The provision of safe drinking water supplies and sanitation are accepted as key elements for the improvement of health in many developing countries.

As resources are rarely adequate enough to provide piped water supplies and sewerage systems universally, the most cost-effective solution is often to construct low-yielding boreholes and on-site sanitation.

However, there are serious concerns that on-site sanitation may contaminate nearby wells and springs.

Assessing risk to groundwater from on-site sanitation

Whilst the principal concern is of bacteriological contamination there is also increasing evidence of chemical contamination of groundwater, in particular beneath unsewered cities.

The knowledgepool partners are undertaking a DFID-funded project to evaluate the problem and will produce guidelines for the design and relative siting of on-site sanitation and groundwater sources.
The guidelines will be published in a user-friendly manual intended for those responsible for implementing water supply and sanitation programmes. The manual will identify factors that control the risk of contamination of groundwater from on-site sanitation — including geology and soil type, climate, depth to water table and the design and construction of sanitation installations and groundwater sources. The manual will provide a framework for assessing the risk. Appropriate remedial and preventative measures will also be discussed.

The guidelines will use as their basis the results of a scientific review that is being carried out as part of the project. In addition to a comprehensive literature review, the report will include more detailed analysis of the controls on the risk of contamination from on-site sanitation. This analysis will rely heavily on the results from a series of case studies in developing countries.

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