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Preliminary study (chapter 2)

Soil pollution management at the Defence department

Prevention and sanitation of polluted soils At the Defence department

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Annex: Diagram - Audit questions, standards and methods

2. Methodology

2.1. Audit objective and audit questions

The audit's aim is to check how the Defence department deals with soil pollution. The problem to be addressed is related to (1) counteracting new pollution as best as possible (prevention) and (2) cleaning up and keeping under control historic pollution and new pollution (sanitation).

The problem to be addressed is expressed in the following audit questions:

1. Is there a transparent legal framework applicable to soil management?

The Defence department should have a clear insight into the legal framework of soil management of military lands. The Defence department declared that it implements the federal and regional environment legislation to the best of its ability 'within the purely military remit' in as far as the implementation does not adversely affect its operational character or its international commitments.

2. Is there a quality plan regarding soil management?

Soil management itself encompasses:

- The integration of environment and soil management within the Defence's organization.
- The designing of a soil management planning scheme aimed at preventing and cleaning up the polluted military lands.
- The execution, follow-up and evaluation of the programme and the information flow about the policy implementation first to the minister and then to Parliament.

3. Are there effective preventive measures in place?

Prevention implies:

- A knowledge of polluting military operations (the polluting activities and the characteristics of the polluting elements, the locations and the soil quality) ;
- The issuance of instructions to prevent or keep pollution within bounds ;
- The compliance with the instructions;
- The feedback and evaluation of the outcome obtained.

4. Is soil management tackled in an effective way?

Polluted soil management implies:

- Mapping the polluted soils ;
- Determining the nature and the seriousness of the pollution on the basis of an examination and a risk analysis ;
- Drawing up a sanitation programme or plan while being attentive to formulating priorities and implementing sanitation measures, supported by a financial plan and a time schedule ;
- Freeing the resources necessary for implementing the plan ;
- Receiving feedback and evaluating the outcome.

2.2. *Audit criteria*

In addition to the commonly accepted applicable legal standards mentioned in annex 2, the overview in annex 3 sums up the audit questions and methods by reference to the general standards. The table layout is the same as the audit questions under item 2.1 above.

The sources of the audit criteria framework are essentially (see bibliography in annex 4):

1. Criteria framework for project and strategic management ;
2. Criteria framework for consistency within the policy and management cycle ;
3. General criteria framework regarding soil management ;
4. Criteria imposed by the department itself.

The following principles are at the core of the criteria table worked out:

- There should be a transparent legal framework for soil management of military lands. The applicable federal regulatory provisions (namely the two decrees of 1791 and 1811 – see annex 2) have to meet the principles of good regulation.
- Soil management has to be tackled according to a plan. It is important that policy objectives are implemented into operational planning to be applicable for an organization in the shorter term. These objectives should be framed explicitly, exhaustively and in a timely and verifiable way. They have to be consistent and properly founded. The organisation responsible for the implementation of the policy has to indicate how it will contribute with the resources available to implementing the projected effects.

The planning should be incorporated into the functioning of the executive organisation and the strategic plan of the organisation itself, the related financial plan, staff plan, action plan, information plan and measurement plan.

Plan monitoring entails a continuous evaluation of whether the assigned tasks have been effectively discharged, costs have been borne and responsibilities have been attended to. It is used as an instrument for organising the implementation and adjustment of the current policy. This entails that information is systematically and regularly collected about the performance and the attainment of the effects in the light of the planned objectives and the efforts of the organisation(s) in relation to the management of the resources used. This follow-up applies to all part processes at all levels (strategic, tactical, and operational).

Government and Parliament should be duly informed (properly, accurately, timely and fully) about the implementation and the effects of the policy implemented. This process is implemented to evaluate the policy, to account for it and to optimize the use of resources so as to ensure more efficiency and effectiveness.

- An integrated approach towards the environment issue entails an all-encompassing preventive approach that takes account of all factors with an adverse effect on the soils. This approach directs all components and actors and adjusts them to each other. This is implemented through a “chain” of which preventive and curative measures as well as follow-up measures are the links. This approach implies both a horizontal and a vertical integration with as a result that environmental issues are to be tackled upstream and that structures are intertwined. The implementation has to be coordinated and followed up. The quality of the implementation and monitoring has to be checked.

