



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

Biodiversity is on the decline in the Arab region; desertification is on the rise. Land degradation, deterioration of ecosystems, and loss of biodiversity, including in forests, have a progressively negative impact on human health and well-being, poverty alleviation and the natural environment. The sustainable management of land through protected areas and sustainable agriculture, along with coordinated and strategic regional planning, and greater investment in sustainable forest management and landscape restoration, are necessary to reverse the current trajectory of loss and degradation.

Key facts



Biodiversity has declined in the Arab region as a result of rapid urbanization and land reclamation, and encroachment on fragile natural habitats.



The impact of conflicts in some countries has negatively affected land use and ecosystems including through haphazard and accelerated construction in affected host communities.



There have been significant improvements in the protection of both terrestrial and freshwater key biodiversity areas since 2000, but levels of protection remain well below global averages.¹

Extinction risk

The region's Red List Index score, which reflects the extinction risk of threatened species, is better than the world average. Biodiversity remains under pressure, however, and species are still declining.³

25% forest area loss

Forest area as a proportion of total land area has declined by 25 per cent in the region since 1990, primarily due to large reductions in several of the least developed countries (Comoros, Somalia and Sudan).²

Benefits from generic resources

Progress on the adoption of legislative, administrative and policy frameworks to ensure the fair and equitable sharing of benefits arising from genetic resources is mixed and often below the global average.⁴



Progress on sustainable forest management has been slow compared with global averages.

16 countries

All Arab countries are signatories to the Convention on Biological Diversity. Sixteen countries have developed updated national biodiversity strategies and action plans, a promising step.⁵



Overexploitation of ecosystems has led to habitat loss, reduction of species and the shrinkage of their natural range of distribution.



Globally, the region is one of the most affected by sand and dust storms. These impact most Arab countries, including Algeria, Bahrain, Iraq, Jordan, Kuwait, Libya, Morocco, Oman, Qatar, Saudi Arabia, the Syrian Arab Republic, Tunisia and the United Arab Emirates.⁶

Land degradation

The region is extremely dry, with 92 per cent of hyperarid land and 73 per cent of arable land affected by land degradation.⁷ Water resources are scarce, with very little rainfall, which affects the natural recharging of surface and groundwater resources.

**\$9
billion
each
year**

The economic cost of land degradation in the region has been estimated at \$9 billion each year (between 2 per cent and 7 per cent of the GDP of individual countries). Salinity in the soil reduces productivity and crop yields, causing economic losses estimated at \$1 billion annually across the region.⁸

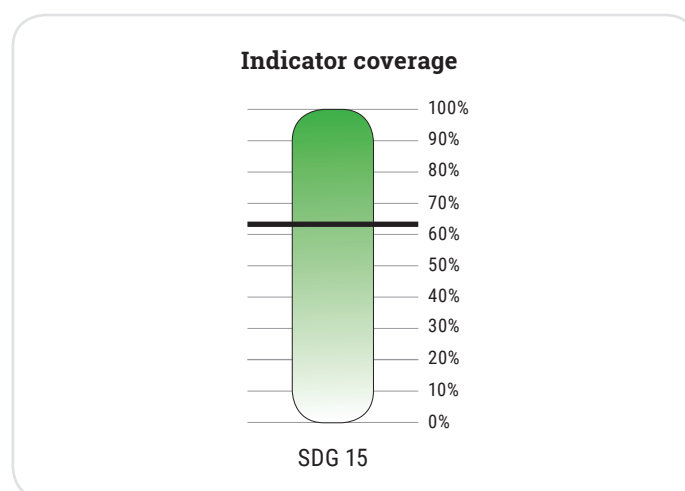
Measuring SDG 15 in the Arab region according to the global SDG indicator framework

Data are available for 9 out of 14 indicators,⁹ covering 7 out of 12 targets under SDG 15.

There are currently no data for measuring progress against target 15.9, which relates to the integration of ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts. This lack indicates a critical weakness in policy efforts to achieve SDG 15.

Measuring progress on halting biodiversity loss could improve, given that all Arab countries are signatories to the Convention on Biological Diversity, and most have submitted national biodiversity strategies and action plans.

