B.E.-related sectors marked by growth and innovation (Jacob and Umoh, 2022, p. 31).

### 1.3.2 - The Societal Aspect

The B.E. may be inclusive, egalitarian, and foster social equality. The economic model presented in the B.E. may address the objections and deficiencies of the existing neoclassical model. These are the principles delineated for a sustainable B.E. (Gouvello and Simard, 2024, p. 22).

### 1.3.3 - The Environmental Dimension

The environmental aspect of the B.E. pertains to safeguarding the health and integrity of marine ecosystems. This dimension includes several environmental concerns, including biodiversity protection, climate change mitigation and adaptation, pollution avoidance, and ecosystem-based management. This dimension's principles emphasize the need of safeguarding the environmental sustainability of ocean resources from commercial activity (Youssef, 2023, p. 13). A discernible trend exists towards a sustainable blue economy that depends on the vitality of marine and coastal ecosystems (Gouvello & Simard, 2024, p. 13).

### 1.3.4 - The Technological Dimension

The technical aspect of the B.E. pertains to the development and use of novel technology to facilitate sustainable economic endeavors in the ocean. This dimension encompasses several technological domains, including maritime robotics, sensors, artificial intelligence, renewable energy technologies, and biotechnology. This pillar emphasizes the cultivation of innovation, the facilitation of technology transfer and dissemination, and the advocacy for the responsible and sustainable use of emerging technologies (Youssef, 2023, pp. 13-14).

### 1.3.5 - The Cultural Dimension

The cultural aspect of the B.E. pertains to the acknowledgement and safeguarding of cultural heritage and traditional knowledge of maritime resources. This dimension encompasses several creative activities, including fishing, sailing, storytelling, and cultural tourism. This component emphasises the respect and appreciation of cultural diversity, acknowledges the cultural aspects of ocean resources, and fosters cultural interchange and collaboration (Youssef, 2023, pp. 14).

### 1.3.6 - The Governance Dimension

The governance aspect of the B.E. pertains to the establishment of efficient governance systems that facilitate the sustainable management of ocean resources. This dimension encompasses several governance challenges, including institutional structures, policy coordination, and stakeholder involvement. This dimension's principles emphasize the establishment of open, inclusive, and accountable governance structures that foster the sustainable use of ocean resources (Youssef, 2023, 14). The current governance framework, including many legislative and regulatory mechanisms, must be both "top-down" and "bottom-up," participative, and inclusive (Gouvello and Simard, 2024, 23).

### 1.3.7 - The International Dimension

It is international, signifying its applicability to governments, non-governmental entities, financial sectors, aid organisations, and NGOs across all oceans, seas, or coastlines, as well as to any stakeholder engaged in ocean economic development (Jacob and Umoh, 2022, 31).

### **1.4 Challenges of the B.E.**

While the B.E. offers many opportunities, it also poses many challenges. Some of the main challenges include:

#### **1.4.1 The Economic Challenge**

Exclusive economic zones, regions where a state has sovereign rights to explore and exploit marine resources, may result in inequitable commerce (World Bank and United Nations Department of Economic and Social Affairs, 2017, 11).

Funding for B.E. projects may be constrained, particularly for small and medium-sized firms. This may impede the development of new enterprises and creative initiatives (Youssef, 2023, 16).

#### **1.4.2 Environmental Degradation**

The B.E. methodology has particular obstacles. One of these problems is to contest the perception of the oceans as "boundless"—a domain for unregulated resource exploitation, a repository for trash, and an area devoid of legal constraints, where the detrimental impacts on marine ecosystems remain unmeasured and unacknowledged (UNEP, 2015, 8-9). Sustainable economic development necessitates evaluating the environmental impact of the B.E... The ecological footprint of human activities might indicate the environmental consequences linked to the B.E. (Ahammed et al., 2024, 10).

The overexploitation of marine resources, pollution, climate change, and other environmental variables may result in the deterioration of ocean ecosystems and the decline of biodiversity. This may adversely affect the long-term sustainability of the B.E. (Youssef, 2023, 15). Global warming, oceanic pollution, reckless marine resource exploitation, and coastal habitat deterioration are concerns that need attention. Human activities and environmental deterioration are compromising maritime ecosystems, limiting the capacity of the B.E. (Jacob and Umoh, 2022, 32).

#### **1-4-3 Lack of Regulation and Governance**

The control and administration of ocean resources is sometimes complex and disjointed, characterised by overlapping authorities and inadequate enforcement mechanisms. This may generate uncertainties and hazards for businesses operating in the B.E. (Youssef, 2023, 15).

#### **1.4.4 Limited Infrastructure**

The advancement of infrastructure, including ports, harbours, and coastal amenities, is often crucial for the expansion of the B.E.. The absence of sufficient infrastructure might be a considerable impediment to the development of some industries (Youssef, 2023, 16).

#### **1.4.5 Limited Human Capacity**

An effective education and training framework to support marine knowledge and skills is lacking in a sector that demands highly trained labor. This is evident in the inadequate long-term capacities (people skills and technology) to harness the energy and natural resources in the B.E. (Jacob and Umoh, 2022, 32). Certain educational systems fail to provide individuals with the requisite knowledge and abilities for highly skilled technical roles in the B.E. Adolescents often lack awareness of the extensive array of job prospects within coastal and oceanic businesses. The demanding business landscape is a factor inhibiting innovation and entrepreneurship (Frederick and Elliott, 2018, 12). The absence of cohesive electronic systems, together with the sluggish integration of



technology in shipping and marine transport, further exacerbates the issue (Jacob and Umoh, 2022, 32).

### **1-4-6- Limited Market Access**

Market access may be restricted, particularly for small and medium-sized firms (SMEs) in developing nations. This may restrict their capacity to compete and expand in the global business environment (Youssef, 2023, 16).

## **1.5 Policies to Stimulate the B.E.**

### **1.5.1 Economic Policies**

Investment in the development of technology, procedures, laws, and policies for the B.E. is essential among the array of policy initiatives. Several small island developing governments have created distinct ministries for the blue economy and developed different strategies to advance the blue economy inside their nations. Countries, irrespective of their developmental status, including advanced economies, acknowledge the benefits of prioritizing marine resources to enhance economic activity and generate employment, particularly in a world confronting the challenges of climate change, resource depletion, lethal diseases, and natural disasters. In addition to economic factors, nations that adopt the B.E. as a developmental framework inherently recognize the significance of resource sustainability and other environmental and ecological sustainability standards. The B.E. demonstrates significant confidence over the attainment of the Sustainable Development Goals (Mohanty et al., 2017, 7). Innovative finance to channel investments into economic activity may improve ocean health. Numerous governmental and private economic initiatives aimed at restoring ocean health entail elevated initial expenditures and provide diminished immediate returns for investors (World Bank and United Nations Department of Economic and Social Affairs, 2017, 8). The prospective use and advantages that the global seas provide to nations hinge on investments in infrastructure, the education of professionals, and the dedication of each civilization to associating its future with a thriving marine ecosystem. A diverse array of oceanic applications may be correlated with a limited number of oceanic resources. These resources include maritime areas vital for the transportation of products and people, biological resources and their ecosystems, seabed minerals, and energy supplies. Numerous nations are endeavoring to secure a significant role in the integration into the global marine economy (Kaczynski, 2011, 21).

