

West Asia

2006 saw progress in environmental management, with particular success in reducing the use of ozone-depleting substances. However, the region still faces critical challenges related to the environmental effects of armed conflicts, safe management of chemicals, and conservation of forests and woodlands.



Clouds of smoke from Jiyeh power station in Lebanon

Source: Ali Hashisho/Reuters/The Big Picture

ENVIRONMENT AND CONFLICT

In Iraq and the Occupied Palestinian Territory (OPT) violence and frequent hostilities continue to intensify environmental degradation, as well as water and sanitation problems (UNICEF 2006). While the environmental situations in Iraq and OPT remain worrisome, the environmental implications of the Israeli-Lebanese conflict in July and August raised major headlines in 2006.

In Lebanon, the destruction of power utilities, fuel depots, factories, and buildings posed risks to local populations, relief workers, and the environment (Box 1). Clouds of burning fuel containing toxic polyaromatic hydrocarbons, asbestos particles, dioxins, and dust were emitted into the atmosphere; while liquid chemicals, including chlorine and polychlorinated biphenyls, were released into soil and aquatic ecosystems. This has raised concern over possible effects on human health and long term damage to the environment. Water pollution also became an issue, as heavy bombing

damaged the infrastructure of water supplies as well as wastewater and sewage systems.

A number of wildfires occurred during the hostilities, damaging vegetation and wildlife habitats. About 6 680 hectares of forest and grazing lands were destroyed in northern Israel (Julian 2006, Puljak 2006). Similarly, on the Lebanese side, there was growing alarm over forest fires and destruction of woodland habitats (Fattah 2006). With the help of the Food and Agriculture Organization of the United Nations, the Lebanese Government is still assessing the extent of damage to forests and woodlands (Asmar 2006). An international team of experts, led by UNEP and working in close cooperation with Lebanese authorities, is starting an assessment of the overall environmental damage in Lebanon caused by the recent conflict (UNEP 2006a).

In one month of conflict, more than a million people were displaced from south Lebanon, the southern suburbs of Beirut, and Northern Israel—putting pressure on

Box 1: The oil spill along the Lebanese-Syrian coast on 21 July and 3 August; 2006, Radar Satellite Data



Source: DLR 2006

The bombing of the Jiyeh power station on 13 and 15 July 2006 caused between 10 000 and 15 000 tonnes of heavy fuel oil to spill into the Mediterranean Sea (MOE 2006a). The oil polluted 150 km of the Lebanese coastline area and reached as far as the Syrian coast of Tartus (Cyprus Oceanographic Centre 2006a and 2006b, REMPEC 2006). Two weeks after the spill, 80 per cent of the oil still remained in the coastal waters of Lebanon as thin floating sheets, about 20 per cent had evaporated, and 0.1 per cent remained along the beaches (Cyprus Oceanographic Centre 2006a and 2006b).

The oil spill was described as the 'worst environmental disaster' in Lebanon's history and it will have significant impacts on its economy and biodiversity (OCHA-UNEP 2006). The fuel oil contains toxic chemicals, with potentially serious implications for human health, fishery resources, and other marine biota (MOE 2006a). Oil on the beaches of Palm Islands Nature Reserve (off the coast of Tripoli) threatens loggerhead turtles, monk seals, and fish stocks as well as migratory birds (IUCN 2006). Full scientific data is not yet available. However, a comprehensive environmental damage assessment is underway that should reveal possible long term pollution effects of the spill.

In response to the Lebanese government's call for support, an international assistance action plan was formulated to address the problem (MOE 2006c, REMPEC 2006, UNEP 2006b). As of September 2006, 400 tonnes of oil had been recovered from various sites during ongoing national clean-up operations (MOE 2006b). While the clean-up may take 6 to 12 months, the harmful impacts of the spill could last much longer. The initial clean-up operation is estimated to cost about US\$60 million and more funds may be needed in 2007 (MOE 2006c). Regional cooperation is vitally important in capacity-building for monitoring and assessing the environmental effects of oil pollution as well as proper remediation. Emergency measures and coordination of activities among agencies and affected states are needed to effectively control oil pollution and limit its damage to the marine and coastal environment.

