

Notes on Environmental Issues Related to the Conflict in Lebanon and Israel.

17 August 2006

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These notes highlight possible disaster-related environmental issues in the Lebanon-Israel conflict zone. More detailed assessments, whether desk-top or on the ground, are needed to confirm, expand and refine these points.

These notes are based on public sources (e.g., media reports and press releases). The detail and scope of the notes would be improved by access to internal reporting by humanitarian organizations involved in the responding to the conflict.

Pollution from Industrial Sources

Recent reports by the Lebanese Ministry of Environment and the Joint UNEP/OCHA Environment Unit cover water, air and land pollution due to damage to industrial facilities in Lebanon. The oil pollution along the Lebanese and Syrian coasts has received media attention, although clean-up efforts cannot be fully implemented until hostilities cease.

A categorical assessment of other potential pollution sites, included small and medium industries and point-pollution sources (e.g., petrol stations) has been initiated by The Joint Environment Unit. See <http://ochaonline.un.org/webpage.asp?MenuID=11834&Page=2204> for Joint Unit reports). Damage to industrial locations or other sources leading to local pollution has not been reported in Israel.

A more detailed desk-top study of the potential for, and risk from, pollution from small and medium sized industries could be quickly developed with input for the appropriate national authorities. This study would be a useful input into a prioritization of clean-up operations to be started once hostilities cease.

Concentrations of Displaced

Fighting has resulted in significant displacements of resident and non-resident populations. Lebanon hosts several older refugee camps in or near the areas of most intense fighting. There is indication that refugee camps have opened in Syria and some of the displaced are lodged in public buildings in Lebanon. Most displaced in Israel appear to have found refugee with relatives or private lodging with only a few located in camps or public facilities. The extraordinary concentration of displaced in Cyprus appears to have dissipated.

Refugee/IDP camps can provide an easy mechanism for providing relief assistance, but tend to present serious risks to the environment. It is probably better environmentally, at least over the short term, for the displaced to be hosted by relatives, in vacant housing or in hotels. The environmental advantage comes from the presumed availability of water, sanitation and other public services to these housing units. However, damage to water and electrical systems in Lebanon, and a degradation of public services such as garbage collection due to insecurity, means that hosting the displaced in available housing units may not avoid or reduce negative environmental impacts.

The impact of displaced populations on public services, particularly water demand and the management of liquid and solid waste, should be monitored. The level of these services should be increased to match any increases in population numbers due to displacements.

Where IDP/refugee camps are established (including the use of public buildings), the UNHCR FRAME tools should be used to reduce immediate and medium term environmental impacts. (See http://www.benfieldhrc.org/disaster_studies/rea/rea_unhcr_framework.htm for beta versions of the FRAME toolkit.)

Note that the movement of displaced back to southern Lebanon will not improve sanitation or environmental conditions. Most of the water, sanitation and environmental management structure in the south are probably no longer functional. The lack of shelter and services may force many of the displaced to congregate into de facto camps once they have returned to their homes.

Medical Waste

The degradation of health care structures and overall public services in the conflict areas of Lebanon have likely limited the proper management of medical waste. WHO has developed guidance on how to handle medical waste (see http://www.healthcarewaste.org/en/150_hcw_emergencies.html).

However, it is unclear if these procedures can be applied in the conflict zone. *A "quick-and-dirty" revision of these procedures, to focus on a short term reduction on health and environmental risks from medical waste, may be needed. Permanent disposal of medical waste can be initiated when security conditions permit.*

Unexploded Devices

There are unexploded munitions in the conflict zone. These devices are probably being neutralized and disposed of in Israel and some parts of Lebanon, but not in the southern part of the country. Individual unexploded devices probably do not pose specific environmental risks, apart from their threat of death or injury.

However, the disposal of a large number of munitions on one location can result in locally high concentrations of chemicals which can lead to environmental degradation. Any eventual large scale disposal of munitions should include a review of environmental impacts.