Key gaps remain in assessing and tracking land degradation (target 15.3), the illegal wildlife trade (target 15.7) and measures to prevent the risk of invasive species (target 15.8). All of these targets are essential components of delivering on SDG 15, and



represent significant threats to ecosystems in the region. In particular, land degradation and desertification are major threats to biodiversity as well as food security and livelihoods, and should be prioritized for data collection and target-setting.

SDG 15 CONTAINS FIVE TARGETS TO BE ACHIEVED BY 2020

TARGET 15.1 - Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

TARGET 15.2 - Promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

TARGET 15.5 - Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

TARGET 15.8 - Introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species

TARGET 15.9 - Integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts

The main barriers to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss in the Arab region

Terrestrial ecosystems and biodiversity within them are a source of food and raw materials for construction and energy, with direct links to human well-being and prosperity (SDGs 2, 8 and 9). They provide ecosystem services such as the capture of carbon, maintenance of soil quality, provision of habitat for biodiversity, maintenance of water quality, regulation of water flow and erosion control. All of these services are necessary to maintain the health of the natural environment. They provide a buffer against natural disasters like floods and landslides, regulate the climate and maintain the productivity of agricultural systems (SDG 2).

As ecosystem services break down, human livelihoods, particularly in rural and mountainous areas, come under threat. This prompts people to migrate to cities, pressuring urban settlements (SDG 11). At the same time, increased urbanization and mismanagement of land have resulted in further land degradation and loss of green areas.

Since forests reduce the impact of climate change by absorbing carbon dioxide from the atmosphere and storing it as biomass, their deterioration affects air quality and human health (SDG 3). Forest cover has increased in some Arab countries over the past decades, yet the overall regional trend is negative. The region lost 6.3 per cent of its forest cover from 2000 to 2015.

As one of the driest areas in the world (SDG 6), the region is acutely impacted by climate change (SDG 13). This exacerbates detrimental impacts from the deterioration of ecosystems, the loss of forests and biodiversity, desertification and mismanagement of land.

There are significant barriers to addressing the continued deterioration of terrestrial ecosystems and the decline in biodiversity in the region.

The **island of Socotra** off the coast of Yemen is home to a wealth of natural wonders, with 37 per cent of plants on the island identified as endemic or unique to the area. It has been described as the “Galapagos of the Indian Ocean”. A UNESCO World Heritage Site, it has been mostly spared in the Yemeni conflict, but military forces were deployed to the island in 2018, highlighting the risk it faces in the ongoing war. The International Union for Conservation of Nature (IUCN) has proposed adding the island to the World Heritage in Danger list given a number of key threats, including uncontrolled development, spreading invasive alien species and the impacts of climate change.

Source: UNESCO, 2019; IUCN, 2018.

THE FOLLOWING ARE THE KEY BARRIERS TO ACHIEVING SDG 15 IN THE ARAB REGION

Poor regulation of land-based activities and expansion of settlements

A rapid increase in population and urbanization throughout the region as well as agricultural expansion in the least developed countries have resulted in encroachment on fragile natural habitats and the clearing of forests. Wood harvesting and intensive grazing practices are still common in some countries, leading to land degradation and desertification. Unsustainable agricultural practices, including inappropriate soil cultivation methods and unsustainable water management are other contributing factors. All of these elements reinforce each other and accelerate the negative impacts of increasing drought, and sand and dust storms. These phenomena in turn have led to declines in agriculture, which threatens food security.¹⁰ Land, forest and biodiversity protection must be integrated across different sectors to ensure sustainability, health and well-being.

The implementation of existing laws and commitments, including those made through national biodiversity strategies and action plans, remains weak across the region. Outdated and ineffective legislative and management frameworks along with limited resources for biodiversity management result in a lack of monitoring and enforcement by environmental agencies.

A lack of political commitment and investment in biodiversity protection

The limited establishment of protected areas stems from insufficient political commitment to biodiversity protection compared with competing development imperatives. Even within protected areas networks, the coverage of key biodiversity areas is insufficient. Many smaller protected areas remain isolated, potentially limiting their conservation benefit. Management of protected areas is not prioritized in budgets, resulting in slow decline over time.



