

Climate Change, Energy & Natural Resource Management

WORKING WITH UNDP IN IRAQ



UNDP's Support to Iraq on Environment

UNDP's work on Climate Change, Energy and Natural Resource Management concentrates on six priority areas:

Frameworks and strategies for sustainable development Effective water governance Access to sustainable energy services Sustainable land management to combat desertification and land degradation Conservation and sustainable use of biodiversity National/sectoral policy and planning to control emissions of ODS and POPs

UNDP has supported the Government of Iraq in several ways:

- Ministry of Water Resources.
- Marshlands.
- Making studies on renewable energy.
- Rehabilitation of water cleaning and purification facilities.
- Rehabilitation of the electricity infrastructure.

In 2010 UNDP adapted its direction in this area to support the Iragi Government to reflect increasing understanding in Irag of the environmental changes impacting its people and development. Together with its partners, UNDP defined four areas of support:

- Better managing the international conventions and agreements thus helping to improve the relationship and collaboration with Iraq's neighbours and the international community.
- Increased efforts to adapt to Climate Change and mitigate the country's contribution to Global Warming, through promoting renewable and cleaner energy production.
- Improved Iragi efforts to govern and manage its water resources.
- Better manage disaster risks, such as droughts, floods, earthquakes and industrial disasters.

- Developing decision support system for water resources with the
- A study and advice on institution building to manage the southern

Iraq in the 21st century **DUST STORMS, DROUGHTS, POLLUTION &** SALTY DRINKING WATER FROM THE TAP

In July 2009 the media reported a dust storm in Irag that was termed 'the worst in living memory'. The Los Angeles Times reported 'that Iraq is in the throes of an environmental catastrophe'. Locals named it 'a punishment of God'. The dust storms were caused by four consecutive years of drought, and the Ministry of Agriculture estimated that up till 90 percent of the country's agricultural land was not in use.

In October 2009 the New York Times reported that more than 100,000 people were displaced because of the four-year drought. Additional reports mentioned the drying of the Southern Iragi Marshlands, the drying of the underground agueducts or 'karezes' and the drop in agricultural production. While the displacement of people was most noted in the northern governorates of Ninewa and Salahudeen, the southern governorates experienced another disturbing event.



In September 2009 IRIN reported that 'High levels of salinity in Iraq's Shatt al-Arab waterway, formed by the confluence of the Tigris and Euphrates in the southern province of Basra, have forced hundreds of families to abandon their once relatively fertile farms', citing local officials.

In 1960 it was estimated that Irag had along the Shatt al-Arab some 62 million date palms. In 2007 the figure was believed to be around 10 million. While the wars took their toll, much of this decrease was attributed to the salinisation of the agricultural lands along the Shatt al-Arab, the source of the irrigation water used for these plantations. As a result of the wars in the last decades, 196 boats are known to have sunk within the Shatt al-Arab

A 2009 study commissioned by UNDP found that 'it is estimated that Iraq has several thousand contaminated sites resulting from a combination of general industrial activities, military activities, postconflict damage and looting. Many of the sites are derelict and open to public access. They contain substantial quantities of hazardous waste and present a threat to human health and to the environment'. The study continued by listing industrial, toxic, nuclear and other risks that affect population centres and the environment. In addition 38 nuclear sites are still left without being cleaned up.

The dust storms, droughts, salinity and pollution are just some examples of the immense environmental challenges Iraq has to cope with. As a result of two decades of war and mismanagement, the state of Iraq's natural resources and patrimony has seriously deteriorated.

This has been further aggravated by:

- The increased demands neighbouring countries make on shared water resources in the Euphrates and Tigris riparian.
- The increased demands on the natural habitat made by the severely weakened economic and social infrastructure.
- The noticeable increase of average annual temperatures and changed weather patterns caused by Climate Change.



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The Euphrates and Tigris have been nicknamed 'open sewers', with water levels dropping to 1.5 m below normal. In addition the southern Iraqi Marshlands have been constantly under threat due to reduced inflow of fresh water from these rivers.

The increasing oil extraction is also an additional threat. As oil is extracted by pumping water into the layers that hold oil (about three litres of water is used for extracting one litre oil), it is intended to pump water from the Persian Gulf to the oil fields in the Marshlands. This mode of extraction can contribute to the salinisation of ground water and surface water in these and adjoining areas if not managed properly.

Other environmental threats include the extensive use of fuels that are little or poorly refined for power generation, which is highly polluting. Also 600 million cubic meters of gas is flared off as a byproduct of the oil industry, amounting to a loss of seven billion US dollars annually.

