

# Climate Finance Flows to Arab States in the Regional Context

Carol Chouchani Cherfane, Director, Arab Centre for Climate Change Policies  
Cluster Lead, Climate Change and Natural Resource Sustainability Cluster, ESCWA  
EMGN Autumn Academy 2023  
27 October 2023



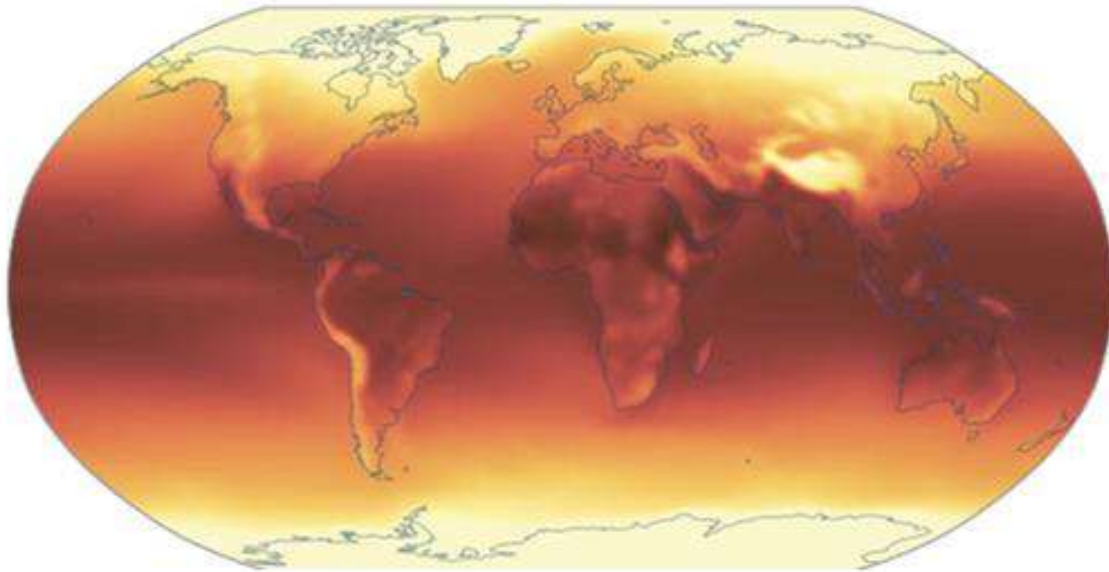
Shared Prosperity **Dignified Life**



# IPCC Sixth Assessment Report: Climate Change 2022

## *WGII on Impacts, Adaptation and Vulnerability*

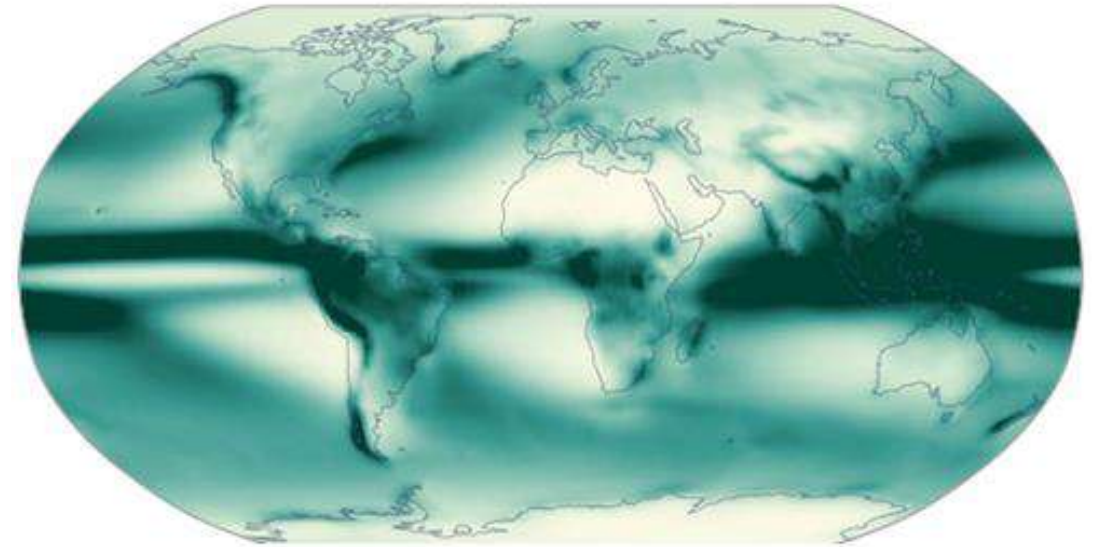
**Observed** Temperature Change



Mean temperature (°C)  
Period 1995–2014



**Observed** Precipitation Change

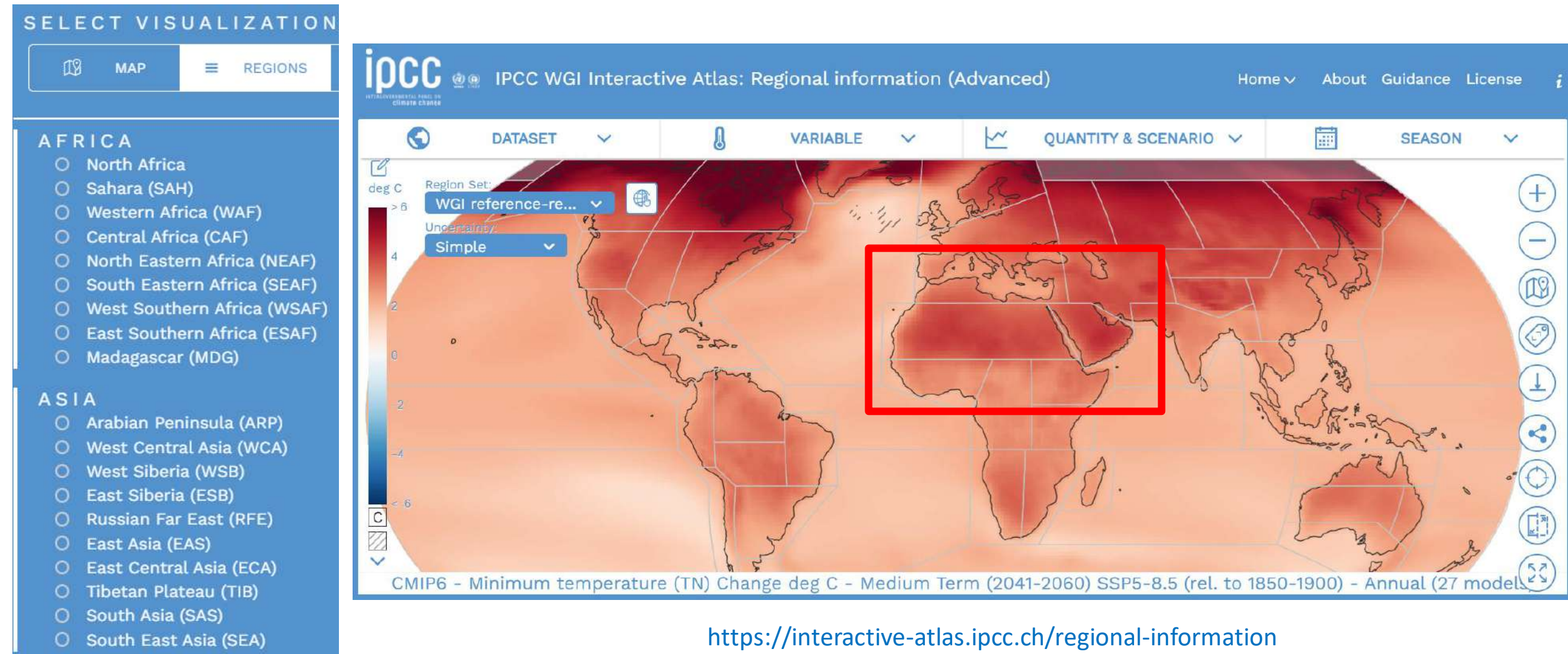


Total Precipitation (mm/day)  
Period 1995–2014  
CMIP6 - Annual (34 models)





# Intergovernmental Panel on Climate Change (IPCC): Global Assessment Report - IPCC Regions



<https://interactive-atlas.ipcc.ch/regional-information>





عربي



Shared Prosperity Dignified Life



## Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region

SMHI



### KNOWLEDGE RESOURCES

The central aim of this Regional Knowledge Hub is to provide access to information that can facilitate cooperation, coordination, dialogue and exchange among Arab States, organizations

### DATA PORTAL

The data portal allows interactive visualization of RICCAR maps and provides access to RICCAR data repository.



### KNOWLEDGE NODES

Innovation of National, Regional and International Nodes for the Transfer and Sharing of Knowledge

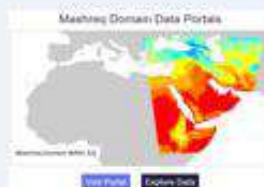
### PARTNERSHIPS

Strategic partnerships for supporting strategic objectives to implement climate change adaptation and mitigation programs at the national and regional levels

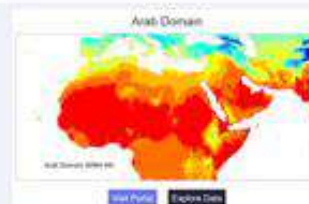
Request Data

DATA PORTALS

[www.riccar.org](http://www.riccar.org)



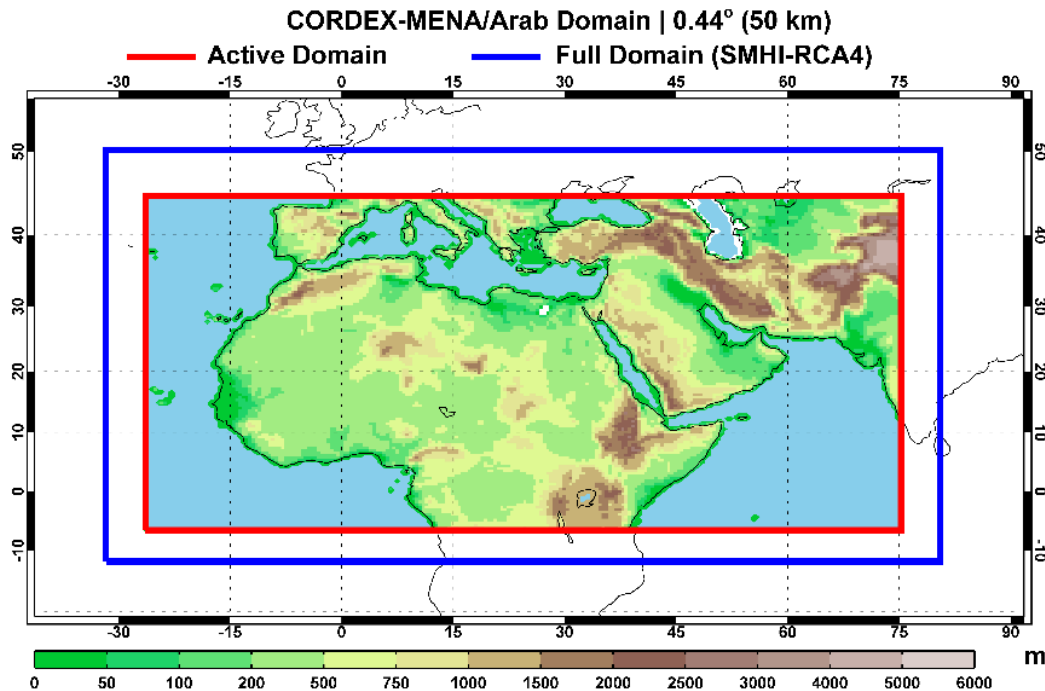
Mashreq Domain



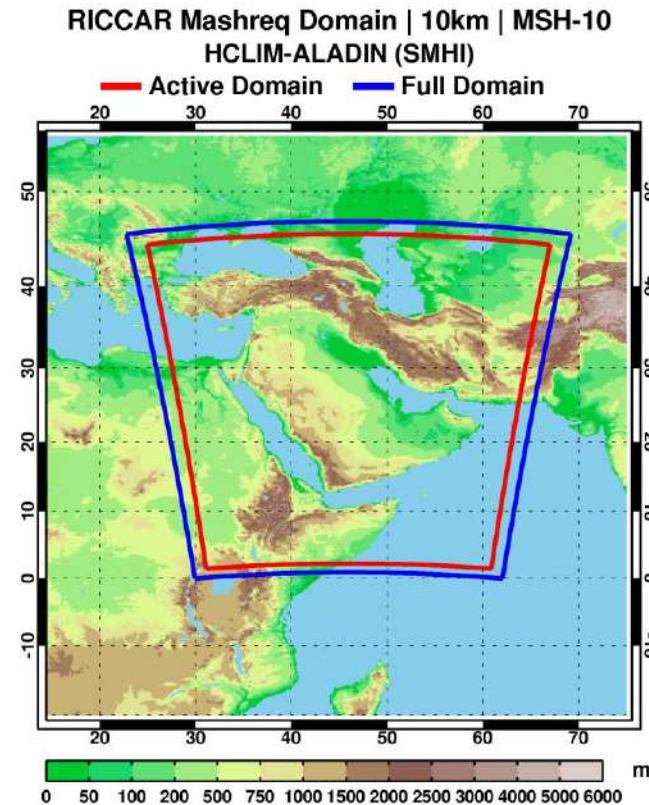
Arab Domain



# Regional Initiative for the Assessment of Climate Change Impacts on Water Resources & Socio-Economic Vulnerability in the Arab Region



- 50 km<sup>2</sup> grid scale resolution
- RCP 4.5 ensemble
- RCP 8.5 ensemble



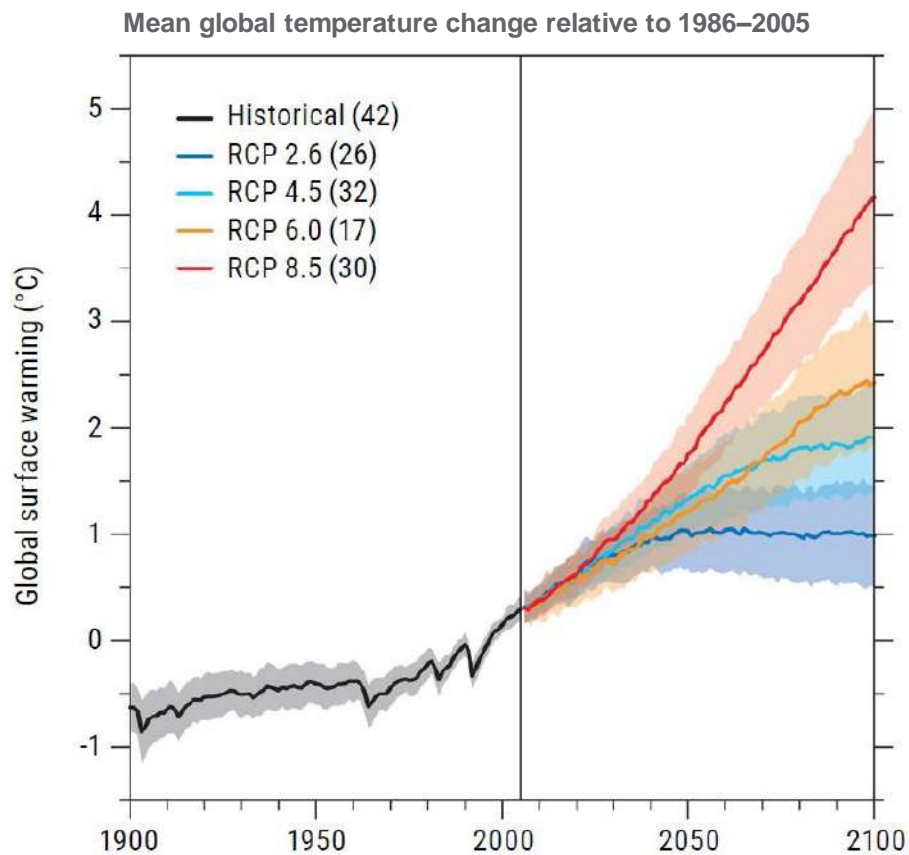
[www.riccar.org](http://www.riccar.org)