Limited information on ecosystems as well as climate change and invasive species



Climate change is shifting habitats, altering the migration and distribution of species, and affecting the integrity of ecosystems and protection measures. Yet the impacts on biodiversity are poorly understood in terms of temperature and rainfall patterns. Poor data availability hinders the capacity to incorporate impacts in management strategies, monitor progress and changes over time, and adapt plans to meet conservation challenges. While invasive alien species are common and considered a major threat to ecosystems, accurate data on their distribution and impacts are similarly limited. These issues too are not well-addressed in management plans.

Conflict and instability exacerbate existing pressures on the region's biodiversity



Armed conflict and post-conflict relapse pose critical challenges to biodiversity and can cause further degradation. Conflicts can take a significant long-term toll on the natural environment, including through the persistence of explosive materials such as landmines, contaminated water supplies and environmental toxicity from the destruction of infrastructure or chemical use. For example, from 2011 to 2015 in the Syrian Arab Republic, 1,880 fires reportedly burned through natural ecosystems and protected areas, with negative impacts on wildlife, clearly seen through the local extinction of the critically endangered northern bald ibis and the loss of enormous numbers of Arabian oryx in Palmyra.¹¹ Irrigated agriculture has been destroyed due to salinity related to conflict, and protected areas in some cases have been used as military staging grounds. The overgrazing of rangelands as a result of conflict has led to desertification.¹²

Studies estimate that 50 per cent of the region's **particulate matter 2.5**, an air pollutant, comes from natural dust. This contributes to and worsens respiratory illnesses, cancers and cardiovascular diseases, among others health threats.

Source: Karagulian and others, 2015; WHO, 2015.

Forests in the Arab region account for approximately 1 per cent of total world forest cover. They comprise 75 per cent natural forests and 25 per cent plantation forests. Despite increases in certain countries, there was an overall decline of 2.55 million hectares in forest cover from 2000 to 2015. Most of the losses occurred in the Comoros, Somalia and the Sudan, mainly due to expanded agricultural activities.

Source: Data are based on United Nations Statistics Division, 2015, 2019a.

At risk of being left behind

All life on Earth is threatened by the lack of progress on SDG 15. The deterioration of terrestrial ecosystems, increased desertification and land degradation, and biodiversity loss will affect everyone in terms of health, safety, access to food, economic productivity, and peace and stability.

Resilience to change will vary, however, since some groups of people, communities and countries will be able

to access more financial or technological resources and have greater mobility.

Rural and other subnational communities, including mountain communities, may be at more immediate risk of being left behind. Reductions in ecosystem services, such as pollination, erosion and pest control, and water filtration, will have the greatest impacts on communities reliant on subsistence farming for their livelihoods.

What the region can do to accelerate progress on SDG 15

1. Raise awareness of the importance of biodiversity and the dangers of land degradation and loss of forests:

- Integrate the promotion of the sustainable use of terrestrial ecosystems in education curricula at all levels.

2. Invest in the strategic expansion and interconnectedness of the region’s protected area network, including terrestrial, freshwater and mountainous key biodiversity areas:

- Establish national coordination groups for key biodiversity areas to improve identification and protection of important areas across the region, particularly mountain and coastal areas, and to drive growth in protected areas and bring key stakeholders together.
- Implement reforestation or habitat restoration programmes in key areas at risk of desertification or that provide wildlife corridors between protected areas and/or key biodiversity areas.
- Accelerate the adoption and implementation of national biodiversity action plans, and develop transparent mechanisms for tracking and reporting on implementation to the international community.

3. Introduce planning regimes to better account for biodiversity, ecosystem service provision and climate change:

- Develop, resource and implement regional climate change adaptation plans to better account for climate impacts on ecosystems, biodiversity and people.

- Adopt the “avoid, reduce, reverse” hierarchy in land-use planning decisions, as well as mechanisms to counterbalance any losses in land cover with equal or greater gains.

- Avoid expansion of settlements into prime agricultural land, forests and rangelands, and enhance integrated land use practices such as agroforestry and agrosilvopastoral systems to meet demand for raw goods sustainably and alleviate pressure on the natural environment.

4. Develop national ecosystem accounts and regional long-term environmental data collection and monitoring programmes to better inform decision-making, including to build on the interconnections between environmental, economic and social policies:

- Increase training and capacity-building in the compilation of ecosystem accounts and the use of GIS, remote sensing and spatial data to improve land management.
- Improve data collection on rates of desertification within the region, including data on land cover, land productivity dynamics and soil organic carbon stocks, as well as biosecurity and invasive alien species.

