



SDG 13: Take urgent action to combat climate change and its impacts

The impact of climate change is acute in the Arab region as temperatures continue to climb. Vulnerability is on the rise as vast numbers of people confront growing water scarcity and droughts. An increase in disasters and extreme weather events takes a toll through loss of life and economic damages. While many countries are investing in climate adaptation and diversification of their economies, and adopting national disaster risk reduction strategies, more comprehensive, regional and multi-stakeholder efforts are needed. The region must strengthen the science-policy interface to tackle climate change, and better integrate climate change impact and risk assessments into planning systems.

Key facts

+ 1.5°C The Arab region has experienced an average increase of 1.5°C compared to pre-industrial levels.¹



By 2030, the effects of climate change will reduce renewable water resources by 20 per cent as a result of decreased precipitation, increased water demand as temperatures rise, and expanding seawater intrusion into coastal aquifers due to rising sea levels.⁷

96% disaster-related deaths in LDCs

The number of annual disasters has increased since 1990.² The number of lives lost due to disasters between 2010 and 2019 was more than double the number of the previous decade. Most of these deaths (96 per cent) were in the least developed countries.³

National development plans

While development plans in all countries cover agricultural and pastoral production, few specifically address climate change and environmental concerns.

44 million affected by droughts

From 1990 to 2019, droughts affected over 44 million people in the region.⁴

NDCs

Twenty-one Arab countries submitted nationally determined contributions in line with the Paris Agreement on climate change, including both mitigation and adaptation measures. Seven countries (Bahrain, Egypt, Kuwait, Qatar, Saudi Arabia, Somalia and Sudan) did not include emissions reduction targets in their submissions.⁸

\$19.7 billion

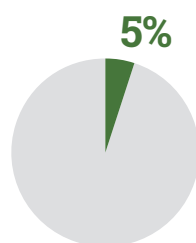
From 1990 to 2019, economic damages from disasters amounted to over \$19.7 billion. This included \$6.8 billion from earthquakes, \$5.7 billion from floods and \$6 billion from storms.⁵

Per capita CO₂ emissions



Projections show that climate change will reduce water availability, alter agricultural production patterns, threaten livestock production, adversely impact forests and wetlands, and increase the vulnerability of people to water scarcity, agricultural employment loss and heatwaves.⁶

Regional per capita emissions of carbon dioxide are increasing and were similar to the global average in 2013. In the GCC subregion, per capita emissions were almost four times the global average. Egypt and Saudi Arabia have the highest cumulative emissions in the region.⁹



In 2014, the region's share of global carbon dioxide emissions was less than 5 per cent. The region's share of global GDP stood at 5 per cent.¹⁰

Climate finance

Adaptation to climate change is a priority in the region, but bilateral flows from developed countries for mitigation exceeded flows for adaptation by a factor of five in 2016. Only 5 of 22 Arab States have accessed the multilateral Green Climate Fund, which supports the implementation of the United Nations Framework Convention on Climate Change, including through the Paris Agreement.¹¹

Measuring SDG 13 in the Arab region according to the global SDG indicator framework

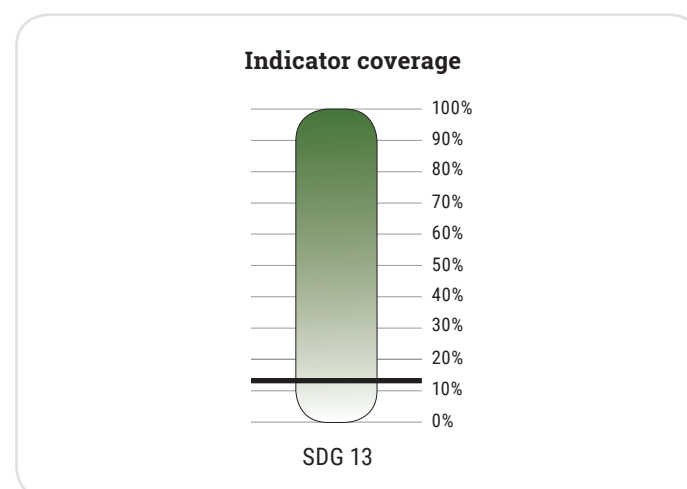
Data are available for only 1 out of 8 indicators,¹² covering 1 out of 5 targets under SDG 13.

