

## The Legislation for Biodiversity Conservation in China

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### ABSTRACT

Biodiversity conservation depends on a sound legislation in both international and national levels. China has promulgated a series of laws and regulations concerning biodiversity conservation, especially for protection of wild animals and other natural resources. As the enforcement of the statutes, a great progress for *in-situ* and *ex-situ* biodiversity conservation has been achieved. But some gaps for the legislation are still existed. Based on the present status of conservation legislation in China and in accordance with the Convention on Biological Diversity, an attention for the legislation should be paid to conservation of genetic resources, wild plant species and various natural ecosystems.

**Key words** legislation, biodiversity, conservation, China

Effective biodiversity conservation needs a sound legal system that includes the legislation in international, national and local levels. The Convention on Biological Diversity (CBD) that entered into force on December 29, 1993, is an international legal instrument. As a frame convention, it has formed a legal system, together with the other international agreements such as the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar 1971), the Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris 1972), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington 1973), the Convention on the Conservation of Migratory Species of Wild Animals (Bonn 1979), etc. But an effective implementation for the international legal agreements is largely dependent on the actions taken by all countries. So the most important of all is to establish the legal systems for biodiversity conservation in state level. For an individual country the legal system should involve a series of statutes to conserve the natural ecosystems, wild species and genetic resources respectively. Since the late 1970s, the Chinese government has gradually paid more attention to protecting the natural resources and environment. A number of statutes have been formulated and issued during the past 15 years in China and they have greatly promoted the biodiversity conservation. By the end of 1993, 763 reserves belonging to 3 categories including 9 types (Xue 1994a) were established with a whole area of 66 184 km<sup>2</sup>, occupying about 6.8% of the whole country's land (Xue 1994b). But generally the legislation on biodiversity is still in a preliminary stage and there are a lot of work to do for establishing a sound legal system on biodiversity conservation in accordance with the requirements of the CBD.

# 1 *The legislation for natural ecosystem conservation in China*

## 1.1 The existed legislation for the natural ecosystem conservation

"The Environmental Protection Law", promulgated in 1979 and revised in 1989, provided in the Article 17 that the people's government at different levels should establish the nature reserves to protect such areas as follows:

- the natural ecosystems with representatives for the various categories;
- the naturally ranged habitats for the rare and endangered wild animals and plants;
- the important water catchment areas;
- the natural relic sites with significant scientific and cultural values.

The Article 20 of "The Forest Law" promulgated in 1984 stipulated that the forest administrative sectors of the State Council and provincial government should set up the reserves to protect the typical forests distributed in various geographical zones, for the forests generally involve habitats of rare animals and plants, the natural rain forests and other forest areas with special conservation values.

In 1985, "The Grassland Law" was issued. The Article 9~12 of the law emphasized that the country should protect the eco-environment of the grasslands, conserve the grass vegetation and rare plants, and prohibit reclamation and destruction activities.

"The Marine Environment Protection Law" entered into force in 1982, of which the Article 4 provided that the state and government should establish the marine reserves according to the requirements of marine environment protection.

In 1991 "The Water and Soil Conservation Law" was promulgated. It emphasized to prevent and control soil and water erosion in agricultural activities.

In 1985 "The Temporary Regulation on Scenic Resources" was issued by the State Council and it demanded to protect strictly each scenic spots from the damages by visitors in the scenic parks.

In 1986 "The Rules of Environmental Protection for Construction Projects" was issued jointly by the National EPA and the State Planning Commission, which provided that all construction projects should be subject to Environment Impact Assessment (EIA).

In 1994, "The Regulation on Nature Reserves" was promulgated by the State Council and it gave the detailed rules for the reserve's establishment, construction and management.

In addition, more than 13 provinces have made out the implementing rules for the nature reserve's management.