The two images show how oil dispersed after the spill, moving along the coasts of Lebanon and reaching the southern coast of Syria between 21 July – 3 August 2006. The dark colour along the coastline illustrates the area extent covered by the oil-spill (DLR 2006).

Sources: DLR 2006, MOE 2006a, Cyprus Oceanographic Centre 2006a and 2006b, REMPEC 2006



Oil spill clean-up efforts in coastal area north of Jiyeh, Lebanon.

Source: Hassan Partow/UNEP

the environment and natural resources. Many Lebanese returnees lacked safe drinking water and sanitation. An International Red Cross Committee survey in affected villages found that 55 per cent of households reported cases of diarrhoea (IRC 2006). Tens of thousands of unexploded ordnance, including cluster bombs, pose a continuing threat, resulting in death and injury on a daily basis (UNHCR 2006). Even when these are collected and detonated under controlled circumstances, they can be a source of chemical pollution.

In Iraq, non-violent death rates have increased in the last two years (2005 and 2006) which may reflect deterioration in health services and environmental health threats (Burnham and others 2006). Several years after the ending of major wars, unexploded ordnance and landmines in Iraq are still killing civilians and hampering reconstruction (UNAMI 2005).

Recurrent conflicts have led to considerable political and socio-economic instability in the region. They not only affect the environment directly, but they also drain resources away from conservation and constrain the effective management of natural capital (ESCWA 2005). For instance, the total cost of damages incurred from conflict in the Gaza strip is estimated at US\$46 million during July and August alone (UNDP 2006). Once peace and stability have been established in the region, resources may be devoted effectively to rebuilding physical infrastructure.

MANAGEMENT OF CHEMICALS

Chemicals in West Asian countries are mainly imported for use in agriculture, industry, pharmaceutical, and other economic sectors. The petrochemical industry is expanding within the Gulf Cooperation Council (GCC)

countries. For example, ethylene production has tripled in GCC countries since 1990 and is expected to double again by 2010 (EMCC 2006). In the Mashriq countries highly polluting industries like mining, cement production, and tanneries continue to operate inefficiently, polluting air, water, and soil resources.

The use of chemicals, especially agrochemicals, is rapidly rising in the region. For example, insecticide use doubled in Syria between 2002 and 2004, when it reached 1.4 million metric tons (Hajjar 2005). The heavy application of these chemicals and the discharge of wastes into soil and aquatic ecosystems present significant hazards to human health and to the environment. Applications of agrochemicals and irrigation with sewage water have increased nitrate in wells in the Gaza strip to levels exceeding the World Health Organization's safe guideline values (UNEP 2003a, Miski and Shawaf 2003, EMWATER 2005).

There are no reliable data on the amount of hazardous waste generated in the region, but some crude estimates indicate that per capita levels could be comparable to those of industrialized countries. So far only a few GCC countries have constructed treatment, disposal, and incineration facilities. Chemical and industrial waste is a problem in Iraq, where remaining stockpiles of hazardous and obsolete chemicals threaten public health and the environment (UNEP 2005). Radioactive materials such as depleted uranium from ammunition are believed to cause clusters of cancer cases and genetic defects recently reported in Basra city, Iraq (Hirschfield 2005, Burnham and others 2006).

There are signs of progress. In 2006 the region hosted the International Conference on Chemicals Management (ICCM) in Dubai, United Arab Emirates,

which adopted a Strategic Approach to International Chemicals Management (SAICM) (UNEP 2006c). Prior to the conference, political support for SAICM in the region was demonstrated in the Cairo declaration, in which the sound management of chemicals and hazardous wastes strategy was adopted as a national and regional priority (UNEP 2006d). Recently, seven countries nominated national focal points to the SAICM Secretariat, indicating their commitment to implement ICCM decisions (UNEP 2006e). Moreover, a genuine effort is underway by countries in the region to develop an integrated regional strategy on chemical and waste management (UNEP 2006f).

Most countries in West Asia are parties to the major international agreements on chemicals: the Basel, Rotterdam, and Stockholm Conventions as well as the Montréal Protocol and related regional conventions. Compliance, however, has been modest in some cases, due to a number of factors including illegal shipments of chemicals. Nevertheless, some progress has been achieved towards control and safe handling of chemicals. The phasing out of ozone-depleting substances is a success story in its own right (**Box 2**).

