

FORESTRY POLICY IN CHINA THE PAST, PRESENT AND FUTURE

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Forestry in China is an essential component of the world forestry. As the biggest developing country with a long history of civilization, China has experienced a long time forest utilization and management. Its present deficient forest resources has to support the fragile ecological environment upon which relied by a huge population. An environmental- sound and sustainable management of forests should be implemented for the present society and the future generation.

I. BACKGROUND INFORMATION ABOUT CHINA

China is located in the eastern part of Asia and to the west of the Pacific Ocean. With a total land area of about 9.6 million Km² and a huge population of 1.2 billion people, China has rich biodiversity and unique socio-political system. For the workshop participants can get a better understanding about the forestry in China. The paper will provide a brief introduction about China's history, physiography, socio-economic condition, which lead to its own concept of its forest policy-making.

1. History of the Country

China has a long history of over 5,000-year-civilization (with written records) and experienced almost all of human socio-political systems or types. During its thousands of years' social evolution, it occurred over 30 dynasties, more than 150 emperors, left glorious historic heritages formed a unique cultural, religious, philosophical and political traditions which still influence the present people and their lifestyles. Through dynasty succession, land ownership changing, wars, farming, housing and other kinds of resources exploitations, its natural resources especially forests suffered serious irrational utilization and destruction for long time, and therefore the land has degraded and ecological environment became very fragile.

2. Topographical and Physiographical Characters

China has vast territory with 20,000-Km borderline and 18,000-Km coastal line. It is neighbored with 15 countries. The difference in geographical positions and interlacing latitudinal, longitudinal and vertical lead to the difference in its physiographical elements. Its whole land can be roughly divided into three major physiographical regions listed as follows.

1). The Humid Monsoon Region in the East

Dominated by monsoon climates, this region is significantly characterized

by simultaneous monsoon and hot rainy season. The difference between the north and the south results in nine temperature zones ranging from the cold temperate to tropical zone. Majority of China's forests grows in this region.

2). The Arid Region in the Northwest

This area featured by drought and inadequate moisture is located the west of the 400mm isohyet with arid steppe and desert steppe, only high mountains in this region can grow trees and forests

3). The Frigid Alpine Region in Qinghai-Tibet Region

The extremely cold weather features this region. Low temperature prevents moisture and results in alpine steppe, meadows, and frigid desert. Forests scatters merely in gullies.

Though geographical complicated, the topography of China can be imaged as "a ladder", the altitude of the land is progressively lower down from the dry west to the humid east.

3. Socio-Economic Condition and Political System

1). Socio-Economic Condition

China is the biggest agricultural and developing country in the world. Although it has vast territory, It is still badly deficient in natural resources, which restricts its social and economic development.

Population	1.2 billion
Urban Population:	32%
Rural Population:	68%
GDP (1997) :	7,477.2 billion RMB
GDP annual growth rate:	8% (1996-1997)
Urban income per capita:	5,200 RMB
Rural income per capita :	2,100 RMB
Farm land:	1.3 million Km ²
Grain production:	4,925 million tone

The information above implicates that the rapid economic growth would make great pressure on the ecological environment. In the future 2050 years. China will definitely face a great deal of challenges to meet the balance of its social, economic, environmental development.

2). The Present Political System

Different from most other countries, China's political system is "Socialist with Chinese characteristics". Reform, open to the outside and focusing economic development are its three key features.

The current political system defines that the land ownership belongs to the state and collectives (both are public -owned systems) which make the forest policy and legislation are quite different from the other countries.

II. FOREST RESOURCES IN CHINA

The statistics from the Fourth National Forest Resources Inventory (1989-1993) reveal the current situation of forest resources as follows:

The land area for forestry purpose:	262.89 million Km ²
Forested area:	133.7 million ha
Forests:	113.7 million ha
Deciduous:	57.1 million ha
Broadleaved:	56.6 million ha
Economic woodlots:	16.09 million ha
Bamboo:	3.91 million ha
Forest coverage:	13.92% of the total land
Forest area per capita:	0.114 ha
Nature Reserves:	799 (1956-1996)
	With 71.85 million ha (7.2% of total land)
Forest parks:	752 (6.6million ha)

Comparing with the results of the Third National Forest Resources Inventory (1984-1988), the forested area increased by 8.03 million ha., enjoying an annual average increment of 2.04 million ha, or 1.65%. Forest cover increased by 0.94% with an annual average growth of 0.20%. Simultaneously with the expanded forested area and upgraded afforestation, the area of established plantations expanded steadily. The existing area of retained plantation in China now is 342.52 million ha with volume of 33.79 million cubic meter.

