# Environmental Protection in China (1996-2005)

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## Foreword

China is the most populous developing country in the world. Since the late 1970s, China's economy has developed rapidly and continuously. During the process, many environmental problems that have haunted developed countries in different phases of their 100-year-long industrialization have occurred in China all at the same time. The conflict between environment and development is becoming ever more prominent. Relative shortage of resources, a fragile ecological environment and insufficient environmental capacity are becoming critical problems hindering China's development.

The Chinese government attaches great importance to environmental protection. It believes that environmental protection will have a direct impact on the overall situation of China's modernization drive and its long-term development, and considers environmental protection an undertaking that will not only benefit the Chinese people of today but also their children and grandchildren. Years ago, the Chinese government established environmental protection as a basic national policy and sustainable development as an important strategy, and has adhered to the road of a new type of industrialization. While promoting economic growth, it has adopted a whole array of measures to strengthen environmental protection. Especially in recent years, the Chinese government, with the scientific outlook on development as the guiding principle of environmental protection, has adhered to focusing on preventive measures, comprehensive control and overall progress with breakthroughs at some key points, and worked hard to solve conspicuous environmental problems threatening people's health. At the same time, it has continued its efforts for institutional innovation, relied on scientific and technological advances, strengthened the legal system of environmental protection, and brought into full play the initiative of people of all walks of life. Thanks to these efforts, although the amount of resource consumption and pollutants is increasing greatly, the trend toward aggravated environmental pollution and ecological destruction is slowing down; especially, environmental pollution control in some river valleys has seen some positive results, the environmental quality of some cities and regions has improved, the amount of pollutant emission of industrial products has declined, and the people's awareness of the importance of environmental protection has enhanced.

As World Environment Day nears, in order to let people in other countries have a better understanding about the situation of environmental protection in China, we would like to give a systematic introduction to the unremitting efforts made by China in environmental protection over the past ten years.

## I. Environmental Protection Legislation and System

The Constitution of the People's Republic of China (PRC) stipulates, "The State protects and improves the environment in which people live and the ecological environment. It prevents and controls pollution and other public hazards." Since the PRC was founded in 1949, the National People's Congress (NPC) and its Standing Committee have formulated nine laws on environmental protection and 15 laws on the protection of natural resources. Since 1996, the State has formulated or revised laws on environmental protection, such as those on prevention and control of water pollution, marine environment protection, prevention and control of air pollution, prevention and control of noise pollution, prevention and control of solid waste pollution, evaluation of environmental impact, and prevention and control of radioactive pollution, as well as laws closely related to environmental protection, such as those on water, clean production, renewable energy, agriculture, grassland and animal husbandry. The State Council has formulated or revised over 50 administrative regulations, such as the Regulations on Environmental Protection Management of Construction Projects, Rules for the Implementation of the Law on the Prevention and Control of Water Pollution, Regulations on the Safety Management of Dangerous Chemicals, Regulations on the Management of Collection and Use of Waste Discharge Fees, Measures on the Management of Dangerous Waste Operation Licenses, Regulations on the Protection of Wild Plants, and Regulations on the Safety Management of Agricultural Genetically-modified Organisms. It has promulgated documents with similar power to laws and regulations, such as the Decision on Implementing the Idea of Taking the Scientific Outlook on Development and Strengthening Environmental Protection, Opinions for Quickening the Development of a Cyclical Economy, and Circular on the Recent Work of Effectively Building a Resource-efficient Society. Relevant departments of the State Council, local people's congresses and local people's governments have, within the limit of their powers, formulated and promulgated over 660 central and local rules and regulations in order to implement the national laws and administrative regulations on environmental protection.

China has established a system of environmental protection standards at both the national and local levels. National-level environmental protection standards include environmental quality standards, pollutant discharge (control) standards, and standards for environmental samples. Local environmental protection standards include environmental quality and pollutant discharge standards. By the end of 2005, the State had promulgated over 800 national environmental protection standards. The municipalities of Beijing and Shanghai, and the provinces of Shandong and Henan had promulgated over 30 local environmental protection standards.

