

# **BIODIVERSITY CONSERVATION AND ENDANGERED SPECIES PROTECTION**

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## **Summary**

Biological diversity is an essential constituent in the network of organisms that assures the survivability and sustainability of life. As a consequence of the implementation of flawed scientific, economic and regulatory policy, biological diversity is in a state of decline. These policies have been flawed because they have condoned a system of state control that provides for the exploitation of natural resources without adequate or appropriate consideration of the conservation of the same, finite resources. In the absence of a better regulatory framework, there is a substantiated anxiety that the condition of biological diversity will not improve. This paper provides a historical review of biodiversity law at the international and national level and, in the process, argues that the way forward must continue to incorporate a sustainable development strategy.

## **1. Introduction**

We find no difficulty in ruling that they can, for themselves, for others of their generation and for the succeeding generations, file a class suit [for] ... the right to a balanced and healthful ecology ... Such a right ... considers the “rhythm and harmony of nature”. Nature means the created world in its entirety. Such rhythm and harmony indispensably include, *inter alia*, the judicious disposition, utilization, management, renewal and conservation of the country’s forest, minerals, land, waters, fisheries, wildlife, off-shore areas and other natural resources to the end that their exploration,

development and utilization be equitably accessible to the present as well as future generations.

This landmark 1994 decision by the Philippines Supreme Court to recognize sustainable development as a legitimate environmental right provides a good starting point to examine the global development of biodiversity law and the law concerning endangered species. It reflects a guiding international principle, enshrined in the 1982 World Charter for Nature, that individuals and states, while seeking to achieve and maintain optimum sustainable productivity in its use of land and sea, have a duty not to endanger other ecosystems and species with which it coexists.

It is only over the last few decades that biodiversity conservation has become a prominent factor in international and national environmental law. At its core, biodiversity law is an integral part of a state's land-use planning and property rights framework. In delineating property rights over natural resources, the conventional land use approach at the national level has considered simply *whether* the state or a private owner will control property. Once this decision is made, land users normally had comprehensive authority to determine *how* the property would be used. The advent of biodiversity law broadens the scope of the decision-making process at the planning stage and provides greater discretion to the land use authority to determine how to manage the resource in light of relevant economic and environmental factors. This has not proven uncontroversial, as land users have been resistant to increased interference into the manner in which they dispose of and enjoy their property.

Supplemental to the national issues, the establishment of a rational international biodiversity law at the global level raises even more controversial issues concerning the state's capacity to manage its own environmental affairs. First and foremost is the problem of governing a state activity that adversely impacts upon natural resources under global jurisdiction. This may relate to resources in the state's own territory, in another state's territory or in a jurisdiction beyond any national limitations (i.e. the high seas). The important legal question is to what extent will a state cede sovereignty to a global authority to govern the way the state uses its natural resources.

To create a rational biodiversity law, then, one must come to terms with the issues of control, internal and external to the nation and its environmental policy. The purpose of this essay is to evaluate the existing framework of the international law concerning the conservation of biological diversity and to consider whether this structure is suitable for the goals for which it was designed. The first part will introduce the scientific and economic problem related to conservation. The first section will define biological diversity and reveal its perpetual decline. The second section will consider how the usual way of doing business has contributed to this deterioration, and suggest how law may be used to respond to the problem. The second part will evaluate the efficacy of modern international biodiversity law through analysis of the law's development.

## **2. The Decline in Biological Diversity**

Biodiversity loss can be *proved* in scientific terms, but to understand the regulatory issues, it is also important to *explain* the decline in economic terms. In this section I will

first define biological diversity and discuss its worrying decline. Second, I will explain how traditional conceptions of economics, in the absence of sound legislation, may adversely impact upon biodiversity.

Biological diversity constitutes three broad classifications of living systems—genetic, species and ecosystem diversity. Genetic diversity is the raw material of life and has evolved through the random combinations of different genes from different pools over the millennia. Species diversity refers to the variety of different animals and plants that live in a particular habitat. Species will die when they are not able to adapt to threats from other species or a loss of habitat. Species will adopt genes from other species to help improve their chances of survival in response to a threat. The greater the species, the greater are the chance of adaptability and survivability. Likewise, the dependence of different species within a habitat is considerable and the loss of one species will often adversely impact the life of another. Ecosystem diversity is the meta-concept that sustains species diversity. An ecosystem may be as small as a grain of sand or as vast as a desert. By analogy, it is the house in which genetic and species diversity lives.

Although science has not been able to perform a complete statistical analysis of species and habitat loss, evidence of the biodiversity decline is considerable. Over the last four centuries the World Resources Institute estimates that 700 extinctions of vertebrates, invertebrates, and vascular plants have occurred. In terms of habitat it is estimated that Bangladesh only retains about 6% of its original vegetation cover and the forests around the Mediterranean once covered ten times more than they presently do. With regard to genetics, approximately 500 different tree species are under serious threat. Likewise the promotion of genetic agricultural uniformity has led to the evolution of 400 different species of crop pests that have developed resistance to the pesticides designed to eradicate them. In the last decade the otter has become extinct in Holland while Britain has seen the end of the mouse-eared bat species. More than half the world's reefs are at risk due to human activities. About 40% of the world's frontier forests are under threat from a variety of human activities including unsustainable logging. Over the last ten years, 34 types of flora or fauna have become extinct in the USA.

