

fact sheet

Global Environment Outlook - 3

West Asia

West Asia includes the Arabian Peninsula countries of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, the United Arab Emirates and Yemen. It also includes the Mashriq countries of Iraq, Jordan, as well as Lebanon and Syria and the Occupied Palestinian Territories.



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PAST AND PRESENT: 1972 TO 2002

Land — There are now four times as many sheep than the land can naturally support across large areas of West Asia.

Serious overgrazing is, along with inefficient use of water resources, political tensions and subsidies for farmers, among the key factors which have triggered widespread damage to the already fragile lands of this region.

Increasing land problems in the deserts, including erosion and productivity have also been aggravated by climatic factors, population growth, urbanization, forest fires and the clearing of forests for fuel and agriculture. Much of the land is now vulnerable to wind and water erosion. Over 80 per cent of the land on the Arabian Peninsula is now classed as degraded as a result of erosion by the wind.

However, many countries in the region are now drawing up national action plans to tackle the problem. A Strategic Regional Action Plan has been established within the framework of the United Nations Convention to Combat Desertification.

New figures indicate that in the region's bid to achieve food self-sufficiency, the level of irrigated land has more than doubled from 2 991 million (ha) in 1972 to around 7 000 million ha now.

Poor irrigation methods have led to a build up of salt in the land (salinization). Over 40 per cent of the land in West Asia is now degraded as a result of salinization. Up to 30 per cent of arable land in Iraq alone has been abandoned because of salt contamination.

Freshwater — Rapid population growth is now in some areas of the region running at 3 per cent a year, triggering water stress and scarcity in many countries. Over 80 per cent of the water used is for agriculture. Demand is outstripping supply, especially on the Arabian Peninsula where the water stress index (expressed as a percentage of the water used to available water resources) is more than 100 per cent for five of the seven countries.

Ancient, often irreplaceable, supplies of groundwater are being "mined" to meet demand. In some areas, an influx of seawater into underground aquifers is becoming an increasing problem. Groundwater salinity in some coastal aquifers in Lebanon has risen from 340 milligrammes per litre to 22 000 milligrammes per litre in recent years. Important wetlands, such as the Marshlands of Mesopotamia, have been drained, triggering knock on effects for wildlife.

Attempts to reduce demand and boost the efficient use of water have recently begun in several countries. Measures include reduction of agricultural subsidies, support for modern irrigation systems and metering of groundwater supplies. Re-use of wastewater in the Mashriq countries has risen from zero in the early 1970s to about 51 million cubic metres a year by the early 1990s.

Forests and Biodiversity — Conflict and political tensions have also taken their toll on the region's small but important forest area. In Lebanon, 60 per cent were lost between 1972 and 1994. The small



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area of forest in the Occupied Palestinian Territories has halved. Yemen has lost 17 per cent of its forests in recent years.

Forest cover since 1990 has, however, remained roughly static with 3.6 million ha or 1.0 per cent of the land forested. The total area of forest in the United Arab Emirates has increased by 32 per cent as a result of a vigorous treeplanting scheme. In Jordan, it has risen by a fifth since the 1980s.

The availability of four-wheel drive vehicles and automatic weapons is leading to a sharp decline, possibly extinction of species such as the cheetah, ostrich, wild white goats and gazelles.

Excessive high-tech hunting is among the factors threatening West Asia's wildlife along with climate change, habitat destruction, intensive agriculture and coastal pollution. Over 70 species of mammals, birds, reptiles and fishes are classed as being vulnerable or critically endangered.

The widely different kinds of landscapes and habitats in the region have spawned unique species found nowhere else in the world. There are over 800 endemic higher and flowering plant species; seven endemic mammals and ten endemic birds.

The region's seas teem with a wide variety of marine life-forms, including 200 species of crab. Some 11 per cent of the corals of the Arabian Peninsula are unique to the region.

Captive breeding and re-introduction programmes are now running in Jordan, Oman, Saudi Arabia and Syria for species like the Arabian oryx and the Houbara bustard.

Most countries in the region have ratified the Convention on Biological Diversity. Some have ratified other related conventions such as the Convention on the International Trade in Endangered Species. The setting up of protected areas is gaining momentum.

Coastal and Marine Areas — Catches of fish have nearly halved in the past 30 years from just under 20 kilogrammes to just under 10 kg per capita as result of environmental conditions and over-fishing.

Oil spills, dredging and, particularly in the Mashriq part of the region, sewage and other discharges from rivers and coastal settlements have all become serious threats over the past 30 years. Development of the coastal zone has increased rapidly. More than 40 per cent of the coast in countries like Saudi Arabia had been developed by the 1990s.