The targets and indicators of SDG 13 are primarily focused on climate change resilience, planning, education and financing. There are clear links to targets and indicators for other goals, such as SDG 7, which includes targets on energy efficiency and renewable energy; SDG 9, on sustainable industrialization; SDGs 1 and 11, which have resilience indicators; and SDG 12, with targets on sustainable resource use and inefficient fossil fuel subsidies.

SDG 13 targets and indicators are linked to both the United Nations Framework Convention on Climate Change and the Sendai Framework for Disaster Risk Reduction. Reporting under the Convention and the Framework offers better scope to measure the status of climate change over time. Crucial, ongoing and consolidated regional efforts to produce and share data and climate change assessments and projections have been critical, and support the efforts of Arab Governments to gauge impact, devise interventions and report on global commitments.¹³

A potential gap in official SDG 13 indicators is that they focus on the adoption or communication of plans and strategies, rather than the quality and content of these—or the level of commitment to them.

Another shortfall relates to the monitoring of emissions. There is only one official indicator on carbon dioxide



emissions, under SDG 9 (indicator 9.4.1 on carbon dioxide emissions per unit of value added). Adequately measuring progress on climate change action in the Arab region and elsewhere requires complementing official indicators with national indicators on total greenhouse gas emissions, per capita emissions and emissions per unit of GDP. Data on these indicators are widely available.

Indicators on finance, capacity-building and support for technology development, transfer and adoption in the area of climate change and disaster risk reduction would also help to assess needs and benefits as well as the progress of developing countries, and accelerate the achievement of SDG 13.

SDG 13 INCLUDES ONE TARGET TO BE ACHIEVED BY 2020

TARGET 13.a - Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly

\$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible

The main barriers to combating climate change and its impacts on the Arab region

Despite differences among Arab countries in terms of greenhouse gas emissions, and their relatively low share of emissions globally, the region already bears heavy impacts from climate change. Existing water scarcity, increased and poorly managed urbanization, and a largely inefficient and less productive agricultural sector are among the factors accentuating the fallout.

Climate change alters the living environment and affects human health (SDG 3), prosperity (SDG 8), water availability (SDG 6) and food security (SDG 2). As populations grow across the region, climate change is exacerbating the negative impacts of migration and urbanization (SDG 11). Pollution is on the rise, and many countries have registered worrying levels on land, in oceans and the air, with direct consequences for human health. Those who are already poor and vulnerable (SDG 1), including rural people, poor women, slum dwellers, and refugees and the displaced, as well as those living in low-lying coastal areas, are most at risk from climate change and its associated disasters.

Adaptation to climate change is imperative. Mitigation efforts are also crucial, and can be advanced through economic diversification (SDG 8), and more sustainable patterns of consumption and production (SDG 12). Heavy dependence on oil in some countries makes economic diversification even more of a priority.

SDG 13 has implications for the achievement of many other SDGs and related targets, including SDG 7 (energy efficiency and renewable energy), SDG 2 (food security), SDG 9 (industrial emissions), SDG 12 (resource efficiency and fossil fuel subsidies), and SDGs 14 and 15 (healthy oceans and forests). Yet such links are not adequately reflected in development planning or sectoral strategies and policies.

Impacts from climate change are most acute in terms of water availability, with implications for agricultural production and food security. Adverse effects will be directly borne by rural communities, and the poor in rural and urban areas.

Extreme climate events such as droughts, flash floods, and sand and dust storms are on the rise in patterns not witnessed historically.¹⁴ They threaten richer and poorer countries alike, impacting human lives and health, and causing serious damage to natural and human-made infrastructure and resources. The capacity of Arab countries to adapt to climate change varies considerably, with the least developed countries being particularly vulnerable.¹⁵

"In Iraq, over 60,000 impoverished farmers whose livelihoods were adversely affected by **drought** in 2006 and 2008 migrated to urban areas. Similar migration movements occurred in Jordan."

"In the Sahel zones of Mauritania, every major drought has triggered migration to the cities and nomadic households have moved by the hundreds of thousands to Nouakchott and Nouadhibou where deeper wells could reach the groundwater. Nouakchott's population grew from 40,000 to over 700,000 between 1970 and 2000."

"In Sudan, the line of semi-desert and desert areas has moved southwards 50 to 200 km since 1930 and is projected to continue moving southwards, threatening 25% of the country's agricultural land and reducing food production by 20%."

Source: United Nations 2017.