### **1.5.2 Innovation and Human Skills Development**

Promoting analysis and innovation fosters sustainable energy and natural resource exploration, alongside the development of new industries in the B.E., by enhancing human competence and talent (Jacob and Umoh, 2022, 32). Investment in research and development, infrastructure, and human capacity enhancement is essential to address these difficulties (Youssef, 2023, 16).

### **1.5.3 International Cooperation**

International cooperation and stakeholder engagement are essential for the success of the B.E. (Ahammed et al., 2024, 9). A case study in policy frameworks is the B.E. This significantly impacts policies at several levels (Penca, 2019, 70). To facilitate the achievement of the established goal, strategies and policies—often referred to as B.E. plans—may be developed for each nation's maritime regions. The provisions of the United Nations Convention on the Law of the Sea, which delineate the

legal parameters of nations' maritime rights and obligations, especially regarding space and marine resources, must underpin this vision.

### **1.5.4 Governance System**

Effective governance of oceans and coastal ecosystems generates enduring value, reduces greenhouse gas emissions, and improves livelihoods reliant on marine resources in a volatile climate (Mumtaz and Smith, 2022, 75-76). Enhanced governance is crucial for the development of the B.E. This is crucial for the sustainable utilization of oceans, seas, and marine resources, the preservation of biodiversity, the enhancement of human well-being, and the fortification of ecosystem resilience (World Bank and United Nations Department of Economic and Social Affairs). 2017, 8).

### **1.5.5 Database**

Presenting fresh data may impact decision-makers. When effectively managed, the products and services derived from marine ecosystems may substantially aid in alleviating poverty, cultivating resilient communities, and promoting robust economies (World Bank and United Nations Department of Economic and Social Affairs, 2017, 8).

### **1-5-6 - Partnership**

Comprehensive and adaptable relationships are crucial for the coordination and collaboration on B.E. projects and activities. An review of case studies by the United Nations Environment Program reveals that the B.E. attains its most significant advancements by using established institutional linkages to solve strategic deficiencies affecting numerous sectors and fostering evident long-term advantages. The transition to a B.E. necessitates committed short- and long-term endeavors to capitalize on current possibilities for stakeholder collaboration. Moreover, the B.E. mandates the establishment of inclusive procedures, necessitating a deliberate effort to identify and include marginalized groups. Enhancing market infrastructure and access for small-scale and artisanal fishermen may provide more sustainable results that advantage the impoverished, such as fostering buyer demand for sustainable seafood (World Bank and United Nations Department of Economic and Social Affairs, 2017, 8). Scientifically, the B.E. necessitates a multidisciplinary approach integrating ecological, social, and economic disciplines to comprehend the intricate linkages between human activities and ocean ecosystems (Youssef, 2023, 12). The necessity to utilise dynamic public-private partnerships, innovative educational outreach in science, technology, engineering, and mathematics (STEM), transformative oceanography, and emerging technologies to oversee and enhance the sustainable economic contributions of ocean, coastal, and Great Lakes resources (U.S. Department of Commerce, 2021, 3).

### **2. Methodology**

The significance of the study arises from the relevance of Behavioral Economics as a methodology and discipline within contemporary economics. Its significance has escalated since the onset of the twenty-first century, owing to its beneficial function in diversifying and stabilizing the economy both in the short and long term. Data from the National Centre for Statistics and Information – Statistical Yearbook, Sultanate of Oman, and the Ministry of National Economy – Statistical Yearbook, Sultanate of Oman, were used to fulfill the study purpose. The study seeks to provide theoretical underpinnings for the B.E. and examine the evolution of certain B.E. indicators from 1990 to 2022. A recommended plan is formulated to enhance the role of the B.E. in the Omani economy, acknowledging the significant and essential function this contemporary field of economics serves in diversifying and stabilizing the Omani economy.

The research challenge is encapsulated in addressing the following question: Can the activation of the B.E. sectors via the implementation of a targeted plan and defined timelines facilitate economic diversification and stability in the Omani economy both in the short and long term? Will its influence be constrained and not transcend certain marginal activities?

The research posits that, as the B.E. is a subset of contemporary economics, enhancing this sector and augmenting its contributions to the economic framework will directly and indirectly foster economic stability and elevate diversification within the Omani economy, while also strengthening interconnections with other sectors of the national economy within designated timelines.

The research employed an inductive analysis methodology, examining the evolution of data pertinent to the research variables over a defined time series, extrapolating economic realities, scrutinising economic phenomena and their progression throughout the research period, and subsequently inferring the resultant economic impacts. Outcomes

### **2.1 - Data Analysis**

The evolution of some B.E. indicators in the Omani economy over the study period may be examined using Tables (1-4) as shown below:

#### **2.1.1 - Fish Indicators**

Fisheries and aquaculture are some of the oldest and most vital industries in Oman, with considerable social and cultural importance. Prior to the discovery of oil resources, 80% of the population engaged in agriculture and fishing (Al Shammakhi et al., 2023, 2243). Although the fishing sector contributes little to the economy, it remains a crucial support for several impoverished and vulnerable populations in the area. Small-scale fisheries provide income, employment, and food security to several coastal communities (Ram et al., 2019, 10). The fisheries industry in Oman is among the most rapidly expanding industries and serves as a significant contributor to economic diversification. Commercial fishing in Oman presents a substantial potential for both local and foreign businesses, attributable to its strategic geographical location, large coasts, and access to international waterways, hence providing Oman a distinct edge over its neighbors. The government's investor-friendly and ecologically sustainable initiatives have fostered a robust atmosphere for investors in Oman's fishing industry (Al Shammakhi et al, 2023,

Fish indicators can be illustrated using Table (1), as follows:

##### **2-1-1-1 - Artisanal Fishing**

Table (1) shows the variation in artisanal fishing growth rates over the research period. Most of the growth rates were positive, with the highest growth rate recorded in 2018 (59.53%). Artisanal fishing accounted for the largest share, with 2018 recording the highest contribution (99.14%). This indicates the continued dominance and predominance of artisanal fishing over fish indicators.

