





SDG 14

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

A. Introduction

The Arab region is falling behind on several SDG 14 targets, notably those related to the protection of marine ecosystems from pollution and the regulation of fishing activity. Sustainable aquaculture remains in its infancy in most of the region, unable to fulfil the growing demand for fish. While good progress has been achieved in some places in designating marine protected areas, protection activities have not been enough to halt degradation.

Assessing the Arab region's progress on SDG 14 is difficult due to particularly low data availability. Data gaps persist for critical issues such as the sustainability of fish stocks, the use of ecosystem-based approaches and ocean acidification.

The region is surrounded by five oceans and seas¹ that provide income for millions of people and offer unique marine environments and biodiversity.² Advancing towards SDG 14 depends on tackling land-based sources of marine pollution, including municipal and hazardous solid waste (SDGs 11 and 12) and untreated sewage (SDG 6). Progress on climate change adaptation (SDG 13) is important to protect coastal areas and marine ecosystems against sea-level rise, warming sea temperatures and ocean acidification. Structural issues of governance (SDG 16) and partnerships (SDG 17) are critical for the enforcement of ocean-related national, regional and global laws and agreements.

What the data say

Data included in this section are from the *ESCWA Arab SDG Monitor*, unless otherwise indicated (accessed in December 2023).



One of the highest levels of **coastal eutrophication** globally is in the Arabian Sea.³ In 2022, marine and coastal waters around the least developed countries exhibited particularly high algae growth levels in the region (**chlorophyll-a deviations** from 2000–2004 baseline of 2.1 per cent; however, this remains below the world average of 3.2 per cent).



In 2021, 80 per cent of the **litter from land-based sources ended up on beaches**, more than the global average of 66 per cent. This issue most affected the Gulf Cooperation Council countries at 93 per cent. In the same year, 20 per cent of **land-based litter ended up in the ocean**, compared to 35 per cent globally. The rate in the region was highest in the Maghreb at 32 per cent.



Some 35.8 per cent of **marine key biodiversity areas were covered by protected areas** in 2022. Middle-income countries are ahead of other country groups in the region and the global average with 64.1 per cent of key biodiversity areas covered by protected areas. This compares to a global average of 45.6 per cent. Marine key biodiversity area coverage is particularly low for countries in conflict, at 19.5 per cent.



Countries have not improved in terms of implementing **international instruments to combat illegal, unreported and unregulated fishing**, remaining in 2022 at a mid-level score of 3 out of 5, below the global score of 4.



Sustainable fisheries constitute an insignificant proportion of GDP in the region, well below the global average.



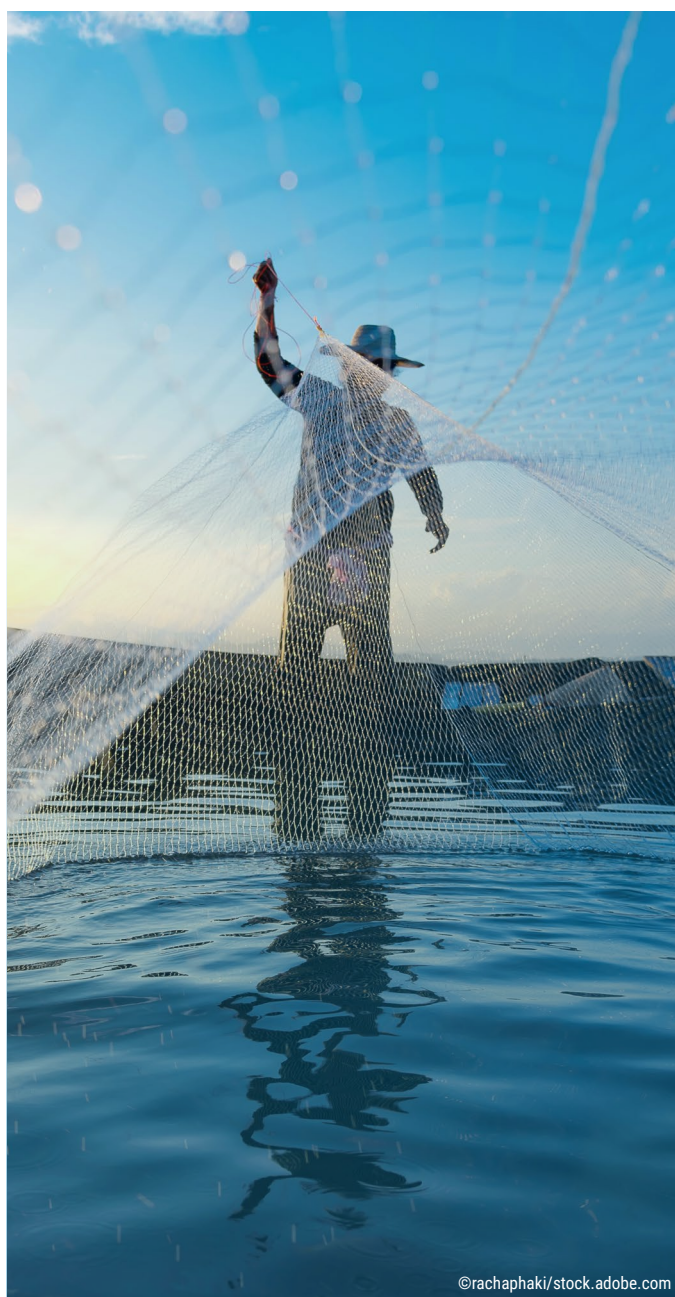
In applying a legal, regulatory, policy or institutional framework that recognizes and protects **access rights for small-scale fisheries**, 10 countries with available data in 2018–2022 score 3 out of 5 or higher.

For an up-to-date view of SDG 14 data at the national and regional levels and an analysis of data availability, please refer to the [ESCWA Arab SDG Monitor](#).



On the road to 2030 – suggested policy approaches to accelerate progress on SDG 14

- Invest in capacities to monitor and control marine pollution and fishing activity.
- Adopt harmonized indicator frameworks across the region to enable effective collaboration.
- Develop management plans for marine protected areas with the participation of local communities and stakeholders, and secure sustainable resources for implementation.
- Develop and enforce laws that protect coastal zones from the impact of urban development, and strengthen coordination between national and local authorities that oversee the marine and land components of coastal zones to ensure integrated management.
- Adopt and implement policies against the open dumping of municipal waste and the discharge of untreated wastewater at sea.
- Extend social security benefits to small-scale and artisanal fishers, upgrade the port infrastructure they depend on, and support the commercialization of their products to promote decent livelihood opportunities for all, including women and youth.
- Introduce or enhance regulatory frameworks for marine aquaculture and develop post-harvest handling and marketing systems to enable participation in the global aquaculture trade.
- Establish blue bonds to attract public and private investments and generate decent jobs in multiple sectors, while meeting ocean protection and conservation objectives.



