FOREST POLICY, LAW AND PUBLIC PARTICIPATION IN CHINA

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ABSTRACT

This paper reviews current developments in forest conservation policies and law in China. Part 1 describes the current situation of forest resources in China. Part 2 describes major economic and ecological problems caused by the large-scale loss of forests. Part 3 describes major measures China has taken to cope with its forest problems, including national policies, plans, projects and legislative frameworks. Part 4 describes the implementation of those policies and laws using concrete cases to illustrate their implementation and public participation. Part 5 provides concluding remarks.

Key words: forest, conservation, law, policy, and public participation

THE PRESENT CONDITION OF FOREST RESOURCES

1. National Forest Coverage

China is a country encompassing a very broad territory, which was once widely covered by forests. For a long time in Chinese history, forest coverage was higher than 50%,1 but by 1949, when the People’s Republic of China was founded, it had dropped to 8.9%.

Then by 1993, forest coverage increased to 13.92%2, and according 1997 data forest coverage was 133.7 million hectares.3

The amount of forest coverage in China is very low compared to the world average rate of 32%.4 Among 185 countries of the world, China ranks at 104th.5

National forest storage

The total amount of national forest storage in 1997 was 10.1 billion cubic meters6, however the distribution of forests in China is not even. Most forests are located in the eastern and south-eastern parts of China, because rainfall in those areas is greater than

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1 “China Resources” Editorial Board, China Resources, China Aerospace International Holdings Limited, 1997, p. 96.

2 id.

3 Id., p. 98.

4 Id., p. 99

5 Id.

6 Id.
other parts of the country. While these areas account for only 49% of land area, their forests account for 95% of the national total.\(^7\) The North-eastern Forest Zone and South-western Forest Zone are the two largest in China. They account for 75.4% of the national forests.\(^8\)

The per capita forest area of China is very low compared to the world average of 0.94 hectare. In China, it is only 0.11 hectare, accounting for 11.7% of the world average.\(^9\)

China’s forest storage per capita is also very low compared to the world average figure. The world average per capita forest storage is 68.25 cubic meters; while in China it’s only 8.6 cubic meters, accounting for 12.6% of the world average.\(^10\)

There is no doubt that China is a country lacking forest cover, therefore the conservation of forests is very important to the country.

**PROBLEMS IN FOREST RESOURCES**

1. **A big gap between supply and demand of timber**

Although China achieved a growth in both forest area and forest storage by the early 1990’s, there is still a big gap between the supply and demand for timber. The reason is that the increase in forest area and storage is mainly due to the growth of young forests unsuitable for logging. The existing area and storage of mature and over-mature forests is not large enough to maintain a sustainable yield of timber. They cannot even afford to meet the rather low level of timber consumption in China.\(^11\) The annual deficit of standing forest storage from 1984 to 1988 was 40 million cubic meters,\(^12\) and the deficit in national wood consumption in 1993 was 34 million cubic meters.\(^13\) Basically, two methods were applied to fill the gap. One was to log more of the existing mature and over-mature forests; the other was to import timber. Both methods are not good. The first one intensifies the timber deficit; the second not only causes a large financial burden, it also increases pressure on world forest resources.

2. **Serious ecological consequences of over logging**

The loss of forest has caused serious ecological problems.

**Soil erosion:** The Yellow River is famous for her muddy waters. The soil and sand in the water come from the upper and middle reaches of the river. In those areas, forest coverage has been gone for thousands of years. In another major river basin, the Changjiang River (Yangzte River), the soil erosion area increased from 360 thousand square kilometres in the 1950’s to 560 thousand square kilometres by the 1980s. The

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\(^7\) Id., p.99.  
\(^8\) Id.  
\(^9\) Id.  
\(^10\) Id.  
\(^11\) The per capita annual timber consumption in China is 0.15 cubic meter, while the world average is 0.4–1 cubic meter.  
\(^12\) “China Resources” Editorial Board, China Resources, China Aerospace International Holdings Limited, 1997, p. 100.  
\(^13\) Id.
loss of forest coverage in the upper and middle reaches of the river is one of the main causes of the destructive floods in the middle and lower reaches.

**Desertification** - The loss of forests has caused the expansion of the desert in northern and northwestern China. Every year, 170,000 hectares of land turn into desert. 14 Farmland and grasslands are damaged by sandstorm disasters. In the northwestern, north and northeastern areas, 13.33 million hectares of farmland and 100 million hectares of grassland suffer from sandstorm disasters each year.