## 1.2 The legislation enforcement in natural ecosystem conservation

The legislation has greatly promoted the conservation of natural ecosystems. Based on difference in landscape, nature reserves of ecosystem category can be sorted into 5 types, that is, forest ecosystem, grassland ecosystem, desert ecosystem, inland wetland and waters ecosystem and ocean and coast ecosystem (Xue 1994a). By the end of 1993, China had set up a total of 433 nature reserves oriented for the protection of various natural ecosystems, with an area of 47 030 000  $\text{hm}^2$ , accounting for 56.7% and 71.1% of the total number and area of China's nature reserves, and including:

i) 371 nature reserves of forest ecosystem type with an area of 14 290 000  $\text{hm}^2$ , plus 180 nature reserves of forest habitat for wild animals, adding up to a total area of 17 688 000  $\text{hm}^2$ , about 13.3% of the total forest land area of China.

ii) 14 nature reserves of steppe and meadow ecosystem type with an area of 1 378 000

hm<sup>2</sup>, plus 2 nature reserves of grassland habitat for wild animals, adding up to a total area of 1 422 000 hm<sup>2</sup>, about 0.82% of the total grassland area of China.

iii) 7 nature reserves of desert ecosystem type with an area of 30 667 000 hm<sup>2</sup>, plus 7 nature reserves of desert habitat for wild animals, adding up to total area of 35 669 000 hm<sup>2</sup>, about 18.58% of the total desert area of China and about 53.89% of the total area of China's nature reserves.

iv) 16 nature reserves of inland wetland and waters ecosystem type with an area of 916 000 hm<sup>2</sup>, plus 64 nature reserves of wetland and waters habitat for wild animals, adding up to a total area of 7 669 000 hm<sup>2</sup>, about 20.18% of the total inland wetland and waters area of China.

v) 25 nature reserves of marine and coastal ecosystem type with an area of 378 000 hm<sup>2</sup>, plus 34 nature reserves of marine organism habitat, adding up to an total area of 1 292 000 hm<sup>2</sup>, about 0.3% of China's physical maritime space (4 720 000 km<sup>2</sup>).

Today though a national natural ecosystem reserve network has just come into shape, and has effectively conserved a great number of natural ecosystems of significant scientific, economic and cultural value, further stress should be laid on conservation of steppe and marine ecosystems, for nature reserves of these types remain little in number and small in area.

### 1.3 Further legislation building

As stated above, China has made out many laws and regulations on natural resource conservation, but there still exist some gaps. Firstly, the existed statutes mainly focused on utilization, management and conservation for the natural resources such as forest, grassland, etc., but they did not aim at the conservation of natural ecosystems. Secondly, even for natural resource conservation, the existed statutes are not complete for all natural resources. For instance, it is short of laws and regulations to deal with the resources of wetlands, fresh waters, deserts, etc., whereas these resources are seriously suffered degradation and destruction. Thirdly, the existed statutes are decentralized for ecosystem conservation. The limited articles for conservation just scatter in some existed statutes and they are no integrity. Besides, present laws are enforced by various respective ministries of the State Council and contradictions often take place among ministries.

Therefore, it is necessary to initiate the Nature Conservation Law. The law should be comprehensive, umbrella and frame structure, covering conservation and sustainable utilization of biodiversity and other natural resources. The law will coordinate all ministries concerned for their conservation duties and it will be enforced mainly by a comprehensive administration supervised by the Commission of Environmental Protection of the State Council (CEPSC). The law will focus on the conservation of natural environment and combine ecosystems with natural resources. Particularly, the law should pay more attention to protection for fragile or sensitive ecosystems. Also it will emphasize to restore or rehabilitate the significant and valuable ecosystems that have degraded because of irrational human activities. The law will involve various natural resources, but they are just regarded as environmental elements, not resource itself. In addition, the law will be in accordance with the CBD, especially with the obligations of the Articles 6, 7, 8 and 10 of the CBD.

In addition, the proposed Nature Conservation Law should cover conservation approaches and it should integrate the present three *in-situ* conservation systems of nature reserves, scenic spots and forest parks and coordinate their objectives, functions, administrations and management modes. As to nature reserve's management, it is very important to emphasize

its all functions in conservation, education, tourism, scientific research and economic development demonstration.