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B. The policy landscape for SDG 14

Overall, the SDG 14 policy landscape in Arab countries is well developed, **driven in large part by global and regional ocean and biodiversity-related laws, agreements and instruments.**

All countries except the **Syrian Arab Republic** are parties to the United Nations Convention on the Law of the Sea,⁴ which governs the use and protection of oceans and seas, and defines the rights and responsibilities of nations. SDG target 14.c calls on countries to implement international law as reflected in the Convention.⁵

Regional seas conventions and associated protocols have helped to shape and harmonize policies related to marine pollution, the conservation of marine living resources and the restoration of critical marine habitats. Notable examples include the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, adopted under the framework of the Mediterranean Action Plan;⁶ the Jeddah Convention for the Conservation of the Red Sea and Gulf of Aden;⁷ the Kuwait Convention for Cooperation on the Protection of the Marine Environment from Pollution;⁸ and the Nairobi Convention for the Protection, Management and Development of Coastal and Marine Environment of the Western Indian Ocean.⁹

Regional fishery management organizations issue decisions that are binding to their members, thus contributing to harmonized national policies and legislation on fisheries management and aquaculture development. Notable examples include the General Fisheries Commission for the Mediterranean¹⁰ and the Regional Commission for Fisheries.¹¹

SDG 14 policies exhibit **more commonalities than differences**, although national contexts affect priorities and means of implementation. Common trends, which transcend income and geographic subgroupings, are highlighted below.

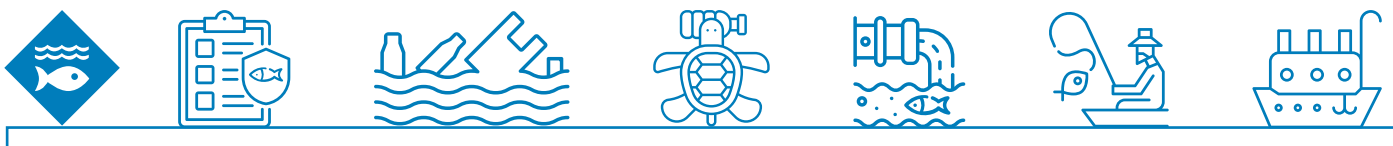
1. Prevention of marine pollution

◆ **Most countries have integrated the prevention of marine pollution within the overall framework of their environmental law** and typically use environmental impact assessments in coastal planning and management. Recent examples of legislative gains include the General Order for Environment of **Saudi Arabia**, adopted in July 2020, and its executive bylaws, which cover marine pollution.¹² The framework Law No. 7 of 2022 on the Environment of **Bahrain** introduced changes to better address new environmental challenges, including those related to marine pollution.¹³ Few Arab countries have a dedicated framework law on marine pollution; these are in place in **Oman** (1974), the **Syrian Arab Republic** (2006) and **Yemen** (2004).¹⁴

◆ **Few countries have taken measures to control marine dumping.** Only eight countries are contracting parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (the London Convention, 1972) and four are parties to its protocol (the London Protocol, 1996).¹⁵ Since the early 2000s, **Egypt, Jordan** and **Oman** have issued laws regulating the discharge of waste into the marine environment.¹⁶

As is the case for overall environmental policy, the prevention of marine pollution in the region faces implementation hurdles, notably in connection with inadequate law enforcement, the limited availability of trained and capacitated human resources (for example, to conduct adequate environmental impact assessments) and low penalties for infractions. Moreover, the value of ecosystems services is not adequately considered in the design and implementation of coastal development projects. Associated land reclamation and dredging activities are still destroying important coastal habitats.

Source: UNEP, 2016.





◆ **Countries endeavour to prevent marine pollution from ships and enforce compliance with related international maritime standards.** All countries except the **State of Palestine** and **Yemen** are contracting parties to the International Convention for the Prevention of Pollution from Ships¹⁷ and have adopted related regulatory frameworks. Ten countries are parties to the International Convention for the Control and Management of Ships' Ballast Water and Sediments, which requires them to take measures to limit or eliminate the transfer of harmful aquatic organisms and pathogens.¹⁸ Through the Riyadh Memorandum of Understanding on Port State Control, maritime authorities in the Gulf Cooperation Council countries have committed to prevent pollution from ships. In 2021, they performed more than 2,500 ship inspections and identified deficiencies related to pollution.¹⁹ Similar inspections were conducted by the six countries that are parties to the Memorandum of Understanding on Port State Control in the Mediterranean Region²⁰ and the four parties to the Indian Ocean Memorandum of Understanding on Port State Control.²¹

◆ **Action against marine debris and plastic pollution is weak but gaining traction, including efforts to assess and understand the dimensions of the problem.**²² **Morocco** and **Tunisia** undertook technical studies to measure marine plastic pollution along their coasts and identify plastic pollution hotspots. They are presently devising national strategies for coastlines without plastic.²³ The **United Arab Emirates** launched an integrated programme to monitor plastic waste in the marine and coastal environment.²⁴ For a detailed analysis of waste management policies, see the chapter on SDG 12.

◆ **Several Arab countries enforce standards on effluents that can be discharged in the marine environment.** Examples include the Ministerial Decision No. 8/1 of 2001 of **Lebanon**²⁵ and the Ministerial Decision No. 159 of 2005 of **Oman**.²⁶ In Oman, facilities need to obtain a prior license, and fees are applied depending on discharge volume. **Bahrain** has established a legislative framework to protect the health of its coral reefs by preventing pollutants from altering the pH level of its waters.²⁷ The Gulf Cooperation Council countries have given special consideration to the discharge of brine from desalination activity; see the subregional trends section of this chapter for more details.

2. Marine protected areas

◆ **Most countries have taken steps to expand marine protected areas but several remain behind global targets.** A recent positive example is the **Comoros**, which designated 11 more marine protected areas in 2021, raising the national total to 15. The region counts 122 marine protected areas in 19 countries, with 37 others proposed.²⁸ While marine protected areas represented only 3.6 per cent of the region's territorial waters in 2020, they covered 35.8 per cent of marine key biodiversity areas in 2022. The average proportion of key biodiversity areas covered by marine protected areas for the 14 countries with available data ranged from 11 per cent in **Lebanon** to 74 per cent in **Algeria**. Key biodiversity areas coverage has increased substantially between 2015 and 2022 in some countries, such as in **Kuwait** (from 13 to 32 per cent) and **Morocco** (from

Effective inspection of ships requires a high level of human capacity and physical infrastructure that is often beyond the capacity of the least developed countries.

Inadequate ballast water management due in some cases to the lack of facilities receiving ballast water in ports is a major impediment in some countries, including **Oman**.^a This raises the risk that invasive aquatic species and microbes harmful to human health will spread.

^a Oman, See [Voluntary National Review 2019](#).

Many countries still practice open dumping of municipal waste, irrespective of their level of income and despite high solid waste collection rates. This reflects either a lack of political will and/or a lack of technical infrastructure to manage waste properly. Thirteen Arab countries deposit from 20 to 100 per cent of municipal solid waste in open dumps, totalling 50 million tons yearly,^a despite the risk that it could enter oceans and seas. A few countries lack a solid waste management policy, as is the case in the Comoros.^b

^a See the World Bank, [What A Waste Global Database](#), country level dataset, last updated on 4 March 2019.

^b See the Comoros, [Voluntary National Review 2023](#).

Rates of wastewater treatment range from 11 to 100 per cent for 15 countries with available data.^a Wastewater treatment is inadequate in the least developed and some middle-income countries, especially conflict-affected countries, contributing to marine pollution. For a detailed analysis of wastewater treatment policies, see the chapter on SDG 6.

^a See UN Water on [Progress on Wastewater Treatment](#) (SDG target 6.3).