SDG 15 targets and indicators in the Arab region

Target

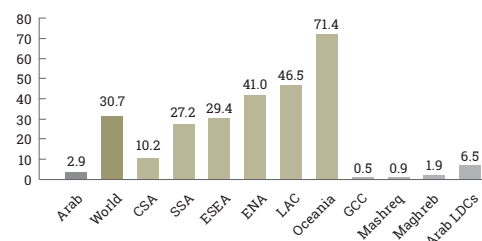
15.1
By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

Indicator

15.1.1
Forest area as a proportion of total land area

Data

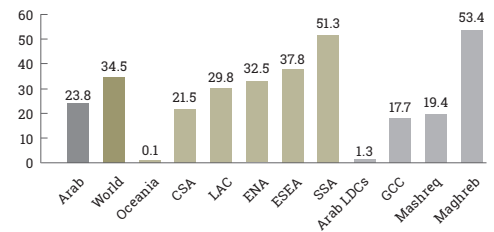
Figure 1 Forest area as a proportion of total land area (percentage)



Note: All means are weighted using total land area in 2015 (United Nations Statistics Division, 2019b). The calculated regional aggregate includes the data values for all Arab countries in 2015.

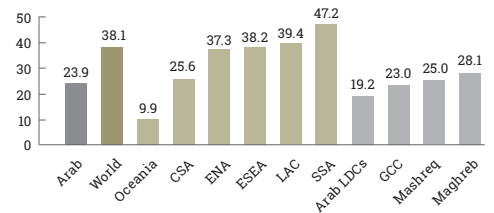
15.1.2
Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type

Figure 2 Average proportion of freshwater key biodiversity areas covered by protected areas (percentage)



Note: All means are weighted using total land area (2015) as a proxy for the denominator (United Nations Statistics Division, 2019b); see the annex complementing this report. The calculated Arab regional aggregate includes the data values for the following Arab countries in 2017: Algeria, Djibouti, Egypt, Iraq, Lebanon, Morocco, Saudi Arabia, Somalia, State of Palestine, Sudan, Syrian Arab Republic, Tunisia and Yemen.

Figure 3 Average proportion of terrestrial key biodiversity areas covered by protected areas (percentage)

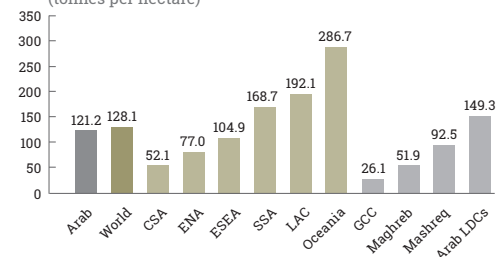


Note: All means are weighted using total land area (2015) as a proxy for the denominator (United Nations Statistics Division, 2019b); see the annex complementing this report. The calculated Arab regional aggregate includes the data values for all Arab countries in 2017.

15.2
By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

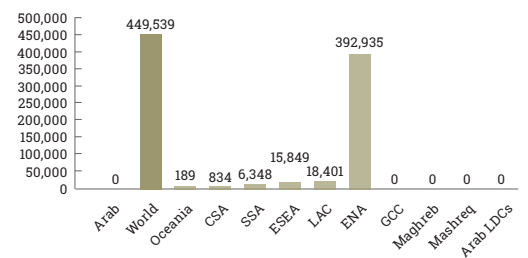
15.2.1
Progress towards sustainable forest management

Figure 4 Above-ground biomass in forest per hectare (tonnes per hectare)



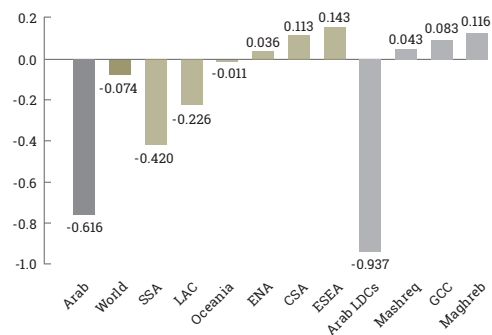
Note: All means are weighted using forest area in 2015 (United Nations Statistics Division, 2019b). The calculated Arab regional aggregate includes the data values for the following Arab countries in 2015: Algeria, Comoros, Djibouti, Egypt, Jordan, Libya, Mauritania, Morocco, Saudi Arabia, Somalia, Sudan, Tunisia, United Arab Emirates and Yemen.

