Reflections on EU contaminated land policy as outlined in draft of a proposed soil framework directive

A draft discussion paper (5-07-2006)

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1. Introduction

COMMON FORUM discussed the EU soil strategy and soil framework directives on several occasions, based on presentations from EU DG ENV representatives (in Vienna, and during the ICCL meeting in Paris), based on input from COMMON FORUM members (during CONSOIL in Bordeaux, at the NICOLE workshop in Cagliari and at the last COMMON FORUM meeting in Budapest, 8 & 9 June). The discussion at the last COMMON FORUM meeting was much more focussed on concrete proposals for a Soil framework directive, which was possible due to the wide availability of leaked proposals from the commission. Many members from the COMMON FORUM working at national ministries were confronted with these leaked documents in discussions with stakeholders, which generally seemed to be in a better position to obtain this confidential information.

COMMON FORUM decided to analyse the proposals concerning Contamination in the draft Soil framework Directive in view of:

- Future discussions about implementations of the proposed Soil Directive
- To prepare national discussions with stakeholders which were in possession of leaked documents at an earlier stage.
- To share opinions about advantages and disadvantages of the obligations in the directive.
- To assess the way the directive structures the process of assessing the contaminated land problem and the choice of solutions, including public information and public consultation.

COMMON FORUM is aware that after the Commissions interservice consultation, the proposed soil directive is still not endorsed by a number of Commission services. The disagreement concerns the proposals for (historical) contamination, especially the obligation to set up a national contaminated sites inventory, to make this information available to the public and the obligation to remediate those sites.

COMMON FORUM noted that compared to the other soil threats addressed in the soil directive contamination is quite detailed in its obligations. Conversely one may state that the obligations concerning other threats like organic matter decline are too weak, a view held by the EEB, which has heavily criticized the current state of affairs. Informally the idea of leaving the parts on historical contamination out of the directive and strengthening the preventive parts of the directive on contamination and other threats has been put forward. COMMON FORUM however does not intend to suggest fall-back options to the commission or to suggests trade-offs between proposals for contamination and proposals for other threats. The COMMON FORUM network does not see this as its task. The analysis presented in this draft discussion

paper may of course inspire the readers to draw their own conclusions concerning fall-back or trade-off options.
The draft discussion paper should also not be considered as a position paper pro or contra a Soil Framework Directive as such. The views on this question are different in different Member States.

The discussion in the present paper will be focussed on the content of the directive and will try to identify the opportunities provided in the directive for improvement of current preventive approaches for contamination, and contaminated land management and remediation. However also the commissions proposal may also contain some threats for Risk Based Land Management approaches as described in the CLARINET reports and in the report of the Technical Working group Contamination. These documents reflect the consensus in this field between representatives from EU Member States who have to implement contaminated land regulations. Risk based land management is also widely supported by European industries in the NICOLE network.

As much of the interpretation and implementation discussion will start after the publication of the proposal, possible negative effects may be easily mitigated after the publication. However the way the contamination part of the SFD is designed and structured at present may act as a blueprint for future discussions. If the blueprint is such that it blocks flexible cost-effective and eco-efficient Risk Based Land management approaches, no matter how it is implemented, the problems may become more fundamental and should be cured before the implementation discussion starts.

It should be noted that the framework of mandates of the Technical Working Group Contamination during the discussion at the start of the Thematic Strategy on Soil protection did not suggest a Soil Framework Directive (SFD), but a joint strategy and a monitoring directive. Much of the obligations described in the proposed SFD originate from recommendations from the Working Group Contamination. On the one hand one could say that the directive does not contain unexpected things coming out of the blue and strictly follows the working group recommendations. On the other hand one should be aware that those recommendations were made in a different context. The working group made recommendations for a monitoring directive and an accompanying soil strategy, and did not anticipate that the proposals would end up in a directive.

Overview

The present discussion paper will first give some general comments on the overall approach for contamination in the directive and it's relation with current development in contaminated land policies in the EU Member States. These comments are given in chapter 2.
In chapter 3 some detailed comments will be made on each article of a current draft of the proposed soil framework directive.

2. General considerations

The general aim of the framework directive is to provide a flexible regulatory framework that takes into account the diversity of situations in the various countries and regions of the European community. Given the different stages of development of soil protection policies in EU Member States, the framework directive should stimulate those countries that do not have a (fully operational) policy, without interfering (too much) with already successful policies in Member States. A flexible directive needs therefore to focus on common long-term goals only and will leave the choice of the appropriate instruments and operational details to the Member States (or even regional and local competent authorities).

During the discussions about the thematic strategy for soil protection 3 important threats to soil were discussed in depth in Technical Working Groups: Erosion, Organic matter decline and Contamination. The recommendations of these working groups and the subsequent discussions in the Commissions services have resulted in a proposed directive which devotes 3 articles that jointly cover erosion, organic matter decline, compaction, salinisation and landslides, one article to sealing and 6 articles for contamination only. In the contamination part only one article deals with prevention and 5 articles are proposing regulations for historically contaminated sites. The bias towards contaminated sites is surprising in view of the fact that many Member States do have contaminated land policies in place (based on separate acts or based on a combination of other acts). From the point of view of soil protection the geographical coverage of these policies may be more important than the number of Member States having soil protection acts or contaminated land policies. Most of the European territory is covered by national contaminated land policies, although some new Member States may lag behind. It is also interesting to note that historical contamination was hardly mentioned in the document (EU Soil protection policy: Current status and the way forward, ecologic, 2004) prepared for the Vital Soil conference organized by the Netherlands and the EU during the Dutch presidency in 2004. The added value of an EU approach was expected to be larger for other soil threats and for prevention of soil contamination.