III. FORESTRY POLICY IN CHINA, A REVIEW AND PROSPECT

Whenever socio-economic stage is, the forest policy can certainly influence the evolution, utilization, conservation and development of forest resources. This chapter discusses the past, present and future forest management and forest policy.

1. Exploitation and Utilization, Main Policy of the Past Forest Management

About 10,000 years ago, apart from the northwest and plateau with vast grassland and sparse forests, the other part of China was covered dense forests. Human at that time depended mainly on "natural food collection" and hunting. 8,000 - 7,000 years from now the ancient farming emerged with tiny disturbance on the forest. During 2,900 - 200 B.C, known as The Bronze Age, farming, housing, palace-building, fuel requirement and wildfire caused damage of the natural forests, but not too much. From 200 BC to the early of this century, due to population expansion, tool innovation, large scale of agricultural activities, ceaselessly housing, urban expanding, wars, fires, and irrational cutting, the nature forests decreased at an accelerated rate. Even though some philosophical sparks of rational forest management and several dynasties did have some regulation and agencies for looking after the forests, the predominating policy on the forest had been cutting with little planting. The protection could only occurred in those "Forbidden forests", "Royal hunting areas" "Religious Forests" and other special protected areas. The statistics from inventory conducted in 1940s show that only 8% of the land covered with forests. That reminds us the poor situation of the resources and little proper policies for forest management during the past ages.

2. Afforestation, Conservation Rational Utilization, the Policy Prevalent During the Recent 20 Years

Since the founding of the P.R.C. in 1949, the Chinese Government has given priority to tree planting and forest conservation aiming at improvement of timber supplies and ecological rehabilitation. From 1950s to 1970s, the prevalent policy on forests emphasized silviculture and sustained yielding, and "timber" was basis of most policy-making. During 1980s the forest policy has changed to emphasize "four transformation" as:

- shifting from previous utilization of natural forests to silvicultural treatment aiming at cultivating high quality plantations;
- shifting from merely timber production to diversified management and integrated utilization in an effort to readjust the composition of the forestry industry;
- shifting from an extensive management to an intensive management based on scientific achievements;
- shifting from forest managed only by forestry sector to a multi- sector forestry by promoting initiatives of the whole society for forestry development.

Under the above strategies and policy principles, China conducts the "Mass afforestation Campaign" and several huge programs of afforestation across all parts of the country.

1). The National Compulsory Tree Planting Campaign

In December of 1981, the Congress adopted "the Resolution on Carrying out the National Compulsory Tree Planting Campaign"aiming at stipulating that

citizens are obligated to plant 3-5 trees every year, or devote equivalent amount of effort related afforestation activities. The campaign had over 20 billion tree planted and helped arouse the public awareness of the forest and environment.

2). Timber Forests Establishment

China decided in 1988 for 30 years' establishment of 20 million ha of timber plantation so as to relief the national forest from the pressure of the timber consumption needed its economic prosperity. At present, the total area of this kind of plantation called as "fast-growing and high-yielding plantation" reached over 3.5 million ha.

3). The Three North Shelterbelt

Known as "Green Great Wall,"and stretching over 551 counties of 13 provinces in Northeast/North and Northwest China, covering a total area of 4.069 million km² (42.2% of China's total land) and lasting 73 years, the program is expected to establish 35.08 million ha of plantation for protecting the farmland, pasture, improving the erosion in the loess plateau. More than 13 million ha of plantation had been established.

4). Afforestation along the Upper and Middle Reaches of Yangtze River

From 1989, the program is targeted to establish 20 million ha of forests within 30-40 years to improve the ecological environment for 18.8% population and 33% of the country land. Over 5.5 million ha of plantation were already planted.

5). The Coastal Shelterbelt

The program stretches as long as 18,000 km of coastal line and is planned to increase 3.56 million ha of plantation by the year of 2010. It has completed over 1.6 million ha of plantation.

