

## THE AMMAN SOIL RESOLUTION: TOWARDS IMPROVED INTERNATIONAL AND NATIONAL LEGISLATION FOR SUSTAINABLE USE OF SOIL

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### Abstract

In October 2000 the 2<sup>nd</sup> IUCN (The World Conservation Union) World Conservation Congress (WCC) in Amman Jordan, passed the 'Soil Resolution' which called on the IUCN Environmental Law Program (ELP) to prepare guidelines for national legislation and policy to assist States to manage their specific soil degradation problems and to investigate the format for an international instrument for the sustainable use of soil. The WCC specified that attention be given to the ecological needs of soil and their ecological functions for the conservation of biodiversity and the maintenance of human life. This paper outlines the progress made since October 2000 toward the development of a new international instrument for soil and the development of various legal and institutional frameworks for national soil legislation. It summarises the results of a global investigation of national soil law, and describes suitable approaches for preparing national soil legislation and policy. It also presents various options for new international law for sustainable use of soil. The ELP is undertaking the work in partnership with the international soil science community, including the International Union of Soil Sciences, the World Association of Soil and Water Conservation and the European Soil Bureau.

Additional Keywords: law; degradation; legal and institutional system; capacity of soil legislation; sustainable use

### Introduction

The ever-increasing demand for food and natural resources by rapidly growing human populations in many countries in the past few decades has exerted increasing environmental stress of every type, including widespread soil degradation. Processes of soil degradation have devastated both the biodiversity and productivity of large areas and the damage is often irreversible, particularly when measured on the time-scale of a human lifespan. Soil degradation has occurred in most regions of the world, cutting across a broad spectrum of contrasts in climate, ecosystem types, land uses and socio-economic settings. In its most extreme form, soil degradation is expressed as 'desertification', where there are serious soil degradation problems in very dry and drought-affected areas. In whatever form, degradation of the world's soil resources affects the livelihood of current and future generations (Bridges et al 2001, Hurni and Meyer 2002, Gobat et al 2003).

The IUCN, through its members, Commissions and Secretariat, plays a significant role in bringing the knowledge about biodiversity, ecosystems and species into the mainstream of decision-making in our societies. In April 1999, the IUCN ELP commenced investigations into the national and international dimensions of the legal protection of soils. The impetus for this work arose out of contacts between the ELP and the international soil science organisations that were and continue to be concerned about the need for improved legal protection of soils. The support from the soil science community was an important basis to the drafting of the Soil Resolution that was passed by the IUCN WCC in Amman Jordan in October 2000. The Soil Resolution calls on the ELP to - *prepare guidelines for national legislation and policy to assist States to manage their specific soil degradation problems and to investigate the format for an international instrument for the sustainable use of soil. The WCC specified that attention be given to the ecological needs of soil and their ecological functions for the conservation of biodiversity and the maintenance of human life* (see Hannam and Boer 2002, p4 for full text of Resolution 2.59)

### Progress

The main areas of progress to date in the implementation of the Amman Soil Resolution, include:

- Formation of IUCN ELP Specialist Group for Sustainable Soil.
- Formation of External Soil Science Expert Advisory Group.
- Investigations into an ecosystem-based approach for soil legislation.
- Investigation into national soil legislation regimes.
- Development of various national legal and institutional frameworks for soil.
- Investigating international legal and institutional regimes for soil.
- Developing options for a special international instrument for soil.
- Preparation of the publication – '*Legal and Institutional Frameworks for Sustainable Soils*' (Hannam and Boer 2002)

- Preparation of the ‘*Guide to Drafting Soil Legislation*’ (Hannam and Boer forthcoming, 2004).
- Informing the global community (presentations and reports to international environmental law and soil science gatherings, eg, International Soil Conservation Organisation Conferences; International Land Degradation Conferences; World Summit on Environment and Development).

