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A Blue Economy in the Eastern Mediterranean: Climate, Society and Regional Prosperity

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This paper examines the differences between a blue economy and a maritime economy in the regional context of the Eastern Mediterranean. A blue economy is defined as one that improves human well-being by preserving environmental resources for future generations. Its environmental, climatic and social aspects are intertwined and interdependent. By contrast, a maritime economy is solely driven by profit motives. Two key understandings guide the discussion presented in this paper. The first is that the close connection, and even dependence of human welfare on healthy seas necessitates management of the marine environment so that it both supports economic prosperity and preserves the natural system needed for sustainable living. The second is that adopting the blue economy paradigm as an approach that inherently requires regional cooperation will enable wise implementation and full realization of blue economy advantages, perhaps even before each country fully and independently adopts the approach. The paper examines various blue economy sectors that lend themselves to implementation of a sustainable and regional blue economy paradigm, with a focus on ecotourism and nature conservation. It also proposes guiding principles and policy recommendations to promote the transition from a maritime economy to a regional blue economy. Adopting this blue economy approach bodes a promise of regional prosperity and resilience, as well as water, food and energy security in times of climate crisis and other environmental threats. It also offers hope as a framework for conflict resolution and regional peacebuilding.

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A. Introduction

The Eastern Mediterranean is a significant cultural, social and economic hub for the nine countries bordering, and relying on, its waters. The current maritime economy intensively and excessively exploits the sea's resources, negatively impacting the marine environment and climate, and exacerbating the biodiversity crisis. A distinction can and should be made between a general maritime economy and a sustainable blue economy. Unlike a general maritime economy, a blue economy is an approach that advocates for sustainable development, improved human well-being and job security, while maintaining the health of the marine environment for the benefit of the sea and future generations. Human dependence on healthy seas necessitates regional efforts to manage the marine environment so that it can support economic prosperity while conserving the natural system essential to sustainable life on Earth. The threats facing the sea and society as a whole also present an opportunity to recognize the importance of the sea as a shared resource, and therefore the need for regional cooperation to manage that resource in a just and sustainable manner.

This paper addresses the blue economy in the eastern basin of the Mediterranean and the role of regional cooperation among its bordering countries in advancing a sustainable blue economy. Such collaboration is essential for building a sustainable regional economy and implementing blue economy principles in the Eastern Mediterranean. The paper aims to present the potential for economic, social and climate action inherent in the adoption of a blue economy approach as a tool for regional cooperation. Adopting the blue economy paradigm will enable human adaptation to shifting realities in the age of climate crisis and other environmental threats, which greatly affect life as we know it.

The first chapter first describes the Eastern Mediterranean basin's unique social, climatic, environmental and economic characteristics. It then defines the conceptual infrastructure of a blue economy and its regional role as a tool for promoting environmental and social justice. Next, the third chapter reviews the current state of the regional maritime economy in general and of the blue economy in particular, presenting existing collaborations and initiatives. Finally, the fourth chapter presents potential opportunities for regional leveraging of a blue economy and examines an Egypt-Israel case study on the current situation and sustainable economic opportunities at sea. To conclude, the last chapter offers guiding principles and suggestions for implementing a regional blue economy, discusses the challenges it faces and proposes ways to surmount barriers to regional collaboration.

B. Unique characteristics of the Eastern Mediterranean Basin

The Mediterranean Sea covers 2.5 million square kilometers and has 46,000 kilometers of coastline. It is bordered by 23 countries (9 of them in its eastern basin) with a population of 510 million. The Mediterranean played an important role in human history and remains a cultural, social and economic center. For example, about a third of the world's annual

maritime trade now traverses these waters, due in no small part to the existence of Egypt's Suez Canal, built in the late 19th century and expanded in 2015.¹

'Mediterranean' (*Mediterraneus* in Latin) means 'the sea in the middle of land' (*medius* = middle, *terra* = land). Indeed, the Mediterranean Sea is almost completely surrounded by land, save for the narrow Strait of Gibraltar that connects the Atlantic Ocean to the Western Mediterranean. As a closed sea, the rate of Mediterranean water circulation and renewal is very slow. Salinity and temperatures rise, while nutrient concentrations decline, the further east one moves from the main source of water intake at the Strait of Gibraltar. These oceanographic conditions lend the area a unique biological character - sometimes compared to a 'marine desert' - with many marine creatures having adapted themselves specifically to its conditions. The region is considered a biodiversity hotspot, with at least 17,000 marine species, a quarter of which are unique (endemic) to the Mediterranean. In fact, although it comprises less than 1% of the world's ocean surface, the Mediterranean is home to about 18% of the world's marine species.²

The states of the Eastern Mediterranean

The Eastern Mediterranean, also known as the Levant basin, lies along the easternmost periphery of the Mediterranean Sea and has long been a crossroads between West Asia, Northeast Africa and the Middle East. The countries most usually considered part of this region are Cyprus, Egypt, Greece, Israel, Jordan, Lebanon, the Palestinian Authority, Syria and Turkey, which together control 25,000 kms of coast and 320,000 sq kms of sea. Some of these countries overlap a geographic area known as *Al Mashriq* (المشرق), meaning 'the east' in Arabic, which refers to the eastern Arab states of North Africa and West Asia. The region is also known today as 'MENA' (Middle East North Africa).

The peoples of the Eastern Mediterranean, who in the past were often referred to as Levantines, share not only a geographic location, but also similar cuisine, customs, a common history and economy. Long before the Suez Canal was built, the region served as a trade, capital and cultural bridge from the East to Europe. From ancient times, its peoples forged connections along the supply chain of the Southern Silk Road, and controlled major land routes for trade in fabrics, metals, spices, perfumes, oils, wine and more. For example, from 1200 to 800 BCE, the Phoenician-Canaanite people, who inhabited an area stretching from northern Syria to what is now the coastal town of Acre in northern Israel, also exploited the sea for trade in textiles, wood, glass and papyrus. In modern times, and through the early 20th century, regional economic activity was cooperative, and included extensive trade in olives, citrus fruit and cereals. Palestine and Lebanon together established trade routes from the Mediterranean to Europe and other high demand locations, strengthening economic ties between the two countries and supporting further cooperation.³

¹ United Nations Environment Program/Mediterranean Action Plan and Plan Bleu, "[State of the Environment and Development in the Mediterranean](#)," 2020.

² Coll M, Piroddi C, Steenbeek J, Kaschner K, Ben Rais L et al., "[The Biodiversity of the Mediterranean Sea: Estimates, Patterns, and Threats](#)," *PLoS ONE* 5(8): e11842, 2010.

³ David Abulafia, *The Great Sea: A Human History of the Mediterranean*, Oxford University Press, 2014.

From ancient times until today - in addition to serving as a hub for trade and transportation - the Eastern Mediterranean has provided its inhabitants with food, including fresh fish and agricultural land for cultivation, income and employment from tourism, recreational venues and welfare activities.

Despite the similar benefits derived from these waters, socio-economic and national political conditions vary greatly among the nations today bordering the Eastern Mediterranean. Some states are liberal democracies, while others are authoritarian regimes. Some are stable and functioning, while others suffer crippling political instability. Accordingly, the socioeconomic status of the region's residents varies greatly.

Today's Eastern Mediterranean is also marked by geopolitical tensions and ongoing conflicts. These are further complicated by tensions over maritime boundaries, energy interests and the influence of external powers.

The Eastern Mediterranean as a climate hotspot

The Intergovernmental Panel on Climate Change (IPCC) designates the Mediterranean Sea in general, and the Eastern Mediterranean in particular, as regions highly sensitive to climate change due to water shortages, dense economic activity in coastal areas and reliance on climate-dependent agriculture.⁴ Indeed, the rate of climatic warming in the region is at least 20% higher than the global average. Sea surface temperatures in the Eastern Mediterranean are expected to rise by up to 3.5°C by 2100 – more than in any other part of the Mediterranean. And this is expected to result in decreased rainfall, doubling and even tripling the demand for water by 2050 (MedECC 2020).⁵

Regional warming and other climatic impacts on the sea - including rising water levels and acidification - have created additional pressure on ecosystems and already vulnerable sea-reliant economies and societies. Coastal areas already face an increased risk of natural disasters, such as flooding, soil erosion and the salinization of estuaries and aquifers that provide food security and employment opportunities. Public health in the Eastern Mediterranean is also affected by extreme heat, drought and air pollution, with a potential for population displacement.⁶

Climate change could clearly endanger the region's population, from its well-being and health to food and employment security. The climate crisis further catalyzes existing regional distress, such as water shortages and climate migration, and threatens to prompt an increase of already crippling regional conflict.

