

Economic and Social Commission for Western Asia

Data Collection and Frameworks for Environment Statistics and Accounts in the Arab Region

جمع البيانات وأطر الإحصاءات والحسابات البيئية في المنطقة العربية

The Tenth Meeting of The Steering Committee of The Arab Statistics Initiative
(Arabstat)

8-9 November 2023 - Abu Dhabi - U.A.E.



Shared Prosperity **Dignified Life**



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Content

- I. Frameworks for Environment statistics and Environmental Economic Accounting
- II. UNSD/UNEP Data Collection of Water Waste Statistics to Inform FDES
- III. Climate Change Set of Indicators: Complementarity ESCWA Countries and MedStat V Programme)
- IV. New Technologies: Satellite Imagery and Geo-Statistics Information for informing on indicators (Land cover, Climate Change etc..)

Framework for Development of Environment statistics (FDES)

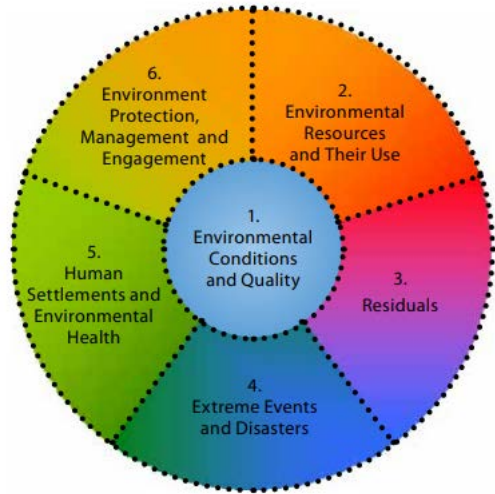


Figure 1. The FDES components

A multi-level approach of the FDES

Levels of the FDES

1 digit	2 digits	3 digits	4 or 5 digits
Component	Sub-component	Statistical Topic	Statistics

Component 1: Environmental Conditions and Quality	Sub-component 1.1: Physical Conditions Sub-component 1.2: Land Cover, Ecosystems and Biodiversity Sub-component 1.3: Environmental Quality
Component 2: Environmental Resources and their Use	Sub-component 2.1: Mineral Resources Sub-component 2.2: Energy Resources Sub-component 2.3: Land Sub-component 2.4: Soil Resources Sub-component 2.5: Biological Resources Sub-component 2.6: Water Resources
Component 3: Residuals	Sub-component 3.1: Emissions to Air Sub-component 3.2: Generation and Management of Wastewater Sub-component 3.3: Generation and Management of Waste Sub-component 3.4: Release of Chemical Substances
Component 4: Extreme Events and Disasters	Sub-component 4.1: Natural Extreme Events and Disasters Sub-component 4.2: Technological Disasters
Component 5: Human Settlements and Environmental Health	Sub-component 5.1: Human Settlements Sub-component 5.2: Environmental Health
Component 6: Environmental Protection, Management and Engagement	Sub-component 6.1: Environmental Protection and Resource Management Expenditure Sub-component 6.2: Environmental Governance and Regulation Sub-component 6.3: Extreme Event Preparedness and Disaster Management Sub-component 6.4: Environmental Information and Awareness

Example of Basic Set of Environment Statistics

Component 1: Environmental Conditions and Quality	
Sub-component 1.3: Environmental Quality	
Topic	Statistics and Related Information (Bold Text - Core Set/Tier 1; Regular Text - Tier 2; <i>Italicized Text</i> - Tier 3)
Topic 1.3.1: Air quality	<p>a. Local air quality</p> <ol style="list-style-type: none"> Concentration level of particulate matter (PM₁₀) Concentration level of particulate matter (PM_{2.5}) Concentration level of tropospheric ozone (O₃) Concentration level of carbon monoxide (CO) Concentration level of sulphur dioxide (SO₂) Concentration levels of nitrogen oxides (NO_x) Concentration levels of heavy metals Concentration levels of non-methane volatile organic compounds (NMVOCs) <i>Concentration levels of dioxins</i> <i>Concentration levels of furans</i> Concentration levels of other pollutants Number of days where maximum allowable levels were surpassed per year <p>b. Global atmospheric concentrations of greenhouse gases</p> <ol style="list-style-type: none"> Global atmospheric concentration levels of carbon dioxide (CO₂) Global atmospheric concentration levels of methane (CH₄)