2.3. Audit methodology

The audit will be performed with the following methods: an analysis of the documents, questionnaire(s) and interviews with the relevant staff members and verification of files (annex 3).

- Analysis of documents

The Defence department's environmental policy blueprint and the related documents will be checked whether they match the criteria required.

On the basis of an analysis of budget documents and documents other than accounts or data files a verification will be carried out regarding what expenses were already made in the past in relation to soil management and whether an estimate of the future expenses is available.

A mapping will be made of the functioning of the relevant General Staff departments and general directorates as well as of the relevant processes and procedures related to soil management by way of a list and analysis of internal documents (flow charts, guidelines and instructions ...) and by way of general or specific questionnaires and supplementary interviews.

In addition, an analysis will be carried out of the measurement data and the measurement system, of the internal and external information flow with regard to the plan format, the policy implementation and follow-up on the basis of the notes, annual reports and reports.

- Questionnaire addressed to the Defence department

A questionnaire has been drafted to verify how the soil management programme has been designed (content) and how it has been used as an instrument for the policy and management cycle. Explanatory and evidence-supported documents can be requested along with the answers. The answers can provide information that will then have to be analysed or checked.

- Information collating with regional environmental administrative units

If necessary contact will be made with the competent regional environmental units to obtain complementary or additional information. These units are not part of the audit process.

- Interviews with the competent officers

The answers to the questionnaire and the documents enclosed will be discussed at a later stage with the relevant staff members to check the exhaustiveness and accuracy of the Court's analysis of the answers. Summary reports will be drawn up which will be submitted to the interviewee for validation.

Field visits will be carried out.

- File verification

As far as the aspect soil pollution prevention is concerned several files relating to concession granting (or hire) of military lands with a high risk of soil pollution and sanitation will be checked in order to verify whether the procedures are enforced and compliance with the agreements is monitored.

In supplement to the audit techniques mentioned above a walk through test of a range of soil rehabilitation files will be carried out to gain more insight into the matter and the procedures used. The preliminary audit showed that in total 163 files regarding soil sanitation were kept

with MR-Infra, 76 of which were completed and 87 were under examination. Files will be selected on the basis of a limited qualitative sampling.

During the performance of the audit findings will be discussed with the competent department units to guarantee their audit reliability and the validity and shorten the reply time to the provisional report. The audit findings will be summarized into a final report that will reflect the positive and negative aspects of soil management and the concrete (practical) organization and implementation. This will serve as a basis for recommendations aimed at improving the functioning of soil management.

2.4 Exchange of views with the department- discussion of the criteria framework

Discussions about the preliminary audit already showed that the discussion partners of the Defence department Environmental unit were well aware that there is an environmental issue with the Defence department (more particularly soil pollution of military lands and the related subsequent soil sanitation) and that they were ready to provide full collaboration to the Court's proposed audit .

The statement of the issue, the audit questions, the audit criteria and the audit methods to be used were discussed during a meeting with the competent officers of the Defence department on 2 June 2005. This procedure aims, on the one hand, at enhancing the quality of the audit and, on the other hand, at creating a constructive and open relationship with the competent unit(s) on the basis of mutual respect ; this is an added value benefit to the audit in terms of effectiveness. The proposed audit methodology (audit questions, audit criteria and methods) has been accepted by the representatives of the Defence department (concise minutes of the meeting are to be found in annex 5).

