INTERNATIONAL COMMITTEE ON CONTAMINATED LAND

QUESTIONNAIRE ABOUT LEGAL FRAMEWORK FOR SOIL/SITE CONTAMINATION MANAGEMENT

COUNTRY: Switzerland
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OVERALL CONTEXT

1. Does your national policy have a specific definition of "contaminated site", "contaminated soil"? If yes, please provide the definition.
   Yes. We have a definition for polluted site, too.
   Polluted sites are operative or inoperative waste disposal sites (landfills) and company and accident sites in which waste was deposited or percolated. They are restricted in area.
   Contaminated sites are polluted sites that lead to harmful effects or nuisances or if there is a substantial danger that such effect may arise. Such sites require remediation.
   Polluted soil are soil whose natural composition has been physically, chemically or biologically modified. Polluted soils are only regarded as polluted sites if the pollution stems from waste and they cover a defined area.

2. Is Groundwater included in this definition?
   No.

3. Does your policy on contaminated sites/land/soil include other definitions (i.e. brownfield, sediment)?
   No.

4. Which sources are you considering? Industrial operations? Transport? Urban contamination? Etc.
   The wastes are the source of pollution. They can come from industrial operations, waste management (landfills) or accident.

LEGAL FRAMEWOK

5. 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.)

Common regulations in the Federal law relating to the protection of the environment;
Specific prescription in the Federal ordinance relating to the remediation of contaminated sites;
Specific prescriptions in the Federal ordinance relating to the federal fund for the remediation of contaminated sites**;**
Specific prescriptions in the Ordinance relating to impacts on the soil**.**

b. If there is no legislation, please be precise how you tackle the problem.

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c. What are the main policy objectives?

Obligation to remediate if polluted sites lead to harmful effects or nuisances or if there is a serious danger that such effects may arise.
Remediation measures have to ensure, that no more action is necessary after 1-2 generations.
Inventory of polluted and contaminated sites is open to the public.
Polluter-pays-principle, no deep-pocket-principle (remaining costs are beared by the public authority).
Federal funding has the objective to stimulate the contaminated land management.

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, …).

Risk based approach: reduce unacceptable immissions from a site in groundwater, surface water, indoor-air or agricultural soil/children playgrounds to an acceptable level (remediation goals).
Polluter-pays-principle.
Cleaning up is intended to effect the long-term, sustainable elimination of the danger.

6. What is the Chain of Liability for the management of contaminated land?
   a. Polluter? Land owner? Last operator? Occupier?

      Bearing the costs for legally necessary measures (e.g. remediation): if two or more persons are responsible, they bear the costs according to their shares of the responsibility. The first to bear the costs is the person who caused the measures to be needed through his conduct.
      Usually: 80-100% polluter, 0-20% actual land owner.
      Realising the legally necessary measures: the most appropriate (polluter, owner or occupier).

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

Contamination that results from a pollution after 1.2.1996 (exception are shooting ranges: no pollution after 31.12.2012 in groundwater protection areas and 31.12.2020 for all others) are not paid by the Federal remediation fund; otherwise there is no difference concerning the obligation for investigation, monitoring or remediation.

c. Can a responsible party pass on the liability to a purchaser? (under statutory law? Contractually?)
Responsible party remains obliged to bear the costs for legally required measures in the view of public law, but is free to have contracts with a purchaser based on the private law.

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?
Yes.

e. Are you facing specific situations (e.g. privatization of the industrial activities, war impacted areas, …) needing special program?
Some industries try to get rid of their contaminated sites to avoid to finance the remediation by reorganisation or change of the style of the firm. To face this problem, the authorities can now require financial guarantees for the investigations, survey and remediation of contaminated sites. And the sell or the dividing of a plot with a polluted site have to be authorized by the authority.

7. Are there any specifications at regional / local level?
Execution of federal laws and ordinances is in the duty of the Cantons, the Federal authority only executes legislation for installations relating to the railway, military or civil aviation laws.

8. Are there specifications for site closure?
Remediation on a risk based approach but with a long-term security; a polluted site can only been withdrawn, when all hazardous substances haven been completely eliminated.