Laws and regulations need to be updated and strictly enforced by governments, to control the use of chemicals and to reduce associated pollution risks. The key policy challenges to achieving more sound management of chemicals are:

- strengthening coordination mechanisms between institutions at the national level;
- preparing national chemical safety profiles; and
- raising public awareness.



Open dumping of hazardous sodium cyanide in Al-Qadissiya, Iraq.

Source: UNEP/Post Conflict Branch

Box 2: Consumption of ozone-depleting substances slashed

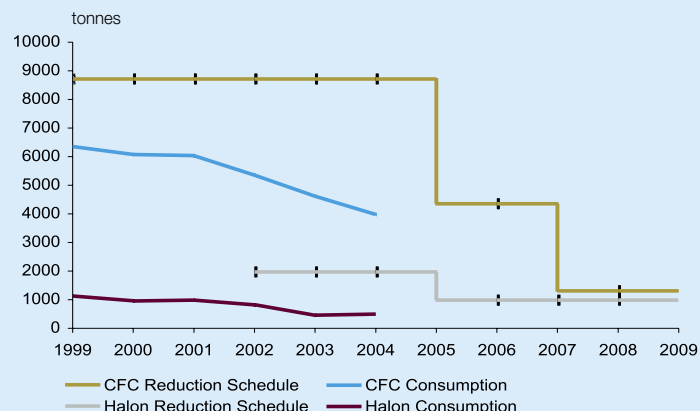
Protection of the ozone layer, and implementation of relevant international treaties, have been given a high level of attention by key governmental and private sector stakeholders in the region. Since 1999 most West Asian countries have made significant progress in phasing out ozone-depleting substances (ODS). The Regional Ozone Network has promoted compliance with the control measures spelled out in the Montreal Protocol through the Compliance Assistance Programme (CAP) of the United Nations Environment Programme.

As of October 2006, only 70 per cent of the parties had reported their official 2005 data to the Ozone Secretariat. However, countries have already reduced consumption by more than the 50 per cent required by the Protocol. Among the reporting countries, total chlorofluorocarbon (CFC) consumption in 2005 was 1 519 tonnes in ozone-depleting potential (ODP), compared to the 1995-1997 baseline of 4 590 ODP tonnes—an average reduction of 67 per cent ranging from a low of 57 per cent in Bahrain to a high of 91 per cent in Jordan. Halon consumption reported for 2005 was 126 ODP tonnes, compared to the baseline of 693 ODP tonnes—an average reduction of 82 per cent with most countries achieving a complete elimination. The remaining countries, although they have not yet officially reported, have followed a similar trend.

In addition to national efforts, the GCC Secretariat in cooperation with CAP approved regional guidelines aimed at strengthening regulations and improving cooperation to ensure a sustainable phase out of ODS.

Source: CAP/UNEP-ROWA 2006

Status of total consumption of ODS in West Asian countries.



Note: 2005 data are not included.

THE FUTURE OF FORESTS AND FOREST POLICY IN WEST ASIA

The forests and woodlands of West Asia cover 43 million hectares (FAO 2006). Dense forests are mainly found in Mashriq countries while open stands are scattered in wadis and high mountains of the Arabian Peninsula. Most of these forests are state owned and

managed for multiple purposes including protection services (FAO 2006).

Forest resources in the region are under severe pressure due to water shortage, increasing demand for agricultural land, and accelerated urbanization. There have been no major changes in the total extent of forest areas in the last five years (FAO 2006), but degradation

of forest quality is widespread, due to clearing, illicit cuttings, overgrazing, fires, and tourism. For instance, a single major fire in Syria in 2004 destroyed nearly 0.4 per cent of the total forest area in the country (Jbawi 2006). In the Arabian Peninsula, hundreds of hectares of Juniper forests are experiencing die-back (Asiri 2006, PME 2005) (Box 3).