**Natural disasters** - The loss of forests has caused an increase of natural disasters. In the upstream area of the Changjiang River, the frequency of droughts and floods has increased dramatically. For example, there used to be a serious drought once every three years in the 1950’s. But the frequency of drought increased to once every two years in the 1960s and eight in ten years in the 1970s. There were three flood disasters in this region in 1950s. The frequency increased to five in the 1970s, 15 and has kept increasing in the 1980s and 1990s. In the middle and lower reaches of Changjiang River, the flood of the river has become a very serious threat to the life and property of the people living along side the river. In 1998, a serious flood disaster happened in the middle and lower reaches, taking the lives of over one thousand people.

**Loss of Biological Diversity:** The loss of forests directly results in the loss of biodiversity. The Report of Research on China’s Biodiversity (1998) prepared by the National Environmental Protection Agency gives a detailed description of the situation of biodiversity and the threats facing it. According to the Program Outline of the National Ecological Environment Construction (1998) adopted by the State Council of China, 15% to 20% of China’s fauna and flora are under threat currently, while the world average percentage is 10% to 15%. 16

### MEASURES FOR SUSTAINABLE DEVELOPMENT OF FOREST RESOURCES

**1. National Policies, Plans and Projects**

In order to solve the crisis of forest resources and achieve the sustainable development of forest resources, the Government of China has made a series of policies, plans and programs on forest resources conservation. In addition, there are numerous local policies, plans and programs for implementing the national ones. The following are the major national policies, plans and projects for forest conservation.

**Ten Measures on Environment and Development (1992)** - Immediately after the UN Conference on Environment and Development in June 1992, the Chinese Government adopted the strategy of sustainable development by issuing the Ten Measures on Environment and Development in September 1992. For the first time, the government officially decided that China should change the current unsustainable mode of economic

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14 Id.
15 Id.
development and pursue the way of sustainable development. One article of the
document provides that afforestation and strengthening land and forest resources is an
imperative and long-term goal for China.

**Action Plan for Environmental Protection of China (1993)** - The plan was prepared
by the National Environmental Protection Agency and the State Planning
Commission and approved by the State Council. It specifies the targets for forest
conservation and sustainable utilisation for the period from 1991 to 2000. The plan
specifies that by the end of this century, the area of afforestation should reach 57.16
million hectares, the annual total timber growth should reach 345 million cubic meters
(it was 275 million cubic meters in the middle of 1980s), the average annual total timber
consumption should be under 300 million cubic meters, and the forest coverage rate
should reach 15-16%. 

**Agenda 21 of China (1994)** - The country adopted the Agenda 21 of China two years
after the UNCED. The Agenda points out that “China’s traditions of exploitation and
management tend to ignore …multi-functional character of forest resources, while
completely overlooking the ecological value. This has resulted in the deterioration of
forest cover that is evident by the present lack of forest cover, low production capacity,
worsening quality and the spread of pests and forest diseases.”

The Agenda sets forth a number of objectives for forest conservation. They are: to
speed up afforestation; improve forest quality; increase total forest coverage to 15-16
per cent by the end of the century; and to significantly eliminate the timber “deficit”of
the whole country by 2000; to adopt effective measures to maintain the ecological value
of forests and appraise the resource benefit; to apply advanced technologies and
professional skills for managing and utilising forest resources; to set up a national forest
monitoring system by the end of this century, which includes local networks, a data
monitoring system and geographical information system; and to establish an assets
management system for forests as soon as possible.

For achieving those objectives, areas of activity are provided by the Agenda. The
areas are: 1) forest resources management; 2) maintaining the multiple functions of
forests; 3) scientific research and educational training; 4) demonstration projects; and 5)
international cooperation.

**Priority Programme for China’s Agenda 21** - China adopted this program for
implementing Agenda 21 soon after its issuance. The program listed 9 programs and 69
major projects most needed for implementation of the Agenda, with many projects
related to forest conservation.

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17 It was changed into State Environmental Protection Administration in 1998.
18 It was changed into State Development and Planning Commission in 1997.
19 National Environmental Protection Agency of China, National Report on the Implementation
21 Id., Section E, paragraphs 14.54-56.
22 Id., Section E, paragraph 14.57-61.
23 For the Priority Programme, see http://esdac.ciesin.org/china/policy/acca21/.
For carrying out China’s Agenda 21, the Ministry of Forestry\textsuperscript{24} adopted the Forestry Action Plan for China’s Agenda 21 and the Key Points of the Program for the Comprehensive Development of Forests in Mountain Areas.