- 10 km<sup>2</sup> grid scale resolution
- SSP5-RCP 8.5
- SSP2-RCP 4.5
- Each scenario has six projections based on six CMIP6 GCMs
- All projections bias corrected to support hydrological analysis
- Six-member ensembles used for generating climate analysis

RICCAR MENA/Arab Domain adopted by World Climate Research Programme  
Coordinated Regional Climate Downscaling Experiment (CORDEX)

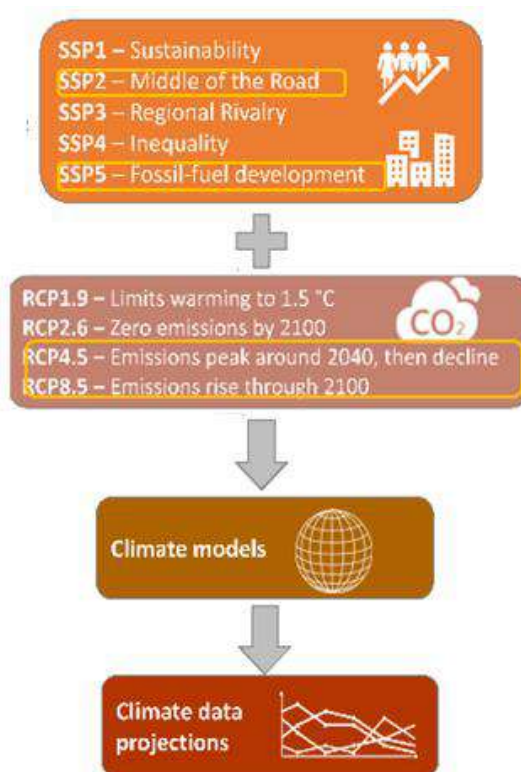


# IPCC AR5 Scenarios

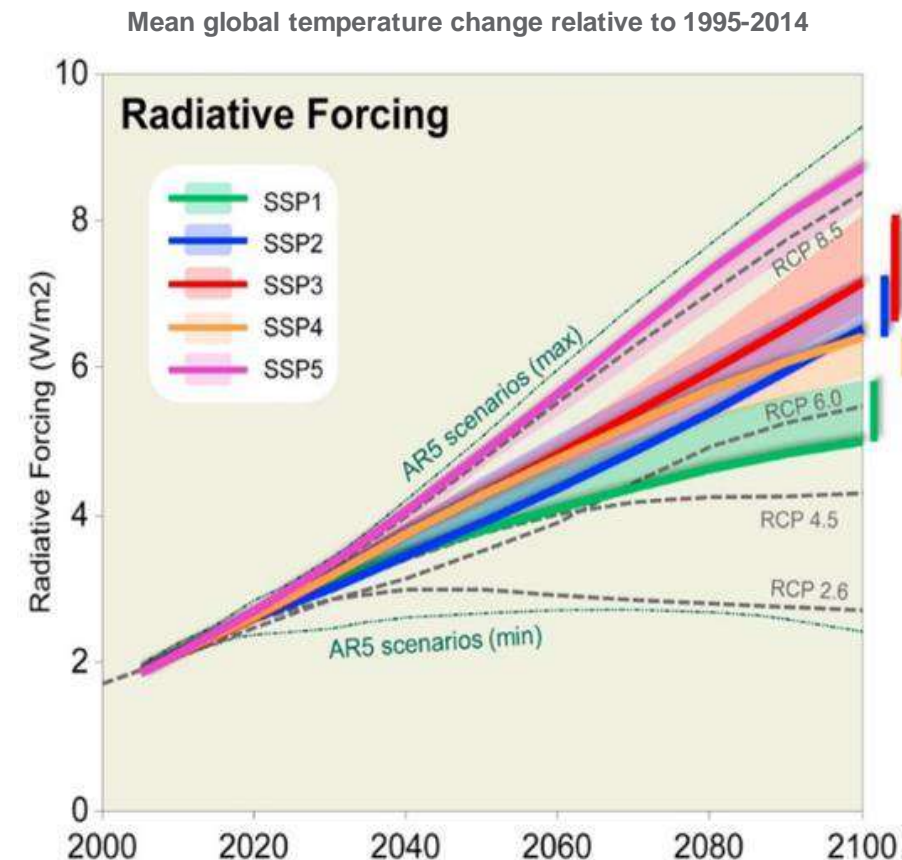


The number of CMIP5 **Representative Concentration Pathway (RCP)** model runs is given in the parentheses.

Source: Adapted from Knutti and Sedláček (2013) as cited in Swedish Meteorological and Hydrological Institute (2017), *RICCAR Regional Climate Modelling and Regional Hydrological Modelling Applications in the Arab Region*. E/ESCWA/SDPD/2017/RICCAR/TechnicalNote.1.



# IPCC AR6 Scenarios

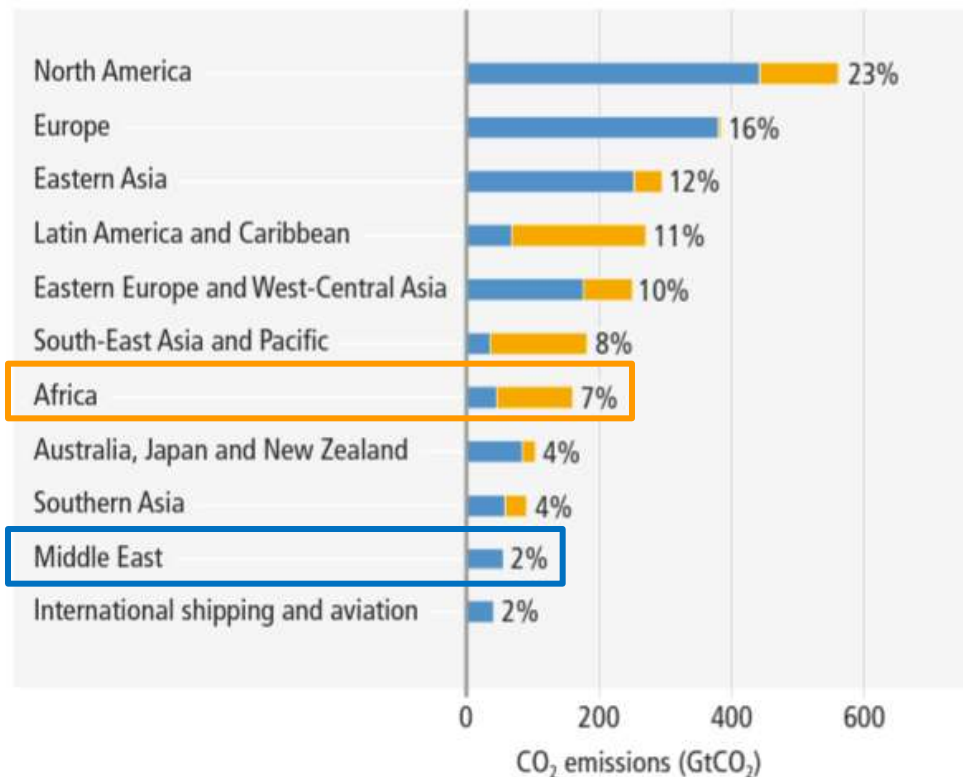


Source: Riahi, K. et al, 2017. The shared socioeconomic pathways and their energy, land use, and greenhouse gas emissions implications: an overview. *Global environmental change*, 42, 153-168.

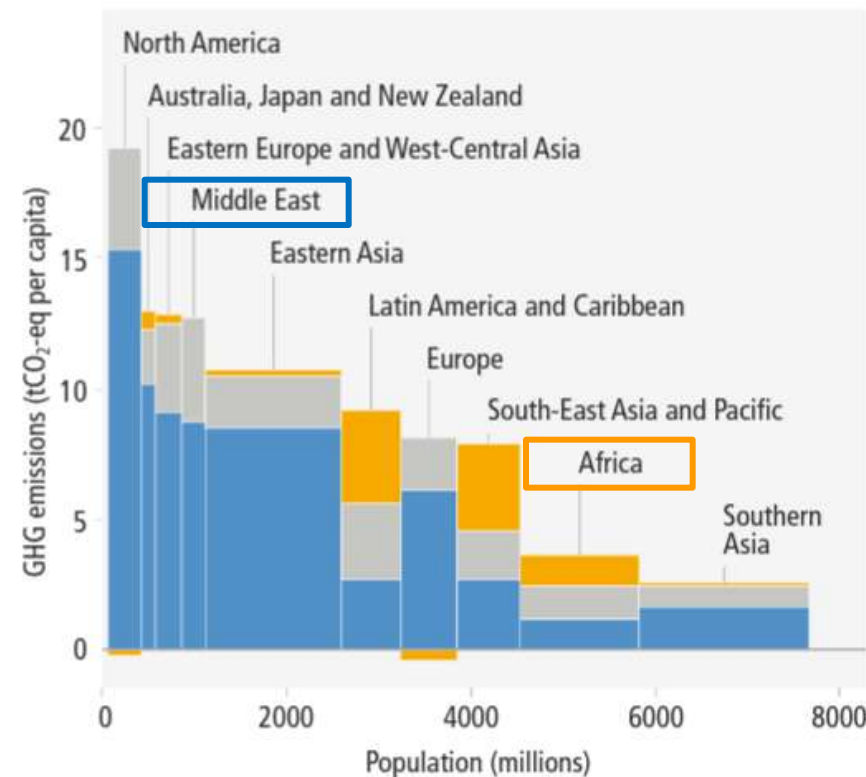
CMIP6 based on **Representative Concentration Pathway (RCP) – Shared Socioeconomic Pathways (SSP) : RCP-SSP**

# Achieving the Global Climate Goal requires a Just & Inclusive Energy Transition

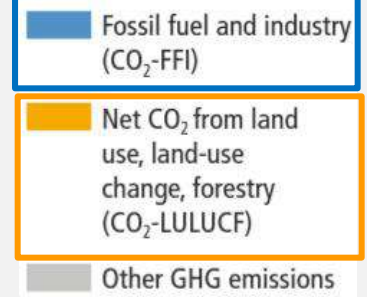
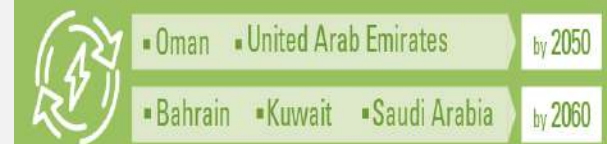
b. Historical cumulative net anthropogenic CO<sub>2</sub> emissions per region (1850–2019)



c. Net anthropogenic GHG emissions per capita and for total population, per region (2019)



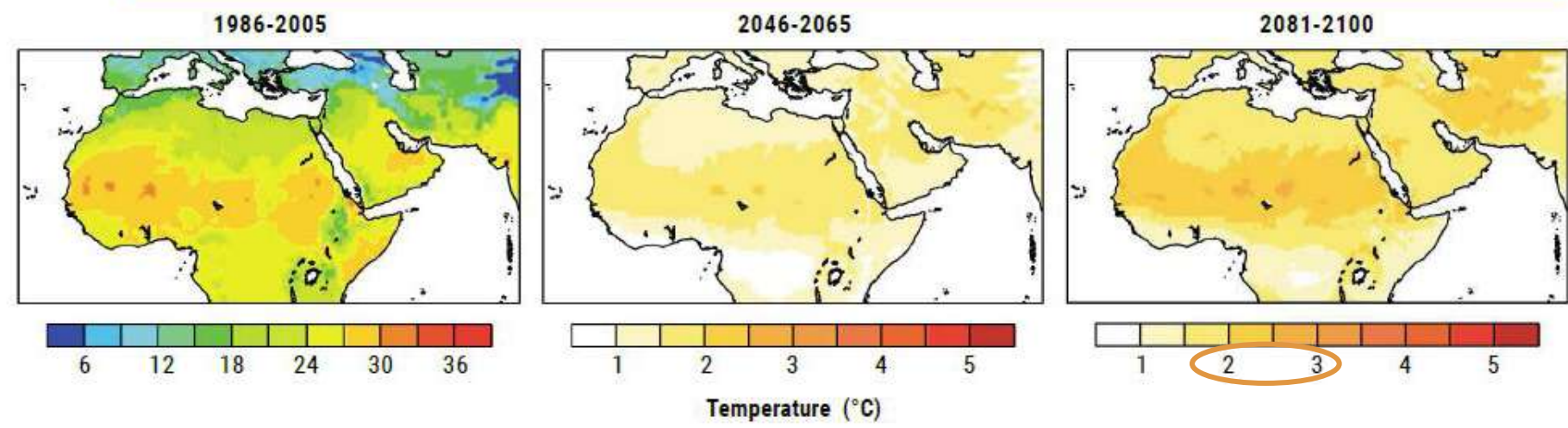
Economy-wide **net-zero emissions** target



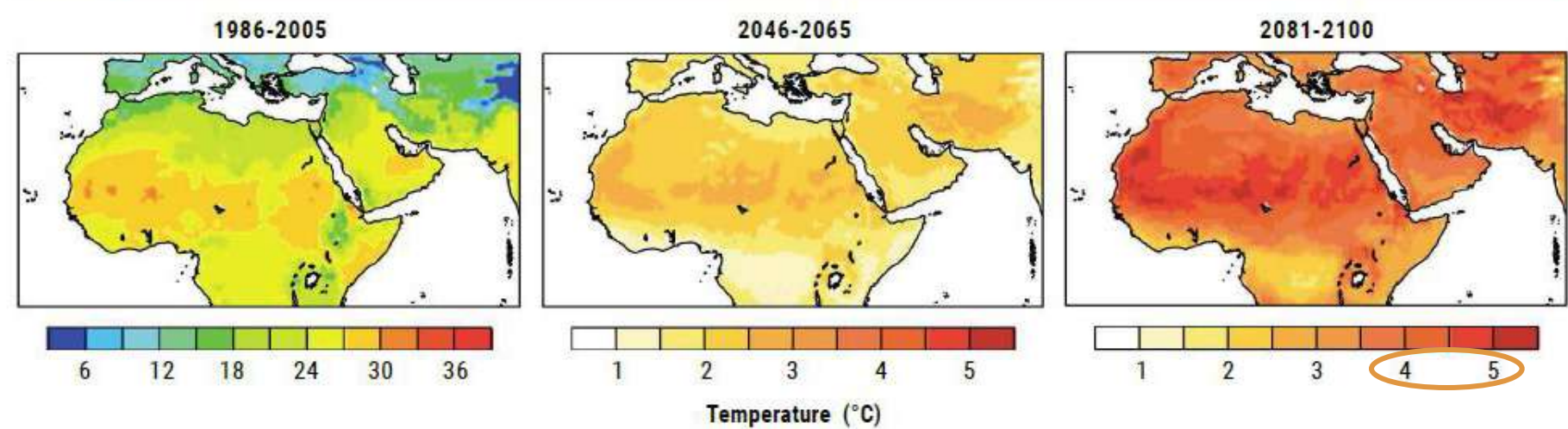


# Arab Domain Mean Temperature projected to increase 2.6°C by mid-century and up to 4.8°C by end-century compared to reference period (1986-2005)

