

# Key Environmental Challenges & Opportunities from Digital Technologies in West Asia

---







**Abdelmenam Mohamed,**

Regional Coordinator for Science,  
West Asia Office, UNEP



# Geographic Coverage:

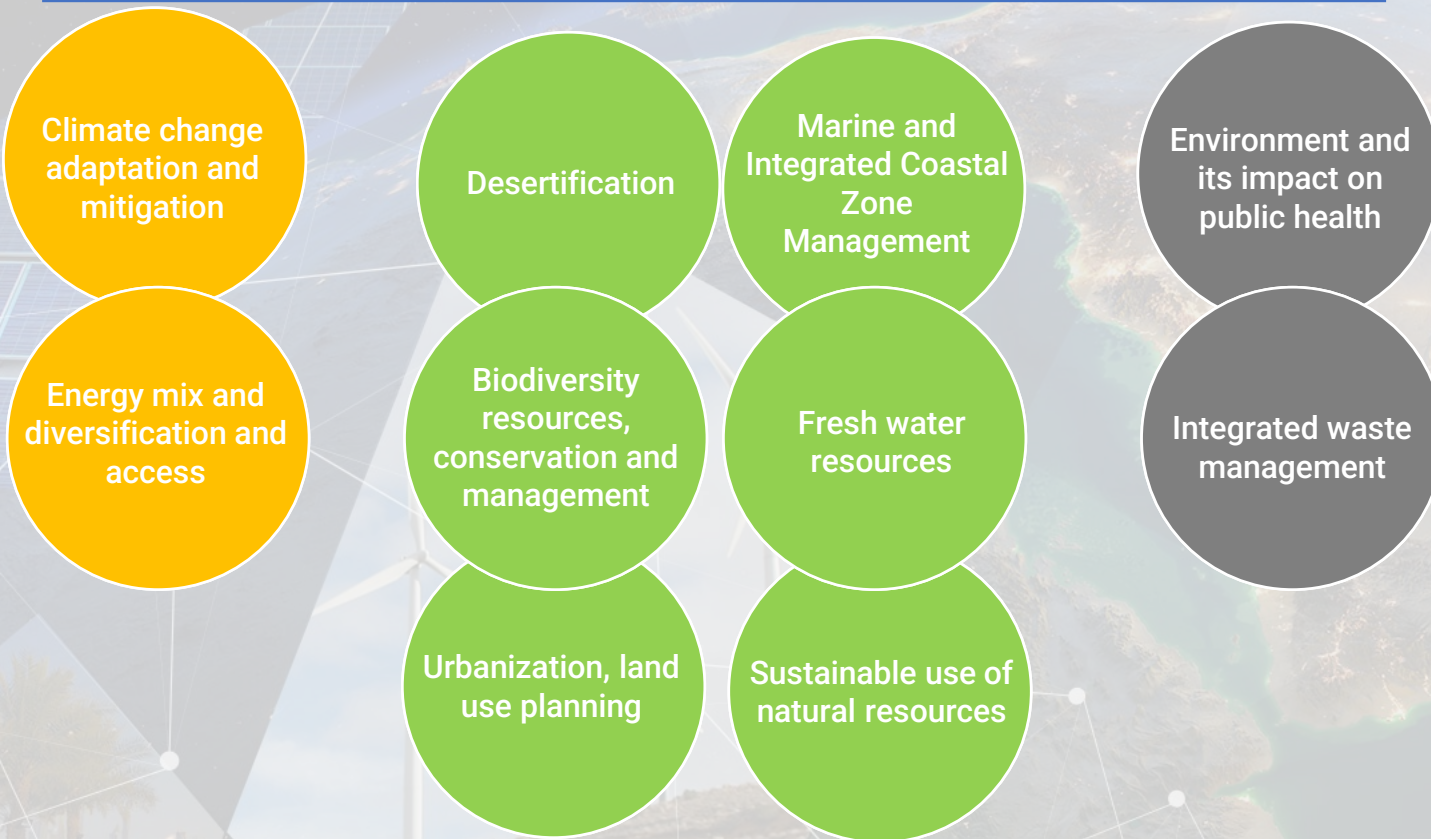


 Jordan	 Lebanon	 Palestine	 Syria	 Iraq	 Yemen
 Bahrain	 Kuwait	 UAE	 Oman	 Saudi Arabia	 Qatar

