

INTERNATIONAL COMMITTEE ON CONTAMINATED LAND

QUESTIONNAIRE ABOUT LEGAL FRAMEWORK FOR SOIL/SITE CONTAMINATION MANAGEMENT

COUNTRY: THE NETHERLANDS

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OVERALL CONTEXT

Does your national policy have a specific definition of “contaminated site”, “contaminated soil”? If yes, please provide the definition.

Yes,

contaminated site: site where the soil is contaminated or in danger of becoming contaminated in relation to territories that on account of said contamination, the cause or the consequences thereof are connected with each other in a technical, organizational or planning sense;

seriously contaminated site: site where the soil is, or there is a danger that it will be, contaminated, so that the functional properties which the soil has for man, flora and fauna have been, or are in danger of being, seriously reduced;

Is Groundwater included in this definition? Yes

Does your policy on contaminated sites/land/soil include other definitions (i.e. brownfield, sediment)? Sediment is part of the water legislation

Which sources are you considering? Industrial operations? Transport? Urban contamination? Etc.

We consider all sources. We have defined historical contamination (occurred before 1987) and recent contamination. Of course there is a difference between a single source and a diffues contamination (for example lead from traffic).

LEGAL FRAMEWOK

1. Does your country have legislation with respect to contaminated land management? Yes
 - a. Whatever the situation is, please be precise if it's a specific or a common legislation, if integrated in a more general one (including prevention of emissions, soil protection, land planning, environment & health, etc.)

In The Netherlands we have an overall act which is called the



Environment management act. Besides this act we have:
the Soil Protection Act (included the Soil Remediation Circular), the Water Act and the Housing Act

- b. If there is no legislation, please be precise how you tackle the problem.
- c. What are the main policy objectives?

For historical contamination (<1987): the quality of soil (included groundwater) must be suitable for its current and/or future use.

For recent contamination (>1987 until now): the site must be immediately cleaned up to its background values

- d. What are the foundational principles on which the national policy is based? (e.g., polluter pays, risk-based, fit-for-use, stand-still, transparency, ...).

Polluter pays, risk-based, fit for use, standstill, historical contamination (<1987)

2. What is the Chain of Liability for the management of contaminated land?

- a. Polluter? Land owner? Last operator? Occupier?

For private land the land owner. If he is not the polluter he must try by private law to sue the polluter (if still can be addressed); for public land (nature or city) municipality or competent authority

- b. Is there any difference between new and historic contamination?

Yes, before and after the year 1987

- c. Can a responsible party pass on the liability to a purchaser? (under statutory law? Contractually?)

If ownership or the lease is transferred, the obligation to decontaminate shall continue to rest upon the owner or leaseholder who transferred the ownership or lease until such time as the succeeding owner or leaseholder has furnished, and the Provincial Executive has duly accepted, financial security for the decontamination costs. (Section 55b point 3)

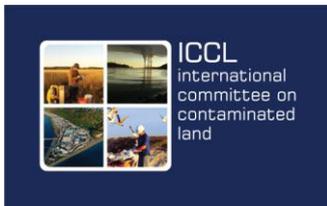
For provincial or governmental ownership we have made special regulations

- d. Do you separate the obligation to remediate soil pollution and the liability regarding the damage caused by soil pollution and the related remediation measures?

In general no, the owner of a site is liable for the damage and has to remediate. But for mobile contamination in groundwater (with big plumes) we have the opportunity to transfer the liability of the rest contamination to a municipality or competent authority.

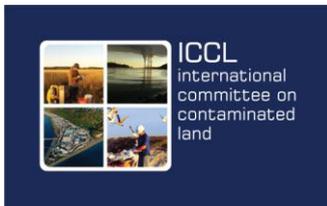
- e. Are you facing specific situations (e.g. privatization of the industrial activities, war impacted areas, ...) needing special programme?

The main distinction is historical and recent contamination. Within the program of historical contamination we subsidize the costs for remediation for private companies. We have special programmes for



dry cleaners, tank filling stations, gasworks. The management of plumes of contaminated sites within an area approach.

