





SDG 15

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

A. Introduction

The Arab region is progressing on SDG 15, albeit at a slow pace. Improvements comprise actions to protect important sites for terrestrial and freshwater biodiversity and to manage forest areas. Yet regressions are also evident in terms of land degradation, the limited protection of endangered species, and the insufficient mobilization of development aid to finance the conservation and sustainable use of biodiversity.

Advancing SDG 15 in the region depends closely on progress on sustainable agriculture (SDG 2), sustainable consumption and production (SDG 12), climate change adaptation (SDG 13), and structural issues of governance (SDG 16) and partnerships (SDG 17).

What the data say

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

While data availability for SDG 15 has improved since 2020, up-to-date data on desertification and land degradation, both crucial policy areas for the region, are missing.



The region is naturally poor in **forests**, housing 1 per cent of the world's forested area. More than two thirds of forests are in the least developed countries, where the forest area as a proportion of total land area has been decreasing slowly over the past decade. The share fell from 6.8 per cent in 2010 to 6.2 per cent in 2020. A quarter of these forest areas are within legally established protected areas and are covered by long-term management plans.



While updated figures on **land degradation** are lacking, available data suggest that land degradation has more than doubled across the region, increasing from 3.4 per cent in 2015 to 8.7 per cent in 2019. The least developed countries had the highest percentage of degraded land in absolute terms, at 14 per cent in 2019, while the Gulf Cooperation Council countries saw the sharpest increase, from 0.7 per cent in 2015 to 9.5 per cent in 2019.



The proportion of **terrestrial and freshwater key biodiversity areas covered by protected areas** in the region is increasing but remains markedly lower than the global average, at 23 per cent in 2022 compared to 44 per cent globally. Middle-income countries perform best on this indicator, while the least developed countries and countries in conflict perform the worst. **Mountain key biodiversity areas** are the least protected in the region, with only 10 per cent covered by protected areas.



The risk of species extinction is increasing in some countries, independent of income level. The **Red List index** of species survival is low and trending downward in a number of least developed and Gulf Cooperation Council countries.¹



In 2022, 73 per cent of countries were parties to the Nagoya Protocol on **Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization**, yet only 27 per cent had legislative, administrative and policy frameworks or measures for adequate implementation.



Official development assistance on conservation and the sustainable use of biodiversity received by Arab countries peaked in 2015 at \$843 million. It has since trended downward, reaching \$412 million in 2021. Between 2015 and 2021, middle-income countries received around two thirds of this assistance; the share of the least developed countries was 13 per cent.²

For an up-to-date view of SDG 15 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 15

- Develop simple and cost-effective protocols to monitor biodiversity and ecosystem health, inform adaptive management approaches for protected areas and demonstrate impact.
- Devise policies and initiatives that support populations dependent on fragile ecosystems, including forests and wetlands, for livelihoods. This encompasses engaging them in community-based conservation projects that increase their income while maintaining their traditional methods.
- Integrate biodiversity into national policies that govern land tenure and use, including agriculture and urban development policies.
- Enhance ecological connectivity across protected areas at the national and regional levels by leveraging geographic sites that can provide corridors for species movement and genetic exchanges, and improve regional cooperation in this area.
- In designing and implementing tree-planting and land restoration projects, consider all sources of influence – social, political, economic and environmental – to increase the success rate and long-term sustainability.
- Document and legally protect native genetic resources and corresponding traditional knowledge to ensure that economic benefits from their commercial exploitation is equitably shared, and support research partnerships among academia, industry and local communities to increase the added value of natural capital.
- Develop bankable biodiversity and land restoration projects that permit better access to innovative financing mechanisms, including green bonds.

B. The policy landscape for SDG 15

Multilateral environmental agreements have in many ways driven and shaped SDG 15 policies in Arab countries.

All countries are contracting parties to the Convention on Biological Diversity.³ Since its adoption in 1992, the Convention and its two subsequent protocols have promoted the conservation and sustainable use of biodiversity, along with the fair and equitable sharing of benefits from genetic resources. The Convention has helped to raise the bar on biodiversity with the adoption of progressively more ambitious goals and targets. The 2022 agreement on the Kunming-Montreal Global Biodiversity Framework gave further momentum and is expected to drive new commitments by countries and other stakeholders.



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The Kunming-Montreal Global Biodiversity Framework: towards living in harmony with nature

The fifteenth meeting of the Conference of the Parties to the Convention on Biological Diversity endorsed an ambitious global biodiversity framework. It lays out 23 action-oriented global targets to achieve by 2030. These are aimed at four goals by 2050: safeguarding ecosystems, species and genetic resources; the sustainable use of biodiversity; the fair and equitable sharing of benefits from genetic resources; and the means of implementation, including closing the biodiversity finance gap of \$700 billion per year.^a Countries are already translating global goals and targets into updated national biodiversity strategies and action plans.

^a See more on the [Kunming-Montreal Global Biodiversity Framework](#).

All countries are contracting parties to the **United Nations Convention to Combat Desertification**,⁴ adopted in 1994 to address desertification, land degradation and the effects of drought. Multiple global initiatives have been launched within the frame of the Convention, notably, the Land Degradation Neutrality Target Setting Programme in 2015. It invites parties to the Convention to formulate voluntary targets to achieve land degradation neutrality in accordance with their specific national circumstances and development priorities.⁵

It is therefore not surprising that SDG 15 policies in the region exhibit more commonalities than differences, although national contexts and differences in natural environments affect priorities and means of implementation. Common trends, which transcend income and geographic subgroupings, are highlighted in the following section.

For policies on the protection of marine biodiversity, see the chapter on SDG 14.

1. Protection and restoration of terrestrial and inland freshwater ecosystems

◆ **Most countries have expanded the number and extent of terrestrial and inland freshwater protected areas, but progress is slow. Evidence on the effectiveness of these protected areas in improving the condition of biodiversity remains limited.** According to the World Database of Protected Areas, the region counts 750 terrestrial and inland freshwater protected areas, 125 of which (17 per cent) hold one or more international designations.⁶ **Qatar** has increased its protected area coverage from 11 to 29 per cent, one of

the highest rates globally, but none of its terrestrial or marine protected areas have management plans.⁷

The governance structure for protected areas varies.