The climate crisis is closely related to a biodiversity crisis - the mass extinction of animal and plant species at sea and on land due to increased human activity. The seas, oceans and life within them provide ecosystem services, i.e., resources and processes provided by

4 Ali E, Cramer W, Carnicer J, Georgopoulou E et al., "[Cross-Chapter Paper 4: Mediterranean Region](#)," Climate Change 2022: Impacts, Adaptation and Vulnerability, 2022

5 Union for the Mediterranean, Plan Bleu, UNEP/MAP, "[MedECC, Climate and Environmental Change in the Mediterranean Basin](#)," 2020.

6 Neira M, Erguler K, Ahmady-Birgani H, et al., "[Climate change and human health in the Eastern Mediterranean and Middle East](#)," Environmental Research, 2023.

natural systems to humans and other living beings. Ecosystem services support human life on Earth and mitigate climate change through such activity as carbon dioxide sequestration, heat regulation and the production of more than 50% of the world's oxygen supply.⁷ But as has become increasingly evident, imprudent exploitation of marine resources can lead to serious damage and even destruction of the marine ecosystem that provides these services to humans at no financial cost.

Marine systems are under growing pressure from unsustainable exploitation, such as overfishing, habitat damage and pollution. These effects are evident throughout the Mediterranean Sea, and are even more pronounced in its eastern expanse. The Mediterranean and Black Sea are the most overfished in the world.⁸ In addition, heavy coastal construction - such as the Aswan Dam in Egypt and marinas along coasts – obstruct sand movement thus greatly contributing to the degradation of sandy habitats. Another challenge is posed by the hundreds of invasive species that reached the region via Egypt's Suez Canal. This challenge is most prominent the eastern Mediterranean.

The close link, and even dependence, of human welfare on healthy seas underscores the importance of regional efforts to manage the marine environment so that it can support both economic prosperity and the preservation of the natural system necessary for sustainable life on Earth.

C. Blue Economy Versus Marine Economy

The term 'blue economy' has many interpretations. The European Union defines the term broadly, as a whole: socioeconomic activities based on oceans, seas and coasts, as well as activities that are tangential to maritime space and exploit marine resources.⁹ Although the EU approach addresses the sustainable development of these activities to some extent, its emphasis is on maximizing the economic opportunities inherent in the exploitation of marine resources.

Others hold a narrower definition, focusing on activities that enable development alongside long-term environmental and social benefits. The World Bank, for example, defines the blue economy as an approach advocating for sustainable development, improving human well-being and creating job security while preserving the health of the marine environment for the good of the sea and the people.¹⁰ The United Nations supports a similar definition and stresses the importance of a blue economy, as the marine counterpart to a terrestrial green economy, to achieving some of its Sustainable Development Goals (SDGs). The UN adopted these 17 goals in 2015 as a global call to action to end poverty, protect the planet

7 Pörtner H, Scholes R, Arneth A, Barnes D et al, "[Overcoming the coupled climate and biodiversity crises and their societal impact](#)," Science, 2023.

8 FAO, General Fisheries Commission for the Mediterranean, "[The State of Mediterranean and Black Sea Fisheries](#)," 2022.

9 European Commission, "[The EU Blue Economy Report](#)," *Publications Office of the European Union*, 2022.

10 World Bank and United Nations Department of Economic and Social Affairs, "[The Potential of the Blue Economy](#)," 2017

and ensure that all people enjoy peace and prosperity by 2030.¹¹ The blue economy is particularly applicable to Goal 14, 'Life Below Water', which deals with conservation of the marine environment and sustainable exploitation of marine resources. It is also integral to Goal 13, 'Climate Change', since intelligent promotion of blue economy principles can directly contribute to meeting global climate goals such as developing renewable energy and maintaining healthy marine systems that support life and mitigate climate change.

Blue economy relates to many sectors. Some - such as fisheries, marine transport, sewage treatment and tourism - are traditional activities that previously lacked sustainable management and thus require significant regulatory adjustments. Other sectors are newer, rely on the development of knowledge and technology, and already account for environmental considerations to some extent. These include mariculture and aquaculture, biotechnological developments, water desalination, renewable energy and other technological initiatives to mitigate climate change. Yet some of these initiatives could also bear significant negative environmental implications, necessitating their thorough examination and the exercise of preventive caution regarding each project's impact on natural systems.

Marine nature conservation is yet another part of the blue economy, based on the understanding that economic profitability depends on a healthy marine environment, and that a thriving marine ecosystem provides clear economic benefits. Many economic activities, - such as fishing depend directly on sea resources, or indirectly on the products of a healthy marine ecosystem, such as clean water for mariculture, desalination, tourism and leisure. These ecosystem services, also called 'natural capital' in the economic context, serve the maritime economy. Undermining their ability to replenish and provide such resources precipitates economic loss. Marine nature conservation thus plays a dual role – On the one hand, protecting ecosystems as a main target of a blue economy and on the other hand, serving as a tool to realize sustainable economic gain.

It is important to quantify and assimilate the economic value of ecosystem services - i.e. natural capital, such as clean water, carbon sequestration and oxygen production - in that its worth emphasizes the economic importance of marine systems and drives the implementation of sustainable management practices. Placing a price tag on the sea's life-supporting services can promote intelligent management of natural resources and incentivize the adoption of conservation and related policy measures. Even industries and businesses that follow blue economy principles can benefit from understanding the economic value of ecosystem services and the potential losses incurred by their harm. For example, invasive jellyfish blooms on the Mediterranean coast during the summer months are exacerbated by climate change, among other drivers. The drop in beach visits during such blooms causes significant economic damage and threatens the tourism industry.¹² Understanding the economic value of ecosystem services can also impact investment

11 Independent Group of Scientists appointed by Secretary-General, "[Global Sustainable Development Report: Science for Achieving Sustainable Development](#)," 2019.

12 Graham, W.M., S. Gelcich, K.L. Robinson, C.M. Duarte, et al. "[Linking Human Well-Being and Jellyfish: Ecosystem Services, Impacts, and Societal Responses](#)." *Frontiers in Ecology and the Environment*, 2014.

channels, promote the development of sustainable practices and foster partnerships that balance economic prosperity and environmental management.

While interpretations of which sectors adhere to the concept of a blue economy may differ, several categories are inherently incompatible with this economic approach. In late 2023, the 28th UN Conference on Climate Change held in Dubai, declared that the world must wean itself off fossil fuels, since they are the main driver of climate change.¹³ The exploration and extraction of fossil fuels, such as gas and oil, are thus inherently unsustainable activities due to their negative impact on marine ecosystems, pollution risks and, of course, their significant contribution to climate change.

Commercial seabed mining, an emerging industry with enormous potential to damage marine systems, is also incompatible with the blue economy. Some countries have already banned such activity, and many organizations are calling for a complete moratorium on the industry.¹⁴

The credibility and integrity of the term 'blue economy' depend on making a clear distinction between sectors that can meet the conditions for a sustainable economy at sea, with proper management and regulation, and those that cannot. To distinguish between the two, this chapter uses the term 'maritime economy' to describe general development activities at sea, even those unrelated to sustainability, such as fossil fuel development and seabed mining.

Sea without borders

Since a blue economy is one that improves human well-being by preserving environmental resources for future generations, its environmental, climatic and social aspects are intertwined and interdependent.

The Mediterranean Sea in general, and the Eastern Mediterranean in particular, is a resource shared by all surrounding countries. It belongs to the public domain, regardless of political borders in the region. But although geography may deem these borders inconsequential, political and social powers create a far more complex picture.

Social and environmental justice are sensitive to the dynamics of these forces. They strive to achieve fair treatment of groups regardless of their socioeconomic standing and equitable distribution of social benefits, environmental benefits (such as access to open areas, clean water and pollution reduction) and economic benefits (such as equal employment opportunities). In fact, addressing distributive justice and other social values are intrinsic to the blue economy concept. Thus, an economy that contributes to widening of socioeconomic gaps and inequality, or that undermines social fabric and solidarity, is not a blue economy even if it does not harm the environment.

Being a shared resource, use of the sea requires joint management. Its wise management will benefit all countries along its shores. To the contrary, uncoordinated efforts to meet

13 COP28, "[Agreement Signals "Beginning of the End" of the Fossil Fuel Era](#)", United Emirates, 2023.

14 IUCN, "[Resolution 122: Protection of deep-ocean ecosystems through a moratorium on seabed mining](#)," 2021.

unrestrained demand will cause over-exploitation and all parties will lose, a concept known as ‘the tragedy of the commons’.

For example, the beaches of the Gaza Strip are contiguous and interdependent with those of Israel's southern coast. Geographically and biologically, they border the same expanse of sea. Indeed, when a treatment malfunction in Gaza causes sewage to be discharged into the sea, Israel's southern beaches and nearby desalination plant are immediately closed due to health concerns. Similarly, the impact of overfishing is felt beyond any political border.

