



Biodiversity Conservation Legislation (China)

China's biodiversity legal system consists of constitutional provisions, laws, regulations, rules, and normative documents. The main areas of focus include ecosystem protection and conservation; natural reserves management; wild animal and plant protection; management of domestic animal germplasm resources, crop germplasm resources, and traditional Chinese medicine species; new variety management; and quarantine. Subsequent legislation ideally would address effective protection, sustainable utilization, and promotion of social and economic development.

According to Article 2 of the Convention on Biological Diversity, *biodiversity* refers to “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.” China has a wealth of biodiversity. The country is home to more than 30,000 types of higher plants and more than 6,300 species of vertebrates—accounting for 10 percent and 14 percent of the world’s total, respectively—and it also has about 600 types of terrestrial ecosystems (Biodiversity Clearing-House Mechanism of China 2004). But biodiversity loss is serious in China. Ecosystem and species diversity is threatened by environmental degradation; river and lake sedimentation has become increasingly serious; lake levels have decreased, as have groundwater levels; oasis and vegetation loss in arid areas is more common; natural forests are being cut; reclamation and destruction of grasslands continues; red tide is damaging the marine ecosystem; beach erosion and seawater encroachment is getting worse; wildlife populations are decreasing; and many rare plant and animal species are in danger of extinction (SEPA 1999, 10).

Meanwhile, invasive species pose a serious threat to biological genetic resources and biological system safety. The most important reason for biodiversity loss in China is ineffective legal measures on biodiversity development and utilization. The weak enforcement of some existing laws, regulations, and rules is also contributing to biodiversity loss in China.

Legal System

In China, the biodiversity legal system consists of constitutional provisions, laws, regulations, rules, and normative documents. Articles 9 and 26 of the Constitution provide that the state protects rational utilization of natural resources and rare animals and plants, and forbids organizations and individuals from embezzling or damaging natural resources. These are the highest-level provisions for biodiversity conservation and sustainable utilization in China.

Laws make up the next level of the Chinese legal hierarchy and provide a general framework for biodiversity management. Relevant laws include, but are not limited to, the Environmental Protection Law (1989), Forest Law (1998), Marine Environmental Protection Law (1999), Agriculture Law (2002), Water Law (2002), Land Administration Law (2004), Law on Protection of Wild Animals (2004), Fisheries Law (2004), Seed Law (2004), Patent Law (2000), Law on Prevention and Control of Desertification (2001), Law on Animal Epidemic Prevention (2007), Grassland Law (2008), Law on the Entry and Exit Animal and Plant Quarantine (2009 amended), and the Law on Water and Soil Conservation (2010).

China’s biodiversity-related regulations, rules, and normative documents focus on the conservation and

protection of ecosystems, species resources, and genetic resources. The purpose of many of the regulations is to administratively implement the above-mentioned environmental laws. Some of the measures do not directly target biodiversity conservation but nevertheless play an important role in it.

Areas of Focus

China's main areas of focus in biodiversity conservation law include ecosystem protection and conservation, natural reserves management, wild animal and plant protection, management of domestic animal germplasm resources, management of crop germplasm resources, management of traditional Chinese medicine species, new variety management, and quarantine. (A germplasm is a collection of genetic material for an organism.)

Ecosystem Protection and Conservation

Ecological function protection zones are classified as headwaters conservation, soil conservation, wind prevention and sand fixation areas, biodiversity conservation, and flood accommodation (MEP and CSA 2008). Living environment conservation for wild animals and wild plants includes the establishment of natural reserves in the zones and waters where the key protected organisms are living and propagating. Legislation also provides for the conservation of forests, grasslands, aquatic ecosystems, water and soil, and marine ecosystems.

Natural Reserves Management

China classifies natural reserves into four levels, namely national, provincial, municipal, and county level, and categorizes the reserves into three categories: key, buffer, and experiment area. Each reserve is managed according to its level and category. Specific conservation measures include prohibitions on lumbering, herding, hunting, fishing, medicine collecting, cultivation, grass burning on wastelands, mine exploitation, stone pitting, sand excavating, and so on.

Wild Animal and Plant Protection

Although the state has ownership over wild animal resources, institutions and individuals enjoy rights to use these resources. Based on the catalog of key protected wild animals, China protects rare and endangered wild animals and categorizes them into state- and local-level, and class-I and class-II species. Different measures are adopted accordingly for each species. China categorizes key protected wild plants into state-level and local-level, and the state-level plants are further distinguished as class-I and class-II. Different measures are adopted

accordingly for each level and class. The management measures include collecting permits, limited selling and buying, import and export management, resource surveys and filing, and so on.

Domestic Animal Germplasm Resource Management

China conserves germplasm resources of domestic animals based on a classification system. Governments at the county level and above give support to the survey, evaluation, conservation, breeding, and utilization of domestic animal and poultry germplasm resources. The import and export, breeding and farming, and management of these resources are also subject to administrative regulation.

Crop Germplasm Resource Management

The state has ownership over crop germplasm resources. Any institutions and individuals who provide germplasm resources to foreign countries must get prior approval from competent agricultural or forest authorities under the State Council. Institutions and individuals are not allowed to collect or cut natural germplasm that the state protects. When it is necessary to cut or collect for special purposes like scientific research, individuals and institutions must seek approval from competent agricultural or forest authorities under the State Council and provincial governments.

Traditional Chinese Medicine Species Management

China classifies wild medicine materials into three grades. Anyone who collects materials of grades II or III must get a permit for medicine collection. The key protected traditional Chinese medicine species are listed in the national medicine standards. Species can be protected if they have been identified by hygiene authorities under the State Council as being in compliance with provincial, autonomous region, and municipal city standards.