China has constantly strengthened checks on the enforcement of environmental legislation, and improved administrative law enforcement. In recent years, the State has conducted checks on the enforcement of laws on environmental protection, and the prevention and control of air pollution, water pollution and solid waste pollution, so as to push forward pollution control in key areas. China's criminal law has special provisions on destruction of environmental resources. The State has promulgated the Interim Regulations on the Punishment of Violations of Environmental Protection Laws or Disciplines, and put in place a responsibility system of administrative law enforcement in the area of environmental protection. For three years in a row, the State has launched special environmental protection campaigns to rectify enterprises that have discharged pollutants in violation of the law and to protect people's health. It has dealt with over 75,000 environmental law violation cases, and had 16,000 enterprises closed down for having discharged pollutants in violation of the law. More than 10,000 warnings have been issued to environment polluters, obliging them to remedy the problems under government supervision. The State has also conducted special checks on the enforcement of laws regarding mining areas eco-environmental protection and maritime environmental protection, and has dealt with a number of law violations.

China has implemented an environmental management system, whereby governments at all levels are responsible for the environmental quality of the areas within their jurisdiction,

the competent administrative departments in charge of environmental protection have the power of overall supervision and management, while other relevant departments exercise such supervision and management functions according to the provisions of the law. In 1998 the Chinese government changed the name of the State Environmental Protection Bureau to the State Environmental Protection Administration (SEPA), and elevated it to the ministerial level. Thus, SEPA became an organization directly under the State Council to be responsible for exercising overall supervision and management of China's environmental protection work. The State has set up a national inter-ministry joint conference system for environmental protection and established representative offices for regional environmental supervision, in an effort to strengthen coordination and cooperation between departments and regions. The governments of all the provinces (autonomous regions and municipalities directly under the Central Government), cities and counties have set up organs responsible for addressing and coordinating environmental protection issues. There are now 3,226 environmental protection administration departments at different levels all over China, with 167,000 people engaging in environmental administration, monitoring, scientific research, publicity and education. There are 3,854 environmental supervision and environmental law enforcement organs with more than 50,000 staff members. Environmental protection organs are also found in some government departments for comprehensive affairs or resource administration departments, as well as in most large and medium-sized enterprises, responsible for their own environmental protection work. More than 300,000 people are employed by these organs.

## II. Prevention and Control of Industrial Pollution

Prevention and control of industrial pollution is the focal point of China's environmental protection endeavors. China's strategy in this regard is undergoing a major change compared with the past. It is changing from control of the end pollution to control of the origin and the whole process of pollution, from control of the concentration of the pollutants to control of both concentration and total amount of pollutants, from control of point sources to comprehensive control of river valleys or entire regions, and from simply addressing the pollution problem of an enterprise to adjusting the industrial structure, promoting clean production and developing a cyclical economy. The amount of industrial waste water, oxygen for industrial chemicals, industrial sulfur dioxide, industrial smoke and industrial dust discharged in generating one unit of GDP in China in 2004 dropped by 58 percent, 72 percent, 42 percent, 55 percent and 39 percent, respectively, from 1995. Energy consumption per 10,000 yuan-worth of GDP in 2004 declined by 45 percent from 1990, saving 700 million tons of standard coal in total. The coal consumption for generating thermal power, the comparable energy consumption for each ton of steel and the comprehensive energy consumption for cement declined by 11.2 percent, 29.6 percent and 21.9 percent, respectively.

-- Eliminating and closing down enterprises that have backward technologies, have caused serious pollution or have wasted resources. During the Ninth Five-Year Plan period (1996-2000), the State closed down 84,000 small enterprises that had caused both serious waste and pollution. In the period 2001-2004, the State, on three occasions in a run, issued directories listing the backward production capabilities, technologies and products that should be eliminated, and more than 30,000 enterprises that had wasted resources and caused serious pollution were winnowed out. Eight industries that consumed large amounts of resources and caused serious environmental pollution, i.e., those producing iron and steel, cement, electrolytic aluminum, iron alloy, calcium carbide, coking, saponin and chromic salt, were rectified, and the construction of over 1,900 projects was either stopped or postponed. In 2005, over 2,600 enterprises in the iron and steel, cement, iron alloy, coking, paper-making and textile printing and dyeing industries were closed down for having caused serious environmental pollution and violated industrial policies. Problems of big industrial polluters such as cement, power, iron and steel, paper-making and chemicals were tackled in a comprehensive way, and technological transformation

was carried out. As a result, the discharged amount of principal pollutants has kept declining, while the output of these sectors has increased year by year.