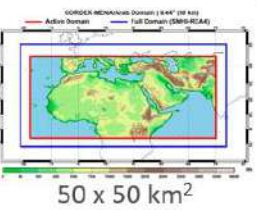
## RCP 4.5



## RCP 8.5



Moderate Emissions Reduction Scenario



Business-as-Usual Emissions Scenario

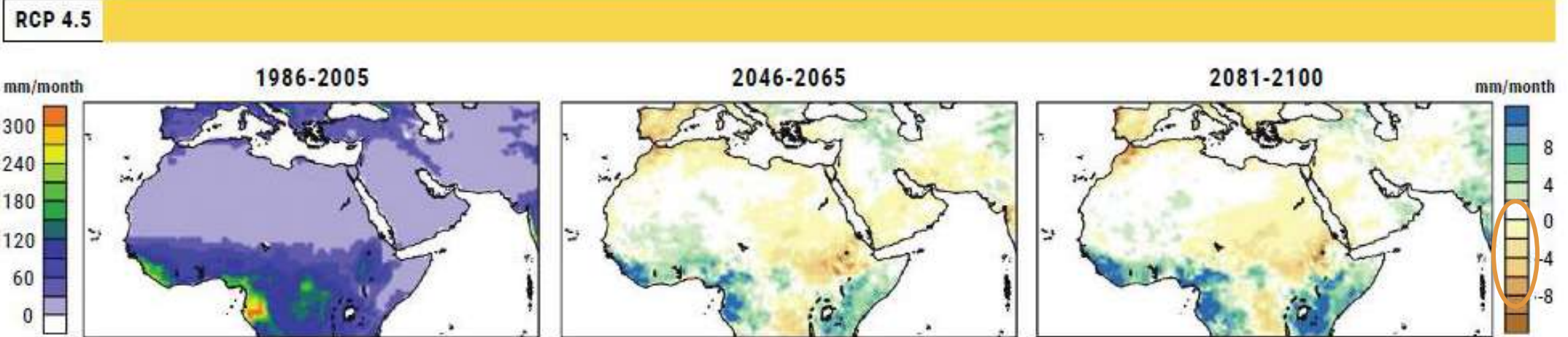
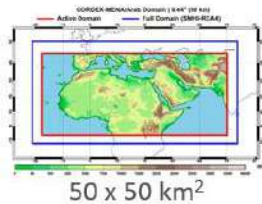
Average Temperature in the Arab Region is *already* 0.8°C higher than the reference period at the start of this century



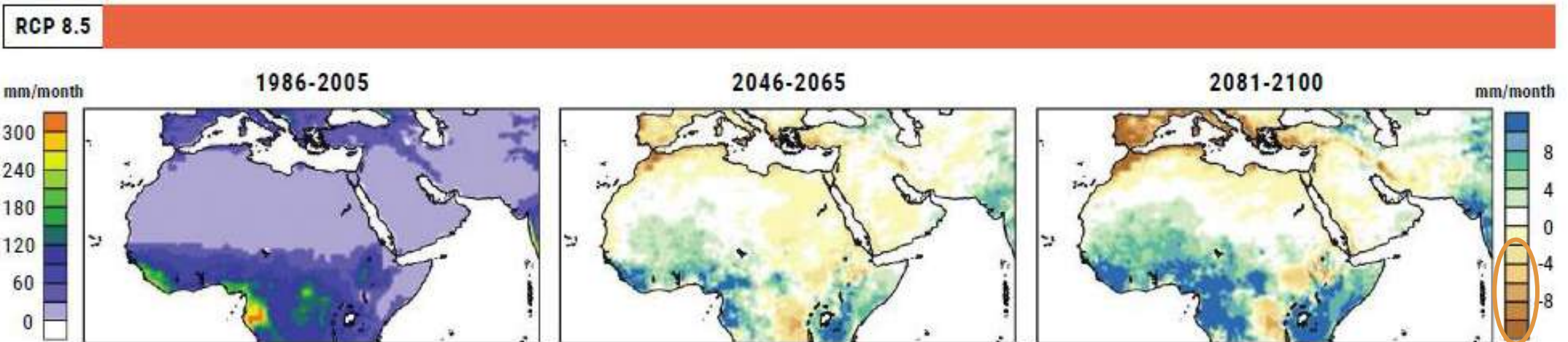


Precipitation trends are largely decreasing until the end of the century, with some areas expected to exhibit an increase in intensity & volume of rainfall

Moderate  
Emissions  
Reduction  
Scenario

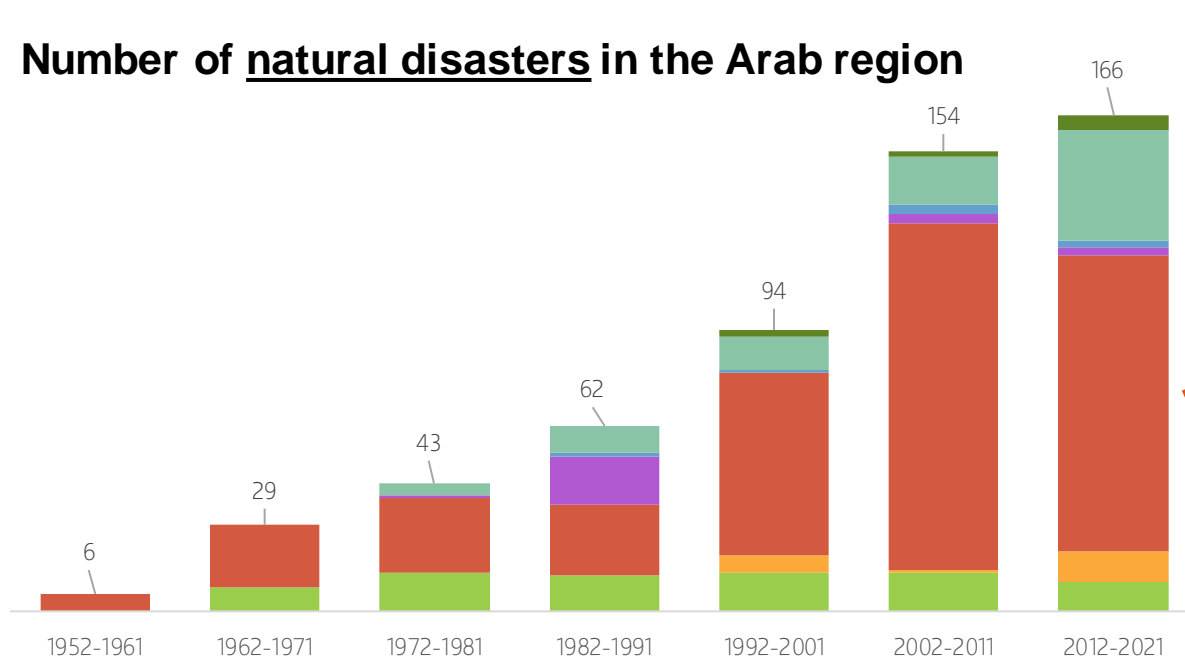


Business-  
as-Usual  
Emissions  
Scenario



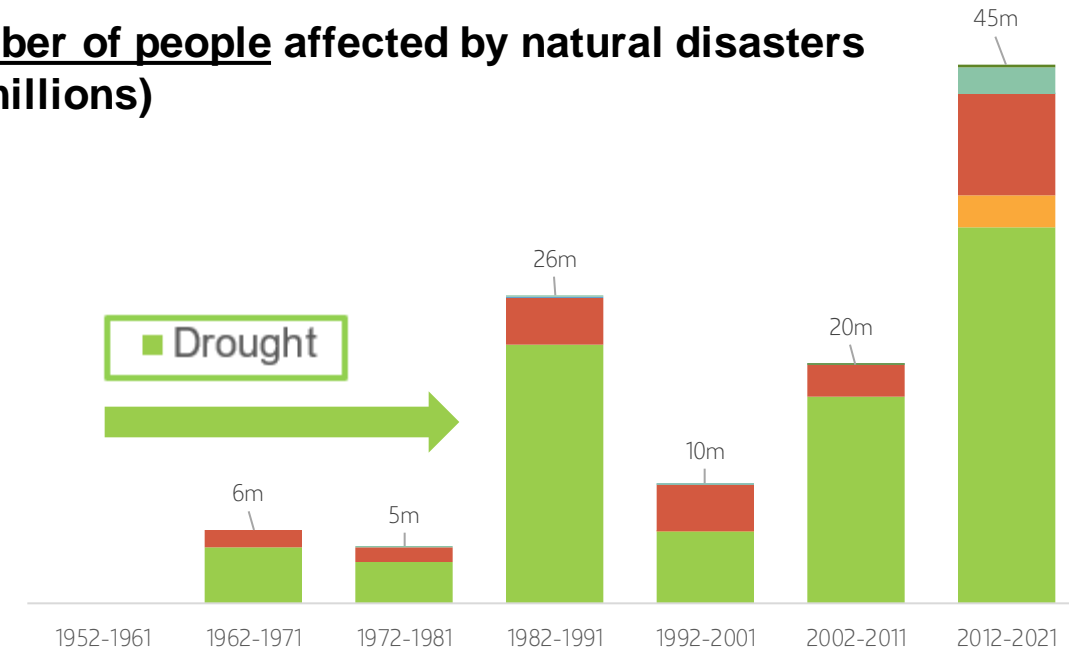
# Natural Disasters affecting People in the Arab Region: Climate & Water-related Disasters are the Most Prevalent

Number of natural disasters in the Arab region



Frequency at Regional Scale

Number of people affected by natural disasters  
(in millions)

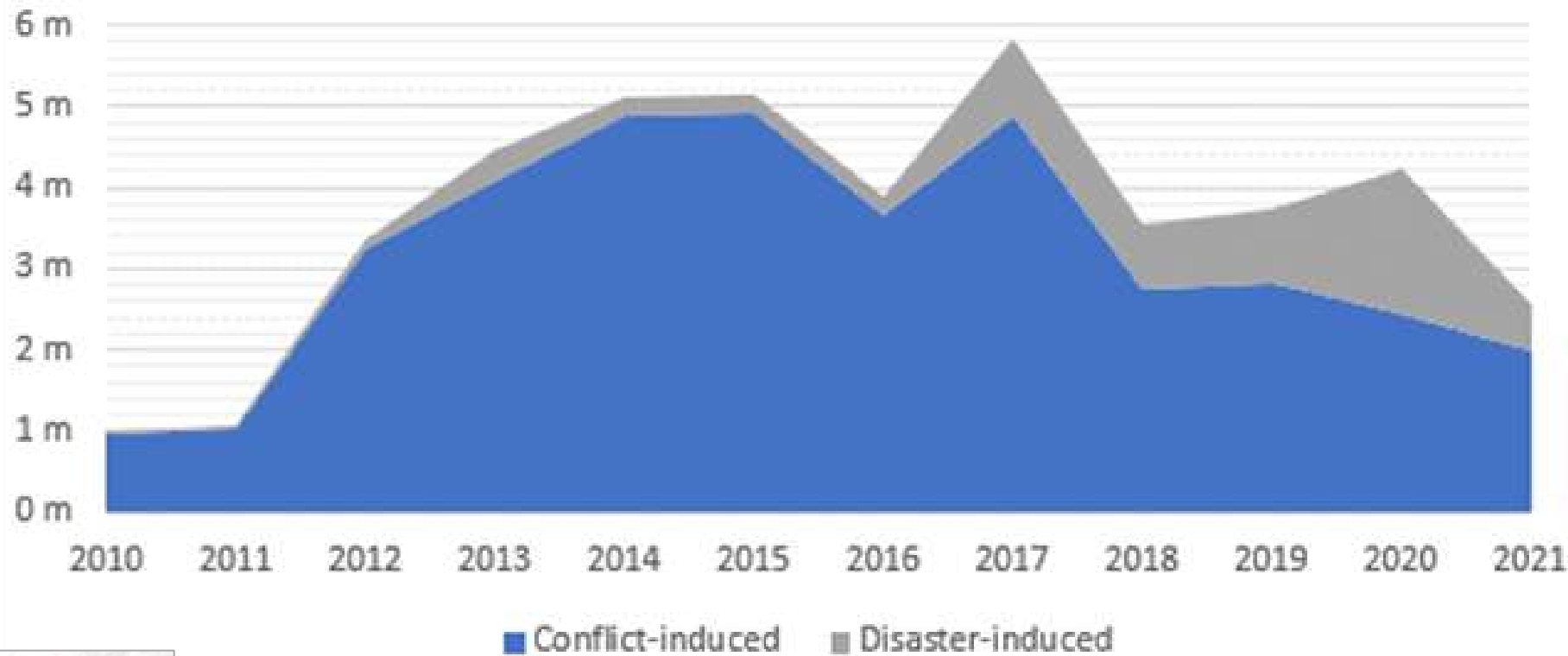


Implications for People





# Natural disasters contribute to internal displacement, but conflict remain key cause in the Arab Region



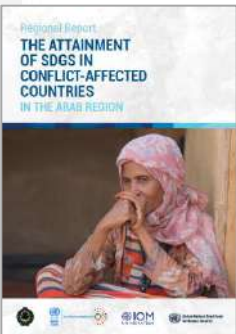
Disaster-induced IDPs **due to natural disasters** were most pronounced in the year 2020 reaching **31 million** globally and **2 million** regionally (most IDPs were in the Arab region).

However, the volume fell in the year 2021 to **24 million globally** and **560 thousand regionally**.