##### **2-1-1-2 - Commercial Fishing**

It is clear that commercial fishing also experienced varying growth rates over the research period, with the highest growth recorded in 2019 (4755.93%). The highest contribution rate was recorded in 1997 (29.03%), while subsequent years saw a decline in contribution rates, with the average recorded at the end of the period (2022) being 6.53%. Like all economic sectors in Oman, fisheries were impacted by the outbreak of the novel coronavirus (COVID-19) in 2020. Commercial fishing was expected to continue to grow significantly in 2020 compared to artisanal fishing. Due to lockdowns in various countries around the world, the arrival of a new fishing vessel to support the existing fleet was delayed (Implementation follow-up unit, Oman Vision 2040, 2020, 116).



### 2-1-1-3 - Coastal Fishing

Tracing the time series in Table (1), it becomes clear that coastal fishing activity began in 2011, with the highest growth rate during the research period being recorded in 2012 (134.63%). Growth continued for most subsequent years until the end of the research period, despite the recent emergence of coastal fishing. However, the contribution rates for coastal fishing declined significantly, with the highest contribution recorded in 2014 (1.24%), which is considered very modest.

### 2-1-1-4 - Fish Farming

Table (1) shows that fish farming activity began in 2003, and recorded varying growth rates over the research period. The highest growth rate was recorded in 2018 (485.71%), and continued through the end of the period. The contribution of fish farming remained very modest during the research period, reaching its highest rate in 2022 (0.47%). This indicates a declining role for fish farming, despite it being an important indicator of the B.E..

Vision 2040 proposes an alternative development scenario in which the fisheries sector is a net contributor to Oman's wealth—a globally profitable, environmentally sustainable sector that contributes net to Oman's economy, rather than relying on subsidies for development as is the current case. In Oman, as elsewhere in the world, fisheries resources have the potential to make an important contribution to economic growth through the investable surpluses they can generate (World Bank Group and Ministry of Agriculture and Fisheries Wealth, 2015, 21).

**Table (1) Development of fish indicators in the Omani economy for the period 1990-2022 (thousand tons)**

Y e a r s	Art i s a n a l f i s h i n g	Gr o w t h r a t e %	com m e r c i a l f i s h i n g	Gr o w t h r a t e %	co a s t a l f i s h i n g	Gr o w t h r a t e %	f i s h f a r m i n g	Gr o w t h r a t e %	To t a l	Gr o w t h r a t e %	f i s h e x p o r t s	Gr o w t h r a t e %	Art i s a n a l f i s h i n g p e r c e n t a g e o f t o t a l	Co m m e r c i a l f i s h i n g p e r c e n t a g e o f t o t a l	Co a s t a l f i s h i n g p e r c e n t a g e o f t o t a l c a t c h	Per c e n t a g e o f f i s h f a r m i n g t o t h e t o t a l
1990	99.8		18.84		0		0		118.64		34		84.12	15.88	0	0
1991	103.54	3.75	14.23	-24.49	0	0	0	0	117.77	-0.74	29	-14.71	87.92	12.08	0	0
1992	97.05	-6.27	15.27	7.29	0	0	0	0	112.31	-4.63	30	3.45	86.41	13.59	0	0
1993	92.43	-4.75	24.04	57.43	0	0	0	0	116.47	3.7	46	53.33	79.36	20.64	0	0
1994	97.54	5.52	21.04	-12.47	0	0	0	0	118.57	1.81	45	-2.17	82.26	17.74	0	0
1995	108.57	11.31	31.3	48.76	0	0	0	0	139.86	17.95	59	31.11	77.62	22.38	0	0
1996	88.51	-18.47	33.1	5.77	0	0	0	0	121.62	-13.05	56	-5.08	72.78	27.22	0	0
1997	84.44	-4.6	34.55	4.37	0	0	0	0	118.99	-2.16	56	0	70.96	29.03	0	0
1998	88.56	4.87	17.61	-49	0	0	0	0	106.17	-10	46	-17.86	83.41	16.59	0	0



				.0 3						.7 8						
19 9 9	96. 66	9. 15	12.1 5	- 31. 03	0	0	0	0	10 8. 81	2. 49	30	- 34 .7 8	88. 84	11.1 6	0	0
2 0 0 0	10 8.0 2	11. 75	12.4	2.1 2	0	0	0	0	12 0. 42	10 .6 7	36	20	89. 7	10.3	0	0
2 0 0 0 1	125 .28	15. 97	4.63	- 62 .6 8	0	0	0	0	12 9. 9	7. 87	30	- 16 .6 7	96. 44	3.56	0	0
2 0 0 0 2	115 .31	- 7. 96	27.3 6	49 1. 06	0	0	0	0	14 2. 67	9. 83	47	56 .6 7	80. 82	19.1 8	0	0
2 0 0 0 3	118 .88	3.1	19.6 1	- 28 .3 3	0	0	0. 35	0	13 8. 84	- 2. 69	49	4. 26	85. 62	14.1 2	0	0.2 5
2 0 0 0 4	139 .24	17. 13	25.7 8	31. 49	0	0	0. 52	46 .5 9	16 5. 53	19 .2 3	83	69 .3 9	84. 11	15.5 8	0	0.3 1
2 0 0 0 5	132 .61	- 4. 76	24.7 1	- 4. 16	0	0	0.1 8	- 65 .12	15 7. 5	- 4. 85	51	- 38 .5 5	84. 2	15.6 9	0	0.11
2 0 0 0 6	13 0.6 2	- 1.5	17.0 5	- 31. 02	0	0	0.1 1	- 36 .6 7	14 7. 78	- 6. 17	47	- 7. 84	88. 39	11.5 3	0	0.0 8
2 0 0 0 7	135 .64	3. 85	16.1	- 5. 54	0	0	0. 09	- 24 .5 6	15 1. 83	2. 74	36	- 23 .4	89. 34	10.6	0	0.0 6
2 0 0 0 8	133 .92	- 1.2 7	17.9 9	11. 74	0	0	0.1 2	40 .7	15 2. 03	0. 13	54	50	88. 09	11.8 3	0	0.0 8

