

Identification THO.09.035

To For File
From Ton Honders
Date 29 juli 2009
Subject **COURSE ON SUSTAINABLE LANDMANAGEMENT AND SITE REMEDIATION - CHARACTERISTICS**

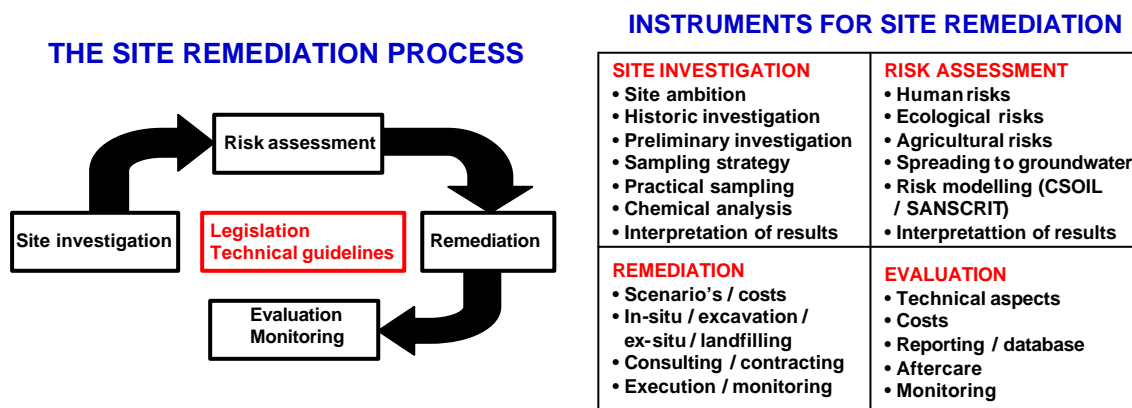
1. INTRODUCTION

Within the framework of the EU Twinning Project PHARE RO/06/IB/EN/06 “Implementation and application of the environmental acquis focused on domestic waste management”, SenterNovem (SN) was invited to conduct seminars on a range of subjects. This was carried out by the SN-taskgroups “Uitvoering Afvalbeheer”, “Infomil” and “Bodem+”. This introductory note gives an overview of the activities on “soil/subsoil protection & ecological reconstruction” which was carried out by Bodem+, together with a host of very knowledgeable partners:

- Mr. Anton Roeloffzen – DCMR / Milieudienst Rijnmond.
- Mr. Piet Otte – National Institute for Public Health and the Environment.
- Mrs. Joke Wezenbeek – Grontmij.
- Mr. Ioan Boti – Eijkelkamp sales manager in Romania.
- Mrs. Adina Ihora – ALcontrol Laboratories sales manager in Romania.
- Mrs. Cristina Angheluta – Haskoning Romania.

2. THE COURSE

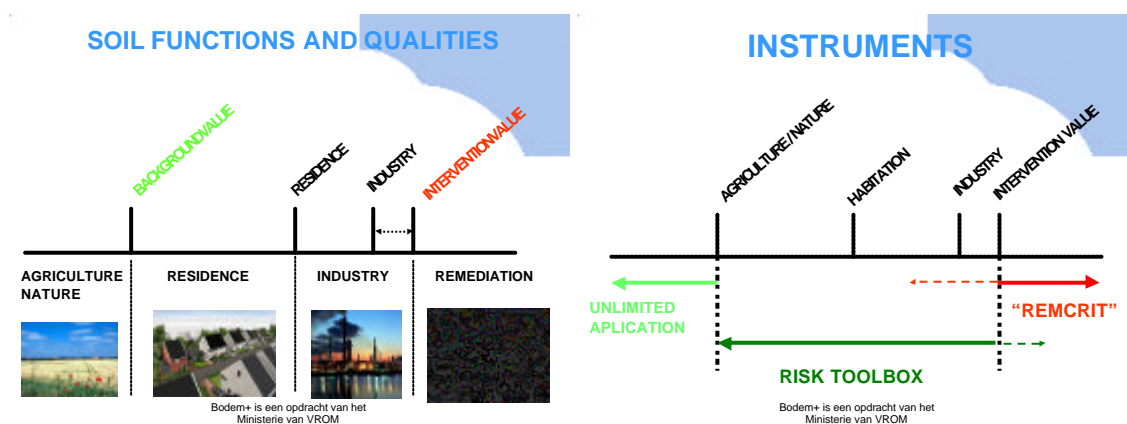
The guiding principle of the course is depicted in the Figure below:



Each “step of the road”, going from a contaminated to a cleaned site was discussed in great detail. Particular emphasis was placed on discussing **practical examples**, both from the Dutch and the Romanian side. On the basis of the July 2008 inception mission, the following “logical framework” (in short) was decided upon by the participants:

