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## THE IMPLEMENTATION OF BIODIVERSITY CONVENTION IN CHINA

LI, XIAOHUA

Program Officer, Environmental Protection Committee, National People's Congress, 23, Xi Jiao Min Xiang, Beijing, People's Republic of China100805

### SUMMARY

In 1992, the United Nations Conference on Environment and Development at Rio de Janeiro adopted the Convention for Biological Diversity. China signed the Biodiversity Convention in Rio in June 1992 and ratified it in January 1993. After the Rio Conference, efforts have been made by China to enforce the implementation of this Convention. At the same time, there are still some problems and difficulties for the country to implement the Convention in an effective and efficient way. Part I of this article introduces the implementation of Biodiversity Convention in China. Part II identifies the problems within the effective implementation and enforcement of this Convention. Part III tries to find some mechanisms which would make this Convention more workable in China.

### 1 INTRODUCTION

Each era in human history has its own principal problems. The outstanding problems for our era are environmental deterioration which occurs together with economic development. These environmental problems include environmental pollution, loss in biodiversity and environmental degeneration, such as diminution of forests, soil erosion, desertification, salinity and decreased soil fertility. All those pose a threat to human survival and social progress.

Among the problems identified above, the loss of biodiversity is one of the most important problems. Biodiversity means the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.<sup>1</sup> Biodiversity provides not only indispensable biological resources, but also the environmental biosphere for human survival. However, according to observations and statistics from scientists, species (including the intrinsic genetic resources) are becoming extinct or lost at a surprisingly fast rate. Some international scientists estimated that the current speed of species losses is faster by 1,000-10,000 times than that of the natural extinction before mankind intervened. Most of time in the evolution of life, the speed of species extinction is approximately equal to that of its formation. However, the current speed of extinction is over 1 million times faster than that of formation.<sup>2</sup> Although scholars differ in their estimates, it is indisputable that biodiversity has been decreasing at an unprecedented rate, particularly in humid and tropical developing countries.

Over recent years, the conservation of biodiversity has engaged broad attention of various countries in the world. The United Nations Conference on Environment and Development at Rio de Janeiro in 1992 adopted the Convention for Biological Diversity. The Convention, which entered into force on December 29, 1993, aims to protect the genetic pool

of all species, using techniques similar to those found in national legislation. It takes an integrated rather than sectoral approach to conservation and sustainability of biological diversity.<sup>3</sup> To date, 171 countries have ratified the Convention.<sup>4</sup>

China signed the Biodiversity Convention in Rio in June, 1992 and ratified it on January 5, 1993. After the Rio Conference, efforts have been made by China to enforce the implementation of this Convention. At the same time, there are still some problems and difficulties for the country to implement the Convention in an effective and efficient way.

This paper will seek to introduce China's effort to implement this convention, analyze the reasons which have caused a failure to perform and try to find some mechanisms which would make international environmental treaties more effective in developing countries.

## **2 IMPLEMENTATION OF THE BIODIVERSITY CONVENTION IN CHINA**

### **2.1 China's Biodiversity Resources**

China covers a vast territory of 9.6 million square kilometers, with the complex and varied geomorphology, climate and natural conditions that accommodate particularly rich ecological systems. The complicated mix of physical conditions provides diverse habitats for different animals and plants, for their feeding and breeding, and thus sustains the richness of biodiversity that makes China one of the megadiversity countries of the world.<sup>5</sup>

Ecosystem diversity in China's ecosystems ranges from tropical rain forests to tundra, from marine systems to alpine meadows. The main ecosystems in China can be divided into several types, such as forest, steppe, desert, farmland, wetland and marine ecosystems. The plant life in these ecosystems places China amongst the world's three most plant-rich nations and over half of all China's plants occur nowhere else on earth.<sup>6</sup>

Species diversity in China is situated in both the Palaeartic and Oriental Realms. During the late Tertiary period, most regions were not affected by glaciation, thus the flora and fauna are characterized by having many endemic and relic species.<sup>7</sup> China is therefore regarded internationally as one of the important diversity countries and ranks among the top 10 nations in the world for the diversity of its mammal, bird, amphibian, and plant species.<sup>8</sup> According to the new statistics, the total number of all existing species in China amount to about 83,000 species. It is roughly estimated that more than 100,000 species of insects are distributed throughout China. There are more than 13,000 marine species recorded for China's seawater.<sup>9</sup>

In genetic diversity, China has very high richness in species, and thus can be considered to have one of the most important stocks of genetic diversity in the world.