Flexibility and adaptability: prioritizing components, sub-components and topics

Flexibility and adaptability: tiers

Environment Statistics Section, United Nations Statistics Division

Adoption of the Global Set at the 53rd Session of the Statistical Commission
[Implementation support tools and guidelines](#)
[Climate Change Statistics and Indicators Self-Assessment Tool \(CISAT\)](#)
[Tenth Meeting of the Expert Group on Environment Statistics](#)

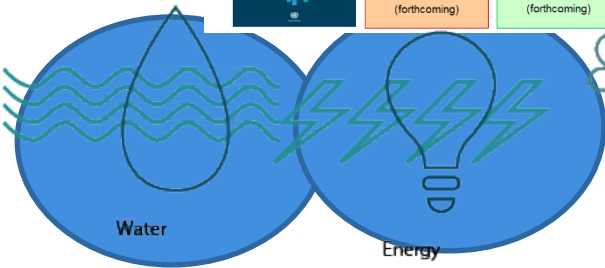
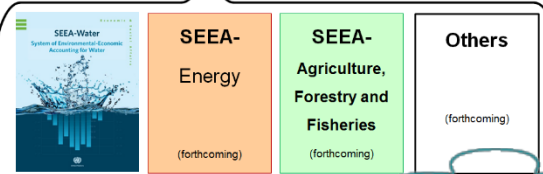
SEEA: Central framework and Ecosystem Accounting

<https://seea.un.org/>

ESCWA had projects funded by UNDA and XB since 2004 on Environment, Energy and SDGS to provide technical assistance and capacity building to develop pilot accounts with Member Countries on SEEA Water and SEEA Energy.

But the production stopped when the projects ended. Countries do not produce regular accounts.

Thematic Areas



Agriculture, Forestry and Fisheries

Ecosystem Accounts

Environmental Activity Accounts

Material Flow Accounts



<https://seea.un.org/ecosystem-accounting>

System of Environmental Economic Accounting (SEEA)

Global Assessment of Environmental-Economic Accounting and Supporting Statistics 2023 Email to NSO from SEEA-DESA

Global Assessment 2022

Figure 4. Top five categories of accounts per region

	AFRICA	ASIA	LATINAMERICA AND THE CARIBBEAN	OCEANIA	NORTHERN AMERICA AND EUROPE
①	<i>Energy</i>	<i>Energy</i>	<i>Energy</i>	<i>Energy</i>	<i>Air emission, Energy</i>
②	<i>Water</i>	<i>Water</i>	<i>Water; Agriculture, forestry & fisheries</i>	<i>Water, Waste</i>	<i>Material flow, Environmental protection and management expenditure</i>
③	<i>Agriculture, forestry & fisheries</i>	<i>Material flow</i>	<i>Land, Environmental protection and management expenditures, Ecosystem extent</i>	<i>Land, Ocean</i>	<i>Taxes and subsidies</i>
④	<i>Land</i>	<i>Air emission, Land, Environmental protection and management expenditure</i>	<i>Ecosystem condition</i>	<i>Taxes & subsidies; Agriculture, forestry & fisheries; Ecosystem extent; Ecosystem services; Carbon</i>	<i>Environmental goods and services sector</i>
⑤	<i>Ecosystem extent</i>	<i>Waste</i>	<i>Air emission, Waste</i>	<i>N/A</i>	<i>Ecosystem extent</i>