2009	132.85	-0.8	25.7	42.87	0	0	0.12	-2.48	158.67	4.37	76	40.74	83.73	16.2	0	0.07
2010	146.96	10.62	16.96	34.01	0	0	0.13	8.47	164.05	3.39	89	17.11	89.58	10.34	0	0.08
2011	151.49	3.08	6.46	61.93	0.62	0	0.16	22.66	158.72	-3.25	72	-19.1	95.44	4.07	0.39	0.1
2012	188.82	24.64	1.29	79.99	1.45	134.63	0.17	7.01	191.73	20.79	72	0	98.48	0.67	0.76	0.09
2013	203.45	7.75	0.4	69.2	2.31	59.45	0.35	11.012	206.52	7.71	96	33.33	98.52	0.19	1.12	0.17
2014	207.83	2.15	0.59	48.24	2.62	13.24	0.28	-20.11	211.32	2.32	78	-18.75	98.35	0.28	1.24	0.13
2015	254.77	22.59	0.21	64.41	2.02	22.69	0.17	39.72	257.17	21.7	111	42.31	99.06	0.08	0.79	0.07
2016	277.01	8.73	0.16	22.38	2.33	15.12	0.1	39.41	279.61	8.72	114	2.7	99.07	0.06	0.83	0.04
2017	343.93	24.15	0.4	144.17	3.14	34.76	0.08	-25.24	347.54	24.29	94	-17.54	98.96	0.11	0.9	0.02
2018	548.67	59.53	0.41	3.77	3.91	24.49	0.45	485.71	553.45	59.25	253	169.15	99.14	0.07	0.71	0.08
2019	555.21	1.19	20.06	4755.9	3.92	0.31	1.05	133.7	580.24	4.84	204	-19.37	95.69	3.46	0.68	0.18

2020	79 3.4 2	42 .9	41.3 6	10 6. 25	4. 29	9. 39	1.3 1	24	84 0. 38	44 .8 3	30 2	48 .0 4	94. 41	4.92	0.5 1	0.1 6
2021	86 9.9 7	9. 65	45.7 4	10 .5 9	4. 67	8. 84	1.7	30 .3	92 2. 0 8	9. 72	29 7	- 1. 66	94. 35	4.96	0.5 1	0.1 8
2022	68 8.0 2	- 20 .9 1	48. 62	6. 3	5. 0 6	8. 44	3. 47	10 3. 64	74 5. 18	- 19 .1 9	28 2	- 5. 05	92. 33	6.53	0.6 8	0.4 7

The table was prepared by researchers based on: - The National Center for Statistics and Information. Statistical Yearbook, Sultanate of Oman, issues for various years.

Ministry of National Economy. Statistical Yearbook, Sultanate of Oman, issues for various years.

The simple growth rate was calculated according to the following equation:

$$r = \frac{P_t - P_{t-1}}{P_{t-1}} * 100$$

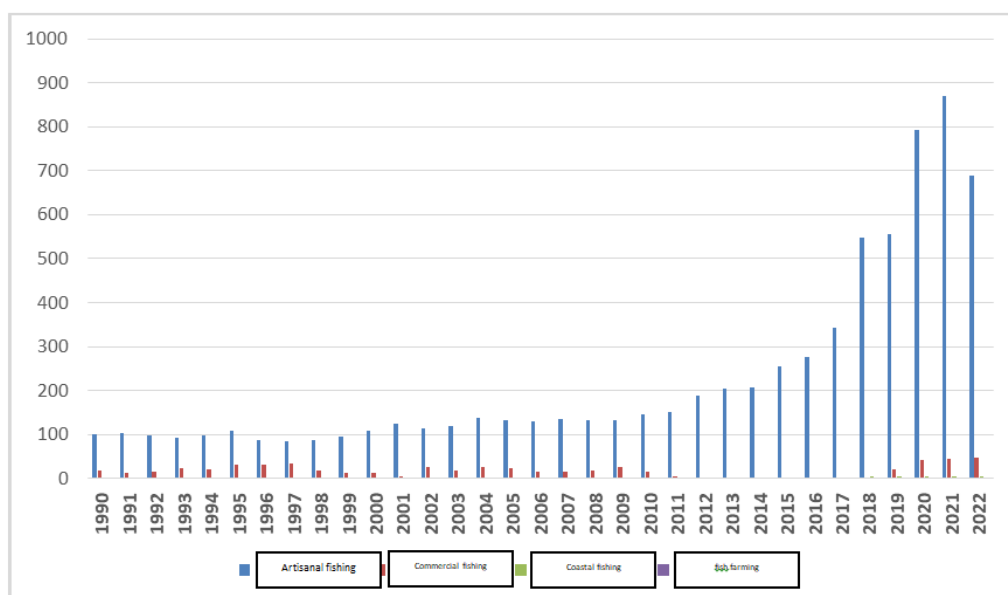


Figure (1) the continuous increase in artisanal fishing compared to other types of fishing during the research period

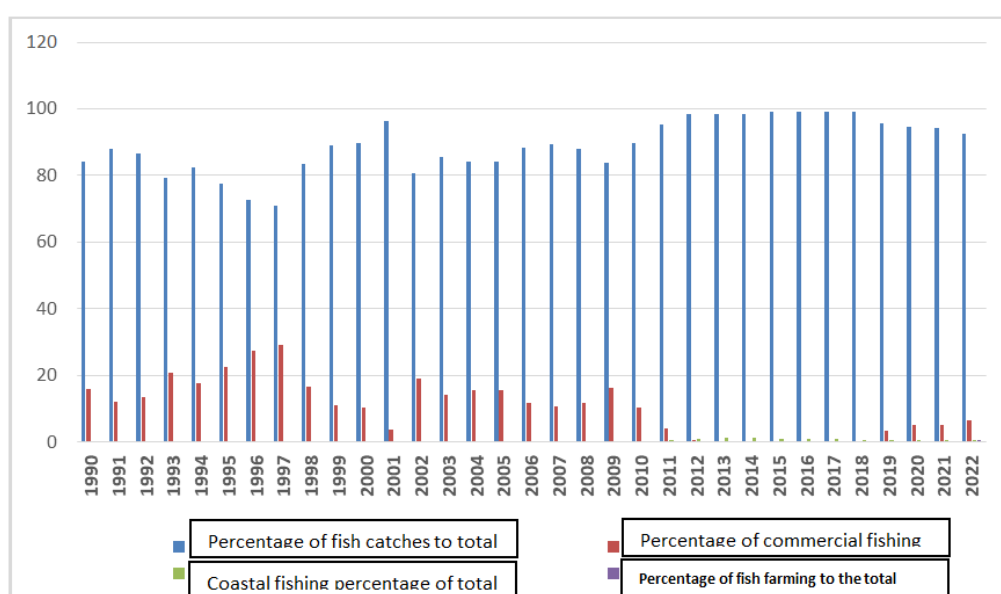


Figure (2) the evolution of the contribution of fish to the Omani economy during the period 1990-2022 (%).

Figure (2) shows a higher contribution from artisanal fishing compared to other types of fishing, followed by commercial and coastal fishing, while fish farming represented the lowest percentage during the research period.