42 to 58 per cent). All 14 countries have covered at least 10 per cent of their key biodiversity areas, thereby achieving Aichi target 11.²⁹ Of the 14 countries, 10 have already reached the more ambitious target of covering 30 per cent of key biodiversity areas, as stipulated under the Kunming-Montreal Global Biodiversity Framework (target 3).³⁰

◆ **In addition to ecotourism and recreational fishing options, some countries are financially sustaining their marine protected areas by combining them with aquaculture.** For example, an aquaculture zone was integrated into the Kuriat Islands protected area in **Tunisia**, resulting in synergies between marine conservation and job creation, and raising awareness among aquaculture producers.³¹ Participatory governance approaches are essential for such endeavours to succeed. Decisions to allow commercial activities within and around protected areas must always be taken on a case-by-case basis while using a precautionary approach to reduce risks to biodiversity and habitats.

3. Marine science

◆ **Most countries have established national marine research institutes and academic marine research programmes and contribute, albeit in a limited way, to regional and global scientific collaboration.** The Red Sea Research Center at the King Abdullah University of Science and Technology in **Saudi Arabia** has several collaborative and interdisciplinary research programmes aiming to develop a predictive ocean model.³² The National Institute of Marine Sciences and Technologies in **Tunisia** conducts research on aquaculture and marine biotechnology.³³ The Institute for Oceanographic Research and Fisheries in **Mauritania** monitors and carries out research on the marine environment.³⁴ The **Bahrain** Institute for Pearls and Gemstones researches the sustainability of pearl oyster beds.³⁵ Almost all Arab countries are members of the Global Ocean Observing System and provide data that facilitates research on ocean health.³⁶



Few marine protected areas have a management plan in place. Six countries have plans for some areas, and one country is developing such plans.^a In the Mediterranean region, most areas are considered “paper parks”; only 2.48 per cent of the Mediterranean Sea is covered by protected areas with a management plan, 1.27 per cent by areas that effectively implement their management plan, and 0.03 per cent by fully protected areas.^b

Where they exist, management plans are typically prepared with the support of development partners, are rarely evidence-based due to a lack of monitoring data and do not necessarily account for climate change impacts. National capacities to develop management plans and regularly update them continue to lag, especially in the least developed countries. In such contexts, a simplified monitoring system could initially be put in place and gradually expanded as local capacity is built.

Protected areas are typically governed by the federal or national government; collaborative and local management delegation can be found in a few countries, such as the **Comoros** and **Morocco**.

^a See the [Protected Planet](#) database, accessed on 15 June 2023.

^b Gomei and others, 2019. Full protection refers here to the ecological coherence and connectivity of marine protected areas.

The quality of marine science higher education programmes is generally weak. Arab countries contribute in a limited way to scientific collaborations in the field of marine protection. In the Mediterranean basin, 90 per cent of studies related to ocean acidification have been performed by North Mediterranean scientists.^a Ocean acidity levels have been recorded for just two Arab countries, **Kuwait** and **Oman**.^b

^a Hassoun and others, 2022.

^b According to data on SDG indicator 14.3.1. See the [UN Global SDG Database](#), accessed on 8 December 2023.



4. Fisheries management

◆ **Almost all countries have a framework law governing the sustainable management of fish stocks.** Through numerous implementation decrees, they regulate fishing activity, including permitted fleets and gear, fishing areas and seasons, and catch limits and quotas.³⁷ Good practices include bans on bottom trawling (**Bahrain, Kuwait, Oman, Qatar** and the **United Arab Emirates**); application of the precautionary principle (**Oman**); integration of ecosystem conservation within fisheries management (the **Comoros, Kuwait** and **Somalia**); and transparent reporting (**Mauritania**, the only candidate from the region in the Fisheries Transparency Initiative).³⁸ Responsibilities typically lie with the central government while local responsibilities are limited to the prevention of illegal fishing (such as in **Jordan**)³⁹ and the provision of information and training (as in **Egypt**).⁴⁰

◆ **Increasing efforts are being exerted across the region to monitor and assess the status of important fish stocks.** The results of these assessments, however, seldom translate into policy. The **United Arab Emirates** conducted a comprehensive Fisheries Resources Assessment Survey in 2016–2017 that informed its National Framework Statement for Fisheries and Aquaculture 2019–2030.⁴¹ Findings were corroborated by several socioeconomic studies, and actions established accordingly to reduce pressure on fisheries, rehabilitate fishery habitats and enhance fish stocks. Countries on the Mediterranean Sea undertake regular stock assessments, on their own and in collaboration with neighbouring countries under the General Fisheries Commission for the Mediterranean, to evaluate the current status and health of commercial stocks and fisheries.⁴²

Some countries, such as **Lebanon**^a and the **Sudan**,^b have yet to formulate a framework law on fisheries. Where they exist, such laws are typically outdated, having been promulgated between the 1950s and 1980s, and can be inconsistent with international law, as in **Somalia**.^c

The main shortcomings preventing effective fisheries management in the region include:

- Loose fishery reporting requirements and a lack of transparent sharing of catch information.
- Weak implementation of an ecosystem-based approach to fisheries management.
- Insufficient use of voluntary multistakeholder approaches to achieve sustainable fishery certifications. For example, fishery improvement projects to obtain certification by the Marine Stewardship Council and benefit from the application of the blue fish eco-label^d are in progress only in the **Comoros, Mauritania** and **Morocco**.^e

^a See Lebanon, [Voluntary National Review 2018](#).

^b See the Sudan, [Voluntary National Review 2022](#).

^c See Somalia, [Voluntary National Review 2022](#).

^d See the [Marine Stewardship Council](#).

^e See the [FIP Directory](#).



The effectiveness of fisheries stock assessments and monitoring programmes varies from country to country but common shortcomings include:

- The limited availability of accurate and comprehensive data on fishing activity, including catches, by-catches and discards, and the collaborative sharing of such data.
- The insufficient development of scientific capacity through the training and retraining of scientists.
- The lack of sufficient financial resources to secure research infrastructure.
- The inadequate application of adaptive fisheries management that incorporates knowledge from regularly updated stock assessments and considers uncertainty due to changing conditions.

◆ **Several countries are adopting regulations against illegal, unreported and unregulated fishing, and investing in coastal surveillance systems and capacities**, including as part of international and regional surveillance efforts. **Djibouti, Libya, Mauritania, Morocco, Oman, Somalia** and the **Sudan** are parties to the 2009 Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing,⁴³ **Saudi Arabia** is in the process of accession.⁴⁴ **Morocco** and **Oman** have taken additional measures, including updating relevant legislation to enable implementation of the agreement. Members of the General Fisheries Commission for the Mediterranean⁴⁵ engage in measures to ensure their flag, port and coastal State responsibilities are in line with relevant international instruments. Parties to the Indian Ocean Tuna Commission⁴⁶ and the International Commission for the Conservation of Atlantic Tunas⁴⁷ are also required to combat illegal, unreported and unregulated fishing. The **Comoros** and **Somalia** are part of FISH-i Africa, a regional cooperation project to better combat such fishing.⁴⁸