3. Are there any specifications at regional / local level?
4. Are there specifications for site closure?
Yes, if the use of the land poses a significant risk to human or the environment the competent authority has the possibility to close the site.
5. Is there any legal requirement to conduct investigation for potential contamination in the sale of the property?
In the Housing Act you need a permit to built a house or building. There for an investigation of the quality of the land is mandatory.
Refer to above section 55b point 3 of the Soil Protection Act.
6. Does your national policy have any kind of inventories/registers? If yes, please be precise regarding which sites are registered, how the data are collected and if the databases are public.
Yes, we have made a list of all potential activities in the past that could have given a contamination (= potential contaminated). A lot of historical data is collected from from former permits of companies. We get a lot of data if companies want to extend their company by building or if a residential area is made. By the housing Act a investigation is mandatory.
If it is suspected that a site is seriously contaminated (that means that the risks for human or the environment are unacceptable) the competent authority has the possibility to do a investigation (on their costs).
7. What are the strong, weak points and the major bottlenecks with respect to the current regulations in your country?
Strong points:
The Soil Protection Act 1987 exists over 25 years so we made a distinction between historical and recent contaminations. New contamination has to be remediated immediately. There was/is a political will by financing the remediation of historical contaminated land and they support the goal that the quality of the soil must be suitable for the current and/or future use.
We think it is important that municipalities are aware of the value of land/soil and that they are able to make their own soilpolicy especially in relationship to the spatial planning. So we have decentralized (= tailor made solutions) the execution of the remediation paragraphs of the Soil Protection Act to 42 competent authorities (12 provinces and 30 main cities).
The week points and bottlenecks:
The Soil Protection Act is a sectoral law and is complex. More and more there is a lack of space mainly in inner cities of The Netherlands. To fulfil the societal challenges we need to use the subsoil more and more, ecosystem services. To use these services an integrated approach and so an integrated law (instead of the current sectoral law) is needed. At this moment we are working on a policy document for using the subsoil and a special project that



integrates all sectorial environmental laws.

The main bottleneck is that the law is sectorial. Even contaminated land might have different functions and contribute to ecosystem services (e.g. energy) and therefore an integrated assessment framework is needed.

TECHNICAL ISSUES RELATED TO THE LEGAL FRAMEWORK

8. Are there site investigation requirements?

Yes, we have different protocols for different surveys.

9. Are Risk Assessment & Management the main tools?

Yes, the approach is written down in the Soil Remediation Circular 2009

10. Are there specific technical approaches used?

a. For Human Health (HH), Ecosystems, Groundwater (GW), Surface waters (SW), other targets (i.e. buildings, infrastructures, ...please be precise). Yes, see annex 2 of the Soil Remediation Circular. Besides that we have different protocols (CSM). See weblink:

<http://www.sikb.nl/pagina.asp?id=365>

b. On a site by site specific approach, or by derivation of guideline values? If possible, please detail your answer. See point a. In the Circular (Annex 1) you will find the different standards

c. Do you take into consideration others sources of pollution in the risk assessment?

Yes, all sources that might poses risks to human or the environment

11. If the national policy uses guideline values, please be precise in describing the following points:

a. Reasons for derivation of generic values

The government has the task and is responsible for deriving national standards. Risks for human should be the same for everyone.

Spreading of a contamination and the risks for the environment (vulnerable objects) are defined by the municipality and competent authority.

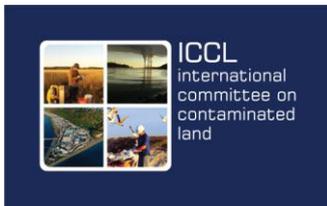
b. Objectives / levels of implementation (investigation, risk assessment, remediation):

The overall objective is that the remediated land is suitable for the current and/or future use. The protocols are made by public-private cooperation. The risk-assessment is a general responsibility of the central government (instrument is called www.sanscrit.nl and will be maintained by the RIVM). The execution of the remediation is done by the competent authorities.

c. Priority substances

The primarily investigation exists a standard set of compounds.

Additional compounds might be needed depending of the results of the activities from the historical review from permits.



- d. Protocols of derivation (including acceptable risk levels used).
The competent authority and all the consultancy use the same risk-model from the RIVM: www.sanscrit.nl

12. What are the drivers for remediation? Unacceptable risks for human or the environment

- a. To what level is clean-up required? (i.e. acceptable risk, land use values, ...) For recent contamination to background values. For historical contamination general the average is chosen between background values and the Intervention value. But in the remediation plan it is needed to define the remediation goal. The remediation objective is described in the Soil Remediation Circular (Chapter 4 section 38 of the Soil Protection Act). There must be a balance between the environmental benefits and the costs. It is not cost effectiveness to remediate the last molecule of contamination. The competent authority defines the balance site by site and is also depending of the kind of contamination (mobile or immobile)
- b. Does your national policy use cost-benefits analysis for the choice of the remedial solution?
Yes, see above under point a

13. What are the main remediation strategies or treatment techniques used in your countries (including Natural Attenuation)?