## 2 *The legislation for wild species conservation in China*

### 2.1 The existing legislation for wild species conservation

"The Wild Animal Conservation Law" issued in 1988 is the first law special for protecting wildlife in Chinese history. It stipulated a lot detailed rules for wildlife conservation and animal resource management. Mainly they are:

——The State will ensure the protection of wild animals and their living environments. The priority protection actions will be given to the rare and endangered species by establishing reserves to conserve their habitats;

——The State will regularly organize the field surveys, inventory the animal resources, monitor animal's populations and enhance wildlife impact assessment for construction projects;

——The License Rules will be used for catching the national protected animals for research, captive breeding and exhibition uses, hunting wild animals, raising and breeding the protected animals, importing and exporting wild animals and their products, and so on.

——The activities of sale, purchase and any market trades for the protected animals will be prohibited and the commercial uses for wild animals and their products will be forced to pay fees to government for wildlife resource protection and management.

Companied with the law, "The Implementing Regulation for Terrestrial Wild Animal Conservation" was issued by the Ministry of Forestry in 1992 and "The Implementing Regulation for Aquatic Wild Animal Conservation" was issued by the Ministry of Agriculture in 1993. They made out the detailed stipulations for each article of the Wild Animal Conservation Law.

Besides, some other statutes also involve wildlife conservation, e. g. the Article 27 of the Fishery Law (1986) stipulate that the State prohibited to fish rare and precious aquatic animals; the Article 4 of the Regulations on Reproduction and Conservation of Aquatic Resources (1979) put forward 26 aquatic animals and plants for national priority protection; etc.

To counter more criminal events of wildlife destruction occurred in whole country since 1980, even very serious in some provinces, the State Council issued 3 circular orders or emergent notices special for wild animal protection to all the provinces respectively in 1983, 1987 and 1991. The State Council demanded local government to take strong measures against illegal animal hunting, profiteering reselling, smuggling and other adverse activities. In addition, the State Council announced 257 species (or species groups) as the national priority protected animals in 1988, of which 96 are first grade for protection, and 161 are second ones. To implement the circulars, the Ministries of Forestry, Agriculture, Communications, trade, medicine, tourism, public security and others, correspondingly issued a series of rules, stipulations, notices and other kinds of documents for wild animal protection.

In 1988, the Standing Committee of the National People's Congress (SCNPC) adopted a supplement stipulation to the Criminal Law, i. e. the activities of illegal killing, profiteering reselling and smuggling the national protected animals will be regarded as criminality and the violators will be condemned to imprisonment.

In the light of local actual situations and in accordance with Wild Animal Conservation Law, most provinces in China have made out their local regulations on wild animal protection or provincial rules for enforcing the Wild Animal Conservation Law and more detailed stipulations have been put forward in each province.

## 2.2 The legislation enforcement in wild species conservation

China is one of the richest countries for animal and plant species in the world, occupying more than 10% of the global flora and fauna. Due to human's economic activities, a great deal of species have been extinct or endangered. To protect some rare and endangered species, establishment of wildlife nature reserves in China began in the 1970s and accelerated in the 1980s because a series of statutes for wildlife conservation were promulgated. By the end of 1993, 284 reserves for wildlife category had been established with a total area of 19 040 km<sup>2</sup>, of which 214 reserves with 18 000 km<sup>2</sup> coverage were designed to protect wild animals and 70 reserves with 1040 km<sup>2</sup> were designed to protect wild plants.

*Ex-situ* conservation also has obtained a great achievement. As of 1994, 41 zoos had been built across the country and the number would reach 171 if the animal exhibition sites in parks of the big cities are included. These zoos and exhibition sites altogether raise more than 600 vertebrate species, with a total heads of over 100 000. Some special captive facilities have been built for some rare and endangered animals, such as Giant pandas, Golden monkeys, Yangtze alligators, Redcrowed cranes, Manchurian tigers, and so on. Botanical gardens and arboreta have played an outstanding role in plant *ex-situ* conservation. Now there are 110 botanical gardens and arboreta in China. It is estimated that at present about 23 000 plant species are cultivated in botanical gardens, of which 16 000~18 000 species are belong to native flora (NEPA et al. 1994). Also, some *ex-situ* conservation centers are constructed specially for some rare and endangered plant species.