◆ **Many countries support small-scale fishers, deploying policies and programmes to reduce their vulnerability.** **Morocco** over several decades has progressively extended social security benefits and health coverage explicitly to smaller-scale fishers, amending social security legislation to better account for the seasonality of small-scale fishing activities. In 2012, benefits were extended to non-salaried small-scale fishers. Moreover, Morocco offers specific subsidies for small-scale fisheries, including tax-free fuel at 70 per cent of the market price. The subsidies are managed by small-scale fishers' cooperatives (see section E for an elaboration on subsidies). Success in Morocco is attributed to policy coherence and close cooperation among government institutions governing social security, fisheries management and port infrastructure.⁴⁹ The traditional Sunan al Bahr committees in **Oman** are a sort of fishery councils permitting a participatory and transparent dialogue among different actors.⁵⁰ **Algeria** regulates artisanal fisheries and supports the commercialization of their products.⁵¹



Progress on legislation to prevent, deter and eliminate illegal, unreported and unregulated fishing is slower in the region compared to other parts of the world. Legislation is not always aligned with international standards, especially in terms of robust vessel registration and licensing systems and catch documentation. Further, laws continue to be poorly enforced due to weak monitoring, control and surveillance capacities. Penalties are often low or not upheld. The lack of progress seems to be independent of the level of development: **Bahrain, the United Arab Emirates and Yemen** ranked among the 10 least-performing countries on a 2021 index of illegal, unreported and unregulated fishing.^a Engaging stakeholders in decision-making, promoting awareness and education on the negative impacts, and providing alternative livelihood opportunities are effective yet underexplored alternatives to foster responsible fishing practices.

^a Macfadyen and Hosch, 2021.

Some countries have yet to elaborate a policy for small-scale fisheries (for example, **Djibouti**).^a Where such policies exist, shortcomings include:

- Social protection schemes for small-scale fishers have not always succeeded in reducing their vulnerability to poverty due to the lack of formalization in the sector.
- The lack of up-to-date small-scale fleet registers and accurate catch and gender-disaggregated socioeconomic data^b limits analysis of the impact of subsidies and other supports to guide reform.
- Opportunities for small-scale fishers, especially women, to engage in fisheries-related policymaking and co-management are weak.
- Few countries have taken measures to ensure fishers have decent work conditions on fishing vessels. To date, **Morocco** is the only Arab country to have ratified the ILO Work in Fishing Convention. It entered into force in 2017 and sets basic decent work standards for the fishing industry.^c
- Little attention has been given to developing complementary sectors that can help reduce the variability of small fishers' income, such as fishing tourism and net weaving.

^a See [Djibouti, Voluntary National Review 2022](#).

^b For example, Libya does not have a register of small-scale fishers (FAO, 2022).

^c See [Ratifications of C188 – Work in Fishing Convention, 2007 \(No. 188\)](#).



◆ **Countries are stepping up support to facilitate trade, and developing and shortening value chains to improve fishers' livelihoods.** The Behar electronic fish trading market developed by the Ministry of Agriculture and Fisheries in **Oman** during COVID-19 lockdowns has had a positive impact in facilitating the seafood trade. **Tunisia** developed a national strategy (2018–2020) to promote an export-oriented value chain for blue crab, an invasive alien species in the gulf of Gabes.⁵²

◆ **About half of countries have elaborated a legislative framework to regulate and promote aquaculture activities,** often for improved food self-sufficiency and as an income-generating sector. **Egypt** has been a regional leader on aquaculture since the 1980s. Other countries, including **Bahrain, Morocco, Oman, Saudi Arabia** and the **United Arab Emirates**, have more recently dedicated aquaculture development zones.⁵³ Through its 2018 National Aquaculture Policies and Practices,⁵⁴ **Saudi Arabia** is developing aquaculture to be the primary source of seafood supply, aiming to attract \$4 billion in foreign and local investments into this field.⁵⁵ **Morocco** is taking measures to combat aquaculture fish diseases⁵⁶ and is developing an early warning system for harmful algal blooms to warn shellfish farmers and guarantee aquaculture product safety.⁵⁷



There is limited overall knowledge of value chains in Arab countries, especially as they pertain to small-scale fishers. Few training opportunities or other forms of assistance are provided to small-scale fishers on catch handling and preservation.

Aquaculture is still underdeveloped or non-existent in half of Arab countries. It contributes under 6 per cent of total fish production in **Algeria, Bahrain, the Comoros, Djibouti, Libya, Mauritania, Morocco, Oman, Qatar, Somalia** and **Yemen**. Policy shortcomings include:

- Outdated and incomplete legal frameworks regulating aquaculture in some countries.
- Insufficient attention to environmental management and the climate resilience of aquaculture.
- A lack of post-harvest handling and marketing systems, which prevents several countries from participating effectively in the global aquaculture trade.
- A paucity of academic colleges specific to aquaculture, which is pushing some countries, such as **Saudi Arabia**, to support students wishing to study aquaculture abroad.^a

^a Arab News, 2019.

C. Policy trends by subregion

In addition to the common policy trends at the regional level, a few policy directions stand out in different Arab subregions.

1. Gulf Cooperation Council countries

Oil export activity in the Gulf Cooperation Council countries results in a high volume of traffic by oil tankers in major shipping routes, making marine pollution by oil and other substances an important risk. In addition, these countries have around 50 per cent of global desalination capacity.⁵⁸ Large-scale desalination poses particular threats to the marine environment due to the discharge of highly saline brine.

◆ **Most countries have advanced policies to deal with oil spills,** and the rest are catching up. In

recent years, **Saudi Arabia** has conducted intensive environmental disaster simulations and trained about 4,000 individuals, achieving the region's peak oil spill response capacity of approximately 75,000 barrels.⁵⁹ The National Contingency Plan of the **United Arab Emirates** is currently under development. **Among oil-exporting middle-income countries,** in response to recurrent oil spills (15 over the past 10 years), **Algeria** has instituted the Tel Bahr mechanism to combat marine pollution from spills and since 2005 has been part of an agreement with **Morocco** and **Tunisia** establishing a subregional emergency plan to tackle accidents in Mediterranean waters.⁶⁰

◆ **Most countries regulate the discharge of desalination brine**, monitor water quality and support research aimed at limiting the impact of desalination on the marine environment. Upper limits on discharged brine salinity are specified in **Kuwait, Oman, Saudi Arabia** and the **United Arab Emirates**. The lack of monitoring capacity in some desalination plants, however, affects compliance with discharge standards.⁶¹

2. Countries on the Red Sea and Gulf of Aden and in the area under the Regional Organization for the Protection of the Marine Environment

Warm waters around tropical and subtropical countries have significant coral reefs and mangrove forest areas.

◆ **These countries have programmes to conserve and expand mangrove forests, including projects applying nature-based solutions to climate change.** **Bahrain** committed to quadrupling mangrove coverage across coastal areas by 2035, part of its plan to achieve net-zero by 2060. It has signed memorandums of understanding with government and private sector companies to conserve the mangroves.⁶² In 2016, **Djibouti** cleaned 40 hectares of mangroves and planted 125,000 mangroves over an area of 114 hectares. A mangrove nursery was established in 2018.⁶³ The **United Arab Emirates** has led global efforts to conserve and restore mangrove ecosystems. It recently endorsed the Mangrove Breakthrough and launched the Mangrove Alliance for Climate.⁶⁴

◆ **Tropical and subtropical countries are investing in artificial reefs and coral farming to help restore and rehabilitate degraded coastal and marine ecosystems.** **Bahrain** launched the national artificial reef project in 2023 to introduce new artificial habitats to bolster the growth of marine organisms, support biodiversity and rehabilitate damaged coral reefs.⁶⁵ **Saudi Arabia** is deploying advanced coral reef restoration technologies that enhance thermal resilience and is bringing together national stakeholders to scale up reef restoration through cost-effective options.⁶⁶ The Marine Environment Research Centre of the **United Arab Emirates** has a recent focus on super corals.⁶⁷ **Jordan** undertook several coral farming operations, with a good success rate.⁶⁸ **Egypt** plans to install coral nurseries off the coast of Hurghada to grow corals that can be replanted in damaged reef areas.⁶⁹ The use of structures made of organic material prevents them from becoming a source of marine pollution.