Annex: Diagram - audit questions, audit criteria and methods

Audit questions and audit criteria	Methods and techniques for data collecting
1. Is there a transparent soil management legal framework?	
<ul style="list-style-type: none"> • The federal legal framework has to meet the requirements of good regulation¹ (quality criteria of regulatory provisions) • The relation between military legislation and environmental legislation (regional, federal, European and international regulation) should be clear. • Military legislation may not contain general or a long-term limitation of environmental legislation applicability or provide for obligations that are less strict than the regulation in force. 	<ul style="list-style-type: none"> - Analysis of documents (regulation, environmental blueprint and guidelines) - Analysis of existing studies regarding foreign regulations
2. Is there a soil management quality plan?	
2.1 goal-oriented	
<ul style="list-style-type: none"> • The environmental objectives should be defined sufficiently clearly. An objective is <i>explicit and exhaustive, framed in a timely and verifiable way</i> while giving²: <ul style="list-style-type: none"> - a clear definition of the goal to attain ; - the year in which the objective has to be reached ; - the pace at which the objective has to be attained ; - the way the implementation of the objective will have to be evaluated. An objective is <i>consistent</i> if it matches the objective of the international, federal and regional environmental policy. An objective is <i>founded</i> if it has been originally tested as to its financial and technical feasibility. • A critical analysis of the current situation and the plan is based on the minister's policy priorities. • The objectives will be explicitly compared with the objectives of the general environment policy (in- 	<ul style="list-style-type: none"> - Analysis of documents - Questionnaires - Interviews

¹ Principles of good regulation: a regulation should be implementable and compliable, efficient and well balanced, lawful, coherent, plain, clear and accessible, founded and concerted, consistent, updated and relevant.

² - The goal framing should be explicit and exhaustive: it should preferably be worded in terms of performance (output) and effects (outcome). If this is not possible process objectives can be formulated.

- Measurable and verifiable: the goals should be formulated in verifiable wording (unambiguous objectives defined with measurable and defined notions); goal attainment should occur within a fixed period; zero measurement as reference point.

- Timely: the objective should be framed in advance.

- Consistent: two forms of consistency are involved: between the objectives (between various policy objectives, between objectives of various administrative levels, between objectives over time ...) and between the objectives and the basic data (objectives need adjusting whenever basic data change).

<p>ternational, European, federal and regional).</p> <ul style="list-style-type: none"> • Actions and initiatives are planned within the time schedule set so as to reach the objectives. 	
2.2 Organisational evidence	
<ul style="list-style-type: none"> • An appropriate organisational framework to implement the policy with clear function and task description³ should be in place. Each organisation subunit is informed of what action is to take place and when as well as with what resources (budgets, staff) to implement the strategy. Among the various organisation subunits agreements should be made regarding their respective input to reach the goals in a pluriannual perspective. • The drafting and implementation of the planning scheme will be coordinated and led by an organisation subunit responsible towards the top management. The organisation subunit is responsible for the plan structure and monitoring as well as for the support, integration, correspondence and coordination at the implementation stage as well as for the steering and concertation regarding reporting (content and time path correspondence between planning and reporting) • The staff of the organisation has been informed, asked for advice or involved in one way or other in the plan design and implementation. Staff awareness of the policy has been encouraged as to the planning and justification. • External collaboration and communication : <ul style="list-style-type: none"> ○ In the planning scheme account is taken of other (public) actors that intend to attain effects in the policy domain (regional bodies responsible for soil management) by arranging mutual agreements, information exchange, consultancy and coordination. ○ Appropriate information to the citizen entails adequate information on the efforts made to deal with environment issues in a responsible way. 	<ul style="list-style-type: none"> - Analysis of documents charts, flow diagrams, function description, ...) and of the processes mentioned by the audited entity - Questionnaires and interviews (possibly with local entities) - Verification of files
2.3 budget transparency	
<ul style="list-style-type: none"> • The budget has to provide for the financial resources needed to implement the planning scheme. • A financial plan that estimates the cost and expenditure for implementing the soil management programme. A pluriannual planning scheme has to be drafted which provides an insight into the environmental liability and the related cost price. The management instruments that will be used to attain the objectives (and the related cost price) are mentioned. 	<ul style="list-style-type: none"> - Analysis of budget and documents other than the accounts - Comparison with other (external) cost price calculations
2.4 monitoring en information flow	
Plan follow up and evaluation	<ul style="list-style-type: none"> • The organisation has to have some visibility on the plan implementation and an insight into the implementation of the performance and cost of activities (integrated) <ul style="list-style-type: none"> - Analysis of documents - questionnaires

³ Clear task allocation: the tasks, functions have to be recognizable in the structure and staff members should account for the implementation of the main task assignments.

