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CHINESE SPECIES RESOURCE AND PROTECTION POLICY

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THE INTRODUCTION OF CHINESE SPECIES RESOURCES

China covers a broad territory with complex natural conditions, under which a great variety of species live. There are 2,100 kinds of vertebrate including animal, bird, amphibian and reptile, about 10 percent of the world's total number. There are 2,100 kinds of fish and 1 million kinds of invertebrate. There are 30,000 species of plants including mosses and liverworts (bryophyte), non-flowering plants (pteridophyte) and seed plants accounting for approximately 10 percent of the world's number.

Owing to China's unique natural conditions, significantly from the late Third Period on, most parts of China were not affected by glacier activity. Therefore, Chinese animal and plant systems remain unique. The lack of glacier activity preserved many ancient and rare species, already extinct throughout the Northern Hemisphere, and preserved primitive and isolated species in China. China, therefore, is a rich source of unique species.

In 1987, the Environmental Protection Committee of the State Council published a notice listing more than 200 species of animals to be specially protected. The list includes the famous giant panda (*ailuropoda melanoleuca*), a very ancient and rare species. They live in the mountains of Sichuang, Gansu and Shanxi. Their main food source is bamboo. Since bamboo dies after it flowers, the existence of the giant panda is endangered. In recent years, local governments and departments and the masses have made great efforts to save the lives of 39 out of 54 giant panda.

White-flag dolphin (*lipotis vexillifer*), found in the middle and lower reaches of the Yangtze River, is commonly called the "water panda". It has the smallest number among the fresh water puffer, and is the most ancient and primitive cetacean in existence. The water panda is particularly sensitive to some sound waves, making it an important contribution in scientific research.

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The Japanese crested zdis (*Nippnia nippon*) is a special wading bird in the eastern part of Asia. It is near extinction. Fortunately, Chinese scientific workers found wild Japanese crested zdis on the Qinling Mountain in 1981. It is, therefore, hoped that the extremely rare bird will gradually increase in number.

In 1984, the Environmental Protection Committee of the State Council published a list of endangered precious plants. The list includes the dove tree (*davidia involucrata*) which is a precious rare plant found in Hunan, Sichuang and Gueizhou. Its flower looks like doves, hence its name, "dove tree".

Uinshang (*Cathaya argyrophylla*) is an ancient species in existence for a million years. It is also a living fossil plant. This precious plant was discovered in 1950, receiving much attention from the science community. One hundred million years ago, the dawn redwood (*metasequoia glytostroboides*) was widely dispersed over the Northern Hemisphere. They became extinct ten million years exept for a few in China. Now the tree has been bred, becoming a well known ornamental plant.

China also has income-producing animal and plant resources. There are more than 70 kinds of fur-bearing animals, and 330,000 hectares (10,000 square acres) of reeds which make quality paper. There are also many wild animals and plants such as deer (*cervus spp.*), musk deer (*moschus spp.*), Rensheng (*panas ginseng*), Tienma (*gastrodia elate*), and douzhon (*eucommia ulmoides*), which are all used to produce precious Chinese medicines.

There are also many beneficial birds, animals and insects used to protect forest, grass and agriculture plants.

BASIC REASONS FOR THE ENDANGERMENT OF SPECIES

In the long evolutionary process of the animal and plant kingdom, the formation and extinction of species has been kept constant. Today, while the formation process of species has slowed down, extinction has speeded up.

A concrete example of this can be shown with birds. From 1600 to 1800, 25 species of birds became extinct, while from 1800 to 1950, the number rose to 78 kinds. It is estimated that at present, a different species of bird becomes extinct every three years. By the year 2000, the rate of extinction might rise to one species a year. By the end of this century, there will be an estimated 0.5 to 1 million species extinct, 10 to 20 percent of the existing species in the world.

The rate of species extinction in China's history has not yet been fully analyzed, but data covering the last 30 years

shows that distribution areas for bactrian camel (*camelus bactrianus*), white-flag dolphin (*lipotis vexillifer*), the dugong (*dugong dugong*), Panda deer (*cervus eldi*), snow leopard (*pantera uncia*) and others are shrinking significantly, that fauna quantities are decreasing, and that some plants are near extinction.

The condition of endangered species has garnered the attention from some of the departments. Although there are many reasons for a species to become extinct, such as natural selection, man-made causes are the primary ones.

The changing and destroying of natural habitat is the main reason for most species becoming endangered or extinct. Denudation, cultivation and fire have resulted in the shrinking of forests, causing a significant number of animals and plants to lose their native habitat. On Hanan Island in China, the speed at which the forest is shrinking is startling. In 1956, forests covered 25.7 percent of the area of the island, but in early 1981, it decreased to only 8.5 percent. This resulted in precious species becoming endangered or near extinction.

Unlimited cultivation of grassland, over-grazing, and over-cutting of tress also makes precious species of the grassland lose their native habitat.

Development of cities, construction of water conservation projects, industrial pollution and agricultural production could also change the habitat of species and endanger their existence. Unlimited hunting of animals and cutting of trees and other plants is another primary cause of species extinction. Many profit-making animals and plants have been over-hunted and collected for commercial and foreign trade reasons, greatly decreasing their quantity. An example: the quantity of musk produced per year used to be 3,000 kg, now only 600 kg can be collected.

SPECIES PROTECTION POLICY

To protect and prevent extinction of species is a complex problem. The major policies that should be adopted are as follows.