SEEA status in Arab Countries in 2018

Country SEEA status 2018	Compiled and/or published accounts?	Funding?	CF account compiled (thematic area)	EEA account compiled (thematic area)	Plans to begin compilation of accounts in new thematic area?	Other notes
Egypt	Planning					Priority of water
Iraq	Yes (compilation/publis hing status unclear)		Water			Priorities of water, energy and land
Jordan	Planning					Received technical assistance and training in 2014, but could not establish programme at that time; there is a need for more training and more integration with other ministries Priorities are water, energy and waste. Would like to have a field visit to Indonesia to learn about their experience in applying the SEEA.
Kingdom of Saudi Arabia	No					Plans of the Department of Environment Statistics are: 1. Participation in UNSD/ESCWA/AITRS training; 2. In 2019, include questions in forms used by the General Authority of Statistics to cover the part of the environmental-economic accounting; 3. Statistics data of environmental-economic accounting will be published in 2020. Priorities of waste, water and energy
Kuwait	No					
Oman	No					Priorities of water and energy
Palestine	Compiled and published	Periodic funding but are planning to increase staff by three employees	EPEA		MFA, water, energy, land, timber, aquatic, water emissions, air emissions, waste, ReMEA, EGSS, taxes, subsidies, Agriculture forestry and fisheries; Plan to do all ecosystem accounts after 2020	SEEA embedded in NSDS; have received technical assistance for water and waste accounts Priorities of energy and water
Qatar	Planning				Materials, water, energy, land, aquatic, biological, air emissions, water emissions, EPEA, ReMEA, EGSS, taxes, subsidies, agriculture forestry and fisheries	Water and EPEA are highest priority
Sudan	No					Priorities of energy and minerals, water and forest
Tunisia	Yes (compilation/publis hing status unclear)		Water			Did not respond to Global Assessment, but have water accounts; waste and energy are priorities
Turkey	Compiled and published	Regular funding	MFA, water, energy, timber, air emissions, EPEA, EGSS, taxes		Expansion plans for existing accounts	SEEA is in NSDS; DG Forestry did pilot study on ecosystems in 2015 for Bolu, Duzce region via WAVES. Have received technical assistance on CF accounts from Eurostat.
Yemen	No					Priorities of water and land