In more than half of cases, the protected area is under the authority of a national or federal ministry. In a third of cases, non-governmental organizations are fully delegated or are part of joint management arrangements. Very few delegations to subnational authority are noted, as in **Mauritania** and **Saudi Arabia**, reflecting weak decentralization in the region.

The region is not moving fast enough in designating freshwater and terrestrial key biodiversity areas as protected areas for many reasons. These include competing priorities, limited technical, human and financial resources, and ineffective governance structures.

In the least developed countries, where the protection of key biodiversity areas is the weakest, a participatory strategic planning process needs to take place to assess the ecological importance, threats and conservation needs of biodiversity areas. This will help ensure that limited resources are targeted where they can have the greatest impacts.

Around half of terrestrial and freshwater protected areas in the region benefit from a management plan.^a Where they exist, such plans often lack community participation and face implementation hurdles, however. The delegation of protected area management to non-governmental organizations is not always matched with adequate funding and capacity-building and therefore remains ineffective.

Site-specific efforts to monitor and evaluate the effectiveness of protected areas remain modest. As a result, the extent to which these areas have been successful in conserving biodiversity is largely unknown.^b The lack of evidence on the effectiveness of protected areas is a major shortfall in halting biodiversity loss in the region. Simple and cost-effective monitoring protocols that focus on key indicators of biodiversity and ecosystem health and inform adaptive management approaches are highly needed, especially in the least developed countries.

Countries miss opportunities for using protected areas as sites of innovation and multidisciplinary learning. In many instances, these areas attract only biologists.^c

^a As reported in the World Database of Protected Areas of UNEP-IUCN, available at the [Protected Planet website](#), accessed on 19 April 2023.

^b According to the Global Database on Protected Area Management Effectiveness, available at the [Protected Planet website](#), accessed on 19 April 2023. From 2001 to 2019, just 120 protected areas in the region (some 12 per cent of the total) were subject to one or more evaluations of management effectiveness of some form, with Egypt, Jordan, Lebanon and the United Arab Emirates leading in terms of the number of protected areas evaluated. For the eight protected areas in the region designated as natural world heritage sites, which are consistently assessed by IUCN, the conservation outlook was good for only one (in Egypt), good with some concerns in three (in Algeria, Jordan and the Sudan) and of significant concern in the remaining four (in Mauritania, Iraq, Tunisia and Yemen).

^c UNESCO, 2020.



◆ **While in general, countries have low forest cover, most have developed forestry laws that delimit, classify and protect forests, govern their exploitation and define penalties.**⁸ Some date to as early as the 1910s,⁹ well ahead of laws governing protected areas, and have undergone updates over time. Forestry laws have not always been effective for social, technical and institutional reasons, including low capacities to enforce penalties and a lack of participation by affected groups in forest policy creation.

A few countries have elaborated forest development strategies, such as the **Comoros, Lebanon, Saudi Arabia** and **Tunisia**, and, more recently, **Morocco**. Just a third of the region's forest area is covered by a long-term management plan. **Morocco** and **Tunisia** lead on that front with 62 and 70 per cent of forest area having a long-term management plan, respectively.¹⁰

Forest governance models are most often top-down, with little engagement of local communities, civil society organizations and the private sector, and hence no recognition of their local knowledge, practices and livelihood needs.

Moreover, national forest management programmes often depend on international aid and funds, and suffer from a lack of capacity-building, decision-making powers and sometimes legal support. These challenges can limit implementation and lead to unsustainable practices such as illegal logging, encroachment and overexploitation of forest resources.

2. Conservation and sustainable use of biological diversity and genetic resources

◆ In compliance with their membership in the Convention on Biological Diversity, **20 Arab countries had by 2023 developed at least one national biodiversity strategy and action plan**¹¹ detailing how they intend to fulfil the objectives of the Convention in light of specific national priorities and circumstances.

Among the more common strategies is to **reinforce policy coherence and the integration of biodiversity into national planning**, therefore striking a better balance between the conservation of biodiversity and ecosystems and their sustainable use. **Iraq** and **Mauritania** have, for example, integrated biodiversity into their poverty reduction strategies, while **Egypt, Jordan, Morocco** and the **United Arab Emirates** have incorporated biodiversity protection within ecotourism promotion policies. Another common aim relates to **improving understanding of biodiversity across society**. **Algeria, Iraq** and **Qatar** identify biodiversity

education and awareness-raising as strategic pillars of their national biodiversity strategy and action plans. **Enhancing the resilience of ecosystems to climate change** is a strategic pillar in some plans.

National biodiversity strategy and action plans have varying levels of quality but are largely outdated, with the majority submitted from 2016 to 2017. They have not been updated to align with the Kunming-Montreal Global Biodiversity Framework.

Implementation remains inadequate due to insufficient financial and human resources and limited institutional coordination and cooperation. Only eight plans are costed (**Algeria, Bahrain, Egypt, Lebanon, Mauritania, Somalia, Tunisia and Yemen**).

There are barriers, mostly institutional in nature, to mainstreaming biodiversity across sectors, including in agricultural policy where it is needed most. Awareness and understanding of the importance of biodiversity and its links to different sectors may also be lacking.

Insufficient national policies to govern land tenure and use, and weak implementation where they exist, constitute major challenges in most countries. This shortfall generates detrimental effects on biodiversity and natural habitats.

The integration of biodiversity values into national accounting and reporting systems is still lagging, with only six countries having done so in 2022 (**Egypt, Iraq, Jordan, Morocco, Qatar and Tunisia**).^a

^a See the database on [indicator 15.9.1](#) of the United Nations Statistics Division, accessed on 11 December 2023..

