



# Project Profile

**Sector: Risk Assessment**

**Project: Contaminated Land Exposure Assessment (CLEA) Model and Production of Guideline Values for Contaminants in Soils**

**Client: Department of the Environment, Transport and the Regions, The Environment Agency**

**Period: 1993-1998**

This highly prestigious contract began under the auspices of the former Department of the Environment. Professor Colin Ferguson and his team won a number of further contracts to continue the work.

The CLEA model is a probabilistic Monte Carlo model for assessing human health risks from contaminated sites for a number of land use scenarios, using the source-pathway-receptor framework. It estimates human intake of soil contaminants and compares this to a toxicological Tolerable Daily Intake (TDI).

The land uses are:

- Residential with gardens
- Residential without gardens
- Recreational- Parks, Playing Fields and Open Spaces
- Recreational- Allotment Gardens
- Commercial and Industrial

The pathways considered are:

- Ingestion of soil and soil-derived dust
- Uptake by home-grown vegetables
- Ingestion of soil attached to garden vegetables
- Indoor and outdoor dermal exposure
- Indoor and outdoor dust inhalation
- Indoor and outdoor soil vapour inhalation

The model has been used to derive Guideline Values for a number of soil contaminants. The Guideline Values are land-use and soil parameter specific.

The DETR is expected to publish the CLEA Technical Report and Guideline Value reports for the first phase of contaminants by the end of 1999.