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**Contaminated Land in Israel —  
From Research to Policy Proposal**

**Orr Karassin**

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The Hay Elyachar House  
20 Radak St. 92186 Jerusalem

<http://www.jiis.org.il>  
E-mail: [machon@jiis.org.il](mailto:machon@jiis.org.il)

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“Teach your children what we have taught our children, that the earth is our mother. Whatever befalls the earth befalls the sons of the earth. When mankind spits upon the earth, they spit upon themselves. This we know — the earth does not belong to man, man belongs to the earth.”

*Chief Seattle, America, 1854*

## ***Foreword: Who Will Save Mother Earth?***

Industrialization and economic development have presented humankind with tremendous challenges that were unknown in the past. Alongside the many opportunities that modern society brings, there are dangers too numerous to count. Every day we are obliged to address various fears stemming from our production methods and patterns of consumption, which go unchecked.

These dangers are often reflected in our environment. We are constantly discovering the extent to which our environment is deteriorating. Apparently, we cannot escape the by-products of industrialized society. If we wish to ensure the health and quality of life for ourselves and our children, we must alleviate the problems we, ourselves, have created and repair the damage.

One of the more serious consequences of industrialized society is contamination of the land, and the continuous damage to its quality. Land pollution is the result of modern man's activities within his environment. In many places the land, which feeds mankind and animals and sustains them, must be saved. Throughout the world and in Israel there are places where the land is contaminated with poisonous materials, some of which are released into the air and seep into our water sources.

Sometimes these processes make the land unusable — either for living or agriculture.

Land pollution and its accompanying dangers are present in Israel as well. During the last decade there has been increased awareness by the government and the public regarding the threat of land pollution, and there is greater recognition of the need to cope with this phenomenon. When I started my research with the intention of proposing policies for treating land pollution in Israel, the scope of the problem was not yet clear. To date, as the situation becomes more apparent and the magnitude of the problem is gradually revealed, there is a pressing need to begin implementing a coherent and comprehensive policy for addressing this issue.

This research is aimed at policy-makers, professionals, jurists and the general public who are interested in Israel's land pollution problems and in the possibilities of promoting solutions in the legislative and policy domains. In order to simplify the task for policy-makers, the study offers a systematic analysis of alternative solutions and policies that are available. As in other studies of this type, this is not an attempt to offer a single solution to the problem, which would be an unrealistic expectation for such a complex issue. The study attempts to propose a series of complementary proposals which, when combined, may prove effective in advancing the treatment of contaminated lands.

The first chapter surveys the extent of land pollution in developed countries. This is not a complete scientific survey; rather, it points to major examples that can explain the development of this phenomenon in several nations and from which Israel may learn in the future. In the second chapter, an attempt has been made to compare the various policy principles and legal tools that have been formulated to deal with the problem in countries considered to be advanced. In the third chapter, methodologies for assessing policy tools in general are offered. These methods will be of assistance later on in assessing the proposed policy for rehabilitating Israel's land. The fourth chapter describes the Israeli reality regarding land pollution, on several levels. The chapter presents a broad illustration of land pollution in Israel, and describes measures that authorities are presently carrying out in order to locate contaminated lands and restore them. The chapter also includes an

extensive survey of laws in Israel that could help cope with the phenomenon, along with a critical analysis of the law. At the end of the chapter there are recommendations for adopting policies and amending the existing legal situation, with the help of several models that are proposed for solving and analyzing them in light of the criteria discussed in the previous chapter. The fifth and final chapter provides a summary of the entire study and a general review of the research and its conclusions.

## *Acknowledgements*

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## ***Abstract***

This study contains an extensive review of the legal and administrative regimes that have been adopted to deal with the phenomenon of contaminated land in the United States, Belgium, Denmark, Germany and Great Britain.

Each of these nations has formulated a **program for cleaning up contaminated land**, which has been in place for years. Experience shows that such a program cannot be implemented unless it includes legal, administrative and economic procedures relating to five key issues:

- 1) Defining land pollution, and establishing methods and means for cleaning up contaminated land;
- 2) A mechanism for delegating responsibility for cleaning up contaminated land;
- 3) A system for collecting information, identifying and registering polluted sites;
- 4) A national, multi-year program for cleaning up polluted lands and providing the financial resources needed to carry out such a program;
- 5) A distinct legal system in addition to rehabilitation policy and legislation, whose role is to ensure that preventive action is taken by potential polluters thus preempting land pollution before it has occurred. This issue is not discussed here since it was perceived to be a separate topic deserving of independent study.

Results of the research indicate that action must be taken immediately to formulate and carry out a national policy for fighting land pollution. This program must include acceptable procedures for each of the essential issues mentioned above.

### ***1. Defining land pollution and establishing methods and means for cleaning***

Defining land pollution is a necessary starting point for any policy hoping to establish priorities for treating contaminated land. The review of legislation from different countries provides a variety of solutions for defining what is deemed to constitute land pollution.

The definition proposed for adoption in Israel combines the fundamentals of Belgian and British law. It is broad in that it encompasses many types of pollution. It is limited in that it requires an established correlation between pollution and potential dangers from contaminated land.