◆ **Most countries seek to protect endangered species through a mix of measures**, including: dedicated action plans (such as the Arabian Leopard Programme and Fund of **Saudi Arabia**, which increased the number of leopards and reintroduced the species to the wilderness of the AIUla region,¹² and the 2017–2018 plans of **Algeria** for magot monkeys, cheetahs and Cuvier's gazelles); the designation of protected areas for endangered species (such as birds in **Egypt** and the **United Arab Emirates**); the establishment of red lists and regular assessments of the status of living species (as in **Bahrain** and the **United Arab Emirates**); hunting licenses (as in the **Sudan**); measures against the illegal trade in wildlife (such as the use of high-tech border control and a digital certification system in the **United Arab Emirates**); and the establishment of seed banks (as in **Saudi Arabia** to conserve native plant species).¹³

Sixteen Arab countries are parties to the Convention on Migratory Species of Wild Animals,¹⁴ which covers terrestrial, aquatic and avian migratory species, their habitats and migration routes. In addition to legal measures

to protect endangered migratory species, countries have addressed obstacles to migration, such as by adopting safeguards to protect migratory birds flying over powerlines in **Egypt**¹⁵ and wind energy installations in **Jordan**.¹⁶ Since 2009, the Environment Agency – Abu Dhabi in the **United Arab Emirates** has hosted the Convention's regional office and helped to address common threats to migratory species of regional interest, notably dugongs and raptors.¹⁷

Twenty-one countries are parties to the Convention on International Trade in Endangered Species of Wild Flora and Fauna.¹⁸ Only nine countries, however, have been able to enact and enforce legislation to designate at least one Management Authority and one Scientific Authority; prohibit trade in specimens in violation of the Convention; penalize such trade; and confiscate specimens illegally traded or possessed. Three countries have met some of the requirements while nine countries met none (mostly least developed countries or countries in conflict).¹⁹ In **Djibouti** and **Somalia**, the Convention recommended the temporary suspension of all commercial trade until compliance is secured.²⁰

The lack of well-designated and effectively managed protected areas, which are critical for the provision of habitats for threatened species, represents a major policy gap. Protected areas are most often not connected to provide the ecological corridors needed for species movement and genetic exchanges. In that respect, other geographic sites that can contribute to biodiversity conservation, such as those with cultural and religious significance known as "other effective area-based conservation measures", could play a role in better connecting protected areas. Regional cross-border cooperation to prevent the fragmentation of habitats would also be instrumental.

Inadequate resources, weak enforcement of penalties for violators and challenges in integrating conservation objectives into broader land-use planning all contribute to the ineffectiveness of actions to protect endangered species.

Weak collection of data disaggregated by ecosystem types and at the species level hinders integrated assessments and the ability to demonstrate concrete impacts from conservation actions.

◆ **Sixteen Arab countries are contracting parties to the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization.**²¹ This calls for establishing transparent and predictable rules for accessing genetic resources, an important issue for Arab countries. Many are home to unique plant and animal species and are rich in traditional knowledge related to their use and management, such as in the field of

medicinal plants. The **Comoros** is among the few countries globally to have adopted a law on genetic resources, in 2020, as well as formal procedures for the issuance of permits to access them and corresponding traditional knowledge for commercial and non-commercial uses.²² This step is critical to protect against biopiracy. It helps ensure that Comorian holders of traditional knowledge on the planting and use of medicinal and aromatic plants, such as ylang-ylang, will be fairly compensated in contracts with foreign companies and laboratories.²³ It will also encourage local communities to protect important endemic species.

Eighteen countries are parties to the International Treaty on Plant Genetic Resources for Food and Agriculture. It facilitates access to plant genetic materials among farmers and scientists, and ensures that countries providing these materials also benefit. This treaty is very important for food security and the resilience of agriculture to climate change. More than 6,500 Standard Material Transfer Agreements were reportedly concluded from 2012 to 2022 to transfer plant material to 21 countries in the region for research, training and plant breeding.²⁴

Only 6 countries (**Algeria**, the **Comoros**, **Mauritania**, **Morocco**, **Qatar** and the **Sudan**) out of the 16 Arab State parties to the Nagoya Protocol have related legislative, administrative and policy frameworks or measures.^a Only 11 of the 18 parties to the Treaty on Plant Genetic Resources for Food and Agriculture have a corresponding legislative, administrative and policy framework. Even where frameworks exist, the lack of awareness and engagement among local communities and targeted entities contributes to the low enforcement of existing laws and implementation of treaty commitments.

Complementary efforts are needed to document and safeguard traditional knowledge and support research partnerships among academia, industries and local communities to promote innovation and value addition to genetic resources.

^a See the database on indicator 15.6.1 of the United Nations Statistics Division, accessed on 11 December 2023.

◆ **In 2022, all 22 countries had legislation, regulation or an act related to the prevention of the introduction and management of invasive alien species,** up from only 7 countries in 2016. The National Invasive Species Strategy & Action Plan 2022–2026²⁵ of the **United Arab Emirates** aims to raise awareness, enhance capacity, and prevent the introduction and spread of alien and invasive alien species. **Bahrain** is presently compiling an invasive alien plant and animal species blacklist and preparing to strengthen existing national regulations on invasive alien species.²⁶

From 2016 to 2022, only six Arab countries allocated funds in their national budgets to manage the threat of invasive alien species (**Egypt, Iraq, Oman, the Sudan, Tunisia** and the **United Arab Emirates**). Five Arab countries received global funding for projects related to invasive alien species management (**Egypt, the Comoros, Jordan, Libya** and **Yemen**).^a

^a See the database on indicator 15.8.1 of the United Nations Statistics Division, accessed on 11 December 2023.