-- Developing a cyclical economy. The first step is to engage in clean production by making full use of resources at the beginning and throughout the whole production process in an enterprise, so as to minimize, reuse or render harmless the waste matter; to gradually establish a producer's responsibility system and extend it to cover the designing phase to promote ecologically-friendly product design. So far, over 5,000 enterprises in the sectors of chemicals, light industry, power-generating, coal, machinery, and building materials have passed the examination for clean production. More than 12,000 enterprises across China have received the ISO14000 Environmental Management System certification. More than 800 enterprises and over 18,000 products of diverse types and specifications have received environmental labeling certification. Their annual output value is worth 60 billion yuan. The second step is that ecological industry is being vigorously developed in industry-concentrated areas so that wastes from upstream enterprises become raw materials for enterprises downstream. This has effectively extended the production chain, minimized the amount of waste and realized zero emission. Besides, ecological industrial zones have been established and resources are being used in the most efficient way within these zones or among enterprises. At present, 17 ecological industrial parks of different kinds have been set up nationwide. The third step is to make overall plans for the development of industry and agriculture, production and consumption, city and countryside. This involves vigorously developing industries that make cyclical use of resources, so as to realize sustainable production and consumption. The State has conducted the first pilot cyclical economy program in 82 enterprises in some of the key industries, fields or industrial parks, and in concerned provinces and municipalities. A pilot scheme is being carried out in 24 cities, including Beijing and Shanghai, to establish a recycling system of renewable resources. Hainan, Jilin, Heilongjiang and six other provinces are actively engaged in building themselves into ecological provinces, and some 150 cities and counties into ecological cities and counties.

-- Taking precautions against environmental emergencies. In 2005, the Chinese government enacted the State Plan for Handling Environmental Emergencies, which set forth clear requirements on how to receive, report, handle, compute and analyze information concerning environmental emergencies, as well as how to monitor and release early-warning information. The State has formulated and improved nine plans for water environment emergencies. Among them are plans for handling water environment emergencies in sensitive water areas in key river valleys, plans for handling atmospheric environment emergencies, plans for handling dangerous chemicals (discarded chemicals) emergencies, and plans for handling nuclear and radioactive matter emergencies. In addition, it has worked out the Plan for Handling Water Environment Emergencies in Sensitive Sections of the Yellow River Valley, Plan for Handling Terrorist Attacks Involving Chemical Weapons, Plan for Handling Terrorist Attacks Involving Nuclear and Radioactive Materials, Plan for Handling Agriculture-related Environmental Pollution Emergencies, and Plan for Handling Emergencies Involving Major Harmful Agricultural Organisms or Intrusion of Foreign Organisms. In recent years, China has evaluated the potential risks of 127 key chemical and petrochemical projects located near such environmentally-sensitive areas as the shores of rivers, lakes, oceans, densely-populated regions and nature reserves, conducting comprehensive and careful examinations on nearly 50,000 leading enterprises.

-- Instituting a beginning-to-end management system over dangerous industrial waste. In 2003, the State put into practice the Plan for the Construction of Facilities for the Treatment of Dangerous Wastes and Medical Wastes. Systems such as those requiring the use of duplicate receipts and operation licenses in transferring dangerous industrial wastes have been reinforced. The amount of treated dangerous industrial wastes in 2005 was 3.39 million tons, as compared with 1.31 million tons in 1998. Thirty-one provinces,

autonomous regions and municipalities directly under the Central Government have established management centers for solid wastes.

-- Exercising strict safety management on nuclear and radioactive environments. China has five nuclear power plants (nine nuclear power generating units) and 18 nuclear reactors in operation. Two nuclear power plants (four nuclear power generating units) and one nuclear reactor are under construction. No major nuclear security problems have ever occurred in China. It has achieved the goal of "protecting the staff, the public and the environment from being exposed to larger amounts of radiation and pollution than permitted by the State." China strictly follows the Code of Conduct on the Safety and Security of Radioactive Sources issued by the International Atomic Energy Agency. It has adopted the licensing system, requiring that the import and export of all radioactive sources go through the formalities of examination and approval according to law.