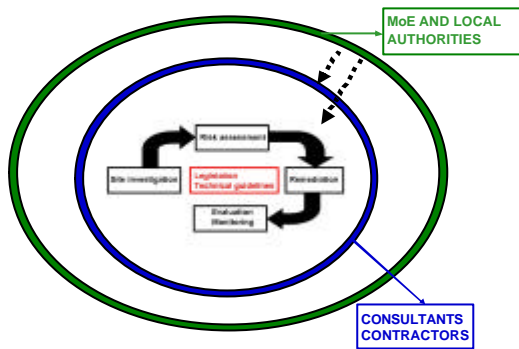
#	Activity	Dates	Days	Themes
1	Inception mission	10-11 July 2008	2	<ul style="list-style-type: none"> Getting to know each other Romanian and Dutch policies on site remediation Introducing DCMR and Bodem+ Inventory of contaminated sites (Moldova region)
2	Module 1	15-16 January 2009	2	<ul style="list-style-type: none"> Romanian and Dutch policies on site remediation Role of the authorities Site inventory and site investigation strategies Practical examples
3	Module 2	6-7 April 2009	3	<ul style="list-style-type: none"> Soil quality maps Soil quality standards Risk assessment tools Practical examples
4	Module 3	15-16 June 2009	2	<ul style="list-style-type: none"> Site investigation strategies – theory and practice Ecological risk assessment Practical examples
5	Module 4	13-14 July 2009	2	<ul style="list-style-type: none"> Consulting and chemical analysis Ecological risk assessment Remediation technologies Practical examples
			11	

Since “proper” environmental quality is at the heart of decision making whether or not (and how) to remediate a contaminated site; a full 3-day session was devoted to this subject. Basically, the “Dutch approach” was taken as a basis to guide the participants through the process of identifying risks (human, ecological, groundwater, quality of agricultural products) and deciding upon the seriousness of these risks in a given situation.

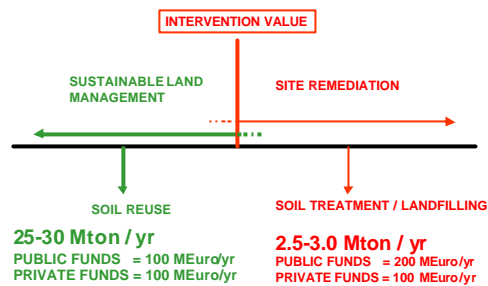


The risk assessment software tools “CSOIL” and “SANSKRIT” were practiced with PC’s on various (Dutch) examples. A Romanian language version of CSOIL (human risks) was made available to the participants. Attention was devoted to the roles of the stakeholders and cost aspects:

SITE REMEDIATION STAKEHOLDERS



QUANTITIES AND COST FACTORS



3. IMPRESSIONS AND RECOMMENDATIONS

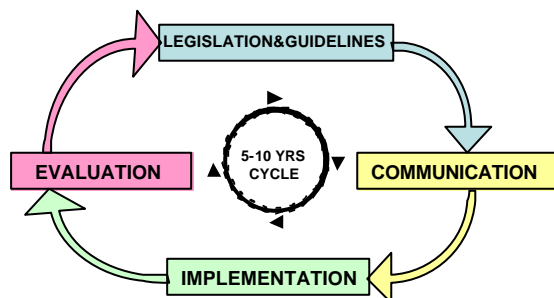
All sessions took place in an amiable atmosphere. The participants were actively involved in digesting and employing the materials provided. From our side: we enjoyed it immensely to be able to “perform” for such an interested (and highly educated) audience.

From our point of view: although basic legislation on site remediation exists in Romania. Practical tools to select urgent sites and perform the “remediation circle” are essentially lacking. Since (in principle) EU funding (for “ecological rehabilitation”) is available, it is recommended to:

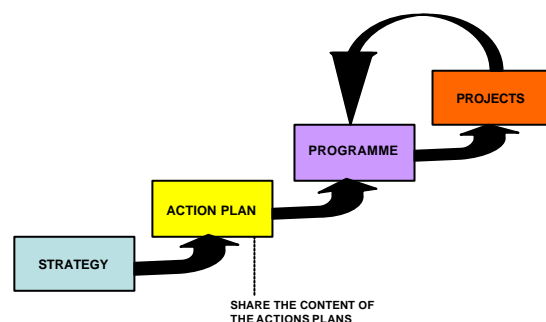
- Define a long-term National Strategy for addressing contaminated sites.
- Set up a inventory of contaminated sites.
- Provide local authorities with practical tools to address site and soil problems.