I. UNSD/UNEP Data Collection of Water Waste Statistics Inform FDES 2002-2021

Prepared by Christoph Rouhana

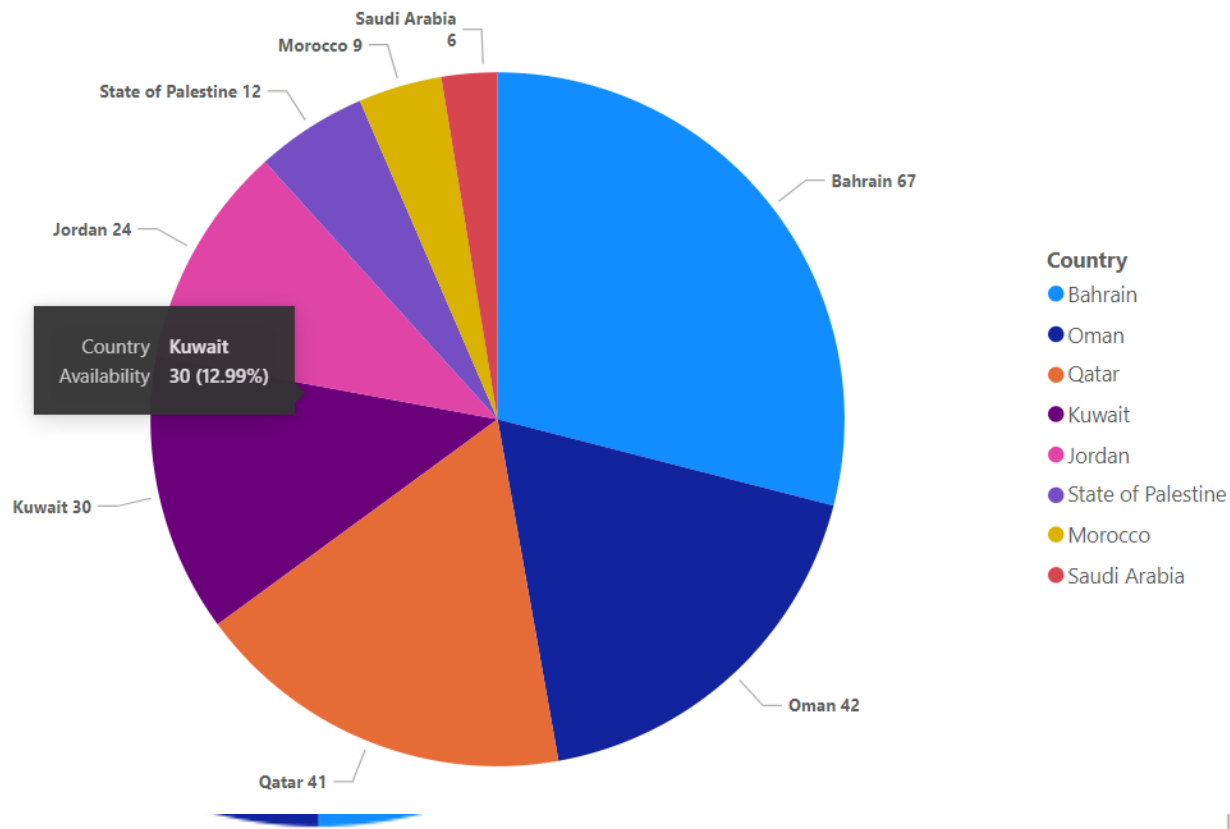
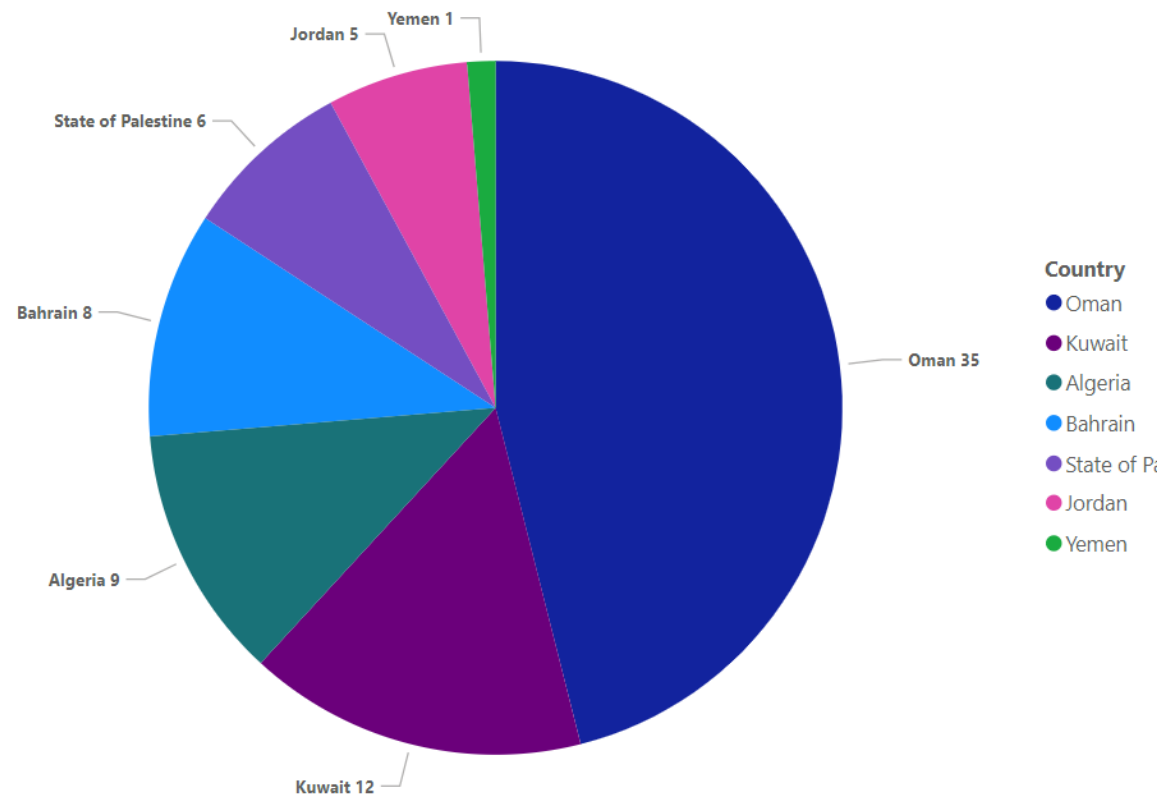