Recognizing the sea as a shared resource is vital in today's world, as is internalizing the need for regional cooperation in order to manage that resource in a just and sustainable manner. A holistic approach is imperative to analyzing the challenges and promoting solutions in this field.¹⁵

D. Maritime economy, blue economy, climate goals, and economic cooperation in the Eastern Mediterranean

The Current State

The Mediterranean Sea has experienced a ‘Blue Gold Rush’ in recent decades, with many countries diverting resources for the economic development of their own maritime domain. This trend is born of the perception that the exploitation of additional territories and resources presents tremendous economic opportunities. The process is driven by the expansion of trade between Europe and Asia, generating maritime traffic growth in the Mediterranean, the development of a global middle class, the resulting growth in international tourism and constantly growing energy demand. It is reflected in a growing number of tenders for deep-sea oil and gas exploration, potentially involving 40% of the Mediterranean in the not-too-distant future.¹⁶ In EU countries bordering the Mediterranean, this process is also driven by the bloc's Blue Growth Program, a long-term strategy designed to support sustainable growth in the maritime sector.¹⁷

The economic value of marine activities (GMP - Gross Marine Product) in the Mediterranean Sea was estimated at approximately \$450 billion in 2017.¹⁸ This represents about 20% of global GMP, although the Mediterranean comprises only some 1% of the world's ocean and sea surface. In other words, development pressures in the Mediterranean are disproportionate to its expanse, and far more intense than in other seas.

These are the main assets driving maritime economic activity in the Eastern Mediterranean:

- 1) **Coastal and maritime tourism** is one of the Eastern Mediterranean's most significant maritime economic activities. Prior to the COVID-19 pandemic, tourism in

15 Lucas K, Walker G, Eames M, Fay H and Poustie M, “[Environment and Social Justice: rapid research and evidence review](#),” *Sustainable Development Research Network*, 2014.

16 Piante C. and Ody D., “[Blue Growth in the Mediterranean Sea: the Challenge of Good Environmental Status](#),” *MedTrends Project WWF-France*, 2015.

17 The European Files, “[Blue Growth Strategy](#),” 2017

18 Randone et al, “[Reviving the Economy of the Mediterranean Sea: Actions for a Sustainable Future](#),” *World Wildlife Fund*, 2017.

this region grew significantly, especially in Turkey, Greece, Egypt and Cyprus.¹⁹ In 2011, maritime tourism contributed 35% to Lebanon's GDP, and accounted for 25% of total employment. Following the significant drop in tourism revenue during the Covid pandemic, data from 2023 shows that the Middle East was the first region to recover from Covid's effects on tourism, already surpassing pre-pandemic levels. Europe and Africa have reached about 90% of pre-pandemic capacity.²⁰

- 2) **Maritime Oil and gas exploration and production** is increasing, especially in the Eastern Mediterranean. This activity includes the construction of offshore infrastructure – such as floating rigs and liquefaction facilities - and the planning of seabed gas pipelines between Cyprus and Greece and between Israel and Europe. The 'Arab Gas Pipeline' – is a land-based gas pipeline used to export gas from Egypt to Jordan, Lebanon and Syria and a short submarine offshoot of it connects Israel to Egypt.
- 3) **Shipping and maritime transport** with their related port and shipping services, are another main driver of maritime economic activity in the Eastern Mediterranean. Significant regional trade routes include the shipping of crude oil from northern Egypt and the Persian Gulf via the Suez Canal and China's initiation of a maritime trade route through the Mediterranean to strengthen its ties with the rest of Eurasia (the so-called Belt and Road Initiative). Container traffic also runs through the Eastern Mediterranean, although less than in the northern Mediterranean.

Apart from commercial fishing, which is expected to decrease, all traditional sectors of the Mediterranean maritime economy - including tourism, transport and gas and oil exploration - are forecast to keep growing until 2030. Sectors in earlier stages of development - such as renewable energy, seabed mining and biotechnology - are expected to expand even faster, despite greater uncertainty regarding their development and impact on marine ecosystems.²¹

Significant population growth is also anticipated in the Eastern Mediterranean states. The population of the Palestinian Authority, for example, is forecast to surge by 59% between 2010 and 2030, and Jordan's population is predicted to grow by 44%.²² These demographic shifts, combined with climate and biodiversity threats, raise growing concerns for the health of the region's marine ecosystem and the resulting impact on economic profitability.

With or without implementation of blue economy principles, continued growth of the already extensive maritime economy demonstrates that pro-development forces may still achieve unrestrained industrialization, as in the past, jettisoning principles and goals of sustainable development. Adopting the blue economy paradigm, to prevent or reduce environmental damage and achieve sustainable utilization of the marine environment, remains a significant

19 UN World Tourism Organisation, ["UNWTO Tourism Highlights,"](#) 2014.

20 UN World Tourism Organisation, ["Tourism on Track for Full Recovery as New Data Shows Strong Start to 2023,"](#) 2023.

21 Plan Bleu, ["Economic and social analysis of coastal and marine waters use in the Mediterranean,"](#) 2014.

22 UN Department of Economic and Social Affairs, Population Division, ["World Urbanization Prospects: The 2018 Revision,"](#) 2018.

challenge for the Mediterranean as a whole, and the Eastern Mediterranean countries in particular.

Neither is the lack of significant blue economy cooperation in the Eastern Mediterranean surprising. Political conflicts among the countries of the region challenge cooperation and undermine trust between the sides. Economic, social and political differences also affect prospects and readiness for cooperation, both generally and in the blue economy. Disparities between legal and regulatory frameworks, knowledge and expertise levels, awareness and commitment to environmental issues and institutional and economic resources available to each country, all challenge the ability to find common ground for cooperation.

Policies to promote a blue economy in the Eastern Mediterranean

Most countries in the region affirm the importance of promoting a blue economy within their borders (Cyprus and Greece²³, Egypt,²⁴ Israel, Jordan,²⁵ Lebanon,²⁶ the Palestinian Authority,²⁷ Turkey) but almost none have adopted significant operational strategies to advance this. Rather, in the absence of a universal definition of 'blue economy', each country bases its declarations and plans on different interpretations of the term. Accordingly, they include various sectors - including the controversial - in their designation of a blue economy, thus blurring the distinction between a maritime economy, which includes all economic sectors related to the sea, and an essentially sustainable blue economy.

It is also important to note that the emerging new strategies and blue economy planning documents being adopted by Eastern Mediterranean countries, if they are to be consequential, must align with commitments to meet fossil fuel emission targets. However, some climate target initiatives will not necessarily align with blue economy goals, necessitating attention and implementation of holistic planning processes.

As to broader initiatives, the Blue Growth Strategy of the EU, of which Cyprus and Greece are member states, declares the importance "to further harness the potential of Europe's oceans, seas and coasts for jobs, value and sustainability."²⁸ The initiative highlights five sectors of high growth potential: renewable energy, biotechnology, tourism, aquaculture and mineral extraction. Transport and shipping, fisheries and gas and oil are also mentioned in this regard.

This EU framework considers blue growth and the blue economy to be synonymous, placing the fossil fuel industry and even the nascent and destructive seabed mining industry in the

23 Plan Bleu, "[Blue economy in the Mediterranean: case studies, lessons and perspectives.](#)" 2020.

24 Habiba Hamdy, "[Explainer: What is Egypt's National Strategy for the Blue Economy?](#)," *AhramOnline*, Monday 29 May 2023..

25 [Jordan Maritime Authorities](#)

26 Rym Ayadi and Yeganeh Forouheshfar, "[Blue Economy Within the Mediterranean: The Role of Regional Collaboration.](#)" *Euro-Mediterranean Economists Association*, 2023.

27 Democratic Arabic Center, "[A Sustainable Development Vision for the Blue Economy: Design a Sustainable Marine Economic Complex in the Gaza Strip – Palestine.](#)" 2020..

28 The European Files, "[Blue Growth Strategy.](#)" European Commission, 2017.

same category as environmentally sustainable activities, despite their unfeasible and unsustainable nature.

Israel's Planning Administration issued a vision and policy document for its Mediterranean maritime space in 2022. The document outlines planning and regulation designed to "realize the economic potential of the marine space, while preserving its ecosystem and resources." It also reviews the many activities currently taking place in Israel's Mediterranean waters that require concrete planning principles in order to minimize conflicts between the various uses and users, and to reduce environmental damage. Some of the chapters rely on traditional approaches to developing the maritime economy as a whole, while other introduce more advanced ideas, such as an in-depth presentation of marine nature conservation in Israel as a significant part of the economy. It also proposes a new approach to fisheries management policy in Israel, described as "a transition from the traditional approach of developing the fishing sector, aimed at maximizing yield in the short term, to a policy of regulating fishing activities in order to preserve the fishery resource and the natural environment in the long term."²⁹

Existing collaborative platforms

one of the main economic platforms for regional cooperation is the Union for the Mediterranean (UfM), an intergovernmental organization of 43 states, including all those of the Eastern Mediterranean. Its goal is to bolster the Euro-Mediterranean Partnership (EuroMed) and the Barcelona Process, established in 1995 to promote regional and international cooperation, develop infrastructure for relationships and encourage regional cohesion and economic integration.