### 2-1-2 Licenses

Some licenses can be reviewed by type based on Table (2), as follows:

Table (2) shows a continued increase in fishing licenses from 2005 to 2021, with (58,078) licenses recorded. Fishing boat licenses also increased, with the largest number recorded in 2021 (25,414). Fish transport and marketing licenses (annual) recorded the largest number in 2016 (4,115). This demonstrates the increasing importance of fishing within B.E. activities.

Fish transport and marketing licenses (single trip) recorded the largest number in 2015 (294), while they declined significantly in subsequent years. Recreational fishing licenses (annual) recorded the largest number in 2017 (276). The largest number of recreational fishing licenses (one-day) was recorded in 2019 (3,342), while they declined in subsequent years. Artisanal fishing vessel licenses recorded the largest number in 2019 (694), followed by coastal fishing vessel licenses, which recorded the largest number in 2021 (237), followed by surface fishing vessel licenses. Meanwhile, artisanal fishing vessel technician licenses accounted for the largest number, recording (5,336) licenses in 2019. These licenses were followed by coastal fishing vessel technician licenses, followed by surface commercial fishing vessel technicians. Industrial fishery licenses recorded the largest number in 2015 (86), but they declined significantly to (0) licenses in 2022. Fish export certificate licenses recorded the largest number in 2020 (187). The largest number of diving licenses for abalone fishing was recorded in 2020 (3,357). The largest number of licenses for processing, storing, and trading abalone was recorded in 2016 (68). Fish farming licenses (commercial and integrated) increased on average during the research period, with the largest number recorded in 2018 (12), while the largest number was recorded in 2022 (28). Artificial reef licenses (al-Shadud) also increased on average, with the largest number recorded in 2021 (500).

Table (2) shows that the total number of licenses increased on average during the research period, which illustrates the increasing importance of blue-water economic activities in the Omani economy.

Table (2) Number of new and renewed licenses by license type in the Omani economy for the period 2015-2022

Years	Practicing the fishing profession	fishing boat	Fish transportation and marketing (annual)	Fish transportation and marketing (one trip)	Hunting enthusiasts (annual)	Fishing enthusiasts (one day)	surface fishing vessel	Technicians on commercial fishing vessels	artisanal fishing vessel	Technicians on artisanal fishing vessels	coastal fishing vessel



2015	46,665	22,237	3,132	294	234	2,432	1	12	684	4,018	128
2016	47,899	22,720	4,115	80	165	3,101	1	0	688	4,163	134
2017	49,299	23,232	3,439	154	276	3,095	1	23	681	4,504	135
2018	49,715	23,726	3,723	218	99	515	3	23	688	4,995	150
2019	50,405	24,336	3,869	133	144	3,342	11	99	694	5,336	162
2020	51,561	24,349	3,679	91	45	200	9	1,517	688	1,364	220
2021	58,078	25,414	3,814	0	92	0	33	854	688	2,792	237
2022	57,073	25,323	3,995	5	237	100	11	378	688	2,766	148
Years	Technicians on coastal fishing vessels	Coastal pelagic fish enclosure	fishery industrial facility	Fish export certificate	Diving for abalone	Preparing, storing and handling safflower	Fish Farming License (Commercial)	Integrated Fish Farming License	Artificial reefs (shadod)	Total	
2015	687	0	86	22	21	0	2	13	378	81,046	
2016	536	0	68	18	2,593	68	3	15	483	86,850	
2017	584	0	44	24	0	1	4	12	490	85,998	
2018	1,200	0	53	24	0	1	12	20	499	85,664	
2019	1,130	0	17	4	21	0	10	22	500	90,235	
2020	25	9	18	187	3,357	4	10	22	500	87,855	
2021	384	0	18	22	0	0	7	24	500	92,957	



2022	550	0	0	53	0	0	10	28	451	91,816
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The table was prepared by researchers based on: - National Center for Statistics and Information. Statistical Yearbook, Sultanate of Oman, issues for various years.

Ministry of National Economy. Statistical Yearbook, Sultanate of Oman, issues for various years.

### 2-1-3 - Transportation Indicators

Based on Table (3), the development of transportation indicators in the Omani economy can be analyzed over the research period, as follows:

#### 2-1-3-1 - Imported Goods by Port

Table (3) shows the dominance of sea transport ports over land and air transport ports. This percentage reached 59.23% in 2006, and continued to rise on average, reaching its highest percentage in 2022 (84.83%). This was followed by land and air transport. Thus, given the Sultanate's geographical location, sea transport has occupied an important position as one of the B.E. indicators.

#### 2-1-3-2 - Imported Goods by Port

Table (3) shows that Sultan Qaboos Port occupied the largest share from the beginning of the time series until 2010, recording the highest percentage in 2007 (65.73%). As of 2011, Sohar Port accounted for the largest share, accounting for 60.70% of total imports. Its contribution to the average has continued to rise, reaching its highest level in 2017 (90.24%), demonstrating the focus on Sohar Port in imports. Salalah Port, meanwhile, recorded its highest share in 2006 (25.95%), but its contribution declined in subsequent years following the rise of Sohar Port.

Table (3) Development of transportation indicators in the Omani economy for the period 2006-2022 (thousand tons)

Years	Quantity and percentage of imported goods by port							Quantity and percentage of imported goods by port						
	Navy	The wilderness	Air	Total	Maritime transport contribution %	Land transport contribution rate %	Air transport contribution %	Sultan Qaboos Port	Sohar Port	Port of Salalah	Total	Port Sultan Qaboos' share %	Sohar Port Contribution %	Port of Salalah share %
2006	3449	2348	26	5823	59.23	40.32	0.45	1996	546	891	3433	58.14	15.9	25.95
2007	4716	2643	40	7399	63.74	35.72	0.54	3090	809	802	4701	65.73	17.21	17.06
2008	6465	3961	51	10477	61.71	37.81	0.49	4203	1329	916	6448	65.18	20.61	14.21
2009	6448	2939	45	9432	68.36	31.16	0.48	3066	2160	1214	6440	47.61	33.54	18.85
2010	7323	5448	55	12826	57.09	42.48	0.43	3022	2939	1354	7315	41.31	40.18	18.51
2011	10151	5436	64	15651	64.86	34.73	0.41	3037	6159	950	10146	29.93	60.7	9.36
2012	10742	7039	85	17866	60.13	39.4	0.48	3239	6014	1482	10735	30.17	56.02	13.81
2013	19583	10079	84	29746	65.83	33.88	0.28	3432	14627	1493	19552	17.55	74.81	7.64
2014	14158	8968	49	23175	61.09	38.7	0.21	2391	9983	1774	14148	16.9	70.56	12.54
2015	24994	10521	55	35570	70.27	29.58	0.15	997	9983	1815	12795	7.79	78.02	14.19