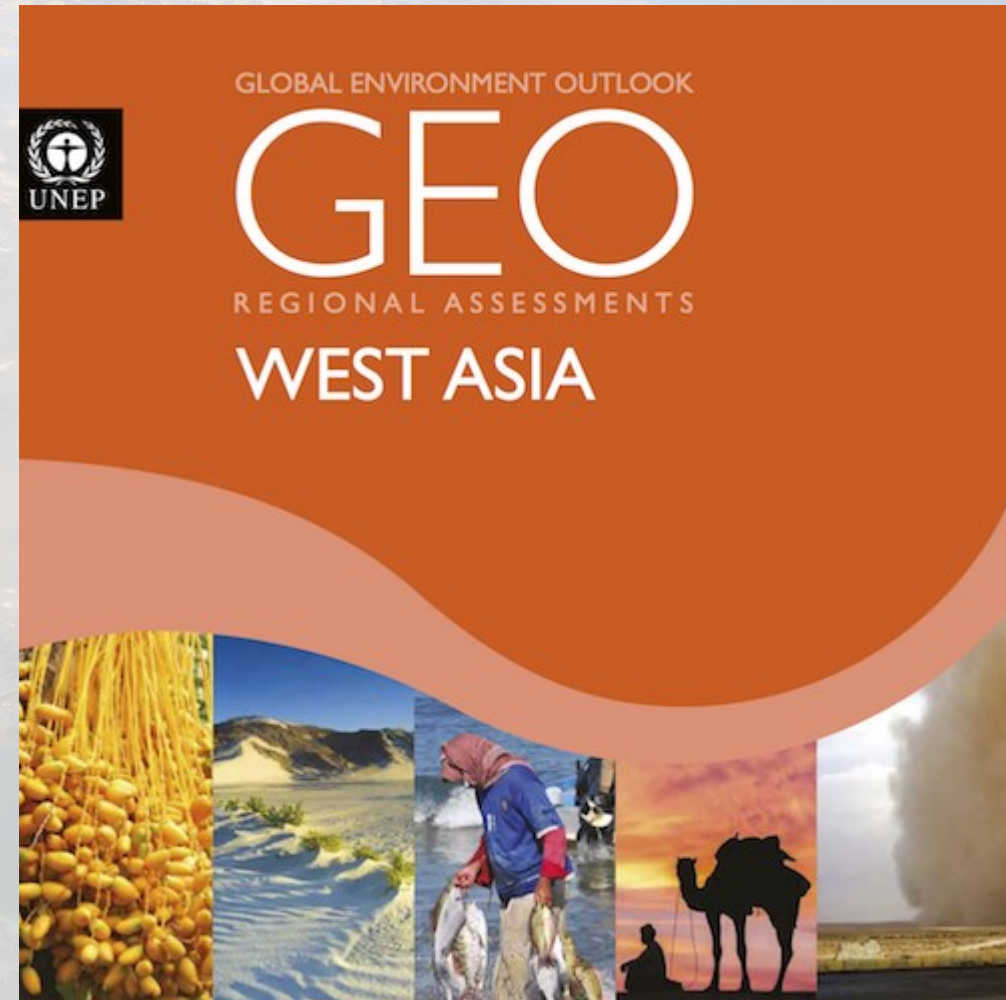


# 12 regional priorities for the GEO-6 West Asia regional assessment report:

## Peace, security, and the environment.



Improving environmental governance and reg. intl. cooperation





# 12 regional priorities for the GEO-6 West Asia regional assessment report:

Climate change adaptation and mitigation

Energy mix and diversification and access

- Most global climate model projections predict a 20 per cent rainfall decrease over the next 50 years in West Asia, with increased temperatures, evaporation and relative humidity all influencing water availability.
- The West Asia region has seen an increase in CO2 emissions over recent decades, as a result of growing total energy consumption. This is not only linked to population size and economic activity but is also heavily influenced by energy fuel mix and water and electricity use efficiency.
- West Asia countries are therefore particularly vulnerable to several natural hazards, from coastal flooding to temperature increases, sea level rise, droughts and desertification.



Cyclone Merकुnu in Salalah, Oman. Photograph: Kamran Jebreili/AP



# 12 regional priorities for the GEO-6 West Asia regional assessment report:

Desertification

Marine and Integrated Coastal Zone Management

Fresh water resources

- Prevailing anthropogenic pressures in the form of urban expansion, pollution, overconsumption of biological resources beyond the region's biocapacity of ecosystems, and modification of habitats.
- These pressures put biological resources at risk, resulting in a number of critical challenges to biodiversity and causing further biodiversity degradation.