China's biodiversity is an important component part of the world. To protect China's biodiversity will contribute greatly to the protection of natural heritage of humanity.

### **2.2 Efforts before Joining the Biodiversity Convention**

Prior to joining the Biodiversity Convention, China has joined several international conventions such as CITES, the Ramsar Convention on Wetlands, and the Convention for the Protection of the World Cultural and Natural Heritage, migratory bird conventions etc.<sup>10</sup> To fulfill its responsibilities, China has made some efforts in respect to biological resources conservation such as endangered species conservation and wetlands protection. Because the Biodiversity Convention is established upon these previous treaties, these efforts should be considered as a component of the implementation of Convention on Biodiversity. On the other hand, Convention on Biodiversity is built on the basis of biodiversity conservation

practices of different countries. Therefore, before Convention on Biodiversity entered into force, the biodiversity conservation such as *in situ* and *ex situ* conservation and establishment of protected areas has long history in Contracting Parties which include China. Here in this paper, the implementation not only refers to the actions in accordance with Convention on Biodiversity itself, but also includes the former efforts which are the important part of biodiversity conservation.

### 2.3 Biodiversity Conservation Action Plan

Pursuant to Article 6 of Conventions required Biodiversity Conservation Action Plan (BAP) for conserving China's biodiversity in face of the harsh demands placed on it by the country's enormous population and developing economy was presented in 1994.<sup>11</sup> The Plan is funded under the Global Environment Facility (GEF), through the United Nations Development Programme (UNEP), and with the World Bank as the executing agency.<sup>12</sup> The in-country process is coordinated by the National Environmental Protection Agency (NEPA).<sup>13</sup> Since responsibilities for biodiversity conservation, including research and management, are spread widely throughout the government, NEPA established a Leading Group, composed of those agencies with significant biodiversity responsibilities.<sup>14</sup> The process is very important, since it marks the first time that scientists, managers and officials from all parts of China and from abroad have come together to pool their information, ability and effort toward conserving China's biodiversity.<sup>15</sup>

The Action Plan documents the present status of biological diversity and biodiversity conservation in China. Based on the basic assessment to threatened status, the Action Plan presents the overall objectives which is to set in place as soon as possible measures for avoiding further damage, and, over the long term, for mitigating or reversing the damage already done and specific objectives and actions. To ensure the implementation of specific conservation measures, the Action Plan provides some actions which include legislation and policy, institutional measures, scientific research, technical extension and demonstration, publicity and education, and increases international cooperation, etc.

The action plan is a significant step in implementing the Biodiversity Convention in China. It provides the basis for China's effort to conserve its biodiversity. It will be a platform document for biodiversity conservation activities, offering important guidance for the government of different levels, scientific and technological workers and broad masses of the people in prompting the conservation of China's rich, multiply and distinct biodiversity.

### 2.4 Domestic legislation

In the past ten years, China has promulgated a series of laws and regulations. Some of them concern biodiversity conservation. The main laws include Forestry Law (1984), Grassland Law (1985), Fishery Law (1986), Wild Animal Conservation Law (1988), Water Law (1988), Water and Soil Conservation Law (1991). The regulations include Regulation on Reproduction and Conservation of Aquatic Resources (1979), Regulation on Salvage Management (1981), Temporary Regulations on Scenic Resources (1985), Regulation on Forest Fire Prevention and Control (1988), Regulation on Seed Management (1989), Regulation on Conservation of Terrestrial Wild Animals (1992), Regulation on Afforestation of Urban Areas (1992), and Regulation on Forest and Wild Animal Nature Reserves Management (1985). There are also lots of other laws whose main objectives are not aimed at biodiversity conservation, but its' implementation has a significant influence to biodiversity

conservation. These laws include Environment Protection Law (1989), Marine Environment Protection Law (1982), Land Management Law (1986), Water Pollution Prevention and Control Law (1995), and Criminal Law (1997).<sup>16</sup>