2016	20940	17845	57	38842	53.91	45.94	0.15	996	17747	2182	20925	4.76	84.81	10.43
2017	23792	10186	65	34043	69.89	29.92	0.19	924	21167	1365	23456	3.94	90.24	5.82
2018	21383	9245	73	30701	69.65	30.11	0.24	824	18826	1525	21175	3.89	88.91	7.2
2019	25213	7832	70	33115	76.14	23.65	0.21	859	19547	2013	22419	3.83	87.19	8.98
2020	26652	7262	57	33971	78.46	21.38	0.17	830	21473	2901	25204	3.29	85.2	11.51
2021	30455	7435	49	37939	80.27	19.6	0.13	805	23374	5242	29421	2.74	79.45	17.82
2022	37131	6588	50	43769	84.83	15.05	0.11	1977	31035	3060	36072	5.48	86.04	8.48

The table was prepared by researchers based on: - The National Center for Statistics and Information. Statistical Yearbook, Sultanate of Oman, issues for various years.  
Ministry of National Economy. Statistical Yearbook, Sultanate of Oman, issues for various years.

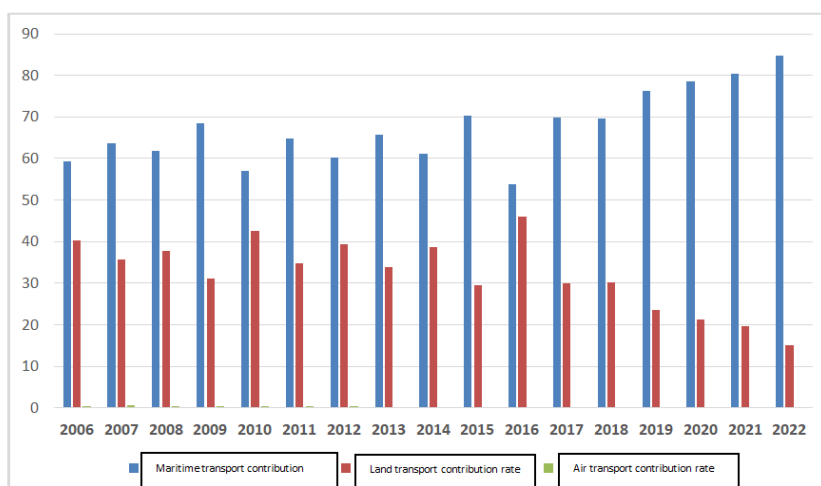


Figure (3) shows the evolution of the contribution rates of transport indicators to the Omani economy for the period 2006-2022.(%)

The Figure was prepared by researchers based on Table (3)

Figure (3) shows an increase in the contribution rate of maritime transport, due to the geographical location of the Sultanate of Oman, followed by land and air transport.

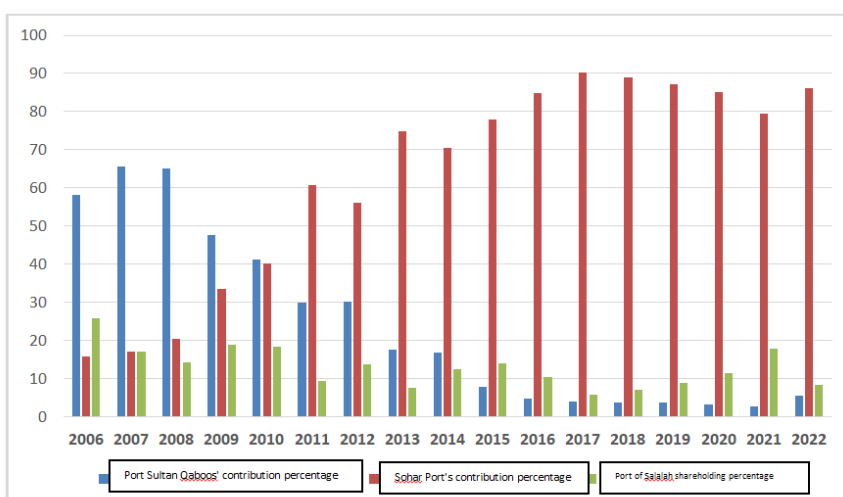


Figure (4) shows the evolution of ports' contribution to imported goods in the Omani economy for the period 2006-2022 (%).



Figure (4) shows an increase in the contribution of Sultan Qaboos Port to imported goods from 2006 to 2010. From 2011, Sohar Port held the largest share until 2022. Salalah Port ranked second in 2006, then third until 2014. It then returned to second place from 2015 until 2022.

### 2-1-3-3 Transport Indicators at Mina Al Fahal

Table (4) shows the development of transport indicators at Mina Al Fahal. It is clear that the number of berthed vessels increased on average from 1990 to 2001, with the highest number recorded during the research period in 1995 (554 vessels). Subsequent years saw fluctuations in the number of berthed vessels, with the lowest number recorded at the end of the period in 2022 (232 vessels). Oil shipments increased on average over the period, with the highest quantity recorded at the end of the period in 2022 (331,767) thousand barrels. Meanwhile, unloaded petroleum products fluctuated during the research period, with the highest quantity recorded in 2007 (1,529,000) thousand metric tons, while they declined until the end of the period.

Table (4) Development of Transport Indicators at Mina Al Fahal in the Omani Economy for the Period 1990-2022

Years	anchored ships	Growth rate%	Shipped oil (thousand barrels)	Growth rate%	Unloaded petroleum products (thousand cubic meters)	Growth rate%
1990	473		30941		145	
1991	472	-0.2	32593	5.3	678	367.6
1992	471	-0.2	34053	4.5	1768	160.8
1993	533	13.2	37067	8.9	650	-63.2
1994	498	-6.6	38787	4.6	16	-97.5
1995	554	11.2	41,036	5.8	126.4	690
1996	514	-7.2	42,973	4.7	42	-66.8
1997	501	-2.5	53,066	23.5	229	445.2
1998	495	-1.2	43,365	-18.3	192	-16.2
1999	491	-0.8	43,809	1	218	13.5
2000	490	-0.2	46,072	5.2	206	-5.5
2001	482	-1.6	46,108	0.1	541	162.6
2002	428	-11.2	42,806	-7.2	292	-46
2003	356	-16.8	39079	-8.7	211	-27.7
2004	312	-12.4	36,889	-5.6	328	55.5
2005	367	17.6	36,759	-0.4	417	27.1