6). Plain Farmland Shelterbelt

The plan is to build up shelterbelts to protect 918 plain counties with 15% of China's total land, 45% of its cultivated land and 50% of its population.

7). The National Program to Combat Desertification

Desert and decertified land occupies a third of China's total land, the program (1991-2000) is planned to control 6.66 million ha of decertified land.

8). The Taihang Mountains Afforestation

The objective is to reforestate 5.313 million ha with a forest cover of 43.6% in the project area for shelter Beijing, Tianjing and North-China Plain.

Over the past 20 years, forest policy also paid a great attention to the management and conservation both state-owned and collective forests. The government has conduct reforms of the ownership and managing right of the forest resources. It issued contracts to the rural residents for responsibility of land afforestation, made a series of code of forests management, conduct strict inspection on AAC implementation, built up forest police to protect the wildlife

inhabitants in forested land, required the industry adopt innovated technology and encouraged the whole society involving in forestry issues. As the return, the forestry enjoyed a positive changes especially the area coverage and volume of forest both increased greatly. It is easy to be impressed that: in recent 20 years, the forestry in China has been making a feature of "Afforestation", "Greening" and "Conservation". It also seems that the echo of "planting" has been reverberating in the whole country's sky. Forest policy has focused on the last reforestation and natural conservation. P.R.C inherited a heavily populated, economic-undeveloped, ecological-degraded land. It had to and will have to work for a rehabilitated environment.

3. Forestry Sustainability, Strategy and Policy for the Future

Although great progress has been made in recent years, China's forestry still meet some dilemma: how to revitalize the forest industries which retreated for resource protection; How to find alternate way replacing the local traditional lifestyles which relying merely on timber logging, hunting, fire-farming; How to identify the local ownership and benefit of forests under the public-owned system; How to draw the local people to join in ecological-improving efforts with little economic interests; How to build up regulations, principles, guidelines, incentives for sufficient and healthy participatory forest management; How to provide the people with easily-understandable knowledge, information about our forests and wildlife. Our foresters, professionals, educators, policy makers and legislators face a great deal of challenges to steward our forests for the future generations.

In the early of 1990s, the field of forestry in China accepted the concept of sustainable development and began to conduct key researches about the principles, strategy, criteria and indicators of sustainable forest management. The leading forestry NGOs, scientists, social activists and journalists join the efforts of spreading the idea of sustainability and trying to promote the establishment of healthy, participatory management systems. The government issued Agenda for 21st Century and Forestry Action Plan. The Congress advised the Forests Act, other legislative regulation on environment, water, wildlife conservation has been adopted to protect the natural resources. A lot of small mills for pulp and paper-making, logging, timber sawing will be closed. Cutting in natural forest areas will be limited or forbidden. The right of local people or communities will be enhanced to share the management and employment. Legislative enforcement will be the priority in future forestry development.

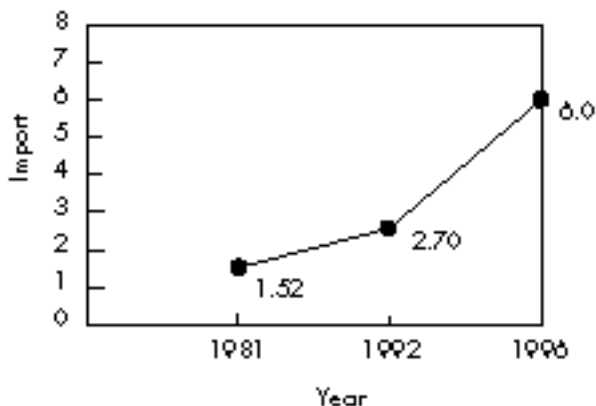
IV. TIMBER TRADING OF CHINA

As mentioned previously, China is a country with deficient forest resources. The forests managed for timber production are 88.125 million ha with stocking volume of 7.57 billion m³. But only 1.36 billion m³ can be cut for timber. The annual amount of timber consumption is 0.32 billion m³/year. That means the available timber supplies can only ensure about 5-year-demand (Hong Jusheng, 1997).

Year	2000	2010
Demand	0.26-0.28	0.30-0.32
Potential supplies	0.142	0.177
estimated deficient	0.12-0.16	0.13-0.14

The estimated demand of timber by the year of 2000 will be about 0.26 - 0.28 billion m³ and by 2010, 0.30 - 0.32 billion m³, but China's own capability can only supply with 1.42 and 1.77 respectively.