Figure 5 Forest area certified under an independently verified certification scheme (thousands of hectares)



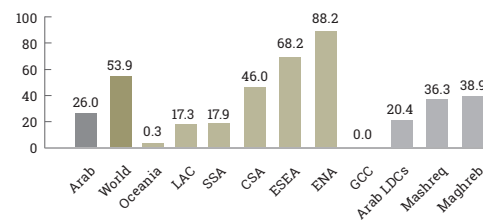
Note: Aggregates are the total sum of country values. The calculated regional aggregate includes the data values of all Arab countries in 2017.

Figure 6 Forest area net change rate (percentage)



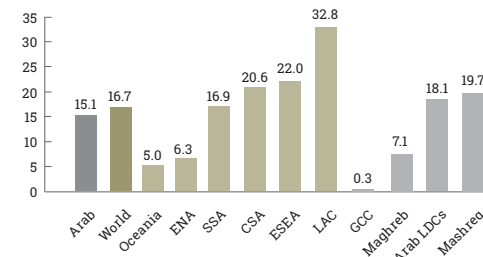
Note: The forest area net change rate for 2015 is the percentage change in forest area over the last five years, between 2010 and 2015 (United Nations Statistics Division, 2019b). All means are weighted using forest area in 2015 (United Nations Statistics Division, 2019b). The calculated Arab regional aggregate includes the data values for the following Arab countries in 2015: Algeria, Comoros, Djibouti, Egypt, Iraq, Jordan, Lebanon, Libya, Mauritania, Morocco, Oman, Saudi Arabia, Somalia, State of Palestine, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen.

Figure 7 Proportion of forest area with a long-term management plan (percentage)



Note: All means are weighted using forest area in 2015 (United Nations Statistics Division, 2019b). The calculated Arab regional aggregate includes the data values for the following Arab countries in 2010: Algeria, Egypt, Lebanon, Mauritania, Morocco, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen.

Figure 8 Proportion of forest area within legally established protected areas (percentage)



Note: All means are weighted using forest area in 2015 (United Nations Statistics Division, 2019b). The calculated Arab regional aggregate includes the data values for the following Arab countries and years: Syrian Arab Republic (2010), Algeria, Comoros, Djibouti, Egypt, Jordan, Lebanon, Morocco, Saudi Arabia, Somalia, Sudan, Tunisia and Yemen (2015).

15.3

By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

15.3.1

Proportion of land that is degraded over total land area

Adopted criteria to obtain a regional average are not met for this indicator.

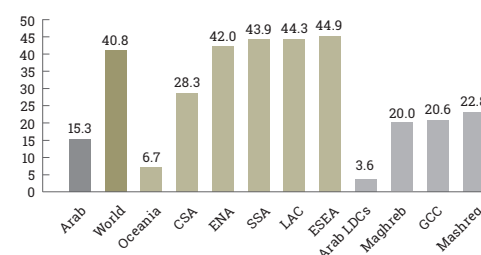
15.4

By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development

15.4.1

Coverage by protected areas of important sites for mountain biodiversity

Figure 9 Average proportion of mountain key biodiversity areas covered by protected areas (percentage)

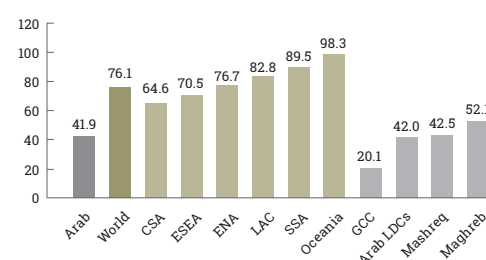


Note: All means are weighted using total land area (2015) as a proxy for the denominator (United Nations Statistics Division, 2019b), see the annex complementing this report. The calculated Arab regional aggregate includes the data values for the following Arab countries in 2017: Algeria, Comoros, Djibouti, Egypt, Iraq, Jordan, Lebanon, Libya, Mauritania, Morocco, Oman, Saudi Arabia, Somalia, State of Palestine, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen.