Mediterranean coastal countries

Mediterranean-level action under the Barcelona Convention and its protocols has stimulated policies and actions by coastal States to manage their marine and coastal activities in an integrated way. This helps to maximize the potential of the blue economy while preserving the integrity of their ecosystems. Nevertheless, coastal ecosystems remain under increasing and multiple pressures, notably from uncontrolled land development.

◆ **Some countries have adopted integrated coastal zone management strategies but are still in the early phases of implementation.** **Algeria** in 2002 enacted a coastal law that, among other provisions, limits construction along the coast.⁷⁰ In 2015, Algeria developed its First National Integrated Coastal Zone Management Strategy, which laid the foundations of its 2022 National Blue Economy Strategy 2030.⁷¹ There are few evaluations of the success of coast zone management implementation in the country, however, with some indications of challenges related to coastal monitoring, coordination and the participation of stakeholders.⁷²

Morocco in 2015 promulgated Law No. 81–12 related to the coastline, which aims to protect all vulnerable areas that may be affected by possible coastal development projects. The National Integrated Coastal Zone Management Strategy is now in its third phase of development; it defines a prospective policy and shared vision by defining issues, objectives, appropriate modes of governance and development priorities, while seeking a fair balance between economic and environmental aspects.⁷³

Lebanon in 2015 issued a draft law on integrated coastal zone management that has yet to be passed.⁷⁴ It includes an article to create a national council for integrated coastal zone management, and emphasizes the inclusion of all economic, social and environmental sectors, at the private and public levels, in the preparation, approval and subsequent implementation of an integrated coastal zone management strategy.

◆ **As contracting parties to the Barcelona Convention, countries along the Mediterranean have committed to curbing harmful air pollutants emitted from ships.** In late 2022, the Mediterranean Sea was designated an emissions control area for sulfur oxides and particulate matter. It is the first marine area in the Arab region to have such a designation and the fifth area worldwide.⁷⁵ Starting in May 2025, ships travelling through the Mediterranean will need to cut sulfur content in fuel oil by four fifths. This will significantly reduce sulfur oxide emissions and help lower emissions of particulate matter. These measures are expected to benefit both aquatic and land ecosystems, including by preventing acidification.



3. Arab least developed countries and countries in conflict

The Arab least developed countries are heavily dependent on fisheries for livelihoods. Poverty is high among artisanal fishers. Along with countries in conflict, the least developed countries tend to have limited capabilities to manage coastal areas and marine reserves, and enforce laws against uncontrolled and illegal fishing. Weak wastewater and solid waste management infrastructure exacerbates coastal pollution. Information on the marine environment is often lacking.

◆ **The least developed countries are engaging civil society organizations and local communities in the everyday management of marine protected areas**, with positive impacts in terms of mobilizing community support, fostering a sense of ownership and increasing compliance with marine protected area regulations. The national legal framework governing marine protected areas, however, should permit such co-management practices or otherwise be reviewed to do so. More could be gained if participatory, community-based monitoring systems were also strengthened. In the **Comoros**, 79 co-management agreements with village communities were signed between 2015 and 2022. Three of these agreements are with groups of women fishers.⁷⁶

◆ **Fisheries management policies in the least developed countries reflect a clear link to job creation and food security objectives**. In **Mauritania**, the National Responsible Management Strategy for the Sustainable Development of Fisheries and the Maritime Economy 2015–2019 gave priority to the development of essential infrastructure, value-added industries and services, training on sea trades, and the promotion of health control and the quality of fishing products.⁷⁷ The **Comoros** in 2018 elaborated a strategic framework for a national blue economy policy to stir public and private investments in fisheries and other sectors.⁷⁸




◆ **Some countries in conflict are seeking to curb marine pollution by improving wastewater and solid waste management and bridging information gaps**. Before the 2023 Gaza war, enhancing wastewater management, treatment and reuse had been key targets of a national policy to clean up the coastline of Gaza. A series of assessments was underway to establish a monitoring and evaluation system to track the effects of climate change, pollution and unregulated construction along the Gaza coastline. Achieving maritime sustainability is now largely constrained by the Israeli occupation and restricted access to territorial waters in Gaza. Limiting fishing activity to shallow water is depleting fish stocks.⁷⁹



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D. Policies to leave no one behind

The degradation of coastal areas and fisheries affects the well-being of poor and vulnerable populations that depend on these resources for livelihoods. Without adequate policies, these communities may inadvertently contribute to further deterioration of resources.

Groups at risk of being left behind	Examples of policies to leave no one behind
 <p>Small-scale and artisanal fishers constitute a significant proportion of fishing activity in the region, yet are largely unprotected and lack access to financial and technical support services.</p>	<p>The 2019 Constitution of Egypt commits the State to protect and support fishers.^a The <i>Barr Aman</i> initiative provides 42,000 fishers nationwide with environmentally friendly tools to support their work as well as low-interest micro-loans to support livelihoods during periods when fishing is limited. The initiative has an allocated budget of about EGP 50 million (\$3.19 million).^b Egypt included small-scale fishers in its nationally determined contribution to adapt to the impact of climate change.^c</p>
 <p>Women involved in fishing and the processing and trade of fish and fishery products tend to work in harsh conditions and receive low pay. They are weakly represented in fisheries and marine area management and policymaking.</p>	<p>In the Comoros, co-management agreements were signed from 2020 to 2022 with women fishers to protect marine areas in Chidini, Malé and Oureveni.^d The agreements were expected to ensure the engagement of fishing communities in decision-making and the implementation of various protection actions, and to facilitate exchanges of knowledge and good practices while improving the income of workers at sea and their living conditions.^e</p>
 <p>Youth are less attracted to the fishing sector due to low pay and appeal.</p>	<p>The economic vision 2040 of Oman calls for the fisheries sector to be increasingly managed and financed by Omanis and to employ young Omanis at competitive rates. One approach being pursued is to develop hygienic and digitally connected fish markets to encourage young, educated Omanis, both male and female, to get involved in the fishing sector across the value chain.^f</p>

^a Egypt has the only constitution in the region that includes this provision as a State responsibility.

^b See Egypt, *Voluntary National Review 2021*.

^c FAO, 2022.

^d See the Comoros, *Voluntary National Review 2023*.

^e Africa Press, 2022.

^f World Bank, 2017.

E. The financing landscape

Globally, SDG 14 is among the least funded of the global goals. In 2020, the global financing gap for achieving SDG 14 by 2030 was estimated at \$175 billion per year.⁸⁰ No information exists on the resources needed to finance the goal in the Arab region.

1. SDG 14 spending trends

Despite the region's lack of comprehensive figures on SDG 14 spending, some trends are evident, as highlighted below.