## III. Pollution Control in Key Regions

In recent years, the Chinese government has focused its pollution-control efforts on what are known as the "key regions," with marked achievements to its credit. The "key regions" refer to the three rivers (Huaihe, Liaohe and Haihe), the three lakes (Taihu, Dianchi and Chaohu), the major state projects (the Three Gorges Project and the South-North Water Diversion Project), the "two control's area" (sulfur dioxide control area and acid rain control area), Beijing and the Bohai Sea.

-- Prevention and control of water pollution in key drainage areas. The drainage area of the above-mentioned three rivers and three lakes totals 810,000 sq km, traversing 14 provinces (municipalities) with a total population of 360 million. The State formulated and put into practice a plan for the prevention and control of water pollution in key drainage areas for the ninth and tenth Five-Year Plan periods (1996-2005), under which it set up a system to control the total amount of pollutants. Every enterprise that discharges pollutants is required to reduce its emission to a certain level, which contributes to the goal of reducing the total amount of pollutants. While improving its pollutant-discharge licensing management method, the State had established a number of key pollution-control projects. By the end of 2005, of the 2,130 water pollution prevention and control projects in key drainage areas in the Tenth Five-Year Plan, 1,378 were completed, accounting for 65 percent of the total. In the three-river, three-lake drainage area, 416 sewage treatment plants have been completed or are under construction, with a daily treating capacity of 20.93 million tons. Over 80 percent of the more than 5,000 heavy polluters in the drainage area have reached the standard discharge level. Water pollutants in this drainage area have been reduced greatly, and the trend toward deteriorating water environment is now basically under control. Water quality in certain parts of the rivers or lakes has been improved significantly. The State has spent 18.167 billion yuan constructing sewage- and garbage-treatment facilities in the Three Gorges Reservoir Area and its upper stream. It also has had solid wastes removed from the bed of the reservoir to ensure water safety.

-- Prevention and control of pollution in the "two control's area." In 1998, the Chinese government approved the delimiting of the acid rain control area and sulfur dioxide control area. The "two control's area" covers a total of 1.09 million sq km, involving 175 cities or districts in 27 provinces, autonomous regions and municipalities directly under the Central Government. The State readjusted the energy structure in this area by promoting the use of clean fuel and low-sulfur coal, and prohibiting residents in big and medium cities from using coal for household stoves. Compared with 1998, the proportion of cities located within the sulfur dioxide control area that achieved the standard annual sulfur dioxide density level in 2005 rose from 32.8 percent to 45.2 percent. The proportion of cities located within the acid rain control area whose sulfur dioxide density surpassed the national third grade level declined from 15.7 percent in 1998 to 4.5 percent in 2005.

-- Air pollution control in Beijing. Beijing has taken measures to control air pollution since 1998. Technologies that use clean energy or save on energy are being widely introduced. This includes the use of natural gas, electricity-powered heating, geothermal resources, and energy-saving architecture. In 2005, the amount of natural gas used in Beijing was 3.2 billion cu m, and the city's heating network provided central heating to buildings exceeding 100 million sq m in area. Management of motor vehicle emission was tightened, and environmental protection labeling was adopted for motor vehicles; those with high emission were identified with yellow labels and prohibited from using some roads. More than 300,000 old or dilapidated motor vehicles were scrapped and 2,800 public buses burning natural gas were introduced. In 2005, the national emission standard for the third phase (equivalent to the European Standard III) was adopted ahead of schedule. Standards for environmental protection on construction sites were revised and improved, and management was tightened. Supervision and inspection were strengthened for road sweeping and water spraying by machines. More than 100 enterprises in the city center that caused pollution were closed down or moved out. All shaft kiln cement production lines were closed down. Thanks to these efforts, the number of days with Grade II air quality or better in Beijing increased from 100 in 1998 to 234 in 2005. The concentration of various air pollutants all declined, and air quality improved significantly.

-- Control of pollution in the Bohai Sea. In 2001, the Chinese government approved the Action Plan to Bring Back Turquoise Water to the Bohai Sea. By the end of 2005, 166 projects aimed at controlling pollution in the Bohai Sea and protecting the environment were completed, and 70 more were under construction, with the investment totaling 17.5 billion yuan. Forty-four new urban sewage treatment plants were built, with a total daily treatment capacity of 3.553 million tons. Eighteen new urban garbage treatment plants were established, with a total daily treatment capacity of more than 7,000 tons. In addition, 89 ecologically-friendly agriculture and breeding industry projects were set up, and nine ports and oil-spill response projects built, bringing under control the trend toward environmental deterioration in the Bohai Sea for the time being.