#### 2.5 Identify Important Components of Biological Diversity and Priorities

Based on the Criteria for Determining Global Biodiversity Significance and Conservation Priority of Species, a careful assessment is made by China to identify priorities among ecosystems and species requiring protection. To guide actions in the interim, the second workshop on the Biodiversity Conservation Action Plan developed lists of priority ecosystems and species.<sup>17</sup> The priority ecosystem covers different regions and nature reserves of forest ecosystems, grassland and desert ecosystems, wetlands areas, and coastal and marine ecosystems. The priority wildlife species include 79 species of mammals, 287 species of birds, 5 species of amphibians, 12 species of reptiles, 28 species of fish, 38 species of insects, and 16 species of invertebrates (including marine invertebrates). The priority wild plants include 151 species in number, of which 6 species are of fungi, 17 species are of gymnosperm, and 128 species are of angiosperm.<sup>18</sup>

#### 2.6 *In-situ* and *ex-situ* conservation

Conservation is the most effective measures for conserving biodiversity. It means protecting valuable natural ecosystems and habitats for wildlife that can reproduce and evolve life in the ecosystem and keep the energy flow, material cycling and ecological process in the system.<sup>19</sup> China's first nature reserve was set up in 1956 at Guangdong Province. At 1960's and 1970's, the rate of establishment of nature reserves was slow. It has recently accelerated from 1980's, and now there were over 700 nature reserves in the country covering 65 million hectares, which is the 5.5 percent of the total land area. There are over 480 scenic areas and over 510 forest parks, which play an important role in the biodiversity conservation.<sup>20</sup> The establishment of wildlife nature reserves in China begin in the 1970s and accelerated in the 1980s. To date, 280 nature reserves altogether have been established to protect wild animals and plants, with a total area of 12,871,000 hectares. Of the 280 nature reserves, 211 reserves are designed to protect wild animals, with an area coverage of 12,462,000 hectares; and 69 reserves are designated to protect wild plants, with an area coverage of 409,000 hectares.<sup>21</sup>

To help conserve rare and endangered species, various *ex-situ* conservation bases and reproduction centers were established in the early 1980's. The number of botanical gardens in China are about 110 total now. It is estimated that at present about 23,000 wild plant species are cultivated in the botanical gardens, of 16,000 species are native flora. Among them about 300 species are in the "Plant Red Data Book". Conservation reproduction programs were carried out of forest trees, fruit trees, ornamental plants, medicinal plants, grain crops, vegetables, and some valuable cash crops such as tea and mulberry trees. In the aspect of *ex-situ* conservation of wildlife animals, 26 reproduction farms of endangered and endemic animal species have been built for conservation. There has been some success in breeding some 10 species of animals that were on the brink of extinction. In China, another kind of *ex-situ* conservation is based on zoos. In the past decades, zoos in the country have carried out extensive research in preservation and reproduction techniques for rare animals. Now there are 175 zoos in the country in which more than 600 species of vertebrate animals with a total of 100,000 are protected.<sup>22</sup>

## 2.7 International Cooperation

International cooperation is essential if China is to achieve its goals in conserving some of the greatest concentrations of biodiversity on Earth and achieving development through the sustainable use and management of these resources. China has created the Chinese Council for International Cooperation in Environment and Development ---a high level vehicle for expanding international cooperation on environment and development and making specific recommendations to the State Council in 1992. One working group of Chinese Council for International Cooperation in Environment and Development which named the Biodiversity Working Group has a specific focus on biodiversity.<sup>23</sup> In the aspects of biodiversity, China has been cooperating with many international organizations such as World Wildlife Fund, International Union for the Conservation of Nature and Natural Resources (IUCN), Global Environmental Facility, McArthur Foundation, WFP, etc.<sup>24</sup>