- **Arab countries of various income levels tend to provide subsidies to fishers.** According to table 14.1,

fishing subsidies regionally were estimated to exceed \$1.3 billion in 2018. **Algeria, Morocco and Yemen** were the top three countries providing these subsidies. Seventy per cent were capacity-enhancing, which could lead to overfishing, especially if subsidies are not transparent and well targeted. SDG target 14.6 calls on countries to eliminate harmful subsidies and instead



deploy measures that enhance the economic viability and resilience of the fisheries sector.

In June 2022, WTO members adopted the Agreement on Fisheries Subsidies, which aims to phase out

support to fishing on the high seas or in another country's waters. To date, the **United Arab Emirates** is the only Arab country to submit its acceptance of the agreement.⁸¹

Table 14.1
Fishing subsidies in Arab countries (Constant 2018 dollars, millions)

Country	Beneficial ^a	Capacity-enhancing ^b	Ambiguous ^c	Grand total
Algeria	13.0	6.7	208.4	228.1
Bahrain	1.1	13.6	11.2	25.9
Comoros	0.1	3.4	55.7	59.2
Djibouti	0.4	1.9	3.2	5.4
Egypt	0.0	25.1	48.4	73.6
Iraq	0.0	0.6	0.5	1.1
Jordan	0.0	0.1	Negligible	0.1
Kuwait	0.0	8.1	2.6	10.7
Lebanon	0.0	1.6	0.4	2.0
Libya	0.0	16.2	0.0	16.2
Mauritania	4.4	4.4	28.9	37.7
Morocco	10.3	78.0	208.4	296.8
Oman	6.2	61.9	84.6	152.7
Qatar	1.7	19.2	5.7	26.6
Saudi Arabia	3.8	39.4	17.7	61.0
Somalia	1.4	2.3	0.4	4.1
Sudan	Negligible	1.4	1.4	2.8
Syrian Arab Republic	0.0	0.6	0.0	0.6
Tunisia	0.0	1.6	86.7	88.3
United Arab Emirates	0.0	38.0	4.9	42.9
Yemen	0.0	38.4	142.4	180.8
Grand total	42.5	362.7	911.4	1,316.6

Source: Sumaila and others, 2019.

Notes: Data for the State of Palestine are not available. (a) Beneficial: fisheries management, fisheries research and development, and marine protected areas. (b) Capacity-enhancing: boat construction, renovation and modernization; fisheries development programmes; fishing port development; marketing and storage infrastructure; tax exemptions; fuel subsidies and fishing access agreements. (c) Ambiguous: fisher assistance, vessel buyback and rural fisher community development programmes.

- **A surge in aquaculture investments is evident across the region**, in particular in the Gulf Cooperation Council and North African countries. This includes R&D funding to increase fish farming. For example, the **Kuwait** Institute for Scientific Research launched a fish farming research programme focused on fish hatchery technologies and disease control, among others.⁸² The National Agency for the Development of Aquaculture in **Morocco** supported 290 aquaculture projects in 2021, worth around \$659 million.⁸³
- **Spending on ocean-related R&D varies greatly across countries.** Recent data on indicator 14.a.1 (national ocean science expenditure as a share of the total R&D budget) for **Egypt** (0.17 per cent), **Kuwait** (0.97 per cent) and **Oman** (3.79 per cent)⁸⁴ reflect high divergence, with Kuwait nearing the global average from 2013 to 2021 of 1.1 per cent⁸⁵ and Oman exceeding it by far. Ocean science expenditures reported by UNESCO from 2013 to 2017 are provided in the table.

Table 14.2
Ocean science funding by country, 2013 to 2017
(Millions of dollars)

Country	2013	2017
Kuwait	NA	2.3
Mauritania	5.3	4.5
Morocco	7.3	6.7
Oman	14.3	16.9

Source: Dataset for the UNESCO IOC Global Ocean Science Report.

2. SDG 14 financing mechanisms

Multiple instruments and approaches are used to finance SDG 14.

- **Government revenues from domestic fishing activities are significant for several Arab countries** and can potentially be used to fund measures to achieve SDG 14. For example, the value of the domestic fisheries sector in **Somalia** was estimated at \$135 million in 2015–2016, resulting in \$4 million to \$17 million in government revenues.⁸⁶ Annual revenue figures (2018–2020) for five Mediterranean Arab countries exceeded \$900 million (table 14.3).

Conversely, illegal, unreported and unregulated fishing not only affects the sustainability of fisheries but reduces government revenues to finance SDG 14. These forms of fishing imposed an estimated \$306 million loss on **Somalia** in 2016, for example.⁸⁷





Table 14.3
Annual revenues from fishing in selected
Mediterranean Arab countries

Country	Revenue (constant 2020 dollars, millions)	Percentage from small-scale fisheries
Tunisia	321	37
Egypt	263	16
Algeria	239	6
Morocco	66	32
Lebanon	14	56

Source: FAO, 2022, figure 33.

Note: Figures represent the value at the first sale, before value addition. Reference years are 2020 for Algeria and Morocco, and 2018 for Egypt, Lebanon and Tunisia.

- Trust funds are being established to secure long-term finance for marine protected areas.** In Mauritania, the BACoMaB endowment fund was created in 2009 to finance the conservation of the Banc d'Arguin National Park and other Mauritanian coastal and marine protected areas through an initial government allocation of €1.5 million, secured through a fisheries agreement with the European Union. European donors contributed additional amounts to the fund, which constitutes the first international system for payments for ecosystems services of its kind.⁸⁸ **Morocco** and **Tunisia** have benefited from financial support from the Trust Fund for Mediterranean Marine Protected Areas (MedFund), funded by France, Monaco, the Global Environment Facility and private donors.⁸⁹
- Fees for accessing marine protected areas charged to visitors, divers, researchers and fishers (where permitted)** could help secure the budget and staff capacity to carry out critical management activities. Fees must be retained with (or returned to) the protected area's management authority, however, and the use of access fees must be studied well. Imposing them on local visitors can be difficult in poorer areas, as has been the case of the Palm Islands Nature Reserve in **Lebanon**.⁹⁰
- Blue bonds** are emerging globally and offer opportunities similar to those of green bonds.⁹¹ They were first piloted in the Seychelles in 2018, with promising results. Between 2018 and 2022, 26 blue bonds were issued, most by international financial institutions, with none specifically targeted at countries of the region.⁹² They offer an important new avenue for unlocking SDG 14 financing, including through debt-for-nature swaps.
- Official development assistance of \$4.6 billion was committed to support the ocean economy in the region from 2010 to 2021.** Some 18 per cent was for the sustainable ocean economy⁹³ (table 14.4). **Morocco** has been a clear outlier as the largest recipient in the region. Among donors, the Arab Fund for Economic and Social Development was the largest donor (21 per cent of the total), followed by the **United Arab Emirates** (10 per cent). Official development assistance committed to Arab countries for the ocean economy has fluctuated over the years but overall has trended downwards since 2015 (figure 14.1).



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Table 14.4
Official development assistance for the ocean economy and sustainable ocean economy committed to Arab countries, 2010 to 2021

Country	Official development assistance for the ocean economy (committed, millions of dollars)	Official development assistance for the sustainable ocean economy (committed, millions of dollars)	Percentage sustainable (committed)
Morocco	2,118.54	220.69	10
Iraq	416.22	0.59	Negligible
Somalia	410.61	44.85	11
Egypt	314.56	17.34	6
Mauritania	291.99	201.04	69
Djibouti	245.22	14.06	6
Yemen	178.97	41.71	23
Tunisia	152.13	82.22	54
Libya	127.02	3.71	3
Lebanon	121.25	110.33	91
Jordan	119.35	4.40	4
Algeria	76.91	69.54	90
Comoros	28.02	19.71	70
Sudan	25.41	16.93	67
State of Palestine	18.07	10.39	57
Oman	3.89	0.15	4
Syrian Arab Republic	1.66	0.96	58
Region	4,649.80	858.61	18

Source: OECD Data Platform on Development Finance for the Sustainable Ocean Economy, accessed on 1 August 2023.

