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DISPOSAL OF PESTICIDE WASTE – – PROBLEMS AND PERSPECTIVES

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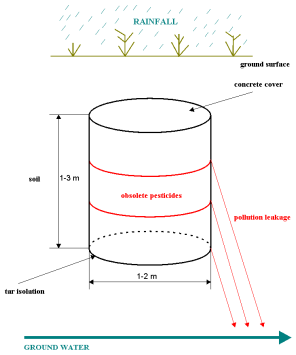
GENERAL DESCRIPTION OF THE PESTICIDE WASTE PROBLEM

- **TOMBS** – underground concrete structures or ground pits filled up with pesticide waste (mixtures), poor technical condition of the tombs chambers, sometimes old military bunkers.
- **POLLUTION LEAKAGE** – tombs threaten especially underground drinking waters, sometimes randomly picked locations, no consideration given to the local hydrogeological conditions.

SCHEMATIC DIAGRAM OF THE PESTICIDE TOMB



PESTICIDE TOMB – SIANÓW

PESTICIDE TOMB – LUBANIA LIPINY

GROUND PIT

THE RANGE OF THE OBSOLETE PESTICIDES PROBLEM IN POLAND

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- first inventory (estimation) = 60 thousand tons
- 1996 – 2004 = 9 thousand tons (from 110 tombs) of obsolete pesticides have been disposed of
- we still have 7-9 thousand tons in 166 tombs

priority list – 51 tombs

- according implementation plan of The Stockholm Convention the problem should have been resolved by the year 2010

EXAMPLE OF NIEDŹWIADY TOMB

/the schematic diagram of the field situation/

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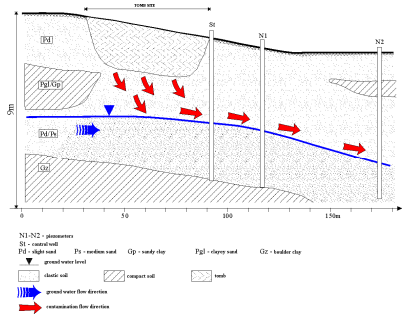

EXAMPLE OF NIEDŹWIADY TOMB /continuation/

/selected active ingredients/

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situation: after excavation of waste

active ingredient	limit of detection /µg/litre/	Sampling point results - µg/litre		
		control well	piezometer N1	piezometer N2
γ HCH /Lindane/	0,10	415,00	23,00	-
Dichlorphos	0,30	129,00	87,00	85,30
2,4 - D	0,50	1514,00	974,00	1,00
DNOC	2,00	1700,00	12,00	-
MCPA	1,00	97,00	1923,00	1,20

CURRENT STATE OF PESTICIDE WASTE DISPOSAL IN POLAND

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- The site clean-up program is 50% complete on the national scale.
- No data for many tombs, sometimes unknown locations.
- The current average cost of thermal neutralization per ton of waste is around 7900 PLN including excavation, drums, transportation and site remediation.
- Since April 2003 there is a hazardous waste incinerator owned by Lobbe Company operating in Dąbrowa Górnicza.
- Disposal is completed in four provinces: lubelskie, lubuskie, podkarpackie, świętokrzyskie.

THE BASIC RULES IN THE CASE OF PESTICIDE SOIL CONTAMINATION

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- Detailed analysis of possible contamination of underground sources of drinking waters.
- Taking into account the site specific physical and chemical ground composition and geological profile.
- Risk assessment studies.
- Proper choice of the method and range of remediation.
- Analysis of economic and legal aspects

PROBLEMS AND TASKS RELATED TO PESTICIDE WASTE DISPOSAL

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- Proper procedures regulating invitation to open public tenders for pesticide waste clean up projects (for years the same mistake has been made over and over again which is poor tomb site assessment done before the bidding starts).
- Insufficient description of the scope of work in the Key Order Specification.
- We still await for official guidelines by the Ministry of Environment regarding the tomb disposal procedures.

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PROBLEMS AND TASKS RELATED TO PESTICIDE WASTE DISPOSAL /continuation/

- Proper preparatory work for possible usage of EU resources for the years 2007-2010

  Included:

  1) Detailed risk assessment studies for tombs territory.
  2) Description of the remediation method.
  3) Detailed inventory.
  4) Location the pesticide disposal programs in the Local Plans of Waste Management.

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CONCLUSIONS AND PRACTICAL RECOMMENDATIONS

1. The solution to the problem of ground point contamination due to a leaking tomb containing obsolete pesticides requires a special and individual approach.
2. Special attention should be given to proper identification of the range, type and level of contamination.
   The observation points (piezometers) should be located after a detailed hydrogeological study around the site. Additional drilling is also necessary.
3. Despite standard pesticides, like sum of DDT isomers, α-, β-, γ-HCH, fenitrotion, methyloparation, toxaphene, 2,4-D, atrazine, chemical analyses should include other active ingredients and, in some cases, their reaction products.
4. Highly sensitive methods need to be used for testing. For water the detectability limit is set for drinking water standards (below µg/liter).
5. The results of the study should help analyze the situation from the legal perspective regarding the soil protection.

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CONCLUSIONS AND PRACTICAL RECOMMENDATIONS /continuation/

6. Further remediation activities should not commence without health and environmental risk assessments towards people and animals.
7. The risk analysis should consist of the key elements and must take into account the specific nature of pesticide contamination.
8. The selection of an appropriate remediation method base on a risk analysis should consider the technical capabilities and economic conditions.
   The criteria of a successful ecological outcome must be precisely described.
9. There is a lack of international guidelines for the disposal of point contamination of soil with pesticides.
10. It is crucial to establish a monitoring network to observe the site condition after its cleanup and remediation.

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NEW ACTION ON OBSOLETE PESTICIDES BY IHPA

IHPA: International HCH & Pesticides Association

Organiser of the International HCH and Pesticides Forum

Working towards the Elimination of Obsolete Pesticides in CEEC

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THE MEETING ON OBSOLETE PESTICIDES EUROPEAN PARLIAMENT 20.09.2005, BRUSSELS, Belgium

The planned actions:

1. Creation of a new Working Group on „Obsolete Pesticides in Central and Eastern Europe".
2. Oral question to Mr. Stavros DIMAS, EU Commissioner on Environment during the November 2005 plenary session.
3. Joint meeting WG „OPs" and EU Commission.
4. Joint meeting Committee on Agriculture and Committee on Environment at the presence of interested national Ministers of the concerned countries.
5. Request for a Repport on the problematic of OPs in the EU.