◆ **All Arab countries are parties to the Cartagena Protocol of the Convention on Biological Diversity²⁷ and are taking necessary biosafety measures** for the safe handling, transport and use of living modified organisms resulting from modern biotechnology. Among the 14 countries that have reported on implementation, only **Algeria** has indicated that it had measures fully in place. Seven others have only partial measures. Countries with full or partial measures, however, do not necessarily allocate a budget for operations or secure permanent staff to administer biosafety functions. This puts the effectiveness of these measures in doubt.²⁸

3. Combating desertification, land degradation and drought

◆ **As contracting parties to the Convention to Combat Desertification, 16 countries have produced national action programmes that spell out how they intend to implement the Convention.** The plan of **Somalia** has a three-pronged strategic approach combining considerations that are ecological (improving the condition of affected ecosystems), economic (improving the living conditions of affected populations) and administrative (access and rights to communal land). National action plans are outdated in most countries, with just two having updated their plans since 2015 (**Somalia** in 2018 and the **United Arab Emirates** in 2022).

◆ **Several countries have set ambitious land degradation neutrality targets;** nine registered voluntary targets under the Convention to Combat Desertification. The **Syrian Arab Republic** pledged in 2020 to reverse 20 per cent of degraded agricultural land and rehabilitate 50 per cent of forest land, wetlands and other ecosystems and natural habitats affected by degradation by 2030. The **United Arab Emirates** pledged in its National Strategy for Combating Desertification 2022–2030 to restore at least 80 per cent of degraded land by 2030.²⁹

Countries foresee a variety of actions to achieve these targets, **with most embarking on afforestation**

and reforestation projects. The green dam programme of **Algeria**, initiated in the 1970s and revived in 2020, plans to develop a huge forest belt from east to west as a nature-based solution to halt desertification. The forthcoming phase of the project foresees a strong local development component.³⁰ The Green Initiative of **Saudi Arabia** aims to plant 10 billion trees to rehabilitate 40 million hectares of land.³¹

Tree planting and land restoration efforts in the Arab region have had positive results in some locations, helping to increase forest cover, restore degraded land and improve ecosystem services such as soil fertility, water regulation and habitat provision. Positive changes have also been observed in terms of increased community engagement, awareness and participation in community-based restoration activities.

Some tree-planting projects fail to achieve anticipated results, however, due to inadequate follow-up, maintenance and monitoring to ensure the survival and growth of planted trees. In some cases, inattention to the impact of climate change, grazing activity, use of non-native plants and tree irrigation needs have endangered the success and sustainability of these efforts. This points to a lack of science-based and holistic planning that considers all influential factors. The participation of local communities in the development of tree-planting schemes can lower the risks of such failures.

Community-based restoration actions have faced hurdles in some countries due to land fragmentation, which has led to an unwillingness to invest in the protection of small parcels of land due to low economic returns. Alternatively, traditional participatory land management approaches, such as the *agdal* and *hima* systems in the Maghreb and Mashreq, respectively, have helped promote more equitable and sustainable resource use.^a

^a UNESCO, 2020.



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◆ **Countries with significant agricultural sectors, especially middle-income and least developed countries, have established institutions at various levels of governance to monitor and manage droughts.** The **Syrian Arab Republic** developed a national drought strategy, with integrated drought monitoring, and **Iraq** set up a Higher Committee for Drought to work across government agencies. Early warning systems were launched in **Djibouti, Somalia** and the **Sudan** with the support of regional organizations and international non-governmental organizations.³²

Institutional and management frameworks have proven insufficient in enhancing drought preparedness and resilience due in part to a disconnect from ever-changing vulnerabilities in local communities. This is in addition to inequalities in access to information and resources to act on information, such as access to credit.^a Multilateral cooperation over shared basins has also been weak.

^a UNDRR, 2021.

C. Policy trends by subregion

1. Gulf Cooperation Council countries

Gulf Cooperation Council countries have hyper-arid environments that are rich in biodiversity that is under threat. Despite expansions of protected areas, these cover only 23 per cent of terrestrial key biodiversity areas. Land degradation is advancing quickly. Dust and sandstorms are increasingly problematic due to limited rainfall and severe soil aridity, with significant impacts on people's health, economies and the environment. Significant infrastructure development, especially along coastal areas, has serious consequences for natural habitats.

◆ **Countries have taken visible actions to monitor and collect data related to biodiversity.** The **United Arab Emirates** developed a Natural Capital Smart Map to collect biological and economic information and generate assessments to guide land use and investment policies. It has also conducted back-casting exercises to build historical knowledge on biodiversity. **Qatar** and **Kuwait** have built databases on biodiversity and inventories of animal genetic resources. **Oman** is using remote sensing to monitor green cover.³³

◆ **Countries are taking part in regional and interregional sand and dust storm assessments and early warning efforts and investing in mitigation.** The National Centre for Meteorology of **Saudi Arabia** hosts the Sand and Dust Storm Warning Regional Center. Accredited by the World Meteorological Organization, it uses satellite imagery to forecast and help Gulf Cooperation Council countries respond to storms.³⁴ **Kuwait** and **Iraq** are collaborating to better understand the conditions that create sand and dust storms and restore ecosystems in areas that generate these storms.³⁵

2. Arab middle-income countries

Arab middle-income countries have diverse habitats with a large number of endemic plant species, including essential crops. Protection efforts are considerable, with 63 per cent and 44 per cent of freshwater and terrestrial key biodiversity areas covered by protected areas, respectively. Yet urbanization, pollution and the unsustainable use of natural resources, including in agriculture, are major and increasing causes of biodiversity loss and ecosystem degradation.

◆ **Middle-income countries have made more visible attempts to adopt integrated and long-term approaches to biodiversity, linking it to agriculture, poverty reduction and climate resilience.** **Tunisia** developed a national natural resource management plan to 2050 that integrates biodiversity in provisions related to agriculture, water and climate change. **Algeria** has established an intersectoral Committee on Biodiversity (2018) and a National Commission for Protected Areas (2017) to ensure a cross-sectoral emphasis. The Forest Strategy 2020–2030 of **Morocco** follows an integrated and participatory approach to strike a balance between conservation and the development of local economies around forests, such as through argan and palm production.