\textbf{The Ninth Five-Year Plan of National Economic and Social Development and the Outline of the Long-term Targets up to 2010 (1996) -} The Ninth Five-Year Plan adopted the strategy of sustainable development for the first time in China’s history of economic and social development planning. In the chapter on the conservation and development of land resources, the plan puts an emphasis on the protection and rational use of land, water, forests, grassland, mineral and marine resources, and improving the natural resources pricing and user-pay systems. The plan set forth the target of a forest coverage rate for the year 2000 of 15.5%.

\textbf{Program Outline of China’s Ecological Environment Construction (1998)}\textsuperscript{25} - This plan was adopted by the State Council. It classifies the land territory of China into eight regions for the purpose of ecological restoration and improvement with forest conservation as a priority in almost all the regions. The plan lays out three stages for ecological construction.\textsuperscript{26} The first stage is from 1998 to 2010. The goal for this stage is to get control of new, man-caused soil erosion and halt the trend of desertification. The plan says there should be preliminary achievements in the control and harnessing of upstream areas of the Yellow River, the Changjiang River and seriously desertified areas by the end of this period. The plan stipulates forest cover should be over 19% by the end of this period. The second stage of the plan is from 2011 to 2030. The goal for this stage is to have a remarkable nation-wide improvement in ecological conditions. The forest coverage rate shall be over 24% by the end of this period. The third period is from 2031 to 2050. The goal for this period is to basically establish a nation-wide ecological system, which can support the sustainable development of Chinese economy and society. By the end of this period, the forest coverage rate should be over 26%.

\textbf{Major national afforestation projects} - There are five national major afforestation projects currently going on in China.

- The Chinese government approved three national afforestation projects in 1988. They are: the Shelter Forest Project of Coast, the Plain Farmland Forest Shelter Project and the Project of Fast Growth, High Yielding Timber Production Base.
- The Shelter Forest Project of Coast covers 11 coastal provinces and 195 counties.\textsuperscript{27} It is planned to afforest 3.55 million hectares of coastal land.\textsuperscript{28}
- The Plain Farmland Forest Shelter Project plans to establish farmland forest shelters in 915 counties located in plain areas.\textsuperscript{29}

\textsuperscript{24} The Forestry Ministry was changed into Forestry Administration under the Ministry of Territory and Resources of P.R. China in 1998.
\textsuperscript{26} As the author understands, the term “construction” used in the document means restoration and improvement.
\textsuperscript{28} Id.
The Project of Fast Growth, High Yielding Timber Production Base plans to construct 20 million hectares of a fast growth, high yielding timber production base in 30 years so as to relieve the pressure of deficit in timber consumption.30

The Chinese Government approved two more major afforestation projects in 1989. The Shelter Forest System Project of “Three Northern Regions” covers 13 provinces in the North, Northwest and Northeast of China. It covers 4.069 million square kilometres of land, which accounts for 42.2% of land territory of China.31

It is planned to afforest 10.75 million hectares of land in the period between 1989 and 2000.32

The Shelter Forest Project of the Middle and Upper Reaches of the Changjiang River requires an increase of 6.66 million hectares of forests in the upper and middle reaches of the Yangtze River by its first stage, which ends in 2000.33

Ban of logging primitive forests - In addition to the above mentioned policies, plans and projects, the Chinese Government decided to stop logging of all primitive forests in 1998. Serious flood disasters occurred in Changjiang River, Songhua River and some other major rivers that year. One of the main causes of the floods was the loss of forests in the upper and middle reaches of those rivers, especially the Changjiang River. The main reason for the loss of forests is the long-term logging conducted by the state-owned forest industry. The Chinese government, forest industry, and the public finally learned a big lesson from the huge losses of life and property caused by the flood disasters in 1998. The State Council decided to comprehensively ban the logging of primitive forests all over China in the summer of 1998. All four large state-owned logging companies 34 declared an end to the logging of primitive forests immediately after the State Council’s declaration.35 Meanwhile, the government required and helped the reform of the Chinese forest industry. Afforestation was added to the missions of the industry as a high priority. Logging, the traditional priority, was replaced by afforestation. This change immediately put all the primitive forests into safety. The provinces in the upper and middle reaches of major rivers, such as Sichuan, Hubei, Helongjiang, Jiangxi, etc., adopted forest conservation plans after the flood of 1998. They all declared a ban on the logging of primitive forests and to closely maintain the growth of forests.