Industrial environmental threats include the production of chemicals by using outdated technologies and facilities, and siphoning off polluted water on the surface waters. Domestic water use and sanitation equally is still challenging, with large parts of the population not having access to fresh water and adequate sewage treatment.

Solid waste management is not developed, with refuse being carried off to unregulated waste dumps, or simply being piled up within neighbourhoods, thus also contributing to potential health risks.

The situation in the Marshlands *Southern Iraq, 1973-2010*



OVERVIEW OF UNDP'S CLIMATE CHANGE, ENERGY & NATURAL RESOURCE MANAGEMENT PROJECTS

Project	Location	Description	Benefits	Estimated Budget (US)
Support development of National Communication to UNFCCC	National	Support set up National Climate Change Centre Train specialists from Ministries and Universities on: data collection and analysis social data; develop Climate Change scenarios; Green House Gas data collection and analysis; Adaptation scenarios; Develop policy on mitigation, clean development mechanisms, adaptation and advice and inform the government policies.	 Stronger national policy and strategy on Climate Change Knowledge on Green House Gas emissions Targets for Climate Change financing 	\$1,000,000
Management of salinisation of Shatt al-Arab	Basrah, Shatt al- Arab	Together with universities, governorates and line ministries (MoWR, MoEnv, MoAgr), to assess the full scale of the salinity problem in the Shatt al Arab, to assess the technical options for managing salinity and developing ways to manage water use and agricultural practices. To develop scenarios on the risks and future salinity increases.	 The Southern governorates, companies and Iraq has information that will help to plan to adapt to increased salinisation and Sea Level rise. Farmers can be informed on the water quality for their irrigation practices 	\$4,000,000
limate Change in the Aarshlands	9 districts in the Marshlands	The project addresses Climate Change management issues in the Marshlands with priority given to adaptation measures creating a more stable environment in the Marshlands, encouraging settlement of Marsh Arabs, allowance for traditional resource-based livelihoods and sustainable villages flexible enough to handle climate variability, as well as creating future options for ecotourism (when the security situation allows it), and therefore also relieving pressure on urban services and infrastructure in southern Iraq.	 Preconditions for resettlement established; Data on local livelihood (business, agriculture, SME, etc) collected and analysed; Study on alternative income: eco-tourism, supplying oil industry 	\$3,365,000
Green cities	National	The project supports the Ministry of Municipalities and Public Works in developing legislation and set up pilot areas to develop an integrated approach towards planning and construction using 'green' technologies on environment impact, waste management, domestic energy and similar issues in Iraq's urban areas.	 Green belts around cities; Reduced energy use and increased savings; 21st century housing 	n/a (project still under examina- tion)
invironmental mpact capacity and increase of planning capacity	National	This project supports the MoEnv in strengthening its legislative and enforcing mandate. The legislation developed on environmental impact assessment has not yet been mainstreamed and is weakly enforced throughout Iraq. While MoEnv is the main institution responsible, other ministries are equally involved in ensuring the implementation of the country's environmental legislation.	 Standards are set on environmental planning of major investments; Capacity is build in the governorates to inspect and advice on environmental planning 	\$1,000,000



After 2003 Iraq has been struggling to construct a new society and new style of government. The traditional centralised decision making was rejected for a more decentralised and local governance structure. The sectarian strife, lack of consensus and little experience in deciding democratically issues, however, challenged this intention and slowed progress.

Nevertheless, Iraq has made much progress since 2003. A Ministry of Environment was created in 2005, which develops legislation on environmental issues and monitors the state of the environment. Iraq has signed up in a very short time to most of the international environmental conventions, such as the UNCBD, UNFCCC, UNCCD, the Montreal accord, the RAMSAR convention and others. Many government ministries, including for oil, industry, and municipalities and public works have now also environmental departments.

Furthermore, a number of parliamentarian and inter-ministerial committees have been created to address overarching environmental issues like water, industry, energy, and climate change. Iraq has in addition made a tentative start to clean up some of the most contaminated sites and address some of the most urgent issues.