THE FOLLOWING ARE THE KEY BARRIERS TO ACHIEVING SDG 13 IN THE ARAB REGION

High levels of exposure and vulnerability to climate change



The high levels of exposure and vulnerability to climate change are due to key regional characteristics such as freshwater scarcity, aridity, population growth, increased urbanization, poverty and instability, fragility and conflict.¹⁶ Impacts on shared water resources, increased desertification and other aspects of climate change cross national boundaries; so do related population movements. National actions related to adaptation or mitigation can also easily affect other countries.

Vulnerability is exacerbated by a lack of safe and affordable housing, inadequate urban drainage systems, disruptions in electricity, and inadequate heating and cooling. These issues are especially problematic given the rise in unplanned urbanization. Without adequate adaptation and mitigation measures, climate change is projected to continue to increase vulnerability and food insecurity in coming decades,¹⁷ and fuel migration and displacement, with many more people ending up in cities.

Projected temperatures in parts of the region could rise by 5°C by the end of the century. Precipitation is largely projected to decline,¹⁸ with the highest drop-off expected in the North African countries bordering the Mediterranean Sea. The Moroccan highlands could see a reduction in rainfall of up to 40 per cent by the end of the century.¹⁹ With agricultural systems already often struggling under the strain of inefficiency and weak productivity, the likely outcome will be a spike in hunger and poverty, especially in rural areas.

Limited adaptive capacity in many countries, and inadequate policy and planning responses



The combination of rapid population growth and urban expansion with an increased incidence of disasters driven by a changing climate presents a complex planning and development challenge.²⁰ While all countries are affected to varying degrees, those with greater financial and technical resources and sound infrastructure are better positioned to respond. More work is needed to share information, technology and capacities within the region to ensure necessary and effective infrastructure is in place across countries.

Escalating economic damage, forced resettlement and conflict over dwindling resources considerably tax the capacity of governments to deliver on development agendas, which further compounds fragility. National preparedness and disaster risk reduction strategies are needed to reduce the loss and damage caused by extreme events. Adaptation strategies that build resilience in the medium and long term need to be adequately funded and implemented. In general, there is insufficient policy integration and coherence across strategies, plans and investments to address climate change and disaster risks are insufficient, and there is inadequate mainstreaming of climate change targets and policies into national development plans and visions.

Limited technical and research capacity



Combating climate change in the region is undercut by the weak state of research and development and knowledge production. These are crucial not only to inform policymaking but also to drive a cultural transformation in awareness of and action to combat climate change.

Currently, climate change research and impact assessments are improving but have yet to gain the attention they deserve. As a result, the effects of climate change are not integrated into national and subnational sectoral planning, and urban and land-use planning. They do not explicitly inform measures to increase the resilience of health systems, infrastructure and housing, and reduce vulnerability among fragile communities and groups such as women, older persons, small farmers, migrants, and so on. Weak risk governance is a national and regional challenge. There is a need to strengthen regional cooperation on early warning systems for drought, sand and dust storms, and other extreme climate events.

Insufficient quantity and quality of finance, technology and capacity-building support



Achieving the commitments made by developing countries in nationally determined contributions is contingent on financial support from developed countries. Yet access to and replenishment of global climate funds (e.g., the Green Climate Fund) are concerns. Funds for adaptation projects, a priority for the region, remain particularly low. Political obstacles, eligibility criteria and standards, or limited capacity in project preparation are barriers for some countries. Some countries in the region have succeeded in securing funding from the Green Climate Fund, namely Bahrain, Comoros, Egypt, Morocco and the State of Palestine. Other countries have tapped into or are seeking to access Readiness Programme funds to assist with project preparation. But they continue to cite stringent donor and investor requirements and difficulty in developing bankable proposals as obstacles to accessing finance.

In 2018, **Cyclone Mekunu** devastated Oman and Yemen. It was reportedly more powerful than any storm previously recorded in that area.

In Oman, three years of rain fell in a single day, leaving 24 people dead. When Mekunu struck Yemen's Socotra in the Arabian Sea, it caused significant damage to an island that UNESCO has recognized as a natural world heritage site. Over 500 families were displaced.

Sources: OCHA, 2018; IFRC, 2018.

Building on the 2013 Aqaba declaration on disaster risk reduction in cities, **Amman**, the capital of Jordan, has developed a resilience strategy. Five pillars address all aspects of life and the needs of the city.