2.Legislative Framework on Forest Resources Utilization and Conservation

China established a rather large legislative framework for forest resources utilisation and conservation. This framework is described as follows:


30 Id.
31 Id.
32 Id.
33 Id.
34 The four companies are Neimenggu (Inner Mongolia) Forestry Company, Jilin Forestry Company, Longjian Forestry Company and Da Xing’anling Forestry Company.
that “[A]ll mineral resources, waters, forests, mountains, grassland, unreclaimed land, beaches, and other natural resources are owned by the state, that is, by the whole people, with the exception of the forest, mountains, grasslands and unreclaimed land and beaches that are owned by collectives in accordance with the law”, and that “[T]he state ensures the rational use of natural resources and protects rare animals and plants. Appropriation or damaging natural resources by any organisation or individual by whatever means is prohibited.”36 This provision clarified the natural resources ownership system in China and the fundamental responsibility of the state in natural resources conservation. The Constitution also provides that “[T]he state protects and improves the environment in which people live and the ecological environment. It prevents and controls pollution and other public hazards.”37 This provision stipulates the responsibility of the state in environmental protection. Those Constitutional provisions serve as the fundamental legal basis for environment and resources legislation.

Environmental Protection Law of P.R.C. (1979, 1989) - The Environmental Protection Law of the P.R.C. provides a framework for environmental law in China. It lists 14 environmental factors to be protected by law.38 The forest is one of them. The law provides the basic principles and requirements for environmental protection, such as environmental impact assessments, harmonising economic development and environmental protection, and environmental planning. Those principles and requirements apply to forest utilisation and conservation. The law provides that governments at all levels shall protect all areas with representative natural ecological systems and rare and endangered wild species including wild plants and vegetation39. The law provides the basic obligation for the exploiter of natural resources. It provides that the developers of natural resources shall take measures to protect the ecological environment when exploring for and exploiting natural resources.40 The law requires that governments prevent and control soil erosion and destruction of vegetation.41 It also requires that urban development shall protect vegetation.42 The law created the governmental institution of environmental protection. The State Environmental Protection Administration was conferred the power to supervise and coordinate all the environmental protection work of the executive branch. The Ministry of Forestry43 is conferred the power to regulate forest utilisation and conservation as a leading governmental organ.44

Forestry Law of P.R.C. (1984, 1998) - Forestry Law is the only law that comprehensively provides for forest resources utilisation and conservation with protective measures including: logging quotas; encouraging afforestation and forest conservation by providing economic support or long-term preferential loans; encouraging the comprehensive utilisation of wood, and the development and use of

36 Article 9, Constitution of P.R.C.
37 Article 26, Constitution of P.R.C.
38 Article 2, Environmental Protection Law of P.R.C.
39 Article 16, Environmental Protection Law of P.R.C.
40 Article 19, Environmental Protection Law of P.R.C.
41 Article 20, Environmental Protection Law of P.R.C.
42 Article 23, Environmental Protection Law of P.R.C.
43 Now the Ministry of Territory and Resources.
44 Article 7, Environmental Protection Law of P.R.C.
alternative materials to wood such as the forest fostering fee, taxing coal and paper production industries, and establishing a forestry fund.\textsuperscript{45}

Other requirements for forest conservation include establishing forest protection organizations by local governments and forest protection agreements by local people; designating forest protection zones and appointing forest protection personnel;\textsuperscript{46} preventing forest fires;\textsuperscript{47} forest pests control;\textsuperscript{48} prohibiting reclaiming farmland, or extracting rock, sand, soil and other substances by ways destructive to forests;\textsuperscript{49} prohibiting chopping for firewood and grazing in young forests and forests for special uses;\textsuperscript{50} nature reserves for forests;\textsuperscript{51} protecting wildlife in forests;\textsuperscript{52} and afforestation.\textsuperscript{53}

The law provides a basic principle for the logging industry: the principle of “consumption of timber must be lower than the growth of timber”.\textsuperscript{54} According to this principle, the state adopts an annual timber production plan and carries out a strict system of logging permits.

