

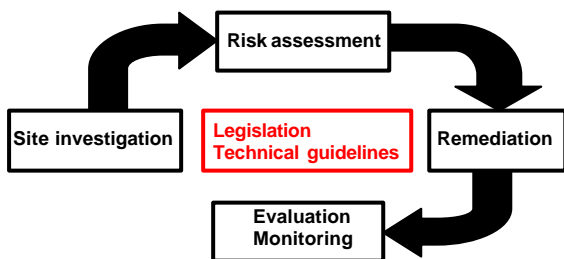
Example 3 – Government-to-Government project Netherlands-Romania in 2009

Title: Collaboration between the Netherlands and Romania on soil issues
Partners: The Netherlands: Ministry of Economic Affairs, SenterNovem, Soil+
 Romania: Ministry of Environment and Sustainable Development, Department of Soil and Subsoil / Unit Contaminated Lands
Period: January 2009 –January 2010

The Dutch Approach Lessons learned

The issue of contaminated sites in the Netherlands first came to light in 1980, when it was discovered that a housing project had been built on a chemical waste dumpsite. Since then, legislation and practical instruments for site remediation have been developed, tested and adapted on a continuous basis. The figure below sets out a number of typical characteristics of this process:

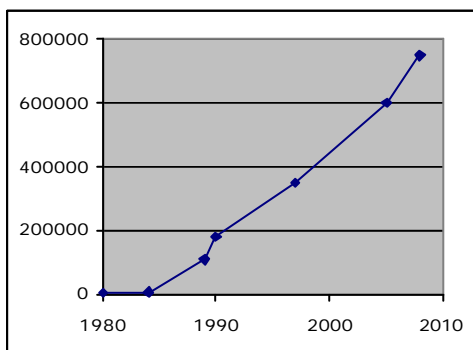
THE SITE REMEDIATION PROCESS



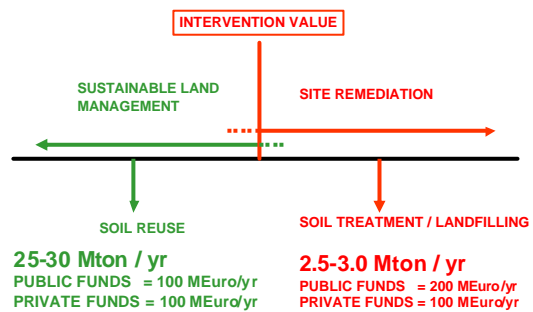
INSTRUMENTS FOR SITE REMEDIATION

SITE INVESTIGATION <ul style="list-style-type: none"> • Site ambition • Historic investigation • Preliminary investigation • Sampling strategy • Practical sampling • Chemical analysis • Interpretation of results 	RISK ASSESSMENT <ul style="list-style-type: none"> • Human risks • Ecological risks • Agricultural risks • Spreading to groundwater • Risk modelling (CSOIL / SANSCRIT) • Interpretation of results
REMEDIATION <ul style="list-style-type: none"> • Scenarios / costs • In-situ / excavation / ex-situ / landfilling • Consulting / contracting • Execution / monitoring 	EVALUATION <ul style="list-style-type: none"> • Technical aspects • Costs • Reporting / database • Aftercare • Monitoring

CONTAMINATED SITES INVENTORY



QUANTITIES AND COST FACTORS



Several important lessons were learned during this process. These are presented in the table below:

#	From	To
1	Focus on site remediation (only).	<ul style="list-style-type: none"> Integration with water/groundwater management. Incorporation of sustainable land management and reuse of lightly contaminated soil.
2	Multifunctional site remediation / full removal of contaminants.	Functional site remediation / partial (i.e. risk-based) removal of contaminants.
3	Rigid use of soil quality standards.	Risk-based use of soil quality standards.
4	Excavation and landfilling of heavily contaminated soil.	<ul style="list-style-type: none"> In-situ site remediation. Ex-situ soil treatment and product reuse.
5	Focus on topsoil.	<ul style="list-style-type: none"> Incorporation of groundwater management. Aquifer heat storage.
6	Legislation (and technical guidelines) defined by the national government.	Legislative process and instrument development is shared by: <ul style="list-style-type: none"> Local authorities. Consultants and contractors.
7	Centralised responsibility.	Decentralised responsibilities.
8	Passive information.	Active communication (seminars, courses) for all stakeholders.

Current situation in the Netherlands

At present, the most important triggers for site remediation are as follows:

- Mitigation of groundwater contamination (in compliance with the EU Groundwater Directive).
- Development of brownfields (economic trigger).
- Elimination of risks for humans (derived from public awareness and participation).
- Ecological reconstruction (such as landfill sites, former mining sites).

More importantly, site remediation is no longer an isolated action. It is closely integrated with the spatial development of an area. Therefore, funds available from, for example, the development of a housing project, can be used to perform site remediation and thus rejuvenate an entire area in an economically viable manner. In addition, on the regional level, we are in the process of more closely linking the management of waste, water/groundwater and soil. This will serve to improve the overall environmental quality of a region and also generate general acceptance by the public.

Issues within the project:

The goal is to support Romania in designing and implementing soil policy and legislation. This project is demand driven. This means that the issues developed for collaboration between the Netherlands and Romania were decided in mutual agreement.

- Analysing the Romanian proposals for Technical Soil Guidelines and submitting suggestions to increase the applicability in practice.
 - Selecting options for suitable demonstration projects.
 - Visiting interesting remediation projects and gathering technical design parameters.
 - Taking stock of financing opportunities for performing demonstration remediation or other projects.
 - Holding a one-day workshop on chemical/geochemical background values, with the goal of exchanging scientific and other information between Romanian and Dutch experts.
- Attention will be paid to such issues in the cooperation between knowledge institutions in Romania and the Netherlands.
- Establishing a bilateral project group to work towards developing a system of soil standards and site-specific risk assessments that are aligned with the Romanian situation.
 - Exploring the options for a Dutch pavilion at the Envirotech trade fair (March 2009, Bucharest). More specifically, organising a mini-workshop that focuses on Romanian and Dutch soil management and remediation.

Strategic vision

The following blueprint is used for strategic development.

TENTATIVE DEVELOPMENT PLAN SOIL/SUBSOIL