The strategy emerged from the wide engagement of stakeholders from the public and private sectors, local and international civil society organizations, youth groups, academia and others, who met to discuss the city's future and draw a road map based on its potential. The strategy calls for transforming challenges into opportunities to develop the city together and ensure the well-being of its people and future generations.

At risk of being left behind

While the impacts of climate change are and will be felt by all, some groups of people are particularly at risk.

Climate change aggravates and multiplies existing threats in poor communities. Lacking resources to adapt to changes or cope with shocks, they are likely to be most severely impacted. The **rural poor** are especially vulnerable due to their reliance on water for agriculture for their livelihoods, and inadequate infrastructure and living conditions.²¹ Areas with the highest vulnerability and least adaptive capacity include the Horn of Africa, the Sahel and the south-western Arabian Peninsula.²² Across the region, in rural and urban areas, **women and children** are more likely to suffer continued losses after a disaster, including through displacement and the disruption of livelihoods and social networks.

Rapid urbanization is often either unplanned or planned without considering climate change, which results in the creation and expansion of **informal settlements** that are highly vulnerable to climate events. The destruction of natural environments that usually buffer climate change, poor building construction, inadequate drainage and wastewater management systems, and insufficient services all increase vulnerability.

Climate change is altering the natural and built environment, and established ways of using and benefiting from natural resources such as land, water, oil and others. Current patterns of consumption and

production are not sustainable. The cumulative impacts, beyond the harm caused to the poor and most vulnerable today, impose a historical injustice on the **young and future generations**. They will inherit a natural, physical and socioeconomic environment that is overall less hospitable and more unequal, with diminishing resources and higher risks to lives and livelihoods. Arab youth face an additional barrier from educational systems that leave them without the necessary knowledge and tools to mobilize around climate actions. Weak political participation and the lack of effective mechanisms for civic engagement (SDG 16) limit their chances to influence policymaking.

By 2017, the drought in **Somalia** had reduced average cereals harvests by 70 per cent, caused significant livestock deaths and left over 360,000 children acutely malnourished. Nearly 3 million people, predominantly in rural communities, are facing acute **food insecurity**. In fragile countries such as Somalia, illegal armed groups such as Al-Shabaab have increasingly attracted young people affected by drought-induced food insecurity and limited job prospects.

Sources: DFID, 2006; FSNAU-Somalia, 2017.

What the region can do to accelerate progress on SDG 13

1. Develop coherent national responses to climate change mitigation and adaptation in line with global agreements and national circumstances:

- Develop or update national climate change adaptation and disaster risk reduction strategies, and mainstream the effects and risks of climate change into sectoral plans, local and urban development and infrastructure plans, and integrated land-use planning.
- Set clear national greenhouse gas mitigation targets in line with the Paris Agreement, and adopt incentives to drive emissions reductions across the energy, transport and other sectors, recognizing the principle of common but differentiated responsibilities.
- Adopt or operationalize integrated water management strategies at national and regional levels.
- Prioritize and invest in the science-policy interface to encourage understanding, develop solutions and strengthen innovation to address climate change.
- Engage and regulate the private sector as a responsible and active actor in mitigation and adaptation measures.
- Increase coherence across the 2030 Agenda, the Paris Agreement and the Sendai Framework in terms of data, implementation and reporting.

2. Enhance institutional and technical capacities in the region to address climate change:

- Consolidate regional efforts to support technical training and capacity-building in climate change modelling, impact assessment, risk assessment and planning, and the use of GIS, remote sensing and greenhouse gas emission inventories to support monitoring and reporting.
- Increase the capacity of planners and policymakers, at regional, national and local levels, to incorporate the results of scientific assessments of climate change impacts and vulnerability in planning decisions.
- Invest in enhancing hydrometeorological observation networks, and increase knowledge and uptake of modern observational technologies such as earth observation satellites.

3. Raise awareness and engage all stakeholders in transforming patterns of consumption and production, including the use of natural and other resources:

- Incorporate climate change into educational curricula in the region, and engage students and youth in addressing its causes and impacts.
- Engage women and youth in decision-making on prevention and mitigation measures, and encourage their leadership role in their communities to transform energy and water use into more sustainable patterns.
- Support innovation, empower research centres and think tanks at regional and national levels, and create or encourage mechanisms for independent monitoring and evaluation of economic and environmental policies and action.