\textbf{Resolution of the National People’s Congress on All-Citizen Voluntary Tree Planting Activities (1981)} - The resolution requires that each Chinese citizen of an age between 11 and 60 (55 for female), except those who are disabled, should plant 3 to 5 trees each year or conduct the same amount of labour in fostering young trees or other afforestation tasks without payment. This resolution designated the 12\textsuperscript{th} of March as the National Tree Planting Day.

\textbf{Related national laws and regulations} - There are many statutes having provisions related to forest conservation. The State Council and ministries under it have adopted many regulations to implement national forest law. The major related statutes and regulations are as follows:

\textbf{Criminal Code (1982, 1988, 1993)} - The Criminal Code (1993) for the first time stipulates environmental crimes in China. Article 344, 345 and 346 deal with crimes involving the destruction of forests.\textsuperscript{55} According to the articles, those who violate Forestry Law and engage in illegal or wanton logging and damage to valuable trees will be punished by fixed-term imprisonment, or criminal detention. In addition, a fine will be imposed upon them. Those who, for making profit, purchase timber illegally or wantonly cut trees will be punished by fixed-term imprisonment or criminal detention or control. In addition, a fine will be imposed upon them. Those who engage in illegal

\textsuperscript{45} Article 8, Forest Law of P.R.C.
\textsuperscript{46} Article 19, Forest Law of P.R.C.
\textsuperscript{47} Article 21, Forest Law of P.R.C.
\textsuperscript{48} Article 22, Forest Law of P.R.C.
\textsuperscript{49} Article 23, Forest Law of P.R.C.
\textsuperscript{50} Id.
\textsuperscript{51} Article 24, Forest Law of P.R.C.
\textsuperscript{52} Article 25, Forest Law of P.R.C.
\textsuperscript{53} Article 28, Forest Law of P.R.C.
\textsuperscript{54} Article 29, Forest Law of P.R.C.
and wanton logging of forests or other trees inside the state’s natural protection zones are to be punished in a severe manner. If an organization commits the crimes mentioned above, it will be sentenced to a fine, while the leading person with direct responsibility and other personnel directly responsible for such violations are to be punished by fixed-term imprisonment, or criminal detention. A fine will be imposed upon those persons also.

**Agriculture Law (1993)** - Agriculture Law has some provisions related to forest conservation. The law provides that governments at all levels shall organise citizens to plant trees, prevent forest fires, prevent and control forest pests, stop illegal or wanton logging, and to increase the forest coverage rate.

**Water and Soil Conservancy Law (1991)** - The Water and Soil Conservancy Law is very closely related to forest conservation, because almost all soil erosion problems are the results of loss of forests. Therefore, forest conservation is the main way to eliminate and control the problems of soil erosion. The law stipulates many measures for forest conservation, such as afforestation, prohibiting the destruction of forests, for reclaiming farmland, reasonable logging and fostering young trees.

**Wildlife Protection Law (1988)** – The Wildlife Protection Law provides that the State protects wildlife and their habitats and prohibits illegal hunting and destruction by any organisation or individual. The law authorises the wildlife protection department of local governments to order the one whom destroys or damages the habitat of protected wildlife to stop the destructive activity and to restore the habitat. Meanwhile, a fine will be imposed upon the individual or the organisation that committed such destruction.

**Provisions on carrying out all-citizen voluntary tree planting activities (1982)** - The Provisions were promulgated by the State Council for implementing the Resolution of the National People’s Congress on All Citizens’ Voluntary Tree Planting Activities in 1981.

**Regulations on forest conservation** - For implementing national laws on forest utilisation and conservation, the State Council and ministries under it promulgated many regulations. The major ones are as follows:

**Provisions on logging and forest renewing (1987)** - Issued by the Forestry Ministry, this provision details methods of logging and forest renewal. Its purpose is to implement Forestry Law and achieve reasonable logging, in-time forest renewal, and to restore and enhance forest resources.

**Regulations on prevention of forest fire (1988)** - This regulation was promulgated by the State Council. It has detailed provisions on the prevention and control of forest fires.

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56 Article 8, Wildlife Protection Law of P.R.C.
57 Article 34, Wildlife Protection Law of P.R.C.
58 Id.
Regulations on prevention and control of forest pests (1989) - This regulation was promulgated by the State Council. It has detailed provisions on prevention and control of forest pests.