◆ **In the Mashreq, non-governmental organizations have prominent roles in managing biosphere reserves and protected areas, in cooperation with local and national Governments.** This helps sustain protection and management of the sites. For example, the Shouf Biosphere Reserve in **Lebanon** is managed by a committee appointed by the Ministry of Environment that includes the Al-Shouf Cedar Society, a non-governmental organization, as well as mayors of larger villages in the region and technical experts.³⁶

◆ **Host to the majority of the region's Ramsar³⁷ wetland sites of international importance, countries in the Maghreb have established legal frameworks and elaborated comprehensive strategies to protect their wetlands.** Further efforts are needed to bridge knowledge gaps related to wetland distribution, spatial extent and the condition of related species, however. **Algeria** developed a 15-year strategy to sustainably utilize its 50 Ramsar wetlands, with clear roles for national and provincial governments.³⁸ The national wetland strategy 2015–2024 of **Morocco** specifies integrated action plans to restore the wetlands and develop sustainable value chains for artisanal fishing, tourism, aquaculture and bird watching. It sets an ambitious target to raise the awareness of 50,000 people per year.³⁹

3. Arab least developed countries and countries in conflict

Arab least developed countries have more than two thirds of the region's forests. Despite conservation efforts, the share of forests in total land area in these countries has slowly declined from 7.4 per cent in 2000 to 6.2 per cent in 2020. Outdated and fragmented institutional and legislative frameworks on biodiversity and the environment more broadly along with significant financing constraints prevent governments from enforcing protection policies. Economic insecurity leads people to adopt practices such as overgrazing and tree cutting for firewood that harm the environment and contribute to land degradation.

Conflicts and associated displacement are negatively affecting ecosystems. Protected areas in **Yemen** are neglected due to a shift in national priorities away from

environmental issues. Oil spills have contaminated rivers and farmlands in the **Syrian Arab Republic**. The destruction of rain-fed farming systems in **Iraq** has accelerated land degradation. In some countries, the scarcity of natural resources is exacerbating conflict.

◆ **The least developed countries seek to modernize legislative and institutional frameworks governing SDG 15.** In **Somalia**, a central responsible body, the Ministry of Environment and Climate Change, was only established in 2022.⁴⁰ To address fragmentation in policies and laws relating to land use and the environment in the **Sudan**, national responsibilities were centralized in the Higher Council for Environment and Natural Resources, an interministerial body placed under the Prime Minister.⁴¹ The Sudan has yet to develop a comprehensive policy to protect habitats, including forests, and combat land degradation.⁴²

◆ **The least developed countries are taking policy measures to limit practices harmful to biodiversity, but further efforts are needed to address root causes.** The national charcoal policy of **Somalia** regulates the use of charcoal, which constitutes a major driver of deforestation. **Mauritania** has sought to secure alternative low-cost energy sources and undertaken awareness-raising to reduce the use of wood for fuel.⁴³

◆ **In conflict-affected countries, policies supported by development partners, including United Nations bodies and international non-governmental organizations, focus on community-based approaches to biodiversity conservation.** The Global Environment Facility, for instance, has supported the establishment of community-run nurseries for dragon's blood tree seedlings to restore degraded forests in Socotra, **Yemen**.⁴⁴






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D. Policies to leave no one behind

The degradation of ecosystems and loss of biodiversity can have knock-on effects on the health and well-being of poor and vulnerable populations, especially those whose livelihoods depend on these resources. Without adequate

policies, existing socioeconomic inequalities can be amplified, which in turn can lead to further land degradation and the destruction of habitats.

Table 15.1
Examples of policies to leave no one behind

Groups at risk of being left behind	Examples of policies to leave no one behind
 <p>Rural and other subnational communities, including mountain communities, rely on subsistence farming for their livelihoods and are greatly affected by reductions in ecosystem services.</p>	<p>Oman has adopted a policy to support populations in mountainous areas that depend largely on livestock breeding and beekeeping made possible by rich plant and animal ecosystems. The policy supports traditional practices and livelihood improvements, resulting in win-win outcomes for people and the environment.^a</p>
 <p>Women tend to be disproportionately affected by land and ecosystem degradation due to limited control over and access to resources.</p>	<p>Acacias For All is a social enterprise formed through a partnership between the Government, non-governmental groups and research institutions in Tunisia. Implemented in 14 villages, it offers an economic model to fight desertification where the Government offers public land to women in return for planting green barriers of acacias. The acacias offer natural protection favourable to agriculture and biodiversity. The project is also helping to secure stable incomes for women.^b</p>
 <p>Internally displaced populations: The degradation of ecosystems can trigger the displacement of vulnerable populations such as small farmers and pastoral communities.</p>	<p>Sustainable land management and environmental restoration activities in the Qaraoun Catchment in Lebanon took place from 2016 to 2021 through a partnership between the Ministry of Environment and development partners. It halted land degradation and provided economic opportunities for underprivileged local residents (limiting out-migration) and Syrian refugees.^c</p>

^a See Oman, *Voluntary National Review 2019*.

^b See the Women and Gender Constituency on *Acacias For All*.

^c UNDP and GEF, 2020.



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E. The financing landscape

1. SDG 15 financing needs

ESCWA has estimated that over \$18 billion is needed by 2030 to finance biodiversity conservation in just seven Arab countries (table 15.2). While the figure is not particularly high, mobilizing resources for SDG 15 is challenged by competing priorities, especially in middle- and low-income countries. Funding mobilization is listed as a strategic priority in the national biodiversity strategies and action plans of countries including **Algeria, Bahrain, the Comoros, Egypt, Jordan and Tunisia.**

Table 15.2
SDG 15 costing in selected countries

Country	Additional investments to conserve biodiversity (billions of dollars)	Reference document
Algeria	4.6	National Reforestation Plan
Egypt	5.0	National Biodiversity Strategy and Action Plan
Iraq	3.3	National Biodiversity Protection Strategy
Jordan	1.0	National Biodiversity Strategy and Action Plan
Lebanon	1.2	National Afforestation/ Reforestation Programme
Morocco	2.9	Nationally Determined Contribution
Tunisia	0.5	Forest Investment Programme

Source: ESCWA Arab Financing for Development Gateway, accessed on 17 April 2023.



