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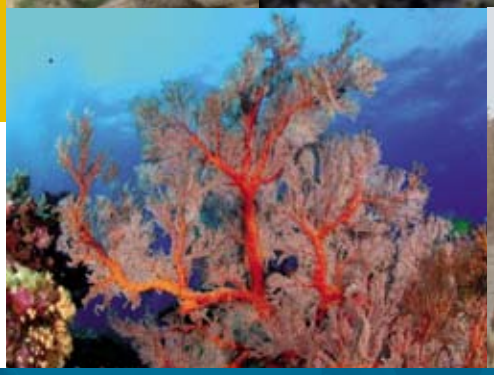
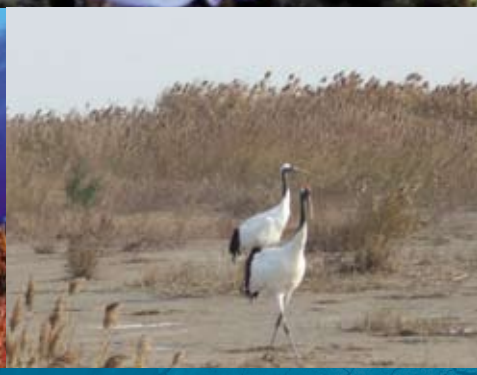
Biodiversity and its Conservation in China

Authorities, Mandates, and Conventions

Chris Klok
Zhang Tiehan



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ABSTRACT

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In this report an overview is given of the current status of biodiversity in China and how its protection is legally organized. International conventions signed by China are summarized, as well as the roles and mandates of the different ministries and the role of the civil society. Challenges China faces to conserve biodiversity are discussed given its current legal structure and the country's strong economic development.

Keywords: biodiversity, conservation, governance, legal structure

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Abbreviations

CAS	Chinese Academy of Sciences
CBD	Convention on Biological Diversity
CBDSC	Steering Committee for implementation of the Convention on Biodiversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COP	Conference of the Parties
ECPB	EU-China Biodiversity Programme
GAQSIQ	General Administration of Quality Supervision, Inspection and Quarantine
GDA	Guangming Daily Agency
GNP	Gross National Product (GNP)
IUCN	International Union for Conservation of Nature
MAB	Man and Biosphere Programme
MEP	Ministry of Environmental Protection
MFA	Ministry of Foreign Affairs
MLR	Ministry of Land Resources
MOA	Ministry of Agriculture
MOC	Ministry of Construction
MOE	Ministry of Education
MOF	Ministry of Finance
MOFCOM	Ministry of Commerce
MOS	Ministry of Security
MST	Ministry of Science and Technology
MWR	Ministry of Water Resource
NBAP	National Biodiversity Conservation Action Plan
NDRC	National Development and Reform Committee
PACD	Plan of Action to Combat Desertification
PDA	People Daily Agency
SFA	State Forestry Administration
SAIC	State Administration of Industry and Commerce
SARFT	Sate Administration of Radio Film and Television
SATCM	State Administration of Traditional Chinese Medicine
SCA	State Custom Administration
SIPO	State Intellectual Property Office
UNCOD	United Nations Conference on Desertification
UNEP	United Nations Environment Programme
UNCED	United Nations Conference on Environment and Development
WHC	World Heritage Convention
YNA	Yinhua News Agency

Summary

China is rich in Biodiversity. The vast country spans five climatic zones and crosses two bio-geographical realms. The strong economic development of the country over the last decades has resulted in a strong pressure on the natural environment, leading to deterioration of the environment and biodiversity.

In this report an overview is given of the current status of biodiversity in China and how its protection is legally organized. International conventions signed by China are summarized, as well as the roles and mandates of the different ministries and the role of the civil society. Challenges China faces to conserve biodiversity are discussed given its current legal structure and the country's strong economic development. Although China has made major steps towards more effective environmental protection and biodiversity conservation, capacity is a limiting factor and biodiversity and environmental policy units are still seriously fragmented. Moreover, governmental bodies can be in a competition position due to budget constraints, and their different objectives make it difficult to fully cooperate. Policies therefore are generally reactive, un-integrated, and uncoordinated.

This report is a compilation of information available on the internet and in open literature.

1 Introduction

China is one of the most biodiversity-rich countries in the world. Given its vast size, it spans five climatic zones and crosses two bio-geographical realms, China harbours a high diversity of species and habitats. Over the last decades China's economic development has strongly increased, resulting in an increased risk on biodiversity loss. In 2005, China became the world's second largest economy when measured in terms of purchasing power parity. Although the "ecological footprint" (the ecological footprint measures the area of biologically productive land and sea required to sustain the resource consumption of a given population) of the average Chinese is less than one-sixth that of the average individual living in the United States, China's growth rates have been averaging close to 9% a year for much of the last decade (Xue et al. 2006). This economic development has resulted in a large pressure on the natural environment, leading to deterioration of the environment and natural resources. The rapid deterioration of the nation's environmental quality and depletion of its natural resources are threatening the lives and health of the largest population in the world and the potential for sustained growth of the economy (Development and Change, 2006). Moreover, biodiversity is currently under threat as indicated by the large number of species on the Red Species Lists (IUCN, 2007). In response to these threats, the Chinese government has recently elevated the importance of environment protection in its national development strategy, especially since the Sixth National Conference on Environmental Protection in 2006 (State Council, 2006). The government has set an objective of achieving harmonious Xiaokang Society by the year 2020. However, the representation of this objective is primarily in terms of quadrupling Gross National Product (GNP) whilst maintaining social equity, whereas actions to maintain and improve a healthy environment have not been explicitly included. At the Sixth National Environmental Conference (in April 2006), Premier Wen Jia-bao emphasized the importance of three transitions:

- from a focus on economic growth to one on environment and development;
- from environment as a secondary objective to one of equal importance with economic growth; and
- from the primary use of administrative methods of environmental management to a more comprehensive system.

The government has begun to consider evaluating the performance of local government leaders on environmental performance rather than focusing solely on economic growth categories. However, if China is to embark on these transitions, significant institutional changes are necessary (Xue et al. 2007).

In this report an overview is given on the current status of biodiversity in China and how its protection is legally organized. In chapter three the international conventions signed by China are summarized. In chapter four the roles and mandates of the different ministries are described, and in chapter five the role of the civil society. In chapter six problems and challenges China faces to conserve biodiversity are discussed given its legal structure and the countries strong economic development.

2 Current status of Biodiversity in China

China is one of the most biodiversity-rich countries in the world, with 17300 species of flowering plants and 667 endemic vertebrates (Cai, 2007). However, due to human activity and climate change, many ecosystems are being degraded and their vital life-support functions being lost. According to the recently developed Red List, many of the plant and animal species in China are endangered species. Based on criteria developed by the International Union for Conservation of Nature (IUCN), the percentage of endangered plant species equals 69.9% of the gymnosperm and 86.6% of the angiosperm, whereas of the animal species 34.7% of the invertebrates, and 35.9% of vertebrates are endangered. These figures by far exceed earlier estimates of between 2% and 30%.

Because of its size, China is one of the most biophysically diverse countries in the world. China's land covers over 9.6 million km^2 and it has over 3 million km^2 of seawater under its jurisdiction. It stretches over 5,500 km from north to south, covering 50 degrees of latitude and 5 climatic zones[1]. It crosses two bio-geographic realms (the *Palaearctic* and the *Oriental*) and has several large mountain ranges. Climatic and geological diversity have led to a great diversity of ecosystems and species. Moreover, as many parts of China were protected from previous glaciations, many species survived the last glaciations in China, and therefore and China is also the only home of many pre-tertiary relic species, for example the Giant Panda and the Cathay Silver Fir (ECBP, 2006). Moreover, China is a centre of origin for many important species used in agriculture and forestry.

China contains a broad diversity of ecosystems including **forest, desert, grassland, freshwater rivers and wetland, coastal/marine and agricultural ecosystems**. Within each of these broad categories there is a vast diversity of specific ecosystems in China. For example, desert ecosystems cover 20% of the country including some of the most northerly deserts on earth. Grassland ecosystems include meadows, savannah and steppe, with, for example, 77 different formations of meadows already identified.

2.1 Species and genetic diversity

At the **species level**, China accounts for approximately 10% of known species in the world. For example, recent data suggests that China hosts 2,200 species of algae (13.3% of world total), 1,329 bird species (14.7% of world total) and 2,804 fish species (12.1% of the global total). Table 2.1 shows the percentage of the different taxa found in China.

[1] Namely: cold-temperate, temperate, warm-temperate, sub-tropical and tropical.

Table 2.1 Numbers of Species in China and the World
(source: http://www.brim.ac.cn/brime/bdinchn/3.html, accessed July 2008).

Taxa	Spp.of China(SC)	Spp.of world(SW)	SC/SW(%)	Estimated Nos.in the world
Mammals	499	4,000	12.5	5,000
Birds	1,186	9,040	13.1	11,000
Reptiles	376	6,300	6.0	
Amphibians	279	4,184	7.0	
Fishes	2,804	19,056	12.1	28,000
Insects	40,000	751,000	5.3	1,500,000
Bryophytes	2,200	16,600	13.3	
Pteridophytes	2,600	10,000	26.0	
Gymnosperms	200	520	37.8	
Angiosperms	25,000	220,000	11.4	
Fungi	8,000	46,983	17.0	1,500,000
Bacteria	500	3,060	16.3	30,000
Algae	5,000	26,900	18.6	60,000

The number of endangered and endemic species mirrors the high species diversity. Information is very incomplete, which is illustrated by the fact that during the period 1980-1986 approximately 500 species of insects and angiosperms were identified annually.

The status of species is classified according to the 2001 IUCN Red List Categories and Criteria (Fig. 2.1). Chinese Red List evaluates the risk of extinction for Chinese species naturally occurring in China (including Taiwan, Hong Kong and Macau) following the Distribution ranges and population sizes used for evaluation refer to the status of populations within China only.

In the past, the expected percentages of endangered species were within the range of 2%~30%. The data in the Country Report of China Biodiversity published in 1998 lists: mammals 22.06%, birds 14.63%, reptiles 4.52%, amphibian 2.46% and fish 2.41%; gymnosperm about 28% and angiosperm about 13%. From this comprehensive evaluation, the percentage of species listed in threatened categories (CR, EN and VU, see also Fig 2.1) of invertebrates equals 34.74%, NT percentage is 12.44%; the threatened percentage of vertebrates is 35.92%, NT percentage is 8.47% (Fig. 2.2); gymnosperm are 69.91% and 21.23% separately; angiosperm 86.63% and 7.22% separately.

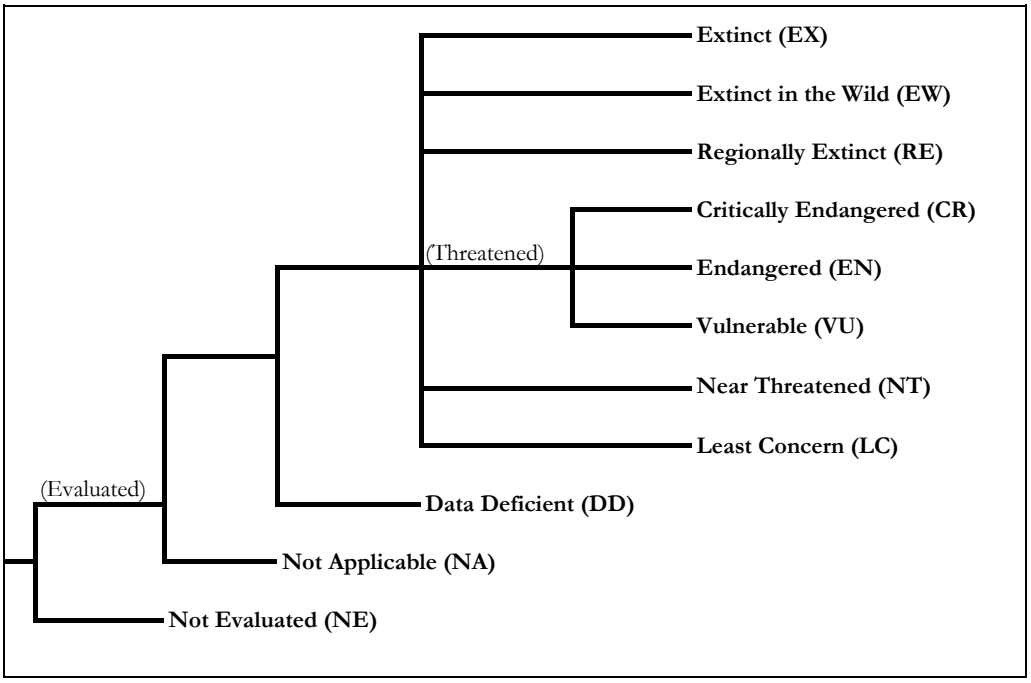

Figure 2.1 The Structure of endangered categories at regional level (IUCN, 2001).

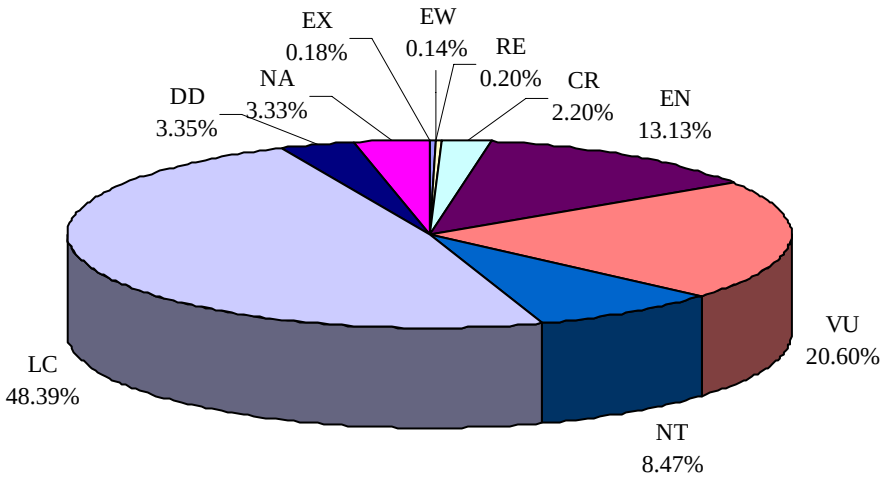

Figure 2.2 The threatened status of vertebrate species in China evaluated in the Red List, Regionally extinct (RE) Not Applicable (NA) (source: http://www.chinabiodiversity.com, accessed July 2008).