Filters

Waste

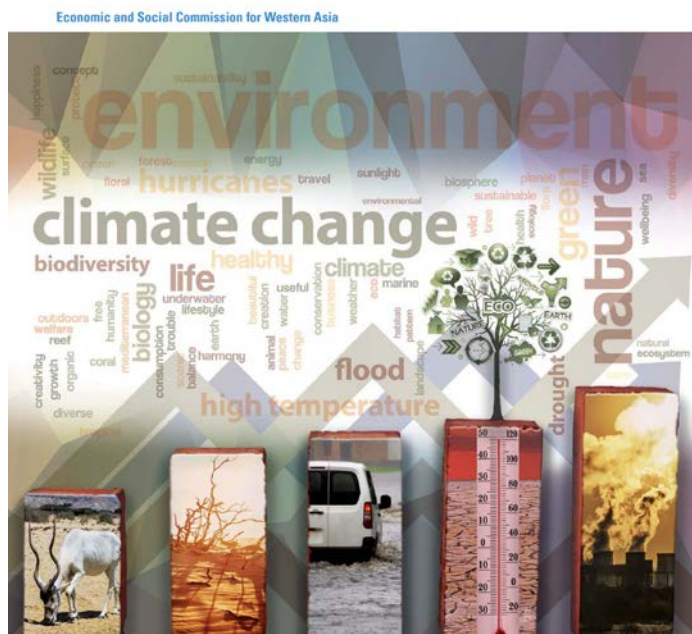
Water

Type



II. Climate Change-Related Statistics in the Arab Region A Proposed Set of Indicators 2017

Building on List of Indicators for the ECE and UNSD

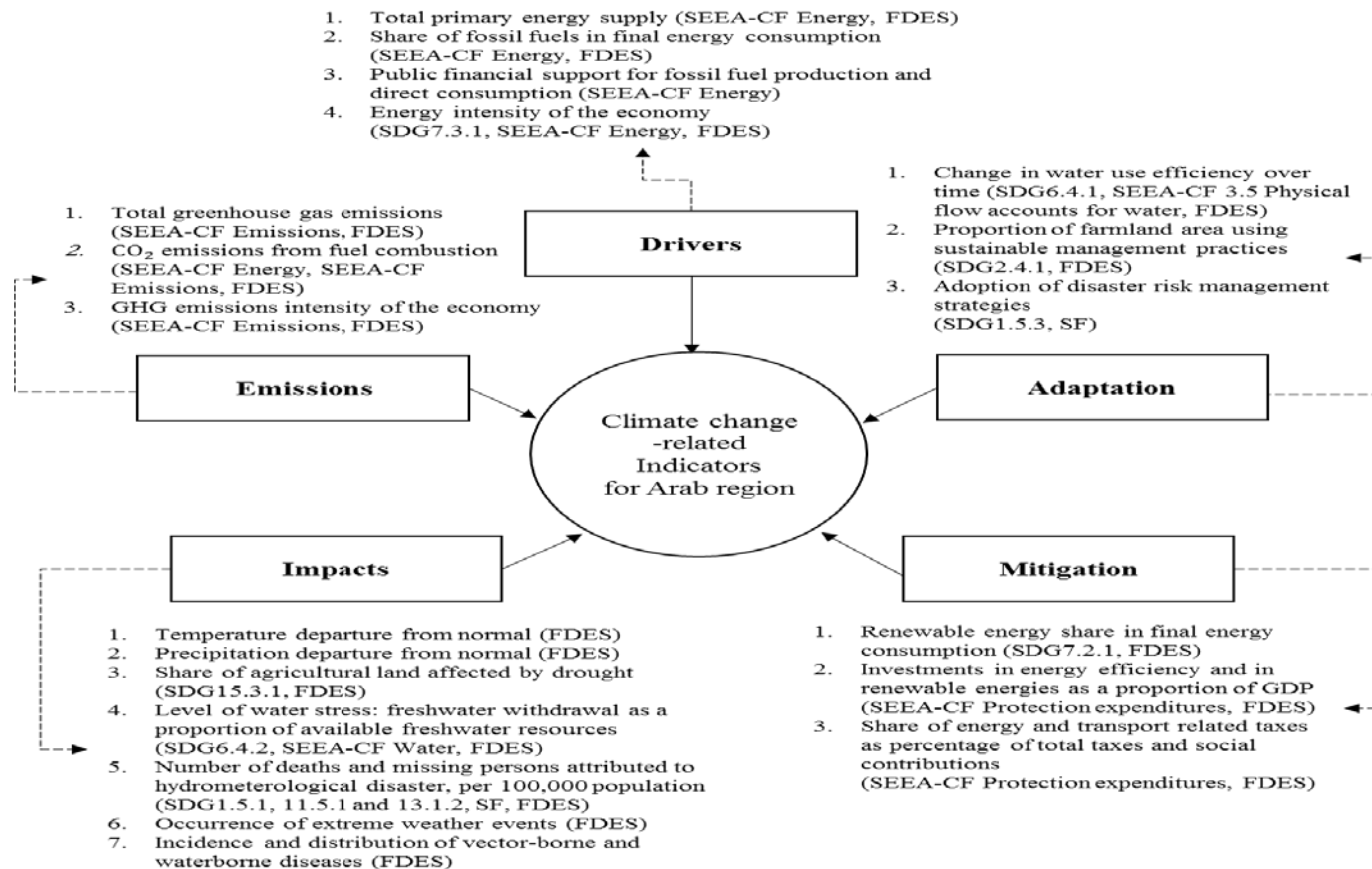


Climate Change-Related Statistics in the Arab Region

A Proposed Set of Indicators

Special Issue of the Compendium of Environment Statistics in the Arab Region 2017

E/ESCWA/SD/2017/3
In Arabic and English



SURVEY OF ECONOMIC AND SOCIAL DEVELOPMENTS IN THE ARAB REGION
2017-2018

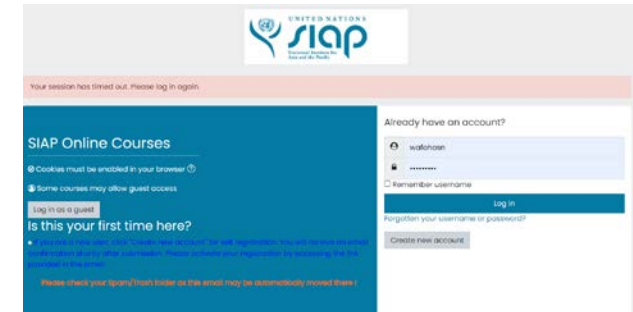
Capacity Building on SEEA , Water, Energy, Climate Change and DRR

UNGP LMS: All courses (officialstatistics.org)

- [SEEA - Central Framework \(Arabic\)](#)
- [SEEA - Energy \(Arabic\)](#)
- [SEEA - Water \(Arabic\)](#)

Other Courses

- [SEEA - In Depth Training on Energy Accounting \(Arabic\) تدريب متعمق حول المحاسبة في مجال الطاقة](#)
- [SIAP on-line training open to ESCWA member states: Compiling Climate Change Indicators: An Accounting Approach](#)
- [DRSF التدريب الإلكتروني حول الإطار الإحصائي المعنى بالكوارث](#)



Contribution to Global and Regional Work