Evolution and convergence of national policies

To assess the possible impacts of contaminated sites regulations in a EU soil framework directive it is important to consider the evolution of national contaminated land policies.
The extent of contaminated land in different countries and the approaches to managing the related problems have been the subject of considerable discussion and exchange of information and ideas in the last 10 or more years. Initially, national policies for contaminated land reflected the way that the countries first perceived the problems. The first is the perspective of protection - relating to the impact of contamination on human health and environmental quality. The other is the spatial planning perspective - managing the impact of contaminated land on the way land is used, for example regenerating industrial areas, increasing agriculture use, or creating a nature area. The major trend in current contaminated land policy development is to

address the environmental and spatial planning aspects simultaneously (see figure 1). This is increasingly evident in the development of a more holistic approach to management of urban development. This in turn links to economic issues, such as changes of land values and use of the market to drive environmental improvements.

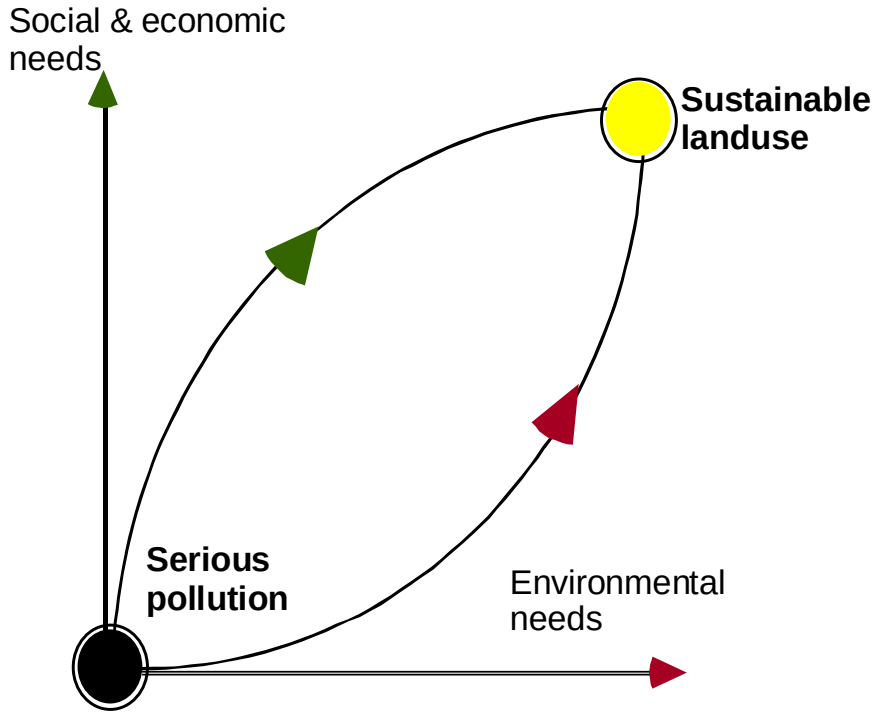

Figure 1: Trend in policy development in European countries: Different drivers for solving contaminated land problems ultimately aim at restoring the capacity to reuse the land. Setting priorities for contaminated sites according to environmental needs (reduction of health risks for man and the environment) ignored spatial planning priorities. Sites with a high risk in relation to their current use are cleaned up, for instance residential areas built on soil containing hazardous waste. Abandoned industrial land often poses lower risks because the contamination does not lead to human exposure. Hence decontamination has a lower priority from an environmental perspective. Because clean up is needed before such a site can be redeveloped, setting priorities according to environmental needs tend to block redevelopment. However, setting priorities according to spatial planning (socio-economic needs) would ignore sites that may pose a risk in view of their current use and favour the decontamination of sites with a high economic value for redevelopment. Defining contaminated land problems as a general burden for society, instead of a sectoral environmental or spatial planning problem, will assist in finding sustainable solutions without conflicts of interest.

At the start of their policy development many countries followed the classic environment oriented approach: Potentially contaminated sites were identified and in a preliminary assessment concentrations of relevant contaminants were measured. If these were present in significant amounts, a more detailed site specific risk investigation was carried out and if significant risks were identified in relation to the current use, the site was classified as needing remediation. The next phase is planning and performing a remediation. Experience showed however that this approach has a number of drawbacks. It is quite expensive especially in view of the large number of sites where the need for remediation is already obvious at an early stage in the assessment. Moreover because the same procedure had to be applied for all sites, long delays between the various stages of the investigation could be observed, which kept possible redevelopment project waiting, especially for sites with lower environmental priorities. If redevelopers asked to speed up the assessment and remediation to suit their needs they were often confronted with rather stringent environmental requirements.

These drawbacks stimulated policy changes in many countries and the development of more flexible risk based land management approaches in European projects like CLARINET and NICOLE. Risk based land management takes full advantage of the efficiency of risk based decision making, moves to a solution which integrates remediation with redevelopment as soon as possible and will take simple (temporary) risk management measures for sites which cannot be redeveloped (including remediation) immediately. Risk based management allows for faster decision-making and is more cost effectives since it exploit the redevelopment market. (see for instance discussions in the CABERNET network and Interreg projects like REVIT). Studies in Germany have shown that in these combined approaches the cost of solving the contaminated land problem can be less than 5% of the total development costs.