	<p>tion policy, management and budget control).</p> <ul style="list-style-type: none"> • Processes are measured, followed up and redirected in function of the objectives to attain. Differences between planning and implementation are analysed and explained. If necessary proposals for redirection are formulated. <ul style="list-style-type: none"> – A measurement plan is in place (with zero measurement, measurement system and reporting). – The measurement plan corresponds to the information plan; indicators and target values reflect the objectives. – A consistent set of performance indicators is in place that reflects the degree of implementation of the objectives. Indicators have to be robust and reliable; relevant and functional; defined unambiguously and be justifiable. The calculation method of the indicators has to be constant to allow for comparisons over time and with other organisations. – Standards are real, feasible and inspiring. A verification framework is necessary as a basis to appraise the scheduled and achieved performance of the organisation. – The measurement plan is implemented and the implementation is monitored. – A feedback of the measurement outcome is in place. Measurement outcome instigates management to intervene in the implementation in case of departure from preset standards (action plan). 	<ul style="list-style-type: none"> - interviews - analysis follow-up and measurement system
Information supply	<ul style="list-style-type: none"> • The information necessary for monitoring the implementation of the plans is identified and mapped. • Information about the task implementation is <i>relevant, complete, up-to-date and timely</i>⁴: an information plan is drafted (what information should be available, at what frequency and for whom); information necessary for internal and external justification relating to processes has been determined. • The information about the task implementation has to be <i>accurate and consistent</i>⁵: someone is responsible for the appraisal of the reliability of the task implementation data; internal controls on the input of basic registration systems are in place. 	<ul style="list-style-type: none"> - Analysis of information system - Request for and analysis of reports and annual reports (ACOS WB – sustainable development)

⁴ *Complete* information deals with the societal issue, the objectives, the use of instruments, the grounds for the selection of instruments, the costs and the coverage, the task and responsibilities allocation, the performance and effects, the degree of efficiency, the problems with the implementation and execution, ...

⁵ The concept *accurate* is subdivided into 2 aspects: reliable (repeat measurements generate the same outcome) and valid (measurement is made of what we want to know). The concept *consistent* covers the time aspect (data have to be comparable over time), the use of concepts (core concepts have always to be completed in the same way and information sources (various data or data from various sources) need to have a comparable layout.

accountability	<ul style="list-style-type: none"> • Reporting by way of plans, annual reports and management reporting is uniform and is interconnected. Chain information is coordinated and interconnected such as the correspondence between the RCI's data and central organisation. • An adequate justification of the policy implementation and goal achievement. The Defence department reports on a regular basis about the policy implementation to the minister, who can undertake the necessary monitoring. • When it goes to set the plan, the policy blueprint and the budget, Parliament is duly informed about the planning and follow-up of the implementation of the plans. Parliament has to receive relevant, reliable, comprehensible information about what the minister intends to do or has done. 	<ul style="list-style-type: none"> - Analysis of parliamentary documents (policy blueprints and budget documents)
3. Have effective preventive measures been adopted?		
Insight into the issue and prevention programme	<ul style="list-style-type: none"> • An overall overview of soil environmental damage across all Defence levels is needed (pre-measurement and measurement on the basis of available and reliable data). It is important to use unambiguous concepts and definitions. <ul style="list-style-type: none"> - Knowledge (identification and mapping) about polluting military activities, locations, polluting substances, soil quality or vulnerability. - Mapping and classification in categories of used substances, activities and locations is carried out on the basis of a risk analysis and evaluation. <p>Priorities are set on the basis of law requirements, risk analyses, ecological return on investment, ...</p> <ul style="list-style-type: none"> • A prevention programme needs to be developed to prevent that the ongoing activities would damage soils and to diminish future activities. 	<ul style="list-style-type: none"> - Document analysis - Analysis of foreign examples - Questionnaires - Interviews
Programme implementation, guidelines and quality criteria	<ul style="list-style-type: none"> • Detailed descriptive procedures and guidelines and manuals have to be worked out to prevent or limit new soil pollution. They determine clearly the objectives, the strategy and responsibilities for implementing specific programme components. They describe the budgetary procedures, the priorities, the frequency and the formats of the reporting required. They are communicated and their implementation is monitored. • On the basis of the site classification in categories periodic controls are performed to ensure soil quality (to meet certain quality requirements). • Procedures and guidelines are to be provided for emergency cases in high risk sites. 	<ul style="list-style-type: none"> - Document analysis - Questionnaires - Interviews - Possible control on the field - Walk through tests of concession and purchase files