The UfM's current goal is to advance cooperation and political stability in the Mediterranean region by promoting two tracks for economic development. The first is based on bilateral agreements with the EU aimed at turning the Mediterranean region and EU countries into a free trade zone. The second track is the creation of an EU-funded aid program to improve the economic structure of Mediterranean states by involving these countries in the development of joint EU-funded projects, programs and forums within the framework of the Middle East Development Agreement (MEDA) program. The EU's Cross Border Cooperation (CBC) program also funds projects that promote sustainable development along the EU's outlying land and sea borders, with a focus on reducing inequalities in living standards and addressing cross-border challenges.³⁰

In 2021, the UfM countries signed a declaration promoting a blue economy in the Mediterranean,³¹ and put together a roadmap to implement that declaration.³² The Blue Mediterranean Partnership – a joint initiative of the UfM, European Bank for Reconstruction

29 Director of Planning, "[Vision and Policy Document for Israel's Maritime Space in the Mediterranean.](#)" 2022.

30 European Neighbourhood Policy and Enlargement Negotiations (DG NEAR), "Cross Border Cooperation," 2024.

31 Union for the Mediterranean (UfM), "[Ministerial declaration on Sustainable Blue Economy.](#)" 2021.

32 Union for the Mediterranean (UfM), "[Roadmap to Set the Path Towards the Implementation of the 2021 UfM Ministerial Declaration on Sustainable Economy.](#)" 2023.

and Development (EBRD) and European Investment Bank (EIB) – was announced at the 27th United Nations Conference on Climate Change (COP27) the following year. The partnership's goal is to support the transition to a sustainable blue economy in the southern Mediterranean countries - particularly Egypt, Jordan and Morocco - by bringing together international donors, partner countries, financial institutions and philanthropy, promoting policy reforms and raising public and private funding for projects.

The Eastern Mediterranean countries are also members of a variety of environmental and climate forums. The Eastern Mediterranean and Middle East Climate Change Initiative (EMME-CCI), initiated by Cyprus in 2022, aims to coordinate a centralized response by these states to the climate crisis, in line with the Paris Agreement on the reduction of greenhouse gas emissions.³³ Thus far, the initiative's activity has been largely administrative: the compilation of a regional action plan, development of a governance scheme and creation of a regional organizational structure, including a management council, local national secretariats and climate ministries. The initiative still lacks political clout and its action program has not yet been translated into significant regional moves.

All states bordering the Eastern Mediterranean are also signatories to the Barcelona Convention for the Protection of the Maritime and Coastal Environment of the Mediterranean Sea, the legal framework for the implementation of the Mediterranean Action Plan (MAP). Adopted in 1975 at the initiative of the UN Environmental Program, MAP's main objective is to protect the Mediterranean environment.

But despite the many platforms, conventions and forums espousing the importance of cooperation toward a regional blue economy, significant joint initiatives among blue economy sectors have not yet been established in the region. In fact, the most productive economic cooperation between Eastern Mediterranean states remains in the fossil fuel sector.

The traditional fossil fuel energy sector is based on large-scale cooperation with global corporations and relies on massive physical infrastructure and long-term agreements. The 2016 establishment of the strategic Hellenic Alliance among Israel, Greece and Cyprus has strengthened cooperation in these fields. Egypt and Israel also have a long history of oil and gas trade. In addition, the Eastern Mediterranean Gas Forum (EMGF) - consisting of Cyprus, Egypt, France, Greece, Israel, Italy, Jordan and the Palestinian Authority - signed a gas exploration and production treaty in 2020. These frameworks and activities cannot be labeled sustainable, nor do they contribute to the blue economy. Most even harm it. Nonetheless, successful political and business cooperation may indicate that sufficiently strong economic potential could break through existing barriers.

Cautious optimism may also be warranted if these forums show interest and succeed in undergoing change, to lay the foundation for joining the blue economy. For example, the organizational and political tools developed by the regional gas forum could be used to serve a regional forum for renewable energy. The organizational characteristics of these forums

33 EMME-CCI Interim Secretariat, "[Eastern Mediterranean and Middle East Climate Change Initiative Declaration](#)", 2022.

will have to be carefully examined, however. Currently, they do not meet the conditions of the blue economy due to their concentration of power and lack of transparency.

Looking forward, it is clear that promoting a blue economy in the Eastern Mediterranean requires joint efforts by the countries of the region in order to benefit from their shared maritime resources and address common challenges.

E. The Potential for Regional Cooperation in a Blue Economy

Regional cooperation in the Eastern Mediterranean can serve as a two-way street: blue economy can foster cooperation in the Eastern Mediterranean by promoting joint sustainable initiatives, which in turn can enhance regional stability and collaborative development efforts.

A number of key sectors could potentially serve as a basis for cooperation and promotion of a regional blue economy.

Regional Nature Conservation and Eco-Tourism

Coastal and maritime tourism is one of the most significant and growing economic sectors in the Eastern Mediterranean today. The industry relies on existing infrastructure and conditions, including accessible beaches, favorable weather, sea turtle nesting sites, shark and ray hotspots, coastal heritage sites of global importance and more. Thus, nature conservation and tourism could serve as a main lever for implementing a regional, blue economy.

Adapting traditional tourism to generate economic benefits, while preserving marine ecosystems and coastal environments, will be a significant step toward implementing the blue economy. The onset of the global Covid-19 pandemic in early 2020 resulted in the collapse of many economic sectors, especially the tourism industry, which suffered an unprecedented blow. The post-crisis recovery presents a unique opportunity to pave the way for a sustainable, resilient and profitable blue economy by rebuilding the coastal tourism industry based on ecotourism and nature conservation.³⁴

Ecotourism aims to manage the capacity of tourism destinations in order to prevent overcrowding and environmental damage, encourage the use of sustainable tourist transportation, implement best practices for responsible tourism, support eco-accommodations and incorporate educational and outreach elements into attractions. The integration of local communities in tourism planning and decision-making is yet another aspect of advancing the blue economy. Connecting to local communities to understand their needs, concerns and aspirations, and ensuring that revenues and benefits are distributed equally, are also important principles. By instilling respect for local cultures, traditions and heritage, tourists can be encouraged to appreciate the unique aspects of the destinations they visit.

These social values are also the basis for regional tourism cooperation based on equality and transparency. Collaborations - such as joint marketing of the Eastern Mediterranean as

34 UN Conference on Trade and Development, [“The COVID-19 Pandemic and the Blue Economy,”](#) 2020.

a sustainable and responsible tourist destination, with an emphasis on the region's unique maritime and cultural offerings - can engage the tourism industry, nature conservation organizations and even local government in multidisciplinary cooperation.

One initiative that could promote these values is awarding sustainability certification to certain types of businesses. For example, the internationally recognized Blue Flag³⁵ and Green Key³⁶ programs award such certification to beaches and marinas, and to hotels and tourism businesses, respectively, for good environmental practices and sustainability. These programs operate, among other countries, in Cyprus, Egypt, Greece, Israel, Jordan and Turkey. When strictly administered, their indicators provide an effective lever for implementing environmental and social sustainability standards, while increasing economic value. They can also leverage regional networks for knowledge-sharing and cooperation among non-governmental organizations (NGOs), the business sector and local government.

The potential of marine nature conservation to leverage the economy and blue employment, especially in the tourism sector, is particularly high. The wealth of marine flora and fauna in the Eastern Mediterranean attracts leisure activities such as diving, snorkeling and visits to observe marine wildlife and unique habitats. Tourism based on such habitats generates lucrative profits around the world. The EU has determined that tourism and leisure activities in the Mediterranean are the sectors that benefit most from marine nature conservation, and provide the regional economies' highest profits.³⁷ Moreover, according to an International Labor Organization (ILO), investment in natural environment-based economic sectors, such as ecotourism, will create 24 million new jobs globally by 2030.³⁸ The ILO notes that while such investment could result in the loss of six million jobs in the oil and gas sectors, that loss is dwarfed by the global gain not only in increased employment, but also in terms of the equitable distribution of capital resources, poverty reduction and improved living conditions for millions of people, now and in future generations.