## 3 THE PROBLEMS WITHIN THE EFFECTIVE IMPLEMENTATION OF THE BIODIVERSITY CONVENTION

As a developing country, China has made great progress in the implementation of Biodiversity Convention. However, there still exists some problems between the requirement and the implementation which include the following aspects:

### 3.1 Pressures from economic growth

Since the early 1980s, China began to implement the policies of "economic reform" and "opening doors to the world". These policies brought the profound influences to the social, economic and cultural structures of the country. For most of the Chinese people, for the first time in their life, the prosperity of the western world was recognized. This created an extremely strong desire for developing the country's economy. In the past two decades, China's economy experienced a great boom with the two-digits of average growth rate. The economic development brought Chinese people improved living standards and increasing opportunities for future development. However, at the same time, the economic growth has seriously damaged the natural resources and environmental quality of the country. For example, air and stream water within most of the urban areas have been significantly polluted and brought serious health problems; natural resources have been acceleratingly explored without appropriate conservation measures. As far as biodiversity is concerned, many vegetative areas such as forestry, grasslands and wetlands have been converted to construction land for the purpose of development. This destroys the habitats of many endangered and threatened species.

### 3.2 Inefficient environmental legal system

Domestic legislation is a key link for the implementation of international conventions. Only when the principle of international conventions is applied in the process of domestic legislation, the implementation of international convention becomes possible.

Since the late 1970s, law has acquired greater importance and become a considerable factor in China's economic, political, and social transformation. The proven benefits of a stable legal system have not been ignored by China's law makers and the public at large. The development of China's various environmental regulatory regimes has played a prominent role in the revolution of the country's overall legal system and is increasingly

seen as an important component to China's future prosperity. Up to now, about twenty laws concerning environmental protection and resources conservation have been formulated by the National People's Congress or its Standing Committee, and enormous regulations, standards, and other legal documents have been issued by the State Council, the related ministries and the local governments. It can be said that China has had a good beginning for establishing its environmental legal regime. However, in the field of biodiversity conservation, there is still a big vacuum within the domestic legislation.

A big gap in the law may exist concerning access to genetic resources and technology transfer. For developing country, access to genetic resources and technology transfer are two important measures to conserve domestic biodiversity. However, how to use this measures to conserve China's rich biodiversity is still not considered either by China's legislation or policy-making;

In the aspect of natural ecosystem conservation, China has promulgated 9 related laws which covered the field of forest, grassland, fishery, wildlife, water, mineral, and land. But the main purpose of these laws is to manage the use of natural resources, not to conserve natural ecosystems. As a result there are no special provisions which relate to the conservation of ecosystems. On the other hand, there are still not any laws or regulations concerning the conservation of wetlands, fresh water, and deserts which are the important parts of ecosystem in a country.

In the aspect of species conservation, although China has established a comparatively complicated legal system, these laws and regulations put more emphasis on the protection of big type vertebrates, and ignore the invertebrates, even for some small type vertebrates. Among the 96 kinds of first class priority wildlife in the China's key protected wildlife lists, 82.3 percent are mammals and birds. Only 4 percent are fishes, and 7 percent are invertebrates. There is no amphibious in the lists. Small type species are very fragile, however, some species disappeared even before they are described. They need more significant protection.

In the aspects of genetic resources, China has not made related laws. Although the State Council has promulgated Regulation on Seed Management and Regulation on Conservation of Terrestrial Wild Animals, only a few provisions in these regulations are related to the protection and management of genetic resources. These provisions are very less specific either in the protection subjects and protection measures or in the management institution, especially in the selection, preservation, import, and export of genetic resources.

In the aspects of tourism resources protection, the fast development of scenery and scenic spot has caused the serious destruction of scenic resources and species resources. However, there is not specific legislation to regulate the conservation and management of tourism resources in the present of China.