## 2.3 Further legislation building

At present, China has had a relatively sound legislation system for wild animal protection. But all the present statutes and the National Protected Animal List (issued in 1988 by the State Council) have just focused on the very limited mammals and birds, neglected the conservation for most small-body species such as insects, fishes, reptiles, amphibians, even some small birds and mammals. So the list should be enlarged for more and more wild animal species. The another problem is these laws or regulations are often not enforced or not enforced strictly, or when the violators are apprehended, the court system treats them very leniently. As a result, illegal animal hunting and plant harvest are very widespread. To enhance the enforcement of the conservation statutes, CEPSC and the Commission of Environment and Resources of SCNPC decided to conduct a joint inspection for the enforcement of the Environment Protection Law and the Wild Animal Conservation Law across the whole country from 1993 to 1995. This is a really effective action and it has greatly promoted animal protection in China.

Also, a special law or regulation should be set up to enhance the management of wild animal raising. Now in China more and more wild animal farms and breeding centers for rare and endangered animals have been established nationwide. Many farms and centers have played an important role in saving some rare and endangered animals and meeting markets with precious animal medicines and other economic products. But there are some farms or centers which objective is to seek commercial profits not conservation and sometimes they bring about adverse impacts on conservation by catching wild animals as breeding stock. So

the proposed legislation will specially deal with management of animal *ex-situ* conservation facilities.

As to plants, the legislation is very poor. As far there is no any statute specially for wild plant protection. However, as a drastic loss of forest area, specially natural forests, many plant species are extinct or threatened for their survivals. In 1984, CEPSC issued "The List of National Priority Protected Plants". It contained 354 plant species and then they were compiled in "The Plant Red Data Book (Volume 1)" that was published in 1991 in both Chinese and English versions. Now it is estimated that at least 4000~5000 plant species are endangered or threatened. Therefore, a pressing work in China for plant conservation is to draft and imminently promulgate a wild plant conservation law or regulation.

### 3 The legislation for genetic resource conservation in China

#### 3.1 The existed legislation for genetic resources conservation

Relative to wild animal conservation, there are much less work for the legislation of genetic resources conservation, but it has gradually been enhanced since 1980s. In 1983 the Ministry of Agriculture issued a notice to make out the lists of germplasm resources of crops, stock, poultry and fishes. In 1989 the State Council promulgated "The Regulations on Seed Management" and it defined the seed as plant germplasm resources that can be used for agriculture and forestry, including seeds fruits, roots, stems, shoots and other reproductive materials. There are some stipulations in the Chapter 2 of the Regulation as follows:

- The germplasms are protected by the State;
- The State will organize to collect, sift, identify, conserve and utilize the germplasm of crops and trees;
- The germplasm introduced from foreign countries should be registered by a governmental designated national institution;
- Exchanging germplasm to foreign countries will obey the State's management concerned.

In 1991, the Ministry of Agriculture issued "The Detailed Rules for Implementing Regulation on Seed Management".

In 1994, the State Council issued "The Regulation on Breeding Stock and Poultry Management" and it provided that the genetic resources of stock and poultry will be protected by establishing protected areas (or farms), gene banks and monitoring stations and a special protection will be given to the endangered and valuable stock and poultry breeds.

Moreover, "Import and Export Animal and Plant Quarantine Law" was promulgated in 1991. It is very helpful to prevent the harmful diseases, pests and weeds from importing and exporting trades.

#### 3.2 The legislation enforcement in genetic resource conservation

China is referred to as one of the main origin centers for cultivated crops in the world. During the 5000 years' agricultural history, hundreds of plant cultivars and animal breeds have been domesticated. Among the current 600 cultivated plant species in China there are 300 originated in own country. So it is significant to protect genetic biodiversity in China.