Biodiversity resources, conservation and management

Urbanization, land use planning

Sustainable use of natural resources



Madaba governorate, Jordan, Unsplash

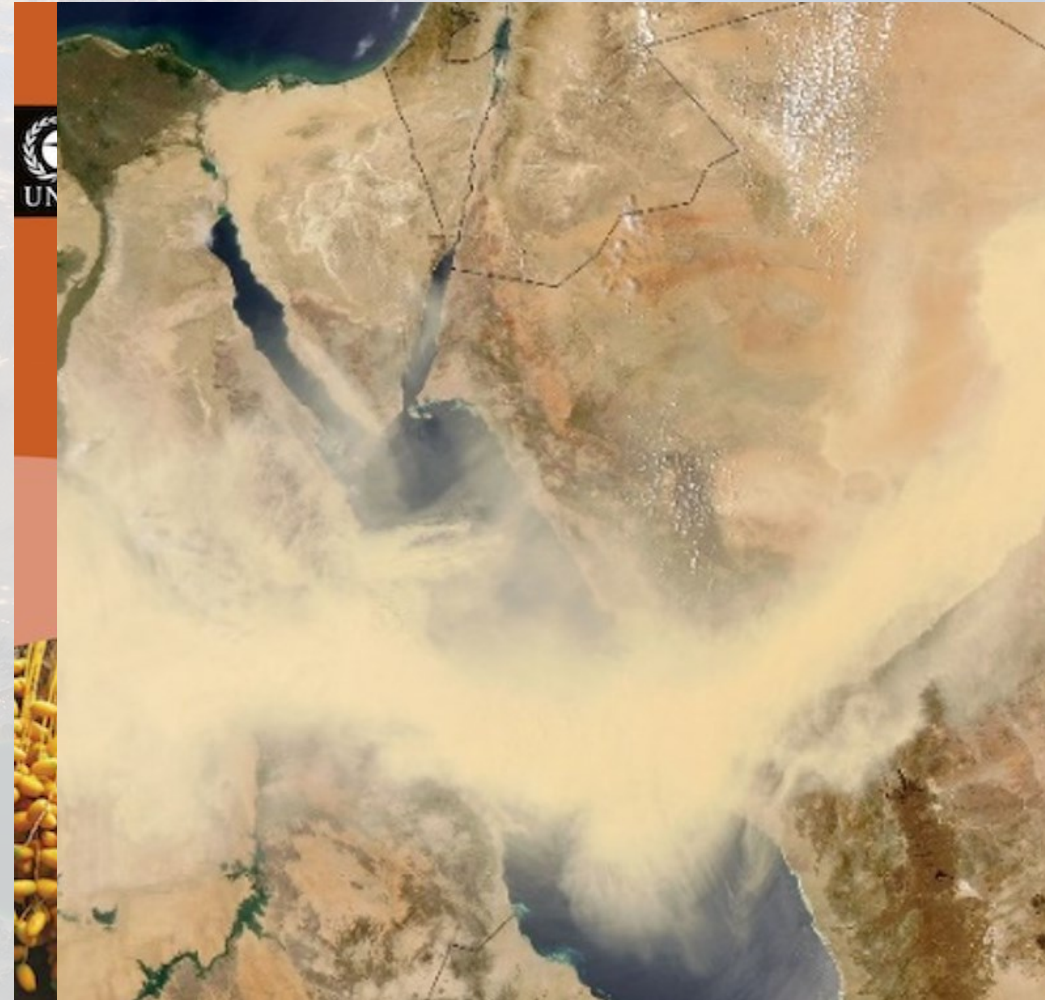


# 12 regional priorities for the GEO-6 West Asia regional assessment report:

Environment and its impact on public health

Integrated waste management

- West Asia has been recognized as one of the major regions where sand and dust storms originate causing environmental, social and economic impacts.
- The level of air pollutants in this region has increased progressively over the past two decades, contributing to premature death.





# 12 regional priorities for the GEO-6 West Asia regional assessment report:

Environment and its impact on public health

Integrated waste management

- West Asia has been recognized as one of the major regions where sand and dust storms originate causing environmental, social and economic impacts.
- The level of air pollutants in this region has increased progressively over the past two decades, contributing to premature death.
- According to the West Asia Waste Management Outlook: West Asia generates over 60 million tons of municipal solid waste annually and an estimated 87% of this waste goes to land disposal.





A satellite view of the West Asia region, showing the Arabian Peninsula, the Persian Gulf, and the surrounding landmasses. The image is dark, with the landmasses appearing in shades of brown and tan against the deep blue of the oceans and the blackness of space. The title text is overlaid on the upper portion of the image.

# Opportunities from Digital Technologies in West Asia

---

- Digital Transformation in West Asia Region are increasingly being adopted in improving environmental sustainability for a nature-positive economy.
- Some governments in the region have already recognized the importance of the digital capacity and took some actions.