2. SDG 15 financing mechanisms

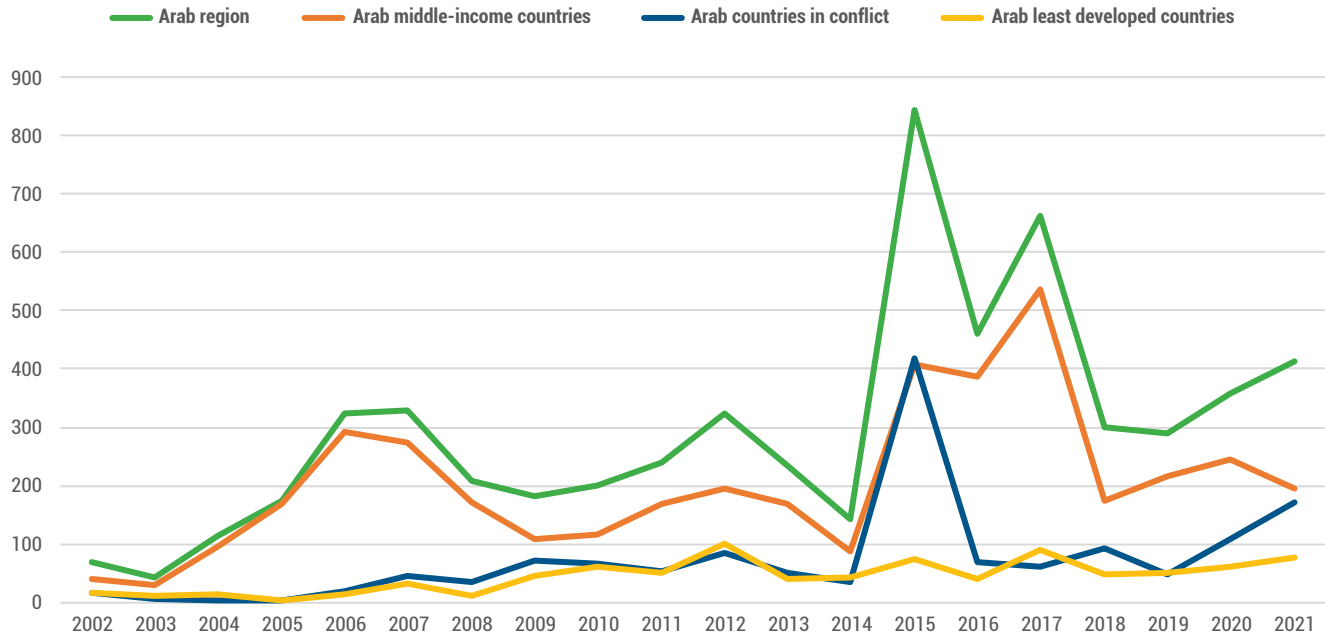
Biodiversity conservation and ecosystem protection in the region are typically financed through domestic public budgets and development finance. Innovative financing sources remain mostly untapped. Investments in biodiversity and sustainable land use are perceived as having low returns over a long time, and as such, may not be attractive to investors unless supported by some degree of risk-sharing and guarantees. While the issuance of green bonds, which are debt instruments to finance projects with environmental benefits, is growing fast globally due to increasing investor demand, the share allocated to biodiversity and sustainable land use from 2017 to 2019 was only around 3 per cent. By contrast, sustainable energy and transport projects received 80 per cent of funding.⁴⁵ The Arab region may benefit further from green bonds if more bankable biodiversity projects are developed that are multisectoral and backed by multiple government and non-governmental stakeholders.

The main SDG 15 **financing mechanisms** in the region include:

- Public spending:** ESCWA has tracked public social expenditure covering seven dimensions, including environmental protection, in nine countries. This showed that public spending on environmental protection (with biodiversity spending as a subcategory) has been decreasing since 2015 across most tracked countries.⁴⁶ For the latest available years (2015 to 2023), spending on environmental protection as a share of GDP ranged from 0.02 per cent in **Lebanon** to 0.63 per cent in **Tunisia**. Spending on environmental protection as a share of total social expenditure did not exceed 3 per cent, as registered in **Egypt**. Spending remains incommensurate with the high costs of environmental degradation in the region.
- Official development assistance and other multilateral funding mechanisms,** including the Global Environment Facility, the Green Climate Fund and the Adaptation Fund, continue to be major sources of finance for biodiversity in most Arab countries. Some benefit more than others. A “biosphere reserve - singular” designation has in some cases helped to mobilize resources as it provides credibility.