Three action plans - the Mediterranean, Kuwait and Red Sea and Gulf of Aden action plans - have been drawn up aimed at protecting and promoting the sustainable development of the coastal zones.

Sewage treatment works have been set up in Bahrain, Kuwait, the United Arab Emirates and western Saudi Arabia. The Gulf Cooperation Council (GCC) countries have recently introduced measures to conserve fish stocks, including fishing licenses and closed seasons.

Atmosphere — About a third of the vehicles in West Asia are 15 years or older and so produce higher levels of hydrocarbons, chemicals linked with cancer, and oxide of nitrogen, chemicals linked with smog.

The ageing vehicle fleet is one of the key factors that has led to a decline in air quality over the past 30 years. Others include emissions from industry, including refineries.

Cement factories are significant emitters of particulates, microscopic particles of soot, sand and other materials, linked with respiratory problems and heart attacks.

Economic losses, as a result of the impacts of poor air quality on human health, in Syria alone are estimated at US\$ 188 million a year.

Energy consumption is rising by 3.5 per cent a year. Emissions of carbon dioxide, the main anthropogenic greenhouse gas, have increased from 4.7 tonnes a year in 1972 to 7.4 tonnes a year in 1998 per person. Studies of Bahrain, Jordan and the Lebanon show they are emitting 59, 72 and 25 per cent more greenhouse gases than had previously been estimated by organizations such as UNEP.

However, emissions of carbon dioxide from the very high emitting countries of Kuwait, Qatar and the United Arab Emirates have fallen in the past 30 years as a result of cleaner, more efficient, energy technologies and air quality standards. Some countries like Lebanon are switching to unleaded petrol. It is the only fuel that is produced in Bahrain since July 2000.

2032: CHOICES FOR THE FUTURE

We are at a cross roads with the future in our hands. The decisions taken today and tomorrow will define the kind of environment this and future generations will enjoy. GEO-3, in its Outlook Chapter, outlines four policy approaches leading to different outcomes over the next 30 years. Here we highlight two of the most contrasting scenarios: *Markets First* and *Sustainability First*. One envisions a future driven by market forces; the other by far reaching changes in values and lifestyles, firm policies and cooperation between all sectors of society.

Land —The area of urbanized land could rise by 75 per cent to cover around 3 per cent of the region by 2032 under a *Markets First* future. Agricultural land remains at risk from rising, water-induced, soil degradation.

Less land is squandered as policies and actions favour more compact, less sprawling, cities and settlements under a *Sustainability First* future. Here, under 3 per cent of the land is covered in concrete. However, agricultural land remains at risk from soil degradation. But effective land conservation and restoration strategies and the introduction of well-researched genetically engineered crops help keep actual degradation well below the *Markets First* scenario.

Freshwater — Conflicts between competing users of water, such as farmers, industry and households, rise as a result of factors such as population and economic growth under *Markets First*. The number of people living in water stressed areas climbs from 74 million to over 200 million. Water quality declines and health problems rise.

Under *Sustainability First*, a better management of water resources, both within and between countries, has the potential to trigger a fall in the proportion of people living in water stressed areas to below the current 80 per cent of the population.

Forests and Biodiversity — Under a *Markets First* scenario, the number of threatened species rises and populations of wild animals fall as infrastructure, such as cities, roads and dams, expands, fragment and disturb natural habitats. By 2032, over half the land in West Asia could be affected by infrastructure, up from just under 40 per cent now.

Some losses are countered by better land management, improved urban planning and the introduction and enforcement of wildlife laws with a *Sustainability First* future. By 2032, just over 40 per cent of the land is impacted by infrastructure, similar to the current situation.

Coastal and Marine Areas - Under a *Markets First* future, the continued reliance on oil by the rest of the world keeps production booming in West Asia. This increases the risks of oil-related disasters and significant damage to coastal areas and seas.

Under a *Sustainability First* future, oil spills and discharges are reduced as a result of countries ratifying the Convention for the Prevention of Pollution from Ships (MARPOL). Sewage releases are dramatically reduced by the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities.

Atmosphere - Rapid, unplanned, urbanization, population growth and rural migration lead to increased emissions under a *Markets First* scenario. Oxides of nitrogen, pollutants from transport and electricity generation that can trigger smog and alter wildlife habitats, could double in 30 years.

Emissions of energy-related oxides of nitrogen climb slightly under a *Sustainability First* scenario but remain close to current levels of 1 million tonnes a year. This is achieved through better urban and rural planning and development.

For more information please contact

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