Project	Location	Description	Benefits	Estimated Budget (US)
Disaster Risk Reduction	National	Assistance for Disaster Risk Reduction (DRR) in Iraq to support poverty reduction and environmental sustainability entails the development of a National DRR Framework to increase national capacity to respond to disaster risks. The project builds the Iraqi government's capacities to sustain gains in employment, reduce hunger caused to disaster-affected populations, reduce losses to natural resources (water bodies, forests), and minimise losses to bio-diversity from droughts, storms and desertification. It includes a national plan to reduce levels of vulnerability to natural, environmental and human-induced hazards to manageable and humanitarian levels by enhancing resilience and integrating sustainable risk management initiatives within development planning processes. This also involves aligning Iraq with the principles of the Hyogo Framework for Action and incorporate disaster risk reduction policies and actions in national development strategies to create a disaster resilient society.	 Policy and systems are developed to pre-empt disasters: natural, and manmade; A national apex institution is established that will advice policy and strategy Training also will be given to decentralised levels – and disaster preparedness (eg earthquakes, industrial, oil spills) will be done; Governorates can be better prepared in case of a disaster, or avoid disasters 	\$4,000,000
Drought Risk Management in KRG	Kurdistan Region	This project supports and promotes the improvement, sharing, monitoring and dissemination of knowledge to bridge science and traditional knowledge in the field of Drought Risk Management in the three northern Kurdish governorates.	 Establishes a KRG government mechanism (committee or institution) that collects and analyses data on drought, and advices policy Develops early Warning Systems on drought Inputs for planning of land use: agriculture, city development, natural environment 	\$4,000,000
Drought Risk Management in Iraq	National	The project supports the establishment of a National Drought Emergency Response Mechanism in Iraq, converging with the Disaster Risk Reduction Apex Body concept. The project includes establishing drought definitions, determination of stages of drought, drought management areas throughout Iraq, and the ongoing monitoring requirements for an early warning system. Drought vulnerability maps will be prepared, based on assessment of previous droughts in Iraq and the scale of effects verified in dated satellite images and interpreted maps. Drought vulnerability will then be defined on the basis of the extent of rain-fed agriculture, irrigation systems, vegetative cover, population distribution, water storage capacity, water distribution infrastructure, and access to groundwater.	 Establishes a government mechanism (committee or institution) that collects and analyses data on drought, and advices policy in extension of the DRR committee; Develops early Warning Systems on drought Inputs for planning of land use: agriculture, city development, natural environment 	\$4,000,000

Project	Location	Description	Benefits	Estimated Budget (US)
Strengthening management of the Marshlands	Southern Marshlands	The project will establish an Iraqi Marshlands Development Authority (IMDA) to manage the recovery and development of the Marshlands. This entails the institutional development of the IMDA, including the drafting of the necessary legislation, establishment of frameworks and methodologies, and a decentralised planning system. At this stage several national ministries and three governorates are involved in the management of this unique area. It has been recognised that greater coordination and governance will have multiple benefits, including environmental, social and economic paybacks.	 Better coordination between involved institutions Better spatial planning between different sectors; Increased investment in environment, economy and social infrastructure 	\$2,400,000
Environment management in governorate planning	Governorates - starting with Suleyma- nia, Babylon, Thiqar, Missan, Basra	As a part of the UNDP-led Local Area Development Programme, a component has been developed to strengthen the capacity of local communities to plan and manage their natural resources. This project component would entail the creation of local committees that would guarantee the planning and management of local natural resources. This would create greater ownership of local communities to become responsible stewards of their own patrimony, and encourage them to contribute to their environment. This would aim at sustainability and a more equitable distribution of resources and opportunities, and local wealth creation in balance with the environment.	 Local communities will be involved in their local natural resource management; They participate and profit from the benefits that their environment provides 	\$6,000,000
Resource Efficiency and Cleaner Production	National	The project promotes environmentally sound technologies and the systematic use of renewable energies to reduce Iraq's reliance on fossil fuels and supplement or partially replace traditional energy sources. It also introduces economically and ecologically improved production, which will eventually increase competitiveness, and enhances waste treatment by using the latest technologies. The project includes the establishment of a regional centre in Iraq to support countries in the Middle East in implementing Resource Efficiency and Cleaner Production (RECP) technologies and processes.	 Policy and strategies are developed on Renewable energy, energy efficiency and cleaner production; 5 industries are rehabilitated and prepared for the 21st century Pilots are sponsored on renewable energy 	\$50,000,000
Engage civil society in integrated water management	National	This project aims to support the establishment and maintenance of mechanisms that engage and improve the participation of civil society stakeholders in water resource management. These mechanisms will improve stakeholder participation, enhance accountability, reduce corruption, and encourage integrated decisions in water management at the basin level. It will have three main achievements: 1) Government of Iraq and civil society have enhanced mechanisms for coordination and communication. 2) Iraqi civil society has improved knowledge of water resources and capacities to coordinate on policy issues with the government. 3) Government of Iraq has enhanced capacities in engaging with civil society for improved water management	 Greater awareness on water and water management with the general public; Civil society is more able to campaign and lobby 	\$650,000



Rob Duys Climate Change, Energy & Natural Resource Management Project Manager rob.duys@undp.org +962 79 698 5241