Many large marine animals - such as mammals, sea turtles and sharks - migrate between countries, creating opportunities for cross-border cooperation in preserving biodiversity and raising public awareness of the importance of such cooperation. For example, collaboration between researchers from Cyprus, Greece, Israel, Spain and Turkey on safeguarding and monitoring the endangered Mediterranean monk seal population proved successful when 'Julia', a mediterranean monk seal named 'Tugra' in Turkey, was sighted along the coasts of Israel and Gaza in 2023. Information Israeli researchers received from their Turkish colleagues helped keep Julia/Tugra safe during her visit.³⁹

Regional cooperation can also contribute to the management of environmental risks, such as biological invasions. For example, monitoring and regional regulation of ship ballast water could help minimize the damage caused by invasive species.

35 [The Blue Flag Eco Label](#)

36 [The Green Key Eco Label](#)

37 European Commission, "[Blue Growth opportunities for marine and maritime sustainable growth](#)," 2012.

38 International Labour Organisation, "[World Employment Social Outlook](#)," 2018.

39 Idit Elhatan, "And Then Juliet Arrived," National Geographic Israel, July 2023.

Marine Protected Areas (MPAs), which are primarily devoted to marine ecosystem protection, offer great opportunities to observe marine life. A network of well-managed MPAs is thus a profitable ecotourism activity. But beyond this direct economic return, the ecosystem services provided by MPAs have an appreciable indirect economic value. They also benefit most marine, coastal and land sectors by mitigating the effects of climate change, physically protecting coastal zones and supplying both oxygen and food. MPAs are also distinct examples of Nature-Based Solutions (NBS), which promote restoration and imitation of natural environment functions, and enhance ecosystem services for social welfare and prosperity.

A healthy and functioning marine environment is not only necessary to a blue economy for its direct impact on tourism income and job growth. Promoting a blue economy focused specifically on a network of marine MPAs will also indirectly generate natural growth of other sectors – such as real estate - by stimulating the local economy (the 'supply chain' effect).⁴⁰ The fishing industry provides another example. One of the most effective tools for boosting fishery profitability is the establishment of MPAs - where fishing populations reproduce, replenish and subsequently leave the boundaries of the protected area, where they then can be fished (also known as the 'spillover' effect).

MPAs can provide an effective tool for building regional cooperation through joint management of a regional MPA network and the establishment of cross-border MPAs.

Joint management of MPAs encourages broader collaboration and can lead to improved cross-cultural understanding, information sharing and community involvement in conservation and management efforts. The Mediterranean Protected Areas Network (MedPAN) to develop and share management tools for regional MPAs is just such an example. This initiative operates the DestiMED project, which is working to develop a sustainable marine tourism model throughout the Mediterranean basin, including a network of MPAs in Greece, Lebanon, Jordan and Tunisia.⁴¹

Adaptation of existing maritime activity

Renewing and streamlining the existing economic infrastructure in the Eastern Mediterranean, as a basis for cooperation and promotion of a regional blue economy, should be a top priority. This would require detailed examination of maritime traffic and energy, the main economic sectors that could already be adjusted and updated to meet the goals of a blue economy in the Eastern Mediterranean.

Sustainable maritime traffic and shipping are essential to a blue economy. Strategies for making sustainable adjustments could include adopting more ecological technologies, using alternative fuels, meeting greenhouse gas emission standards, planning and using optimal shipping routes, increasing the efficiency of existing port infrastructure, managing ballast water and increasing compliance with waste and wastewater standards onboard. Economic incentives, such as reduced port fees, are another promising avenue to encourage shipping

40 ICF Consulting Services Limited, "[Study on the Economic Benefits of MPAs.](#)" *European Commission*, 2018.

41 MedPan, "[DESTIMED Project](#)," 2016.

companies to adopt sustainable practices. Most of the strategies presented here can benefit, and some even require, regional cooperation for optimal implementation, especially regarding joint planning of shipping routes, multi-national agreements on standards for greenhouse gas emissions, waste and pollution, and collaboration to minimize species' invasion.

Other avenues for regional cooperation toward a blue economy are born of the now unavoidable necessity to transition to renewable energies. Promoting a sustainable alternative in the energy sector can serve as a basis for significant and enticing regional cooperation in terms of both its scope and revenue.

One of the boldest initiatives currently in the pipeline is the Green Blue Deal⁴² proposed by 'EcoPeace', a trilateral NGO aiming to create climate solutions jointly supported by the governments of Israel, Jordan and the Palestinian Authority. The initial phase of this cooperation envisions exchanging water desalinated in Israel for renewable energy produced in Jordan, as well as water distribution arrangements in the Palestinian Authority and rehabilitation of the Jordan River. The vision and infrastructure for energy and water sharing (such as power and water lines) could increase energy efficiency, generate significant revenues and foster both environmental and social benefits, such as reducing greenhouse gas emissions and creating jobs. Such a precedent might even provide a framework for conflict resolution and regional peacebuilding.

Another energy initiative aims to connect Europe's power grid to Asia and Africa via the world's longest submarine power cables. This initiative also demonstrates the need for regional cooperation, for example agreement on the exclusive economic water boundaries of each country, in order to plan infrastructure routes. This project would, however, involve massive new marine infrastructure. Solutions relying on existing infrastructure, including less harmful land-based alternatives, should be examined and preferred.

Managed technological development

As noted above, technological developments can also be a basis for cooperation and promotion of a regional blue economy, if managed and planned wisely. The blue economy includes development of 'blue-tech', or the application of advanced technologies to challenges and opportunities in the marine environment. Blue-tech seeks to offer a wide range of technological innovations aimed at researching, understanding and sustainably exploiting the resources and ecosystems of the world's oceans and seas.

However, while innovation and research can lead to technological progress, sustainable solutions and new economic opportunities, promoting technological initiatives in an uncontrolled manner could put even more pressure on the already dire state of many marine ecosystems. An essential element of this well-founded concern is the addition of pressure from new sustainable industries, rather than the replacement of pressure from existing,

42 Bromberg G, Majdalani N, Abu Taleb Y, ["A Green Blue Deal for the Middle East,"](#) EcoPeace Mideast, 2020.

abusive industries. For example, while renewable energy projects promote the development of offshore wind farms and additional new infrastructure at sea, the activity of the oil and gas sector keeps expanding.⁴³ Risk analysis shows that offshore wind energy turbines can cause great harm to winged animals and may have an even greater potential for damage than terrestrial ones.⁴⁴

Innovative marine industries are characterized by technological uncertainty, and consequent uncertainty regarding their environmental impact as well. Strict control must thus be exercised over the development of marine industry in order to prevent the deterioration of the marine ecosystem and potentially enormous economic losses among all branches of the blue economy, which rely on ecosystem services for their profitability. At the same time, a shift is needed from traditional engineering-based solutions to nature-based solutions, for example blue carbon projects based on the natural capabilities of marine carbon-fixing systems, such as algae farms. This, in turn, requires guidance and support for technological initiatives to integrate restoration and conservation principles in their efforts to generate profit and ensure sustainability for humanity and the planet. Regional collaboration to produce renewable energy at sea - initiatives such as generating electricity from wave energy and creating low-impact submarine energy storage technologies - could promote increased efficiency in infrastructure-sharing, adaptation and implementation of environmental regulation, while maintaining the projects' economic viability.

In conclusion, by working together at a regional level, the countries of the Eastern Mediterranean can harness the potential of their shared marine resources while preserving the marine environment for future generations. Regional cooperation is vital to address cross-border challenges and create a sustainable and thriving blue economy in the Eastern Mediterranean.

F. The Israeli perspective

Israel has a population of 9.4 million and a Mediterranean coastal strip of 273 km. Its share of the Mediterranean Sea covers 26,000 sq kms, about 4,000 of which are sovereign waters and the rest are Israel's exclusive economic zone (EEZ). The EEZ begins at a distance of 22 kms from the coast and extends 190 kms to the midline between Israel and Cyprus, as agreed between the two countries. The borders to the north and south were marked according to customary practices between countries, but a maritime border agreement between Israel and Lebanon was only reached in 2022. Economic waters do not confer full state sovereignty, but rather exclusive economic rights to search, exploit and manage the animal and mineral resources located there.

The Israeli economy is completely dependent on international maritime trade, since there is almost no land trade with neighboring countries. The GDP share of international trade is

43 Brent Z, Barbesgaard W, Pedersen C, "[The Blue Fix: What's driving blue growth?](#)", *Sustainability Science*, 2020.

44 Hüppop O, Hüppop K, Dierschke J, & Hill R, "[Bird collisions at an offshore platform in the North Sea](#)", *Bird Study*, 2016.

relatively high at about 60%.⁴⁵ Accordingly, Israel's shipping and maritime transportation sector is large-scale, with five commercial seaports and two ports for receiving energy products (coal, gas, oil, etc.). Other developed sectors of Israel's maritime economy are leisure and marine and coastal recreation activities, and the water desalination industry, which supplies 80% of drinking water. The start-up nation's marine technologies sector is also significant, with about 150 registered maritime-related technology companies.⁴⁶

The coastal and marine tourism sector in Israel is also highly developed. Swimming in the sea is ranked as Israel's most popular leisure activity,⁴⁷ and a Ministry of Tourism survey estimates the economic value of this activity at about NIS130 million a year.⁴⁸ The same survey also found that more than 40% of tourists in 2018 engaged in marine activity, the economic value of which was estimated at NIS20 billion in 2017.