**Conflict still primary cause of displacement in the region.**

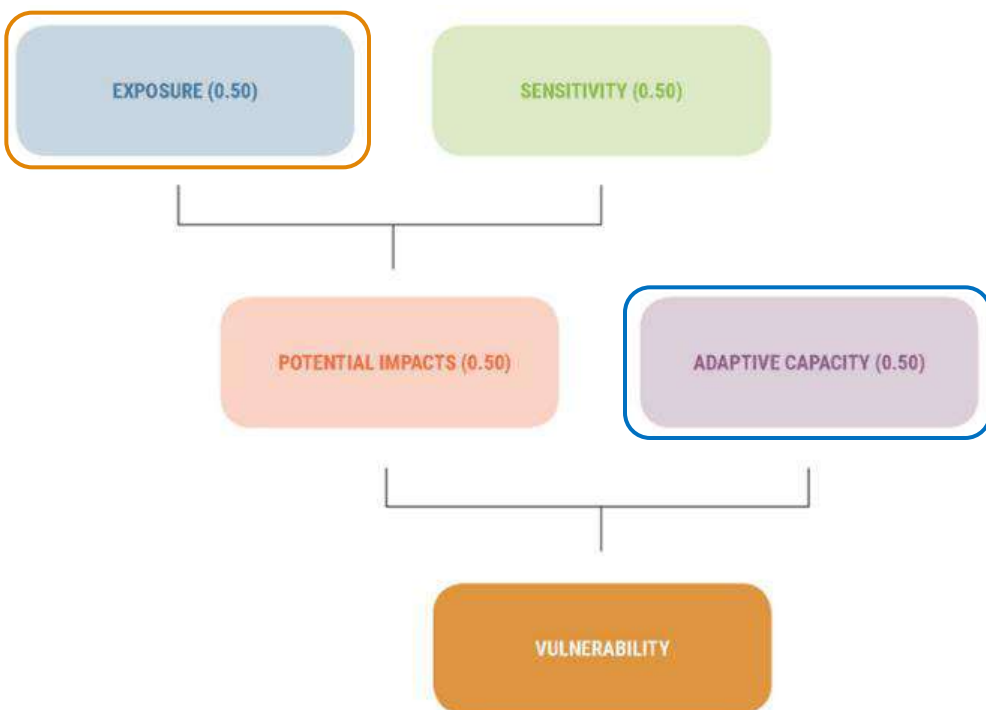
Need to consider frequency of extreme climate events & adaptive capacity.

Conflict-induced IDP numbers peaked regionally in 2017 (4.9 million), while disaster-related IDPs in 2017 totalled under 1 million (16% of IDPs in the region) and declined until the 2020 flood events.

