

PROGRESS IN THE DEVELOPMENT OF NATIONAL AND INTERNATIONAL LEGAL FRAMEWORKS FOR THE CONSERVATION AND SUSTAINABLE USE OF SOIL

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INTRODUCTION

In April 1999, in response an approach by the soil science community, the IUCN (World Conservation Union) Commission on Environmental Law (CEL) established a specialist group to investigate the national and international dimensions of the legal protection of soils.² In October 2000 the IUCN World Conservation Congress passed a Resolution (the Amman Resolution) requesting the IUCN Environmental Law Program (ELP) to prepare options for possible legal instruments and develop legal guidelines and explanatory material for the sustainable use of soil. The IUCN recognizes that soil is the basis of virtually all terrestrial life and the effects of the increase in the human population on the world, especially in terms of the decline in food security, indicates that soil has ecological limits which change according to the variations within ecosystems and the cultural relationships with the land and soil resources. It has been forecast that the global human population will increase from the present 6 billion up to 8 billion by the year 2020 (UN 2002). The effects of the increase in the human population on the world, especially in terms of the decline in food security, indicates that soil has ecological limits which change according to the variations within different ecosystems and the cultural relationships with the land and soil resources.

Under the 2000 Amman Resolution, the SGSS&D has the principal responsibility in its development of legal guidelines and explanatory material, and investigation into a global legal instrument for the sustainable use of soils, to pay particular attention to the ecological needs of soil and their ecological functions for the conservation of biodiversity and the maintenance of human life. The full text of the Resolution is directed to both the national and international levels of legal protection. The report - *Legal and Institutional Frameworks for Sustainable Soils: A Preliminary Report* (Hannam with Boer 2002) was the first major report under the objectives of the Resolution. To successfully achieve these objectives, national and international frameworks for soil legislation need to be based on a clear understanding of the often confusing differences in the use of terminology in the soil science, sociological, and ecological disciplines (SCAPE 2005).

Definitions: soil and soil degradation

The definition of soil (Council of Europe 1990) indicates that it has a fundamental role in the terrestrial ecosystem as a three-dimensional body performing a wide range of functions, principally being ecological, cultural functions, and land-use functions. Any alteration of soil processes can lead to changes in the function of ecosystems (Sheals 1969). It is essential the principal functions of soil must strongly influence the preparation of legal frameworks for soil. The functions of soil have been incorporated within at least one international convention³ and many national soil laws refer to various individual soil functions (Hannam with Boer 2002). Soil degradation is broadly defined as a loss or reduction of soil functions or soil uses, thus lowering the potential capability of the soil to produce ecosystem services. The most important factors that contribute to a state of soil degradation must be taken in account within a legal framework, i.e. water erosion, wind erosion, waterlogging and excess salts, chemical degradation, physical degradation, and biological degradation (Bridges et al 2002).

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² Now called the "Specialist Group on Sustainable Use of Soil and Desertification" (SGSS&D).

³ See *Protocol on the Implementation of the Convention concerning the Protection of the Alps of 1991 in the area of Soil Protection* (Salzburg, 1991), Article 1, < <http://fletcher.tufts.edu/multi/texts/bh993a.txt>>, but not yet in force. Article 1 sets out the multifunctional role of soil in an effective manner. See also the draft revised European Soil Charter of 2002 (found at < http://www.nature.coe.int/CO-DBP6/codbp02e_02.doc>), which includes an explicit description of the functions of soil.

Ecosystem-based strategy

The IUCN has adopted an ecosystem-based approach as its strategy for soil because it promotes conservation and sustainable use in an integrated and equitable way, based on the application of appropriate scientific methodologies. At the fifth meeting of the Conference of Parties (COP) of the CBD, governments and relevant bodies were urged to apply the ecosystem approach in their environmental law reform and the COP adopted 12 broad principles for the application of the ecosystem approach with a clear rationale underlying each principle (Sheperd 2003). An effective legal system for the protection of soil will therefore depend on the selection of appropriate ecological concepts and the development of a legal structure with the appropriate ecological elements and standards to implement these concepts (Hannam with Boer 2002).

NATIONAL LEGAL AND INSTITUTIONAL FRAMEWORKS FOR SOIL

The detailed investigation carried out by the IUCN ELP finds that legislation has been used for many years in many countries in a piece-meal fashion to manage specific types of soil problems and control land use activities, which directly cause soil degradation problems, and to indirectly control soil management problems. Legal and institutional frameworks used in most countries still approach soil conservation in a fragmented way. In the past, the main type of legislation aimed at the control of soil degradation has been the "soil conservation law". Soil legislation had a land utilization focus and was generally introduced to prevent, mitigate or manage soil erosion on arable or pastoral land, mainly at the farm level. Some of the legislation had provisions for land management planning at a watershed scale. By the mid-1990, and in pursuance of a sustainable land management goal, it was acknowledged that a range of land management programs, policies, and educational initiatives, as well as national and local laws, were necessary to successfully change the behavior of land users to achieve such a goal. The IUCN ELP has made the following observations with regard to legislative systems relevant to soil (see Section III - Hannam with Boer 2002, Boer and Hannam 2003):

Some States have developed a framework of legislation to manage soil and land use problems but generally lack linking or coordinating mechanisms to ensure that there is an effective institutional implementation of the legislation;

The majority of legislation does not take into account the inherent ecological characteristics and limitations of soil bodies as the premise for land use decision-making; rather, the legislation related to soil addresses soil problems *ex post facto*;

The legislation does not acknowledge soil as an ecological element with a central role in terrestrial ecology and the conservation of biodiversity;

The structure of some laws indicates that they are a reaction to a political or institutional issue, rather than being designed to effectively manage the soil;

There is a general lack of consistency in the use of standard scientific soil terminology, and often there is an absence of definitions, or inadequate and poorly stated definitions.

