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Summary for West Asia

On the Eve of Rio+20

Integrated Policies Needed to Tackle Rising Environmental Pressures in West Asia

Water Remains Critical Issue, While Progress Made in Green Building Sector

Current policy approaches may be insufficient to tackle worsening water scarcity, land degradation and sea level rise in West Asia¹, according to the Global Environment Outlook 5 (GEO 5) report from the United Nations Environment Programme.

A more integrated approach, whereby environmental pressures are addressed collectively rather than in sector-specific policies, is necessary if the region's rising pollution levels, unsustainable consumption and production patterns and low renewable energy up-take are to be addressed and the transition to a low-carbon, resource efficient green economy achieved.

The increasing number of people displaced in West Asia through conflict and other factors is also straining the environment and contributing to the degradation of land and water resources, says GEO 5.

Yet, there are examples of countries in West Asia that are making advances in areas such as the green building sector, with national efficiency reforms bringing significant economic and environmental benefits in Kuwait; water resources management in Yemen, Saudi Arabia and Bahrain; rangeland rehabilitation in Syria; and sustainable coastal management in Lebanon.

If scaled-up and accelerated, such measures could assist in a transition to a Green Economy as nations across the globe prepare for the Rio+20 Summit later this month.

The above are among the main findings and recommendations for West Asia from GEO 5, which analyses the worldwide state of the environments and tracks progress towards agreed goals and targets.

GEO 5 points out that despite a wealth of renewable energy sources, the energy sector is still characterized by heavy reliance on fossil fuels, leading to high carbon emissions and adverse environmental impacts

Supporting the development of renewable energy could serve to meet West Asia's rising energy demands and diversify the regional economy.

¹ For GEO 5, West Asia includes the following sub-regions: the Arabian Peninsula (Yemen and the Gulf Cooperation Council (GCC) countries of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates) and the Mashriq (Iraq, Jordan, Lebanon, the Occupied Palestinian Territories (OPT) and Syria).



Greater efforts should be also made to engage with civil society, local communities, local and central government and other stakeholders when designing and implementing environmental policies.

As well as presenting the state of the region's environment, GEO 5 highlights successful initiatives and policy approaches for addressing environmental problems in West Asia that can potentially be scaled-up and replicated elsewhere.

Drivers

Central to the GEO 5 methodology is the concept that environmental pressures can only be effectively tackled if underlying drivers of change are addressed. Policies are most effective, argues the report, when they pro-actively address the causes of environmental degradation, rather than reacting to the effects.

GEO 5 finds that population growth, urbanization, socio-economic policies and high rates of natural resource consumption are among the main drivers underpinning environmental pressures in West Asia.

Population and Urbanization

According to UN figures, Qatar, Syria, the United Arab Emirates and Yemen have population growth rates exceeding 2.5 per cent.

Parts of West Asia are suffering water scarcity that is worsening with the expanding population.

Overall, high population growth and urbanization rates, increased frequency of drought and extreme events, accelerated economic activities and improved standards of living have widened the gap between supply and demand, and led to higher levels of pollution and resource depletion.

78 percent of the population in Western Asia is forecast to be urban by 2020. Rural to urban migration and associated livelihood changes are often accompanied by changing patterns of energy meat and increased meat and dairy consumption, which can intensify land pressures.

Globally, urban diets are characterized by higher levels of meat, dairy and vegetable oil. These foods are often imported and require more energy-intensive production.

UN figures show that livestock numbers in both West and Central Asia have increased substantially, largely to cater to the increasing demand for meat.

On a more positive note, research by the Food and Agriculture Organization of the United Nations (FAO) shows that urbanization is increasing the demand for green spaces in the region, bringing about important changes in forest policies.

Economic development and resource consumption

Energy consumption rose steadily in most of West Asia between 2004 and 2008, increasing by around 20 per cent. Demand is now increasing drastically in all sectors, including electric power production, domestic energy use and transport.

In West Asia, the prevalence of unsustainable patterns of demand and consumption is resulting in the depletion of water resources, deterioration of water quality and increased regional tension over shared resources.

GEO 5 notes that energy consumption in urban areas can be far removed from where environmental impacts occur, with populations remaining unaware of the greenhouse gas and water pollution impacts of their consumption habits.

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Priority Issues

During regional preparatory consultations for GEO 5, five priority issues were identified for West Asia: **Energy; Freshwater; Lands & Soils; and Oceans & Seas.**

Energy

West Asia is a major player in the global energy market, with over 52 per cent of world oil reserves and over 24 per cent of gas resources. Despite rich renewable resources, the region is highly reliant on fossil fuels and has one of the largest carbon footprints in the world.

Switching to sustainable sources of energy would help improve both environmental quality and public health while reducing greenhouse gas emissions and conserving non-renewable fossil fuel resources for future generations. Promoting renewable energy technologies would, additionally, improve energy access, particularly in remote and rural areas.