To meet its own demands, China will have to import timber and other wood products. It is estimated that by the year of 2000 the amount of wood product imported from other countries would be 0.2 billion cubic meter due to the increasing consumption and decreasing cutting from its own natural foresters.



V. LEGISLATION AND GOVERNMENT ADMINISTRATION FOR FORESTS

The legislation related to forests issues was stressed before 1980s. The governmental policies, guidelines regulated the forest management at that time. Since the reform began in the early of 1980s, China has award that laws, acts, resolutions, guidelines should be the most important way to regulate government and individual rights, roles, responsibilities, their management activities of forest resources. Up till now, a series of legislative code related to forests has been already put into act as follows.

1. Constitutional Clauses

Several clauses in the Constitution P.R.C are about forests, wildlife, historic heritage and their conservation. It says: "the state protects and improves its living and ecological environment, prevents the pollution and other natural damage", "ensures the rational use of the natural resources, conserves those valuable species, prohibits any damage of the natural resources".

2. Forests Act

Forests Act was adopted in 1981 and revised in 1998. It identifies the ownership of forest resources including the land forested, regulates the rights, responsibility, obligations, limitations of the forests administrations at all levels, industries, tree farms, tenure units, individuals who manage the forests resources. The compensation requirements, penalties on the destruction of forests and wildlife habitats also include in the Act. It is the basis and general guidelines for the whole forestry.

3. Act for Wildlife Conservation

4. Regulations for Governing the Management of Natural Resources for Forests and Wildlife

3. and 4. are the legislative basis for the conservation of wild animal and plant species including their habitats. Both of them identify the regulations for nature reserves, national parks and the local residents who live in the protected areas.

5. The Environment Act

6. Act for Ocean Environment Conservation

7. Act Grassland Conservation

8. Regulation of Reproduction and Conservation of Aquatic Resources

9. Regulation for the Conservation of Natural Medical Resources

The government agencies are responsible for the legislation enforcement, administration, inspection, and services for forest management and conservation. The governmental structure in charge of forestry is as follows.

Central government	State's Administration for Forestry
Provincial	Provincial Departments of Forestry
Regional	Regional bureau of forestry
County	County bureau of forestry
Township	Forest stations

VI. PUBLIC PARTICIPATION IN FORESTRY

As the fundamental principle of sustainable forest management, public participation is playing an increasingly important role in forestry and environment development, and is vital to meet the basic principles of sustainable development equality, limitation, harmonious cooperation and social support to natural resources management. But traditionally, the majority of Chinese people had little right and awareness of participating processes of resource management. Since the founding of P.R.C, the land is owned by the state, or the collective, i.e., public.

The governments at all levels manage all the resources including the land "on behalf of" the public. In fact, the local people didn't have much interests and power to involved in the process of decision-making of the public forest management or forestry development. That certainly caused the forest management unsustainable.

1. NGOs, and their Involvement in Forestry and Environment Development

In China, NGOs including their sections, networks and members, have been playing an increasingly important role in the national and regional strategy, policy, decision-making processes concerning forestry development. These NGOs, mainly set up for their specific missions, with 100--75,000 members and 5--80 years' histories, influence the policy-making and the initiation of those large scale of afforestation and reforestation projects. Among them, the following NGOs are the main stems of the participation in the national forestry issues.

a: Chinese Society of Forestry(CSF)

b: China Wildlife Conservation Association(CWCA)

c: Chinese Society of Water and Soil Conservation(CSWSC)

d: China's Association for Combating Desertification(CACD)

e: National Fund for Afforestation(NFA)

General speaking, the NGOs listed above have their own sections or technical committees linking with local governments and communities . They involve in the initiation, designing, planning and implementation of projects, and work for the public education and awareness enhancement as their main interest . Their technical services in forestry or natural conservation are numerous in the whole countries. Here are examples for showing the NGOs participation in the forestry or environmental improvement efforts at national level.