### 3.3 Enforcement problem

In China, law enforcement is always one of the major problems within the establishment of a sound legal system. In the field of environmental protection, for a variety of reasons, environmental laws and policies are far too often ineffective or simply unworkable. A common complaint is: "we have good laws, but they are not enforced."<sup>25</sup> This situation is true with respect to biodiversity conservation. Though related laws, regulations, policies and plans have been formulated, many requirements within such legal documents have not been implemented well. For example, violations of wildlife conservation such as illegal hunting and illegal market are still frequently happening; over-hunting, over-fishing and over-planting are still common phenomena throughout the country; some endangered species are even

found in the table of small or fancy restaurants. The reasons of such poor enforcement are quite complicated. First, the capacity of enforcement are comparatively weak. For example, the USEPA has more than 17,000 enforcement staff around the country, however, its counterpart, China's SEPA only headquarters 250 staff. Though several thousands of environmental enforcement officials work in provincial and local level, it is still a big difference with respect to the comparison of enforcement capacity. Second, lack of coordination among various institutions eliminate the effective enforcement. For example, the rapid creation of reserves has led to management problems. Six different national agencies are responsible for some sites and not all agencies have expertise in nature conservation. Typically, managers have limited funds and little decision-making power. For example, the Ministry of Forestry controls pandas in the wild while the Ministry of Construction manages pandas in zoos, a situation that invites conflict and breeds reluctance to share information and resources.<sup>26</sup> Third, government officials' corruption has become a big obstacle which hinders the effective enforcement of laws and regulations. In environment management, corruption may be exhibited in a variety of ways from high level ad hoc exemptions to industrial plant sitting restrictions in environmentally sensitive areas, to the granting of operating permits for new plants even before emission controls are in place, to the falsification of monitoring records and so on.<sup>27</sup>

### 3.4 The Cost of Old Traditions

China is one of the countries which have the longest literal recorded history. Several thousands of years feudal imperial system irons the country a strong political, economic and cultural traditions.

Historically, China is a country "ruled by men" rather than "ruled by law". In the thousands of years' history, little attention was paid to the establishment of a comprehensive legal system. For the ordinary people, when conflict occurs, they are accustomed to solve the dispute by mayors, directors, and even the senior persons of their community. Very few cases will be sued in court. For most of the citizens, they seldom try to figure out "what the law says" and what their legal rights should be. In their opinion, when the two parties argue before a court, it usually means the end of their relationship. In the field of environmental pollution, though the number of public complaints has increased greatly in the recent years, the legal procedure for the settlement of environmental conflicts has not yet been established.

As a result of the feudal economy and the autocratic monarchy system, in its thousands of years of history, China only had one complicated act which included criminal law, civil law, and all other kinds of laws. Among these, criminal law was the most important and completed part, while civil law and commercial regulations were very limited and there were few provisions concerning these respects in the feudal act. For ordinary people of China, law just means criminal law. Few people can realize the authority of Constitution, civil law, administrative law, and environmental law, etc. For most of the Chinese people, if a violation is such that the violator does not commit criminal offenses, such a violation is not looked at as a "serious" violation. This traditional legal awareness is one of the major reasons which influence the legislation and enforcement of China's environmental legal system as well as the implementation of international environmental treaties including the Biodiversity Convention.

China has a long history of using animal and plant materials to produce Chinese medicines. Some of such animal and plant parts include rhino horn, tiger bone and bear gall bladder and etc., which are drawn from endangered or threatened species. This tradition makes China bear much more pressure than most of countries in the world in protecting wildlife and implementing the Biodiversity Convention.

### 3.5 Inefficient financial resources

China is a developing country which suffers the urgent investment needed for various areas such as industry, construction and education. Under these circumstances, it is not realistic to expect the country to spend a lot of money in biodiversity conservation. China's government takes a positive attitude to protect biodiversity, and has promulgated several plans and identified more than 100 priority projects with respect to biodiversity conservation, however, most of them have not been implemented well because of the shortage of money. Financial resource is the most predominant factor influencing the implementation of the biodiversity conservation plans.