2006	338	-7.9	31,993	-13	1,231.00	195.2
2007	349	3.3	30,656	-4.2	1,529.00	24.2
2008	407	16.6	29,496	-3.8	1,215	-20.5
2009	447	9.8	33,328	13	1,677	38
2010	456	2	37,250	11.8	1,518.20	-9.5
2011	382	-16.2	37,331	0.2	1,514.60	-0.2
2012	387	1.3	36,556	-2.1	1,865	23.1
2013	378	-2.3	36,556	0	1,865	0
2014	379	0.3	41,667	14	1,773	-4.9
2015	312	-17.7	306,682	636	2,524	42.4
2016	329	5.4	321,204	4.7	2,839	12.5
2017	295	-10.3	293,609	-8.6	2,184	-23.1
2018	247	-16.3	288,623	-1.7	219	-90
2019	279	13	309,977	7.4	683	211.9
2020	238	-14.7	306,583	-1.1	132	-80.7
2021	244	2.5	322,291	5.1	22	-83.3
2022	232	-4.9	331,767	2.9	-	-

The table was prepared by the researchers based on: - The National Center for Statistics and Information. Statistical Yearbook, Sultanate of Oman, various years. - Ministry of National Economy. Statistical Yearbook, Sultanate of Oman, various years.

### 3- Proposed Strategies

#### 3-1 - Strategy Vision

Given the important and fundamental role the B.E. plays in diversifying and stabilizing the economy, and in order to implement the proposed strategy to activate the role of the B.E. in the Omani economy, it is preferable to establish a special ministry called the Ministry of B.E., which will be responsible for managing and formulating the necessary policies. Under this ministry, there will be a group of general directorates specializing in the aspects necessary for the functioning of the B.E..

#### 3-2 - Strategy Message

Activating the role of the B.E. and increasing its contribution to the local economic sectors, as well as increasing its importance in economic stability. This will effectively contribute to avoiding shocks, especially external ones, that oil-producing countries are exposed to, and the negative impact this has on the structure of the local economy.

#### 3.3 - Strategy Goal

To provide a fundamental pillar for the local economic structure by revitalizing and activating the B.E. sectors, making the diversification of the Omani economy an important factor in ensuring economic stability. It provides Oman with a wealth of opportunities. This is evident in the major investments in port facilities, which demonstrate how Oman benefits from its strategic geographic location on shipping routes between Asia, Africa, and Europe.

### 3.4 - Strategy Principles

3.4.1 - Comprehensiveness: This is achieved through collective and collaborative work among all government institutions to provide all the necessary requirements for the operation of the B.E. sectors in all aspects, ensuring the success of B.E. projects at both the macro and micro levels. 3-4-2 Strategy Timeline: Given the Omani economy's important strategic maritime location, with an exclusive marine economic zone covering more than half a million square kilometers of sea and a pristine coastline stretching 3,165 kilometers, implementation of this strategy will require ten years, i.e., by 2035.

3-4-3 Participating Parties: Ministry of Economy, Ports and Maritime Transport Authorities, Fisheries Authority, and exploration agencies responsible for exploring for raw materials in the waters.

3-4-4 Data: Form a working group to collect, study, and analyze data on B.E. sectors, including ports and maritime transport, exports and imports via maritime transport, the quantity of fish exported, other raw materials sourced from the waters, and the number of skilled and unskilled workers in these sectors. This will also include any port expansion or additional lines needed. 3.5 Strategic Priorities

3.5.1 - Regulating B.E. Sectors: By working to raise all standards of work and service in this sector, as it has become a modern and advanced sector.

3.5.2 - Enabling Access: By facilitating access to and investment in the B.E. sectors through facilitating economic and legal procedures.

3.5.3 - Cooperation with Partners: Managing and developing B.E. sectors through coordination with all other economic sectors, ensuring the activation of forward and backward linkages between these sectors.

3.5.4 - Developing B.E. Sector Products: This is done to gain a competitive advantage compared to economic activities in similar economic sectors in other countries.

3.5.5 Promoting B.E. Products: These products are of great importance domestically and internationally.

3.5.6 - Creating and Developing Job Opportunities: Providing job opportunities for skilled and unskilled workers, while ensuring continuity by establishing institutes and departments that provide the labor required for these sectors. In addition to raising labor efficiency through continuous and targeted training programs.

3.5.7 Excellence: Increasing the effectiveness of B.E. sectors, based on a unique structural system and unconventional work procedures, as well as the use of modern and advanced methods.

3.5.8 Sustainability of the B.E.: i.e., the sustainability of B.E. sectors, in accordance with the principles of sustainable development.

### 3.6 Strategy Objectives

3.6.1 - Develop the B.E. sectors in the Omani economy and work to stimulate supporting institutions. Adopt blue economic activities as key sectors in structural transformation, as these sectors play a significant role in economic diversification as a first step, followed by economic stability as a subsequent phase.

3.6.2 - Work to establish blue economic activities as pioneering activities in the economic process.

3.6.3 - Preserve the historical, cultural, and economic heritage of the Sultanate of Oman.

3.6.4 - Create an appropriate environment to enhance the contribution of blue economic activities to sustainable development.

3.6.5 - Achieve the highest possible efficiency in the use of blue economic activities.

3.6.6 - Activate the role of the media regarding the importance of blue economic activities, educate citizens about their importance and protection, and the necessity of their sustainability to ensure the rights of future generations.

### **3.7- Strategic Programs**

Which can be classified according to the following aspects:

#### **3.7.1- The Economic Aspect**

The economic impact of the B.E. can be activated through the following policies:

3.7.1-1- Fiscal Policies: Fiscal policies include two main tools: public expenditures and public revenues (especially taxes). Public expenditures (both current and investment) can contribute to targeting priority B.E. activities within specific timeframes, whether this targeting is done directly by the government, or indirectly by targeting areas that stimulate B.E. sectors. Taxes also indirectly contribute to stimulating the B.E., through full or partial exemptions for investors in targeted B.E. activities, or by using a portion of the proceeds of general tax revenues to support workers in B.E. activities, either directly or indirectly.

3.7.1-2- Monetary Policies: Monetary policy has two main sets of tools: quantitative tools and qualitative tools. Quantitative tools can indirectly contribute to supporting the B.E. by granting credit to investors in targeted B.E. sectors at zero or very low interest rates. Qualitative monetary policy tools also directly contribute to directing investment toward targeted B.E. activities.

3.7.1.3 Trade Policies: Trade policies, particularly customs tariffs, significantly influence B.E. activities. Eliminating or reducing customs tariffs on these activities means reducing some costs, which stimulates production and increases employment. This is in addition to the role of other trade tools, such as quotas and ports.