China's biodiversity is vast and complex and, critically, varies across China's vast territory. Likewise, the status or condition of the biodiversity, and biodiversity trends, also vary greatly. The trends vary from county to county, province to province, and also over time. For example, over a short period, trends may be reversed in one county, yet they may consolidate in a neighboring one.
Likewise, just as biodiversity itself is site-specific (a little appreciated fact), so are the underlying causes of biodiversity loss, and can change over time.

Genetic diversity of China is high, China is considered one of the eight centers of origin for crops in the world. Approximately 1200 species of crops are cultivated worldwide, and it is estimated that more than 290 of them originated in China, where their wild relatives are still found. On-farm diversity is also very high, with an estimated 500,000 varieties of the 600 domestic plant species, and 590 varieties of domesticated animals and poultry.
Each region of China has significant biodiversity. Whereas the southwest and southern regions may be richest in terms of number of species, all other regions have unique and diverse ecosystems, all have unique and endangered species, and all have commercially important species and genetic diversity.

2.2 Forests

China's ***forest*** coverage increased from an historical low of 85 million hectares in 1949 to over 160 million hectares in 2002, and they now cover 17% of the country. Most of the forests are located in the Northeast and Southwest of China, with other smaller forests scattered around the country, primarily in the south-central areas. Despite these historically unprecedented increases in forest coverage, most studies indicate that the *quality* of the forests has continued to decline, in terms of biodiversity and in terms of age and biomass. The reason for this is that most of the new forest results from reforestation schemes leading to thinly covered, mono-species plantations. This declining forest quality continues today, albeit more slowly, in most parts of China. In the Northeast, the main actors in this deterioration are the state-owned companies, over 80 of which employ over one million people. These companies continue to engage in large-scale legal logging above sustainable rates in the higher quality forests. In the Southwest, logging is widely banned, and most degradation is due to unsustainable harvesting by households on family and community-owned land for locally used timber and fuel. Illegal cutting by locally owned enterprises is still an issue in some localities in the Southwest.

2.3 Wetlands

The ***wetlands*** in China are distributed across the country. In each area, they have been degraded in terms of quality and quantity. In the Northeast, over 90% of the vast wetland plains have been drained and converted to farmlands. These large-scale drainage schemes, funded by national and local governments, lead to short-terms gains for both state-owned and small-scale farms. These drainage schemes are continuing, albeit at a much slower rate than in previous years. In the Northwest and Southwest, local climate change is a factor in damaging wetlands. This continues to be exacerbated by small-scale drainage schemes (often by individual herdsman and farmers) and by the large number of dams built or under construction[2]. Local governments and the Ministry of Water Resources are sponsoring much of the dam construction. In addition to drainage, over-fishing is causing widespread problems in

[2] It is estimated that there are as many as 80,000 small, medium and large-scale dams in China.

many wetlands. This is usually by individuals, but in some cases is by enterprises owned by the county government. Finally, pollution is a major cause of wetlands degradation near to cities. This is particularly the case in the middle and lower reaches of the Yangste, and in all wetlands in the more industrialized eastern provinces.

2.4 Steppe habitats

Steppe ***grasslands*** have been degraded largely as a result of national government policy during the period 1950-1990. These policies pushed unsustainable exploitation, causing grasslands to be converted to unsuitable cropland, and led to the over-stocking and over-grazing of the remaining grasslands. During that period, local governments made great efforts to meet or surpass unrealistic national targets, and local herdsman and enterprises saw the opportunity to make profits. Despite many changes in national policy, these factors continue to play an important role at many localities, and the population of important indicator species is declining and disappearing from some parts. Pests (grasshoppers and rodents) and invasive species also play a role in declining grasslands. Unique grassland ecosystems are largely found in the North and Northwest of the country.

2.5 Coastal zones and marine habitats

Unlike most of the important ecosystems listed above, China's ***coastal and marine*** diversity is mostly found in the wealthier parts of China, near to and along the eastern coast. China's coral reefs are found mainly around Hainan Island and offshore, in the Nansha, Zhongsha and Xisha Islands of South China Sea. Coral reefs in China include fringing reefs found in southern China's continental coastal waters and around offshore islands, and as atolls in the South China Sea, fringing reefs occur mainly on parts of the coasts of Hainan Island and Taiwan Island. Owing to the high latitude and low winter temperature, only limited and scattered, sub-tidal coral communities and locally fringing reefs occur along the southern coastline of continental China. Within the vast waters of the South China Sea there are about 128 atolls, or platform reefs, (with a total area of about 30,000 km^2) forming the South China Sea Islands. About half of the atolls (covering an area of only about 5,000 km^2) are emerged atolls, while the remainder are drowned atolls. The total areas of all reef flats and limesand islets (of which there are about 53) on emerged atolls of the South China Sea Islands are only 907.1 km^2 and 11.41 km^2 respectively.

Past economic development has greatly damaged coastal zone ecosystems, and many individual species are now locally extinct or threatened. The remaining biodiversity faces a series of threats originating from a range of socio-economic actors, of which the most important are:

- large upstream dams sponsored by central and provincial government;
- large-numbers of small-scale legal conversions of marsh and mangroves to farms, to cotton or to aquaculture by local people, by local enterprises or by township governments;
- over-collection of key species by local people;
- pollution from cities, from transport and from the oil industry;
- construction of harbors by provincial governments.

Also damage and degradation of coral reefs can be traced to human-induced causes, such as coral mining, over-fishing, destructive fishing, and pollution. In the 1960s, hermatypic corals of the Luhuitou coastlines around Sanya City on Hainan Island consisted of 12 families, 24 genera and 83 species. They formed approximately 70 per cent of all species on Hainan Island. By the 1990s, these corals had been reduced to only 10 families, 21 genera and 58 species. About one third of hermatypic coral species have become extinct and more than 70 per cent of coral colonies are less than 30 years old. In the area near Sanya Port and Sanya River inlet, the hermatypic corals are almost completely destroyed and cannot be restored (http://www.worldfishcenter.org/pubs/coral_reef/pdf/section3-7.pdf, accessed July 2008).

2.6 Deserts

China's unique ***desert*** ecosystems are also being degraded. The deserts lie mostly in the Northwest part of the country. Although the total desert area is increasing due to desertification, the quality and diversity of deserts is declining. Deserts ecosystems are being damaged due to:

- physical damage caused by large-scale, government-run mining;
- physical and chemical damage caused by small scale illegal mining for precious metals;
- local people collecting wood for fuel and keeping livestock that overgraze the shrubs;
- small-scale conversion of oasis land to agriculture (by local governments, in line with local poverty alleviation campaigns), and;
- illegal hunting, often by outsiders, is contributing to the loss of some desert species.

2.7 Agricultural habitats

Finally, the unique ***agricultural*** ecosystems developed over the past millennia have greatly declined in quality over the past few decades, and this trend is continuing, although more slowly. One factor is the establishment of many township enterprises, especially in the 1960's and 70's, that polluted traditional agricultural land. Also,

traditional farmland is being converted to urban infrastructure (near the Eastern cities) or to tourist facilities (in the Southwest). Remaining farmers specialize to remain economically viable and cultivate a smaller number of more profitable crops and varieties. In recent decades generally more than 10 crops and sometime up to 50 could be collected from even one farmer's land. In addition to several staple crops (such as rice, wheat and maize), a wide range of indigenous crops including many kinds of legumes, oil crops, fruit trees, vegetables, cotton and other textile plants were cultivated. At present, especially in Eastern and Southeast China, most farmers have only one main crop and possibly some vegetables. Moreover, because government agencies strongly support the process of modernization including the promotion of single profitable crop species, most varieties are no longer found on farms. For instance, 384 of 400 varieties of peanut used in Shandong province in 1950 are no longer used by farmers. Overall, the number of varieties and the wealth of indigenous systems and practices continue to decline.

3 China and international conventions

Since 1970s, China joined a number of international conventions and programs – such as UNESCO's Man and Biosphere Programme (MAB), the World Heritage Convention (WHC), RAMSAR Convention, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and the Migratory Bird Conventions. This chapter will briefly present these conventions signed by China's government, their goals, actions taken by China's government and their recent achievements.

3.1 Convention on Biological Diversity

3.1.1 Introduction

At the 1992 Earth Summit in Rio de Janeiro, world leaders agreed on a comprehensive strategy for "sustainable development" -- meeting our needs while ensuring that we leave a healthy and viable world for future generations. One of the key agreements adopted at Rio was the Convention on Biological Diversity (CBD). This pact among the vast majority of the world's governments sets out commitments for maintaining the world's ecological underpinnings as we go about the business of economic development. The Convention establishes three main goals: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources (http://www.cbd.int/, accessed April 2008). The CBD came into force in December 1993. The General Secretary Office locates at Montreal, Canada. Till May 2008, 190 countries in the world jointed CBD.

3.1.2 China's actions and achievements

In 1992, China was one of the first six nations to ratify the CBD. Following this ratification China prepared and approved its National Biodiversity Conservation Action Plan (NBAP) in 1994.
Over the past 14 years, the Action Plan has played an important role in conservation and sustainably use of biodiversity in China. In the process of implementation a great deal of experiences has been obtained:

- A coordination mechanism has been set up between different ministries. A national coordinating group, the Steering Committee for implementation of the Convention on Biodiversity (CBDSC) oversees China's international obligations under the Convention. The Committee meets 1-4 times annually under the chairmanship of the Ministry of Environmental Protection (before March 2008, it was called State Environmental Protection Administration (SEPA)). The Ministry of Environmental Protection also provides the Secretariat of the Committee in its Department of Ecology and Nature Conservation. Its responsibility is to

coordinate and strengthen the implementation of CBD in China. CBDSC has 22 members.
- The perfection of laws and regulations was strengthened, such as China Environmental Protection Law, Wild Animal Protection Law, Forestry Law, Grassland Law, Animal Husbandry Law.
- Biodiversity Conservation Plans were developed in China, such as the National Ecological Conservation, China Hydrobiology Conservation Action Plan, the11th Five Year Plan on Biological Industry Development, Outline of the Plan of National biological species, Agriculture Science Development Plan (2006-2020), and 11th Five Year Plan of Environmental Protection.
- Establishment and management of nature reserves have been reinforced. China had established 2,396 Nature Reserves in China by the end of 2006.
- Broaden international cooperation

Recently, China is preparing to update the Action Plan.

3.2 Convention Concerning the Protection of the World Cultural and Natural Heritage

3.2.1 Introduction

The Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention) was adopted by the General Conference of UNESCO in 1972. The Convention aims to encourage the identification, protection and preservation of earth's cultural and natural heritage. Among these, natural heritage covers outstanding physical, biological and geological formations, habitats of threatened species and areas with scientific, conservation or aesthetic value. The level of biodiversity within a given site is a key indicator of its importance as a natural property.

There are currently 754 properties on the World Heritage List. Of these, 582 are cultural properties and 149 natural properties, as well as 23 mixed natural and cultural properties, and 23 cultural landscapes, located in 128 countries. To date, more than 170 countries have adhere to the Convention.

3.2.2 China's actions and achievements

China became the member of the Convention in 1985. Till June 2007, totally 35 cultural and Natural Heritage sites in China have been listed in the World Heritage list (http://www.gov.cn/test/2006-05/23/content_288352.htm. accessed May 2008).

3.3 Convention on International Trade in Endangered Species of Wild Fauna and Flora

3.3.1 Introduction

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) seeks to control the trade in species of wild animals and plants that are, or may be, threatened with extinction as a result of international trade. CITES was drafted by IUCN-The World Conservation Union in 1963. The text of the Convention was affirmed at a meeting of representatives of 80 countries in 1973 and was enacted in 1975.

The Convention uses a permit system to regulate the import and export of species that are listed in Convention Appendices. Appendix I lists species that are now threatened with extinction and which may not be traded for primarily commercial purposes. Species in Appendix II contains species that individual countries have listed because they are under special management in that country and require the co-operation of other parties in the control of trade. Currently, CITES lists over 30,000 species of animals and plants.

3.3.2 China's actions and achievements

China signed the Convention on 25th September 1980. The Convention officially came into force on 8th April 1981 in China. The List of National Key Protected Wild Animals of China not only includes the wild animals in Annex I and II of the Convention, but the wild animals in Annex III as well (www.swx123.com, accessed May, 2008).

3.4 Convention on the Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)

3.4.1 Introduction

The Ramser Convention was signed in Iran in 1971. It came into force in 1975. The Ramsar Convention represents the first attempt to establish a legal instrument providing comprehensive protection for a particular type of ecosystem. The Convention provides a framework for national action and international cooperation for the conservation and wise use of wetlands for the benefit of humankind. Over the years, the Convention has broadened its scope to cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation and for the good of human communities.

UNESCO serves as Depositary for the Convention. Its administration is undertaken by the Ramsar Bureau; its Secretariat is housed in the headquarters if IUCN. The Convention has also established a Wise Use Resource Centre: an evolving section of

the Ramsar website designed to provide advice, assistance, and guidance to wetland managers. The Resource Centre includes a Wetland Experts Use Resource Library and a Catalogue of Training Opportunities.

The first obligation under the Convention is to designate at least one wetland for inclusion in the List of Wetlands of International Importance (the 'Ramsar' List) and to promote its conservation, and, where appropriate, its wise use. Selection for the Ramsar List must be based on the wetland's significance in terms of ecology, botany, zoology, limnology, or hydrology. The Ramsar Parties have adopted specific criteria and guidelines for identifying sites that qualify for inclusion in the List of Wetlands of International Importance. Untill 31st, December 2002, 134 countries and regions signed the Convention. The total area of the wetlands, which is covered by the Convention, is around 6 percent of the total surface of the world.

3.4.2 China's actions and achievements

The Government of the People's Republic of China has tripled its number of Wetlands of International Importance by designating, effective on 11 January 2002, 14 provincial and national Nature Reserves for the Ramsar List, an addition of 1,959,383 hectares. The new sites range from vast wetlands in the semi-arid steppes of Inner Mongolia to mangrove forests in the extreme southwest of the country; from two more parts of Dongting Lake on the plains of the middle reaches of the Yangtze River to intertidal mudflats at the river's mouth near Shanghai; from reserves dedicated to the Spotted Seal in the Bohai Sea to reserves for the endangered Green Turtle on a gently sloping beach in the south, and still another for the Pere David's Deer, known here as the "Milu". These additions bring China's total Ramsar coverage to 21 sites with 2,547,763 hectares included.
(http://www.ramsar.org/wn/w.n.china_14newsites.htm, accessed July 2008).