4. Mobilize additional finance and technology, and accelerate capacity-building linked to climate action in the region, drawing on public and private sources:

- Increase the quality and quantity of international public climate finance flows so that they include higher shares of unconditional grants and adaptation finance.
- Enhance the region's capacity in global negotiations, and promote regional and subregional access to climate change finance, technology and capacity-building.
- Scale up access to climate change finance from multiple funds (e.g., from the Green Climate Fund, Adaptation Fund and Global Environment Facility), multilateral development banks, bilateral sources and the private sector as well as through innovative investment instruments (e.g., green bonds and sukuk).
- Develop baselines to track climate allocations in national and subnational budgets, and evaluate actual expenditure and impact.
- Restructure energy pricing and subsidies to drive private investment in clean energy and more sustainable consumption.
- Consider pricing mechanisms to incentivize investment in greenhouse gas reductions.
- Prioritize technology transfer, especially to the least developed countries, and strengthen the position of the region in accessing and adapting new technologies and funding opportunities.

SDG 13 targets and indicators in the Arab region

Target

13.1
Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

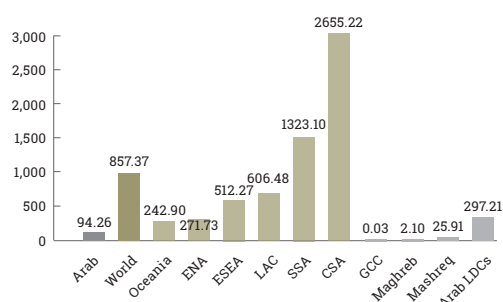
Indicator

13.1.1
Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population

Data

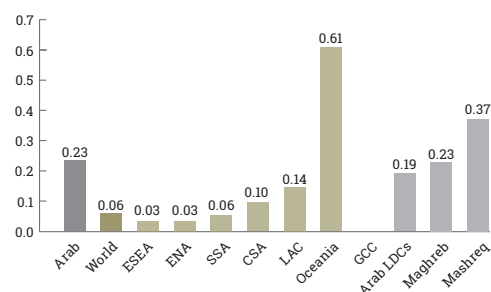
Figure 1 Number of deaths, missing persons and persons affected by disaster per 100,000 people

(a) Number of people affected by disaster per 100,000 people



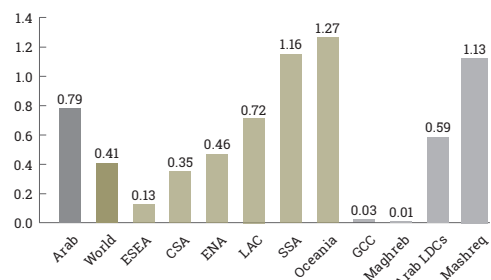
Note: The number of people affected by disasters is multiplied by 100,000 and divided by population to derive total country numbers. All means are population weighted using the latest (2015) population estimates (United Nations Population Division, 2017; United Nations Statistics Division, 2019b), still expressed per 100,000 people. The calculated Arab regional aggregate includes the data values of the following countries and years: Syrian Arab Republic (2009), Yemen (2010), Kuwait (2011), Djibouti (2012), Tunisia (2013), Morocco (2014), Comoros, Egypt, Jordan, Lebanon, State of Palestine and Sudan (2017).

(b) Number of deaths due to disaster per 100,000 people



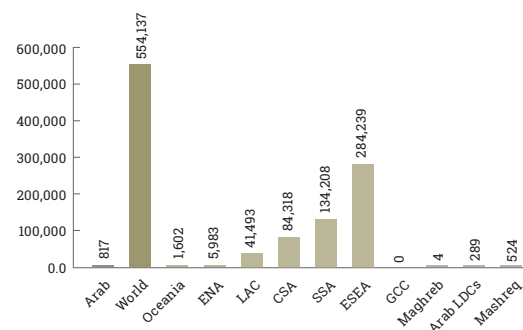
Note: The number of deaths from disasters is multiplied by 100,000 and divided by population to derive total country numbers. All means are population weighted using the latest (2015) population estimates (United Nations Population Division, 2017; United Nations Statistics Division, 2019b), still expressed per 100,000 people. The calculated Arab regional aggregate includes the data values of the following countries and years: Syrian Arab Republic (2009), Yemen (2010), Kuwait (2011), Djibouti (2012), Tunisia (2013), Morocco (2014), Lebanon (2016), Comoros, Egypt, Jordan and State of Palestine (2017).