Development of national legal frameworks

The development of frameworks for national soil legislation should be approached from a sound conceptual and ethical basis, with the goal of protecting and managing the ecological aspects of soil to enable its use in a sustainable manner. For such frameworks to be effective, States must be willing to accept new elements in a legal system for the soil. Two types of approach using a mix of regulatory and non-regulatory elements can be taken to determine possible alternative legal and institutional frameworks for sustainable use of soil. The first approach is based on a short time-frame for implementation. It considers minimal change to an existing legislative regime, minor reforms of soil use policy, definitions and concepts, minimal changes to related laws, and minimal rearrangements of institutional and human resources. This approach will not usually provide all the legal and institutional measures needed to manage all aspects of soil. The second approach considers a medium to longer time-frame for implementation and involves substantial reform of existing laws, policies and institutional and sectoral changes. This approach would go a long way to providing most of the legal and institutional elements necessary to achieve the sustainable use of soil (Hannam and Boer 2004).

Guide to elements for soil legislation

The second primary outcome of the ELC SGSS&D program is the “*Guide for Drafting Legislation for Sustainable use of Soils*”. The Guide contains over 100 ‘sample’ legal and institutional elements that are appropriate for national soil legislation. The elements are “generic” at this level and individual States would need to ensure that adequate background work is undertaken to clearly identify the actual physical, cultural, institutional and socio-economic issues which need to be taken into consideration when preparing specific national soil legislation. These elements can also be used to assess the capacity of an existing law to meet prescribed standards of performance for the sustainable use of soil. It is important, when a State is designing such a regime, that it reviews its current organisational system to ensure that it has the capability to effectively administer a new law (Hannam and Boer 2004).

INTERNATIONAL LEGAL AND INSTITUTIONAL FRAMEWORK FOR SOIL

The IUCN SGSS&D has reviewed many existing international and regional instruments that make reference to soils in some manner (Hannam with Boer 2002). It has discussed various relationships between different hard and soft law mechanisms that have been developed in the international environmental law as they relate to soil. While the problem of soil and land degradation has not gone unnoticed by the world community there has been little discussion until recently on the role of international environmental law and soil degradation (Boer and Hannam 2003). A key response to the rapidly changing political and social aspects of the world and the ever-expanding environmental problems has been the accelerated development of international and domestic environmental law. Environmental law is an essential component for setting and implementing global, regional, and national policy on environment and development. There is an increasing recognition of the role of international environmental law to overcome the global problem of soil degradation, including its ability to provide a juridical basis for action by nations and the international community. *Agenda 21*, the Action Plan from the 1992 UN Conference on Environment and Development (UNCED), identified concrete steps to integrate environment and development (Hannam with Boer 2002).

Draft international instrument

The SGSS&D has now prepared a draft instrument for the “Conservation and Sustainable Use of Soil” which was discussed in depth at a special meeting in Iceland in September 2005 (SCAPE 2005). This draft is now being promoted to IUCN by the soil science community as an appropriate direction to take for an international law for soil. Some of the key aspects of this draft include special provisions for:⁴

- Establishing an International Panel for protection and sustainable use of soils;
- Community participation in the protection and sustainable use of soil;
- Organizational systems to protect soil;
- Formation of national soil strategies;
- Research into the protection and sustainable use of soil;
- Resolution of transboundary soil management issues;
- Special rights for disadvantaged people to the use of soil;

FUTURE DIRECTION

The path selected by the IUCN ELP to meet the environmental law needs of soil is conscious of a number of interacting factors, including an awareness of the poor recognition of soil in current international environmental law, and that national soil legislation is generally inadequate to manage the type and severity of soil degradation problems experienced around the world. There is also the need to consider the ecological function of soil for the conservation of biodiversity and the maintenance of human life and the high level of recognition amongst the soil science community of the benefits of introducing an international instrument based along the lines of the draft IUCN instrument for “conservation and sustainable use of soils” to raise the awareness of the serious situation of soil degradation, and the need

⁴ Draft dated 18 September 2005.

to develop suitable legal tools for individual nations to use to improve the capability of their domestic law to protect and manage soil in a sustainable way. In the recent past there have been some positive national soil law reforms and in a few instances new statutes have been either passed or tabled with the respective parliaments. These moves have stimulated some other nations, and some regions, to actively seek assistance to develop new national soil law, but they represent a small portion of the world in number and area.

Some Options

In summary, some of the options presented by the IUCN ELP include (see section V.10 Hannam with Boer 2002):

National

Promotion of the generic "Guide", which consists of a range of general elements which may be drawn upon by individual nations when amending an existing law or developing a new law for soil;
Preparation of regional legal frameworks for soil, to be used in conjunction with the basic generic legal elements, which should include a range of specific elements to deal with the physical and legal characteristics of the particular region.

International

Binding instrument options:

A specific treaty with all of the essential legal elements for soil;
A framework treaty, which identifies the soil elements in existing treaties (E.g., in the *Convention to Combat Desertification*, and the *Convention on Biological Diversity*) and links them through a separate binding instrument. The new instrument would contain additional, specific legal rules for soil;
A protocol to an existing treaty that creates specific rules for soil.

Non-binding options:

An international charter for soil;
A declaration for soil.

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