Example A: National Program on Soil and Water Conservation Forests along the Upper and Middle Reaches of the Yongtze River

The Yongtze River is the longest river in China with a total length of 6,300 km, the area and population in its drainage area account for 18.8% and a third respectively of China's total. Over a long period of time, the inappropriate farming , excessive and illegal cuttings caused severe destruction of the vegetation and deterioration of the ecological environment. The area of eroded land has reached 560,000 ha, and the annual volume of eroded soil reached 2.24 billion tones. Some area even becomes stony and sandy. In the early of 1980s, Chinese Society of Forestry incorporated with about 20 national NGOs in the fields of geography, agriculture, ecology, hydrology, socio-economics, history and culture and sponsored a nationwide debate "Yongtze? or the Second Yellow (River)". Thousands of professionals and public participated in the debate and influenced the establishment of the program mentioned above. CSF organized several national technical conferences, expert-tours on the various topics and issued lots of "Recommendations and Suggestions" about how to run the whole projects.

During the past 20 years, CSF participated almost all of key policy making and huge projects of the states' forestry development. It appealed to re-open the Chinese Academy of Forestry(CAF),advocated to realize its proposals for re-building and improving the ecosystems in the whole country, it set up the first network for public environmental education especially for the children and the youth. It helped the government to form the national strategy for the forestry toward the 21st century.

Example B: The Three-North Shelterbelt Development Program

Background: Three North: Northeast, North, Northwest.

Project area: 4.069 million Km² (42% of the total land)

13 provinces (Autonomous regions or municipalities)

12 stretches of deserts, sandy land and gobis /1.33 million Km²

NGOs and scientists in forestry and environment called on to initiate the project the the late of 1970s and finally approved by the Central government. CSF and CSWSC deeply involved in the whole process of its initiation, planning, management, and implementation, and several international NGOs such as WWF also provided some assistances.

NGOs participate in the national forestry and environment through:

- a. organize forum or debates to focus on the national attention to a specific issues;
- b. submit the suggestion or "letter of the appeal" to the governments or legislation;
- c. involve in the process the policy or long term strategy making
- d. Sponsor technical workshops, courses, field tour, and researches.

With their national or regional influences, NGOs participation can be more easily and effectively accepted by the governments or industries, and the public intend to join in their campaigns, discussions, activities such as individual planting, tours to discover the nature.

2. Academia, Universities and their Participation

Academia and universities (the technical schools also included in this paper) are mainly responsible for the reseach and professional education. In China, most of scientists and leading experts in forestry work in academia, institutes, technical centers, universities and colleges. Their researches link the process of decision-making and forest management through providing the information and knowledge to the society. During policy or strategy drafting, various panels or groups of scientists and specialists carry on key researches, information collection and analysis. For example, to revise the Forest Act, the legislator must invite hundreds of scientists for suggestion. All proposals or application of big forestry projects or programs must be widely discussed or consulted for several times.

some universities involve in national or regional program.

3. Urban Residents' Participation in Natural Resources Management

While enjoying the economic growth, the urban residents pay more attention than before to the air, and water pollution as well as natural resources conservation. They are keen to some expert's warning about the fragile ecological systems and intend to involve in the natural resource management. Currently, the urban youth, children and women have stronger awareness on natural conservation. Some of them, especially those educated people occasionally take part in the discussions and displays about wildlife conservation. A study made by the author of this paper showed that more than 40% of urban educated people in Beijing are interested in forest conservation and 20% of them are willing to involve in or join in the efforts of ecosystem improvement. It is very popular recently that young couples and children plant trees for their special commemoration, and some urban groups and small NGOs organize and sponsor camps, Eco-tours, tree-planting and donations for species protection. Although some urban residents have interests resources management. They haven't proper channels to participate in the process of policy-making.

4. Local Residents' Participation

The local residents and communities who rely on or relate to the forests are very important to practice sustainable forest management. Since rural reform in 1980s, the local resident has got more right to manage the forests, and in 1990s , along with the prevalence of the concept of forest sustainability, the local participation has been emphasized.

1). Local Participation in Management of State-Owned Forests

China's state-owned forests are mostly managed by state forest farms or industries. If necessary, the local labors may be part-time employed for silviculture, logging or other forest practice. In the past, local residents seldom involved in planning of forest management. Lack of local participation resulted in ineffective utilization, frequent illegal cutting, ecosystem degradation and lower and lower local interest in forest management.