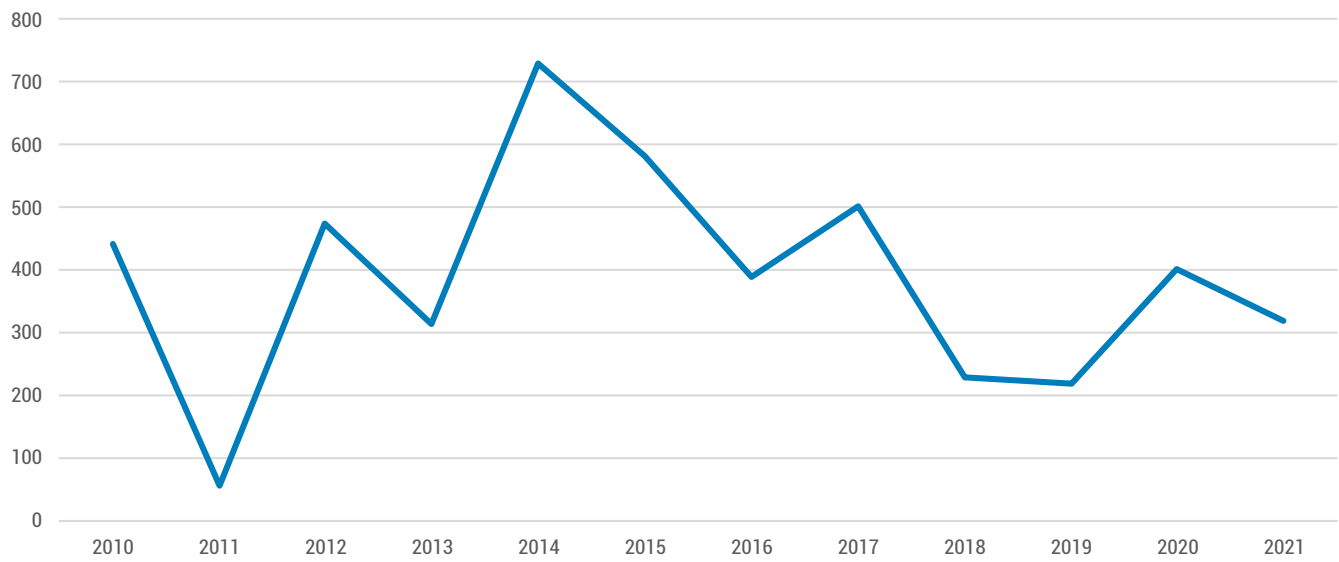
Note: The methodology is provided on the data platform.

■ **Private investment in SDG 14** can be mobilized through various means and incentives, including through leveraging official development assistance. Between 2012 and 2021, **Egypt** and **Tunisia** were among the top 10 global recipients of private finance that targeted the ocean economy and was mobilized through official

development assistance, at \$280 million and \$214 million, respectively.⁹⁴ **Saudi Arabia** adopted a National Fisheries Development Programme and plans to attract over \$4 billion of foreign and local investment into its aquaculture industry as part of the national Vision 2030 scheme to diversify the economy.⁹⁵

Figure 14.1

Official development assistance for the ocean economy committed to Arab countries, 2010 to 2021 (Millions of dollars)



Source: OECD Data Platform on Development Finance for the Sustainable Ocean Economy, accessed on 1 August 2023.

Note: The methodology is provided on the platform.



F. Regional dimensions

Subregional/sea area level cooperation is already fruitful in a number of SDG 14 policy areas, helping to harmonize policies, build technical and institutional capacity, share information and overcome limited resources, as illustrated below. More effective results require paying further attention to countries' uneven levels of engagement in cooperative arrangements.

Cooperation could advance in relation to newer approaches to fisheries management and the protection of marine environments, helping to support their uptake throughout the region. Potential areas of focus include ecosystem-based approaches, restoration, co-management, integrated coastal zone management and the blue economy. Regional collaboration could also be leveraged to boost investments and trade in fishery and aquaculture products.

- **Coordinated management of fisheries:** In the Gulf and Sea of Oman, two Regional Commission for Fisheries management measures, on minimum data reporting (2012) and the assessment of kingfish stocks (2018), have helped member countries to collectively track priority migratory species such as kingfish and coordinate protective actions, including a joint season where fishing is shut down. Similarly, the State of Mediterranean and Black Sea Fisheries reports, produced every two years by the General Fisheries Commission for the Mediterranean, based on data from member countries and the latest findings of the Commission's scientific bodies, have become key policy guides for fisheries management in the Mediterranean.⁹⁶ These experiences could be emulated in other semi-enclosed sea areas such as the Red Sea and Gulf of Aden, where efforts to establish a regional fishery body are ongoing.
- **Collaborative marine research programmes:** Joint marine research programmes, such as those under the General Fisheries Commission for the Mediterranean, have improved the scientific basis for fisheries management. Examples where Arab countries have contributed include programmes focused on the blue crab, red coral and European eel.⁹⁷
- **Collaborative action against illegal, unregulated and unreported fishing:** A range of joint measures have been undertaken under the General Fisheries Commission for the Mediterranean, including catch documentation programmes, fleet registers, vessel lists and an awards scheme.⁹⁸ The Commission must be further empowered, however, to address serious or repeated non-compliance through effective investigations and appropriate follow-up actions.⁹⁹
- **Combating accidental marine pollution:** The Marine Emergency Mutual Aid Centre,¹⁰⁰ established in 1982 under the framework of the Regional Organization for the Protection of the Marine Environment and based in Bahrain, has helped increase regional preparedness

to deal with oil spills, and facilitated information exchanges, technological cooperation and training.