The general approach for contaminated sites in the current proposal for a soil framework directive

The way the contaminated sites problem is presented in the draft Soil Framework Directive does reflect the older almost exclusively environment oriented approach. (see detailed comments in the next chapter). This of course understandable because it is a directive aiming to protect the soil environment, but it should provide more opportunities for modern integrated risk based land management approaches than it does now. Of course with a flexible implementation and some efforts many Member States with more advanced policies will be able to translate their approach into reports showing that they are complying with the directive, but that is not a very stimulating perspective.

What can be improved

Those from the policy-making community at national Ministries hoped for and actually expected a more strategic framework approach based on an analyses of the positive and negative driving forces which influence the solution of contaminated site problems in the European union. Some other EU directives like the Water Framework Directive and the Groundwater Directive will already lead to contaminated site remediation for those sites where water resources are affected. Sites with mobile pollutants that migrate from soil to groundwater or surface water now or in the near future will need some remediation. The need to remediate new soil contamination, for instance originating from leakages and spills, is already laid down in the Liability Directive. Apart from directives, which are relatively hard driving forces, there are also softer drivers. Many thematic strategies may stimulate contaminated land remediation, for instance:

- Strategy on Urban environments
- Strategy on soil protection
- Strategy on sustainable use of resources

On the other hand there are also some forces which are complicating solutions to contaminated land problems. For example the EU waste regulations, which may block the displacement and reuse of excavated contaminated soil in certain situations, or the guidelines for state aid, which prevent certain funding arrangements for contaminated site redevelopment.

The biggest problems however in contaminated site management and remediation are those sites where the economic value of the land after remediation is much lower than the costs of the remediation. The following (fig 2) which is known as the ABC model may illustrate this.

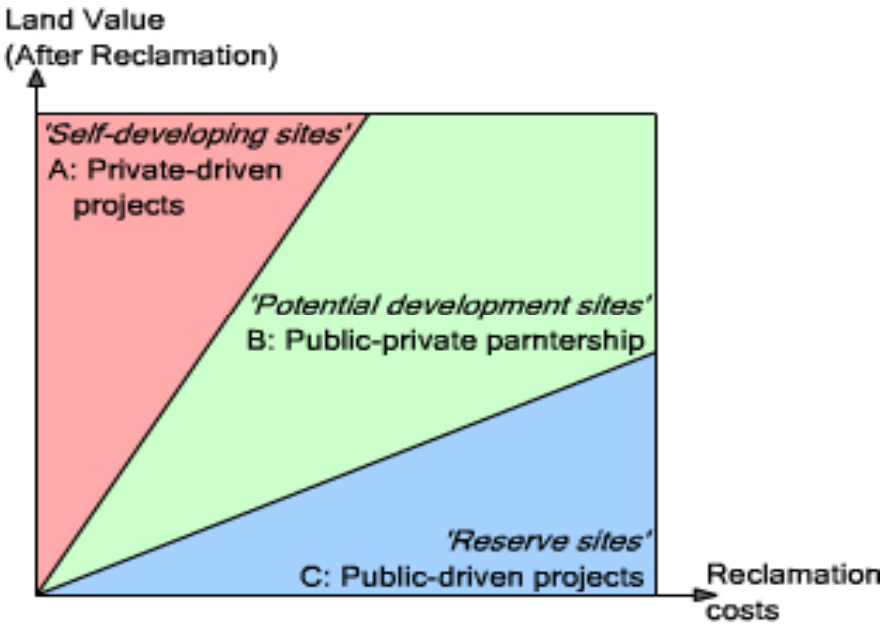

Fig 2 ABC model (derived from CLARINET and CABERNET work)

According to this conceptual model there are three categories of sites:

- A sites which are self developing. Contamination is taken care of, if there are incentives to do so, which is the case in most of the EU.
- B sites which can be developed with smart private and public funding as experienced by many EU Member States
- C sites which need hard political drivers to warrant large public funding (sometimes even for temporary risk management actions).

It should be noted that the borderlines between A, B and C sites will be different in Member States due to differences in strength of their economy and value of the land. In countries or regions were land is scarce and where every site has a huge economic potential the C category may be small or even non-existent.

The biggest progress in the EU concerning contaminated sites can be made by concentrating policy efforts on these " hard core" sites. This will also bring EU contaminated site policy much more in line with the risk area approach for other threats addressed in the proposed Soil Framework Directive. The risk area approach requires to make plans, to set targets, to choose measures and most importantly to use existing instruments in a coordinated way, like presented in fig 3 (derived from a presentation by DG ENV representatives)

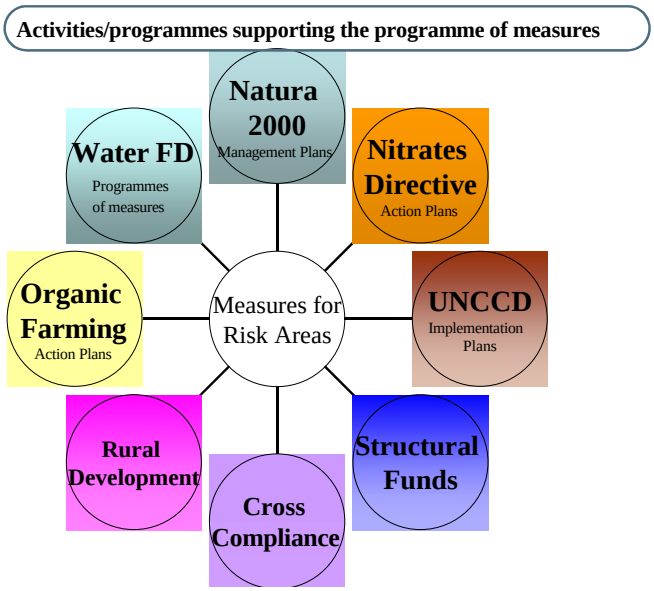

Figure 3 From EU DGENV presentation

A similar picture can be drawn for " contaminated sites defying current redevelopment efforts (see fig 4)