3.5 The International Convention for the Regulation of Whaling

3.5.1 Introduction

The International Convention for the Regulation of Whaling was signed in 1946 designed to make whaling sustainable. It governs the commercial, scientific, and aboriginal subsistence whaling practices of fifty-nine member nations.

It was signed by 42 nations in Washington D.C. on December 2, 1946. The Convention took effect on November 10, 1948. Its protocol (which represented the first substantial revision of the convention and extended the definition of a "Whale-catcher" to include helicopters as well as ships) was signed in Washington on November 19, 1956. Objectives are protection of all whale species from overhunting, establishment of a system of international regulation for the whale fisheries to ensure proper conservation and development of whale stocks, and safeguarding for future generations the great natural resources represented by whale stocks. The primary

instrument through which these aims were followed was the establishment of the International Whaling Commission. The Commission has made many revisions to the schedule that makes up the bulk of the convention, reflecting changing economical, ecological and commercial standards.

3.5.2 China's actions and achievements

China signed the convention in 1980. China itself is not involved in whaling.

3.6 UN Convention to Combat Desertification

3.6.1 Introduction

The international community has long recognized that desertification is a major economic, social and environmental problem of concern to many countries in all regions of the world. In 1977, the United Nations Conference on Desertification (UNCOD) adopted a Plan of Action to Combat Desertification (PACD). Unfortunately, despite this and other efforts, the United Nations Environment Programme (UNEP) concluded in 1991 that the problem of land degradation in arid, semi-arid and dry sub-humid areas had intensified, although there were "local examples of success". As a result, the question of how to tackle desertification was still a major concern for the United Nations Conference on Environment and Development (UNCED), which was held in Rio de Janeiro in 1992. The Conference supported a new, integrated approach to the problem, emphasizing action to promote sustainable development at the community level. It also called on the United Nations General Assembly to establish an Intergovernmental Negotiating Committee (INCD) to prepare, by June 1994, a Convention to Combat Desertification, particularly in Africa. In December 1992, the General Assembly agreed and adopted resolution 47/188. Working to a tight schedule, the Committee completed its negotiations in five sessions. The Convention was adopted in Paris on 17 June 1994 and opened for signature there on 14-15 October 1994. It entered into force on 26 December 1996, 90 days after the fiftieth ratification was received. Over 179 countries were Parties as at March 2002. The Conference of the Parties (COP), which is the Convention's supreme governing body, held its first session in October 1997 in Rome, Italy; the second in December 1998 in Dakar, Senegal; the third in November 1999 in Recife, Brazil; the fourth in December 2000 in Bonn, Germany; and the fifth in October 2001 in Geneva, Switzerland. As of 2001, COP sessions will be held on a biennial basis (source: http://www.unccd.int/convention/menu.php, accessed May 2008).

3.6.2 China's actions, and achievements

China signed the Convention on 14th October 1994 and verified the Convention on 30th December 1996. The implementation agency of the Convention in China is State Forestry Administration. The Centre of Desertification Prevention and Control is responsible to formulate and implement national desertification prevention and control policies, regulations; to develop long term national plan on desertification prevention and provide advices on regional desertification prevention and control plans and to deal with the significant affairs related to Convention (for the detail responsibilities please see the Members of CBDSC in China and their roles).

4 Mandates of authorities on biodiversity conservation

4.1 Introduction

China signed the Convention on Biodiversity in 1992. Very soon, a national coordinating group, the Steering Committee for implementation of the Convention on Biodiversity, was established. The CBDSC oversees China's international obligations under the Convention. The Committee meets 1-4 times annually under the chairmanship of Ministry of Environmental Protection (MEP). The Secretariat of the Committee is situated within the Department of Ecology and Nature Conservation. Its responsibility is to coordinate and strengthen the implementation of CBD in China. Before 2007 CBDSC had 22 members. Since October 2007 two more members from the Ministry of Land and Resources were included. The names and roles of the organizations are shows in paragraph 4.2. Paragraph 4.3 shows the results of a quick assessment of the importance of the members of CBDSC.

4.2 Members of CBDSC in China and their roles

Table 4.1 Members of the CBDSC

Name		Responsible department	Obligation and responsibility
1	Ministry of Environmental Protection (MEP)	Natural Conservation Department	To formulate, monitor and implement the national policies, legislations and standards focus on biological conservation, natural reserve, eco-function zone, biodiversity conservation, bio-safety, biological species resources, bio-technology and environmental safety To formulate, monitor and implement the ecosystem conservation plans of national key regions and water basins, the plans of natural reserve and the plans of biodiversity conservation; To organize the evaluations for national natural reserves and eco-function zones; to provide the suggestions for different types of national natural reserves and eco-function zones; To monitor and manage national natural reserves; to monitor the environmental protections issues on different types of natural reserve, scenic areas, forest parts; to supervise the environmental protection issues on eco-tourism; To monitor and evaluate the import and export management on biodiversity conservation, wildlife protection and the valued and endangered species; to coordinate and supervise the implementations of environmental protection conservations (e.g. Biodiversity Conservation, United Nations Conservation to Combat Desertification Prevention, Wetland Convention); to be responsible for managing biodiversity, bio-safety, biological resources and environmental safety of bio-technology.
		Environmental impact Assessment Department	To formulate and implement environmental management policies, legislations and regulations regards to environmental impact assessment; to conduct environmental impact assessment for key economic and technologic policies, development plans and key economic development plans, etc.
		International Cooperation Department	To coordinate international activities of environmental protection; to participate the negotiation on international conventions of environmental protection; to manage and coordinate the implementations on international environmental protection conventions and international communication; to manage foreign economic cooperation within environmental protection system; to deal with international environmental pollution accident and international environmental protection affairs; to be responsible for providing supervisions for the operations of the responsible office of United Nations Environmental Programme; to be responsible for the communication with international environmental protection organizations;
		Laws and Regulations Department	To formulate integrated guidelines of national environmental protection, policies and strategies of national environmental protection and development; to be responsible for formulating and managing environmental economic policies; to be responsible for analyzing economic policies related to national sections, finance, price, trade, etc. and coordination of foreign trade; to formulate and implement the

Name		Responsible department	Obligation and responsibility
			plan of environmental protection regulation and annual working plan; to be responsible for drafting integrated laws, regulations and legislations of environmental protection and to be responsible for the tasks of record environmental protection regulation; to provide suggestions and comments for the environmental protection laws, regulations and legislations formulated by National people's Congress, the Law and Legislation Office of National Congress and other related departments of National Congress; to be responsible for provision and the supervisions on the education and training campaigns of environmental policies and laws of environmental protection system; to establish and maintain an expert network of environmental policy and law and to be responsible for the daily communication.
2	State Forestry Administration (SFA)	Wildlife Protection Department	To draft, implement and monitor the guidelines, policies and regulations on wildlife, natural reserve, preserve areas, wetland conservation, and the wildlife import and export management policies; To formulate and evaluate the development strategies, plans, technical standards and national general plans of wildlife, natural reserve, preserve areas and wetland conservation; To establish and manage national wildlife protection system, key engineering, natural reserves and preserve areas; to supervise and monitor national wildlife breeding, generation, wild plants breeding and property trade and utilization, and to be responsible for supervising national hunting plans; To organize the survey, monitoring, statistic and documentation for national wildlife resources, wetland resources and natural reserves; To coordinate and implement the obligations of national wetland protection and the obligations of international Wetland Convention; to develop the name lists of national key wildlife, national and international important wetlands, the preserve period of terreneous wild animals, preserve area and to provide related adjustment comments; To formulate national key wild animal hunting and wild plant collection plan; to evaluate the export of national first level protected wild animals and its products; to evaluate hunting quotation of non-national-important wild animal and the trade quotations of the productions of national first level's wild animal, the national second level's wild animal and non-national-important wild animal; to evaluate the export quotation of wildlife (excludes national first level's wildlife); to evaluate the import plans of foreign species. To formulate the name lists of valuable trees which forbidden and restrict to export; to evaluate and monitor the export plans of valuable trees; To evaluate national natural reserves and provide evaluation comments for national congress; to evaluate, supervise and monitor national plant parks, wildlife parts, national preserve forbidden areas and international preserve areas; To be responsible for the administrative performance of wildlife and natural reserve management, and the statistic and analysis on institutional cases; To organize the international cooperation and communication regards wildlife, natural reserve, preserve

Name		Responsible department	Obligation and responsibility
			forbidden area, wetland conservation, etc; to organize, coordinate and implement the bilateral agreements and forestry related tasks within Biodiversity Convention; To implement the programmers and projects of Global Environmental Facility (GEF).
		The import and export management centre of endangered species of SFA (Chinese Import and Export Management Centre for endangered species) The headquarter of the Centre locates at SFA (17 representative offices locate in different capital cities)	Under the direction of SFA, to analysis and draft guidelines, policies, laws and regulations of national wildlife import and export; to assist main responsible authorities to manage import and export on wildlife; On behalf of Chinese government to contact with the organization of International Trade Convention of Endangered Wildlife (hereafter called Convention) and member countries; together with Convention related authorities to develop implementation policies; to deal with the significant affairs related to Convention and Convention implementation affairs related to Hong Kong, Macao and Taiwan; To analyze the resolutions and case studies related to Convention submitted by member countries, and provide responsible countermeasures; together with other related authorities to develop the resolutions and case studies for Convention; to be responsible for the Convention implementation of terraneous wildlife and endangered species; Based on the general quotations of annual wild animal hunting and wild plant collection, to provide national import and export quotations on wildlife and valuable trees; under the approval of administrative authorities, to approve the import and export of national second level's wildlife and its products, and the national first and second level's wild plants; to authorize the Import and Export Permit on wild plants and its products; to exclusively print, release and manage the Import and Export Permit; To be Responsible for the registration of individual and company which conduct wildlife import and export; to be responsible for distinguish and mark wildlife import and export; to be responsible for tax exemption of export of wildlife for non-commercial use; To assist monitoring the trade of wildlife and its products at trade port and at country's borders; to assist related authorizes conducting legal activates and investigation on wildlife and its products import and export; To be responsible for accept and take care the illegally import and export endangered animals, and accept, return, and dealing with confiscate animals.
		Natural Forest Resource Protection Centre (the so-called the Management Office of Natural Forest Protection Programme)	To develop the guidelines, policies, regulations, legislations, standards and measures for natural forest protection; and to be responsible for monitoring and implementation these issues; To formulate the plans of natural forest protection, to provide suppervations on local engineering plans and implemental plans; to be responsible for primary evaluations on related projects; To implement programme related forestation, fireproofing, technique development, seeding, and human resource management; and to be responsible for follow-up monitoring and examination; To be responsible for programme implementation and monitoring, the annual and periodical evaluation

Name		Responsible department	Obligation and responsibility
			and examination; to provide assistance for the examination of engineering construction; To be responsible for the technique dissemination, staff training, demonstration and social dissemination of engineering construction To collect, settle, summary and statistic programme information and data To organize international cooperation and communication related to engineering construction; to be responsible for the establishment of application of foreign economic aid projects and provide supervisions on project implementation and evaluation;
3	Ministry of Agriculture (MOA)	Science and Technology Education Department (Management Office of Alien Species)	To draft development strategies, policies and plans of agricultural biodiversity; to draft and implement related laws, regulations and legislations; To provide the advices for the establishment of agricultural biodiversity conservation system within provincial (autonomous, direct cities) agricultural environmental protection departments; to develop, formulate and implement the basic construction programmes on agricultural biodiversity and the plans of key and special foundation programmes; To manage and monitor the agricultural GMO biosafety and the protection on agricultural new species; To coordinate, manage and monitor the affairs of agricultural biodiversity conservation; Taking the lead on alien species management.
		State Fishing Administration (Fishing Administrative and Fishing Harbor Monitoring Administration , People's Republic of China)	To develop fishing development strategies, plans, the measures of technology improvement and provide the suggestions on key policies; to draft related laws, regulations, legislations and to be responsible for the related monitoring and implementation. To formulate and implement the property protection and utilization policies, measures and plans of fishing resources and ecological fishing water areas; to be responsible for the management of water wildlife; On behalf of state to assess and monitor fishing administration, fishing harbor and fishing boats; to be responsible for the management on fishing boat, sailor and fishing permit release; to coordinate and deal with the significant international fishing accidents; To establish fishing law executive group, and to develop and implement the related regulations and measures; to formulate the aquatic product process development plans, the aquatic products market system construction and to strength the policy development on international fishing affairs; To be responsible for fishing standardization, and quality and safety management To be responsible for epidemic prevention of aquatic animal and plants; to monitor the use of medicine and rudiment on aquiculture; to draft related laws and regulations; To organize, formulate and monitor international fishing conventions, the bilateral and multilateral fishing agreements; to organize international fishing communication and cooperation; to develop ocean fishing development plans, to evaluate and coordinate related programmes and projects. To provide suggestions and comments on fishing sections on investment plans; to organize project

Name		Responsible department	Obligation and responsibility
			primary selection; based on the authority to approve primary design and calculation, to implement the related projects; to be responsible for the daily monitoring and examination;
4	Ministry of Construction (MOC)	Urban Construction Department	To supervise the issue of biodiversity conservation at urban planning area.
5	Ministry of Land Resources (MLR)	International Cooperation Department	The Ministry of Land Resource was established in 1998, which was merged by the Ministry of Geography and Mining, State Land Management Bureau, State Ocean Bureau, State Mapping Bureau, atc. The main functions of the Ministry of Land Resources include strengthen conservation and management of natural resources; and policy development in management, conservation and reasonable use of land, minerals and the sea;
6	National Development and Reform Committee (NERC)	Regional Economic Development Department	To draft regional economic development plans and policies; to coordinate the implementations of land management, development and utilization policies; to formulate water resource balance and saving plans, and the plans of ecological conservation and environmental protection; to coordinate regional economic development; to supervise local economic cooperation; to coordinate the key issues between economic development zones and economic opening areas; to develop regional economic development plans for the so-called old, density less, border and poverty areas and the plans of developing industry instead of relieve.
		Resource saving and Environmental Protection Department	To solve the key issues of harmonious development among economy, social, environment and resources; to develop the resource saving and integrated utilization policies; to develop the resource saving and integrated utilization plans and environmental protection plans; to organize and coordinate the operations of environmental protection; to organize and coordinate cleaning production; to strength the implementation of key demonstration programme and new product, new technology and new instruments; to be responsible for the daily work of the Coordination Group of National Climate Change and Adaptation.
		Rural Economic Department	To analyze the key issues of agriculture and rural economic development; to establish rural economic development strategy and to provide suggestions and comments for the reform of rural economic mechanism; to connect and balance the development plans and policies of agriculture, forest, water resource, climate, etc.
7	Ministry of Finance (MOF)	International Department	To analyze international financial issues and develop related responsible policies; to be responsible for bilateral and multilateral financial cooperation; to be responsible for the negotiation on loan, assure and joint ventures of Would Bank and Asia Development Bank; to deal with the tasks of agencies of WB and ADB in China; to participate the negotiation, loan transfer and refund of international agricultural development foundation; to provide the suggestions on annual foreign affairs budget for the internal departments and branch organizations; to be responsible for the daily work of the representative offices of Hong Kong, Macao and Taiwan of the ministry of Finance; to organize and manage the visiting and training to the other counties.