### **What is Soil Law**

Soil law exists at the international and national levels. Soil law means a body of law enacted by a legislature, e.g. an act, decree, regulation or other formal legal instrument that is legally enforceable. It can include agreements or covenants, which are expressed to be legally binding. Soil Law, or ‘soil legislation’ as it may also be referred, includes the laws that have primary responsibility for soil conservation and land rehabilitation. They are generally characterised by provisions to mitigate and manage soil erosion and soil degradation and methods to conserve soil resources. Worldwide, soil law is managed by a variety of legal and institutional systems, which are the individual organisational and operational regimes that have the administrative authority over soil (Hannam and Boer, forthcoming 2004). The fundamental biological aspects of soil and the effects of human use of soil provide the context for the role of the law in managing soil. Soil bodies are effectively large ecosystems and comprise fundamental components of the Earth’s biodiversity (Bridges et al 2001, Hurni and Meyer, 2002). The following definitions provide the context for Soil Law.

#### *Soil*

Soil is an integral part of the earth’s ecosystems and is situated at the interface between the earth’s surface and bedrock. It is subdivided into successive horizontal layers with specific physical, chemical and biological characteristics. From the standpoint of history of soil use, and from an ecological and environmental point of view, the concept of soil also embraces porous sedimentary rocks and other permeable materials together with the water that these contain, and the reserves of underground water (Council of Europe 1990).

#### *Soil degradation*

Soil degradation is a loss or reduction of soil functions or soil uses. It includes aspects of physical, chemical and biological deterioration, including loss of organic matter, decline in soil fertility, decline in structural condition, erosion, adverse changes in salinity, acidity or alkalinity, and the effects of toxic chemicals, pollutants or excessive flooding (Bridges et al 2001).

#### *The sustainable use of soil*

The use of soils in a manner that preserves the balance between the processes of soil formation and soil degradation, while maintaining the ecological functions and needs of soil. In this context, the use of soil means the role of soil in the conservation of biodiversity and the maintenance of human life (Hannam and Boer 2002).

### **International Law and Soil**

International environmental law is an essential component for setting and implementing global, regional and national policy on environment and development (UNEP 1996, Sands 2003). There is an increasing recognition of the role of international environmental law to overcome the global problems of soil degradation, including its ability to provide a judicial basis for action by nations and the international community (Khan 1993). Detailed investigations by the ELP has identified a number of international and regional instruments as containing elements for the sustainable use of soil (see UNEP 1996, Hannam and Boer forthcoming, 2004). None are sufficient on their own. Some of the instruments could assist by promoting the management of activities that can control soil degradation but this role is not readily apparent except for a few instruments that include provisions specifically directed to soil (eg, Article IV ‘Soil’ - 1968 *African Convention on the Conservation of Nature and Natural Resources*, Revised text adopted by AU Assembly 11 July 2003).

#### *Declarations*

A number of international declarations draw attention to soil degradation and desertification reaching alarming proportions and seriously endangering human conditions and call on states to cooperate and develop strategies to conserve soils – see eg, 1972 *Stockholm Declaration on the Human Environment*, 1982 *World Charter for Nature*, 1982 *Nairobi Declaration*, the 1992 *Rio Declaration on Environment and Development*, and 2002 *Johannesburg Declaration on Sustainable Development*.

### *International covenants, treaties and agreements*

Many multilateral agreements include provisions that can be used to promote sustainable use of soil, but the provisions are generally tangential to the needs of soil as such – see eg, 1994 *United Nations Convention to Combat Desertification*, 1995 *Convention on Biological Diversity*, 1995 *United Nations Framework Convention on Climate Change* and 1997 *Kyoto Protocol*.

Relevant regional instruments include the 1968 *African Convention on the Conservation of Nature and Natural Resources* (Revised July 2003), the 1986 *Convention for the Protection of the Natural Resources and Environment of the South Pacific Region*, the 1995 *Convention Concerning the Protection of the European Alps* and the 1998 *Protocol for the Implementation of the Alpine Convention of 1991 in the Area of Soil Protection*.

For detailed information of the role of various international instruments to national soil legislation see Hannam and Boer forthcoming, 2004.