(c) Number of missing persons due to disaster per 100,000 people



Note: The number of missing persons due to disaster is multiplied by 100,000 and divided by population to derive total country numbers. All means are population weighted using the latest (2015) population estimates (United Nations Population Division, 2017; United Nations Statistics Division, 2019b), still expressed per 100,000 people. The calculated Arab regional aggregate includes the data values of the following countries and years: Tunisia (2009), Jordan and Yemen (2010), Djibouti and Morocco (2011) and Comoros (2017).

Figure 2 Number of damaged dwellings and number of destroyed dwellings attributed to disasters



Note: Aggregates are the total sum of country values (United Nations Statistics Division, 2019b). The calculated Arab regional aggregate includes the data values of the following countries and years: Syrian Arab Republic (2009), Yemen (2010), Djibouti (2012), Tunisia and State of Palestine (2013), Comoros, Lebanon and Morocco (2014), Egypt, Jordan, Kuwait and Somalia (2017).

13.1.2

Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030

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

13.1.3

Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies

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

13.2

Integrate climate change measures into national policies, strategies and planning

13.2.1

Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)

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

13.3

Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

13.3.1

Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula

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

	<p>13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions</p>	<p>Adopted criteria to obtain a regional average are not met for this indicator.</p>
<p>13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible</p>	<p>13.a.1 Mobilized amount of United States dollars per year between 2020 and 2025 accountable towards the \$100 billion commitment</p>	<p>Adopted criteria to obtain a regional average are not met for this indicator.</p>
<p>13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities</p>	<p>13.b.1 Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities</p>	<p>Adopted criteria to obtain a regional average are not met for this indicator.</p>

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 the inclusion of updated data (United Nations Statistics Division, 2019a) for the following indicator: 13.1.1 [Number of people affected by disaster (number); Number of deaths due to disaster (number); and Number of missing persons due to disaster (number)].

ENDNOTES

1. Based on the Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR). See ESCWA and others, 2017.
2. Calculated by ESCWA based on data on the number of disaster occurrences (CRED, 2019). For more information, refer to UNDRR, 2019.
3. Calculated by ESCWA based on data on deaths due to disasters (CRED, 2019). For more information, refer to UNDRR, 2019.
4. Calculated by ESCWA based on data on people affected by disasters, by disaster type (drought) (CRED, 2019). For more information, refer to UNDRR, 2019.
5. Calculated by ESCWA based on data on total persons affected (millions) and economic damages from disasters (millions of United States dollars) (CRED, 2019). For more information, refer to UNDRR, 2019.
6. ESCWA and others, 2017.
7. ESCWA, 2018.
8. CAIT Climate Data Explorer of the World Resources Institute. See cait.wri.org/indcs/ (accessed on January 2019).
9. ESCWA, 2019b; IEA, 2019; World Bank, 2019.
10. ESCWA, 2017.
11. This refers to public international bilateral, regional and other flows reported by developed countries in their third biennial reports to the United Nations Framework Convention on Climate Change, submitted in 2018. It does not include multilateral flows (ESCWA, 2019a, 2019c).
12. According to the methodology used in this report.
13. See the RICCAR project (ESCWA and others, 2019).
14. See the RICCAR report (ESCWA and others, 2017) and (United Nations Convention to Combat Desertification, 2017).
15. ESCWA and others, 2017.
16. World Bank, 2014; UNDP and GEF, 2018.
17. ESCWA and others, 2017.
18. Ibid.
19. Ibid.
20. World Bank, 2012.
21. World Bank, 2014.
22. ESCWA, 2017.