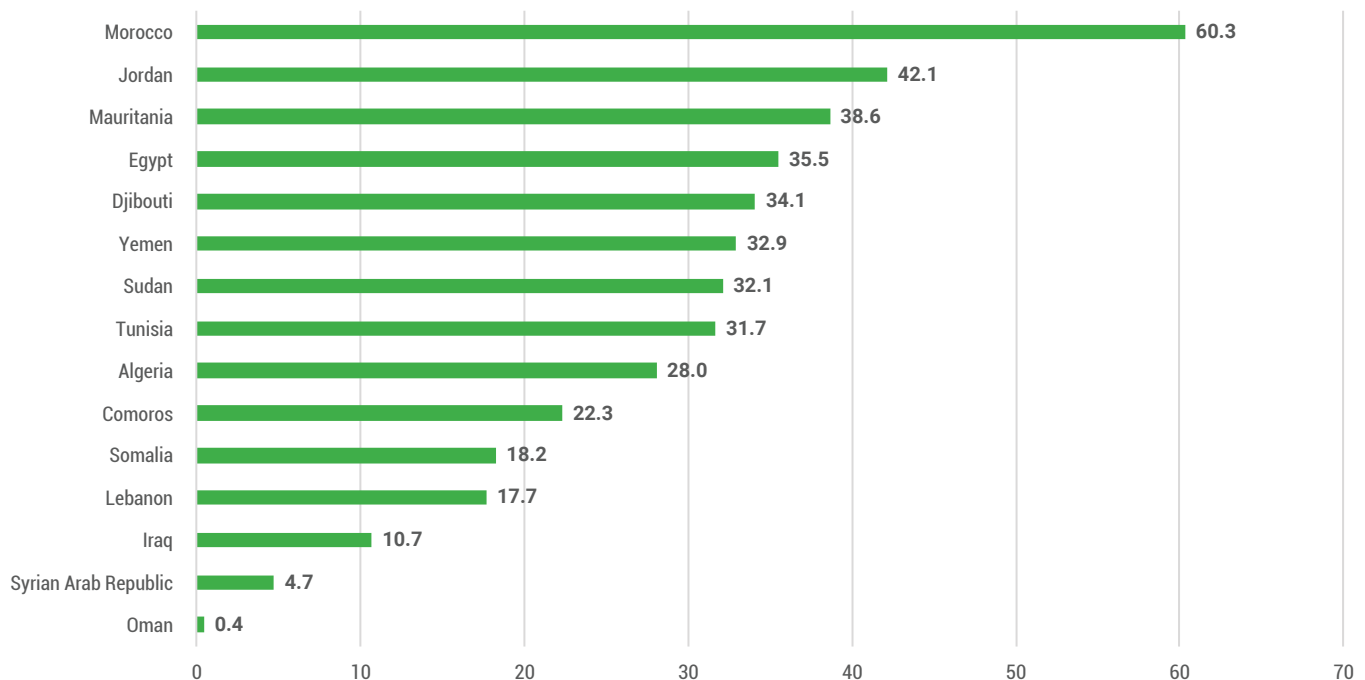
The region received over \$412 million in official development assistance for biodiversity in 2021 (constant dollars), down from a peak of \$843 million in 2015 (figure 15.1). Funding is lowest in the least developed countries, where it is needed the most. This may reflect low prioritization of environmental issues in these countries, but also structural problems related to their ability to mobilize and spend such funding.

Figure 15.1
Total official development assistance for biodiversity (Constant dollars, millions)



Source: UNDESA, SDG Indicators Database, accessed on 5 February 2024.

Figure 15.2
Global Environment Facility funding received by Arab countries (Millions of dollars)



Source: Global Environment Facility project database, accessed on 11 December 2023.

Note: Figures reflect national funding only and exclude multi-country projects. They cover projects with a focus on biodiversity or land degradation across all funding periods.



Fifteen Arab countries received over \$409 million in grants from the Global Environment Facility for national projects focused on biodiversity or land degradation over different funding periods (figure 15.2). **Morocco** has benefited the most, receiving over \$60 million in grants.

Morocco was the first country in the region to receive funding from the Land Degradation Neutrality Fund, a blended financing mechanism, to foster sustainable land management and water efficiency practices in the citrus sector.⁴⁷

Tunisia was the first Arab country to benefit from the Climate Investment Funds through the Forest Investment Program, which included measures to increase carbon sequestration, enhance the ecosystem services of agro-sylvo-pastoral landscapes and sustainably manage rangelands.⁴⁸

- **Philanthropic funding** is helping to broaden the scope of action to support nature. For example, the Mohamed bin Zayed Species Conservation Fund provides small grants for species conservation and also backs larger projects.⁴⁹
- **Private sector investments** in some biosphere reserves are generating revenues that are leveraged to conserve and sustainably use biodiversity and ecosystems. The Shouf Biosphere Reserve in **Lebanon** is one example, where government support covers one third of the expenditures of the reserve while the other two thirds are secured through ecotourism packages developed with local businesses.⁵⁰ The Arganeraies Biosphere Reserve in **Morocco** capitalizes on a growing argan oil industry to attract investors to conserve the argan ecosystem.⁵¹
- **Biodiversity-relevant economic instruments** are emerging, but their use is still limited. **Mauritania** and **Morocco** redirect taxes collected on pesticides, fertilizers, forest products and timber harvests to finance biodiversity protection. Mauritania has additionally benefited from relevant fees and charges such as entrance fees to national parks, while Morocco has established tradable hunting and fishing permits under a cap-and-trade scheme.⁵²



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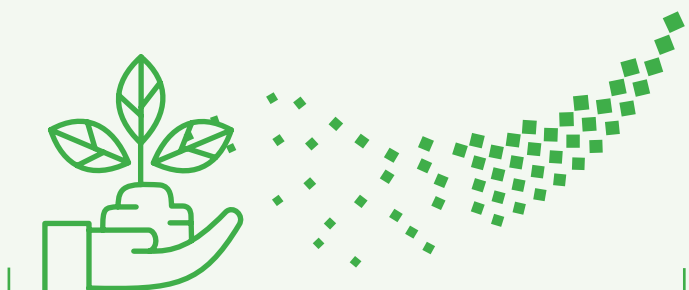
F. Regional dimensions

Regional collaboration is advancing in some SDG 15 areas but could be further strengthened.

- **Regional cooperation is significant in combating desertification and land degradation.** For example, the Middle East Green Initiative, launched in 2021 in **Saudi Arabia**, is a regional collective action aimed at planting 50 billion trees and restoring an area equivalent to 200 million hectares of degraded land.⁵³ Other notable multilateral actions include the African Great Green Wall initiative, which has expanded beyond the Sahel to include North African countries (**Djibouti**, **Mauritania** and the **Sudan**). The initiative emphasizes natural resource governance solutions driven by and supporting local communities.

The Union of Arab Maghreb developed the Sub-regional Action Programme to Combat Desertification in the Maghreb (2011–2020)⁵⁴ to build capacities, transfer technologies, conduct scientific research and establish an early warning system for drought management. It has a total cost of over \$15 million to be financed by member States and development partners. More can be done on this front in the region as a whole.