Box 3: The dying juniper of the Arabian Peninsula



Urban development encroaching on Juniper forests, Saudi Arabia

Source: Mohammad S. Abido

The forests of West Asia cover 1.4 per cent of the total area of the region, while other wooded lands account for 10.2 per cent. Over 70 per cent of the forest area is in the Arabian Peninsula. The Juniper (*Juniperis spp.*)—the only coniferous species native to the peninsula—grows in the northern mountains of Oman, the Asir Mountains of Saudi Arabia, and the northwestern mountains of Yemen. Juniper foliage condenses fog into water that drips off the trees during relatively humid periods, creating a microclimate that sustains the growth of other species. The forest has a significant role in supporting rich fauna and flora as well as providing local people with products and services. The woodland of southwestern Arabia is home to a number of threatened endemic birds (Jennings and others 1988, Newton and Newton 1996, Birdlife International 2003). The region is home to many raptors and provides a flyway for migratory birds. As well, the critically endangered Arabian leopard (*Panthera pardus*) and the rare Arabian wolf (*Canis lupus*) are believed to frequent the woodlands. Juniper is the major woody component of agroforestry in the region and is used in traditional medicine.

The Juniper forests of the Arabian Peninsula, especially those at lower altitudes, are now showing signs of decline, with gradual reduction of growth and vigour in trees and progressive death of twigs and branches. These signs are associated with a high rate of tree mortality and poor natural regeneration. In Saudi Arabia, extensive decline has been reported in the last two decades in the Asir National Park (450 000 hectares) and in the Raidah National Park (900 hectares).

The exact cause of the Juniper's dieback is yet to be identified. However, the poor regeneration of the species has been attributed to the infestation of berries by a tortricid moth as well as to human disturbance, overgrazing, atmospheric pollution, drought spells, and continuing climate change. The clearing of juniper forests for agriculture, roadways, housing, and recreation has altered natural watershed drainage systems in many locations. These activities—along with overcutting, overgrazing, and fuelwood and charcoal making—have created microclimates unfavourable for tree growth. The Juniper die-back phenomenon is a serious problem for the affected countries of the region, because it is a silent form of resource degradation that may worsen desertification. New initiatives to overcome the dieback problem are urgently needed.

Sources: FAO 2006, Gardner and Fisher 1996, Fisher and Gardner 1998, Fisher 2005, Herzog 1998, PME 2005 and 2006, Collette 1989, Jennings and others 1988, Newton and Newton 1996, Birdlife International 2003, Balle and Groombridge 1996, WWF 2001, Hajar and others 1991, NCWCD 2003, Yoshikawa and Yamamoto 2005, Asiri 2006, IUCN 2002, Sigi and others 2005

Countries are now updating forest laws and establishing national policies and strategies for forest management. These policies and strategies need to be harmonized with national plans for biodiversity conservation, combating desertification, and rural poverty alleviation. A framework for the development of new policies must ensure long term conservation and sustainable use of woodlands. This entails defining the socio-economic values and environmental services of forests and woodlands, setting targets and defining

indicators for measuring progress, periodically updating forestry laws and regulations, building institutional capacity, and ensuring effective participation of local communities.

CONCLUSION

Frequent conflicts have significantly affected the environment in West Asia. Sustainable development and a healthy environment cannot be fully achieved without peace and security in the region. Although important

achievements have been made in certain aspects of chemical management—such as initiating national policy frameworks, building data bases, and regulating the use of certain chemicals—the region still faces challenges to fully implement SAICM and to properly manage and conserve its precious natural forests and woodlands.