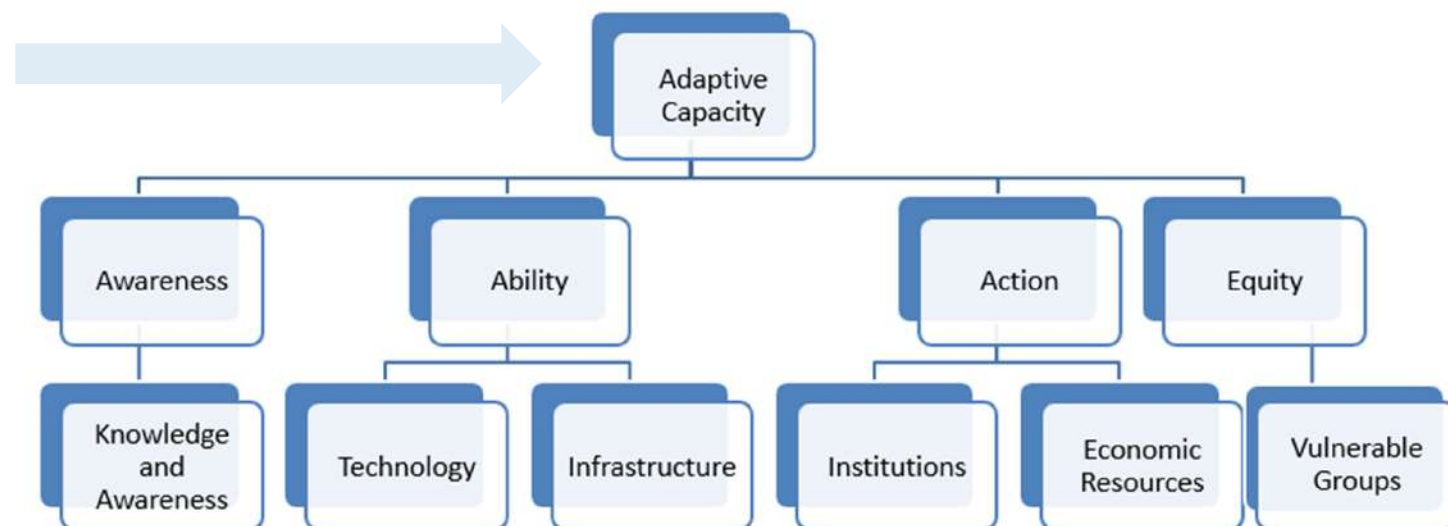


# Climate Change Vulnerability Assessments

## Integrated Vulnerability Assessments: Incorporating the Socio-Economic Dimension



## Strengthening Adaptative Capacity increases Climate Resilience

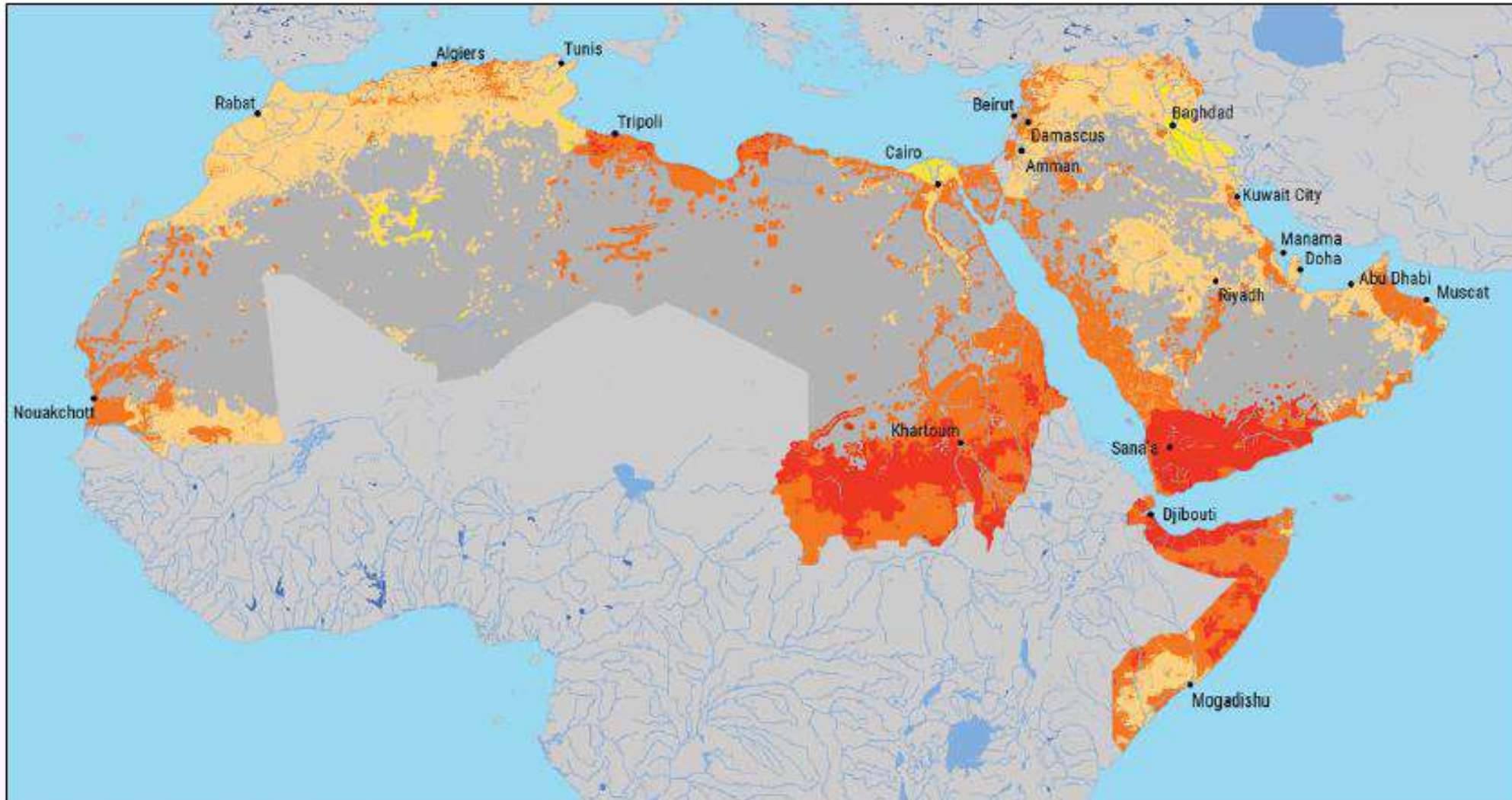






## Water Availability Vulnerability

**End-Century  
RCP 8.5**



**WATER: WATER AVAILABILITY**

**VULNERABILITY: RCP8.5 END-CENTURY (2081-2100)**

### Legend

■ Lakes

■ Reservoirs



Rivers



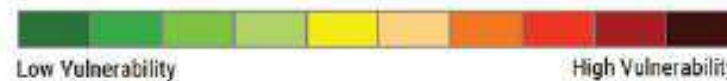
Intermittent  
rivers



Major cities



Area not relevant  
to subsector



Low Vulnerability

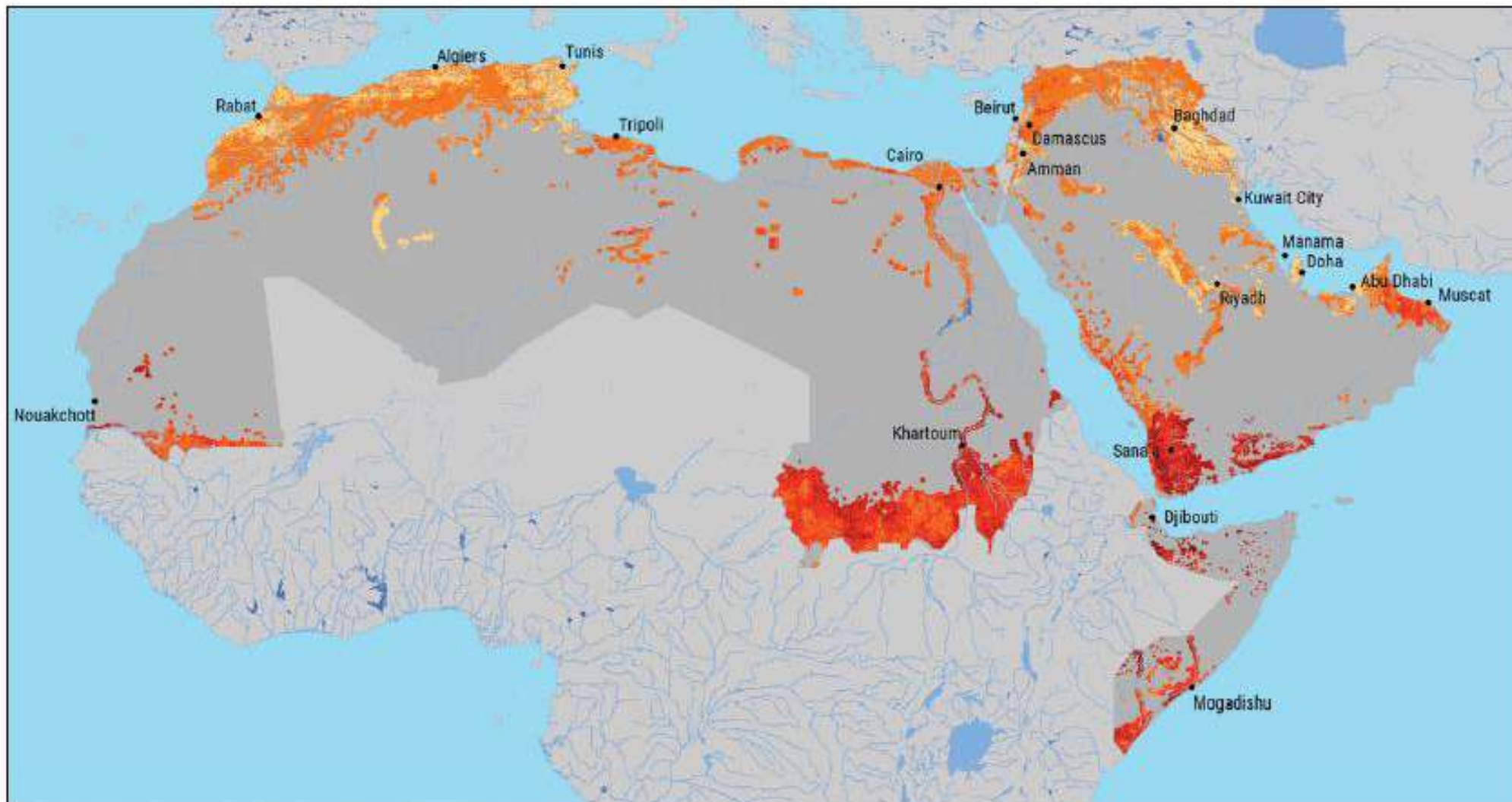
High Vulnerability





## Water Availability for Crops Vulnerability

**End-Century  
RCP 8.5**



**AGRICULTURE: WATER AVAILABLE FOR CROPS**  
**VULNERABILITY: RCP8.5 END-CENTURY (2081-2100)**

### Legend



Lakes



Reservoirs



Rivers



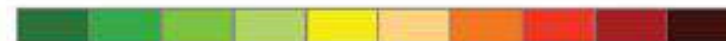
Intermittent  
rivers



Major cities



Area not relevant  
to subsector



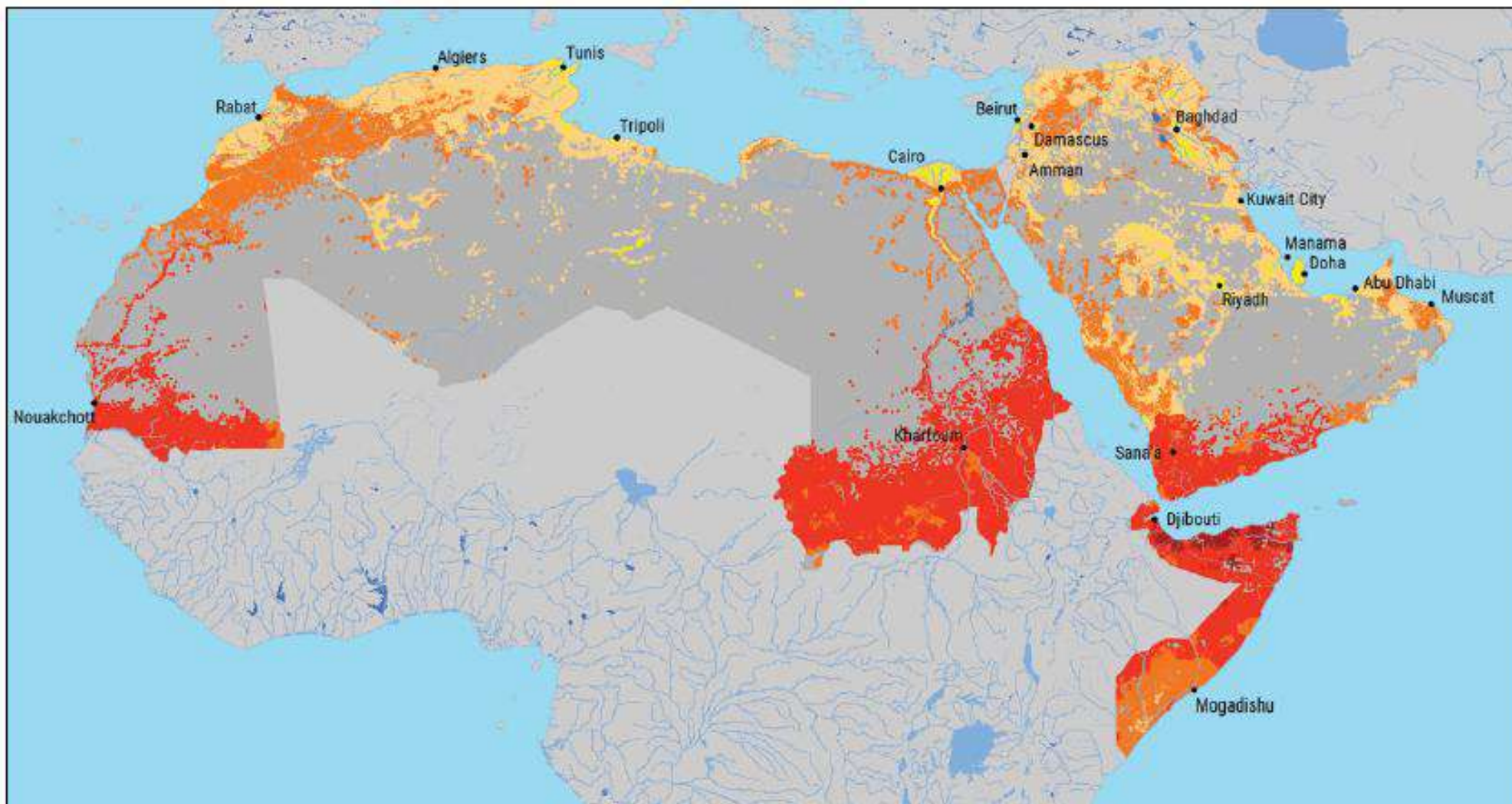
Low Vulnerability

High Vulnerability



## Water Availability for People: Agricultural Employment Vulnerability

**End-Century  
RCP 4.5**



**PEOPLE: EMPLOYMENT RATE FOR THE AGRICULTURAL SECTOR**


**VULNERABILITY: RCP4.5 END-CENTURY (2081-2100)**

### Legend


 Lakes

 Reservoirs

 Rivers

 Intermittent  
rivers

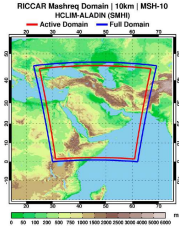
 Major cities

 Area not relevant  
to subsector

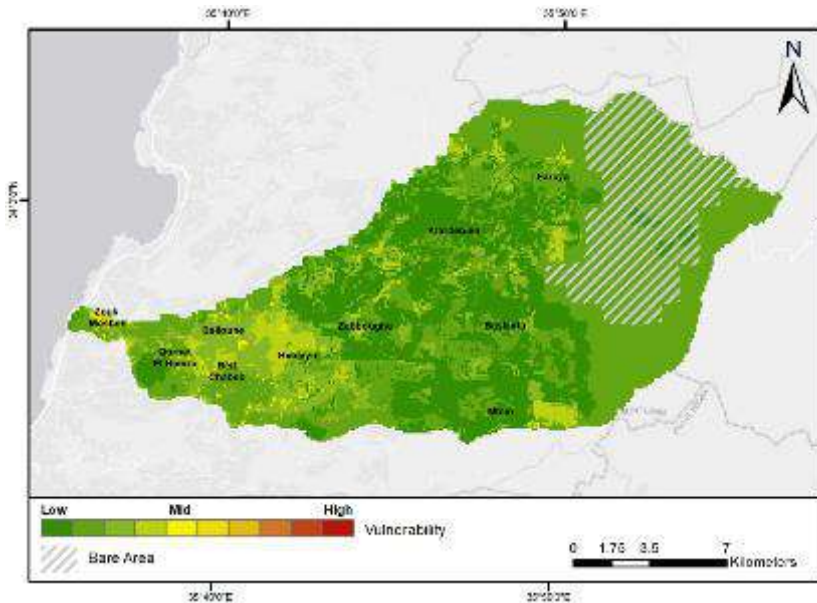
 Low Vulnerability

High Vulnerability

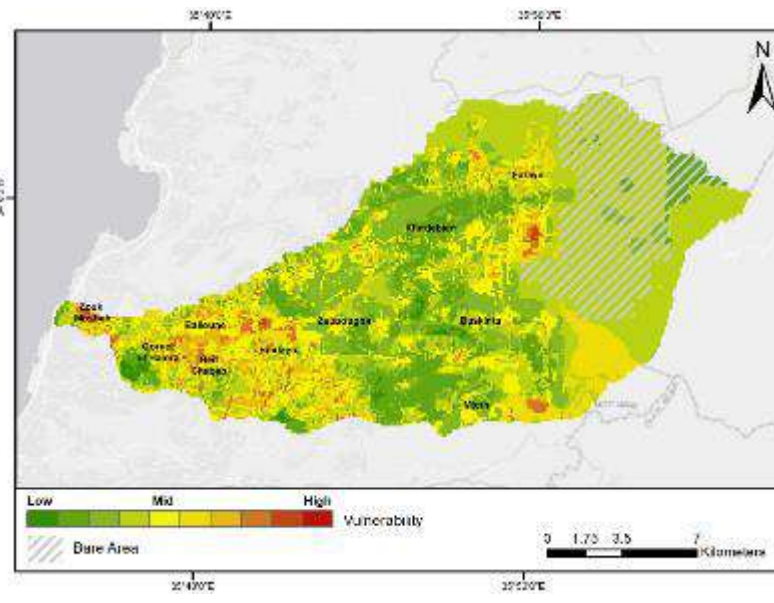
# Nahr el Kalb Watershed (Lebanon): Vulnerability Assessment & Impact on Agricultural Output



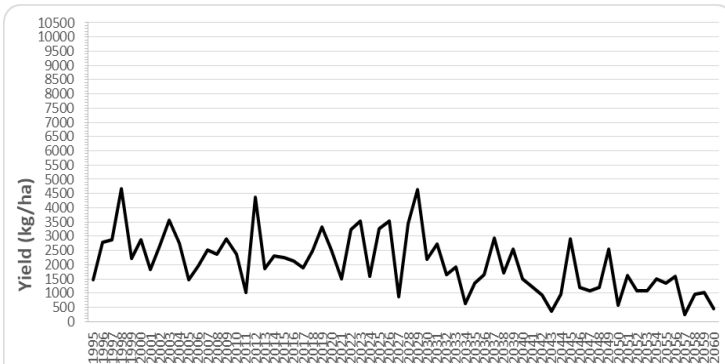
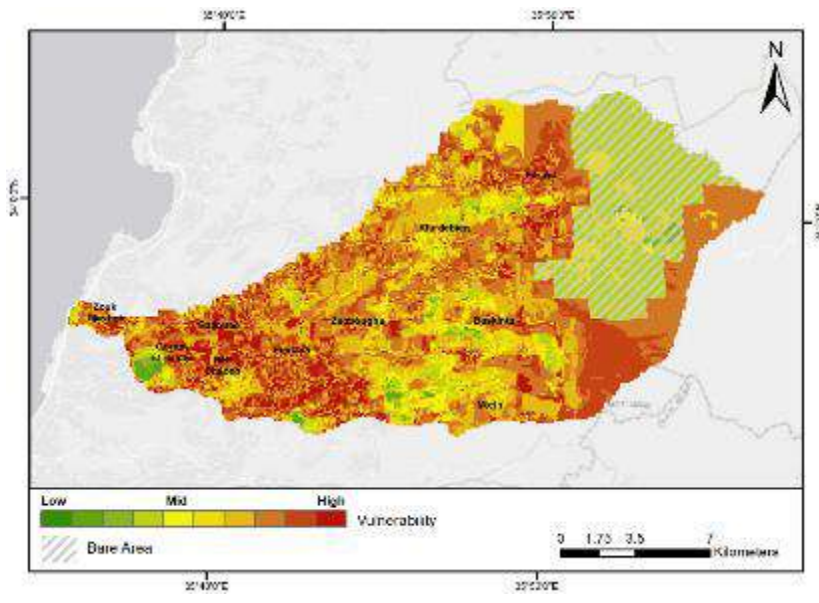
**Reference Period (1995-2014)**



**Near term (2021-2040)**



**Mid-term (2041-2060)**



**Climate Impact on Apple Production**

## Investment Interventions

**Enhancing Agriculture Sector Resilience**

**Estimated Budget**

\$15,750,000

**Estimated Duration**

3 years

**Improving Industrial Water Use**

\$1,470,000

1.5 years

**Livelihood Diversification through Sustainable Tourism**

\$810,000

1.5 years

**Reforestation and Risk Reduction of Forest Fires**

\$1,630,000

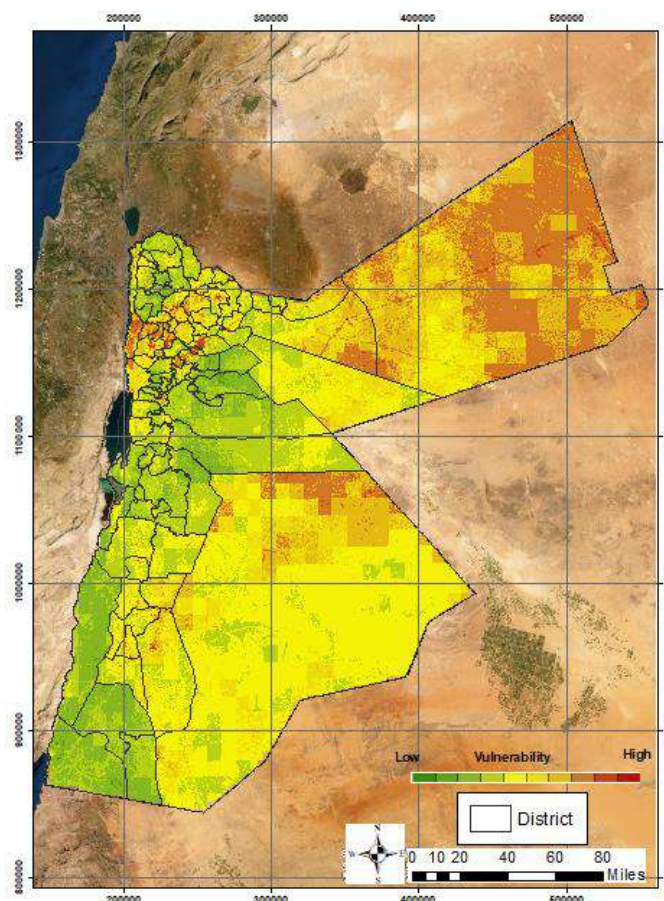
3 years



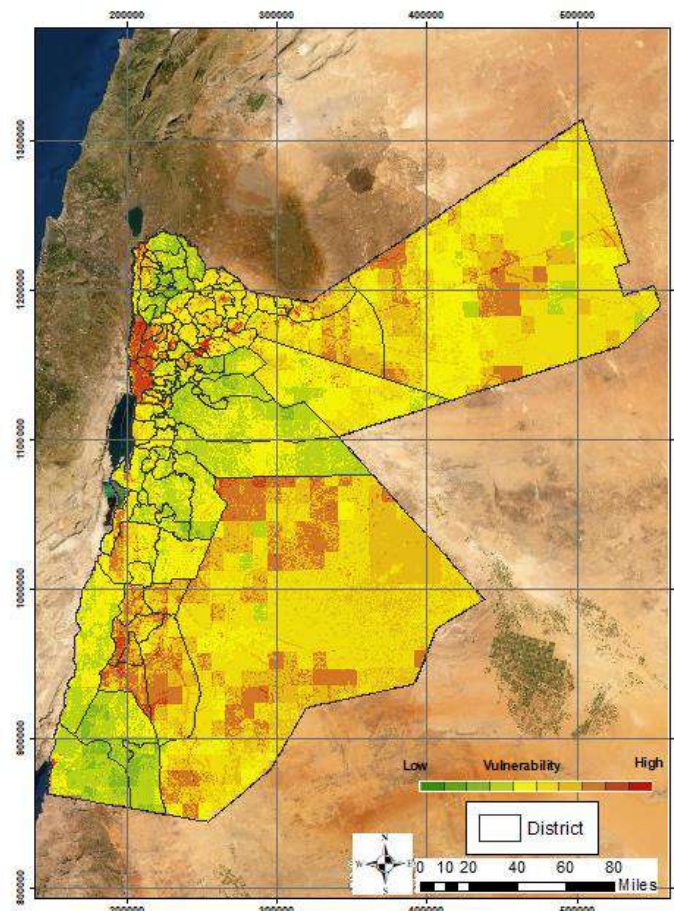


# Vulnerability Assessment of the Water Sector to Climate Change in Jordan: Supporting Climate/SDG Debt Swap-Donor Nexus program KPIs

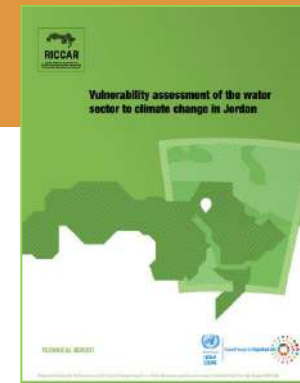
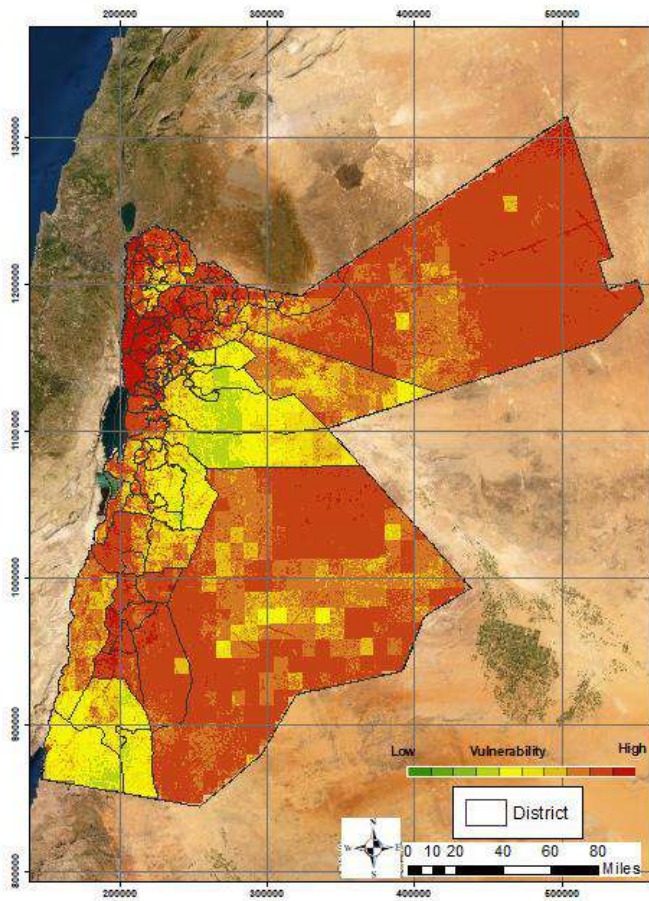
Vulnerability at reference period  
**1995-2014**



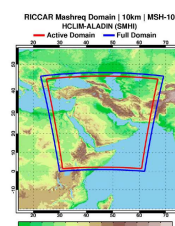
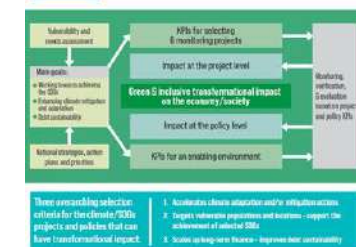
Vulnerability at near-term  
**2021-2040**



Vulnerability at mid-term  
**2041-2060**



## 9. Transformational Impact: A Key Performance Indicators (KPI) Framework for selecting and monitoring the projects







<https://unfccc.int/NDCREG>

# NDC Registry.

In accordance with Article 4, paragraph 12 of the Paris Agreement, NDCs communicated by Parties shall be recorded in a public registry maintained by the secretariat.