9. Is there any legal requirement to conduct investigation for potential contamination in the sale of the property?
No. There is only an obligation to conduct investigation in the case of a construction project with possible effects onto the site.
The Parliament accepted in March 2013 a new disposition in the Federal Act on the Protection of the Environment: according to it, the sell or the dividing of a plot with a polluted site have to be authorized by the authority.

10. 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.

Inventories of polluted and contaminated sites (landfills, company sites, accident sites, shooting ranges) are open to the public (mostly through the internet). The only sites to be entered in the register are those polluted with waste o those where there is probable cause to expect that they are polluted. The owner receives the opportunity to take a position regarding the project or to make additional clarifications. The publically accessible register is not only intended to contribute to general transparency and clear relationships. It is also intended to help minimise today's insecurities in construction project planning, property transactions or loan procedures where polluted sites are concerned.

11. What are the strong, weak points and the major bottlenecks with respect to the current regulations in your country?

Strong:

- Obligation to long-term effective measures (stop emissions at the source with containment methods if possible, but no active measures beyond 1-2 generations = mostly decontamination for hazardous waste dumps, shooting ranges etc.);
- Federal and local funding motivates quite strong to be active;
- Clear, simple legislation (with few possibilities for lawyers), is easier to communicate to the public and to accept by incorporate companies
- Possibility to realize all necessary measures without any decree, distribution of costs often by a non-official agreement

Weak:

- As most of the contaminated sites lie in the densely populated areas, where the land price is often much higher than the remediation costs, a high percentage of polluted and contaminated sites were fully decontaminated
- The cantons are responsible for the remediation and some of them have not enough human and financial resources to be active.

Bottleneck:

The driver is mainly the high building activity/high land prices in the country, remediation of landfills or old industrial plants in rural areas need mostly strong political pressure -> danger of generating hopeless brownfields (e.g. steel-industry)

TECHNICAL ISSUES RELATED TO THE LEGAL FRAMEWORK

12. Are there site investigation requirements?

Yes. A bundle of guidelines.

13. Are Risk Assessment & Management the main tools?

Yes.

14. 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.
       HH when toxic or undesirable gases from polluted sites end up in the air where people regularly gather, such as in apartments, basement rooms or construction excavation.
       GW is the most frequently affected protected natural resource. A certain degree of pollution is tolerated as regards the need to remediate a site (maximum concentrations are listed in the Contamined sites ordinance). The vulnerability of the natural resource to be protected is to be taken into account. But no pollutants whatsoever are tolerated in groundwater wells.
       SW: the maximum tolerated concentrations are listed in the Contamined sites ordinance
       The fertility of soil is another target as well as the use of soil as private gardens and allotments, children's playgrounds and other facilities where children play regularly; maximum tolerated concentrations are also listed in the Contamined sites ordinance.
    b. On a site by site specific approach, or by derivation of guideline values? If possible, please detail your answer.
       Guideline values. Maximum tolerated concentrations are listed in the Contamined sites ordinance for the GW, SW, soil and gases.

    c. Do you take into consideration others sources of pollution in the risk assessment? **No.**

15. If the national policy uses guideline values, please be precise in describing the following points:
    a. Reasons for derivation of generic values
       Simplification of implementation accelerates the whole management, legal equality for everyone, better communication, less time-costly, fundamental discussions with scientists (but exists also!).

    b. Objectives / levels of implementation (investigation, risk assessment, remediation)
       At the three levels.

    c. Priority substances
       Halogenated hydrocarbons, polyaromatic hydrocarbons, heavy metals.

    d. Protocols of derivation (including acceptable risk levels used).
       The precise protocols of derivation is described in the Contaminated sites ordinance (art. 9 – 11).

16. What are the drivers for remediation?

Building activities / improvement of land value, systematic management by local authorities, medias / public pressure / NGO's.

a. To what level is clean-up required? (i.e. acceptable risk, land use values, …)

   The objective of remediation is the elimination of impacts that led to the need for remediation. Exceptions are possible only if no effect on drinking water **AND** proportional costs **AND** less environmental impact.

b. Does your national policy use cost-benefits analysis for the choice of the remedial solution?