### 3.6 Environmental awareness and public participation.

In China, the environmental awareness of leaders in various levels and public at large is still in the relatively beginning stage. Though citizen suits to seek remedy of environmental pollution or damages therefrom are provided in some Chinese environmental documents, such actions are very few in practice. China's environmental impact assessment regulations currently contain no provisions for public commentary. The non-governmental environmental advocacy community in China is virtually nonexistent. Environmental and legal awareness in China, as compared to the awareness of enforcement-oriented societies such as the United States and Canada, is still at a nascent stage. As a result, very few cases exist in which citizens sue companies or regulatory agencies for damages stemming from environmental violations.<sup>28</sup>

### 3.7 Related International Issues

After the Rio Conference in 1992, the international community has established some mechanisms to assist developing countries to implement environmental treaties including the Biodiversity Convention, which mainly reflected by the operation of Global Environmental Facilities. However, this international mechanism has been proved ineffective in promoting the domestic efforts of developing countries. For example, in the last five years, China has applied for several projects to Global Environmental Facilities, but only two projects were approved or considered by Global Environmental Facilities. Moreover, a lot of time is spent in the preparing and starting period, which caused these priority project can not be implemented in good time.<sup>29</sup>

Illegal trading of endangered species and related materials are banned by CITES, however, such trading still exist for variety of reasons. For example, the desire of panda products from some countries brought the illegal trading of panda skin. This significantly affects the protection of the Grand Panda. Certainly the component authorities of China should pay enough attention to this international-related smuggling, however, international efforts should also be made.

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## 4 MAKING BIODIVERSITY CONVENTION MORE WORKABLE IN CHINA

An international treaty can identify a global problem, arrange technical and financial cooperation, and spur the sharing of ideas and solution. The most effective actions, however, take place at the national level and subnational levels.<sup>30</sup> To make the Biodiversity Convention more workable, it needs efforts in both the domestic and international levels.

The Biodiversity Convention requires governments to develop national strategies and programs and to report on these efforts to the international community. Among other measures, governments should seek to monitor their national biodiversity to ensure that action is based on sound scientific knowledge, integrate biodiversity concerns into national legislation and other economic and social measures, encourage conservation and sustainable use of biodiversity resources, and support efforts by local populations to adopt more sustainable practices.<sup>31</sup>

### 4.1 Legislation

In the context of the international community, biodiversity has only recently been recognized as a subject of protective legislation. In China, it is the same situation, although many pre-existing laws, formulated to achieve specific goals in other respects, also affect biodiversity conservation. There are also big gaps in the legislative coverage and there may be areas where there is overlap or conflict between existing laws. Consequently, as a first step, China should initiate a comprehensive review of the nation's legislation as it affects biodiversity conservation. The review should identify where new laws are needed and where existing laws need to be canceled or amended. These legal reforms should then be implemented.

As a second step, some comprehensive and special laws and regulations should be prepared and promulgated in line with the overall goals and general tasks of biodiversity conservation, and particularly in line with the requirements and demands of the Biodiversity Convention. Those laws and regulations should include procedures on access to genetic resources, intellectual property rights protection on biotechnology transfer, regulations on nature reserve management, laws on plant resources, conservation regulations on protection and conservation of fragile or sensitive areas in the environment or ecosystems. Among these, the most urgent for China are the comprehensive biodiversity conservation law, the plant protection law and the regulations regarding management of nature reserves.

### 4.2 Policy Making

In China, there is a "customary process" within legislation and policy making. Normally, the legal rules adopted in legislation have to be experienced a process in policy level. When a policy is proved by practice as a good one, it is often upgraded as a legal rule. So, in China, a policy is often looked as the primary step of legislation. As far as biodiversity conservation is concerned, some policy instruments are needed in the near future.

First of all, the environmental impact assessment requirements should be applied to all activities of natural resources utilization including biological resources. In China, the present EIA procedure just applies to construction projects which may produced pollution. The broader application of such procedure should be introduced into biodiversity conservation. Environmental Impact Assessment should be conducted in any activities which may cause the loss of biodiversity. Secondly, the economic incentives should be used for biodiversity

conservation. Such incentives may include a compensation system in which the efforts of biodiversity conservation should be encouraged by subsidies, tax-deductions or other investment incentives.