Local laws and regulations - In addition to the above-mentioned national laws and regulations, there are numerous local laws and regulations on forest conservation. Each province of China has its forest conservation laws or regulations, which are promulgated by either the local People’s Congresses or local governments.

IMPLEMENTATION OF FOREST LAW

The implementation of forest law in China is a two-sided story. On one side, in recent years, governmental enforcement of forest law has been increasingly strong and produced a strong deterrent for preventing people from violating forest law. In addition, public concerns and participation in forest conservation is increasing. On the other side, illegal or wanton logging have not been completely put under control, due to the broadness of the territory which makes governmental regulation difficult. The high profit potential in the timber market, as well as the ignorance of forest law by some local governments and people make forest law implementation difficult.

1. Forest Law Enforcement

Since the early 1980s, governments at all levels have been keeping forest law enforcement high on their agenda. There are many forest law cases reported. We can see from those cases that the governments at all levels have worked very hard to enforce the law against violators. We can see also that there are many difficulties in the implementation and enforcement of forest law. The following cases illustrate the reality of forest law implementation in China.

Example one: Campaign against illegal logging in Nincheng County, Neimenggu Autonomous Region (Inner Mongolia), 1998 - There are many mountains full of forests in the county of Nicheng, located in the border junction area of Liaoning Province, Hebei Province and the Neimenggu Autonomous Region. Because of the special geographic location, illegal logging has been an ongoing problem. The county government decided to launch a campaign against the illegal logging activities in November 1998. The county investigation team looked into the situation of reclaiming farmland by destroying forests and other activities that violated forest law in all 28 towns and 5 state-owned forests. During the three-month investigation, the county government discovered 104 cases involving forest law violation. Among those, there are 3 criminal cases. There were 125 people involved in criminal offences and punished for those offences. Four persons were sentenced to criminal detention and one person was arrested. Over 20 cubic metres of timber and 100 illegally hunted protected animals were confiscated in those cases.

59 China Green Times, 28 Jan. 1999, p. 4
Example two: Campaign against illegal logging in Haerbin City, Heilongjiang Province, 1998

Haerbin City is one of the largest cities in North-east China. The city has limited forest resources, and cases of forests destruction happened frequently. The city government launched a campaign to address illegal logging and other activities violating forest law in November 1998. From November 1998 to February 1999, the city discovered 110 cases of destroying forests and the illegal capture of protected animals. There were 180 people that received administrative or criminal punishment. In Yanshou County, the government discovered a case involving the illegal logging of 700 cubic meters of timber from state owned forests. The criminal was sentenced to 13 years of fixed-term imprisonment and a fine of 50 thousand Yuan. His RMB$9,000 of illegal gain was confiscated.

Example three: Case of illegal logging in Xiaozhai Village, Henan Province, 1998

- Xiaozhai Village is located in Shijiehe Xiang, Xixia County, Henan Province. It is a poor village. In order to help the village get rid of poverty, the Shijiehe Xiang government illegally authorised the village to log 80 cubic meters of timber for developing a special mushroom farm. The Shijiehe Xiang government did not get authorisation from the forestry department of the County. The Village Committee and the Director of Xiaozhai Village decided to distribute the logging quota to the households of the village, while they all knew that any logging quota or plan should be approved by the Forestry Department of the County Government before it was carried out. The village committee actually assigned the villagers 177.7 cubic meters of timber quota, much more than the 80 cubic meters quota. Within a few days, the whole village had logged 258.3 cubic meters of timber, which comes to 469.6 cubic meters of living standing timber storage. The state-owned forest was seriously damaged. The County prosecutor filed criminal charges against the village committee and the director of the village on 10 September, 1998. The County Court fined the village committee 5000 yuan for the crime of illegal logging. The director of the village was sentenced two years fixed-term imprisonment with two years delayed execution and a fine of 2000 yuan. The 12,300yuan of illegally gained profit of the whole village from the logging was confiscated.

2. Public Awareness and Participation in Forest Conservation

Public awareness of forest issues and public participation in forest conservation are increasing, at least in major cities of China in recent years.

A public poll conducted by the Forest Administration of the P.R.C. for 1,050 residents in five major cities in March 1999, indicated that urban residents are increasingly concerned with forest issues.

Of the people interviewed, 73.1% believed that their concerns about issues of forest conservation, afforestation and wildlife protection have increased during the 1990s.