Credit: Axel Fassio/CIFOR

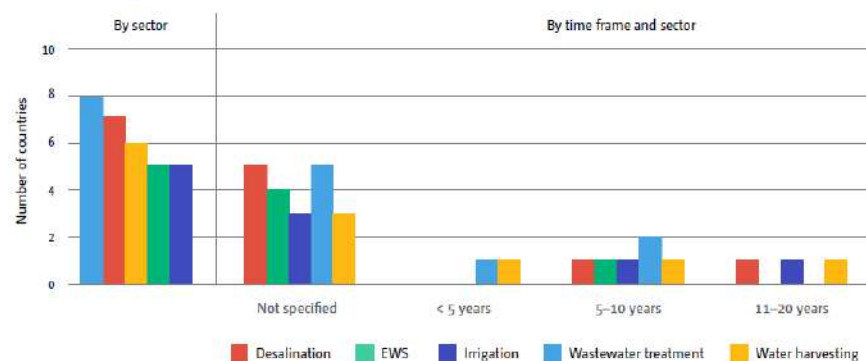
Showing 15 of 195 results

Country Reports with Emission Reduction Commitments & Several NDCs include Adaptation Communications, with Priority Actions & Project Lists for Conditional & Unconditional Implementation based on Funding Availability

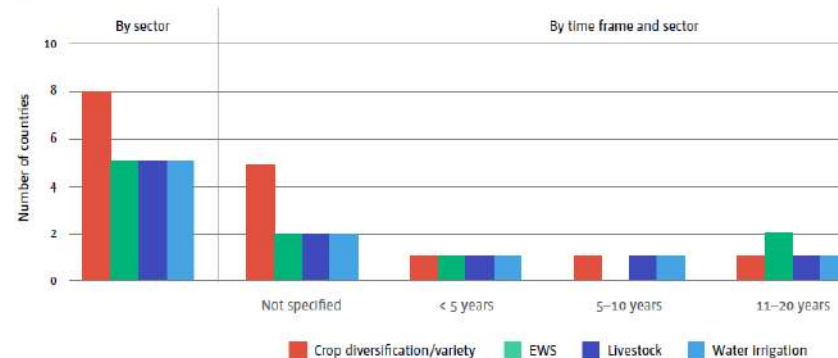


# Mapping of climate finance priority actions per sector of Arab States based on their Nationally Determined Contributions (NDCs)

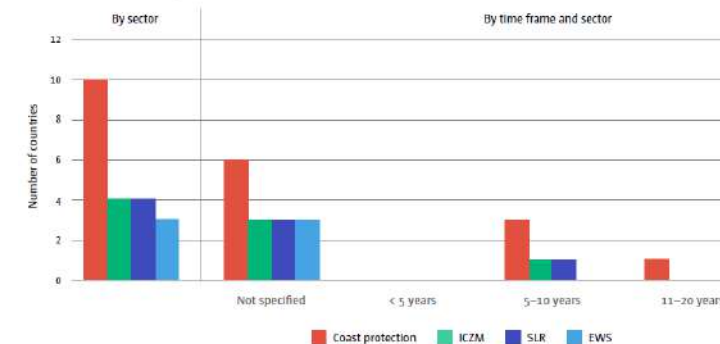
Water needs by subsector and time frame



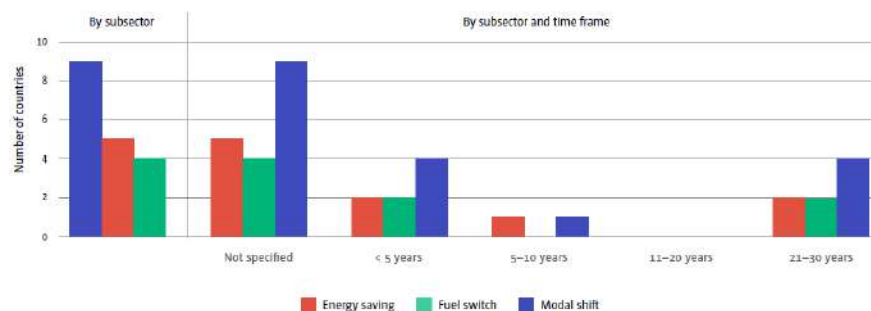
Agriculture needs by subsector and time frame



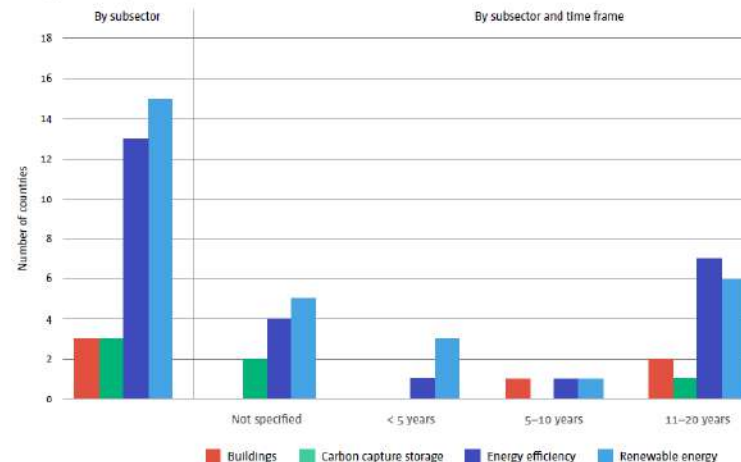
Coastal zone needs by subsector and time frame



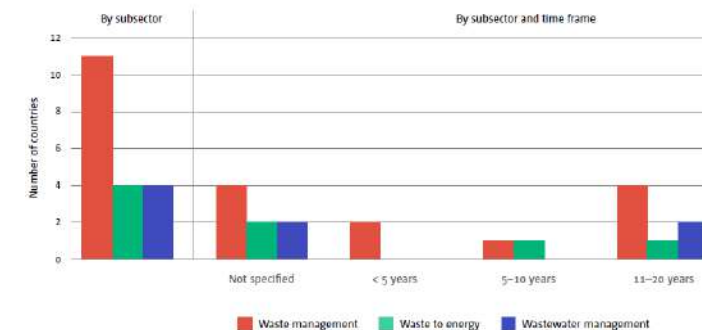
Transport needs by subsector and time frame



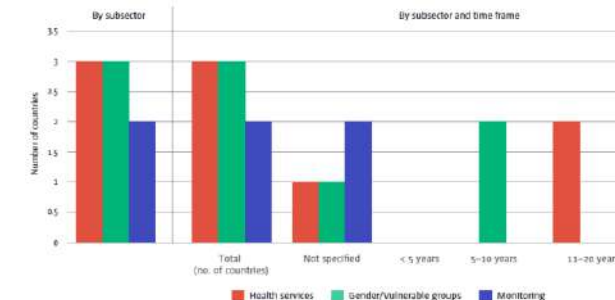
Energy needs by subsector and time frame



Waste needs by subsector and time frame



Health needs by subsector and time frame

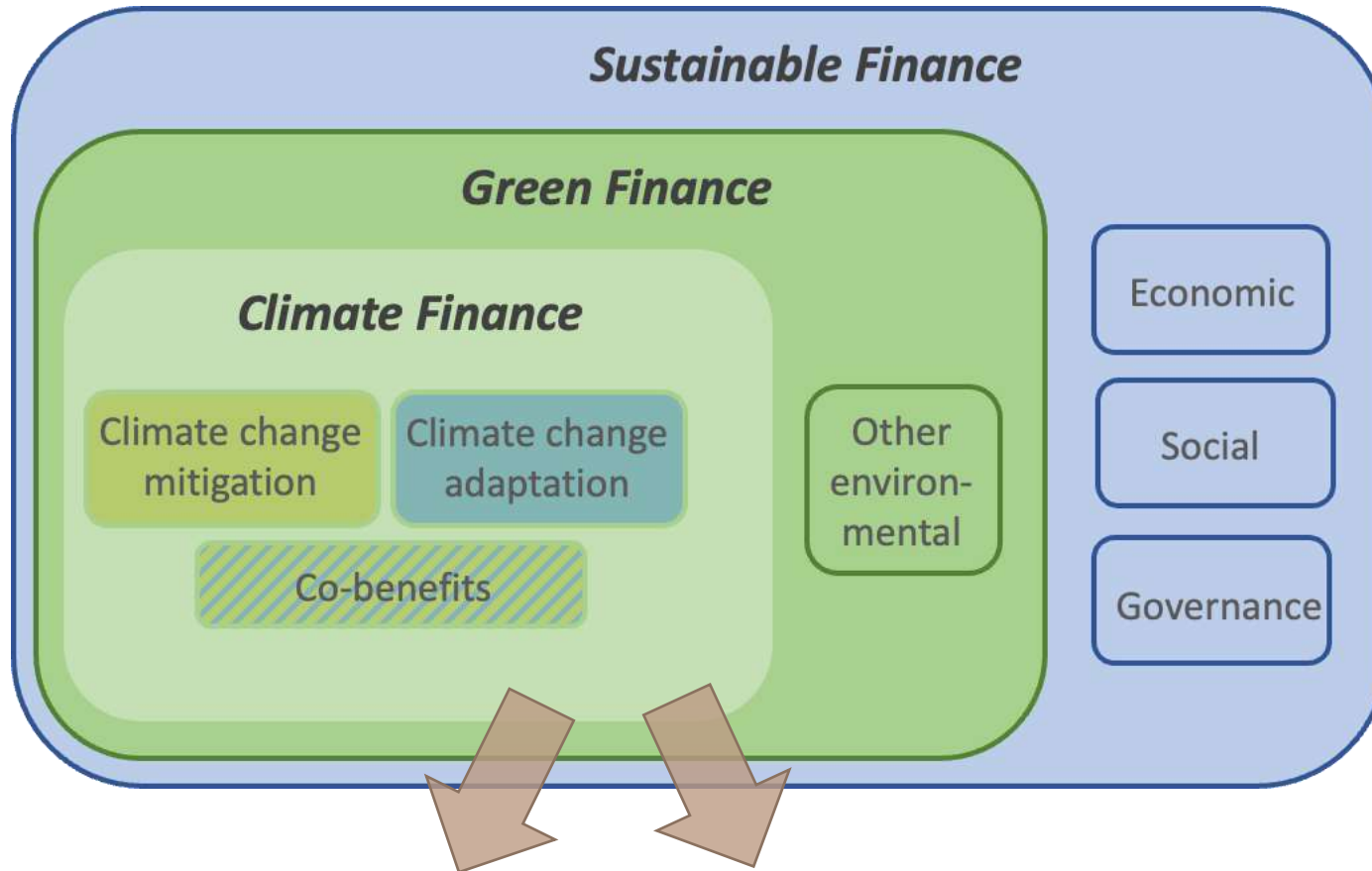


Shared Prosperity Dignified Life



<https://unfccc.int/NBF%20Project/Regions>

# Tracking green and climate finance: Rio markers and the OECD database on climate-related development finance



## Principal green/climate objective

= “**pure**” green/climate finance, activity would **not** have been undertaken or funded without the climate objective

## Significant green/climate objective

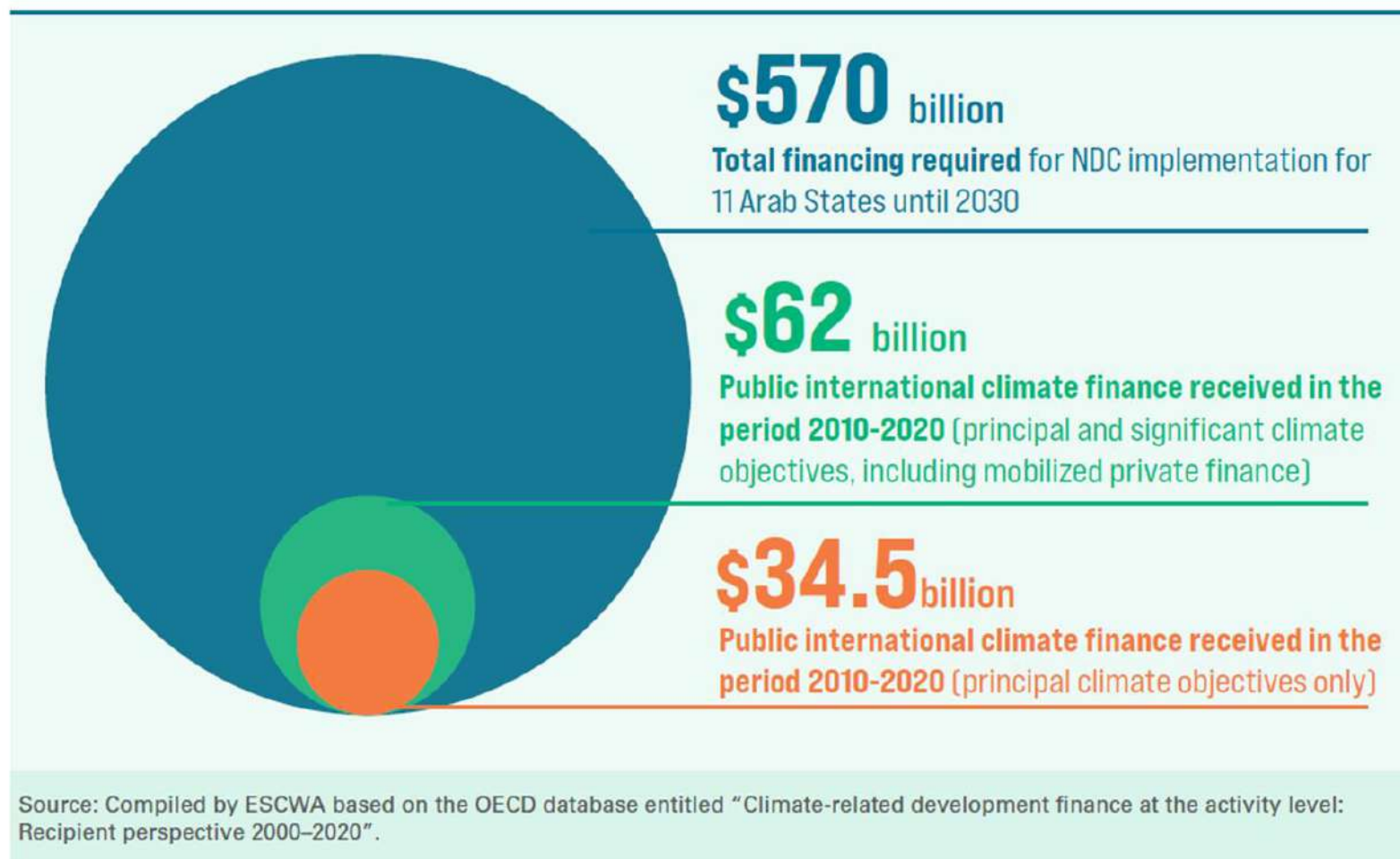
= activity has **other prime objectives** but has been **formulated or adjusted** to help meet the green/climate policy objective