ESTABLISH NATURE PROTECTION ZONES

China should set up nature protection zones in primary habitat and breeding places of the precious species. In addition to forest lands, China's nature protection zones include grassland, wilderness, marshes, rivers and lakes, islands, geographical sections, and historical spots.

The construction of Chinese nature protection zones started in the 50's. The first one was Guangdong Dinghu nature

protection zone, set up in 1950. The first 20 nature protection zones protected forest ecosystems. There has been tremendous development in the construction of Chinese nature protection zones since the late 70s. By the end of 1985, the nature protection zones in China had increased to 360 covering 190,000 square km, or 2 percent of China's total territory. During this period, the EPA at the national and local levels established more than 40 nature protection zones, with the total area of 90,000 square km, which is half of the existing protection area.

Xinjiang Arjin Mountain nature protection zone is the largest in China, with a total area of 45,000 square km. It retains the plateau ecosystem, and has many precious animals and plateau plants, as well as lakes which are of research value.

Jilin Changbaishan nature protection zone, Sichuang Wolong nature protection zone, Guangdong Dinghu nature protection zone, Inner Mongolia Xilinguele nature protection zone, Fujian Wuyishan nature protection zone and Gueizhou Fanjingshan nature protection zone are all integrated into the International M & B wildlife refugee net.

In order to speed up the construction of nature protection zones, a comprehensive plan should be devised having a rational structure and layout of nature protection zones. Then gradually, complete categories and a rational layout nature protection net can be formed. Simultaneously, the management should be strengthened, to effectively protect species and their habitat and also to utilize the zones as research bases as well as an important educational tool for the broad masses. The construction of nature protection zones has been brought into the national economic and social development seventh five-year plan.

The nature protection zones have three sections: core area, buffer area and experimental area. It is important to pay special attention to the planning and management of the experimental area emphasizing economic results so as to make the zone gradually become self-sufficient. Some zones have already become somewhat self-sufficient.

SPECIES PROTECTION LEGISLATION

The Chinese Constitution proclaims that the state should protect the environment and natural resources. The Constitution lays the foundation for nature protection legislation. The environmental protection law also contains laws for the protection, development and rational use of wildlife and wild plant resources. The Forest Law, Grassland Law and the Scenery and Historical Spots Management Regulations all

make regulations on species protection and managment within each jurisdiction.

Presently, the Wildlife Law, Regulations on Protection of Precious Plants, and Regulations on Nature Protection Zone Management are all being drafted. The publication of these laws and regulations will promote the work of species protection.

China should stress the enforcement of its laws as well as encourage legislation. Enforcement is very important for nature protection and its laws.

CARRYING OUT SCIENTIFIC RESEARCH

In recent years, there have been more than 70 research projects investigating the distribution, habitat, quantity and changes of species, and the reasons for the endangerment of different species. For example, the Xingjiang Arjin Mountain nature protection zone comprehensive science investigation, and the Gueizhou Fanjingshan and Jilin Changbaishan nature protection zones science investigations have provided large amounts of basic data and scientific basis for the protection of animal and plant resources and precious species.

Some seriously endangered plant and animal species can be moved from the original habitat to a zoo, botanical garden or a special breeding center. After domestication, cultivation and breeding, the species can be reintroduced into their original habitat once the quantity of the species has increased to a certain number. The Hangzhou Botanical Garden successfully introduced and bred precious plants of the Zhejiang Province, with good results. The Huanan Botanical Gardens have introduced and bred large amounts of ancient and rare plants from the magnolia family. In 1980, the Chinese EPA cooperated with international organizations to set up the Sichuang Wolong giant panda (*ailuropoda melanoleuca*) research center. Pere David's deer (*elaphurus davidianus*) used to be a special Chinese animal, but it has long been extinct in China. In 1985, the state EPA and Beijing municipal government set up Pere David's deer ecological center. The ten Pere David's deer given by the English Government have already produced ten baby Pere David's deer. The English Government gave another 18 Pere David's deer in 1987. Presently the number of white-flag dolphin (*lipotis vexillifer*) are few. In order to protect this precious species, the State EPA is constructing a breeding center in Tongling City of Anhuei Province.

According to the seventh five-year environmental protection plan, the state will establish more breeding centers for animals and plants, as well as establish some gene reserves.

Based on past scientific research, the state EPA published the first red book on Chinese plants, in which 300 precious plants are listed. Presently, the second red book on Chinese plants is being compiled as well as a red book on Chinese animals.

STRENGTHENING PROPOGANDA AND EDUCATIONAL WORK

Species protection is a national cause. The correct decisions by leaders at different levels and active participation by the masses are key to species protection work.

In order to raise the people's awareness of species protection, publication and education should be adopted, such as articles, movies, television programs, seminars, summer clubs, activities for couples, and exhibitions. If the Chinese people understand, species protection work will be carried out smoothly.

The book, "China Nature Protection Strategy" is a guiding document objectively directing Chinese natural environmental protection and resource protection. China will further launch the movement towards publication and education to let the people be more aware of species protection.

International cooperation is very necessary for species resource protection and research, especially for those species that migrate between countries. China has already had cooperation with UNEP, WWF and IUCN. China should make more efforts at international cooperation, thereby promoting the development of species protection.

CONCLUSION

Although China has done much in the area of species protection, and gained some experience, the system still has many weak points. For example, illegal hunting and the collection of species is common. The management of the system is comparably weak.

Along with the social development and improvement of economy, species protection work will gradually be strengthened, as China makes a contribution to the world species protection cause.