60 China Environmental News, 21 Jan. 1999, p. 3
61 China Environmental News, 23 Jan. 1999, p. 3
62 Beijing, Shanghai, Guangzhou, Wuhan and Chengdou
Over 90% of the people believed that the destruction of forests was the major condition intensifying the disastrous consequences of the 1998 flood.64

The people who chose “clean air”, “clean river”, “green land and flowers” and “forest” as the essential things for an ideal living environment were 30%, 9.9%, 19.7% and 8.7% respectively, while the people who chose “TV”, “car”, and “high-rise building” were only 5.8%, 2.2% and 1.4% respectively.65

56% of the people believed that although there are policies for environment protection and forest conservation, they had not been effectively implemented.66

22% of the people believed that the current policy only stressed economic development and neglected environment and forest conservation.67

In general, the interviewees showed a prudent optimism for the future of forest conservation and afforestation. 45.5% of the people feel comparative optimism for the future of forest conservation.68 The people interviewed called for increasing public investment in forest conservation. 34.1% of the people believed that the fund should come from state revenue.69 31.3% believed that it is necessary to establish a forest fund.70 18.2% believed that all who benefit from forest conservation should pay for it.71

The poll also showed that public participation in forest conservation should be further encouraged. At the same time, 12.2% confessed that they had never participated in any activities for forest conservation, afforestation or the protection of wildlife.72

Public participation in forest conservation mainly took the following forms:

**All-citizen voluntary tree planting** - Citizens all over China gave an active response to the resolution of the National People’s Congress on voluntary tree planting. Since 1982, there have been 4 billion people/time participating in voluntary tree planting and have planted 20.5 billion trees.73 Hundreds of thousands of people participate in tree planting or other forest conservation activities on and around 12 March each year.

**Eco-Agriculture** - Eco-Agriculture is an important way for the rural areas of China to achieve sustainable development of agriculture. Governments at all levels are encouraging villages and farmers to pursue eco-agriculture. Forest conservation is an important part of eco-agriculture.

For example, in the Yulin region, a region facing serious threats of desertification in Shan’xi Province, in the northwest of China, the government organises and has helped people to construct eco-agriculture projects for many years. The government encouraged farmers to construct forest belts so as to stop the expansion of desert and to control soil erosion. By 1997, the forest coverage rate of the region had increased from the 1.8% in the early 1950s to 30.5%. Forested areas have grown to 1.3 million hectares. People there have built four large wind and sand prevention forest belts with a total

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64 Id.
65 Id.
66 Id.
67 Id.
68 Id.
69 Id.
70 Id.
71 Id.
72 Id.
length of 1,500 kilometres. There are 93 thousand hectares of farmland protected from the damage of wind and sand, because of the forest network they built. By afforestation, they had fastened or basically fastened 400,000 hectares of moving sands from the total moving sands of 573,300 hectares. They constructed 165 pieces of forests, with each over 666 hectares, in desert areas. There are 100,000 farmers that have returned to the green areas in the deserts. The trend of desertification has started to reverse. The moving speed of the sand hills in north have slowed down from 5-7.7 meters/per year to 1.68 meters/per year. The number of days of sandstorms has decreased from 66 days per year to 24 days per year.\textsuperscript{74}

Cooperation between nature reserves and local communities in managing nature reserves - In recent years, there are more and more state nature reserves inviting local forest industry and communities to participate in their management. Through this cooperation, the nature reserves, forest industry and local communities understand each other better and harmonise their different development objectives. For example, in Xinxiang City, Henan Province, the Authority of Wetland Reserves in the Abandoned Waterway of Yellow River invited all the leaders of villages surrounding the reserves to have a meeting to discuss how to stop the trenching of wetlands by surrounding farmers in 18 December 1998. The Authority educated the leaders about the importance of wetlands and convinced them to persuade their villagers to stop the trenching. The Authority also invited the support of city government. The city government, in turn, required the village leaders to persuade the farmers, and decided to start a local ecological environment planning process to harmonise the protection of the reserve with the development of local economy. The city government suggested developing an ecological fishery and other high profit and ecologically-sound projects for farmers.\textsuperscript{75}

Wasteland contract - The state encourages citizens, especially peasants and unemployed urban residents, to rent and develop wasteland, such as bare mountains, in a way consistent with the land use plan and the principle of sustainable development. The term of the leasing is free for 50 years. The tenants have the right to mange and use the land and the right to the income generated from the use of the land. This kind of contract provides firm protection of tenants’ rights. It is a popular legal form used in public participation of forest conservation.