In 1981, a national policy of forest responsibilities was adopted. The responsibilities, right and benefits of the local people were included in forest management of the state-owned forests. That marked the beginning of local communities' participation in state-owned forests. The policy includes:

- the demarcation of land for individual and group management;
- the description of benefit;
- responsibilities concerning forest protection;
- prohibition on forest clearcutting for farming.

The government agencies in charge of forestry signed contracts the locals for 1015 year-period and carried out inspection and issued certificate(license). The

legal backing for this policy in the "Decision on Several Issues Relating to Protection of Forests and Development of Forestry" issued by the central government. In the main and large forest areas, most of the local residents were historically the employees with their family members of the state-owned forestry industries. They involved in the management of the forestry, but most of them can not involve in the decision-making process.

2). Local Administration in the Collective Forest Area

Comparing the state-owned forest, "collective forests", which means that the ownership of the forest belongs to "collective" (similar to the local communities). In the past, collective forests run by some forest farms and the local people seldom participated in forest management. Since 1980s, some important reforms took place in the collective forest management. The local farmers have got the "real ownership" of the "collective forests" and they can sign the contracts with the local authorities for afforesting the barren land and thus own the forests planted by them. They became interested in participating in the natural resources management of their residential areas. The participatory ways of the local people in the resource management are mainly as follows.

A: Sign contracts of responsibilities for the greening, reforestation and forest management of the local areas. The types of the contracts can be issued to:

- a. an individual;
- b. a family;
- c. a group joined by several individuals or families;
- d. communities.

The contracts can generally last 15-50 years and the ownership of this planted forest can be inherited by their children. There are about a million of this kind of contracts signed, and woodlots grew up during the past 20 years. But this causes a considerable problem about the biodiversity. The local people pay their main attention to the economic trees such as pines, cypresses and fruit species but little attention to the ecosystem-improvement, even some valuable bushes were destroyed for fruit orchards.

B. Local regulations: way of local community participation in forest management and conservation

In the collective forests area, to better manage the forests, the local people (village) usually formulate some community regulations after their own meetings for some consensus or agreements which regulate the responsibilities, limitations and penalties of violation. This can ensure the forests be run properly by the local communities under the general principles of the legislation.

3). Local Partnership in Nature Reserves and National Parks

Most of China's nature reserves and national (and provincial) parks locate in

remote areas but there are still live some people inside or vicinities. The current legislative regulations require that the reserves or parks administration should consider the local people and their lifestyles. The representatives of the local people would be invited to take part in the meetings to show their own ideas or suggestions.

VII. CONCLUSIONS

A: Fragile ecological environment caused by historical reasons forces the presnet generations to rebuild healthy ecosystems through "greening" and "planting".Therefore, afforestation and conservation will definitely be China's main efforts in forestry and environment development.

B: After period of legislation, forests policies and legislation should be more systematic and operational. The legislative enforcement will be the key factors for better forest management and conservation.

C: The future policy for the state development will have to be based on the pressure from population, environmental capacity and increasing economy. More and more attention and efforts to natural resources management will be paid in its policy-making or national strategy.

D: The role of governments in resource management will be changed from direct-management to indirect-management through technique services, law enforcement and inspections. It means that local communities and private industries will get more rights, charters or contracts to manage forests.

E: The growing urban public interests in environment issues needs more easily-acceptable information, education and legal channels for the public to involve in and support to natural resources management.

F: In rural areas, the local participation is far to enough. The local attention is paid to getting more economic benefits instead of ecological health. The better local participatory management need:

- more education about the values of forests;
- economic encouragement to multi valued forest management;
- stable ownership or right so that protects the local resident interest, orenthusiasm to afforestation and conservation;
- stronger legislative enforcement on illegal cutting and other damage of natural ecosystems;
- more chances for the local residents can share equally the right of forestsplanning and management.

G: Research, discussion and experiment about the public intend public education should be emphasized. The government, scientists and forestry professionals should be more interested in understandable information providing and

technology spreading.

H: More case studies scattering several representative (social, cultural, nationalities, eco-region) should be conducted for finding or building a series of operational mechanisms or ways to ensure that all partners including local residents can equally share the right, responsibilities, ideas of natural resource management. These kinds of case studies need to be widely joint by government, legislators, professionals, managers, educators, journalists, and international cooperation and assistance are very important as well.