REFERENCES

- 100 Resilient Cities (2017). "Amman Resilience Strategy". www.100resilientcities.org/strategies/amman/.
- CRED (Centre for Research on the Epidemiology of Disasters) (2019). "The International Disasters Database EM-DAT". www.emdat.be/.
- DFID (Department for International Development) (2006). "Reducing the Risk of Disasters—Helping to Achieve Sustainable Poverty Reduction in a Vulnerable World". DFID Policy Papers. www.preventionweb.net/files/2067_VL108502.pdf.
- ESCWA (Economic and Social Commission for Western Asia) (2017). "Arab Region Progress in Sustainable Energy Global Tracking Framework Regional Report". www.unescwa.org/publications/gtf-regional-report-arab-region-progress-sustainable-energy.
- (2018). "ESCWA Water Development Report 7: Climate Change and Disaster Risk Reduction in the Arab Region". www.unescwa.org/publications/escwa-water-development-report-7.
- (2019a). "Access to Climate Finance in the Arab Region". 13th Regional Training Workshop on Capacity Development for Climate Change Negotiations for the Arab Countries. Cairo: United Nations Framework Convention on Climate Change. https://unfccc.int/sites/default/files/resource/NBFArabRegion_Session2_Griswold.pdf.
- (2019b). "Energy Vulnerability in the Arab Region". www.unescwa.org/sites/www.unescwa.org/files/publications/files/energy-vulnerability-arab-region-english_0.pdf.
- (2019c). "Technical Report on Climate Finance in the Arab Region". Beirut. <https://www.unescwa.org/publications/climate-finance-arab-region>.
- ESCWA (Economic and Social Commission for Western Asia), and others (2017). "Arab Climate Change Assessment Report—Main Report". www.unescwa.org/sites/www.unescwa.org/files/events/files/riccar_main_report_2017.pdf.
- ESCWA (Economic and Social Commission for Western Asia), and others (2019). Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR). www.riccar.org/.
- FSNAU (Food Security and Nutrition Analysis Unit)—Somalia (2017). "Nearly 3 Million People in Somalia Face Crisis and Emergency Acute Food Insecurity". FSNAU-FEWSNET Technical Release, 2 February. www.fsnau.org/in-focus/fsnau-fewsnet-technical-release-february-2017.
- IEA (International Energy Agency) (2019). "CO2 Emissions by Product and Flow". IEA CO2 Emissions from Fuel Combustion Statistics (Database). OECDiLibrary. <https://doi.org/10.1787/data-00430-en>.
- IFRC (International Federation of Red Cross and Red Crescent Societies) (2018). "Yemen: Cyclone Mekunu". Information bulletin. www.ifrc.org/docs/Appeals/18/IB_YE_2018.05.31.pdf.
- OCHA (UN Office for the Coordination of Humanitarian Affairs) (2018). "Yemen: Cyclone Mekunu Flash Update 1". 25 May. <https://reliefweb.int/report/yemen/yemen-cyclone-mekunu-flash-update-1-25-may-2018-enar>.
- United Nations (2017). HABITAT III Regional Report: Arab Region—Towards Inclusive, Safe, Resilient and Sustainable Arab Cities. <http://habitat3.org/wp-content/uploads/Habitat-III-Regional-Report-Arab-Region.pdf>.
- United Nations Convention to Combat Desertification (2017). "Analysis of Sand and Dust Storms (SDS) between the Years 2003 and 2016 in the Middle East". <https://knowledge.unccd.int/publications/analysis-sand-and-dust-storms-sds-between-years-2003-and-2016-middle-east>.
- UNDP (United Nations Development Programme), and GEF (The Global Environment Facility) (2018). "Climate Change Adaptation in the Arab States: Best Practices and Lessons Learned". www.adaptation-undp.org.
- UNDRR (United Nations Office for Disaster Risk Reduction) (2019). "Regional Office for Arab States". www.undrr.org/about-undrr-where-we-work/arab-states.
- United Nations Population Division (2017). "World Population Prospects". <https://population.un.org/wpp/Download/Standard/Population/>.
- United Nations Statistics Division (2018). "Global SDG Indicators Database". <https://unstats.un.org/sdgs/indicators/database/>.
- (2019a). "Global SDG Indicators Database". <https://unstats.un.org/sdgs/indicators/database/>.
- (2019b). "SDG Indicators Metadata Repository". <https://unstats.un.org/sdgs/metadata/>.
- World Bank (2012). Adaptation to a Changing Climate in the Arab Countries: A Case for Adaptation Governance and Leadership in Building Climate Resilience. Dorte Verner, ed. Washington, D.C.: World Bank Group. <https://doi.org/10.1596/978-0-8213-9458-8>.
- (2014). Turn Down the Heat: Confronting the New Climate Normal. Washington, D.C.: World Bank. <http://documents.worldbank.org/curated/en/317301468242098870/pdf/927040v20WP0000ull0Report000English.pdf>.
- (2019). "World Development Indicators—CO2 Emissions (Metric Tons per Capita)". 2019. <https://data.worldbank.org/indicator/EN.ATM.CO2E.PC>.