15.4.2

Mountain Green Cover Index

Figure 10 Mountain Green Cover Index



Note: The Mountain Green Cover Index measures the size of the green vegetation in mountain areas in order "to monitor progress on the mountain target and provide an indication on the status of the conservation of mountain environments" (United Nations Statistics Division, 2019b). All means are the weighted mountain area in 2017 (United Nations Statistics Division, 2019b). The calculated Arab regional aggregate includes the data values for the following Arab countries in 2017: Algeria, Egypt, Comoros, Djibouti, Iraq, Jordan, Lebanon, Libya, Mauritania, Morocco, Oman, Saudi Arabia, Somalia, State of Palestine, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen.

15.5

Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

15.5.1

Red List Index

For country data please refer to the annex of the present chapter

Note: According to the United Nations Statistics Division (2019b), the Red List Index measures the aggregate extinction risk across groups of species and ranges from 0 to 1, where 0 stands for "all species are categorized as extinct" and 1 for "all species are categorized as least concern". No geographic aggregates can be calculated: "While global Red List Indices can be disaggregated to show trends for species at smaller spatial scales, the reverse is not true. National or regional Red List Indices cannot be aggregated to produce Red List Indices showing global trends. This is because a taxon's global extinction risk has to be evaluated at the global scale and cannot be directly determined from multiple national scale assessments across its range (although the data from such assessments can be aggregated for inclusion in the global assessment)".

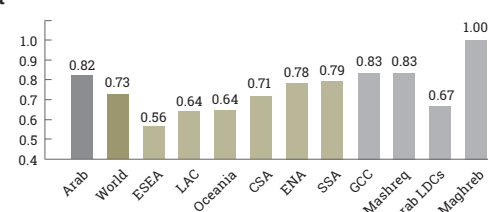
15.6

Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed

15.6.1

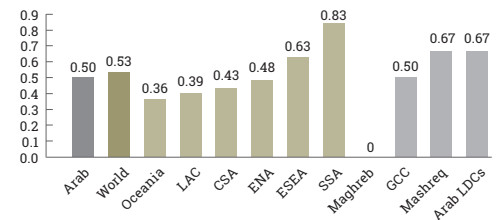
Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits

Figure 11 Countries that are contracting parties to the International Treaty on Plant Genetic Resources for Food and Agriculture



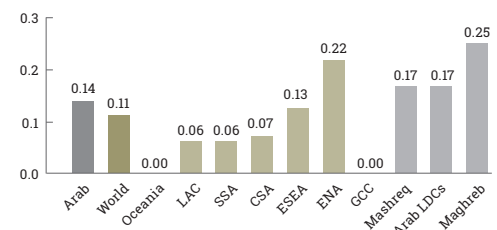
Note: 1 = yes, 0 = no. Aggregates are unweighted means and as such represent the proportion of countries. The calculated Arab regional aggregate includes the data values for all Arab countries in 2017.

Figure 12 Countries that are parties to the Nagoya Protocol



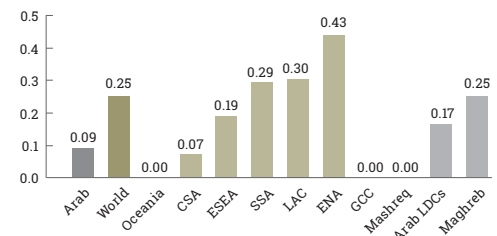
Note: 1 = yes, 0 = no. Aggregates are unweighted means and as such represent the proportion of countries. The calculated Arab regional aggregate includes the data values for all Arab countries in 2017.

Figure 13 Countries that have legislative, administrative and policy frameworks or measures reported through the online reporting system on compliance with the International Treaty on Plant Genetic Resources for Food and Agriculture



Note: Aggregates are unweighted means and as such represent the proportion of countries. The calculated Arab regional aggregate includes the data values for all Arab countries in 2012.

Figure 14 Countries that have legislative, administrative and policy frameworks or measures reported to the Access and Benefit-Sharing Clearing-House



Note: 1 = yes, 0 = no. Aggregates are unweighted means and as such represent the proportion of countries. The calculated Arab regional aggregate includes the data values for all Arab countries in 2012.