ESCWA is member of the following mechanisms:

- Expert Group meetings: EGES (Includes CC)
- Intergovernmental-UN Committees: UNCEEA and London Group
- ISWG on DRS
- UNEP-LAS-ESCWA Environment-Related SDGs of Priority for the Arab Region



Complementarity with Medstat V

➤ Duration: 2022 - 2025

➤ Budget: 3 792 924 EUR

Thematic sectors and Horizontal sectors

Each WG led by a lead country and chaired by a lead coordinator

SECTOR	BUSINESS REGISTERS AND STATISTICS, CIRCULAR ECONOMY, INFORMAL ECONOMY	TRADE AND INTERNATIONAL INVESTMENTS	ENERGY, TRANSPORT AND SUSTAINABLE DEVELOPMENT	INCLUSIVNESS: GENDER AND LABOUR STATISTICS	MIGRATION SURVEY AND STATISTICS	CLIMATE ACTION, BIODIVERSITY
Lead country with Lead coordinator and Key experts	Palestine	Morocco	Tunisia	Morocco	Morocco	Egypt

Horizontal sectors

The Working group on Climate action and biodiversity sector for MEDSTAT V agreed a baseline questionnaire that was sent to the 9 countries to select the most relevant indicators for them in order to focus the activities on them.

In the questionnaire there were the UNSD/ESCWA indicators (16 Mitigation indicators and 41 Adaptation indicators).