Israel's aquaculture and fishing activity is relatively limited. About 80% of the fish consumed in the country is imported. About 15% of consumption is grown domestically in freshwater ponds, including only about 1% from aquaculture, and less than 5% of is sourced from Sea of Galilee and Mediterranean fishing. Israel has made great progress over the past decade in sustainable fisheries' management, largely due to a series of new fishing regulations that came into effect in 2016. The regulations focus on reducing the size of fleets employing destructive fishing methods, such as trawlers, while compensating fishermen, and limiting fishing in space and time by banning it during breeding seasons. The regulations also enhance the selectivity of fishing equipment by adapting the mesh size of fishing nets and using dedicated hooks.⁴⁹

Fish breeding in sea cages is also an important initiative in the aquaculture sector. The method was first used in the Gulf of Aqaba, but had to be relocated to the open waters of the Mediterranean due to far-reaching environmental impacts on the Gulf. Today, many countries prohibit the use of fish cages in closed bays in an attempt to minimize the environmental damage they cause. In 2023, 20 years after moving from the Gulf of Aqaba to the coastal Mediterranean town of Ashdod, and due to the economic unfeasibility of continuing to operate in Israel, the Israeli company signed a cooperation agreement with a private UAE firm to move the cages to Abu Dhabi.⁵⁰

In 2015, the Technion issued the Israel Marine Plan to address the need for effective, strategic and integrative tools to ensure balanced and sustainable management of Israel's marine resources.⁵¹ At the time, it was considered a breakthrough in Israel's marine planning

45 World Integrated Trade Solution, "[Israel Trade Statistics](#)," 2023.

46 EHUD Gonen, "[A Review of the Blue Economy in Israel – Current Status and Opportunities](#)", *Center for Maritime Policy and Strategy Research*, University of Haifa, 2022.

47 Alterman, R. and C. Pellach, "[Regulating Coastal Zones: International Perspectives on Land Management Instruments](#)," *Routledge*, 2020.

48 Katenkov, A. and G. Dorfman, "[Inbound Tourism Survey – annual report](#)," *Israel Ministry of Tourism*, 2019.

49 Rothschild A, "[The Fisheries Management Reform in the Mediterranean Sea](#)", *Society for the Protection of Nature in Israel*, 2015

50 Anat Georgy, "[The fish in Ashdod relocate to Abu Dhabi](#)," *The Marker*, 2023.

51 "[Israel Marine Plan](#)", *Technion*, 2015.

in terms of scope and influence, and even today, the document is regarded as an introduction to in-depth professional engagement with marine planning in Israel.

In 2020, the Planning Administration issued the “Maritime Policy for Israel’s Mediterranean Waters”. Updated in 2022, it constitutes the broadest review by a government body of Israel's maritime space. In accordance with its recommendations, an Inter-Ministerial Committee for the Management of the Maritime Space was established to serve as a forum and coordinator for all relevant government ministries on the subject. Among its activities, the committee declared Haifa the capital of Israel's blue economy and maritime innovation, and accordingly, the National Center for Blue Economy and Innovation was established in the northern coastal city in 2022.

In 2023, the Ministry of Innovation, Science and Technology and the National Economic Council published the “BlueTech National Plan”, which describes the opportunities and barriers to developing Israel’s nascent national blue economy, and offers goals and directions for action.⁵²

These documents indicate that Israel is still in the early stages of characterizing and examining the implementation of blue economy principles in Israel, let alone has it addressed the idea of regional cooperation in this field. Although the interest and motivation to promote these fields in Israel is clearly growing, the paucity of data on the contribution of the marine economy in general, and of the blue economy in particular, to the Israeli economy reflects the gap between internalizing the blue economy’s importance and integrating it, not to mention its implementation in a broader regional forum.

The potential in Israel and in regional cooperation

1. **Nature conservation and tourism** – Profitable and extensive coastal and ecological tourism in Israel constitutes a basis for future development. The potential of this economic development lies in the existing infrastructure of quality marine nature, and coastal and marine leisure that is firmly anchored in local culture. Most of Israel's population lives on the shores of the Mediterranean Sea, and millions of tourists visit its shores throughout most of the year, due to the comfortable weather. A wide variety of water sports, such as diving, surfing, rowing, sailing and more attracts hundreds of thousands of people to beaches and clubs. World renown coastal heritage sites, such as the Caesarea and Ashkelon National Parks, Rosh Hanikra grottoes, archaeological remains of fishing villages and a variety of other sites also constitute tourist attractions.

In Israel, as elsewhere, tourism depends on nature conservation, and vice versa. There are unique sites for observing marine wildlife, such as shark and ray populations near the coast, sea turtle nesting sites and unique and diverse coastal and marine habitats, such as kurkar ridges, underwater canyons, abrasion tables and sandy beaches. But despite progress in marine conservation in Israel over the last

52 "[BlueTech National Program](#)", Ministry of Innovation, Science and Technology and National Economic Council, 2023.

decade, only about 4% of Israel's sovereign waters and 2% of its economic waters lie within declared MPAs.⁵³ Environmental organizations continue to advocate for a MPA target of 30% by 2030, in line with global goals.

The potential for related cooperation between Israel and the countries of the Eastern Mediterranean is high. It includes the establishment of cross-border MPAs under joint management and assimilation of joint ecotourism ventures. For example, the 2023 master plan for MPAs in Israel's exclusive economic zone proposes planning two MPAs with cross-border potential: one with Cyprus and possibly Lebanon, and the other with Egypt.⁵⁴ These reserves could also serve as a basis for 'Peace Parks' – protected areas on both sides of the border where states put aside border disputes in favor of nature conservation and tourism. Joint management of cross-border marine resources within MPAs creates synergy, increases the efficiency of nature conservation efforts and enhances the blue economy, for example by increasing shared revenues from ecotourism and system services. This is especially true when cooperation leads to the creation of contiguous reserves that are larger than the sum of their parts, thereby enhancing their efficiency and conservation goals.

2. **Maritime Transport** – The development of sustainable technologies to modernize shipping and ports has high potential for promoting a blue economy in Israel. An OECD report on the future of the maritime economy notes that a series of technologies - such as sensors, satellites, autonomous systems and big data - are changing the face of shipping, navigation, maritime transportation and the 'smart ship' by being consolidated into new assemblies.⁵⁵

These technologies can form the basis for regional cooperation such as the establishment of international test zones for autonomous vessels, the joint planning and implementation of optimal shipping routes, and the management of regional databases. However, regional conflicts and wars clearly impair sustainable shipping route planning due to the political and security limitations they pose.

3. **Energy** – Israel's gas industry clearly demonstrates that cooperation is a critical success component. The political cooperation in the Eastern Mediterranean that emerged in the field of gas must be converted into other fields. For example, cooperation is necessary to realize the potential of the Green-Blue Deal between Israel, Jordan and the Palestinian Authority. Moreover, regional collaboration in producing renewable energy at sea, with initiatives such as generating electricity from wave energy and energy storage technologies on the seabed, will promote increased efficiency in infrastructure sharing, adaptation and implementation of environmental regulation, and maintaining the economic viability of projects.

53 [Israel's Mediterranean Marine Nature Reserves](#), Israel Nature and Parks Authority web site (in Hebrew)

54 Shabtai A, Rothschild A, "Master Plan for Marine Nature Reserves in Israel's Exclusive Economic Zone," *Society for the Protection of Nature in Israel*, 2023 (in Hebrew).