Compliance, monitoring, evaluation and feedback	<ul style="list-style-type: none"> The aim of monitoring is to guarantee that prevention measures are carried out in a qualitative way. This implies a review of the system, on the one hand, and of the implementation of the measure itself, on the other hand. This applies for all military lands, including these in concession or under hire contract. An environmental environmental audit programme verifies whether the strategy and guidelines are followed up and whether further support or measures are needed. 	<ul style="list-style-type: none"> - Document analysis (reports environmental audit unit) - Questionnaires - Interviews
4. Is soil pollution tackled in an effective way?		
Insight into the issue	<ul style="list-style-type: none"> Mapping of the suspected and knowingly polluted lands has to be complete and up-to-date; The nature and the seriousness of the pollution are determined on the basis of an examination (limited and extensive measurement of the effective pollution) and risk analysis. 	<ul style="list-style-type: none"> - Document analysis and data files - Questionnaires - Interviews
Soil sanitation programme : Priorities and selection criteria	<ul style="list-style-type: none"> The soil policy has to set priorities for soil sanitation (examination and sanitation) on the basis of a risk appraisal. The criteria have to be clearly described and defined. The used concepts have to be defined unambiguously (for instance pollution, risk, seriousness, urgency, threatening, ...); Priorities for soil sanitation have to be developed as concretely as possible in a realistic planning (with connection between the number of sanitation actions, the cost price and the duration). At the preparatory stage intermediate goals for examination and sanitation operations have to be framed per file and a time schedule is made for examination, a sanitation plan is worked out and implementation of sanitation works are drafted. Data about the actual situation (extensiveness and type of pollution, health and environmental risk) have to be accurate and exhaustive. The feasibility of the selected solution and the related cost (per year and in total) has to be examined at a sufficiently early stage. At the implementation stage the file/ sanitation programme is adjusted on the basis of additional information about the site, the technologies available, the time schedule and the costs. The local community has to be informed on the progress situation of the sanitation operation. 	<ul style="list-style-type: none"> - Document analysis and data files - questionnaires - interviews - file verification (sanitation, sale, concessions)
Resources	<ul style="list-style-type: none"> The soil sanitation programme is supported by a robust, comprehensive quantitative 	<ul style="list-style-type: none"> - Document analysis and data files

	<p>financial documentation. An estimate of the number of locations to sanitize is provided with the related cost. What should be known is :</p> <ul style="list-style-type: none"> - The number of suspicious locations on military lands (a complete picture and overview of the polluted lands is needed) - The nature and the size of the pollution load (only estimates compatible with the approved sanitation criteria contribute to drawing up an adequate planning for soil sanitation operation) - The financial planning of the projects - The assessment of the costs • The examination and sanitation budgets should be interconnected ; • Various instruments designed to keep costs within bounds are used, for instance scenario calculations, development of a cost standard, procurement procedure, post calculation, ... 	<ul style="list-style-type: none"> - Questionnaires - Interviews - File verification
Quality control, monitoring, evaluation and reporting	<ul style="list-style-type: none"> • Guidelines lay down the tasks and responsibilities of the local sections (RCIs) when it goes to identify and sanitize the soil. • The rehabilitation plan (documentation and consideration of rehabilitation alternative solutions, location control and evaluation report (with possible explanation of cost overruns) have to provide enough insight into the quality of the sanitation action carried out. • Adequate quality ensuring measures have to be taken e.g. soil sanitation implementer's and evaluator's independence • The implementation is measured and followed up; the outcome is evaluated and reported. 	<ul style="list-style-type: none"> - Document analysis (evaluation reports) - Questionnaires - Interviews - Verification of files (soil sanitations, concessions, sale)