- According to GEO 5, successful energy policies in West Asia cluster around two main areas: (1) energy efficiency in the building sector and (2) energy generation mixes, including targets for clean energy production.

Over the past decade, some countries in West Asia have been shifting their policies towards diversification of energy sources and improved energy efficiency. These targets include:

- Abu Dhabi: Generate up to 7 per cent of energy from renewable sources, with planned investments reaching US\$22 billion
- Syria: Generate 7.5 per cent of electrical energy from renewable resources by 2020
- Lebanon: Generate 10 per cent of total energy supply from renewable resources by 2013 and 12 per cent by 2020, while also aiming to reduce energy consumption by 6 per cent by the 2013

The introduction of green building codes in some West Asian countries has been successful in reducing electricity consumption in buildings.

By adopting green building technique for roofs, walls and floors that provide high insulation and air tightness, energy savings of 30 per cent and higher have been achieved in Bahrain, Jordan and Kuwait.

CASE STUDY: Energy conservation in buildings in Kuwait

Demand for electrical power in Kuwait has significantly increased in the past two decades. Generated capacity was about 11 000 megawatts in 2009, and this is expected to double in 2020. Power plants consume about 55 per cent of Kuwait's total primary energy. In addition, 85 per cent of electrical peak power and 60 per cent of the country's total annual output is used for air-conditioning and lighting in buildings.

Using a set of mandatory standards and regulations which is applied to new and retrofitted air-conditioned buildings, Kuwait's energy code for buildings aims to decrease the capacity of air-conditioning systems and to reduce the peak power demand by introducing smaller units.

The code has saved Kuwait nearly US\$10 billion over the past two decades. Some buildings have seen a peak power reduction of 40 percent, with energy savings of 30 per cent.

Higher capital costs, the need for short and long-term planning and low skill levels are among the barriers hampering the implementation of other green building codes in West Asia, according to GEO 5.

Nonetheless, the market is open for transfer of green designs and services for buildings.

Solar water heaters represent a promising solution towards reducing West Asia's energy use, says GEO 5. They reduce fossil fuel consumption and greenhouse gas emissions and in summer months, can meet most domestic demands for hot water.

- By enhancing solar water heating, Jordan aims to increase its share of energy from renewable sources to around 7 per cent by 2015 and 10 per cent by 2020, equivalent to 200-600 megawatts of solar energy
- Syria has made the installation of solar water-heating systems mandatory for new buildings

Barriers to the widespread use of solar water-heating systems include: fossil fuel or electrical energy subsidies, lack of financing schemes and incentive programmes, low levels of public awareness, limited distribution and lack of qualified technicians

- Governments can develop the market by establishing energy standards and labelling programmes, regulatory instruments to mandate installation in new residential and commercial buildings and financing schemes.

Freshwater

Figures contained in GEO 5 show that water scarcity due to climate change may reduce the available renewable water resources by 15–20 per cent in the next 50 years. This could lead to decreases in the flow of major rivers and groundwater recharge rates, a higher frequency of flash floods and droughts, and a loss of productivity in rain-fed agriculture.

Financial investment has enabled some countries to make good progress towards Millennium Development Goal targets for water supply and sanitation (MDG 7c), but more efforts are still needed, especially in Yemen.

- GEO 5 ranks West Asia among the world regions of greatest concern for water scarcity, water footprint and water-use efficiency
- Total water demand in the domestic, industrial and agricultural sectors was estimated at 112.8 km³ in 2000 and is expected to reach 167.4 km³ in 2025
- Annual per-person renewable water resources are expected to fall from 553 m³ in 2010 to 205 m³ in 2025, compared to a world average of 7 243 m³ per person per year
- Drinking water coverage in West Asia ranges from 100 per cent in most of the Gulf Cooperation Council (GCC) countries to 52 per cent in Yemen
- The agricultural sector uses more than 85 per cent of the region's water. In Lebanon, Jordan, Syria and Yemen, the sector employs 30–40 per cent of the population
- In 2009, Saudi Arabia set a target to eliminate wheat production over an eight-year period, while increasing incentives and loans for modern irrigation systems and other water-saving measures

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In most countries of the region, subsidy policies have contributed to wasteful water consumption, though this is now changing in Jordan, Saudi Arabia and Syria. Challenges also lie in overcoming the reluctance to reuse treated wastewater, providing adequate financial sources, and low capacity for integrated and comprehensive planning.

GEO 5 argues that West Asia's water policy priorities should focus on three key objectives: comprehensive planning within the framework of integrated water resources management; supply-demand management measures to reduce the water deficit and increase water-use efficiency; and management of agricultural water consumption.

Implementing integrated water resources management (IWRM) is not an option but an essential requirement if water management is to be enhanced in West Asia, according to the report.

First backed by UN Member States at the 1992 Rio Earth Summit, IWRM is a way forward for the sustainable development and management of the world's limited water resources. IWRM integrates domestic, agricultural, industrial and environmental needs into water planning, rather than considering each demand in isolation.