Endnotes

1. Mediterranean Sea, Red Sea, Arabian Sea, Indian Ocean (Western) and Atlantic Ocean (Eastern Central).
2. All Arab countries enjoy access to oceans or seas, with coastlines ranging from 27 kilometres (Jordan) to 3,330 kilometres (Somalia). See Somalia, [Voluntary National Review 2022](#), see Jordan, [Voluntary National Review 2022](#).
3. <https://sdgs.un.org/goals/goal14>.
4. The Convention is the most notable and comprehensive legally binding ocean-related instrument. It was adopted in 1982 and entered into force in 1994. See the list of [Contracting Parties](#).
5. Information on the implementation of the Convention ([SDG indicator 14.c.1](#)) by Arab countries is largely lacking, except for Iraq and Qatar (at 13 per cent and 80 per cent in 2021, respectively, reflecting high disparities).
6. [Contracting parties](#) include Algeria, Egypt, Lebanon, Libya, Morocco, the Syrian Arab Republic and Tunisia.
7. All Contracting Parties to the [Convention](#) are Arab countries; they include Djibouti, Egypt, Jordan, Saudi Arabia, Somalia, the Sudan and Yemen.
8. The Convention covers the area under the [Regional Organization for the Protection of the Marine Environment](#). In addition to Iran, Member States from the Arab region include the Gulf Cooperation Council countries and Iraq.
9. [Contracting parties](#) include the Comoros and Somalia.
10. [Contracting parties](#) include Algeria, Egypt, Lebanon, Libya, Morocco, the Syrian Arab Republic and Tunisia.
11. In addition to Iran, [member States](#) from the Arab region include Bahrain, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.
12. See Saudi Arabia, [Voluntary National Review 2023](#).
13. See Bahrain, [Voluntary National Review 2023](#).
14. See [FAOLEX Database](#), accessed on 4 August 2023.
15. See IMO, [Status of Conventions](#), accessed on 9 August 2023. Parties to the London Convention are: Egypt, Jordan, Libya, Morocco, Oman, the Syrian Arab Republic, Tunisia and the United Arab Emirates. Parties to the London Protocol are: Egypt, Libya, Saudi Arabia and Yemen.
16. See [FAOLEX Database](#), accessed on 4 August 2023.
17. Including the Convention's Annexes I and II, related to pollution by oil, and noxious liquid substances carried in bulk, respectively. Of the 20 countries, 18 are also parties to Annexes III, IV and V related to harmful substances carried in packaged form, sewage and garbage, respectively. Seven are parties to Annex VI related to air pollution. See IMO, [Status of Conventions](#). Accessed on 9 August 2023.
18. Egypt, Iraq, Jordan, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, the Syrian Arab Republic and the United Arab Emirates. The Convention entered into force in 2017.
19. See the [Riyadh Memorandum of Understanding on Port State Control](#).
20. Algeria, Egypt, Jordan, Lebanon, Morocco, and Tunisia. See more on [the agreement](#).
21. The Comoros, Oman, the Sudan and Yemen. See more on [the agreement](#).
22. The United Nations Environment Assembly adopted a resolution in 2022 to develop an international legally binding instrument on plastic pollution, including in the marine environment, by 2024. The Jordanian Ministry of Environment is one of the 10 members of the Bureau. See more [here](#).
23. World Bank, 2022.
24. Zawya, 2023.
25. See [FAOLEX Database on Lebanon](#).
26. See [FAOLEX Database on Oman](#).
27. See Bahrain, [Voluntary National Review 2023](#).
28. See the [Protected Planet](#) database, accessed on 15 June 2023. Morocco tops the list, with 20 marine protected areas established and two more proposed. Djibouti, Iraq and the State of Palestine do not have designated marine protected areas (four are proposed for Djibouti).
29. See the [Convention on Biological Diversity](#).
30. See [target 3](#).
31. IUCN, 2021.
32. See more on the programmes of the Red Sea Research Center.
33. See more on the [Institut National des Sciences et Technologies de la Mer](#).
34. See Mauritania, [Voluntary National Review 2019](#).
35. DANAT, n.d.
36. See the [Ocean Observing System Report Card 2023](#), accessed on 31 January 2023.
37. See [FAOLEX Database](#), accessed on 4 August 2023.
38. See the [Fisheries Transparency Initiative on Mauritania](#).
39. See the European Committee of the Regions on the [Jordan Fisheries Policy](#).
40. See the European Committee of the Regions on the [Egypt Fisheries Policy](#).
41. See the United Arab Emirates, [National Framework Statement for Fisheries and Aquaculture 2019-2030](#).
42. See the [stock assessment forms](#) of the General Fisheries Commission for the Mediterranean.
43. See more on [the agreement](#). No port state measures have been reported for any Arab party.
44. See Saudi Arabia, [Voluntary National Review 2023](#).
45. Algeria, Egypt, Lebanon, Libya, Morocco, the Syrian Arab Republic and Tunisia. Jordan and Saudi Arabia have recently joined as cooperating non-contracting parties. See more on the [membership of the General Fisheries Commission for the Mediterranean](#).
46. The Comoros, Oman, Somalia, the Sudan and Yemen. See more on the [structure of the Commission](#).

47. Algeria, Egypt, Libya, Mauritania, Morocco, the Syrian Arab Republic and Tunisia. See more on the [Contracting Parties](#).
48. Wright and others, 2017.
49. FAO, 2019.
50. Al Balushi, 2023.
51. See Algeria, [Voluntary National Review 2019](#).
52. See Tunisia, [Voluntary National Review 2021](#).
53. Dickson, 2022.
54. See Saudi Arabia, [National Aquaculture Policies and Practices](#).
55. The Fish Site, 2022.
56. See more on the [Anda platform](#).
57. UNESCO IOC, 2022.
58. Hosseini and others, 2021.
59. See Saudi Arabia, [Voluntary National Review 2023](#).
60. See Algeria, [Voluntary National Review 2019](#).
61. Al-Saidi, Saadaoui and Ben-Hamadou, 2023.
62. See Bahrain, [Voluntary National Review 2023](#).
63. See Djibouti, [Voluntary National Review 2022](#).
64. Emirates 24/7, 2023.
65. See Bahrain, [Voluntary National Review 2023](#).
66. See Saudi Arabia, [Voluntary National Review 2023](#).
67. See the United Arab Emirates, [Voluntary National Review 2022](#).
68. See Jordan, [Voluntary National Review 2022](#).
69. Espanol, 2022.
70. Kacemi, 2009.
71. See Algeria, [National Strategy for the Blue Economy](#).
72. Khelil and others, 2019.
73. See Morocco, [adoption of Law No. 81-12](#).
74. Nader, El Indary and Tahhan, 2023.
75. IMO, 2022.
76. See the Comoros, [Voluntary National Review 2023](#).
77. See Mauritania, [Strategie nationale de gestion responsable pour un developpement durable des peches et de l'economie maritime 2015-2019](#).
78. See the Comoros, [Voluntary National Review 2023](#). See also the 2023 [Moroni Declaration for Ocean and Climate Action in Africa](#) and the [Great Blue Wall](#) initiative, which engage the Comoros and Somalia.
79. See the State of Palestine, [Voluntary National Review 2018](#).
80. Johansen and Vestvik, 2020.
81. See more on [WTO members submitting their acceptance of the Agreement on Fisheries Subsidies](#).
82. See more on the programme [here](#).
83. Morocco world news, [290 Aquaculture Projects Emerged in Morocco in 2021, 2022](#).
84. See the [UN SDG Indicators Database](#), accessed on 8 December 2023.
85. United Nations, 2023.
86. See Somalia, [Voluntary National Review 2022](#).
87. Ibid.
88. See more on the [fund and agreement](#).
89. See more on the [MedFund](#).
90. See Lebanon, [Palm Islands Nature Reserve Management Plan 2000-2005](#).
91. See the United Nations Global Compact on [blue bonds](#).
92. Bosmans and de Mariz, 2023.
93. The [United Nations Economist Network](#) defines the *sustainable* ocean economy as including all ocean-based economic sectors operating and/or investing in sustainable systems. The focus is shifted from the production unit and economic output to conservation, livelihoods and jobs.
94. See the [Data Platform on Development Finance for the Sustainable Ocean Economy](#).
95. The Fish Site, 2022.
96. See more on [The state of Mediterranean and Black Sea fisheries reports](#).
97. FAO, 2022.
98. See more on the [General Fisheries Commission for the Mediterranean](#).
99. Oceana Europe, 2023.
100. See more on the [Marine Emergency Mutual Aid Centre](#).



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