Mr. Li Fumin, a villager of Xiaoqiao Village, Xining City, Qinghai Province, is the first one in Xining City to rent bare mountains from the city government. He contracted 86.6 hectares of bare mountain land with his village in 1997. He invested over 250,000 yuan to build 26.6 hectares of terra land with irrigation ditches in the mountain and planted over 2,000 trees. Now the mountain has turned green. He is continuing work on the irrigation system of the terra land. He is expecting to have an economic return in the future from the forests he planted.\textsuperscript{76}

In Shengkang Town, Gucheng County, Hubei Province, the local government encourages local people to actively participate in the Shelter Forest Project of Middle and Upper Reaches of Changjiang River. Supported by the National Shelter Forest Project, the local people constructed 6,666 hectares of forest bases. The storage of live

\textsuperscript{74} Ma Tieshan, “Ecological agriculture is a necessary choice of sustainable development of rural economy”, China Economic Times, 12 March, 1999, p.4
\textsuperscript{75} China Environmental News, 28 January, 1999.
\textsuperscript{76} China Environmental News, 2 June, 1998, p. 8.
standing timber increases by 80,000 cubic meters annually. They constructed 20 mushroom production bases and harnessed their basic farmland. They developed other non-agricultural businesses such as silica mining and labour export. By those methods, they have been able to abandon the traditional charcoal production business, which is destructive to forests.\textsuperscript{77}

**Individual afforestation contributors** - There are many individuals who have voluntarily conducted afforestation projects for many years in China.

One example is the Global 500 (1998) owner, Mr. Ma Yongshun, a retired logger. Mr. Ma retired from his logging career in 1982 when he was 59. He decided to plant 8,180 trees to make up for the 36,500 thousand trees he cut during his logging career.\textsuperscript{78} He mobilised his whole family, including the younger generations, to plant trees on the mountains, where he built an afforestation base. In the spring of 1991, he finally accomplished his goal.\textsuperscript{79}

Ms. Wang Yingxia and her father, Mr. Wang Zhenrong, two villagers of Xishanhou Village, Donghai County, Jiangxi Province, have voluntarily afforested a bare mountain for 14 years. Mr. Wang Zhenrong invested 10,000 yuan to plant 6,000 fruit trees as a contribution to his hometown. Now, the mountain has become covered by fruit trees.\textsuperscript{80}

**CONCLUSIONS**

China is a country with a low level of forest coverage and low per capita forest storage. The loss of forests has caused serious ecological and economic problems.

Facing the forest crisis, China has taken a series of measures to cope with it.

National policies, plans and projects on forest conservation were adopted and implemented over the past two decades. Forest conservation objectives were set forth for short, middle, and long terms. The logging of primitive forests was banned by the government in the recent years.

China has established a legislative framework on forest conservation consisting of Constitutional clauses, statutes and regulations, as well as local laws and regulations.

The implementation of forest conservation law is a two-sided story. On one hand, the Chinese governments at all levels are firmly implementing and enforcing forest law. The governmental takes action against illegal logging and other illegal activities under forest law and strongly protects forest resources. In addition, public participation in forest conservation is growing. But, on the other hand, illegal logging and other forest destructive activities still exist in many localities.

But the two sides of the story are not equally balanced. The positive side is overwhelming. Forest conservation has become a priority national policy. This observation is supported by the recent developments in governmental policies, plans, projects, legislation and implementation efforts. The trend of development in forest conservation is encouraging.

\textsuperscript{77} China Environmental News, 11 February, 1999, p.3
\textsuperscript{78} He had planted 28.32 thousand trees when he was a logger.
\textsuperscript{79} China Environmental Yearbook, China Environmental Science Press, 1998, p. 503.
\textsuperscript{80} China Environmental News, 8 April, 1999.
However, there are many difficulties that exist for forest conservation in China. Some of the most eminent difficulties are poverty, motivation for profit, and ignorance of the law by some local governments, village committees and villagers. They all contribute to the existence of illegal activities. To overcome these difficulties, further developments are needed in economic reform, education, public participation, forest technology, and institutional capacity-building for implementing forest law and policy.