REFERENCES

- Asiri, A. Sh. (2006). Personal communications
- Asmar, F. (2006). Personal communications
- Baillie, J. and Groombridge, B. (1996). 1996 IUCN red list of threatened animals. IUCN, Gland
- BirdLife International (2003). *BirdLife's online World Bird Database: Version 2.0*. BirdLife International, Cambridge, UK <http://www.birdlife.org> [Accessed 27 September 2006]
- Burnham, G., Doocy, S., Dzenig, E., Lafta, R. and Robert, L. (2006). *The Human Cost of the War in Iraq A Mortality Study, 2002-2006*. Bloomberg School of Public Health, Johns Hopkins University, Baltimore, Maryland; School of Medicine, Al Mustansiriya University, Baghdad, Iraq; and the Center for International Studies, Massachusetts Institute of Technology. http://web.mit.edu/CIS/pdf/Human_Cost_of_War.pdf [Accessed 27 October 2006]
- CAP/UNEP-ROWA (2006). *Internal communications*. Compliance Assistance Programme. United Nations Environment Programme, Regional Office for West Asia, Bahrain
- Collenette, S. (1989). The loss of rare and endangered plants. *Saudi Arabian Nat. Hist. Soc.* 2(9), 10-13
- Cyprus Oceanographic Centre (2006a). *JRC Info No. 1 Oil Pollution in Lebanon*. http://www.oceanography.ucy.ac.cy/cycofos/docs/oilspill_Lebanon_JRC1.doc [Accessed 21 September 2006]
- Cyprus Oceanographic Centre (2006b). *MEDSLIK contribution to EU MERSEA-IP Project*. <http://www.oceanography.ucy.ac.cy/cycofos/medslik-act.html> [Accessed 21 September 2006]
- DLR (2006). *Oil Spill at the Lebanese Coast*. Deutsches Zentrum für Luft- und Raumfahrt. http://www.zki.dlr.de/applications/2006/lebanon/lebanon_2006_en.html [Accessed 30 August 2006]
- EMCC (2006). *Chemicals sector - challenges, policy issues and the future*. European Monitoring Centre on Change. <http://www.emcc.euroweb.eu.int/content/source/eu05023a.html> [Accessed 9 October 2006]
- EMWATER (2005). *Prospects of Efficient Wastewater Management and Water Reuse in Jordan - Country Study*. Efficient Management of Wastewater, its Treatment and Reuse in the Mediterranean Countries project. Al al-Bayt University, Mafrqa, Jordan, InWEnt, Amman office, Jordan
- ESCWA (2005). *The Environment in the Transboundary Context in the ESCWA Region: Situation and Recommendations*, 2005. United Nations Economic and Social Commission for West Asia, New York
- FAO (2006). *Global Forest Resources Assessment 2005: Progress towards sustainable forest management*. Food and Agriculture Organization of the United Nations, Rome
- Fattah, H. (2006). Casualties of War: Lebanon's Trees, Air and Sea. *New York Times*, 29 July. <http://www.nytimes.com/2006/07/29/world/middleeast/29environment.html?ex=1311825600&en=34075758dfbd9790&ei=5088&partner=rssnyt&emc=rss> [Accessed 29 July 2006]
- Fisher, M. (1997). Decline in the Juniper woodlands of Riyadh reserve in southwestern Saudi Arabia: a response to climatic change? *Global Ecology and Biogeography Letters* 6, 379-386
- Fisher, M. (2005). Can we save the dying *Juniperus* woodlands of Eurasia? *2ème Colloque International: Le Génévrier Thurifère et les Forêts d'altitude dans les montagnes du pourtour méditerranéen*. <http://n.montes.free.fr/pdf/Fisher.pdf> [Accessed 25 September 2006]
- Fisher, M. and Gardner, A. S. (1995). The status and ecology of a *Juniperus excelsa* subsp. *polycarpus* woodland in the northern mountains of Oman. *Vegetatio*, 119(1), 33-51
- Fisher, M. and Gardner, A. S. (1998). The potential of a montane juniper tree-ring chronology for the reconstruction of recent climate in Arabia. In: *Quaternary Deserts and Climatic Change* (eds. Alsharhan, A. S., Glennie, K. W., Whittle, G. L. and Kendall C. G. S. C.), pp. 273-278
- Gardner, A. S. and Fisher, M. (1994). How the forest lost its trees: Just so storytelling about *Juniperus excelsa* in Arabia. *Journal of Arid Environments* 24(3), 299-301