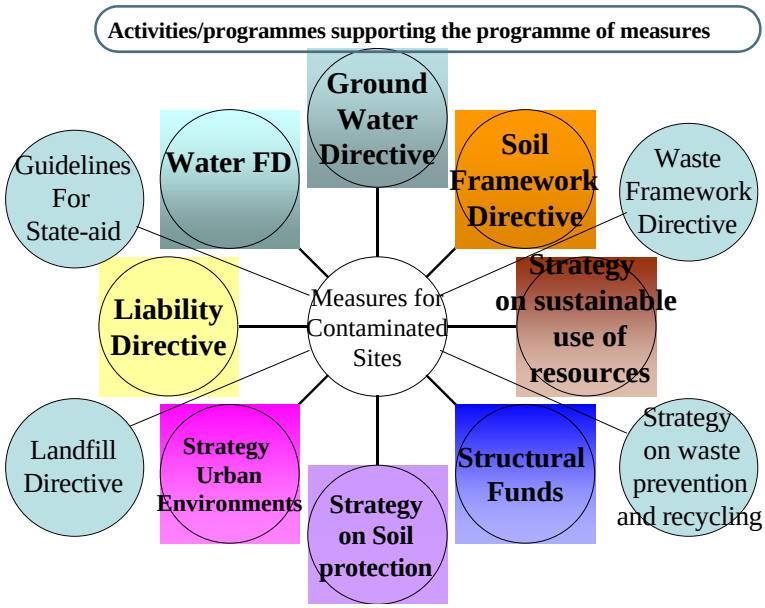

Fig 4 Instruments which can be used for dealing with (category C) contaminated sites.

Interestingly there is already a project managed by the European Environment Agency (Towards an EEA Europe-wide assessment of areas under risk for soil contamination), which is exploring these ideas.

3. Detailed comments on each article in the proposed directive

Comments will be given per article of the proposed directive. The text of the draft is given in italics.

Article 9 Prevention of soil contamination

For the purposes of preserving the soil functions referred to in Article 1(1), Member States shall take appropriate and proportionate measures to limit the intentional or unintentional introduction of dangerous substances on or in the soil, excluding those due to air deposition and those due to a natural phenomenon of exceptional, inevitable and irresistible character, in order to avoid accumulation that would hamper soil functions or give rise to significant risks to human health or the environment.

This is an important obligation and is needed to prevent new contaminated land in the future. The exclusion of air deposition is understandable since deposition itself cannot be limited. But it is important to note that air quality has to improve in order to stop the slow but steady accumulation of persistent substances in top-soils. The article mentions " limit ". The Water Framework Directive (and groundwater directive) however use "prevent and limit" which seems a bit stronger, although according to some the Groundwater Directive should use "aim to prevent and limit" to recognise the fact that true zero input can never be reached for groundwater. On the other hand true zero input can be reached by using appropriate containment for certain activities on soils, as long as the containment is controlled and maintained.

A list of potential soil polluting activities is important to identify activities where the soil may benefit from preventive measures, as already suggested by the Technical Working Group Contamination. These measures could be specified further in national environmental permitting systems and in IPPC. Although a list of potential soil polluting activities is provided in Annex II of the proposed directive, it is at present not specific enough to be used as a basis for the assessment of the need for preventive measures concerning soil (and groundwater) contamination. A quite similar list was presented in the context of prevention of soil contamination from local sources by the Technical Working Group Contamination, for illustration purposes only. Hence the list in Annex II can only be considered as a starting point. Ideally such a list should be the result a transparent risk assessment procedure. The risk that should be assessed in this case is the likelihood of a leakage or spill of dangerous substances, for each activity, that hamper soil functions or give rise to risks for human health or the environment. It is important not to confound this preventive assessment with the risk assessment of already contaminated land. As the commission is proposing a platform for exchange of experiences and possible harmonisation concerning contaminated land risk assessment, another platform on preventive risk assessment may be an additional useful instrument.
The list of potential soil polluting activities (Annex II) also plays a central role in the inventories of potentially contaminated sites.

Article 10 Inventory of contaminated sites

1. Member States shall, in accordance with the procedure laid down in Article 11, identify the sites in their national territory where there is a confirmed presence, caused by man, of dangerous substances of such a level that they pose a significant risk to human health or the environment, hereinafter "contaminated sites".

That risk shall be evaluated taking into account current and approved future use of the land.

2. Member States shall establish a national inventory of contaminated sites, hereinafter "the inventory". The inventory shall be made public and reviewed at least every five years.