   The measures taken are to be environmentally compatible and cost-effective and correspond to the state of the art.

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

Decontamination. The excavated polluted material is then eliminated in several installations: soil-washing / incineration / thermal desorption / cement kilns / metal recovering. The decontaminated residues are deposited into landfills.

a. Distribution of techniques?
b. Evolution in time?

   Due to severe landfill criterions most excavated polluted material has to be treated in soil-washing installations, incineration plants or cement kilns, the decontaminated residues were deposited; "in-situ" methods are promoted by the federal authority, but are rarely use because of unsatisfactory control in the heterogeneous Swiss underground and therefore remaining risk.

c. Acceptance of innovative treatment techniques?

   Most land owners are strongly interested in fast and definitive solutions that allow to reuse the land, there is a strong will to get withdrawn from the public inventory.

18. Are you considering sustainability in the national approach? **Yes.**

a. If yes, how? In particular, how the three pillars of sustainability are considered and balanced.

   Cleaning-up is intended to effect long term, sustainable elimination of the danger. The measures taken are to be environmentally compatible and cost-effective and correspond to the state of the art. The pillar environment is the most important. Economy is the second one and the social pillar is not explicitly mentioned. The protection of the workers is very important.

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

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

a. Land planning programmes?
b. Public health programmes (aggregation of impacts on surrounding populations)

FINANCIAL ISSUES

20. What are the specific practices with respect to “Orphan sites”?
Costs have to be borne by the local authorities, Federal government is funding 40% of these costs.
Any person who is responsible simply as the proprietor of the site does not bear any costs if, by exercising the required care, he could not have had any knowledge of the pollution.

21. Do you have an idea of the annual budget allocated to Soil Contamination Management?
About 200 million Euro, of which 40 million Euro federal funding
    a. How is it divided between public, private and others?
    About 60% public / 40% private
    b. 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, …).
    Federal funding; some cantons have a funding, too; the cantons without funding and the communes finance with public money; private.
    c. Between the different steps of management (investigation, remediation, monitoring…)?
    Estimates are 1% inventory 10% investigation, 89% remediation.

ORGANISATIONAL ISSUES

22. How are stakeholders and in particular communities involved in the approach?
The cooperation among those affected is one of the fundamentals.
Partnership, mutual agreement (individual or collective agreement) between government and business / business sector.

23. Is there a specific approach for:
    a. Brownfields?
    Internet with the description of Brownfield that could be of interest for projects development http://www.sites.friches.ch/
    b. Megasites?
    A controlling concept for the remediation of megasites is in development.

    c. Widespread pollutions?
    No.

d. Reuse of excavated soils? (e.g., in relation to their quality)
Existing guideline:
http://www.bafu.admin.ch/publikationen/publikation/00446/index.html?lang=fr&show_kat=/publikationen/00005

24. Does your national policy include any accreditation system for consultants or service providers? If yes, please provide some details.
No.

25. Do you have any training / capacity building programme, any management accountability and performance measurement?
Training / capacity building program: CAS-SIPOL managed by universities, financed partially by Confederation and coordinated with professional associations.
http://www2.unine.ch/cas_sipol_altlast/page-3345_de_CH.html

26. 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, …)?
Controlling of the remediation of megasites.
Priorisation of the sites that must be remediate quickly.
Investigation et remediation techniques for contaminated sites with chlorinated hydrocarbons.

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.).
Collaboration on technical issues (remediation techniques, toxicity of pollutants, …).

REFERENCES

Please give most important references (documents, website, projects, and case studies) that could be relevant for explaining your national approach
The important information are on Internet:
- Fundamentals http://www.bafu.admin.ch/altlasten/01593/index.html?lang=en
- Present situation
http://www.bafu.admin.ch/altlasten/12163/12178/index.html?lang=fr

- Finance http://www.bafu.admin.ch/altlasten/12148/index.html?lang=en
- Legislation http://www.bafu.admin.ch/altlasten/01626/04569/index.html?lang=en
- Publications http://www.bafu.admin.ch/altlasten/12103/index.html?lang=en
- Registers http://www.bafu.admin.ch/altlasten/12103/index.html?lang=en