- Gardner, A. S. and Fisher, M. (1996). The distribution and status of the montane juniper woodlands of Oman. *Journal of Biogeography*, 23(6), 791-803
- Hajar, A. S., Faragella, A.A. and Al Ghamdi, K.M. (1991). Impact of biological stress on *Juniperus excelsa* M. Bieb in south-western Saudi Arabia: Insect stress. *Journal of Arid Environments* 21, 327-330
- Hajjar, J. (2005). *Health and Environmental Study in Coastal Area of the Syrian Arab Republic: Review of Pesticide Management, Regulations, and Practices*. A Technical Report Presented to FAO and Ministry of Agriculture and Agrarian Reform. GTFS/REM/070/ITA, Damascus
- Herzog, M. (1998). *Shrubland Management in Tribal Islamic Yemen. Social Forestry as Development of a Local and Sustainable (Sylvi-)Culture. An Essay in Practical Philosophy*. <http://www.brainworker.ch/reports/yemen/index.htm#TOC> [Accessed 25 September]
- Hirschfeld, R. (2005). Depleted Uranium, and Iraq. *The Washington Report on Middle Eastern Affairs*. 24(9), 29-30
- IRC (2006). *Lebanon End of Program Evaluation*. <http://www.reliefweb.int/library/documents/2006/irc-1bn-12oct.pdf> [Accessed 24 October]
- IUCN (2002). *Species*. Newsletter of the Species Survival Commission. The World Conservation Union. No. 37, January-June 2002
- IUCN (2006). *Lebanon oil spill threatens migrant birds and marine life*. The World Conservation Union. http://www.iucn.org/en/news/archive/2006/08/pr_lebanon_oil_spill.htm [Accessed 21 September 2006]
- Jbawi, Z. (2006). Personal communications
- Jennings, M. C., Al Salama, M. I. and Felemban, H. M. (1988). *Report on an ornithological survey of the Asir National Park, Saudi Arabia: 29 June to 18 July 1987*. National Commission for Wildlife Conservation and Development, Riyadh
- Julian, H. L. (2006). Environment: The 'Other' Aftermath of War. Aug. 20, 2006. *Arutz Sheva - Israel National News*. <http://www.israelnationalnews.com/news.php?d=110411> [Accessed 20 August 2006]
- Miski, A. F. and Shawaf, S. (2003). *Guidelines for Sustainable Groundwater Resources Management* (Vol.6). ACSAD-BGR Technical Cooperation Project: Management, Protection and Sustainable Use of Groundwater and Soil Resources in the Arab Region. Arab Centre for Studies of Arid Zones and Drylands, Damascus
- MOE (2006a). *Environmental Effects of the War*. Press release on the effects of Israeli War on the Environment of Lebanon 5 August 2006. Republic of Lebanon, Ministry of Environment. <http://www.moe.gov.lb/enveffects.htm> [Accessed 5 August 2006]
- MOE (2006b). *Ministry of Environment to Conduct a Clean up Plan*. Republic of Lebanon, Ministry of Environment. <http://www.moe.gov.lb/jardthesisab.htm> [Accessed 3 October 2006]
- MOE (2006c). *Lebanon Marine and Coastal Oil Pollution International Assistance Action Plan*. Republic of Lebanon, Ministry of Environment. <http://www.moe.gov.lb/NR/rdonlyres/CCB2F82C-6BBB-4EAF-988F-AB941B6E0DD5/4547/ActionPlan.pdf> [Accessed 15 August 2006]
- NCWCD (2003). *Protected Areas*. National Commission for Wildlife Conservation and Development. <http://www.ncwcd.gov.sa/English/protect31.htm#6> [Accessed 28 September 2006]
- Newton, S. F. and Newton, A. V. (1996). Seasonal changes in the abundance and diversity of birds in threatened juniper forest in the southern Asir mountains, Saudi Arabia. *Bird Conservation International* 6, 371-392
- OCHA-UNEP (2006). *Environmental Update No. 3 - Lebanon Crisis*. <http://ochaonline.un.org/DocView.aspx?DocID=4873> [Accessed 24 October]
- PME (2005). *First National Communication, Kingdom of Saudi Arabia*. Presidency of Meteorology and Environment, Riyadh