This is an obligation to identify contaminated sites and to make a national public inventory of these sites.
The definition of a " contaminated site" plays a central role in this article. The definition looks acceptable for most people so it may be called a "common definition" but to put this definition into practice several questions come up:

- Does confirmation mean measuring of concentrations or can other evidence, which proves the presence/absence of contamination beyond reasonable doubt, be used.
- Are dangerous substances only the ones recognised at the EU level ?
- What is the level at which substances become risky?
- Are these levels predetermined (national) numerical standards or is site-specific risk assessment needed in every case.
- Can we conclude based on historical information about former uses of the site that the site is contaminated and will pose a risk? (Think about the "beyond risk assessment situations like the part of the Bitterfeld area discussed at CONSOIL 2000). Or do we always need to follow the complete protocol (historical investigation, preliminary soil sampling and concentration measurement, risk assessment and finally priority setting and remediation planning).

The definition also implies that there is some common understanding of the term "site". Is a site to be defined by:

- The borders of a common contamination history?
- The borders of the ancient industrial facility that contaminated the area?
- The borders of current ownership?
- The area where a new use is planned (spatial planning unit)?

These questions will need some answer during the implementation discussions. But at this stage it is important to note that the definition provided by the Technical Working Group Contamination was different in one important aspect: The reference to the need of taking risk management actions. The working group defined a contaminated site as:

> "a site with confirmed presence of "dangerous substances" caused by man in such a level that they may pose a significant risk to a receptor in such a way that action is needed to manage the risks. The risk is evaluated on a site-specific base taking into account current and expected uses of the site."

The reference to risk management actions has a quite important advantage. First it may help to mitigate the largest drawback of the contaminated site definition which is that somebody can "contaminate " a site just by approving another more sensitive use of the site. The solution to this is part of the definition, because if appropriate (temporary) risk management actions are taken than the land is no longer contaminated. The definition will stimulate the application of temporary risk management measures prior to remediation in cases where immediate remediation is difficult to due to social, economic and even environmental constraints. (This will be further discussed later in this paper).

Concerning the obligation to make inventories it is noted that inventories are a tool and not a goal on their own. If the contaminated land problems are to be addressed in a national (or regional) program which allocate funds to solve contaminated site problems by bringing them to some beneficial use for society while reducing the risks for human health and the environment to an acceptable level, an inventory at the national (or regional) level is needed to make strategic decisions in the programme. Therefore the Technical Working Group Contamination concluded that every Member State (or county or region) needs an inventory of potentially contaminated sites to be able to plan necessary management actions. As decision for action can take into account other factors than contamination, it should be up to Member State to fill it in depending its own needs. EU-wide guidelines on how to build up an inventory of potentially contaminated sites as well as contaminated sites can be useful to exchange good practice in particular for Member States not having such inventories.

Focussing the inventory on confirmed contaminated sites (after site specific risk assessment), as proposed in the directive is not very useful since this is just an intermediate stage in the life cycle of a site in the national programme. If the decision is made that the site is indeed contaminated, because it poses (or will pose, in the case of an approved new use) a risk for human health or the environment, risk management actions (temporary measures or remediation) will be taken, with the effect that the site will be classified differently (it leaves the contaminated sites category). In the case that only an approved future use is affected, this use is likely to be postponed or changed in case remediation cannot start immediately. This means that the category "contaminated sites" as defined above will be small and not reflecting the overall effectiveness of the national programme. The same number of contaminated sites can arise if there is hardly any contamination (confirmed contaminated sites are rare) or in the case of a very active programme in a country with many potentially contaminated sites (contaminated sites are addressed as soon as they are confirmed). From a management point of view it is much better to consider the number of potentially contaminated sites (input for the programme), estimate the number of sites which may need some risk management action in view of current or approved uses and register the number of sites (or area) actually remediated in relation to strategic targets set by the programme (the output of the programme).

Article 11 Identification procedure

1. Each Member State shall designate a competent authority to be responsible for the identification of contaminated sites.

2. Within five years from [transposition date], the competent authorities shall have identified the location of at least the sites where the potentially soil-polluting activities referred to in Annex II are taking place or have taken place in the past.

For those purposes, the activities referred to in point 2 of Annex II shall be considered independently of the thresholds specified in Annex I to Council Directive 96/61/EC[1].

The identification shall be reviewed at regular intervals.

3. In accordance with the following time-table, the competent authorities shall measure the concentration levels of dangerous substances in the sites identified in accordance with paragraph 2, and where the levels are such that there may be sufficient reasons to believe that they pose a significant risk to human health or the environment, an on-site risk assessment shall be carried out in relation to those sites:

(a) within five years from [transposition date], for at least 10% of the sites;

(b) within 15 years from [transposition date], for at least 60% of the sites;

(c) within 25 years from [transposition date], for the remaining sites.

Ad 1. The designation of competent authorities is a logical step but COMMON FORUM hopes that "a" does not imply "a single". Given the huge diversity in size and administrative organisation in Member States more competent authorities will be needed in some cases. Moreover local and regional authorities are likely to be better informed about the local history of potential soil pollution.

Ad 2 This refers to an inventory of locations of potentially contaminated sites, referring to at least activities mentioned in Annex II. Remarks on Annex II were already made earlier but if Annex II has to be taken to the letter than one may run into serious problem with activities such as "ports"(what is meaning of "location" in such a large area) and pipelines (very long location ?). This problem can be cured by assessing the likelihood of soil contamination for concrete activities with risk assessment methods as pointed out earlier concerning prevention of soil contamination.