55 OECD, "[The Ocean Economy in 2020](#)," OECD Publishing, 2016

In keeping with the global trend of accelerated marine infrastructure construction, known as “ocean sprawl”, planning initiatives have recently been promoted in Israel proposing additional structures and infrastructure in the Mediterranean Sea, some of which will stand tall above the surface of the water. These include strategic surveys regarding renewable energies and offshore agriculture (which have not yet been published), and a national planning program (designated in Hebrew as TAMA 13C) for innovative facilities in the Mediterranean Sea that include rigs, masts and wind turbines. This planning shift is expected to affect the airspace above the sea, and pose a significant risk to birds, which enjoy protected status in Israel as natural values. Their protection is also anchored in the Convention on the Conservation of Migratory Species to which Israel is a signatory. Therefore, until more is known about the effects of these planning moves, precautionary principles should be applied when designing these facilities.⁵⁶

4. **Joint management and monitoring** – Establishing a joint management, monitoring and response team for Israel and the countries of the region is important in order to conduct scientific and regulatory monitoring of progress in implementing blue economy principles in the Eastern Mediterranean. Applying principles of green national accounting, which incorporates environmental considerations into national accounting frameworks, will help measure and address the environmental costs and benefits associated with various maritime economic activities. Joint regional management will result in increased efficiency and synergistic influence in the execution of operations, such as knowledge sharing for monitoring and harnessing collective experience to improve regulatory updates and other processes.

One arena with largely untapped blue economy potential is the relationship between Egypt and Israel. Both countries border the Mediterranean and Red Sea, and therefore face common maritime challenges and opportunities. Despite some success of the maritime economy within the framework of the Eastern Mediterranean Gas Forum and gas trade, cooperation has not yet emerged in the blue economy. Nonetheless, both countries have attributed growing importance to the blue economy over the past decade. Egypt is taking steps to promote a blue economy through work plans, legislation and budget allocations, especially in the fields of aquaculture, tourism, transportation and trade. Israel, too, has been investing resources in marine research as well as legislative and marine planning measures. The potential for blue economy cooperation is therefore significant, at least in theory.

After the signing of a peace treaty in 1979, a number of platforms fostered initial cooperation between Israel and Egypt in the 1990s and 2000s, mainly in research. One example was the American Program for Middle East Cooperation,⁵⁷ which involved agricultural and medical research institutes from Egypt, Israel and the United States. At

⁵⁶ Rothschild A, Ofir A, Shabtai A et al., "[Risk Analysis for Birds from Marine Facilities Off the Coast of Israel.](#)" *Ecology and Environment*, 2023.

⁵⁷ Keynan A and Shoham D, "[Scientific cooperation in agriculture and medical research as a means for normalizing relations between Egypt and Israel.](#)" *Annals of the New York Academy of Sciences*, 1998.

first, each country worked directly with the United States. Then all three worked together until, finally, joint studies were conducted between Israel and Egypt without American involvement. The Multinational Plan for the Red Sea was another successful program. Funded by the German government, it included Egyptian, Palestinian, Israeli, Jordanian and German partners, who produced joint studies and surveys of the coral reefs and open waters of the northern Red Sea.

A more recent example of successful regional cooperation also addressed the study and protection of coral reefs from climate change. Launched in 2019 at the Transnational Red Sea Research Center in Switzerland, the project involves scientists from Djibouti, Egypt, Eritrea, Israel, Jordan, Saudi Arabia, Sudan and Yemen. However, significant difficulties emerged between Egypt and Israel, apparently stemming from the Egyptian scientists' concerns about open cooperation with Israel in the absence of firm backing by the Egyptian government. For this reason, bilateral marine research collaborations, without facilitation by a third party, do not exist today.⁵⁸

Despite the limited success of blue economy cooperation so far, Israel's 2022 decision to expand economic ties with Egypt may signal a positive future for joint projects in the field of aquaculture, protection of the marine environment and tackling the invasion of non-native species via the Suez Canal.

The promotion of clear economic and profit-producing environmental interests for both countries could facilitate future cooperation. The increasing importance that both Israel and Egypt have placed on the marine environment in recent years is a cause for optimism that cooperation toward a blue economy can be strengthened.

G. Discussion: guiding principles, challenges and opportunities

The biodiversity and climate crises are not bound by political borders, and therefore require broad and cross-border solutions. The principles of the blue economy aspire to offer such solutions. They also open an opportunity for vital regional cooperation to promote the transition from a maritime economy to a blue economy, and develop regional resilience as well as water, food and energy security.

Key directions for promoting a shared blue economy in the Middle East

1. Nature conservation and tourism as a lever for promoting the blue economy and employment – a network of well-managed MPAs that offer opportunities to observe wildlife and nature could serve as a major ecotourism hub, providing employment and a source of indirect income through the ecosystem services the MPAs provide.
2. Renewal and streamlining of the existing economic infrastructure – adapting and advancing the existing energy and maritime traffic sectors to meet blue economy goals will play a pivotal role in streamlining a regional blue economy. Balancing

58 Winter A, Engert T, Link M, Tiedman M, "[From Tel Aviv to Sharm el-Sheikh: Barriers and Keys to Environmental Peace between Israel and Egypt.](#)" *INSS (Institute for National Security Studies), Tel Aviv University, 2022.*

economic development with conservation measures is essential to ensuring the long-term viability of the blue economy.

3. Transition from fossil fuels to renewable energies – As the movement to wean the world off fossil fuels intensifies, and their regulation becomes more stringent, this industry will become an economic investment risk. In fact, gas fields that cost billions of dollars to develop could find themselves redundant within a decade or two. Meanwhile, the multi-system replacement of fossil fuels by renewable energies is greatly challenged by pressure from oil conglomerates on governments, as well as the difficulty of converting broad fossil fuel collaborations to new partnerships in the field of renewable energy. The opportunities are equal to the challenges, however, and the transition from fossil fuels to renewables holds huge potential to mitigate climate change, improve air quality, ensure long-term energy security and promote a more sustainable and equitable future as well as economic prosperity.
4. Stringent implementation of renewable energy initiatives at sea – should be promoted cautiously and rely on existing infrastructure rather than building new facilities at sea. Wave energy generation and offshore energy storage technologies may be a positive direction for cooperation, but since they are in their infancy, their ecological impact must also be examined carefully as they develop. Expanding research seems to indicate that offshore wind turbine fields hold less promise for the Eastern Mediterranean, since it is a significant route for migration of winged animals between continents.

The optimal implementation of each of these directions requires regional cooperation among the countries of the Eastern Mediterranean. Social aspects must also be taken in to account, with transparency in the planning and implementation stages and public community participation. Ideally, these partnerships should encourage equality and distributive justice, and maintain links to local culture.

Regional tourism collaborations must be based on equality and cooperation, such as joint marketing of the Eastern Mediterranean as a sustainable and responsible tourism destination. A multidisciplinary emphasis on the unique maritime experiences and cultural heritage the region has to offer could bring together the tourism industry, nature conservation organizations and even local authorities.

MPAs can serve as effective tools for building regional cooperation. Joint management of a network of regional and cross-border MPAs spanning multiple jurisdictions encourages collaboration, and could lead to improved cross-cultural understanding, information sharing and community involvement in conservation and management efforts, including risk management. The presence of migratory animals also fosters regional cooperation directed at preserving biodiversity and public awareness-raising.

Regional cooperation in the field of **maritime transport and shipping** could assume the form of international test zones for autonomous vessels, the joint planning and implementation of optimal shipping routes and the management of regional databases.

The **traditional energy sector** is based on large-scale cooperation. That could suggest it will break through existing barriers, and support renewables, if the profit potential is sufficient. Emulating the fossil fuel sector's success in renewable energy collaborations may even be necessary to achieve viable renewable energy supply on a large scale.

As noted above, collaborations can also incentivize deep processes of political cooperation and peaceful relations between countries. The Green Blue Deal initiative, for example, could contribute to processes of political peacebuilding by creating connections and agreements based on the shared environmental interests of parties currently in conflict.

In summary, optimal advancement of each of these directions requires regional cooperation among the countries of the Eastern Mediterranean. Social aspects must also be considered in their adoption, with transparency in the planning and implementation stages, as well as public community participation. Ideally, these partnerships should encourage equality and distributive justice, and maintain links to local culture.

Tools for promoting a blue economy as part of regional policy

Policy and management tools are central to successfully implementing the guiding principles of a sustainable regional blue economy. These tools include:

1. **Legislation, standardization and regulation** – Although goodwill, stakeholder participation and even economic incentives are important for advancing the above strategies, their uniform and effective implementation requires concrete national and international standards and regulation. A number of international conventions and agreements - such as the Barcelona Convention and the UN Sustainable Development Goals mentioned above - aim to promote regulation related to the marine environment and sustainable development in the Mediterranean. Standardization and legislation in areas such as sustainable fisheries management, pollution mitigation and preparing for climate change are particularly valuable when implemented at the regional level, due to their cross-border nature. Enforcement systems, which can also coexist internationally, are particularly important to ensure that relevant legislation is applied.
2. **Management** – Three key management approaches address the regional policy planning needs for the development of a thriving and sustainable blue economy in the Eastern Mediterranean.:
 - Integrated Marine Policy (IMP) and Integrated Coastal Zone Management (ICZM). These are characterized by an integrated management approach to marine and coastal areas that also consider economic, social and environmental factors. A holistic view of policies, regulations and management plans between countries will help create a unified and coherent blue economy vision. For example, MPAs encourage an inclusive maritime management approach that can generate comprehensive policies and regulations to ensure sustainable economic activity while minimizing conflicts and involving local communities.
 - Marine Spatial Planning (MSP). Such planning enables identification and definition of suitable areas for economic activities - such as marine traffic, aquaculture, blue-tech

experimental sites and tourism - and dedicates areas solely to protect the natural system. Informed regional planning can help prevent conflicts between users and uses, maximize sustainable use of marine resources and balance development plans with ecosystem conservation. Adopting a regional-spatial perspective that transcends political boundaries, as opposed to independent and individual planning by each country, will improve spatial planning and ensure effective implementation of this principle.