#### 4.3 Financing Implementation

Implementation of the Biodiversity Convention in China will require a large source of funding. China shall seek funding from all possible financing channels which include central government investment, local government investment, social contributions, international assistance and required investments.<sup>32</sup> Among these, the central government investment is the most important. The measures for the central government should include:

- Implementation of the Biodiversity Conservation Action Plan should be included in the long-term prospective planning, five-year planning and all annual plans of the nation's economic and social development so as to decree the financing for its key items for implementation.
- The implementation of both basic research and technical research on biodiversity should be included in the nation's both long-term and short-term scientific research programs and given full financial support.
- All relevant ministries and governmental agencies should include the biodiversity conservation projects in their administration plans and allocated the required funds for management of nature reserves and enforcement of relevant laws and regulations.

#### 4.4 Involvement of the Whole Society

Unlike any earlier multilateral sustainable development treaty, the preambular language to the Biodiversity Convention recognizes the vital roles played by various parts of the whole society in the biodiversity conservation and sustainable use of biological diversity.

Firstly, the effective implementation of the Biodiversity Convention affirms the need for the full participation of women at all levels of policy-making and implementation for biological diversity conservation. It is the only multilateral treaty that acknowledges a fundamental link between women's participation and the implementation of the treaty itself.<sup>33</sup> The involvement of women in implementation of Biodiversity Convention are specially important in China, since women of the country take the burden to raise the families and educate the next generation. In many rural areas, most of the men leave their hometown and work in urban areas for better money-making, so women have a close relationship with nature since they shoulder the increasing role in collecting fuels of cooking, farming the agriculture land and raising the poultry animals.<sup>34</sup>

Secondly, indigenous and local communities' participation shall be paid enough attention. The Fourth Meeting of the Conference of the Parties to the Convention on Biological Diversity advised on the application and development of legal and other appropriate forms of protection for traditional knowledge, innovations and practices relevant for the conservation and sustainable use of biodiversity. One of its Working Groups highlighted the need for increased participation of indigenous and local communities in the Convention of Biodiversity, and recommended the establishment of an inter-sessional ad hoc working group which would include the full participation of indigenous and local communities, would meet between the

of the Conference of the Parties sessions and develop its tasks over an initial three-year period.<sup>35</sup> Further work should be done in China to stress the legal rights of indigenous and local communities and to stimulate local communities' participation.

Thirdly, the active participation by the Non-governmental organizations should be encouraged. In China, the NGOs' participation in environmental campaign is still very limited. In the recent years, only two or three NGOs registered in the related governmental agencies and conducted quite promising activities such as education, research and information exchange. However, the experiences of a lot of developed and developing countries show that the active participation of NGOs is a very essential and effective way for protecting environment and natural resources such as biodiversity. In China, the governments in national and sub-national levels shall take measures to encourage the development of environmental NGOs, and to give them more room to exert their positive roles.

Last, how to integrate biodiversity concerns into sectoral activities should be addressed in China. Such sectors may include industry, agriculture, transportation, energy, services and tourism. With respect to ownership, not only public sectors should actively involve in the biodiversity conservation, but private sector participation in implementing the Convention's objectives. For developing countries, integration are necessary for sustainable development. For example, sustainable tourism could play a role in poverty alleviation and biodiversity conservation.<sup>36</sup>

## 5 CONCLUSION

China needs to develop further legal measures and create effective institutional structures including those related to effective enforcement to overcome the identified problems which hinder the implementation of Biodiversity Convention and thus obtain the goal of more effective biodiversity conservation. At the same time China also needs the help of international society such as technology and information transfer to implement its national preservation policies effectively.