In general a combination of techniques is used for remediation of a contaminated site. In general the remediation of the source was done by dig and dump. This can still be done for immobile contamination and if the available time is limited.

From a sustainable point of view we use more and more in situ techniques or try to manage the risks by reducing the contact possibilities, e.g. covering with a layer (1,5 metre) of clean soil.

We have a website www.bodemrichtlijn.nl . A specific commission judge if a technique has proven to work in certain (environmental) circumstances. Of course the competent authority may try a new technique. It is often to the consultancy to prove that a new technique works. Additional monitoring is often required.

- a. Distribution of techniques?
- b. Evolution in time?
- c. Acceptance of innovative treatment techniques?

14. Are you considering sustainability in the national approach?

- a. If yes, how? We support the initiatives of SURF-NL and others.
- b. In particular, how the three pillars of sustainability are considered and balanced. There is no balanced instrument that takes into account all environmental issues. Greenhouse gasses and energy. We have a pilot instrument for groundwater quality and – quantity end energy. There is



a general understanding that pump and treat of groundwater in the Netherlands is often not cost effectiveness. There for in general it is smart to remediated the source and to manage the plume. Depending on the situation (e.g. relation to a vulnerable object) the plume has to be remediated or the spreading of the plume has to be controlled.

c. If no, explain the reasons and the future challenges.

15. How does your country bridge the CLM approach with:

a. Land planning programmes?

Development of an area is a main driver to remediate. Not only from a technical and organisation point of view but also financial. Make work with work is the adagium. For example: plan an underground parking garage on the hot spot of the contaminated site. Each function is different sensitive for contamination. (industrial areas vs kindergardens)

b. Public health programmes (aggregation of impacts on surrounding populations)

In the Netherlands every city or big municipality has a medical organization. The competent authority (12 provinces and 30 municipalities) and the medical organization cooperate in the communication to the inhabitants about the health risks of contaminated land. These medical organizations work together with the RIVM by deriving standards for example lead and asbestos and advice about the risks of vapour intrusion in houses. We also have a national Council for human health that advices the minister of Infrastructure and Environment and Human Health, Wellbeing and Sport.

Of course the RIVM, which derives a proposal for a standard from the environmetal point of view, takes into account the information what has led to the WHO-standards.

FINANCIAL ISSUES

16. What are the specific practices with respect to “Orphan sites”?

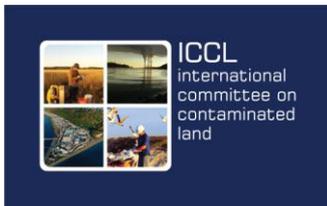
These are the responsibility of the competent authority (42). They have the lead in remediation and have the possibility from the national government to finance this sites.

a. Do you have an idea of the annual budget allocated to Soil Contamination Management?

17. How is it divided between public, private and others?

As said above we differ between historical and recent contamination. As a government we do not subsidies recent contamination. We have no idea about the total costs of remediation for the private companies. For the historical contamination we have figures.

Total remediation casts for 2000-2004: € 1.42 billion (50% public: 0.71 billion)



Total remediation costs for 2005-2009: € 1.93 billion (50% public: 0.97 billion)
Total remediation costs for 2010-2014: € 1.78 billion (50% public: 0.89 billion)
For the period of 2000-2014 the total remediation costs for historical contamination are € 5.13 billion, from which € 2.57 billion public money (multiplier of 2). For the 5.13 billion€ we have remediated approximately 15.000 sites.

- a. What are the main financial / funding systems in place in your country? (e.g. Financial guarantees, insurance, public – private partnerships, special foundation, industrial consortium, enforcement, ...). We have a remediation fund from the national government. If needed we can give financial guarantees, but the policy is now to limit this.
- b. Between the different steps of management (investigation, remediation, monitoring...)?

We subsidize only the remediation costs of historical contamination. Not the investigations. The management of contaminated groundwater (plumes) will increase and will be subsidised in future.

ORGANISATIONAL ISSUES

How are stakeholders and in particular communities involved in the approach?
The competent authorities communicate on a transparent way. The different steps from risk assessment, remediation and after care monitoring are formal decisions and are open processes for the community to give their comments. The competent authority has to prove what they have done with these comments. If there are severe risks the competent authority will have the lead in organizing public meetings. In general it is an open process where every stakeholder can give comments.