- Ecosystem Based Management (EBM) and sustainable fisheries interface management. Encompassing sustainable fisheries management, this type of management refers to regulating regional ecosystem management in order to mitigate environmental, economic and societal detriment from overfishing and other threats. Putting an end to overfishing in the Eastern Mediterranean, through intelligent and meticulous management of the industry, maximizes its benefit as a source of livelihood, food, tradition and local tourism. The countries of the region must protect the fisheries resource to preserve long-term biodiversity and the fishing industry's economic viability, which in turn will support the functioning of the system's services, food security and their own people's livelihood.⁵⁹
3. **Monitoring** – Robust monitoring and evaluation systems are also invaluable to assess the progress and impact of blue economy initiatives. Regular assessments of ecosystem functions and biodiversity, as well as monitoring of development and illegal activities, will help identify successful strategies and areas for improvement, and apply the precautionary principle to the development of various economic sectors. Regional cooperation is particularly important in this regard, to ensure that the monitoring systems are effective and accurately representing the situation. Joint regional management will increase operational efficiency and synergies, such as knowledge-sharing and harnessing collective experience to improve regulatory updates and other processes.
 4. **Community** – Involving coastal communities and stakeholders in the planning, implementation and management of blue economy projects fosters broad consensus, a sense of ownership and personal responsibility. Communities are integral to a successful and sustainable blue economy because they contribute local knowledge and expertise to ensure that programs are aligned with local needs and generate equitable outcomes relevant to local culture and heritage. By placing communities at the center of blue economy initiatives, policymakers and stakeholders can ensure that marine resources are managed sustainably and equitably for the benefit of both people and the planet.
 5. **Funding** – Financing is of course critical to blue economy projects in general, and cooperation in this field in particular. For example, the European Green Deal calls for €500 billion to be invested in infrastructure and projects that promote a new economic paradigm aiming to zero Europe's carbon emissions and sever the link between

59 World Bank Group, [“The Sunken Billions Revisited: Progress and Challenges in Global Marine Fisheries,”](#) *Environment and Natural Resources*, 2015.

economic growth and resource exploitation.⁶⁰ Foundations that support cross-border projects, such as the EU's CBC program, are also a relevant and significant source of funding. In parallel, the financing of new oil and gas exploration and production, including investments by banks and insurance companies, should be gradually reduced and redirected to renewable energy initiatives. Moreover, system service pricing and green accounting, both of which embed environmental considerations in accounting frameworks, and help measure and address the environmental costs and benefits associated with various maritime economic activities, should be incorporated as decision-making tools, whether at the planning stage or in implementing mechanisms to compensate for environmental damage.

Promoting and adopting management and joint monitoring mechanisms require partnership platforms. Broad and diverse partnerships are often seen as more legitimate and authoritative in the international arena, giving them greater political clout. They can be more influential than the sum of their parts by leveraging their collective voice, thereby amplifying their influence on global issues. They can also shape global norms and agendas by convening discussions and supporting negotiations, diplomacy and decision-making on key issues. By harnessing these mechanisms, partnerships can help shape policy, motivate collective action and address urgent challenges facing the international community.

Support for frameworks that bring together governments, businesses, academia and civil society from different countries is thus important for the future. The veteran UfM is one of the leading economic platforms in the region. It promotes sustainable economic development in 43 Mediterranean countries and has forged strong partnerships with European banks to support the transition to a blue economy in southern Mediterranean states. Meanwhile, the more recently formed EMME-CCI, which aspires to coordinate a regional response to the climate crisis, has yet to advance a significant regional move. Civil society also plays an important role in creating coalitions of NGO's and other associations needed to protect the sea and involve local communities in those efforts.

Examining the effectiveness of existing frameworks is therefore also important, as is mapping their needs and making the most of their influence in order to ensure efficient use of resources and hasten implementation processes. Consideration should also be given to establishing other relevant regional frameworks, for their potential political power and ability to foster sharing of knowledge and best practices, strengthen skills, raise awareness, hold training programs and allocate resources to deal with mutual management challenges in the blue economy.

Challenges to the application of these principles

The transition to a blue economy in the Eastern Mediterranean presents a unique set of challenges. These include judicious management of shared resources, pressures from unsustainable tourism and pollution hazards, especially from the oil and gas sector as well as political tensions, including some that cross maritime borders.

60 The European Commission, "[The European Green Deal](#)", 2019.

Political conflicts, and especially the outbreak of war in October 2023 between Israel and Hamas, are disrupting efforts to promote the blue economy in the Eastern Mediterranean. Regional cooperation is required for regional integration of the blue economy, but the challenge of creating sustainable cooperation becomes even tougher, and seemingly insurmountable, during war. Conflicts also lead to prioritization of developing sectors of the maritime and blue economy that are more relevant in times of war. For example, maritime border security and securing maritime supply chains are liable to come at the expense of marine tourism, already decimated by the war.

Naval military operations, maritime humanitarian corridors, security-related infrastructure development and increased transport of gas and oil supporting the war effort also have a severe effect on ecosystems and biodiversity, undermining a blue economy.

Short-term economic interests that override sustainable principles, harming the credibility and essence of the blue economy, are constant challenges. The term 'greenwash' refers to the deceptive or misleading practice of presenting a company, product or enterprise as environmentally friendly or sustainable, when it essentially is not. In the context of a blue economy, greenwash may involve misrepresenting maritime initiatives as ecological, even if they do not contribute, and even harm, a blue economy. To ensure responsible and ethical development of the blue economy, it is important to prioritize initiatives that promote the well-being of marine ecosystems, local communities and long-term sustainability.

Significant gaps in knowledge also make it difficult to ensure that blue economy initiatives in the Eastern Mediterranean region are sustainable in all areas. These gaps impact subjects such as accessibility and sharing of high-quality databases, ecosystem dynamics and resilience, understanding and mitigating the effects of climate change, analyzing socio-economic vulnerabilities and understanding the nature of public participation and the role of civil society, local communities and indigenous groups in promoting a blue economy. These knowledge gaps can only be narrowed through interdisciplinary research, partnerships and ongoing investment in data collection, monitoring and skills improvement. In this way, policymakers, professionals and stakeholders will be able to develop evidence-based policies, make better-informed decisions and implement effective strategies to promote the blue economy in the Eastern Mediterranean.

Finally, the lack of effective frameworks for regional cooperation frustrates efforts to forge meaningful and politically influential partnerships. Improving governance systems and growing political institutions to manage the implementation of a regional blue economy is essential to advancing this approach in the Eastern Mediterranean.

H. Conclusion

A blue economy is an approach that advocates sustainable development, enhanced human well-being and job security, while preserving the health of the marine environment for the benefit of the sea and humankind. In contrast, maritime economy describes general economic activities at sea, driven only by profits, including unsustainable practices, such as fossil fuel development and seabed mining.

Implementing declarations and strategic plans to promote a blue economy and reduce emissions in the Eastern Mediterranean depends on many factors, since each country has its own commitments and desired courses of action on these issues, including political will and policy implementation, technological progress and international cooperation.

Most Eastern Mediterranean countries are, at best, in the initial and most challenging stage of implementing blue economy principles. Adopting the blue economy paradigm, an approach that inherently requires regional cooperation, similar to recognizing the sea as a shared resource that requires joint management, will enable wise implementation and full exploitation of regional blue economy advantages, perhaps even before it has been independently established by each country. In fact, since one of the guiding principles of a blue economy relates to regional thinking and action that transcend political borders, individual attempts by countries to turn their maritime economy into a blue economy, without regional cooperation, may place its inherent economic potential at risk.

The close link, even dependence, of human welfare on healthy seas highlights the importance of regional efforts to manage the marine environment in order both to support economic prosperity and to preserve the natural systems vital for sustainable life on Earth.

With its rich marine biodiversity, deep historical significance and growing economic activity, there is great potential for implementing a blue economy in the Eastern Mediterranean. However, the region also faces complex challenges that must be navigated to harness that potential for economic prosperity, just and sustainable development and even conflict resolution and peacebuilding.