Name		Responsible department	Obligation and responsibility
8	Ministry of Water Resource (MWR)	Water Resource Management Department	To consolidate manage water resources (includes rainfall, surface water and groundwater); to organize the argument on national economic general plans, urban plans and key construction programmes; to establish water taking permit mechanism and water resource charging mechanism; to public national water resource outlook; to supervise national hydrolic tasks; to manage and protect water conservation instrument, water basin and its bank; to provide supervision on the treatment and development of rivers, lacks, outfall and coastal wetland; to conduct the foreign affairs of international rivers; to construct and manage the key water conservancy programme with which control or have inter-provincial characteristics; to monitor the safety of reservoir, water and electricity dams; to be responsible for the tasks of soil protection; to develop the measures and plans on soil protection; to evaluate and prevent soil erosion; to monitor water administration and law executive; to coordinate and deal with water troubles among departments and provinces.
9	Ministry of Commerce (MOFCOM)	International Department	To be responsible for the trade issues of biological resources To formulate laws, regulations, specific policies and reform plans of foreign trade and economic cooperation and foreign investment and ensure their conformity with international treaties/agreements. To make and execute mid-term and long-term import & export planning and development strategies; To analyse international economic and trade development and China's foreign trade. follow-up on of China's WTO accession negotiations;
10	State Administration of Traditional Chinese Medicine (SATCM)	Science, Technology and Education Department	To be responsible for the protection and management of traditional Chinese medicine resources
11	State Administration of Industry and Commerce (SAIC)	Market Department	To be responsible for executing market laws relate to biodiversity conservation
12	State Custom Administration (Custom)	Policy and Regulation Department	To be responsible for executing the import and export laws relate to biodiversity conservation
13	General Administration of Quality Supervision, Inspection and Quarantine (GAQSIQ)	Animal and plant Department	To be responsible for executing market laws relate to biodiversity conservation
14	Ministry of Security (MOS)	Police management bureau	To be responsible for executing social laws relate to biodiversity conservation

Name		Responsible department	Obligation and responsibility
15	Ministry of Foreign Affairs (MFA)	Convention and Law Department	To be responsible for national foreign policies related to the negotiation and implementation of Biodiversity Convention
16	Ministry of Education (MOE)	Science and Technology Department	To be responsible for the staff training related to biodiversity field
17	Ministry of Science and Technology (MST)	Social Development Department	To be responsible for the researches of biodiversity field
18	Chinese Academy of Sciences (CAS)	Science and Biological Technology Bureau	To be responsible for the researches of biodiversity field
19	State Intellectual Property Office (SIPO)	Coordination Department	To be responsible for protecting the property rights of biodiversity knowledge
20	Sate Administration of Radio Film and Television (SARFT)	General Editor Office, Dissemination and Management Department	To be responsible for biodiversity conservation dissemination and education
21	Yinhua News Agency (YNA)	General Editor Office	To be responsible for the dissemination and education of biodiversity conservation
22	People Daily Agency (PDA)	Science, Education and Culture Department	To be responsible for the dissemination and education of biodiversity conservation
23	Guangming Daily Agency (GDA)	Science and Technology Department	To be responsible for the dissemination and education of biodiversity conservation

4.3 The importance of the members of CBDSC on biodiversity conservation

Obviously, the importance of the members of CBDSC on biodiversity conservation is not equal. Some ministries or bodies have greater degree of importance. Table 4.2 shows the importance of the ministries and other bodies on biodiversity conservation evaluated based on the following criteria:

- Has a department or office related to biodiversity conservation;
- Formulates or implements policies, laws or regulations on biodiversity
- Formulates national plans on biodiversity conservation
- Is responsible for international environmental convention
- Is responsible for the research of biodiversity conservation
- Is responsible for biodiversity training, communication and awareness

Table 4.2 Scoring of the members of the CBDSC

	Department or office related to biodiversity conservation	**To formulate or implement policies, laws or regulations on biodiversity**	**To formulate national plan on biodiversity conservation**	**To be responsible for international environmental convention**	**To be responsible for the research of biodiversity conservation**	**To be responsible for biodiversity training, communication and awareness**
Ministry of Environmental Protection	+++	+++	+++	Biodiversity Conservation; United Nations Conservation to Combat Desertification Prevention; Wetland Convention	+++	+++
State Forestry Administration	++	+++	+++	International Trade Convention of Endangered Wildlife	++	++
Ministry of Agriculture	+	++	+	-	++	+
Ministry of Construction	+	+/-	-	-	-	-
Ministry of Land Resources	++	+	+	-	+	+
National Development and Reform Committee	+++	+++	++++	-	++++	++
Ministry of Finance	+	-	+/-	+	-	+
Ministry of Water Resource	++	+/-	+/-	-	+	+

	Department or office related to biodiversity conservation	To formulate or implement policies, laws or regulations on biodiversity	To formulate national plan on biodiversity conservation	To be responsible for international environmental convention	To be responsible for the research of biodiversity conservation	To be responsible for biodiversity training, communication and awareness
Ministry of Commerce	+	+/-	+/-	+/-	+/-	+/-
State Administration of Traditional Chinese Medicine	+	+/-	-	-	-	-
State Administration of Industry and Commerce	+	+/-	-	-	-	-
State Custom Administration	+	+/-	-	-	-	-
General Administration of Quality Supervision, Inspection and Quarantine	+	+/-	-	-	-	-
Ministry of Security	+	+/-	-	-	-	-
Ministry of Foreign Affairs	+	+/-	-	-	-	
Ministry of Education	+	-	-	-	+	+
Ministry of Science and Technology	+	-	-	-	+	+
Chinese Academy of Sciences	+	-	-	-	+	+

	Department or office related to biodiversity conservation	**To formulate or implement policies, laws or regulations on biodiversity**	**To formulate national plan on biodiversity conservation**	**To be responsible for international environmental convention**	**To be responsible for the research of biodiversity conservation**	**To be responsible for biodiversity training, communication and awareness**
State Intellectual Property Office	+	-	-	-	-	+
Sate Administration of Radio Film and Television	+	-	-	-	-	+
Yinhua News Agency	+	-	-	-	-	+
People Daily Agency	+	-	-	-	-	+
Guangming Daily Agency	+	-	-	-		+

From the evaluation above, the ministries and bodies with three plus sign and above can be seen as important organizations on biodiversity conservation. They are the Ministry of Environmental Protection(MEP), the State Forestry Administration (SFA), Ministry of Agriculture(MOA), Ministry of Land and Resources(MLR), National Development and Reform Committee (NDRC), Ministry of Finance (MOF), Ministry of Water Resource (MWR), Ministry of Commerce(MOFCOM), Ministry of Education (MOE), Ministry of Science and Technology (MST), Chinese Academy of Sciences (CAS).

4.4 The relationships and interactions between the important members of CBDSC

The relationship and interactions between the 11 most important CBDSC members is complicated. They can be cooperators, supporters, and in certain fields, competitors. Figure 4.1 presents the interactions between these organizations.

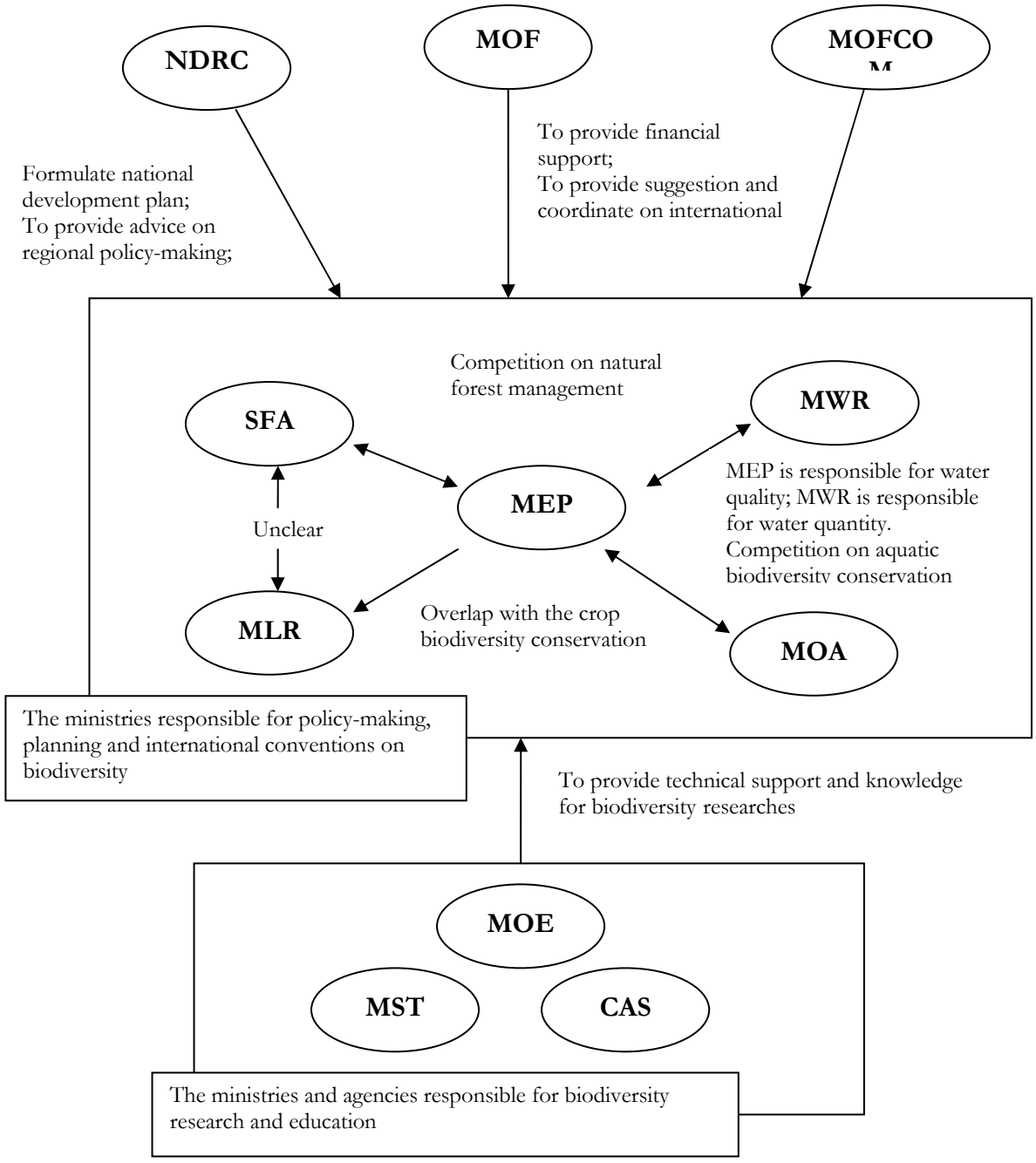

Figure 4.1 Interaction between CBDSC organizations in the field of biodiversity conservatio

4.5 The roles of local governments on biodiversity conservation

Given that effective environmental protection requires familiarity with local conditions, good environmental governance requires that flexibility be built into the system that can accommodate geographic and economic differences. Local and provincial governments are key stakeholders in environmental management and need to be included in decision-making. The new government responsibility system for environmental performance is one means of promoting local governmental involvement in meeting environmental performance goals. Mechanisms to reward good performers, to encourage better performance among moderate performers, and to punish those who flout the system are necessary. It will also be necessary to make explicit what is expected of local governments in terms of minimum program elements and performance criteria. Incentive structures to promote sustainable development at the local level should be strengthened. Finally, the central government should have a means in place to step in cases where local performance is inadequate or efforts to incorporate environmental considerations in local outcomes are non existent. The body should be required to hear and make recommendations on inter ministerial disputes over environmental responsibilities and practices. Participants should include the National Development and Reform Commission, Ministry of Finance , Ministry of Construction, Ministry of Agriculture , Ministry of Land and Resources, Ministry of Water Resources, China Meteorology Administration, State Forestry Administration, Ministry of Health, and, of course, Ministry of Environmental Protection (Xue et al. 2006).

4.6 The national laws related to biodiversity in China

In China, totally 21 national laws relates to biodiversity conservation more or less. They are listed below.