## ENDNOTES

- 1 Kiss, Alexandre & Shelton, Dinah, *International Environmental Law* app. at 171(1994 Supplement).
- 2 Biodiversity Conservation Action Plan, China, May 1994, at Preface.(hereinafter Action Plan)
- 3 Kiss, Alexandre & Shelton, Dinah, *International Environmental Law*, at 103 (1994).
- 4 Summary of the Fourth Meeting of the Conference of the Parties to the Convention on Biological Diversity( May 18, 1998) <<http://www.iisd.ca/kubjages/download/asc/enb0996e.txt>> (hereinafter summary of COP-4).
- 5 Zhong Guo Lu Xing Sheng Wu Duo Yang Xing Guo Jia Bao Gao (National Report: the Implementation of Biodiversity Convention in China), China, Mar.1998, at 1.(hereinafter National Report)
- 6 Reports of the Biodiversity Working Group: Conserving China's Biodiversity, Beijing 1997, at 6.(hereinafter Conserving China's Biodiversity)

- 7 National Report, *supra* note 5, at 5.
- 8 Maintaining Forests and Biodiversity in China (visited on Oct.12, 1998) <<http://www.igc.apc.org/wri/enved/giants/chi-biod.html>>.
- 9 Action Plan, *supra* note 2, at 5.
- 10 Conserving China's Biodiversity, *supra* note 6, at 7.
- 11 Biodiversity in the People=s Republic of China (visited on Oct.12,1998) <<http://www.wri.org/wri/data/dces-569.html>>.
- 12 Action Plan, *supra* note 2, at i.
- 13 According to the Decision of National People's Congress of China on Government Reform in 1998, National Environmental Protection Agency has been renamed State Environment Protection Administration (SEPA).
- 14 These agencies included Chinese Academy of Sciences, Ministry of Agriculture, Ministry of Construction, Ministry of Finance, Ministry of Forestry, Ministry of Public Security, State Oceanic Administration, State Planning Commission, and State Science and Technology Commission. Pursuant to the Government Reform, the Ministry of Forestry has been renamed Forestry Bureau. State Oceanic Administration has been downgraded as State Marine Bureau under the Land Resource Ministry. State Planning Commission was renamed State Development Planning Commission, and State Science and Technology Commission was renamed Ministry of Science and Technology. *See also id.*
- 15 Action Plan, *supra* note 2, at i.
- 16 The Criminal Law of China was promulgated in 1979 and revised in 1997. In the revised Criminal Law, there is a specific section which concerns the crime of destroying environment and resources. This section stipulates the various of crimes which caused the environmental pollution and resources degradation and penalties thereof.
- 17 Action Plan, *supra* note 2, at 40-41.
- 18 National Report, *supra* note 5, at 19.
- 19 Action Plan, *supra* note 2, at 17.
- 20 *Id.*, at 1 The Implementation of Biodiversity Convention in China 7.
- 21 *Id.*, at 20.
- 22 *Id.*, at 22-23.
- 23 Conserving China's Biodiversity, *supra* note 6, at 7.
- 24 *Id.*
- 25 Making Environmental Law in Asia More Effective, Hong Kong, March 4-8 1996, at 2.
- 26 Maintaining Forests and Biodiversity in China (visited on Oct.12,1998) <<http://www.igc.apc.org/wri/enved/giants/chi-biod.html>>.

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- 27 Making Environmental Law More Effective, *supra* note 25, at 18.
- 28 Zhang, Hongjun & Ferris, Richard, *The Environmental Regulatory Regime of the People's Republic of China: A Primer Including Practical Concerns for Foreign Investors* (1997).
- 29 National Report, *supra* note 5, at 78.
- 30 An introduction to the Convention on Biological Diversity (visited on Oct 12 1998) <<http://www.unep.ch/bio/pr10-95.html>>.
- 31 *Id.*
- 32 Action Plan, *supra* note 2, at 63.
- 33 Tinker, Catherine, "A New Breed" of Treaty: The United Nations Convention on Biological Diversity, 13 *Pace Environmental. L. Rev.* 191, \*193.
- 34 See Hunter, David & Salzman, James & Zaelke, Durwood, *International Environmental Law and Policy* (1998), at 994.
- 35 Summary of the Fourth Meeting of the Conference of the Parties to the Convention on Biological Diversity( May 18, 1998) <<http://www.iisd.ca/kubjages/download/asc/enb0996e.txt>>.
- 36 See *id.*