The main challenge for West Asia is to shift water from being heavily regulated and subsidized, which is largely dictated by a strong agricultural lobby, into the realm of partially priced goods and services.

Water scarcity and pollution can be alleviated in the region by increasing the use of treated wastewater, rainwater harvesting, modern agricultural and irrigation systems, and providing subsidies, incentives and soft loans to promote the application of water-saving technologies.

CASE STUDY: Leak detection and repair of the distribution system in Bahrain

Water distribution leakage is in the range of 30–50 per cent in certain areas in Bahrain, resulting in the loss of costly desalinated water, contamination with wastewater and changes in the water table that can damage urban infrastructure.

Bahrain's management measures achieved a 5–15 per cent reduction in leakage, saving 25 million m³ of desalinated water and reducing costs by US\$18–25 million in 2000. Improvements were seen in water supply reliability and coverage. Such measures could be replicated in other cities in the region.

Soil, Land Use, Land Degradation and Desertification

Land degradation and desertification are one of the main environmental problems facing West Asia, according to GEO 5.

Developments such as the intensification of crop and livestock production and pastoral activities, war, overuse of agrochemicals, overstocking of livestock, and a lack of integrated water-land-use planning and management have resulted in reduced ecosystem services, including biodiversity loss.

- The impacts of land degradation have been most acute in Lebanon, Syria and Yemen and other countries where agriculture contributes a high proportion of the gross domestic product (GDP)
- Drought and climate change are working against achieving food security, as persistent drought has continued to affect the region for the past few years.
- Expected increases in temperature, declines in precipitation, and greater intensity and frequency of droughts and dust storms will impact rangelands and rain-fed cropland. This can contribute to land deterioration, biodiversity loss and desertification.

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Efforts are needed to improve the management of national and regional rangelands by prohibiting cultivation in designated areas, while protecting and rehabilitating degraded rangeland.

Oceans and Seas

The coastal and marine environments of West Asia are facing threats due to pressures from the urbanization of coastal zones, tourism, maritime and oil traffic, rapid industrialization and overfishing.

This has contributed to the depletion of living resources, coastal zone degradation and marine pollution.

Many West Asian countries are involved in land reclamation activities with adverse impacts on coastal and marine ecosystems.

GEO 5 states that countries in the region should implement integrated coastal zone management (ICZM) measures that include an ecosystems approach to managing oceans and coasts. This would entail closer partnerships between different marine users, such as fishing communities, the tourism industry and conservationists. This approach can also help coastal communities become better prepared for natural disasters and the impacts of global warming, such as ocean acidification and changes in sea levels.

Some West Asian countries have developed strong policies in this domain, and the legal base for ICZM also exists in Lebanon, Qatar, Saudi Arabia, United Arab Emirates and Yemen. However, progress in implementing such measures has been slower.

Additionally, responsibilities for the marine and coastal environment remain divided between different ministries and organizations, thus preventing an integrated approach to resource management.

- Bahrain, Kuwait, Qatar and the United Arab Emirates are the countries most vulnerable to sea level rise
- Significant warming of seawater is occurring due to the outflow of warm water from desalination plants. This may cause coral mortality, loss of biodiversity, depletion of fisheries, invasion of alien species and other environmental stresses
- Marine biodiversity in West Asia faces extensive threats including the unprecedented pace of recent construction along and off the coastline
- Marine biodiversity conservation is progressing in the region through the establishment of marine protected areas.
- The region has recently witnessed a new trend in the integration of ecotourism policy in the framework of integrated coastal zone management in Jordan. This aims to support ecotourism based on coral reefs and other coastal habitats in the Gulf of Aqaba.

Environmental Governance and The Way Forward

During regional preparatory consultations for GEO 5, environmental governance was selected as a 'cross-cutting' theme for West Asia, underpinning the priority areas for action outlined above. This was the case for all regions. Climate change and freshwater were also selected as priority areas by all regions.

GEO 5 finds that West Asia has made considerable progress in environmental governance, but that more focus should be placed on addressing the underlying drivers of environmental change, rather than the effects.

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The participation of civil society organizations in environmental governance remains weak. There is no clear policy for the integration of these groups in the environmental governance process at either national or regional levels.

As is the case in many world regions, a lack of accurate and reliable environmental data is proving to be a barrier to effective planning.

In addition to recommendations outlined under the priority areas above, the report makes a number of over-arching recommendations for improving environmental governance in West Asia. These include:

- Improved collection and sharing of environmental data and information to enhance decision –making and policy formulatio
- Greater engagement with stakeholders in the design and execution of policies
- Diversification of policy instruments to include: monitoring mechanisms, economic and environmental assessments, environmental education, public outreach strategies
- Use of Integrated Water Resources Management (IWRM) approaches to promote agreements for the shared use of transboundary resources and to reduce conflict over shared resources, especially freshwater.

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