NO.	Name	Enact date	The articles related to biodiversity conservation
1	Land Administration Law of the People's Republic of China	Passed in 1986, revised in 2004	Article 19 General plans for land use shall be mapped out according to the following principles: Protect and improve the ecological environment to ensure a sustainable use of land.
2	Water Law of the People's Republic of China	Passed in 1988, revised in 2002	General Article 5: The state shall protect water resources and adopt effective measures to preserve natural flora, plant trees and grow grass, conserve water sources, prevent and control soil erosion and improve the ecological environment. Chapter II, Development and Utilization. Article 16 The state shall encourage the development and utilization of hydraulic power potentials. On rivers rich with hydraulic power potentials, multipurpose cascade development shall be effected in a planned way. In the development of hydropower stations, the ecological environment shall be protected, and the needs for flood control, water supply, irrigation, navigation, bamboo and log rafting, fishery, etc. Shall be taken into account.
3	Law of the People's Republic of China on the Protection of Wildlife	Approved in Nov. 8, 1988, revised in Aug. 28, 2004	For the purposes of protecting and saving the species of wildlife which are rare or near extinction, protecting, developing and rationally utilizing wildlife resources and maintaining ecological balances, this Law is enacted Article 2 All activities within the territory of the People's Republic of China concerning the protection, domestication, breeding, development and utilization of species of wildlife must be conducted in conformity with this Law. The wildlife protected under this Law refers to the species of terrestrial and aquatic wildlife which are rare or near extinction and the species of terrestrial wildlife which are worthwhile or of important economic or scientific value. The wildlife referred to in the provisions of this Law means the wildlife which shall enjoy protection as prescribed in the preceding paragraph. With regards to the protection of the species of aquatic wildlife other than those which are rare or near extinction, the provisions of the Fisheries Law shall apply.
4	Grassland Law of the People's Republic of China	Passed in Jun. 18, 1985, revised in 2002	Article 1 This Law is enacted with a view to protecting, developing and making rational use of grasslands, improving the ecological environment, maintaining the diversity of living things, modernizing animal husbandry and promoting the sustainable development of the economy and society.

NO.	Name	Enact date	The articles related to biodiversity conservation
			Article 2 This Law shall be applicable to all activities of grassland planning, protection, development, use and management conducted within the territory of the People's Republic of China. Article 9 The grasslands are owned by the State, with the exception of the grasslands owned by collectives as provided for by law. With respect to the State-owned grasslands, the State Council shall exercise the right of such ownership on behalf of the State. Etc.
5	The Forest Law of the People's Republic of China	Passed in Sep, 20, 1984, revised in Apr. 29, 1998	Article 1 With a view to protecting, nurturing and rationally utilizing the forest resources, speeding up the greening of the country's territory, bringing into play the roles of the forest in terms of storing water, saving soil, adjusting the climate, improving the environment and supplying forest products, and meeting the needs of the socialist construction and the people's life, this law is hereby formulated. Article 4 The forests are divided into the following five categories: (1) Protection forests: forests, trees and bushes mainly aimed at protection, inclusive of water source storage forests, forests for water and soil conservation, wind protection and sand bind forests, forests for farmland and grassland protection, river bank protective belts and road protection belts; (5) Forests for special uses: forests and trees mainly aimed at national defense, environmental protection and scientific experiments, inclusive of national defense forests, experimental forests, parent stands, environmental protection forests, scenic beauty forests, trees for sites of historical interests and the forests of natural protection areas.
6	Agriculture Law of the People's Republic of China	Enacted in 1993, revised in Dec. 28, 2002	Article 18 The State assists breeding, production, renewal of plants and animals breeds, assists replications of well-bred, shall encourage combination of breeding, production and management, implement seed project and fine breed of livestock and poultry project. The State Council, the people's governments of provinces, autonomous regions or municipalities shall establish special funds for selection and replication of well-bred plants and animals. Article 31 Ensure grains safety. The State establishes farmland protection system and carries out special protection for the basic farmlands Chapter 8 Agricultural resources and environment protection: Article 57 In the development of agriculture and rural economics, land, water, forest, grassland and wildlife resources must be utilized and protected in a rational way, renewable and clean energies such as hydropower, marsh gaps, solar and wind energy must be untilized and protected in a rational way, develop ecological agriculture, protect and improve ecological environment. To establish agriculture resources monitoring system.

NO.	Name	Enact date	The articles related to biodiversity conservation
7	Fisheries Law Of the People's Republic of China	Passed in Jan. 20, 1986, revised in Aug. 28, 2004	Article 1. This Law is formulated for the purpose of enhancing the protection, increase, development and reasonable utilization of fishery resources, developing artificial cultivation, protecting fishery workers' lawful rights and interests and boosting fishery production, so as to meet the requirements of socialist construction and the needs of the people. Article 2. All productive activities of fisheries, such as aquaculture and catching or harvesting of aquatic animals and plants in the inland waters, tidal flats and territorial waters of the People's Republic of China, or in other sea areas under the jurisdiction of the People's Republic of China, must be conducted in accordance with this Law.
8	Environmental Protection Law of the People's Republic of China	Dec., 1989	Article 1. This Law is formulated for the purpose of protecting and improving people's environment and the ecological environment, preventing and controlling pollution and other public hazards, safeguarding human health and facilitating the development of socialist modernization. Article 2. " Environment " as used in this Law refers to the total body of all natural elements and artificially transformed natural elements affecting human existence and development, which includes the atmosphere, water, seas, land, minerals, forests, grasslands, wildlife, natural and human remains, nature reserves, historic sites and scenic spots, and urban and rural areas.
9	Marine Environment Protection Law of the People's Republic of China	Passed in Aug. 23, 1982, Revised in Dec. 1999	Article 1 This law is enacted to protect and improve the marine environment, conserve marine resources, prevent pollution damages, maintain ecological balance, safeguard human health and promote sustainable economic and social development. Article 5 The competent administrative department in charge of environment protection under the State Council, as a department to exercise unified supervision and administration over nation-wide marine environment protection work. The competent State Oceanic administrative department in charge of marine affairs shall be responsible for the supervision and administration of the marine environment, organize survey, surveillance. supervision, assessment and scientific research of the marine environment and be responsible for nation-wide environment protection work to prevent and control marine pollution damages caused by marine construction projects and dumping of wastes in the sea. Chapter III Marine Ecological Conservation.
10	Environmental Protection Law of Chinese PLA	July, 1990	Article 17 Natural environment and resources such as land, water, forest, mine, grassland, precious and endangered wild plants, animals shall be protected, developed and be strictly forbidden to be damaged in accordance with relevant national laws and regulations.

NO.	Name	Enact date	The articles related to biodiversity conservation
11	Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution	Apr. 29, 2000	Article 1 This Law is formulated for the purpose of preventing and controlling atmospheric pollution, protecting and improving people's environment and the ecological environment, safeguarding human health, and promoting the sustainable development of economy and society. Article 2 The State Council and the local people's governments at various levels must incorporate the protection of the atmospheric environment into their national economic and social development plans, make rational plans for the distribution of industrial layout, strengthen the scientific research on the prevention and control of atmospheric pollution, adopt preventive and curative measures against atmospheric pollution, and protect and improve the atmospheric environment.
12	Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste	Passed in Oct. 30, 1995, Revised in 2004	Article 22 Within the nature reserves, scenic spots or historical sites, and areas of source of drinking water as designated by the State Council, the relevant competent department under the State Council and the people's governments of provinces, autonomous regions and municipalities directly under the Central Government and other zones that need special protection, it is forbidden to construct installations or use the places for centralized storage and treatment of industrial solid waste or garbage-fill ground. Article 26 The Competent administrative department of environmental protection under the State Council shall, jointly with the competent department in charge of comprehensive administration of economic affairs under the State Council, define the environmental pollution by industrial solid waste, work out technical policies regarding the prevention and control thereof, and organize the dissemination of advanced production techniques and equipment for the prevention and control of environmental pollution by industrial solid waste.
13	Law of the People's Republic of China on Prevention and Control of Water Pollution	Passed in May. 11, 1984, Revised in May, 15, 1996	Article 2 This Law applies to prevention and control of pollution of rivers, lakes, canals, irrigation channels, reservoirs and other surface water bodies and of ground water bodies within the territory of the People's Republic of China. Article 9 Relevant departments under the State Council and local people's governments at various levels shall, when developing, utilizing, regulating and allocating water resources, make integrated plans for maintaining proper river flows, proper water levels of lakes, reservoirs and proper ground water tables, in order to retain the natural purification capacity of water bodies. Article 10 To prevent and control water pollution, it is necessary to make unified plans on the basis of river basins or regions.

NO.	Name	Enact date	The articles related to biodiversity conservation
14	Law of the People's Republic of China on Desert Prevention and Transformation	Aug.31, 2001	Land desertification referred to in this Law means the encroachment of natural desert and the process in which the vegetation and coverings on sandy land are damaged, quicksand is formed and the sand soil is exposed due to unreasonable human activities. Article 3 Desert prevention and transformation shall follow the following principles: 3) combining the protection and restoring of vegetation with the reasonable utilization of natural resources;
15	Law of the People's Republic of China on Water and Soil Conservation	Jun.29, 1991	Article 1. This Law is formulated for the purpose of the prevention and control of soil erosion, the protection and rational utilization of water and soil resources, the mitigation of disasters of flood, drought and sandstorm, the improvement of ecological environment and the development of production. Article 8. Units and individuals engaged in production and construction activities which may cause soil erosion must adopt measures to protect the water and soil resources, and shall be responsible to take rehabilitative measures against the soil erosion resulted from their production and construction activities.
16	Seed Law of the People's Republic of China	Jul. 6, 2000	For purposes of this Law, seeds mean the materials for planting or propagating crops and forest trees, including grains, fruits, roots, stems, seedlings, sprouts and leaves. Article 8 The State protects germ plasm resources in accordance with law, and no units or individuals may seize or impair germ plasm resources. Collecting and cutting natural germ plasm resources that are under special protection of the State are prohibited. Where such collecting or cutting is required for scientific research or other special purposes, the matter shall be subject to approval by the administrative department for agriculture or for forestry under the State Council or under the people's government of a province, autonomous region or municipality directly under the Central Government.
17	Criminal Law of People's Republic of China	Implemented in Oct. 1st, 1997, Revised in Dec. 25th, 1999	Article 338 Whoever, in violation of the regulations of the State, discharges, dumps or treats radioactive waste, waste containing pathogen of infectious diseases, toxic substances or other hazardous waste on the land or in the water bodies or the atmosphere, thus causing a major environmental pollution accident which leads to the serious consequences of heavy losses of public or private property or human casualties, shall be sentenced to fixed-term imprisonment of not more than three years or criminal detention and shall also, or shall only, be fined; if the consequences are especially serious, he shall be sentenced to fixed-term imprisonment of not less than three years but not more than seven years and shall also be fined.

NO.	Name	Enact date	The articles related to biodiversity conservation
18	Law of the People's Republic of China on the Environmental Impact Assessment	Oct. 28th, 2002	Article 2. For purposes of this law, Environmental Impact Assessment means the monitoring method and procedure to be carried out as required by this Law in order to analyze, predict, assess the potential environmental impact of the proposed plans and construction projects, draft proposals for the prevention or reduction of negative impacts; Article 15 After implementation of plans which have significant impacts on environment, the formulation orgnizations shall organize ex post environment impact assessment, report the results to approval authorities; in case of obvious negative impacts on environment, shall propose correction measures in time. Article 17 Environment impact report for construction projects shall include the following: (2) situation of environment around construction projects; (7) the conclusion of environment impact assessment; for construction projects related to water and soil conservation, plans on water and soil conservation approved by the department of water administration must be included.
19	Animal Epidemic Prevention Law of the People's Republic of China	Jul. 3rd, 1997	Article 1 This Law is enacted for the purpose of intensifying the administration of animal epidemic prevention, preventing, bringing under control and exterminating animal epidemics, promoting the development of livestock, fish breeding and poultry raising and protecting human health. Article 3 "Animal" referred to in this Law means livestock, poultry and other animals raised by man or caught legally. "Animal epidemic" referred to in this Law means animal infectious diseases and parasitic diseases.
20	Law of people's Republic of China on the Entry and Exit Animal and Plant Quarantine	Oct.30th, 1991	Article 1 This Law is formulated for the purpose of preventing infectious or parasitic diseases of animals, diseases, insect pests and weeds dangerous to plants, and other harmful organisms (hereinafter referred to, for short, as diseases, insect pests and harmful organisms) from spreading into or out of the country, protecting the production of agriculture, forestry, animal husbandry and fishery as well as human health, and promoting the development of foreign economic relations and trade. Article 3 An animal and plant quarantine department shall be instituted under the State Council (hereinafter referred to, for short, as the State animal and plant quarantine department), which shall conduct a unified administration of the entry and exit animal and plant quarantine in the whole country.

NO.	Name	Enact date	The articles related to biodiversity conservation
21	Frontier health and quarantine law of the people's republic of china	Dec.2th, 1986	Article 2 Frontier health and quarantine offices shall be set up at international seaports, airports and ports of entry at land frontiers and boundary rivers (hereinafter referred to as "frontier ports") of the People's Republic of China. These offices shall carry out the quarantining and monitoring of infectious diseases, and health inspection in accordance with the provisions of this Law. Health administration departments under the State Council shall be in charge of frontier health and quarantine work throughout the country.

4.7 Strategic Documents for Biodiversity Implementation

4.7.1 China Biodiversity Conservation Action Plan (1994)

With specific regards to biodiversity conservation, China was one of the first countries to ratify the UN Convention on Biodiversity Conservation (CBD; http://www.biodiv.org/convention/articles.asp, accessed May 2008) in 1993, and has been progressively increasing its conservation efforts since. Those efforts initially focused on the strict protection of biodiversity rich areas. Recently, protection efforts have been complemented by measures aiming at sustainable utilisation, by the use of market-oriented mechanisms and by more participatory methods. After ratifying the Convention, China quickly prepared and approved its national Biodiversity Conservation Action Plan
(BAP; http://www.bpsp-neca.brim.ac.cn/books/actpln_cn/index.html, accessed May 2008) in 1994. The BAP has since provided guidance to international and national conservation actions - the number of international governmental and non-governmental stakeholders has grown progressively over the past decade.

After ten years of implementing the CBD and the BAP, Chinese agencies at national and local levels (including non-governmental agencies) have acquired a wealth of experience in biodiversity conservation on which to base future policies and initiatives.

4.7.2 The 9th Five-year Plan of Environmental Protection (1996-2000)

The Ninth Five Year Plan for National Economic and Social Development (approved in 1996) marked a turning point in China's attention to environmental issues and gave sustainable development and environmental protection a higher policy profile.

4.7.3 The 10th Five-year Plan of Environmental Protection (2001-2005)

The Tenth-Five-Year Plan states that ecological improvement and environmental protection should be taken as an important part in economic development and in improving the living standard of the Chinese people. The Plan requires that ecological rehabilitation should be enhanced, ecological deterioration be restrained, environmental protection and treatment be strengthened and urban and rural environmental quality be improved. The Plan states that comprehensive eco-environmental rehabilitation and treatment programs are to be carried out for key regions, notably the natural forests protection programs in the upper reaches of the Yangtze River, upper and middle reaches of the Yellow River and Inner Mongolia in the Northeast, and the programme to convert farmland to forests and to grasslands. The Plan also sets out measures to enhance nature reserves and protect endangered rare plants and animals and their habitats, and wetlands. Recovery of ecological services and conservation of biodiversity are stressed. Through the Tenth Five Year

Plan, national and local governments are set to invest tens of billions of US$ to restore and protect the green environment, with some of the funding directly targeting biodiversity protection and conservation.