### **National Soil Law**

Detailed investigations by ELP indicate that legislation has been used for about the past 60 years in many countries in a piecemeal fashion to control soil degradation problems and to manage soil. A worldwide examination of national legal and institutional frameworks indicates that most countries approach the management of soil in a fragmented manner. In general, soil law has provisions for farm planning, implementation of soil erosion control measures, establishing community groups, planning catchment schemes and compliance and enforcement. Some jurisdictions (eg, the United Kingdom), have multiple soil legislation mechanisms that cover a broad range of functions including, soil planning, access to sensitive land types, organic farming practices and soil restoration. Federally organized countries often have a system where each State or province has its own soil legislation and supportive legal mechanisms (eg, the People's Republic of China has national *Water and Soil Conservation Law 1991* and *Desertification Law 2002*, which are implemented through a comprehensive provincial administration system, laws and regulations). The types of legal mechanisms used to protect and manage soil, including acts, decrees, resolutions, ordinances, codes, regulations, circulars, decisions, orders and by-laws, still remain appropriate, but they need to be applied in more inventive ways to effectively manage the soil in an ecosystem context (see Grossman and Brussaard 1992). The term 'Soil Law' also covers those situations where comprehensive provisions for soil protection and management have been integrated in legislation that protects other aspects of the environment, such as forests, water, biodiversity (Hannam and Boer 2002).

### **Effectiveness of Soil Law**

The investigation into the effectiveness of international and national soil law indicates that it is dependent upon two key things.

- The capacity of a legal and institutional framework to manage soil - which is measured by the ability of a legal and institutional system to achieve sustainable use of soil. Capacity is represented in the form of legal rights, the type of legal mechanisms, and importantly, the number and comprehensiveness of the essential elements and their functional capabilities.
- The number and type of essential legal and institutional elements present in a soil law in a format that enables soil degradation issues to be identified, and with the legal, administrative and technical capability in the particular instrument to take some form of effective action. Legal and institutional 'elements' for soil are the basic, essential components of a legal and institutional system. An element is a principle or suggested rule or direction of conduct that may be used in its existing form or modified to perform the role of a legal mechanism, or as a legal principle (a rule of conduct) in legislation.

An individual law can include a number of legal mechanisms in a well thought-out structure that gives an organization the power it needs, through its executive and administrative structure, to overcome soil degradation. Most key soil management issues are multi-factorial (i.e. many include a sociological, legal and a scientific component), and generally more than one piece of environmental legislation and many types of legal and institutional elements will be needed to effectively manage soil degradation issues. Legal and institutional elements can be used to assist in the evaluation of an existing law to determine its capacity to meet certain prescribed standards of performance for the sustainable use of soil. They can also be used to guide the reform of an existing soil law or to develop new legislation for the sustainable use of soil (Boer and Hannam 2002, Section 4, National Legal and Institutional Frameworks).

## **National Legal and Institutional Frameworks for Sustainable Soil**

There are various ways for States to approach the task of a detailed legal and institutional analysis and design of an appropriate legal and institutional system for effective soil management. Broad strategies for the development of national legal and institutional arrangements for soil can be based on either regulatory or non-regulatory elements:

- A non-regulatory strategy which is characterised by elements for education, participatory approaches, soil management and incentive schemes.
- A regulatory approach that is characterised by statutory soil use plans that prescribe legal limits and targets of soil and land use, issue of licenses or permits to control soil use, and the use of restraining orders and prosecution for failure to follow prescribed standards of sustainable soil use.

The preference in approach will vary between States according to their physical, sociological and economic characteristics. The strategies can be approached on a short-term, or a longer-term timeframe for implementation that involves substantial reform of existing laws, policies, and institutional and sectoral changes (Hannam and Boer 2002, Boer and Hannam 2003), as follows:

*Minor amendment to existing laws* - this framework may involve making simple amendments to existing laws (such as forestry or soil conservation laws) to more clearly define the role and responsibilities of existing institutions for soil management. Minimal amendments can improve the accountability of a law.

*Substantial amendment of an existing land management law to adequately identify the role, activities and interests of a State in management of soil* - this framework may involve the importation of key 'sustainable soil' elements into an existing law that create a responsibility to assess and research soil resource and ecosystem management, plan and manage natural resources and land management systems, develop human and ecosystem management policies, and enable public participation in the development of soil policy and decision-making.