18. Is there a specific approach for:

- a. Brownfields?
- b. Megasites?
- c. Widespread (diffuse) pollutions?
There is no difference for a, b and c. Mainly the risks and the remediation of a contamination are communicated.
- d. Reuse of excavated soils? (e.g., in relation to their quality)
For excavated soils every municipality is the competent authority. In general the risks of reuse of excavated soil are much lower than by remediation.

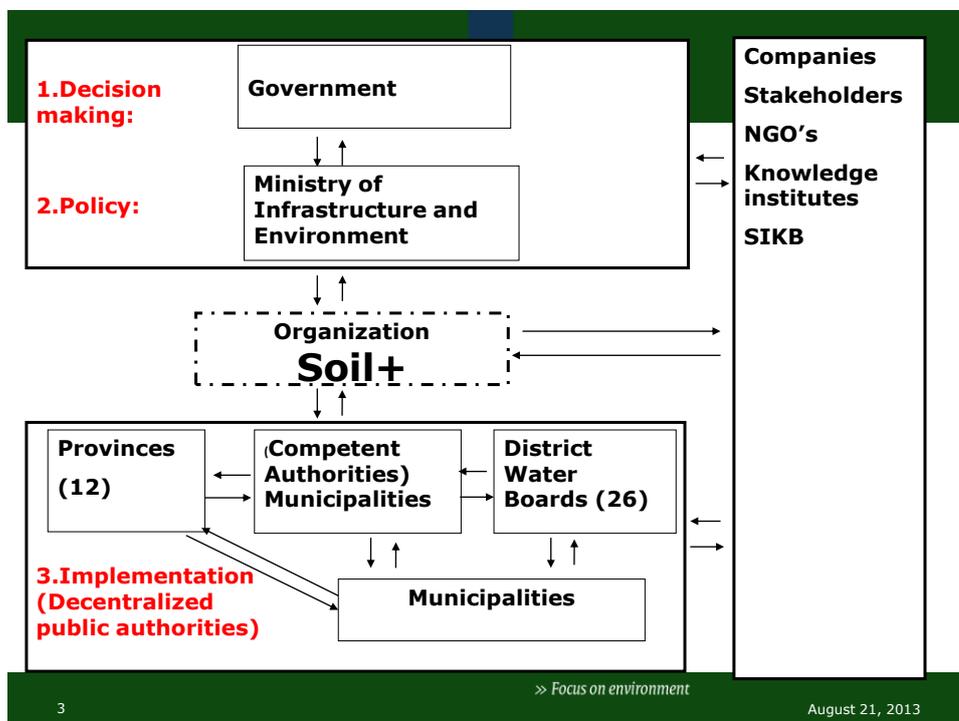
19. Does your national policy include any accreditation system for consultants or service providers? If yes, please provide some details.

We have the Soil Quality Decree that says that certain activities concerning soil must be done by a certified organization or qualified person. For example: sampling, analysing, remediation, transportation of contaminated soil etc. See the weblink to SIKB: <http://www.sikb.nl/pagina.asp?id=365>

20. Do you have any training / capacity building programme, any management accountability and performance measurement?

We have a soil academy and if needed special meetings for the competent authorities. Besides that we have Soil+ to help all the provinces and municipalities.

21. How is the necessary inter-governmental coordination for CLM organized? (e.g. with Health Protection Department, with the public site owners, with state or local public sector environmental organizations, with special interest advocacy groups,)

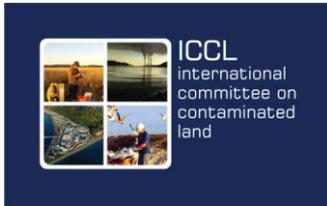


CRUCIAL DEVELOPMENTS IN THE FUTURE

Are there any additional issues to be further developed in the following months/years whatever they are (Research and Development needs, organisational issues, ...)?

The legislation will be revised and a new policy document will be made for using the subsoil. Besides that we try to make on an EU –level a common soil and subsoil knowledge agenda that will be financed by the H2020

Unofficially or officially, do you see any opportunities for collaboration in the coming months or years that may improve overall coordination among international



organizations? (e.g., conferences, workshops, international (technical or policy) initiatives, growing alliances (e.g., in support of redevelopment /reuse of contaminated lands, etc.).

Especially on the research and development side. Making a common knowledge agenda for soil and subsoil & Formulating the common societal challenges and in what way soil and subsoil can contribute (Ecosystem services)

REFERENCES

Please give most important references (documents, website, projects, and case studies) that could be relevant for explaining your national approach

I will annex the Circular and Soil Protection Act. In the text I referred to some websites.

We have a booklet that describes the Dutch policy and execution perfect: Into Dutch Soils