In order to understand how to think about this problem, one must come to terms with the impact of the economic process of globalization upon land use and traditional notions of property rights. Globalization is the modern phenomenon indicated by the increasing interdependence of state economies, trade, commerce, stock exchanges, national and transnational firms, distribution, manufacture and marketing. A main reason for its present day predominance has been worldwide political decisions in favor of free trade, economic liberalization and deregulation.

Economists do not agree on whether globalization is beneficial or detrimental to the environmental economy. Daly has argued that free trade undermines efficient land use policies and sustainable development because it distorts the price of natural resources, unjustly distributes these resources, and disturbs the cultural and economic foundations of local communities. Alternatively, Bhagwati argues that free trade is perfectly compatible with sound land use policies and sustainable development because it leads to wealth maximization, which will in turn, make available funds to protect the environment. Economists such as Bhagwati, however, tend to ignore the hidden costs of

free trade (i.e. the natural lowering of environmental standards to attract foreign investment) that may adversely, though indirectly, impact economic growth targets. Furthermore, even if a state enjoys considerable economic growth under a free trade regime, the assumption that the state will commit funds to environmental protection is, at best, optimistic.

An example of how the free trade model impacts global agricultural land use is illustrative. The traditional free trade model of economic development encourages nations to substitute approaches of land use with more cost-effective methods while ignoring fundamental environmental considerations. This model encourages nations to convert their crops to more specialized plants that have greater value as exports. The conversion includes the substitution of genetically diverse crops that are lower yielding, with a genetically homogenous crop. According to the principles of free trade, this conversion should occur because it leads to lower costs (i.e. only one piece of equipment needed for harvesting) and, where genetically higher yielding seeds are purchased, to increased productivity. Farmers may, therefore replace the growth of natural grasses with the cultivation of a single form of a more productive grass, such as wheat. In worst-case scenarios, owners of tropical forests may sell their land to loggers or cattle grazers.

Under this free trade model of development, the cost of higher efficiency is clearly greater discrimination against genetic diversity. The economic losses to the community include, amongst other things, a decline in traditional knowledge of local flora and fauna and the potential medical or nutritional benefits associated with it; the potential for “bio-invasions” or the infestation of a new gene into a foreign habitat that overwhelms and causes the deterioration of its new habitat and the intrinsic loss of the biological diversity.

Although, economic development is undoubtedly a positive force in a nation as it provides basic needs in addition to environmental and health services as well as individual rights, Swanson and Johnston argue that this economic model does not account for comprehensive environmental costs and hence is not as efficient as it may seem. For instance, the free trade model of economic thinking within a state, neglects the value of biodiversity and favors market-preferred activity (e.g. converting wetlands for water sports use). They claim that:

a very large part of the biodiversity problem is the extension of this same development strategy to each and every country on earth, no matter how different their initial conditions are. This sameness, extended to countries initially so different, is one of the major reasons that the world is being depleted of diversity.

In the absence of broad-minded legislation, the fear is that traditional models of economic development, land use planning and property rights will cause irreversible damage to biological diversity.

### **3. A Regulatory Framework for Biodiversity Conservation**

Biodiversity law and the law to protect endangered species have undergone dramatic change over the last century. A legal historical review of its development reveals how biodiversity law has emerged into a primary measure for conservation and economic growth. Originally lawmakers were pre-occupied with the prevention of over-exploitation and enacted legislation that focused on the conservation of particular species or habitats. This *laissez-faire* approach to environmentalism carved out nature reserves or species-specific rules. In the second stage, lawmakers recognized that species could not survive without the preservation of their accustomed habitat. This represents the beginning of an appreciation that treating species in isolation from other species and their habitats is ineffective, and marked the start of comprehensive approaches to environmental legislation.

The third phase of biodiversity legislation concentrates on the importance of sustainable development. These laws adopt the precautionary principle, intergenerational equity and common, but differentiated responsibility between and amongst countries. The precautionary principle means that international actors need not await scientific certainty prior to taking environmental actions, especially when the environmental threat is potentially permanent. Intergenerational equity suggests that international action must account for present and future generations. The principle of common, but differentiated responsibility recognizes that while all states have an obligation to protect the environment, due to the various levels of economic development, developed countries should provide more support than less developed countries.

In this next part, the development of international biodiversity law is traced from its early ad-hoc measures to the more modern, present-day systematic approaches. This historical survey reveals how international law has evolved from a fragmented, compartmentalized approach to a more comprehensive, integrative method that seeks to account for a variety of social, economic and environmental factors in its decision-making process. Biological diversity law and the law concerning endangered species are measures designed to govern public and private activities that lead to undesirable losses in biodiversity. The international laws embody the global norms that govern relations between and among states and that reflect socially acceptable standards of environmental protection. The international law concerning biodiversity conservation is set out in international judicial opinions, international treaties and national laws that enact international obligations.

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#### *Useful websites*

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Convention on Biological Diversity, [www.biodiv.org](http://www.biodiv.org)

International Union for the Conservation of Nature, Biodiversity Policy, [www.iucn.org](http://www.iucn.org)

Convention on the International Trade in Endangered Species, [www.cites.org](http://www.cites.org).

#### **Biographical Sketch**

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