As a reference, in terms of (project)management the following “tools” can be employed:

PUTTING LEGISLATION INTO PRACTICE AND PRACTICE INTO LEGISLATION



AN APPROACH TOWARDS IMPLEMENTATION



4. ACKNOWLEDGEMENTS

I am deeply indebted to “my” co-presenters. Especially Mr. Anton Roeloffzen, without whom this course wouldn’t have been possible. His broad knowledge of and interest in soil issues combined with his practical experiences were indispensable.

We / i also would like to express our deep gratitude for the proper and efficient organising skills of Mr. César Seoáñez (our resident twinning advisor) and the super-excellent translation skills of Mr. Radu Rotaru.

And last but not least we would like to thank our course participants for their everlasting attention.

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Soil/subsoil protection & ecological reconstruction

1. INCEPTION MISSION / 10-11 JULY 2008

#	ITEM	PRESENTER
1	Agenda	Ton / Anton
2	Contaminated site remediation and sustainable landmanagement – environmental aspects	Ton
3	Contaminated site remediation and sustainable landmanagement – institutional aspects	Ton
4	Ensuring safety and quality of life in the Rijnmond region	Anton
5	Mission report	Ton / Anton

2. COURSE MODULE 1 / 15-16 JANUARY 2009

#	ITEM	PRESENTER
1	Agenda	Ton / Anton
2	Course introduction	Ton
3	Dutch policies on site remediation and sustainable landmanagement – finding the balance	Ton
4	Soil investigation and remediation procedures – financial and legal instruments in Dutch legislation	Anton
5	Soil investigation and remediation procedures – role of the authorities and stakeholders	Anton
6	Romanian problems with mining (residue) sites	Anca Ionce
7	Soil investigation and remediation procedures – Romanian situation: applicability of two Decisions and the Technical Guidelines	Anton
8	Risk-based soil quality standards	Ton
9	Soil investigation and remediation procedures – exploratory investigation of contaminated sites	Anton
10	Soil investigation and remediation procedures – case study leadpaint factory	Anton
11	Soil investigation and remediation procedures – case study phosphate fertiliser plant	Anton
12	Mission report and recommendations	Ton / Anton

3. COURSE MODULE 2 / 6-7 APRIL 2009

#	ITEM	PRESENTER
1	Agenda	Ton / Anton
2	Soil quality map Rotterdam	Anton
3	Soil quality map Iasi	Luca Liviu
4	Risk-based soil quality standards – overview / repeat presentation	Ton
5	General aspects of ecological risk assessment	Piet
6	Risk assessment of contaminated groundwater	Piet
7	Human health risk assessment modeling	Piet
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9	Case 1 CSOIL – the derivation of Soil Quality Criteria for Orange Country	Piet
10	Case 2 CSOIL – the dry cleaner shop	Piet
11	Urgency of soil remediation – case = garage site	Anton
12	Proceduri de investigare si remediere a solului – studiu de caz / fabrica de vopsele cu plumb	Anton
13	Dutch soils, natural or manmade ? – soil types and classification in The Netherlands	Anton
14	Solurile Romaniei	Luca Liviu
15	Evaluation of this course	Ton
16	Mission report	Ton / Anton / Piet
17	Recommendations	Ton / Anton / Piet

4. COURSE MODULE 3 / 15-16 JUNE 2009

#	ITEM	PRESENTER
1	Agenda	Ton / Anton
2	Introduction	Ton
3	Site investigation / sampling strategies	Joke
4	Tehnici de prelevare a probelor de sol si apa	Ioan
5	Cases site investigation / sampling strategies	Joke
6	The living soil – soil organisms, their work, and influence on soil processes	Anton
7	Why choose for a TRIAD ?	Joke
8	TRIAD – surroundings Dommel as an example	Joke
9	Site specific ecological risk assessment – the TRIAD methodology	Anton
10	Ecological risk assessment – harbour sludge site Broekpolder	Anton
11	Cases risk assessment (ppt)	Joke
12	Cases risk assessment (word)	Joke
13	Mission report	Ton / Anton
14	Recommendations	Ton / Anton

5. COURSE MODULE 4 / 13-14 JULY 2009

#	ITEM	PRESENTER
1	Agenda	Ton / Anton
2	Introduction (1)	Ton
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4	Alcontrol laboratories	Adina Ihora
5	Managemenul Situ rilor Contaminate	Cristina Angheluta
6	Soil protection strategies	Ton
7	Groundwater management	Anton
8	Soil management plans	Ton
9	Soil management how to improve / maintain soil quality with strategies for reuse of soil ?	Anton
10	In-situ site remediation and ex-situ soil treatment	Ton
11	Ecological rehabilitation of contaminated sites	Anton
12	The living soil	Ton
13	Ecological risk assessment – harbour site Broekpolder	Anton
14	Technical aspects and costs of site remediation	Anton
15	Overview seminars	Ton
16	Mission report	Ton / Anton
17	Recommendations	Ton / Anton