New Variety Management

In China, new plant species apply for a so-called species right in accordance with the regulations on new plant species conservation. Microorganisms are not regarded as animals or plants and can thus be protected under the patent law. The nonbiological production method of animals and plants can be conferred with patent rights.

Quarantine

The following articles are not allowed to enter China: pathogens, pests and other harmful organisms, animals

and plants from epidemic-stricken countries and regions, corpses of animals and plants, and soil. When entry of these articles is necessary, a request must be submitted to competent authorities responsible for animal and plant quarantine.

Room for Improvement

These legal measures play important roles in biodiversity conservation in China, but many experts believe existing legislation focuses more on economic value rather than biodiversity itself (Yang 2003; Liu, Xie, and Wu 2006). Without statutes that specifically deal with biodiversity, conservation efforts can be thwarted. For example, according to a report for *Southern Weekday* by Pang Ruifeng (2001), in 2000 Monsanto submitted sixty-four patent applications for soybeans with the marker gene related to high productivity; the company illegally obtained these soybean varieties from China. China had no special legislation dealing with biopiracy at that time and could not take effective measures to prevent Monsanto's theft. It can also be argued that protection for the rights of the state, as well as for the rights of indigenous people and local communities, need to be improved. Biodiversity conservation depends on public participation, incentive measures, and environmental impact assessments; it would also benefit from clarification of liabilities and penalties in laws and regulations. Accordingly, changes could be made in the following ways.

Objectives

The objectives of biodiversity legislation ideally comprise three elements: effective protection, sustainable utilization, and promotion of social and economic development. *Effective protection* means providing sufficient legal basis for the protection of the three aspects of biodiversity (species diversity, genetic diversity, and ecosystem diversity); such legislation considers protection as a primary objective when it conflicts with biodiversity use. *Sustainable utilization* means a pattern of biodiversity use that meets human needs while preserving biodiversity so that these needs can be met not only in the present but also for generations to come. *Promoting social and economic development* means providing ecological basis for social and economic progress based on the effective protection and sustainable use of biodiversity.

Possible Next Steps

A sound biodiversity legal system should thus include comprehensive legislation (in the form of specific laws) and regulations or rules to protect the three elements of biodiversity.

Comprehensive legislation would benefit biodiversity conservation by emphasizing measures that protect the ecological system as a whole, its genetic resources, and related traditional knowledge, including in situ conservation and ex situ conservation (e.g., the relocation of species habitat). Biodiversity use thus should be sustainable, ensuring a reasonable quality and quantity of biodiversity. Public participation can be encouraged in supporting this legislation, providing incentive measures for the whole society to engage in biodiversity conservation.

Special regulations would be aimed at implementing the national statutes. Biological genetic resource legislation might focus on access and benefit sharing of genetic resources, and traditional knowledge related to genetic resources could also be included in the regulations. Biosafety regulations ideally would include stipulations on contained research, environmental release, commercialization, transboundary movement, emergency, legal liability, and so on (Yu 2009, 277–294).

Some existing legislation ideally could be amended to achieve conservation goals. Genetic resource conservation could be added to existing regulations on the protection of wild plants, and access to wild plant genetic resources and relevant traditional knowledge could be prohibited without approval. Existing forest, grassland, and water laws could be amended to better focus on species protection from the perspective of biodiversity conservation, which means protecting ecological functions instead of economic functions.

Further legislation could put more emphasis on individual rights to use and conserve biodiversity. The rights to genetic resources could be more clearly defined and include access and benefit sharing and rights on traditional knowledge related to these genetic resources. Legislation might stipulate the subjects who can access and share the benefits of genetic resources, the application and approval process, monetary and nonmonetary benefits, and so on.

Public participation is helpful in addressing biodiversity issues. In the Asia-Pacific region, some local communities (for example, in the Philippines) have been directly responsible for protecting existing resources and even maintaining delicate ecosystems and their flora and fauna (Tolentino 1998). China's subsequent biodiversity legislation ideally would make stipulations on the approaches and procedures for public participation; for example, laws could require public hearings for important decisions and policies that may affect biodiversity. This may encourage environmental nongovernmental organizations (NGOs) to participate in biodiversity conservation and may promote public participation in the legislative process.

China's biodiversity conservation mainly depends on government financing and international funds, which some researchers see as insufficient for resolving problems of biodiversity loss (Xia 2006). There are not

enough incentive measures in existing legislation, which discourages participation and makes it difficult to engage the whole of society on desertification prevention (GEF/UNDP 2006, 141). Certain incentive measures could raise more funds for biodiversity conservation. For instance, projects related to biodiversity conservation could be given an income tax reduction during a certain period, say three years from when the project is established. The government might also provide subsidies for the biodiversity protection activities of NGOs.

In addition, stipulations on biodiversity loss could be included in China's criminal law, and an environmental damage compensation law might improve the enforceability of biodiversity violations. Such a law could address neglect in biodiversity management and accessing genetic resources without approval as well as other issues.

YU Wenxuan

China University of Political Science and Law

See also Biosafety Legislation (China); China; Corporate Accountability (China); Education, Environmental (China); Endangered Species; Genetic Resources; Great Green Wall (China); Nongovernmental Organizations (NGOs); Parks and Preserves; Reforestation and Afforestation (Southeast Asia); Rural Livelihoods; Traditional Chinese Medicine (TCM); Traditional Knowledge (China)

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