Ad 3. This proposes a procedure for risk assessment of potentially contaminated sites which may conflict with risk based decision-making. Risk assessment is a tool in decision-making usually consisting of a tiered approach. The first tier often consist of a review of historical and qualitative information, while higher tiers may consist of site specific risk assessments involving measurement of sources and pathways at the site. (see CARACAS reports, www. Caracas.at , for further information). Many different type of assessment can be made at a potentially contaminated site, which

[1] OJ L 257, 10.10.1996, p. 26.

vary in degree of sophistication, precision, accuracy and costs. Crucial for risk approaches is the use of a three valued framework for decision making, illustrated in fig 5:

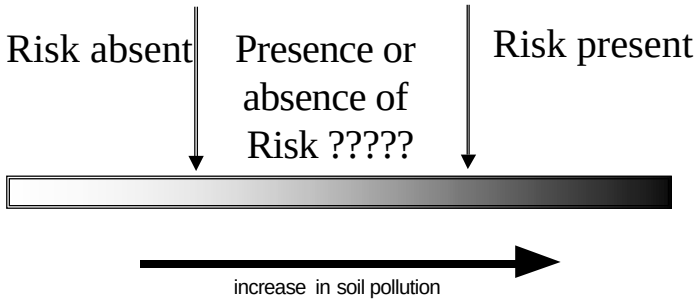

Figure 5 A three valued framework for risk based decision making

There are many situations where qualitative information is already enough to make a decision about the need for risk management or remediation. And these are often the most heavily contaminated sites. At the other hand of the spectrum are sites where risk activities have taken place but we are not certain enough about their impact. In those cases some verification is necessary to see whether the expected pollutants are indeed present. If they are present than site specific risk assessment is only to be used if one is still too uncertain to make a decision. It is quite often the case that sites which may need an onsite assessment to classify them as contaminated sites are sites with moderate contaminant level and complex landuses (residential areas with gardens and vegetable gardens or in case of potential groundwater contamination (pollution that may reach the groundwater after some time).
The risk based approach for classifying sites as contaminated and assessing the need for remediation and/ or temporary safety measures should not be confounded with the sometimes sophisticated and complex assessments which are used to find optimal solutions and to guide the remediation. In some cases information from a site specific risk assessment, that was needed to make the decision to classify the site as contaminated, can also be used for the design of the solution. But this should not imply that detailed site specific risk assessments are always needed to classify a site as contaminated.

To prevent that risk assessment for contaminated sites becomes a fixed inflexible and by consequence inefficient protocol for decision making it is important to delete the obligation to measure “concentrations or levels” from the directive and only describe the obligation to make a decision based on risks for human health and environment in view of current and or approved future use of the land.

Article 12 Soil status report

1. Where a site is to be sold on which a potentially polluting activity listed in Annex II is taking place, or for which the official records, such as national registers, show that it has taken place, Member States shall ensure that the owner of that site makes a soil status report available to the prospective buyer and to the competent authority referred to in Article 11.

2. The soil status report shall be issued by an authorised body or person appointed by the Member State. It shall include at least the following details:

(a) the background history of the site, as available from official records;

(b) a chemical analysis determining the concentration levels of the dangerous substances in the soil, limited to those substances that are linked to the potentially polluting activity on the site;

(c) the concentration levels at which there are sufficient reasons to believe that the dangerous substances concerned pose a significant risk to human health or to the environment.

3. Member States shall establish the methodology necessary for determining the concentration levels referred to in paragraph 2(b).

4. The information contained in the soil status report shall be used by the competent authorities for the purposes of identifying contaminated sites in accordance with Article 10(1).

Ad 1
The transfer of property of a piece of land where a potentially polluting activity has taken place is one of the "natural moments" to consider the status of the soil with respect to pollution. In many countries the owner of the land has the obligation to inform the prospective buyer about the presence of soil contamination, based on civil law. There is no obligation to inform the authorities, although they must be informed for other reasons like when an owner applies for a building permit or an environmental permit. It is a pity that these other obligations to inform the authorities are not mentioned in the directive. Moreover, if the owner is starting a new potentially soil-polluting activity it is in his own interest to inform the authorities about the status of the soil, to avoid liabilities for old pollutions.
Another natural moment for the authorities to address the status of the soil is when spatial plans and the allocation of land to different uses are revised. In many cases when potential contamination is investigated in private transactions or as required for getting permits soil and groundwater is investigated together, whereas the soil status report, which is required in the proposed directive, concerns soil exclusively.

Clearly if a site is contaminating groundwaters it may pose a risk to the environment, and if the contamination is severe enough it will be qualified as a contaminated site. But measuring a concentration of a contaminant in soil will not be enough to make decisions about groundwater contamination. One may say that the groundwater directive will deal with potential groundwater contamination, but for the moment the groundwater directive will be dealing with direct and indirect inputs to groundwater. This may lead to a different type of assessment (significant inputs instead of severe contamination). Will this lead to a separate groundwater status report?