4.7.4 The 11th Five-year Plan of Environmental Protection (2006-2010)

The concept of 11th Five-Year Plan is "to develop circular economy; to protect natural environment and to build Resource Saving and Environment Friendly Society". In the Plan, two chapters directly relates to biodiversity conservation.

4.8 Priorities in Biodiversity and key programs

4.8.1 Biodiversity priority of China

SEPA recently identified 5 biodiversity priorities for the next 10-20 years (Cai, 2007):

- To revise and update China's Biodiversity Conservation Action Plan
- Under support of GEF and UNDP, China developed its first Biodiversity Conservation Action Plan in 1993. It is a comprehensive plan to guide biodiversity conservation, but now long out-of-date, due to many changes in China and internationally. Examples include bio-safety, invasive species, genetic resource-use, benefits sharing, sustainable tourism, traditional knowledge protection, etc. China hopes to revise it soon to reflect the new changes.
- To develop a new overall biodiversity law and to enhance its implementation
- Although China has already made many laws and regulations related to biodiversity, still there is no law specifically targeting biodiversity. Also, there are conflicts and contradictions between the existing laws related to biodiversity. Several international laws (treaties, conventions) related to biodiversity remain to be transposed into domestic law. Thus, a new biodiversity law is needed, based on existing laws and regulations related to biodiversity and international experience. In order to implement the biodiversity law changes are needed to governance systems and institutional arrangements between central and provincial governments.
- To protect key biodiversity regions first
- China is a country rich in biodiversity but China also in large part a developing country economically. The budgetary provision is too limited to cover all biodiversity regions. Thus, China would protect the key biodiversity regions first. Based scientific researchers' judgments, there are 17 key biodiversity regions in China which have global biodiversity significance. In the 17 key regions, China would strengthen the management of conservation reserves. China would also restrict the projects nearby the key regions that may have strong negative impacts on biodiversity.
- To increase biodiversity budgets to enhance capacity building
- China has budgets for biodiversity but they are inadequate for its size and heavy management loads. Yet strengthening national capacity for biodiversity is urgent. The needs include writing and revising biodiversity law, law enforcements

capability, supervision mechanisms, biodiversity monitoring systems, databases for biodiversity management, information systems, etc.
- To encourage public participation by education, training and knowledge publicity

Fundamentally the management of biodiversity is based on public demand for it. So, public participation to biodiversity management is essential. Education, training, and knowledge publicity are useful means to encourage public participation.
Mr. Wu Xiaoqing, the deputy minister of SEPA, indicated the priority of biodiversity adaptation to climate change at International Workshop on Biodiversity and Climate Change.

China just started its research in biodiversity adaptation to and its mitigation of climate change and Chinese government are facing formidable tasks. On one hand, the government shall self-consciously follow economic rules and nature laws and try best to enhance environmental protection. On the other hand, the government shall learn more advanced international experience, knowledge and technologies through international cooperation.

Related to these priorities SEPA will pay more attention to the following aspects:
- Develop a Strategy and Action Plan for Biodiversity and Climate Change[3]. Within the framework of National Climate Change Programme of China, climate change impacts on biodiversity shall be integrated into relevant national policies, programmes and plans, and the development of such a Strategy shall be used up to guide China's work in biodiversity adaptation to and its mitigation of climate change.
- Further strengthen national capacity in biodiversity and climate change. Three systems shall be particularly improved, namely legislation, technique and management services, in order to enhance four capacities including organization and coordination, policy study, administration and law enforcement, as well as international exchange. Relevant legal systems shall be constantly improved and law enforcement promoted to fill up gaps in biodiversity adaptation and climate change mitigation. Early warning system shall also be strengthened and a monitoring system for biodiversity adaptation to and its minigation of climate change shall be developed and improved so that national capacity in this regard can be raised as a whole.
- Strengthen scientific support to biodiversity and climate change likages. As a new research area, biodiversity adaptation to and its mitigation of climate change shall be supported by improved key technologies and management methods, upon which scientific decisions can be made for the development of China's Strategy and Action Plan on Climate Change.
- Promote international cooperation and exchange on biodiversity and climate change likages. As a global environmental issue, biodiversity adaptation to and its mitigation of climate change requires close global cooperation and joint efforts.

[3] Mr. Sun Xuefeng, the director of Division IV, SEPA FECO, is planning to develop a collaboration pilot project for this Strategy and Action Plan.

As a responsible country, China needs to strengthen international cooperation and joint actions, and learn study results and best practices from others.

- Promote extensive public participation. Biodiversity cannot mitigate and be adapted to climate change without public participation. The government will try to raise the awareness of more people in the potential threats of climate change and the important role of biodiversity in ensuring national eco-security and sustainable development.

4.9 The international biodiversity programmes of SEPA [4]

4.9.1 EU-China Biodiversity Programme (ECBP)

Financial agency: EU
Implementing agency: UNDP, SEPA

The overall Program Objective of ECBP is to establish replicable mechanisms for biodiversity management in China. The Program will combine top-down and bottom-up approaches in five groups of activities:

- pPlanning, management and monitoring;
- Strengthening SEPA and China's Steering Committee for the Implementation of Convention on Biological Diversity, which is responsible for coordinating biodiversity-related policy among sectors - support to work at the policy level;
- Mainstreaming biodiversity in the framework of strategic environmental assessments and of environmental impact assessments into other relevant policies (e.g. through capacity building for the relevant ministries);
- Awareness raising;
- Field projects.

The EU--China Biodiversity Program aims to conserve specific ecosystems in China by strengthening biodiversity management. It will develop the capacity of SEPA, as secretariat of China Steering Committee to implement the Convention on Biological Diversity, and establish effective systems of monitoring and feed-back, and seek to strengthen the effectiveness of the Steering Committee itself.
Innovative and replicable mechanisms will be developed to integrate and strengthen institutional mechanisms for policy implementation from provincial to local level through a series of innovative, on-the-ground 'Field Projects', to be implemented in a variety of institutional and ecological local settings. Through the Field Projects, the Program will support the development of multiple partnerships between international, national and local governmental and non-governmental agencies. The Field Projects will become agents of change; supporting and initiating appropriate changes to laws, policies, plans, programs, procedures and practices at the national level. The Program will emphasize environmental awareness and establish a common platform for environmental communication and visibility.

[4] The project management office of these two biodiversity projects are located at SEPA FECO. Mr. Sun is the person who is responsible for these two projects on behalf of SEPA.

At the highest level, the Program takes place within the China Biodiversity Partnership Framework. A key feature is to demonstrate that biodiversity makes an essential contribution to socio-economic development, income generation and poverty alleviation.

EU contributes €30 million, of which €21 is earmarked for field projects. Field projects require a minimum of 50% matching funds and will involve consortiums including at least one international and one domestic organization. The call for proposal of field project took place at the end of 2006. 19 field projects are selected out based on the principles of partnership, innovation and cost sharing. The first 8 grant agreements on biodiversity projects have been signed between UNDP and leading Chinese and international partners in August 2007. The rest of the field project will start in 2008.

The projects focus on issues such as ecosystem management (e.g. wetlands, grasslands, limestone and bamboo forests) and on biodiversity planning and integration into development plans (EIA, SEA, eco-compensation, agro-biodiversity, community participation, biodiversity monitoring and action plans etc) in western China (http://ecbp-test.org/cuso/default.mht, accessed May 2008).

The First 8 Projects:
Protecting Globally Critical Biodiversity in Yunnan Province of China

- Protecting Endangered Species in the Limestone Ecosystems of Guangxi
- Environmental Governance to Balance Livelihoods and Biodiversity in Lower Yangtze Wetlands
- Capacity Development and Eco-Certification in Bamboo Forests in Tropical and Subtropical China
- Biodiversity and Strategic Environmental Assessments of Mining and Tourism Developments in Western China
- Sustainable Management of Threatened Mountain Peat Lands
- Natural Resource Management in Chang Tang Region, Tibet
- Biodiversity Planning in Lhasa Municipality, Tibet

Project duration: 2005-2010
For details, please visit project website: www.ecbp.cn.

4.9.2 China Biodiversity Partnership Framework (CBPF)

Financing agency: Global Environment Facility (GEF)
Implementing agency: UNDP, SEPA

The Government of China, committed to reversing biodiversity loss across the country, is developing an innovative partnership of Chinese and international governmental and non-governmental agencies, with the overall aim to ensure the conservation and sustainable use of biodiversity, in ways that contribute to poverty alleviation and livelihood development.

The China Biodiversity Partnership Framework, although still under development, has tentatively identified four strategic, inter-connected themes:

- Strengthening the overall enabling environment for biodiversity conservation;
- Mainstreaming biodiversity conservation into socio-economic sectors and development;
- Protecting biodiversity inside protected areas, and
- Protecting and sustainably utilising biodiversity lying outside protected areas.

Themes 3 and 4 focus on the required short-term measures to conserve biodiversity, whereas Theme 2 focuses on the required longer term measures to modify the causes of biodiversity loss. Theme 1 will provide the overall direction and coordination, and ensure that activities are fully integrated into national development. The EU-China Biodiversity Program paves the way for and contributes to that overall Partnership.

By the end of 2007, the China Biodiversity Partnership Framework was completed and its results approved by GEF. In the next phase the following demonstration projects of CBPF have been approved by GEF:

- Priority Institutional Strengthening and Capacity Development to Implement the China Biodiversity Partnership and Framework for Action (submitted through UNDP) (GEF Grant : $ 4.54 m)
- Conservation and Sustainable Use of Biodiversity in the Headwaters of the Huaihe River Basin (submitted through UNDP) (GEF Grant : $ 2.73 m)
- Shaanxi Qinling Mountains Integrated Ecosystem Development (ADB) (GEF Grant : $ 4.27 m)"

Project duration: 2006-2010
Website: www.gefcbpf.cn

5 China's civil society and biodiversity protection

The complexity and quantity of the biodiversity and environmental issues confronting all nations today has overwhelmed the capacity of even the strongest and best prepared of governments, acting alone. Most developed countries have, as a result, opened their societies to greater environmental NGO participation. They have removed many of the legal, political, and financial obstacles that existed to the full realization of the capacity of non-governmental groups. The Chinese government is responding and has become increasingly open to civil society participation in biodiversity conservation, environmental decision making and implementation. Since 1993 environmental non-governmental organizations have been operating in China. The China Council reports over 1,000 non-governmental environmental organizations have been recognized by the state. And there are many thousands more operating informally (Mol & Carter, 2006).

NGOs can play numerous positive roles in the system of environmental management; these include (Xue et al. 2007):

- Pioneer new policy innovations through the creation of demonstration projects funded by private resources.
- Establish public-private partnerships to leverage available resources to enhance environmental protection and resource quality.
- Educate the public about environmental problems and needed public responses to solve them.
- Bring added expertise to the policy process augmenting the government's scarce resources.
-

There are many measures that China could pursue to strengthen the role and contributions of the public to environmental governance. These include streamlining the process of obtaining non-profit status and taking measures to enhance NGOs' financial status. This could include creating tax incentives for individuals and corporations to donate to NGOs and providing them with preferential postal rates. Measures should also be taken to mitigate the psychological barriers limiting citizen and NGO participation. This can be done through governmental assurances that NGOs will be given a voice even when their perspectives differ from that of industries or government planners. Also importantly, the legal standing of citizens and NGOs in environmental disputes should be clarified and adjudication through the courts be encouraged. A major challenge of any government is enforcement of regulations once they are established. In the cases of many European countries, including Germany and the Netherlands, Japan, and the United States, environmental groups have become important watchdogs of governmental and business behavior. Groups like BUND, Environmental Defense, Friends of the Earth, Greenpeace International, NABU, the Natural Resource Defense Council, the Sierra Club, and Word Wildlife Fund/Worldwide Fund for Nature (WWF) have been important educators of the public about the importance of environmental protection. They have also reacted in cases where the government failed to enforce a regulation or a company violated the law. They have brought many suits on behalf of victims and

damaged natural areas to the courts for trial. The combination of environmental group activism and a powerful and independent judiciary have done much to give meaning to national legislation. It also helps to serve as a deterrent to companies that might otherwise violate the law.

Name	Source	Aim
Green River	http://green-river.org	A NGO registered at Sichuan Province aims to protect the headwater areas of Yangtze River and Yellow River
Beijing Brooks Education Center	www.brooks.ngo.cn	A Beijing registered NGO that is engaged in Environmental Protection Education and Citizenship Awareness Education.
China Environmental Protection Foundation	http://www.cepf.org.cn/	Founded by China's former State Environmental Protection Administrator, Qu Geping, in 1993. China's first non-governmental foundation for environmental protection.
Environmental Defense China Program	www.cet.net.cn	One of the major US NGOs working on air pollution in China, ED is known for its work on sulfur cap and trade programs. They are also working with the US EPA on environmental enforcement training in China.
Green Peace, China	www.cn.greenpeace.org	Major projects in China: Climate and Energy; Toxics; Forest
Conservation International	www.conservation.org	Mission is to conserve the earth's biodiversity
Desert Control Volunteers Network	www.desert.org.cn	A Chinese NGO aims to fighting against desertification
Fauna and Flora International	www.fauna-flora.org	Fauna & Flora International is the world's longest established conservation society. We work to conserve threatened species worldwide, choosing solutions that are sustainable, based on sound science and take account of human needs.
Beijing Fuping Development Institute	www.fdi.ngo.cn	Chinese NGO registered in 2002 aims to diminish poverty and maintain sustainable development in China. Connected to an organization called LEAD, funded by the Rockefeller Foundation that furthers environmental leadership. Cooperative Programs with World Resources Institute.
Friends of Nature	www.fon.org.cn	This is one of China's earliest local NGOs, founded by Liang Qichao's grandson, Liang Congjie. It is mainly focused on biodiversity preservation.
Forest Trends	www.forest-trends.org	Forest Trends is an international non-profit organization that works to expand the value of forests to society; to promote sustainable forest management and conservation by creating and capturing market values for ecosystem services; to support innovative

Name	Source	Aim
		projects and companies that are developing these new markets; and to enhance the livelihoods of local communities living in and around those forests.
Global Greengrants Fund China	www.greengrants.org.cn	Headquartered in Colorado, the U.S.A, this international non-profit organization provides small financial aids to small NGOs at their starting points.
International Fund for Animal Welfare	www.ifaw.org	The International Fund for Animal Welfare (IFAW) is an international NGO focused on humane treatment of animals and animal protection.
International Fund for China's Environment	www.ifce.org	The mission of the International Fund for China's Environment (IFCE) is to help ensure the protection of the world's environment and its biological diversity by providing assistance to China in resolving its environmental problems.
Institute of Public &Environment Affairs	www.ipe.org.cn	Chinese NGO focuses on water pollution issues in China.
IUCN Asia Regional Office	www.iucn.org	IUCN is the world's preeminent biodiversity conservation organization. It has three categories of membership – governments, scientists and NGOs. The United States is one of 110 country members, and almost every environmental NGO is, as well. Scientists meet in "species groups" to consider the health of various species, and IUCN's recommendations are central to the determining of endangered species lists.
The Nature Conservancy Beijing Office	www.nature.org	TNC is headquartered in Kunming and has a small Beijing office. The focus is on preserving biodiversity and areas of great ecological importance.
Society Entrepreneur & Ecology	www.see.org.cn	A corporate social responsibility-focused NGO
Upper Yangtze Organization	www.snowland-great-rivers.org	NGO formulated by Tibetan people to promote environmental protection in Tibetan Plateau.