### ***Place for treating contaminated land***

As is customary around the world, treatment of contaminated land in Israel, should not be limited to locations outside of the polluted site (ex-situ). It is fundamental that practical steps be taken and the legal underpinning needed be established for land rehabilitation within the polluted site (in-situ).

### ***The public's right to express its opinion on decisions regarding the scope of the clean-up***

It is essential that the Israeli public be given information on land pollution, and it is even more critical that suitable frameworks be established that will allow interested parties to participate in the various stages of the rehabilitation process. However, if professional assistance is not available to the public, such participation is likely to be merely a formality, and even manipulative. With regard to public participation, a combination between the German approach and the American approach could succeed. In addition to disclosing surveys of contaminated land conducted, these should be opened to critique by potentially interested parties. To enable informed comment these parties must be provided with resources to obtain professional assistance required to understand the rehabilitation plans and land surveys.

## ***2. Mechanism for delegating responsibility***

At the present time Israel has only a partial legal mechanism for placing liability on parties that contaminate the land, both in terms of criminal liability with regard to environmental laws, such as the Hazardous Materials Law - 1993, and the Water Law - 1959 and related regulations; and in terms of civil liability, such as Torts Law, and Section 17 of the Lands Law - 1969.



Criminal enforcement is within the jurisdiction of the Ministry of the Environment. Even so, without a database of contaminated lands, the government is inadequately equipped to assign full responsibility and costs of rehabilitation on polluters.

In this context, there are questions regarding the identity of the polluters responsible and how far back in time such responsibility can be assigned. Taking into account legal methods that assume full retroactivity (such as the USA), and other legal methods wherein retroactive responsibility is almost completely limited (such as in Danish law), we propose that Israel adopt an intermediate approach that corresponds with its own legal jurisprudence. The proposed policy would enable the assignment of retroactive responsibility only if the polluter knew — or should have known — that the pollution could endanger public health, the environment or the water resources.

### ***3. A System for collecting data, locating and registering polluted sites***

Land contamination is usually invisible. It cannot be discovered without special scientific equipment operated by trained professional staff. Moreover, even when information about pollution is obtained, it is impossible to interpret without professional assistance. In Israel there is no system to enable the mobilization of enough teams specializing in land pollution and to finance their activities. Therefore, knowledge regarding the scope of land pollution in Israel is quite incomplete, and access to such information is limited.

Without establishment of a system for gathering information on land pollution, and for identifying and registering contaminated sites, it will be difficult to remedy the situation. Therefore, it is essential to implement a system that will coordinate the existing information — following comprehensive, preliminary land surveys, and mapping of contaminated sites. It is proposed that the information collected be recorded as part of the existing land registry.. Constant updating of the database will be possible through information received from the authorities or the public. The informational database would be open to the public and government agencies, to be used in relation to land transactions, planning processes and enforcement efforts by government and public bodies.

***4. A national, multi-year program for cleaning up polluted land along with the financial resources needed to carry out such a program***

One undeniable characteristic of the land pollution problem is the enormous cost of rehabilitation. In many cases it is impossible to find the person responsible and compel him to act upon his responsibility. Therefore, rehabilitation of polluted lands will in many occasions not occur without government funding.

With a government funding mechanism in place, authorities will be able to plan and implement rehabilitation programs based on environmental priorities. Independent government funding means that rehabilitation programs will be free of the special interests that motivate the private sector. Thus, environmental problems can be solved even in areas a purely economic motive to do so is lacking. In such a case authorities will be required to define a national program for rehabilitating of contaminated lands, that is based on priorities set by considerations of risk prevention.

In the US, alongside legislation for treating contaminated lands the federal Superfund Program was established, which finances much of the clean-up activity for contaminated land, based on a National Priority List. Providing government funding does not prevent local authorities from approaching potential responsible parties and demanding indemnification from them after rehabilitation activities have already been carried out. Indeed, such funding enables the authorities to proceed with rehabilitation programs in cases where there are no responsible parties, or when getting them to live up to their obligation is problematic.

Sources for such government spending are varied. This addition to the budgetary spending can be covered by specific taxes levied on polluting industries or hazardous substances, as is done in the US. It is suggest that also newer methods be considered, such as funding from levies placed on owners of contaminated land. In addition to providing government funding, it is important to incorporate private funding such as insurance companies

## ***Conclusion***

If Israel begins constructing a national program for coping with land pollution, it will be doing so dozens of years after other developed countries in the West. Consequently, a unique opportunity exists to learn from the successes and the mistakes of others. Proposing a model for an effective policy in Israel requires discussion and broad agreement among all the relevant authorities and bodies, **but it is already possible to describe the principles underlying such a policy in general terms** (see the diagram below).

Additional research will be necessary in order to study possible and preferred financial resources to fund government projects for land rehabilitation. Also, efforts should be made to estimate the potential broader impact of various funding methods. The land survey begun by the Ministry of the Environment should be completed thus , serving as a starting point for a database on contaminated land within the Lands Registry. Finally, implementing the policy proposed by this study, will demand formulating draft legislation or amendments to existing laws that reflect the recommendations put forth by this research.

Abstract: Adv. Orr Karsin and Adv. Valentina Nalin

## Schematic Summary of the Main Points of the Proposed Policy