- Puljak, N. (2006). Israel's North Reels From Environmental Cost of War. *Terra Daily*, 21 August. http://www.terradaily.com/reports/Israel_North_Reels_From_Environmental_Cost_Of_War_999.htm [Accessed 5 August 2006]
- REMPEC (2006). *SITREP 12 Spill in Lebanon*. 25/08/2006. Regional Marine Pollution Emergency Response Centre. <http://www.rempec.org/newsmore.asp?id=182&lang=en> [Accessed 25 August 2006]
- Sigl, M., Strunk, H. and Barth, H. J. (2005). Tree Rings in Archaeology, Climatology and Ecology [Abstracts]. *TRACE*, 21st - 23rd April 2005 University of Fribourg, Switzerland. <http://www.unifr.ch/geosciences/geographie/Trace/TalksPosters.html> [Accessed 29 September 2006]
- UNAMI (2005). *UN-Iraq Reconstruction and Development Update - August 2005*. United Nations Assistance Mission for Iraq. <https://www2582.sldomain.com/uniraq/documents/R&D> [Accessed 29 November 2006]
- UNDP (2006). *Assessment of Damages Caused by the Israeli Defense Forces Operations in the Gaza Strip 26.06.2006-28.08.2006*. United Nations Development Programme. [http://domino.un.org/UNSPAL.NSF/1ce874ab1832a53e852570bb006d6af6/5b1c484b463edf00852571e1006b30d5/\\$FILE/Damages%20in%20Gaza%20nai.pdf](http://domino.un.org/UNSPAL.NSF/1ce874ab1832a53e852570bb006d6af6/5b1c484b463edf00852571e1006b30d5/$FILE/Damages%20in%20Gaza%20nai.pdf) [Accessed 31 October 2006]
- UNEP (2003a). *Desk Study on the Environment in Occupied Palestinian Territories*. United Nations Environment Programme, Post-Conflict Branch, Geneva
- UNEP (2003b). *Desk Study on the Environment in Iraq*. United Nations Environment Programme, Post-Conflict Branch, Geneva
- UNEP (2005). *Assessment of Environmental Hot Spots in Iraq*. United Nations Environment Programme, Post-Conflict Branch, Geneva
- UNEP (2006a). *The Crisis in Lebanon Environmental Impact*. <http://www.unep.org/lebanon/> [Accessed 31 October 2006]
- UNEP (2006b). *Lebanon Marine and Coastal Oil Pollution - International Assistance Action Plan*. United Nations Environment Programme. http://www.unep.org/PDF/lebanon/LebanonOilSpill_ActionPlan20060825.pdf [Accessed 25 August 2006]
- UNEP (2006c). *Strategic Approach to International Chemicals Management*. United Nations Environment Programme. <http://www.chem.unep.ch/saicm/SAICM/> [Accessed 7 October 2006]
- UNEP (2006d). *Cairo Declaration: Issued by the Council of Arab Ministers responsible for the Environment. On the Strategic Approach to International Chemicals Management*. United Nations Environment Programme. http://www.chem.unep.ch/saicm/positions/Cairo%20Ministrial%20Declaration%20on%20SAICM%20_English_.pdf [Accessed 7 October 2006]
- UNEP (2006e). *SAICM national focal points*. Secretariat for the Strategic Approach to International Chemicals Management. List updated on 29 September 2006. <http://www.chem.unep.ch/saicm/List%20of%20SAICM%20National%20Focal%20Points%20web.doc> [Accessed 8 October 2006]
- UNEP (2006f). *UNEP in the region: West Asia*. http://www.unep.org/bh/ROWA%20Layout%202005_f.pdf [Accessed 8 October 2006]
- UNHCR (2006). *Lebanon: UNHCR field teams addressing wider problems for war victims*. UNHCR Briefing Notes 25 September 2006. United Nations High Commissioner for Refugees. <http://www.unhcr.org/cgi-bin/texis/vx/news/opendoc.html?tbl=NEWS&id=44fd53e92> [Accessed 25 September 2006]
- UNICEF (2006). *Children suffer as food insecurity in Iraq persists*. News Releases. <http://www.unicefusa.org/site/apps/nl/content2.asp?c=duLRB00H&b=33260&ct=2435151> [Accessed 5 August 2006]
- WWF (2001). *Terrestrial Eco-region: Southwest Arabian montane woodlands (AT1321)*. http://www.worldwildlife.org/wildworld/profiles/terrestrial/at/at1321_full.html [Accessed 2 October 2006]
- Yoshikawa, K. and Yamamoto, F. (2005). Structure of diebacked *Juniperus procera* forests in the Asir Mountains, Saudi Arabia. *The International Forestry Review*. 7(5), 288