Table 5.1 Selection of NGO's active in Biodiversity conservation in China. source(http://beijing.usembassy-china.org.cn/esth_ngo.html, accessed 19, July 2008).

6 Concluding remarks

China has made considerable progress in biodiversity conservation by endorsing many international conventions and developing important legislation. However, biodiversity and environmental policy units in China today are still seriously fragmented. Although in principle SEPA should have overarching influence on biodiversity policy and implementation, capacity strongly limits its strength. Moreover, governmental bodies find themselves in a competition position due to budget constraints, and their different objectives make it difficult to fully cooperate. Policies therefore are generally reactive, unintegrated, and uncoordinated. Many avoidable biodiversity and environmental problems occur because of the failure of government and industry to adopt best practices in the first place. Better integration of environmental and development policies and plans with the market is imperative for achieving the Chinese government's goal of sustainable development. Numerous incidents that have occurred throughout the country such as a cadmium spill in the Beijiang River in Guandong Province, chemical spills in the Hunjiang River and the Xiangjiang River, and an oil spill in Ganjiang River, these examples reveal a nationwide lack of adequate emergency response systems and mechanisms. These accidents are also very costly. In 2005, environmental accidents cost an estimated 105 million yuan (approx. U.S.$13.125 million)
(source http://english.sina.com/china/1/2006/0419/73271.html, accessed May 2008).

A major challenge is in relation to the development of multi-sector and public access and participation in policy making and enforcement. In the past, the government has assumed primary responsibility for environmental protection in China in a top-down regulatory fashion. However, in March of 2005, in his report of the work of the government to the National People's Congress, Premier Wen Jia-bao recognized that the government cannot be responsible for solving all problems that society faces. He urged other groups in society including non-governmental organizations (NGOs) to become actively involved. Harnessing the energies and capacities of civil society to be more actively engaged in developing solutions for environmental problems will enhance the prospects of actually building an environmentally harmonious society. The experiences and lessons from, Europe, Japan and the United States suggest that environmental goals can not be achieved unless all sectors in the society (government, business, NGOs, and the general public) are involved. Biodiversity and environmental protection is a shared responsibility, and effective environmental governance requires that the perspectives, experiences, and abilities of different actors be incorporated in planning and implementation decisions and actions. Public participation by all stakeholders should be a guiding principle in the making of all future environmental polices and laws. In recent years, the Chinese government has exhibited its determination to address the country's severe pollution problems. The central government has shown considerable leadership with its formulation of environmental laws and programs. Nevertheless, many problems still remain. Achieving sustainable development will require leadership at all levels of government

and society and by all people in the country. Streamlining Environmental Protection Bodies (EPBs) and aligning them with SEPA coordinating and aligning the disparate interests at the local, regional, and national level of society around environmental policy objectives and the management of natural resources has been one of the more difficult challenges faced by every OECD nation that has developed the capacity to oversee management of its resources and addressed the serious problems of pollution that accompanied industrialization. There is no fixed or simple organizational solution to matching environmental agencies to the size and scale of the problems they confront, but it is clear that China represents an extreme mis-match with its thousands of local EPBs struggling to address problems that are often of a transboundary or regional nature. In addition, the funding for the provincial and metropolitan EPBs should be shared by the provinces, metro areas, and the central government. This is to ensure shared intergovernmental responsibility, coordination, and monitoring on the one hand, and fidelity to national environmental goals on the other. For these same reasons, professional and managerial training for environmental management and the career development of those within these agencies should be a joint-responsibility, though primarily directed by SEPA.

6.1 Governance

In 2006 a Task Force on Environmental Governance was developed within the China Council for International Cooperation on Environment and Development (CCICED). This Task Force consisted of a group of environmental policy experts and academics from China, Germany, the Netherlands, Japan, and the United States to examine means for developing more effective environmental governance strategies for China. The Task Force concluded that a dramatic and comprehensive shift in approach to environmental and biodiversity problems are required. In essence, China must reform important elements in its approach to environmental governance. The challenges the country faces are large; restructuring of the management of state owned enterprises, and the effective management of the state's and the people's financial assets that are key to the economic aspirations of the people. The Task Force suggested that China would greatly strengthen its environmental governance by changes in four major issue areas:

- improving the government's capacity to enforce environmental laws and oversee the implementation of environmental programs;
- engaging the business sector to take a proactive role in environmental management;
- engaging civil society by providing greater transparency of information concerning environmental conditions and of government decision making; and
- establishing greater policy coherence and capacity for both domestic and international environmental and natural resource issues.

Currently SEPA has insufficient administrative authority and capacity in policy planning, implementation, and coordination with related agencies (Xue et al. 2007). Moreover a clear structure in legislation on biodiversity is lacking given overlap in

mandates by Ministries. Solutions to enhance the capacity of SEPA are suggested by the above named Task Force (Xue et al. 2007):

- Elevate SEPA to full cabinet rank in the government (Ministry of Environment – MOE).
- Establish a leading group on national environmental issues chaired by the Premier, with a membership comprised of the Ministers of all relevant agencies (the Green Cabinet model).
- Reforming the institutional status of the ministry will place new burdens upon it. In particular, the MOE will need to develop internal mechanisms for coordination across departments to build more comprehensive policy regimes and integrated databases. A mechanism for identifying new and emerging environmental threats also needs to be developed.
- Improve multi-level governance by realigning local environmental management to create a direct line of authority to provincial environmental protection bureaus (EPBs). In addition, the MOE can enhance the performance of local management by providing financial support to those provinces in greatest need, and by establishing performance requirements for environmental outcomes.
- Enhance the science and technology capacity of MOE, by establishing independent advisory commissions in particularly salient and complex issue areas. The work of these commissions should be documented in publicly released reports. Resources should be provided to support research in universities and research institutions to improve scientific and societal understanding of emerging environmental problems.
- Enhance the capacity of the environmental administrative system of China's central government, and provide funding for the cost of demonstrating innovative environmental management programs in cooperation with local EPBs.
- Strengthen the legal foundations of environmental management, and ensure that all environmental policy tools have an appropriate legal basis.
- The capacity of the National People's Congress to oversee the implementation of the nation's environmental laws should be strengthened. In particular, the Committee on Environment and Natural Resources should have a standing professional staff and budget.
- Train judges and the public prosecutors in environmental problems and solutions to make them aware of the extensive damage to human health and the environment caused by various types of polluting emissions.

6.1.1 Governance at the multi-level system

There are other problems of environmental governance in a multi-level system. Environmental administration at the local level is susceptible to interference by local leaders due to the relationships between the vertical and horizontal lines (tiaokuai guanxi) of government. Lower level Environmental Protection Bureaus (EPBs) formally report to higher level EPBs (and ultimately to SEPA), but the funding and supervisory functions are provided by the provincial or lower level administration. The lack of sufficient financial resources for environmental administrations at the local level (and occasionally at the national level) to perform their required tasks is creating perverse incentives with deleterious environmental impacts. Many EPBs

have become dependent on the pollution levies they collect, which yield substantial revenues and are used to cover their operating costs. This means indirectly, that EPBs have an incentive to allow industries to pollute so that they can collect pollution fees. In the United States, permit fees are levied per ton of allowable discharge, but the permit fees are quite low and the objective is to provide funds for the operation of the permit program rather than as a primary tool of environmental policy. In China, in contrast, the pollution levy system has served as the government's primary policy tool but with limited effectiveness.

6.2 Civil Society and Public Participation

The Chinese government is responding and has become increasingly open to civil society participation in environmental decision making and implementation. The Task Force was of the opinion that strengthening this reform through the following measures is necessary to achieve effective environmental governance.

- Enhance the legal status of citizens and NGOs, clarifying their rights in environmental controversies and providing them legal standing in the courts on behalf of injured parties and the environment.
- Conduct outreach and education of the public about the chances and opportunities to participate in environmental decision making.
- Establish public advisory bodies convened around specific issues for the purpose of broadening government consultation with civil society.
- Improve public access to environmental information concerning emissions and their consequences (in line with the Aarhus Convention) in order to empower meaningful public participation.
- Mitigate any barriers limiting citizen and NGO participation by streamlining the procedures for NGO registration, appointing NGO representatives to advisory boards and commissions, and informing nongovernmental groups about the government's strategy and measures to enhance participation.
- Enhance NGO capacity by clarifying the regulations concerning the qualifications necessary to achieve tax advantaged status. China has many good environmental laws on the books. Its environmental professionals are dedicated and serious about their charge. Considerable progress has been made in managing environmental problems. However, the fundamental problem facing China is the mismatch between the speed of change driven by global market forces in the business sector and the relatively slow pace of institutional change to cope with the unwanted and damaging by products of rapid economic growth. Of special importance therefore is the need for institutional reform in environmental governance. The Task Force has attempted to identify the key elements of such a reform by focusing on changes in institutional arrangements and processes that – if adopted – could significantly enhance the effectiveness of China's environmental governance.

The new Administrative Procedures Law in China importantly contains provisions for public consultation in rule making. However, many of the public and NGO community are unaware of this opportunity (Xue, 2006). It will require a concerted

effort by government to engage civil society in this process. First of all, there remain numerous legal and administrative barriers in China that limit the ability of groups to obtain non-profit status and to participate meaningfully in the creation of regulations, the identification of problems, and the monitoring of environmental problems and regulatory progress. Given the inherent resource limitations that confront NGOs in China, a more favorable taxation environment for benefactors and NGOs themselves should be established. NGOs should also be eligible to compete for public support grants and capacity building programs for environmental protection.

6.3 Base line data collection on Biodiversity

China is very rich in biodiversity, which has largely not yet been (fully) quantified, e.g. inventories usually only cover small areas, and few species. Increase in the human population and economic development pose a strong pressure on biodiversity. This pressure is, however, difficult to quantify due to the lack of basic ecological data. Besides if data are available, these are usually beneficial for a single party since data sharing is not systematically organized. Therefore in data collection and use, networking and knowledge exchange is needed: Data have to be shared by all institutes (e.g development of databases on biodiversity that can be used by all relevant parties).

6.4 Capacity issues

Capacity is often lacking, at the level of Governance and the Civil society.
The scope and scale of the environmental problems facing China are enormous. Yet, the personnel and resources provided to SEPA are relatively small compared with the country's geographical size, population, and environmental problems. SEPA has only on the order of 2,200 employees (219 administrative staff in its Beijing headquarters and about 2000 staff working in various national offices and centers affiliated with SEPA). SEPA's capacity to improve environmental conditions is severely limited, due to insufficient staff and resources and communication among environmental agencies. The fact that SEPA lacks full cabinet status in the government makes it difficult for SEPA to participate in critical environmental decision-making involving policy planning, coordination with other ministries and agencies, the setting of national environmental priorities, and in resolving environmental disputes. SEPA has been mandated to develop and implement environmental policies, but it has not been given adequate policy tools, capacity or political strength to fulfill this expectation. SEPA cannot succeed in protecting the nation's environment without the collaboration of other government bodies, as many environmental responsibilities are shared across agencies and levels of government. Instead of cooperating to promote good environmental outcomes, different governmental bodies tend to compete with each other for limited resources and influence. Thus, SEPA often finds itself in conflict with the priorities of other institutions, but lacks adequate capacity to address this problem.
Monitoring, enforcement, data collection.

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Appendix 1 Detailed description of the Ministry of Environmental Protection (MEP)

MEP plays a leading role in biodiversity conservation in China. Before March 2008, MEP was called the State Environmental Protection Administration (SEPA). It was promoted as MEP at the First Session of Eleventh National People's Congress, which was held on 4th March, 2008.

The main tasks of MEP, excluding biodiversity conversation, are ecological conservation and environmental pollution prevention, nuclear safety, environmental impact assessment, improving supervision and administration; safeguarding the environmental rights and benefits of the public, and promoting the sustainable development of society, economy and environment. As art of its responsibilities it plays a leading role in biodiversity management. As mentioned above, it provides the secretariat of CBDSC and, as listed above, has a wide mandate for guiding and supervising national policy directly related to biodiversity.

MEP has around 300 permanent staff (officials). It is organized into 12 Departments, each Department comprising a number of Divisions[5]. The followings are details of the Departments of MEP and Divisions of each department. Among of them, the Department of Nature and Ecology Conservation, the Department of Policies, Lows and Regulations, the Department of Environmental Impact Assessment and the Department of International Cooperation are closely responsible for biodiversity conservation. In addition, 17 research institutes are affiliated to MEP. They provide various technical supports to MEP, which listed in the second session of this part.