*Integrated 'sustainable soil' law* - this framework relies on a major attitudinal shift toward management of the soil ecosystem. Given the wide range of legal and institutional issues involved to achieve sustainable management of soil, this framework would be very comprehensive, and substantial institutional re-organization may have to be undertaken for it to be effective. It places emphasis on elements that enable interdisciplinary cooperation, centralization of expertise for evaluation, and planning and land management. It introduces an efficient process of managing land reform and establishes more efficient relations between key environmental agencies.

## **Investigating the Options for a International Soil Instrument**

The ELP investigations indicate that the current international environmental law regime is inadequate to cater for the principal international environmental law needs for soil. The existing binding instruments are insufficient as a framework for soil as they fall well short of including anywhere near a sufficient range of legal elements that are needed to protect and manage soil in a sustainable way. Of primary concern is the failure of the existing system to properly consider the ecological functions of soil. Further, while the current international non-binding instruments for soil include some general conceptual material that is still relevant in the 21st century, they do not recognise soil as an important element of the terrestrial ecology, also falling well short of the type of environmental concepts and policy elements needed to achieve sustainable use of soil. The existing international environmental law regime does not provide any guidance to States in relation to the reform or development of national soil legislation (Hannam and Boer 2002, Section 5, International Legal and Institutional Regimes for Soil). In this regard, the ELP advocates that the basic characteristics of an international framework for soil should, at least, include:

- The fundamental biological principles for sustainable soil management.
- A consolidation of relevant elements of existing international instruments and policies.
- Guidelines on the legal and biological requirements for the sustainable use of soil.
- Links between a soil instrument and other international environmental instruments.
- Guidelines for States to legislate or reform national legislation on soil.
- Mechanisms to promote public awareness and education on sustainable use of soil.

### *Binding Instrument*

As a generic term, "treaty" is regularly used to embrace instruments that are binding at international law, concluded between international entities, regardless of their formal designation (United Nations 1999). A treaty is normally

open for participation by the international community as a whole, or by a large number of States. Usually the instruments negotiated under the auspices of an international organisation are called conventions. The structure of a treaty can range from very formal to less formal, where the latter may be in the form of an agreement that deals with a narrower range of subject matter than the former. A treaty for soil could also take the form of an instrument of a technical or administrative character, signed by the representatives of government departments, but not subject to ratification. Some options for soil include:

- A specific treaty for Soil with all of the essential legal elements for soil.
- A Framework treaty, which identifies the soil elements in existing treaties 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 Instrument*

This form of international instrument is used where the parties concerned do not wish to create binding obligations but wish to declare certain substantive aspirations (United Nations 1999). The terms “Declaration” and “Charter” are synonymous with these forms of non-binding instruments. However, this form of non-binding instrument can be a treaty in the generic sense, with the potential or intention to make it binding as international law in the future. In their formation it is therefore necessary to establish in each individual case whether the parties intend to create binding obligations.

#### **Conclusions**

The work undertaken to implement the IUCN Amman Soil Resolution shows that soil law in the past has been neglected at the international level, and, in many of the world’s regions, at the domestic level. Importantly, it shows that there is a growing recognition of soil degradation as a major international environmental issue in the context of the conservation of biological diversity. This is gradually being addressed and is starting to change attitudes towards the benefits of improved international and national legal and institutions for soil (WSED 2002). Soil bodies represent complex terrestrial ecosystems and careful consideration and management of their ecological characteristics within the body of soil law is essential for their long-term sustainable use to meet the food production requirements of the expanding human population of the world. The immediate focus of the IUCN ELP is to further communicate and promote the Recommendations (Section 7) of the publication - ‘*Legal and Institutional Frameworks for Sustainable Soil*’ and to finalise and distribute the ‘*Guide to Drafting Soil Legislation*’. In the mid to longer term the ELP will, in partnership with the soil science community, and other key organisations, develop more comprehensive outlines for the various options of an international soil instrument, and promote these at appropriate global environmental and soil science forums.

A progress report on the implementation of the 2000 Amman Soil Resolution will be presented at the 3<sup>rd</sup> IUCN World Conservation Congress in November 2003, Bangkok, Thailand.

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