The three policies above contribute directly or indirectly to increasing production, employment, and economic growth, as well as diversifying sources of output, employment, and exports.

#### **3.7.2 Administrative Aspects and Human Skills**

Wise management plays an important and key role in B.E. activities in particular, as it is essential that the administrative staff be highly qualified and experienced. Coordination between departments, from the unit level to the ministry level, must also take place. It is essential to enhance the human skills of individuals working in B.E. activities, keeping pace with developments. This can be achieved through organizing ongoing educational and training courses, while ensuring the integration of skills and technological advancements. It is preferable to establish departments in universities and institutes dedicated to B.E. activities. This requires the establishment of a dedicated unit for this purpose, with priority given to residents of coastal and nearby areas.

#### **3.7.3 - The Technical Aspect, Innovation, Research, and Development**

The B.E. is a branch of modern economics, and the effectiveness of this branch requires the use of advanced technology in various fields: production, administration, organization, and marketing. Furthermore, a special unit should be established to specialize in innovation, research, and development related to B.E. activities, with innovative financing being considered as a method to encourage innovation.

#### **3.7.4 - The Cultural and Environmental Aspect**

The cultural aspect is responsible for educating people about the importance of the B.E. and its potential future achievements by spreading the spirit of initiative and contributing to this sector. Environmental factors should also be considered in accordance with the principle of sustainable development, which ensures the optimal use of resources and ensures compatibility with the environment's ability to regenerate them.

### **3-7-5 - The International Aspect**

To ensure the avoidance of international conflict or clashes, it is necessary to regulate B.E. activities between riparian countries according to international agreements that ensure harmony and compatibility and serve all parties.

### **3-7-6 - The Information Aspect and Database**

To ensure the success of policies adopted in B.E. activities, complete information and a comprehensive database on all aspects and activities of the B.E. sectors must be available, along with monitoring the implementation of policies and their resulting impacts, and updating them periodically. This database will enable policies to target specific aspects and avoid fragmented procedures, facilitating the achievement of desired objectives as planned. This will contribute to increased production, employment, growth, and economic diversification.

**3-7-7 Infrastructure**  
Infrastructure is an important and key factor for any economic activity. B.E. activities require appropriate and modern infrastructure commensurate with the size of the sector. It is essential that ports and fisheries be established according to international standards, ensuring high efficiency. This attracts international shipping companies and increases production.

### **3-7-8 Laws and Legislation**

In order to ensure a sound legal framework for B.E. activities, a set of laws and legislation necessary for the sector's operation must be enacted, consistent with the country's overall development goals, and ensuring coordination and integration with other economic activities. This requires the formation of a highly experienced legal committee to draft legislation and monitor implementation.

## **Discussion of the Results**

The B.E. is a modern and effective approach to ensuring economic stability and diversification. This is consistent with Kouvelis (2021), who argues that the oil and gas-dependent growth model of the Gulf Cooperation Council (GCC) countries has demonstrated significant structural weaknesses, leading to a globally accepted understanding that economic diversification is urgently needed. Reducing exposure to the instability and unpredictability of global oil prices, and thus the instability and reliability of economic output, creating jobs that are not dependent on the public sector, and developing the private sector as a key component of the economy, leading to increased productivity and sustainable growth, are all essential to establishing an economy that is not dependent on oil. With oil revenues beginning to shrink significantly—and expected to continue—a diversified future for the economy and growth is required. It is clear that, despite the importance of the fisheries sector as a B.E. activity, it still does not achieve efficiency, as it remains dependent on government support. This is consistent with the World Bank Group and the Ministry of Agriculture and Fisheries Wealth (2015), who argue that there is strong evidence of a decline in the role and effectiveness of local-level institutions related to fisheries management. In this case, a new stakeholder engagement strategy requires revitalizing these institutions, employing more Omani youth, and building new, relevant



institutions for the future. Coordination is necessary within the B.E. sectors themselves and between them and other sectors. This is consistent with Kouvelis (2021), who believes that appropriate coordination between government institutions, the business sector, finance and investment, academia, civil society, and all stakeholders involved in or interested in the B.E. sectors is critical to achieving the implementation of such policies and the ultimate sustainable use of marine and coastal resources. This is consistent with Al Shammakhi et al. (2023), who argues that adopting appropriate measures, such as improving access to finance, investing in new technologies, and strengthening government policies, can improve the livelihoods of fishermen and promote sustainable growth in the fisheries sector. Good governance is essential for B.E. activities, which creates long-term value and enhances environmental sustainability and livelihoods, and identifying the necessary policies, the role of special units, and the provision of information. This is consistent with the OECD (2024), which states that promoting a resilient, inclusive, sustainable, and circular B.E. (resistant to environmental fluctuations and challenges) in cities and regions requires effective multi-level governance and a response to the impacts of the B.E. on freshwater, coastal, and marine ecosystems. Given the potential impact of climate change on B.E. sectors, jobs, and local communities, cities and regions need to develop blue economies that are resilient to environmental fluctuations and challenges, resilient to economic and climate-related shocks; inclusive of local communities and stakeholders; environmentally sustainable by reducing environmental impacts while protecting ecosystems and biodiversity; and circular by preventing waste (including plastics), promoting material efficiency, and converting waste into resources. This requires policymaking, defining clear roles and responsibilities, institutional frameworks, and leadership for B.E. policy, building and strengthening institutional capacities, and collecting and sharing sufficient data, information, and knowledge to inform the B.E. decision-making process. It is also necessary to activate international agreements in a manner that serves the interests of riparian parties. This is consistent with what Al Riyami et al. (2024) stated, as the B.E. imposes that sustainable management of ocean resources requires cooperation across borders and sectors through a variety of partnerships, on a scale never before achieved. This is a daunting task, especially for Small Island developing states and least developed countries, which face significant constraints.

### Conclusions

Activating the role of the B.E. as a branch of modern economics will contribute directly and indirectly to economic stability (internal and external) and increased diversification in the Omani economy, as well as increasing forward and backward linkages with other sectors of the national economy, according to established plans.

Analyzing the evolution of the time series of fishery indicators reveals a higher contribution from artisanal fishing compared to other types of fishing, followed by commercial and coastal fishing. Meanwhile, aquaculture represented the lowest contribution during the research period. Therefore, it is imperative to increase the share of aquaculture as an indicator of emerging blue sectors. It is clear that the total number of licenses recorded an average increase during the research period, indicating an increased importance of B.E. activities in the Omani economy. Maritime transport's contribution recorded a significant increase during the research period, due to the Sultanate of Oman's unique geographical location, followed by land and air transport. This confirms the effectiveness of blue transportation as a B.E. activity in the Omani economy.

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