15.7
Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products

15.7.1
Proportion of traded wildlife that was poached or illicitly trafficked

Adopted criteria to obtain a regional average are not met for this indicator.

15.8
By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species

15.8.1
Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species

Adopted criteria to obtain a regional average are not met for this indicator.

15.9

By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts

15.9.1

Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011–2020

Adopted criteria to obtain a regional average are not met for this indicator.

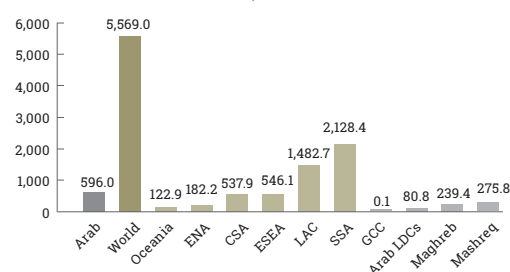
15.a

Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems

15.a.1

Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems

Figure 15 Total official development assistance for biodiversity, by recipient countries (millions of constant 2017 United States dollars)



Note: Aggregates are the total sum of country values. The calculated Arab regional aggregate includes the data values for the following Arab countries and years: Oman (2010), Libya (2016), Algeria, Comoros, Djibouti, Egypt, Iraq, Jordan, Lebanon, Mauritania, Morocco, Somalia, State of Palestine, Sudan, Syrian Arab Republic, Tunisia and Yemen (2017).

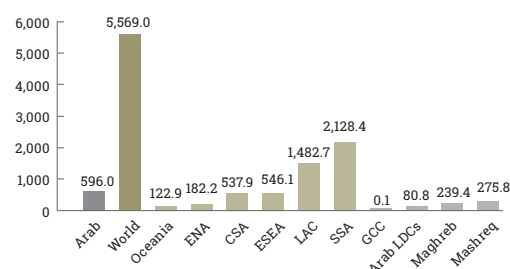
15.b

Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation

15.b.1

Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems

Figure 16 Total official development assistance for biodiversity, by recipient countries (millions of constant 2017 United States dollars)



Note: Aggregates are the total sum of country values. The calculated Arab regional aggregate includes the data values for the following Arab countries and years: Oman (2010), Libya (2016), Algeria, Comoros, Djibouti, Egypt, Iraq, Jordan, Lebanon, Mauritania, Morocco, Somalia, State of Palestine, Sudan, Syrian Arab Republic, Tunisia and Yemen (2017).

15.c

Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities

15.c.1

Proportion of traded wildlife that was poached or illicitly trafficked

Adopted criteria to obtain a regional average are not met for this indicator.

Note: Central and Southern Asia (CSA); Eastern and South-Eastern Asia (ESEA); Europe and Northern America (ENA); Gulf Cooperation Council (GCC); Latin America and the Caribbean (LAC); Arab Least Developed Countries (Arab LDCs); Oceania (excluding Australia and New Zealand); Sub-Saharan Africa (SSA).

All figures are based on the Global SDG Indicators Database (United Nations Statistics Division, 2018) except for updated data (United Nations Statistics Division, 2019a) on the following indicators: 15.1.2 [Average proportion of terrestrial key biodiversity areas (KBAs) covered by protected areas (percentage)], 15.4.1 [Average proportion of mountain key biodiversity areas (KBAs) covered by protected areas (percentage)], and 15.a.1 [Total official development assistance for biodiversity, by recipient countries (millions of constant 2017 United States dollars)].

ENDNOTES

1. Calculated by ESCWA, see figures 2 and 3.
2. Calculated by ESCWA based on World Bank, 2015.
3. For country data, refer to the annex complementing this report.
4. See figures 11 to 14.
5. Convention on Biological Diversity, 2019.
6. Sissakian and Knutsson, 2013; Kobler, 2013. See also UNEP, WMO and the United Nations Convention to Combat Desertification, 2016.
7. ESCWA, 2016.
8. ESCWA and FAO, 2017.
9. According to the methodology used in this report.
10. UNEP, WMO and the United Nations Convention to Combat Desertification, 2016.
11. UNEP, 2016.
12. Ibid.

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