As stated a soil status report is required when a site is sold. This raises the question what will be required if a small landowner, say an owner with a house and a small garden of 250 m2 is selling his property being unaware of the fact that his property happens to be located on a larger site with potentially (historical) contamination. Obviously he does not sell a complete potentially contaminated site. Will a full soil status report be required and is this considered a proportional measure? Or will the authorities take care of these "innocent landowner" situations? It will be obvious that a soil status report for a small part of a site will not qualify the complete site as being contaminated or not-contaminated (in the sense of the contaminated site definition). In this case the soil status report will not be useful for building the inventory of contaminated sites, and shall not be used

Ad 2
The soil status report shall be issued by an authorised body or person appointed by the Member State. This is an obligation to create a new institution. Is this necessary or can the competent authority which is responsible for the identification of contaminated sites also issue the land status report? Concerning the details the soil status report should include it is observed that it focuses on measured concentrations and not on a decision by a competent authority based on risk assessment (which may be based on measured concentrations, but not necessarily). The concentration levels at which there is sufficient reason to believe that the dangerous substances concerned pose a significant risk to human health or to the environment seem require the derivation of these values by the Member State, or is it just a site specific value issued by the authorised body or person? What about possible restrictions for future uses of the site? It may be useful to mention these in a status report.

Ad 3
If the Member States shall establish a methodology for determining concentration levels, who will establish the methodology to derive the (site specific or generic?) value for significant risk?

Ad 4
If information from the soil status report is to be used to build the inventory of contaminated sites the information much be of the same quality as a full contaminated land risk assessment. This will not be realistic in all cases, as stated earlier.

Article 13 Remediation

1.	*Member States shall ensure that the contaminated sites listed in their inventories are remediated.*
2.	*Remediation shall consist of actions on the soil aimed at the removal, control, containment or reduction of contaminants so that the contaminated site, taking account of its current use and approved future use, no longer poses any significant risk to human health or the environment.*
3.	*Member States shall set up appropriate mechanisms to fund the remediation of the contaminated sites for which, subject to the polluter pays principle, the person responsible for the pollution cannot be identified or cannot be held liable under Community or national legislation or may not be made to bear the costs of remediation.*

Ad 1
This is a remediation obligation for sites where there is a confirmed presence, caused by man, of dangerous substances of such a level that they pose a significant risk to human health or the environment, taking into account the current or approved future use of the land. The impact of this obligation is directly related the definition of remediation given in 2
Ad 2
Remediation is defined as actions on the soil that reduce the risk to a level that the contaminated site, taking account of it's current use and approved future use, no longer pose a significant risk to human health and the environment. In the risk based land management approach, which is endorsed by EU Member States and industrial problem owners, remediation should meet three goals:

- Fitness for current of approved use of the land
- Protection of the environment (adjacent water resources, habitats)
- Long term care (the solution should be sustainable, landuse restrictions due to remaining pollution should be registered and natural attenuations should be monitored).

Fitness for use and protection of the environment can be achieved by risk reduction. Risk reduction can take place at the source, the pathway or the receptor, if one accepts this central concept in risk assessment and risk management as a basis for finding appropriate contaminated land solutions (see recommendations of Technical Working group Contamination). The proposed directive only mentions actions taken at the source (removal or reduction of contaminants) or at the pathway (control, containment) as "remediation". Indeed also within the risk based land management approach there is some hierarchy of preferences. All other things being equal actions at the source are preferred over actions at the pathway level and actions at the receptor level. The reason for this is that actions at the source generally require less long-term care because the level of contamination is reduced. Actions at the pathway level require control of landuse and maintenance of containment and these do need more long-term care. Action at the receptor level do require long term care since the contaminants and their pathways remain in place. In addition to this the site may be subject to severe reductions in landuse capability, which need tight statutory controls, adding up to the long-term care.

COMMON FORUM regrets that actions at the receptor are not mentioned as "remediation" (even when they are not the first choice), or as a possibility for temporary safety measures. This omission may lead to the following effect:

- Possibilities to take temporary safety measures at the receptor level will be overlooked, contaminated sites will pose risks for a long time.
- High pressure to remediate a site as early as possible, without possibilities to wait for more economic solutions, to attract investors, to make proper solutions in a socio economic context. Experience has shown that a remediation of sources and pathways which improve both the environment and the economic value of the land (this can be used to fund remediation!), which is started at a natural moment (change in urban planning or when a redevelopment project is started or in the case of a change in landuse with private interest), is much more cost effective. And this is of course important given the fact that remediations without any economic improvement will put

much pressure on always limited public funds, even with the obligation to create national funding systems for so called orphan sites. Most remediations can become " self funding" in an approach which take the opportunities of the redevelopment market. It has been shown that remediation costs in these type of projects is less than 5% of the total cost, which may be considered marginal for all practical purposes. Ignoring these market drives will imply that the full cost of remediation will be put on the public sector .

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This is of course important especially in sites were remediation is not possible due to socio economic constraints, which means that it is very difficult to attract private parties to co-finance remediations (see discussion about " hard core sites" in chapter 2).

Article 14 National Remediation Strategy

1. *Member States shall, on the basis of the inventory and within seven years from [transposition date], draw up a National Remediation Strategy, including at least remediation targets, the contaminated sites to be remediated in order of priority, a timetable for implementation, and an estimate of the allocation of private or public means for the remediation of the contaminated sites listed in the inventory.*

If containment or natural recovery of the contamination is applied as a remediation measure the National Remediation Strategy shall provide for a long term monitoring mechanism in order to survey the evolution of the risk to human health or the environment.

2. *The National Remediation Strategy shall be in application and be made public no later than eight years after [transposition date]. It shall be reviewed at least every five years.*

This article describes the contents of a national remediation strategy.
It will require some effort to accommodate existing national, regional and local contaminated land management and remediation plans into a national remediation strategy. But establishing a national "order of priority" of sites which need to be remediated is not realistic. It may only be possible to make distinctions between categories of sites like:

- Sites posing risks for current land use
- Sites posing risks for future approved landuse
- Sites posing risks for anticipated but not yet approved landuse.