There have been unconfirmed reports of the use of depleted uranium in southern Lebanon. *Because of the apprehension commonly associated with uranium, these reports should probably be investigated and any environmental impact assessed.* The UNEP Post Conflict Unit has conducted work on depleted uranium following other conflicts and would seem to be well placed to investigate this issue in Lebanon.

Relief Aid

The (pre-cessate fire) level of relief aid reaching the conflict zone in southern Lebanon appears was limited and not likely to result in either unnecessary or environmentally inappropriate assistance. As access to these areas improves, a significant increase in aid is likely. A large segment of this aid will be provided spontaneously.

Past disasters indicate that these circumstances will generate large quantities of unusable, unnecessary or inappropriate aid. Unneeded aid results in negative environmental impacts, and is also a waste of limited humanitarian assistance capacities.

While aid to the conflict-affected should not be stopped, effective coordination and management of the selection, transport and delivery process could go a long way in limiting unnecessary negative environmental impacts.

Waste, Debris and Reconstruction

Reports indicate a considerable destruction of infrastructure and housing in Lebanon, particularly in the south, with much less destruction in Israel. This destruction can be expected to have generated considerable volumes of waste which must be managed as part of the reconstruction process.

The UNDP and Government of Lebanon have begun discussion on the reconstruction process. These discussions should include planning and preparation of waste/debris management plans based on the process of reuse, recycle, rehabilitate and safe disposal (the "3rs" approach). This approach will reduce the cost of reconstruction as well as limit further environmental damage.

Lebanon has considerable experience in post-conflict reconstruction. This experience needs to be tapped in developing an environmentally friendly and sustainable reconstruction process.

Remote sensing, GIS and image interpretation can be used to identify the location, nature and quantities of waste and debris which need to be managed as part of the reconstruction process. Previous work by UNEP's Post Conflict Assessment Unit can be used as a model for this effort.

Even with effective application of the "3rs" approach, the reconstruction process will require additional raw materials, particularly sand, rock and soil. *Extracting these materials needs to be planned and managed to avoid unnecessary negative environmental impacts.* This planning effort can be aided through the use of remote sensing.

The management of the extraction process can be strengthened through the provision of these materials as part of reconstruction assistance packages, in the same manner that cement and other building materials is often provided for post-disaster reconstruction.

Of course, any significant long term reconstruction program should include an assessment of environmental impacts. Such an effort for the reconstruction of southern Lebanon can incorporate (1) a *Strategic EIA (i.e., a forward looking identification of immediate and longer term environmental impacts based on past experience)* and (2) *the integration of "operational" EIAs into reconstruction planning and activities to pro-actively identify and address potential negative environmental impacts.*

This integrated approach maximizes the benefits of the EIA process while avoiding the normal delay between project design and EIA review. A similar approach has been used in earthquake reconstruction.

Water and Sanitation

The conflict has damaged water, and presumably waste management, systems in Lebanon. Restoring these systems is critical for ensuring the minimum needs of resident and returning populations are met.

At the same time, repair and longer term reconstruction need to consider local and regional environmental issues. In particular, the control of water supplies has been a bone of contention in the conflict areas. *Reconstruction programs should ensure that contention over water supplies is not exacerbated and that water conservation is a core part of water use planning for the region.*

Waste management systems are reportedly poorly developed in Lebanon. *Repair and reconstruction efforts provide an opportunity to improve sanitation through better waste management.*

Addressing the water and sanitation issues should not wait until long term reconstruction programs, but be part of an immediate sustainable relief and early recovery program.

Survivor Inputs

Insecurity in southern Lebanon and the movement of people from the conflict area make it hard to assess survivor views as to how to address pre-conflict and current environmental issues. However, consultations with survivors are important for a sustainable recovery, as well as to avoid a mismatch between assistance efforts and survivor expectations. This mismatch usually results in wasted assistance and more and greater negative environmental impacts than if survivor inputs are central to the reconstruction effort.

A survey of environmental concerns and issues should be included as part of the consultation with the displaced and remaining populations as to how the reconstruction process should proceed.

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