## Upgrading landfill disposal in Kosovo

Since the return of the Albanian Kosovar population to Kosovo in mid-1999 restoring a credible waste management service has been seen as one of the municipal priorities to protect public health. Most effort was initially focussed upon re-establishing waste collection services, more recently attention has turned towards the use of land disposal. Open dumping is the routine disposal method at present and the challenge set for the international and local organisations has been how to upgrade such sites with only modest amount of new equipment, materials and finance.

The paper will focus on describing the present landfill situation across Kosovo and then present the emerging programme to upgrade disposal facilities that is being attempted over the next two years:

- 1. The most basic intervention necessary is to improve, with local resources only, the existing city open dumps so as to reduce their immediate or most acute environmental impacts and to give them a further two years of operating life. These modifications are intended to also make it easier to leave the sites in a reasonably secure and safe manner at the end of the two-year period.
- 2. In parallel to the conversion of the open dumps to controlled dumps, some new, intermediate landfills will be set up in and around smaller towns and districts to entice waste away from river dumping and fly-tipping. These temporary landfills will be designed to have a two-year life and will resemble the intermediate landfill design concept described in recent World Bank and WHO publication on this topic.
- 3. A separate site selection and design team will identify and develop new, more permanent landfills to become regional land disposal sites. It is intended that these will be of a higher standard and have a minimum capacity for ten years of waste input. The precise design standard achievable, given the likely local and international resources available, is still open to debate but it is envisaged that it will take around two years to get these sites agreed and ready to receive wastes. The final landfill design and the locally sustainable finance that will be available are still to be determined and it is intended that the presentation will conclude with a debate on this issue to solicit original ideas for consideration back in the field.

In addition to this Kosovo-wide strategy, donors have instigated other local landfill developments. At one place a mall landfill has been constructed in a reasonably impermeable geology with a reed bed artificial wetland to treat leachate. The paper will include an account of the first few months operational experience of the reed bed system.

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