The choice of the first category as a priority is an obvious choice. But a National Remediation plan could also consider other categories, for instance solving the urban brownfields first, because of economic interest and economic feasibility and the political wish to reduce urban sprawl to greenfields.
The proposed directive should change its wording which seem to suggest a national ranking of sites according to environmental risk.

Since the National remediation plan should address long-term monitoring if containment or natural attenuation has been used as a remediation technique, the plan should also be allowed to contain provisions for temporal safety measures in case a

remediation is not feasible due to technical, financial and environmental constraints. It would be even better if the National remediation plan could contain provisions for long-term care in general. Also sites which are not remediated by using containment or by natural attenuation do need long-term care if contamination remains in place because it does not affect the current landuse.

Article 15 Awareness raising and public participation

1. Member States shall take appropriate measures to raise awareness about the importance of soil for human and ecosystem survival, and promote the transfer of knowledge and experience for a sustainable use of soil.

2. Article 2(1), (2), (3) and (5) of Directive 2003/35/EC shall apply to the preparation, modification and review of the programmes of measures on risk areas referred to in Article 8 and the National Remediation Strategies referred to in Article 14.

Awareness-raising is indeed important and an invitation to the Member States to take measures is appreciated. The second part of this article is about public participation concerning plans and programmes, in particular (for the contamination part of the directive) the National Remediation Strategy. It is hard to imagine how public participation can be implemented in this case. Public participation is of utmost importance in local decisions about contaminated land restoration and brownfield redevelopment, that is at the level of individual projects. The local spatial plans, addressing the environmental social and economical needs for land use and landuse changes, and the political choices can lead to priorities for remediation. These local plans often also provide opportunities for public participation in decision-making. The National Remediation plan is likely to be built up from the local plans, and in that aspect it can be the result of public participation. But for those aspects where a National Remediation strategy is more than the sum of the local plans, public participation is more difficult and democratic control by parliament seems to be the only mechanism unless one wants to organise a National Remediation Strategy referendum.

Article 16 Reporting

1. Member States shall make the following information available to the Commission within eight years from [transposition date], and every five years thereafter:

(a) a summary of the initiatives taken pursuant to Article 5;

(b) the risk areas established pursuant to Article 6(1);

(c) the methodology used for risk identification pursuant to Article 7;

(d) the programmes of measures adopted pursuant to Article 8 as well as an assessment of the efficiency of the measures to reduce the risk and occurrence of soil degradation processes;

(e) *the outcome of the identification pursuant to Article 11(2) and (3) and the inventory of contaminated sites established pursuant to Article 10(2);*

(f) *the National Remediation Strategy adopted pursuant to Article 14;*

(g) *a summary of the initiatives taken pursuant to Article 15 as regards awareness raising.*

2. *The information referred to in paragraph 1(b) shall be accompanied by metadata and shall be made available as documented digital georeferenced data in a format that can be read by a geographic information system (GIS).*

It is obvious that a EU soil framework directive will include reporting obligations. It is noted that georeferenced information is only necessary for risk areas. Some COMMON FORUM members were afraid that this would also be the case for contaminated sites

Article 17 Exchange of information

Within one year from [entry into force], the Commission shall set up a platform for the exchange of information between Member States and stakeholders on the risk area identification pursuant to Article 6 and on risk assessment methodologies for contaminated sites currently in use or under development.

This is welcomed by COMMON FORUM members. We would like to see also platforms for preventive risk assessment (producing a better ANNEX II) and for inventories of potentially contaminated sites

Article 18 Implementation and adaptation to technical progress

1. *The Commission may, in accordance with the procedure referred to in Article 19(2), adapt Annex I to technical and scientific progress.*

2. *Where, on the basis of the exchange of information referred to in Article 17, a need to harmonise the risk assessment methodologies for soil contamination is identified, the Commission shall adopt common criteria for soil contamination risk assessment in accordance with the procedure referred to in Article 19(2).*

3. *Within four years after [date of entry into force], the Commission shall adopt, in accordance with the procedure referred to in Article 19(2), the necessary provisions on data and metadata quality, utilisation of historical data, methods, access, and data-exchange formats for the implementation of the provisions of Article 16.*

This is very useful in connection with article 16 , to increase common ground in the national approaches and document the state of the art in guidance documents.

List of potentially soil polluting activities ANNEX II

1. *Establishments where dangerous substances are or were present in quantities equal to or in excess of the amounts indicated in Parts 1 and 2, column 2 of Annex I to Council Directive 96/82/EC (Seveso)*[2].
2. *Activities listed in Annex I to Council Directive 96/61/EC.*
3. *Airports.*
4. *Ports.*
5. *Former military sites.*
6. *Petrol and filling stations.*
7. *Dry cleaners.*
8. *Mining installations not covered by Council Directive 96/82/EC, including extractive waste facilities as defined in Directive 2006/21/EC of the European Parliament and of the Council*[3].
9. *Landfills of waste as defined in Council Directive 1999/31/EC*[4].
10. *Waste water treatment installations.*
11. *Pipelines for the transport of dangerous substances.*

[2] OJ L 10, 14.1.1997, p. 13.
[3] OJ L 102, 11.4.2006, p. 15.
[4] OJ L 182, 16.7.1999, p. 1.