- **Rio markers** were developed to **monitor and report** on financing targeting the themes of the **3 Rio conventions** signed during the 1992 Earth Summit on biodiversity, desertification and climate change
- **Rio Markers** for climate help to **categorize and track** climate finance

Sources: [https://www.oecd.org/dac/environment-development/Revised%20climate%20marker%20handbook\\_FINAL.pdf](https://www.oecd.org/dac/environment-development/Revised%20climate%20marker%20handbook_FINAL.pdf) and <https://europa.eu/capacity4dev/public-environment-climate/wiki/short-guide-use-rio-markers>, and UNEP, 2016: Inquiry: Design of a Sustainable Financial System – Definitions and Concepts Background Note ([https://wedocs.unep.org/bitstream/handle/20.500.11822/10603/definitions\\_concept.pdf](https://wedocs.unep.org/bitstream/handle/20.500.11822/10603/definitions_concept.pdf))



# Public Climate Finance Flows to Arab States Do Not Meet Needs

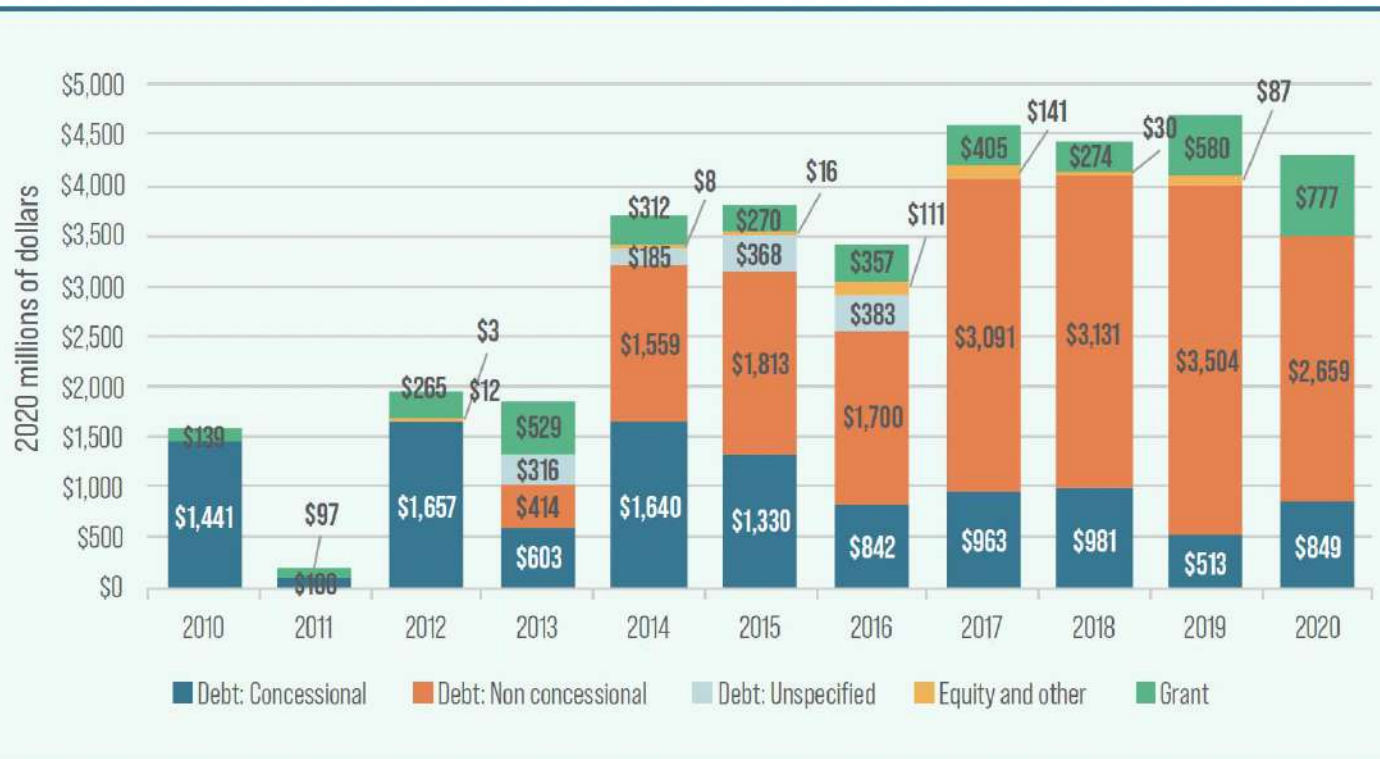


Climate finance received over the past decade relative to financing needs expressed for NDC implementation over the coming decade



# Public international climate finance in the Arab region: High debt financing

*Total public international climate finance in the Arab region by type of financial instrument*



*Compiled by ESCWA based on the OECD database entitled "Climate-related development finance at the activity level: Recipient perspective 2000-2020". It includes commitments with climate marked as a principal objective (Rio tag) and includes climate components reported by multilateral development banks. Flows with climate marked as a significant objective are not included.*

- **Positive trend:** Financing increased over past decade & funds disbursed during pandemic

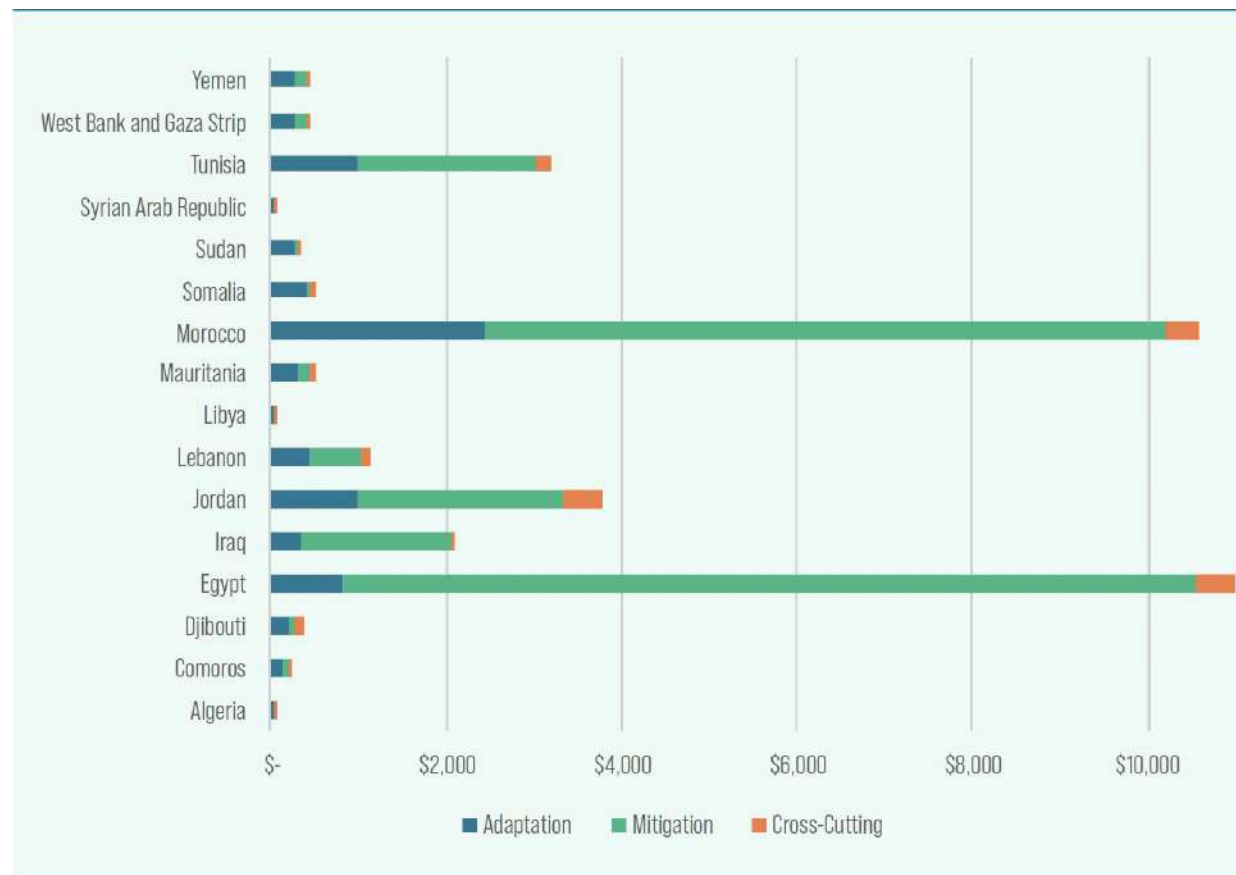
*But:*

- **Excessive debt financing:** 7 times more loans than grants between 2010-2020 despite historically high gross public debt of \$1.4 trillion in 2020 in the Arab region
- **Increase** in financial commitments from **multilateral sources** in recent years, but bilateral support declining
- **Private sector finance** that is not mobilized by public international climate finance is **not widely available**
- Only **4%** of finance is sourced from global **climate funds** in Arab region



# Geographic disparities in the distribution of climate finance flows, but also inadequate costing of needs & preparation of bankable projects

Climate finance flows in the Arab region by country and purpose, 2010–2020  
(In 2020 millions of dollars)



Compiled by ESCWA based on the OECD database entitled "Climate-related development finance at the activity level: Recipient perspective 2000-2020". It includes commitments with climate marked as a principal objective (Rio tag) and includes climate components reported by multilateral development banks. Flows with climate marked as a significant objective are not included.

- **Egypt and Morocco** most successful in costing needs & accessing climate finance (\$21.6 billion 2010-2020)
- The **6 Arab LDCs** received only **6.6%** of public international climate finance coming to the region over the past decade, but **increase in financing share for LDCs** witnessed in past 2 years

The costed climate finance needs of 11 Arab States is

**\$570 billion**  
until 2030

Egypt, Iraq and Morocco account for

**\$425 billion**  
of the total support requested



# Public Climate Finance Flows Skewed towards Mitigation rather than Adaptation and Resilience

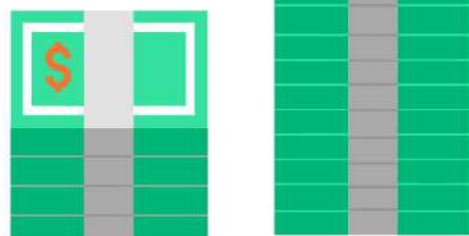


Flows to mitigation summed

**\$24.84** billion

were  
**three times greater**  
than flows to adaptation

**\$7.75**  
billion  
over the period  
2010–2020



Public international climate finance flows to the Arab region by sector



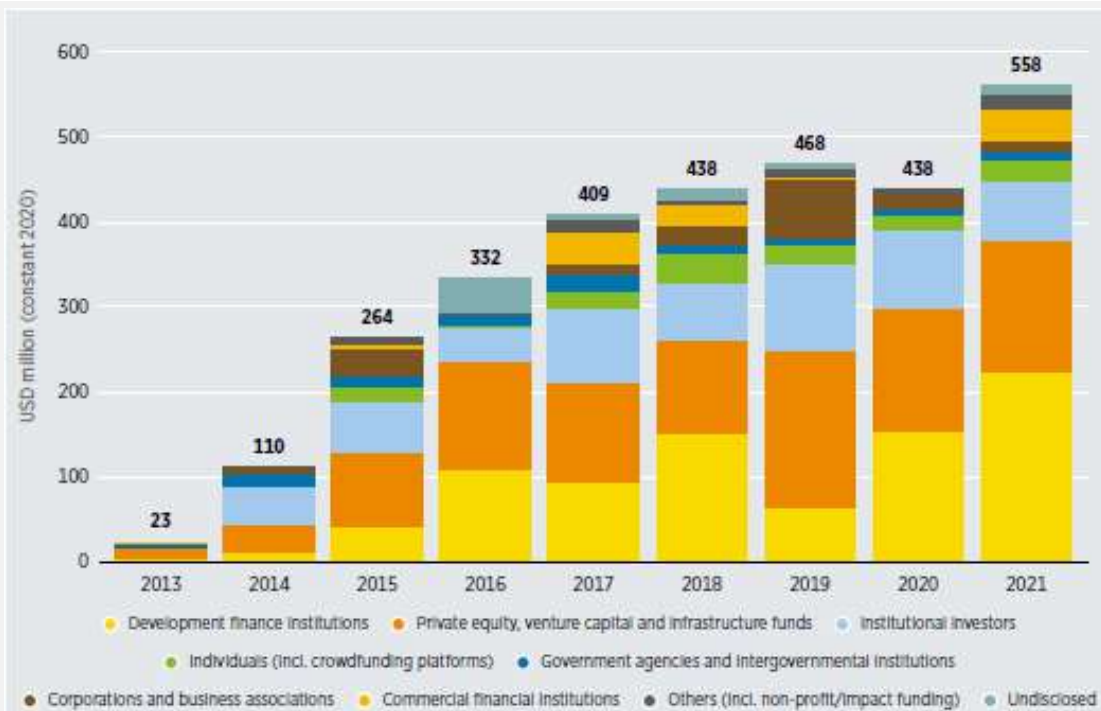
Compiled by ESCWA based on the OECD database entitled "Climate-related development finance at the activity level: Recipient perspective 2000-2020". It includes commitments with climate marked as a principal objective (Rio tag) and includes climate components reported by multilateral development banks. Flows with climate marked as a significant objective are not included.

- The **water and agriculture** sectors are the adaptation priorities for Arab region, but underfunded
- The **energy and transport** sectors received twice the support of the water and AFOLU sectors between 2015-2020
- Only 4% is for disaster risk reduction



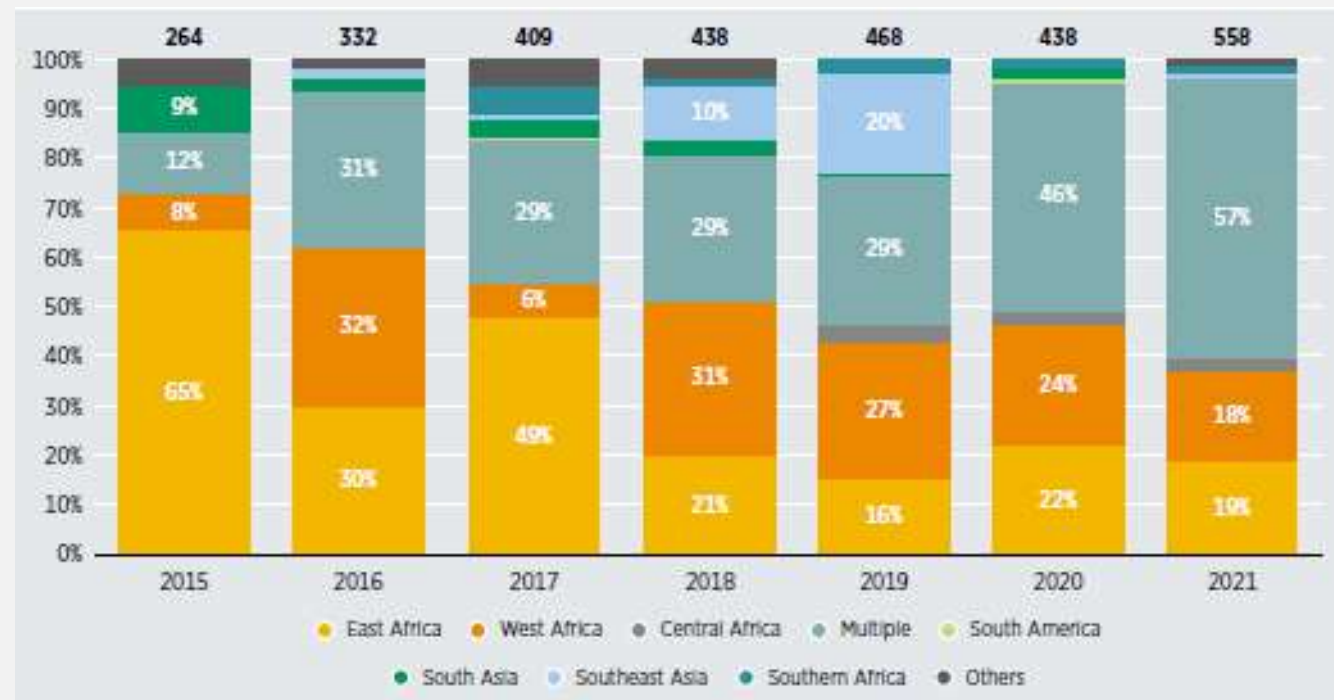
# The Arab region attracts one of the lowest shares of investments in RE compared to other regions globally

Annual commitments to off-grid RE by type of investor



Development Finance Institutions (DFIs) currently play a crucial role in supporting small-scale RE projects in the Arab region, globally accounting for 79% of public investments in off-grid solutions, but increased opportunities exist for private sector investment

Shares of annual investment in off-grid renewables by subregion of destination



\*"Others" include the Middle East and North Africa, Other Oceania, Transregional, Other Asia and Unknown.