The list of indicators to be worked out during the project will be discussed in the next online working group meeting .

Quality, IT and Information systems, Administrative and new sources, Communication, and HR management

III. New Technologies: Satellite Imagery and Geospatial Information Use in official Statistics on Climate Change and Environment Statistics

- Google Earth Engine Project with Egypt on Monitoring Disasters on Land Use in Egypt 2020-2022
- ESCWA Geo Statistics Lab: 2022- Current

Component 1: Environmental Conditions and Quality

subcomponent 1.2, Land cover Ecosystems and Biodiversity

Topic 1.2.1 Land cover

Area of land cover By location, By type of land cover (e.g., artificial surfaces including urban and associated areas; herbaceous crops; woody crops; multiple or layered crops; grassland; tree covered areas; mangroves; shrub covered areas; shrubs and/or herbaceous vegetation, aquatic or regularly flooded; sparsely natural vegetated areas; terrestrial barren land; permanent snow and glaciers; inland water bodies; and coastal water bodies and inter-tidal areas) at national (Arab Countries) and subnational by administrative boundaries .

Topic 1.2.2: Ecosystems and biodiversity

d. Protected areas Total, terrestrial and marine (number and area)

Topic 1.2.3: Forests

1.2.3.a. Forest area: Total and By forest type (Natural, Planted Protected forest area Forest area affected by fire)

Component 1: Environmental Conditions and Quality

Sub-component 1.1: Physical Conditions

Topic 1.1.4: Soil characteristics

1.1.4.b. Soil degradation

1.1.4.b.1. Area affected by soil erosion

Component 5: Human Settlements and Environmental Health,

Sub-component 5.1: Human Settlements,

Topic 5.1.5: Environmental concerns specific to urban settlements

5.1.5.f. Extent of roadways



Leave No Location Behind - iSEE* The Arab World (un.org)

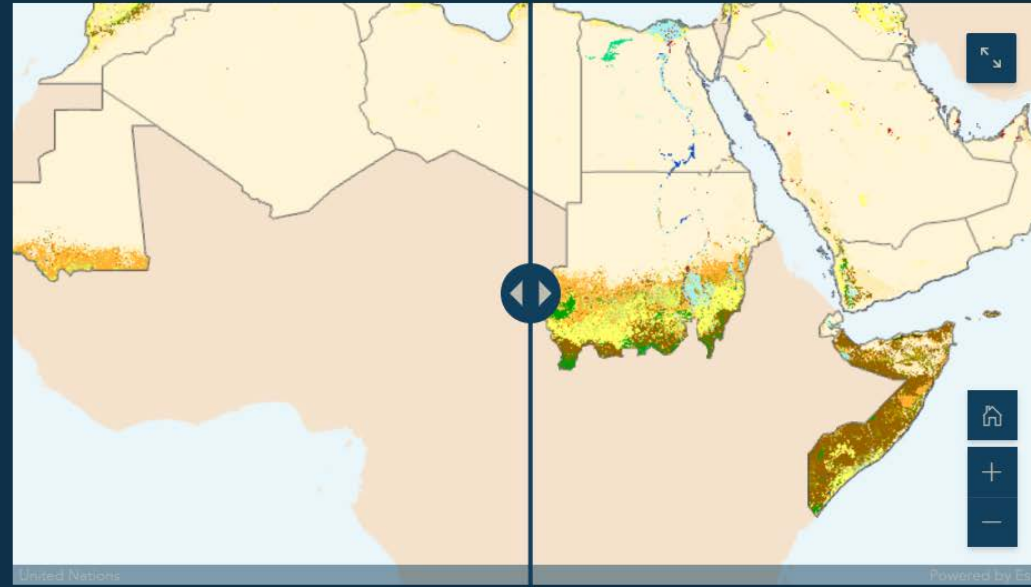
Leave No Location Behind - iSEE* The Arab World

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Leave No Location Behind - iSEE* The Arab World

*Integrating Society, Economy, and the Environment





Map 1: Land Cover Change 1992 (Left) versus 2020 (Right), Arab Region (twenty-two Member States).



Thank you

Economic And Social Commission For Western Asia



UNITED NATIONS

الاسكوا
ESCWA