Though some collection work were conducted in 1950s~1970s, a huge of work of collection, identification and conservation has been done since 1980s by the promotion of the legislation for genetic resources. Now, the total collected accessions in China amount to 350

000. It is one of the largest collections in the world. In 1987, a modern long-term National Crop Germplasm Bank was set up at the Chinese Academy of Agricultural Sciences. By 1992, the bank had collected 240 000 accessions. Besides, 27 mid-term crop germplasm banks and 23 germplasm nurseries have been founded in some provinces and academic institutions (Lu 1995).

On the other hand, China has preserved 398 fine breeds of livestock and poultry according to preliminary statistics (NEPA et al. 1994). Rapid progress has also been made in gene banks for livestock breeds. Several modern equipped banks for preserving animal cells, sperms, gametes and embryos have been founded or are being built in China.

### 3.3 Further legislation building

The Article 15 of the Convention addresses that each Contracting Party, on the base of the State sovereign rights over their natural resources, should endeavor to create conditions to facilitate access to genetic resources for environmentally sound uses by other contracting parties. The Article also stresses that access to genetic resources is subject to State's legislation. However, the legislation for access to genetic resources in China is not perfect. As a both large supplier and acceptor, it is necessary for China to formulate a law or regulation to manage the access. The regulation will stipulate some items such as the conditions and procedures of the access, managing institutions, the categories of the genetic resources that are subject to prior informed consent (PIC), protection for intellectual property rights of breeders including farmer's traditional knowledge, full participation of the scientific researches based on the provided genetic resources and benefits-sharing.

The present patent protection system in China does not cover crop's varieties and animal breeds, whereas in some west countries new varieties and breeds are under protection of intellectual property right. It is a task to formulate legislation to protect them including traditional breeding technologies and knowledge, in accordance with the stipulations of Article 8 (j) of the Convention.

Also, China should make some stipulations in the access agreements between supplier and potential users, such as principles for access, categories for environmentally sound uses, information integrity for provided resources, research participation and result-sharing, biosafety, etc.

Besides, it is also important to strengthen enforcement of the present statute, especially enhancing management of import and export for genetic resources by setting up a series of strict systems of declaration, approval, registration, quarantine, etc.

## 4 *Participation in the international conventions of China*

In 1981 China joined the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). To implement the Convention, the National Management Office for Import and Export of Endangered Species was established in Ministry of Forestry, 1982 and it has set up 17 branch offices in the main cities of China such as Beijing, Shanghai, Tianjin, Chengdu, Shengyang, etc. during the past 10 years. Also the State Scientific Commission for Endangered Species was set up in Chinese Academy of Sciences in 1982. In order to implement the international obligations, the State Council issued "The Circular Notice for Prohibiting the trades on Rhino Horns and Tiger Bones". It stipulated to prohibit import and export of rhino horns and tiger bones, forbid to sell, purchase, transport and post them and

cancel their medicinal standards. For it China suffered an economic loss of some 2 billion yuan (RMB).

In 1985 China became the contracting party of the Convention Concerning the Protection of the World Cultural and Natural Heritage and 5 significant natural heritage sites of Taishan, Huangshan, Wulingyuan, Jiuzhaigou and Huanglongsi in China were listed in "The World Natural Heritage List".

In 1992 China participated in the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) and 6 important wetland reserves of Zhalong, Xianghai, Poyanghu, East Dongtinghu, Dongzhaigang and Qinghaihu Bird Island were incorporated into "The List of World Important Wetlands".

In 1993 China acceded to the Convention on Biological Diversity. During the past 3 years a lot of follow-up actions have been conducted in China, e.g. China Biodiversity Conservation Action Plan was completed and published in 1993 and the drafting project of China Biodiversity Country Studies is just being conducted.

Furthermore, China joined the International Convention on Catching Whales in 1980 and acceded to UN Convention on Desertification Control in 1994.

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