Additionally, only 1% of total RE finance in 2020 came from concessional finance, hindering the energy transition in many developing countries, but also showing that cost recovery & profitability available with investment and credit guarantees

# Increased climate finance flows are necessary for addressing the specific barriers to EE and small-scale RE in the Arab region

## Energy Efficiency

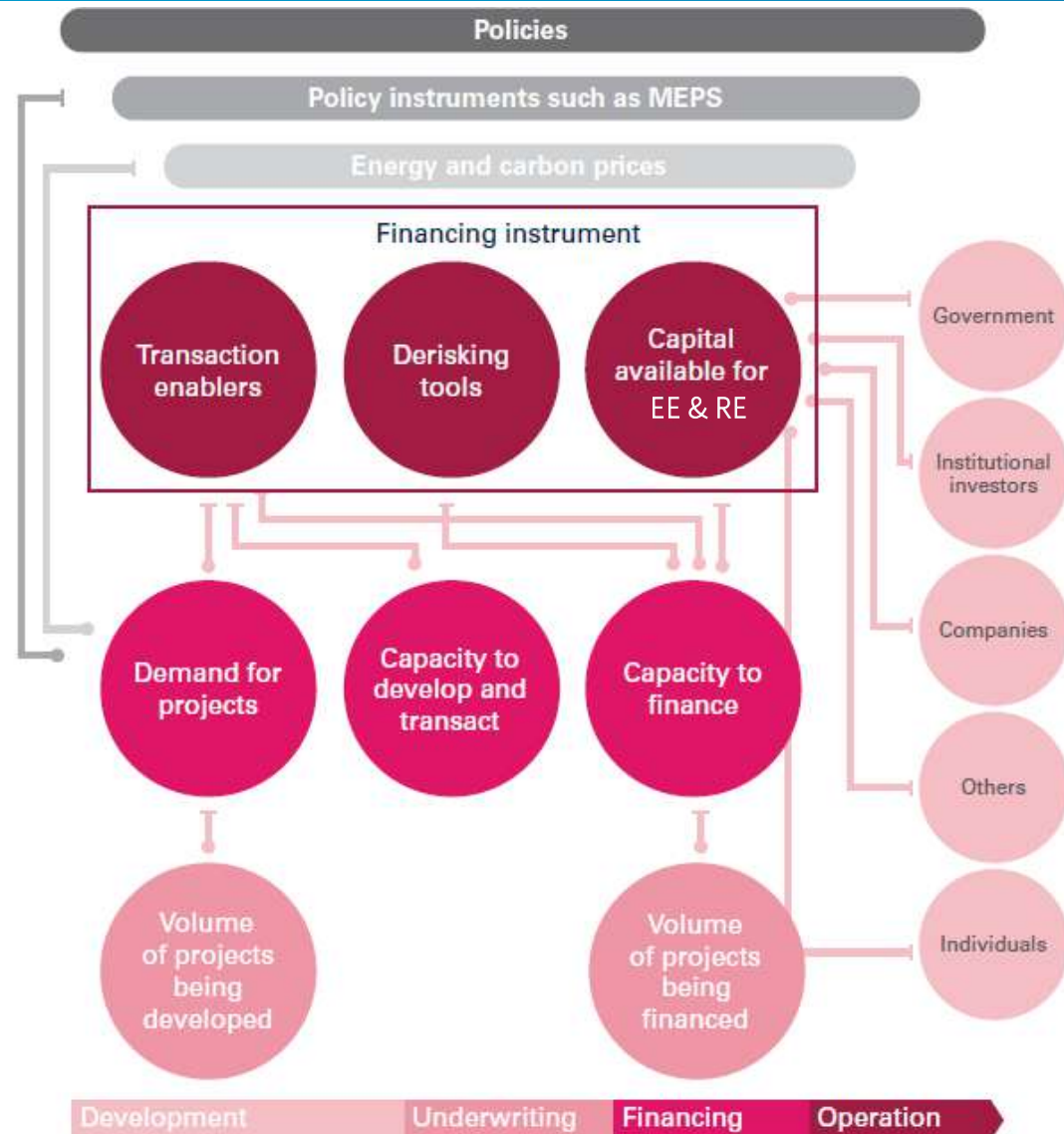
- Energy vulnerability due to inadequate universal energy access, hindering energy efficiency
- Lack of Information in low income and Arab LDCs about energy savings and access to financial markets, hindering energy efficiency initiatives
- **Energy efficiency projects tend to be small by capital provider standards, leading to high transaction costs and a need for project aggregation**
- Monopolies and bundled services, reducing competition, reducing incentive to provide efficiency upgrades

## Small-scale Renewable Energy Projects

- High poverty rates in rural areas limit the financial capacity for upfront investment in small-scale renewable energy.
- Lack of tailored financial products and complicated disbursement procedures
- Geographical remoteness leads to higher expenses, limited access to expertise, and infrastructure challenges
- **Small-scale projects face high transaction costs, uncertainty of demand, and investor risk perception.**
- Conflict and instability deter implementing agencies and financiers from operating in conflict zones,



# A systems view of the drivers needed to upscale EE and RE



## Green investments and climate finance can:

- Influence demand by motivating decision-makers to adopt energy-efficient solutions and renewable energy technologies
- Intervene in the investment processes of existing funding sources to ensure that energy efficiency and RE measures are incorporated into new building designs, promoting sustainability
- **Create de-risking tools, which build the capacity to finance projects and help increase the capital available for EE and small-scale RE**
- Diversify capital sources and facilitate capital from governments, multilateral banks, institutional investors, companies, individuals, and philanthropic sources

Source: ESCWA, 2021

itten permission

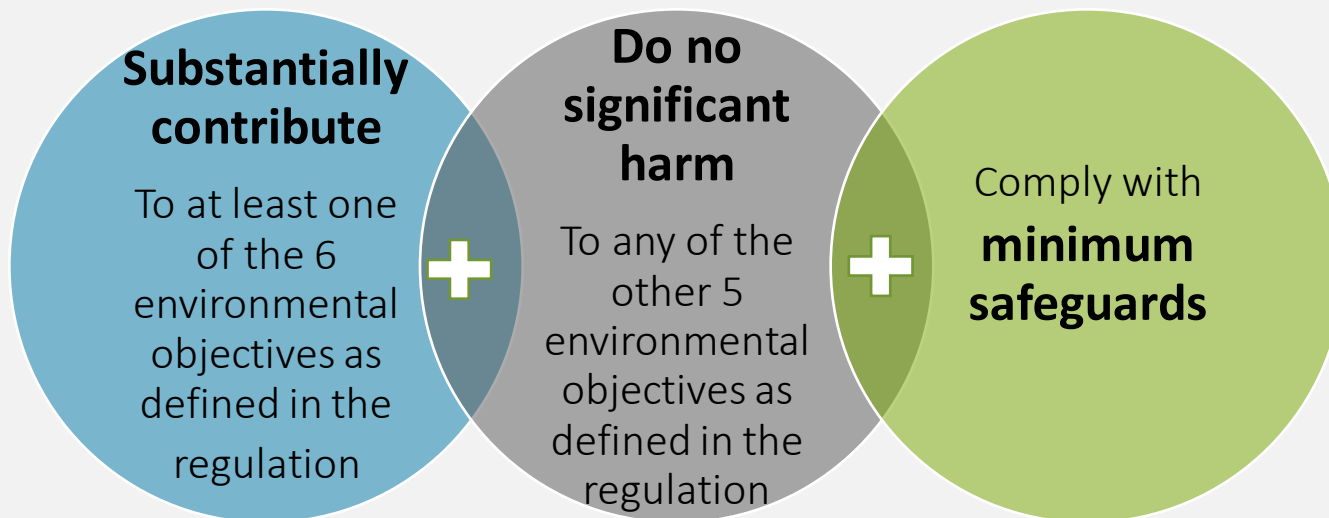
# A harmonised taxonomy can help mobilise finance for climate

- **Unclear** definitions and eligibility to access climate and green finance **limit investments**.
- A **harmonised taxonomy** can help **mobilise financing** by:
  - **engaging** creditors, donors, partners who are committed to pursuing climate-friendly investments,
  - providing a **common language** and approach for policymakers, investors and other market participants to **identify, develop, and finance projects** that are already climate-, or environment-friendly or facilitate the transition towards these goals,
  - **clarifying** the level of ambition,
  - protecting from **greenwashing** and the impression of greenwashing,
  - supporting the development of a clear legal framework which in turn can provide **investment security** and encourage **long-termism**,
- A harmonised taxonomy can also influence **real-economy activities** by **setting standards** and supporting companies in greening their **strategies** and **operations**.



# Need for an Arab regional green finance taxonomy

- Several **taxonomies** are **emerging globally**:
  - **Green** and **sustainable** finance taxonomies, or similar regulation, guidance and eligibility lists, are currently in place in Bangladesh, China, Colombia, Egypt, the EU, Indonesia, Japan, Kazakhstan, Malaysia, Mongolia, Morocco, the Russian Federation, South Africa and Sri Lanka
  - Existing taxonomies **affect the Arab region** through trade and financial interconnectedness
- Example: The **EU sustainable finance taxonomy**



The 6 EU environmental objectives, including climate:



Climate change mitigation



Climate change adaptation



Sustainable use and protection of water & marine resources



Transition to a circular economy



Pollution prevention & control



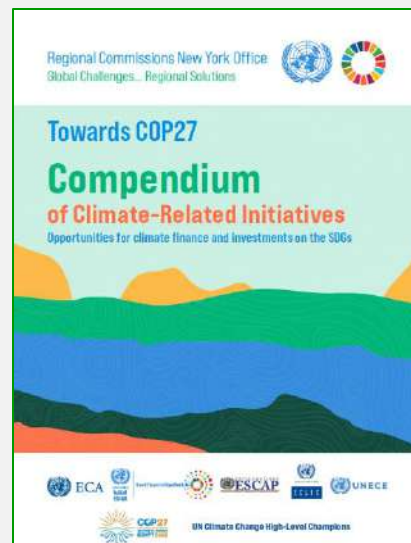
Protection and restoration of biodiversity and ecosystems

# Arab Regional Initiatives for Mobilising Climate Finance

## Arab Regional Forums on Climate Finance

Beirut, 15 Sept 2022 & Dubai, 6 Nov 2023

- Mobilising climate finance for country-driven projects in Arab States
- \$4.2 billion in adaptation & mitigation projects proposed by Arab States



## UN Climate Change High-Level Champions

[www.unescwa.org/events/towards-cop-28-second-arab-regional-forum-climate-finance](http://www.unescwa.org/events/towards-cop-28-second-arab-regional-forum-climate-finance)

## Arab Initiative to Mobilize Climate Finance for Water

- **Water Action Agenda commitment** in support of the Water Action Decade
- Seeks to **build regional capacity** to mobilize finance for water action



- **Arab Forum for Mobilizing Climate Finance for Water @ MENA Climate Week (Riyadh, 10 Oct 2023)**
- **Climate Finance for Water in Arab Region Policy Brief**

### Implementing Partners:



Food and Agriculture Organization of the United Nations



Shared Prosperity Dignified Life



### Collaborating Partners





# Arab Regional Initiatives for Mobilising Climate Finance

## Needs-based Climate Finance Strategy for Arab States

- Technical Annex (2022) informed consultations
- Draft Strategy under review by CAMRE in October 2023
- Seeks to **develop capacity** for **assessing financing needs** and priorities, **accessing climate finance** and **mobilising resources from global funds**



United Nations  
Climate Change



Shared Prosperity Dignified Life



## Climate/SDGs Debt Swap – Donor Nexus Initiative

- Innovative financial instrument to secure **reliable, multi-year financing** for a debt swap programme
- External debt payments committed to in national budget allocated instead in local currency for **country-driven programmes** to implement climate & SDG goals.
- Reduces financial risk & creates financial space for action



# Arab Regional Initiatives for Mobilising Climate Finance



Shared Prosperity Dignified Life



## Regional Initiative for Promoting Small-Scale Renewable Energy Applications in Rural Areas of the Arab Region (REGEND)



Solar installations in rural areas & MSME training for income generation in Tunisia, Lebanon & Jordan, especially for women

The free electricity supplied by the solar PV pumping systems for the farmers in Chorbane, Tunisia resulted in the following:

Monthly diesel bill savings for the 1<sup>st</sup> farmer

TND 1,800



TND 0

Monthly diesel bill savings for the 2<sup>nd</sup> farmer

TND 225



TND 25

Number of working women farmers/beneficiaries

40



25

Sale price of cereal per kg

+0.4 TND



The reduced energy costs allowed the farmers to develop more lands, hire more women farmers, and increase the value of their products.

[www.unescwa.org/regend](http://www.unescwa.org/regend)



Shared Prosperity Dignified Life



## Multi-Stakeholder Biodiversity Platform

- Preparing demand-driven bankable/actionable projects for protecting biodiversity for enhanced climate resilience through working groups involving governments, financial institutions and civil society

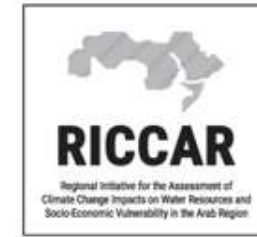


[www.unescwa.org/climate-resilience/pillar-3](http://www.unescwa.org/climate-resilience/pillar-3)





Shared Prosperity Dignified Life



Request Data

DATA PORTALS

[www.riccar.org](http://www.riccar.org)

# Thank you

[chouchanicherfane@un.org](mailto:chouchanicherfane@un.org)

[www.unescwa.org](http://www.unescwa.org)

[www.unescwa.org/acccp](http://www.unescwa.org/acccp)

[www.riccar.org](http://www.riccar.org)

*Prepared with valued contributions by:*

*Katharina Lehmann-Uschner, Layale Gedeon and Mustafa Ansari at ESCWA*