- **In the area of forestry**, regional and bilateral cooperation, notably at the Mediterranean level (such as the Collaborative Partnership on Mediterranean Forests⁵⁵), has supported scientific research, sustainable forest management, seedling production for afforestation and reforestation efforts, and combating forest fires, among other efforts. The effectiveness and impact, however, are not well documented.
- **On genetic resource protection**, international efforts, including those by the International Center for Agricultural Research in the Dry Areas, have helped to collect, conserve, regenerate, distribute and document vital genetic material in collaboration with countries to protect agrobiodiversity. Active since 1985 in the **Syrian Arab Republic**, the centre now operates two gene banks in **Lebanon** and **Morocco**.
- **Regional collaboration to strengthen ecological connectivity across protected areas** continues to be an unmet priority; if acted upon, this could result in significant gains in protecting species.⁵⁶



Endnotes

1. See the United Nations Department of Economic and Social Affairs, [SDG Indicators Database](#) accessed on 15 September 2023, and IUCN's [Red List of Threatened Species](#).
2. United Nations Department of Economic and Social Affairs, [SDG Indicators Database](#), accessed on 15 September 2023.
3. See the [list of parties](#) to the Convention.
4. See [country profiles](#).
5. See more on [target-setting](#).
6. The World Database of Protected Areas of UNEP-IUCN, available online through the [Protected Planet website](#), accessed on 19 April 2023. The 750 protected areas are established, inscribed or designated. International designations include Ramsar Site (wetland of international importance), UNESCO-MAB Biosphere Reserve and UNESCO World Heritage Site (natural or mixed). In addition, the website lists 127 proposed protected areas.
7. See [Qatar](#) at the website for the Convention on Biological Diversity.
8. See [FAOLEX Database](#), accessed on 15 September 2023.
9. For example, Morocco's law on the conservation and exploitation of forests dates to 1917 (Madani, 2018).
10. See the [United Nations Statistics Division database](#) on indicator 15.2.1, accessed on 11 December 2023.
11. Plans were submitted from 2004 to 2019, with the most recent provided by Kuwait in 2019. Libya and the State of Palestine have not elaborated plans. The two countries have nevertheless submitted national reports to the Convention's Secretariat. See more [here](#).
12. See the Arabian leopard by the [Royal Commission for AlUla](#).
13. See Algeria, [Voluntary National Review 2019](#); Bahrain, [Voluntary National Review 2023](#); Egypt, [Voluntary National Review 2021](#); Saudi Arabia, [Voluntary National Review 2023](#); the Sudan, [Voluntary National Review 2022](#) and the United Arab Emirates, [Voluntary National Review 2022](#).
14. Non-parties are the Comoros, Kuwait, Oman, Qatar, the State of Palestine and the Sudan. See the list of [Parties and Range States](#).
15. See the UNEP and CMS factsheet, [Towards bird-friendly powerlines in Egypt](#).
16. See the UNEP and CMS factsheet, [Regional wind farm planning in Jordan](#).
17. See the UNEP and CMS factsheet, [Convention on Migratory Species Office – Abu Dhabi](#).
18. All Arab countries except the State of Palestine. See the [List of Contracting Parties](#).
19. See the [Status of Legislative Progress for Implementing CITES](#).
20. See [Countries currently subject to a recommendation to suspend trade](#).
21. See the [Access and benefit-sharing clearing-house](#).
22. See the [Access and benefit-sharing clearing-house](#) on the Comoros.
23. UNDP, 2021.
24. See the [United Nations Statistics Division database](#) on indicator 15.6.1, accessed on 11 December 2023.
25. See the United Arab Emirates' [National Invasive Species Strategy and Action Plan 2022-2026](#).
26. SCE, DANAT and UNESCO, 2023.
27. See the [Parties to the Cartagena Protocol and its Supplementary Protocol on Liability and Redress](#).
28. See the [analysis of the fourth national reports](#) submitted by 14 Arab countries.
29. See the United Arab Emirates' [National Strategy for Combatting Desertification 2022-2030](#).
30. Presentation by Ms. Saliha Fortas at the ESCWA [regional consultation on nature-based solutions for strengthening resilience](#), held online on 16 February 2022.
31. See the [Saudi Green Initiative](#).
32. UNDRR, 2021.
33. See Kuwait, [Voluntary National Review 2023](#); Oman, [Voluntary National Review 2019](#); Qatar, [Voluntary National Review 2021](#) and the United Arab Emirates, [Voluntary National Review 2022](#).
34. See more on the [Sand and Dust Storm Warning Regional Center](#).
35. United Nations in Iraq, 2023.
36. See the [Al-Shouf Cedar Society](#).
37. Eighteen Arab countries are [contracting parties](#) of the Ramsar Convention on Wetlands. Exceptions are Qatar, Saudi Arabia, the State of Palestine and Somalia.
38. Ramsar.org, 2017a.
39. Ramsar.org, 2017b.
40. Gikandi, 2022.
41. See the Sudan, [Voluntary National Review 2022](#).
42. UNEP, 2020.

43. See Mauritania, [Voluntary National Review 2019](#) and Somalia, [Voluntary National Review 2022](#).
44. UNEP, 2022.
45. Chahine and Liagre, 2020.
46. See the ESCWA [Social Expenditure Monitor](#), accessed on 10 December 2023. The countries tracked include Egypt, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, the Sudan and Tunisia.
47. Mirova, 2021.
48. See more on the activities of the [Climate Investment Funds in Tunisia](#) and the [Forest Investment Programme](#).
49. See examples of [grants and projects](#).
50. See the [Shouf Biosphere Reserve's Ecotourism Strategy](#).
51. See [Arganeraies](#).
52. See the OECD [PINE database](#), accessed on 15 April 2023.
53. United Nations, 2021.
54. See the [Sub-regional Action Programme to Combat Desertification in the Maghreb: 2011-2020](#).
55. See the [Collaborative Partnership on Mediterranean Forests](#).
56. UNESCO, 2022.

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