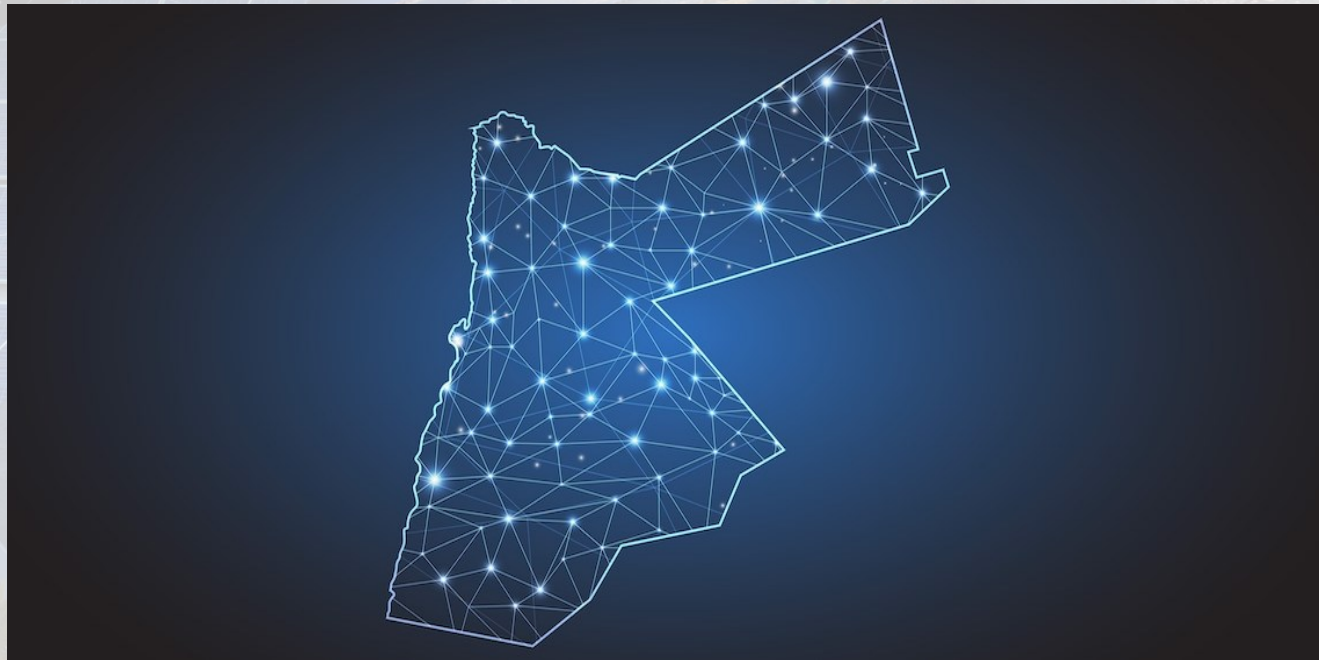
# Example: Bahrain



Bahrain is building a **national data lake**, the region's first country-level data repository, covering 73 government entities. The platform solves the issue of valuable data sitting in silos, creating a centralized data source for descriptive and predictive analytics that will help government agencies better serve the public.



# Example: Jordan



Jordan has demonstrated that digital transformation is a top priority on the national agenda. The country has made enormous strides in building a digital infrastructure to accelerate its move toward a **digital economy**.



# Example: Qatar



The **Qatar Smart Program** (TASMU) aims to realize technological solutions and cooperation across sectors consistent with Qatar's Vision 2030. In terms of the environment, the programme focuses on enabling national environmental capabilities.



# Example: KSA



Saudi Arabia has established an **authority for Artificial Intelligence** and organized in 2020 the **Global AI Summit**.



# Examples: UAE

## UAE CABINET DECISIONS

### UAE CABINET ADOPTS THE NATIONAL STRATEGY FOR ARTIFICIAL INTELLIGENCE 2031



Positioning the UAE as a world leader in artificial intelligence by 2031



The strategy implementation is overseen by the Emirates Council for Artificial Intelligence and Digital Transactions



Increased productivity and economic growth by employing artificial intelligence technologies

#### — APPLICATION OF ARTIFICIAL INTELLIGENCE IN THE FOLLOWING PRIORITY AREAS —



Resources and Energy



Logistics and Transportation



Tourism and Hospitality



Healthcare



Cyber Security

UAE has developed a **strategy for Artificial Intelligence (AI)**.

**UAE National Innovation Strategy (NIS):** calling for the necessity of technological innovation and value-added products and services in the green market economy.



A satellite view of Earth from space, showing the West Asia region (Middle East) in the center. The landmasses are illuminated, showing the Persian Gulf, the Red Sea, and the Indian Ocean. The background is the dark blue of space with some stars visible.

## To conclude:

---

- West Asia region is facing a variety of major environmental challenges that necessitate an urgent transformational change.
- Policy makers in this region should pay urgent attention to accelerate environmental sustainability through digital technology.





# Thank you

---

For further questions, you may contact me at  
[abdelmenam.mohamed@un.org](mailto:abdelmenam.mohamed@un.org)

---

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