1. The institutional structure of MEP

Administrative Office

The Office is responsible for assisting MEP leaders in handling and coordinating routine work of the headquarters; developing various rules and regulations and supervise their implementation; taking charge of releasing information on inter-provincial environmental disputes, major environmental pollution accidents and ecological damages, nuclear safety accidents, as well as relevant liaison; drawing up annual working plans and summary reports of MEP, and draft documents of comprehensive national meetings on environmental protection and other important documents; handle received documents and incoming calls by categorized offices, review or organize the drafting of documents to be distributed in the name of MEP or the Administrative Office; and is responsible for the formulation and implementation of the plan to create the environmental information system, and guide the development of national environmental information network.

[5] The following information get from the website of MEP : http://english.mep.gov.cn/About_SEPA/Internal_Departments/

Divisions:
- General Duty Room
- Research Office
- Office of Supervision on Administration
- Office of Public Complaints Settlement
- Office of Information Technology
- Division of Archive Management
- Division of General Meeting Services
- Division of Reception and Security

Department of Planning and Finance
The Department organizes the development of national programs and plans on environmental protection, participate in the formulation of the outline of national sustainable development, and act as the focal point to administrate the coordination, examination and submission for approval of special plans and programs in this sector; participates in the formulation of plans on national economic and social development, plans on the treatment of lands, land use plans, and eco-environmental development plans, and examine the components of environmental protection in the urban master plans; takes charge the management of major environmental protection projects and programs on the capacity building of environmental system that are subsidized by the Central Government, and manage the demonstration projects as a focal point; organizes the formulation of the Report on the State of the Environment in China and Environmental Statistics Annals, and review the reports on the environmental statistics and information released to the public in the name of MEP.

Divisions:
- Division of General Management
- Division of Planning
- Division of Statistics
- Division of Budgets
- Division of Investment Management
- Division of Financing and Accounting

Department of Policies, Laws and Regulations
The Department formulates general policies and development strategies for national environmental protection; organizes the drafting of environmental economic policies and administrate as a focal point; organizes the drafting of general laws, regulations, and rules on environmental protection, take charge the filing of environmental rules and regulations; takes charge of organizing administrative reconsideration and appeals in environment sector; and is responsible for the interpretation of environmental laws, regulations and rules.

Divisions:
- Division of Environmental Policy
- Division of Laws and Regulations
- Division of Administrative Reconsideration

Department of Human Resources Management and Institutional Affairs
Responsible for undertaking the institutional composition and personnel management of MEP; organizing the award of good performance of environmental protection across the country; and guiding the administrative institutional reform and regulation of environmental protection system.
Divisions:
- Division of Institutional Restructuring
- Division One of Personnel Management
- Division Two of Personnel Management
- Division of Human Resources Development
- Office of Retired Civil Servants

Department of Science, Technology and Standards
The Department is responsible for organizing and coordinating the research on and introduction of environmental technologies; organizing key projects concerning science and technology breakthroughs and technical demonstration projects; managing the achievements of environmental science and technology; developing standards of environmental industry; undertaking the filing of local environmental standards; managing the certification of environmental labels nationwide; setting up and organize the implementation of the certification system of environmental protection qualification; guiding and promoting the development of environmental industry and manage the work on national environmental monitoring.
Divisions:
- Division of Science and Technology Development
- Division of Technology Policies and Standards
- Division of Environmental Industry
- Division of Environmental Health and Monitoring

Department of Pollution Control
The responsibilities of the Department includes to develop and organize the implementation of laws, rules and regulations on pollution prevention and control of air, water, noise, solid wastes, toxic chemicals and vehicle emissions; to organize the implementation of environmental management systems such as registration of pollution discharge application, pollution discharge permits, treatment of pollution sources within a limited period and up-to-standard pollutant discharge, operation permit of hazardous wastes, registration for import and export of toxic chemicals, and administrative execution in an acting capacity; to supervise and administrate the prevention of marine environmental pollution caused by coastal engineering projects, land-based pollutants, and ship recycling; organize the development of the zoning of environmental function areas; to organise the drafting of pollution prevention plans for national key river basins and regions, and supervise the implementation of the plans; to approve the import and export permits of the wastes to be used as raw materials; and to guide the comprehensive treatment of urban and rural environment.

Divisions:
- Division of General Management
- Division of Urban Environmental Management

- Division of Water Environmental Management
- Division of Environmental Management for Major River Basins
- Division of Drinking Water Sources Protection
- Division of Marine Environmental Protection
- Division of Air and Noise Pollution Control
- Division of Solid Wastes and Toxic Chemicals Management

Department of Nature and Ecology Conservation (Office of Biodiversity Conversation, MEP)

The responsibilities of the Department includes to develop and supervise the implementation of national policies, laws, regulations and standards on ecological conservation, nature reserves, eco-function protection areas, soil environment protection, rural environment protection, biodiversity conservation, bio-safety, biological species resources (including bio-genetic resources, similarly hereinafter), and environmental safety management of bio-technologies; to organize the review of national nature reserves and eco-function protection areas, and recommend on the approval of a variety of new national nature reserves and eco-function protection areas; to take charge domestic coordination and policy guidance for the implementation of related international conventions on environment protection, e.g., Convention on Biodiversity, United Nations Convention to Combat Desertification, and Ramsar Convention on Wetlands, and manage the work on biodiversity, bio-safety, biological species resources, and environmental management of bio-technologies; to manage eco-environmental protection and comprehensive environment treatment in rural areas, and guide the development of ecological agriculture; to supervise and manage soil environment protection, and guide and coordinate the prevention and control of non-point pollution in rural areas and the development of organic food.

Divisions:
- Division of General Management
- Division of Regional Ecological Environmental Management
- Division of Nature Reserves Management
- Division of Rural Environmental Protection (Division of Soil Environmental Protection)
- Office of Bio-Safety Management (Secretariat of the Steering Committee on Biological Diversity).

Department of Nuclear Safety Management (Department of Radioactive Management)

The tasks of the Department includes to carry out the administration of nuclear safety, radioactive environment and radioactive wastes; to develop relevant guidelines, policies, laws and regulations; to take part in emergency responses to nuclear accidents and radioactive environmental accidents; to carry out integrated supervision on and management of safety of nuclear facilities and electromagnetic radiation, application of nuclear technologies, pollution prevention in the

development and utilization of radioactive mineral resources; to supervise the control on nuclear materials and safety of pressure-bearing equipment; to undertake the implementation of relevant international conventions and bilateral cooperation agreements; and take charge the integrated supervision and regulation of radioactive sources across China.

Divisions:
- Division of Radioactive Environment and General Management
- Division One of Nuclear Power
- Division Two of Nuclear Power
- Division of Nuclear Reactors
- Division of Nuclear Fuels Management
- Division of Radioactive Wastes Management
- Division of Radioactive Sources and Electromagnetic Radiation Management
- Division of Nuclear Equipment

Department of Environmental Impact Assessment Management

The Department formulates environment policies, laws, rules and regulations such as environment impact assessment system and the "Three simultaneities" system and organize their implementation; conducts environment impact assessment on key economic and technical policies, development plans, and major economic development plans; develops the inventory of categorized management of environment impact assessment; takes charge the examination and approval of EIA statements on major development and construction activities.

Divisions:
- Division of General Management
- Division One of Environmental Impact Assessment Management
- Division Two of Environmental Impact Assessment Management
- Division Three of Environmental Impact Assessment Management
- Division of Environmental Check and Acceptance of Construction Projects

Environmental Supervision Bureau

The Bureau is responsible for carrying out routine supervisions on environmental law enforcement; organizing inspections on environmental law enforcement; supervising and handling accidents as instructed by leaders and other major environmental pollution accidents, ecological damage cases, and environment infringements of major construction projects, and put forward proposals on the settlements and punishments; coordinating the environmental problems in inter-provincial and regional areas and river basins; environmental inspection, and to guide the construction of environmental supervision teams; developing policies on the collection of pollutant discharge fees, and organize the registration of pollutant discharge application and the collection of pollutant discharge fees; As the focal point, providing policy guidance for Center of Environmental Emergency Response

and Accident Investigation of SEPA and Environmental Protection Supervision Centers.

Divisions:
- Division of General Management
- Division of Supervision Guidance
- Division of Pollutant Discharge Fees Management
- Division of Review and Punishments

Department of International Cooperation

The responsibilities of the Department includes to take part in and coordinate international activities on environmental protection; to participate in negotiations of international environmental conventions; to administrate, organize and coordinate domestic activities to implement such conventions and external communications; to administrate foreign economic cooperation conducted by the environmental system; to undertake the settlement of environmental pollution concerning foreign nationals and environmental affairs with foreign elements; to guide the work of the Permanent Mission to UNEP; to carry out communications with international organizations related to environmental protection; to undertake routine work of China Council for International Cooperation on Environment and Development.

Divisions:
- Division of General Foreign Affairs Management
- Division of International Organizations
- Division of Bilateral Cooperation
- Division of International Cooperation on Nuclear Safety
- Division of Regional Environmental Cooperation
- Secretariat of China Council for International Cooperation on Environment

Department of Education and Communication
The Department is responsible for Developing and organizing the implementation of publicity and education plans on environmental protection; the organization and release of important news related to environment protection and coordinating the news coverage and reports of major environmental pollution accidents; reviewing news manuscripts concerning the overall environment protection work and important events; the education and communications of environmental protection oriented to the whole society, and promote the participation of the public and NGOs in environmental protection; guiding the development of publicity and education teams for environmental system and provide policy guidance for them.
Divisions:
Division of News
Division of General Management

1. Technical Supporting Organisations Affiliated to MEP

There are 17 major technical supporting organizations affiliated to MEp, whose staff may supplement the core staff enumerated in the titles above:

Chinese Research Academy of Environmental Sciences (CRAES)
The Academy focuses on research of environmental sciences and technologies, engineering design, environmental pollution prevention and development of environmental engineering technologies; and undertakes major national projects of environmental research. It conducts research on key cross-region and cross-sector environmental issues, and provides scientific evidence and technical support to the decision-making of environmental management in SEPA.

Academy of Environmental Planning of SEPA
The Academy mainly provides planning services for environmental management, with the following scope:

- formulating national environmental protection plans; plans for environmental protection in river basins, regions and towns; specific plans for pollution prevention and ecological conservation; plans for control of pollutants;
- technical examination and approval of relevant plans;
- basic research on environmental plans and relevant economic policy;
- technical training and consultation for environmental projects.

China National Environmental Monitoring Center
As the centre of network, technology, information and training for the national environmental monitoring, the Center is responsible for managing and guiding the work of the national environmental monitoring system, and providing technical support to SEPA in environmental supervision and management.

Center of Environmental Emergency Response and Accident Investigation
The Center was set up in 2001, with the main responsibility of supervising enforcement of major cases of environmental accident and ecological damage, as well as the environmental supervision in the entire country.

Foreign Economic Cooperation Office of SEPA
The Foreign Economic Cooperation Office is mainly responsible for implementation of international environmental cooperation projects, follow-up action on implementation of international conventions, and other international economic cooperation.

Assessment Center of Environmental Engineering of SEPA
The centre provides management and technology safeguards for environmental impact assessment, the following areas:

- technical examination and approval of outline of EIA and EIA reports (charts);
- checking and assessment of the qualification of EIA institutions and personnel;

- research on EIA policy, technologies and standards;
- technical training and consultation services.

Registration Center of Chemicals of SEPA

The centre provides management support to environmental safety of chemicals in the following areas:

- registration of environmental management for import and export of chemicals;
- examination and assessment of qualified of chemicals testing laboratories;
- appraisal of physio-chemical features and toxicity, and appraisal of chemical damage;
- technical training and consultation services.

Sino-Japan Friendship Center for Environmental Protection

The Sino-Japan Friendship Center for Environmental Protection is responsible for integrated research and management of national environmental protection policy, publicity and education, analysis and testing, and information management.

Policy Research Center for Environment and Economy of SEPA

The centre is mainly engaged in research in the area of environmental strategy, environmental policy systems, environmental management policy, environmental economic policy, environmental diplomacy policy, and environmental law and regulation.

National Center of Environmental Analysis and Testing

The centre is one of the fourteen national centers for analysis and testing. It focuses on methods of analysis and testing, and technology research in environmental science and environment, including:

- application of analysis and testing, and researches and development of applied software;
- analysis and testing of the key national research programs of science and technology, and major engineering projects; analysis and arbitration of environmental disputes;
- provision of analysis and testing services; organisation of academic and technical international exchange of environmental analysis and testing.

Center for Environmental Education and Communications of SEPA

The centre is mainly engaged in environmental publicity and education, and training, including:

- environmental publicity and education, planning key environmental commemoration days;
- compilation of curricula of environmental publicity;
- on-the-job training in environmental protection systems; training of national registered auditors of environmental management system.

Information Center of SEPA

The centre provides information services as follows:

- environmental information collection, processing, and management;

- establishment and management of environmental information systems;
- research and development of environmental information products.

Nuclear Safety Center of SEPA
The centre focuses on technical assessment, verification, monitoring, research and technical information on nuclear safety of nuclear power plants, reactors, recycling of nuclear fuels, application of nuclear technology, uranium mines and safety associated with radiation, and to provision of technical support for the safety of civil nuclear and radiation facilities

Nanjing Institute of Environmental Sciences of SEPA
The institute focuses on rural ecology and nature conservation as follows:
- research on rural ecology, nature conservation, pollution prevention of township and village enterprises and agricultural chemicals;
- key national research programmes and scientific research on rural environment and nature and ecological conservation;
- provision of scientific and technical support for management and conservation of the rural environment; and assistance in making and implementing relevant plans.

Southern China Institute of Environmental Sciences of SEPA
Engaged in research in regional environmental sciences, the Institute focuses on the coastal economic development zones in southeast China and areas adjacent to Hong Kong, Macao and Taiwan as well as key national research in tropical and subtropical areas. It undertakes research on environmental technology policy and key environmental sciences and technology.

China Environmental News
China Environment News is responsible for editing and publishing the national specialized news China Environment News, which focuses on environmental protection. The main purpose is to promote basic state policy on environmental protection and coordinated development of environment and economy. It also publishes environmental laws and regulations, strengthens awareness of environmental management and promotes public participation. It publicises achievements in environmental sciences and technology and promotes the development of environmental industry.

Chinese Environmental Science Press
The Press is a specialised publishing house, mainly of environmental science books and magazines. Publications include basic theoretical and academic works on environmental management, environmental engineering, and environmental economics, as well as more popular treatment of environmental protection. It also publishes the magazines Environmental Protection, World Environment and Environmental Education, as well as audio-visual products.