## IV. Protection of the Urban Environment

The urbanization ratio of China grew from 29.04 percent in 1995 to 41.76 percent in 2004. To tackle environmental problems arising from rapid urbanization, the Chinese government has adopted a series of comprehensive measures to gradually improve the urban environment. As a result, the environment in some cities has been remarkably improved. Compared with 1996, in 2005 the proportion of cities with air quality reaching Grade II of the state standard increased by 31 percentage points, while that of cities with air quality lower than Grade III decreased by 39 percentage points.

Considering the capacity of the urban environment and the ability to guarantee resource preservation, many Chinese cities have laid out and implemented general urban planning and planning to fully attain required standards for urban environmental quality based on functional districts, measure the capacity of the atmospheric and water environments, determine city size and the orientation of development in a rational way, adjust the structure and distribution of urban industries, and gradually optimize the division of functional districts. Many large and medium-sized cities have carried out the strategy to phase out secondary industry and promote the tertiary sector; local governments have shut down some enterprises with serious pollution problems, moved some such enterprises out of the city center through the use of land pricing, and implemented technological transformation and concentrated control of pollution based on the principle of "keeping industry in industrial parks and concentrating on pollution control." Some cities have combined the transformation of old cities with the adjustment of city layout to change the dirtiness, disorderliness and insanitariness characteristic of old urban areas and improve the living environment of urban residents. They have made great efforts to adjust urban energy structure, and actively advocated clean energy and central heating, so as to reduce pollution caused by burning coal. Ready-mixed concrete is introduced in urban

construction, and concrete mixing is prohibited in city centers of the municipalities directly under the Central Government, the cities directly under provincial governments, some large and medium-sized cities, and tourism cities, so as to reduce dust pollution caused by construction.

Governments at all levels in China have taken the construction of urban environmental infrastructure as the focus of financial input, pushing forward the construction of facilities dealing with sewage and waste. By the end of 2004, the rate of urban sewage treatment had reached 46 percent; that of innocuous disposal of house refuse, 52 percent; and consumption of clean energy in city centers, 40 percent. In recent years, the vehicle emission standards have proceeded from Phase I to Phase II, and Phase III standards have been drawn up. Some cities have started a clean vehicle campaign, actively promoting the use of low-pollution vehicles fueled by natural gas and liquefied petroleum gas. Since July 2000, leaded gasoline has been prohibited throughout China, reducing lead emission by 1,500 tons each year.

The quantitative examination system for comprehensive urban environmental control has been introduced in over 500 Chinese cities. The system gives quantitative standards for the quality of the urban environment, pollution control and construction of urban environmental infrastructure, and thus will help to comprehensively assess the environmental protection work of city governments. Since 1997, the Central Government has started a campaign to build environmental-protection model cities as required by economic development, social progress, facilities amelioration and environmental improvement. At present, more than 100 cities (districts) are building themselves into environmental-protection model cities, among which 56 cities and five districts in municipalities directly under the Central Government have succeeded in meeting the required standards. These model cities enjoy 80 percent of the total number of days a year with air quality reaching or above Grade II, city sewage treatment rate is higher than 70 percent, the rate of innocuous disposal of house refuse higher than 80 percent and greenery coverage rate higher than 35 percent -- all above the national average. And "azure sky, blue water, green land, tranquility and harmony" have become prominent features of these model cities.

In recent years, the Chinese government has made great efforts in city afforestation, so as to landscape cities and improve the environment for human settlement. At the end of 2004, the coverage of green areas in Chinese cities was 31.66 percent, 3.51 higher than in 2000; the greening rate was 27.72 percent, a growth of 4.05 percent compared to 2000; and the per-capita public green area was 7.39 sq m, or double the 3.7 sq m of 2000. So far, the State has named 83 national-level garden cities, four garden city districts and 10 national-level garden county towns, and honored 12 cities with the "Human Settlement Environment Award."

## V. Protection of the Rural Environment

China is a large agricultural country, and rural residents account for the overwhelming majority of the population. Thus, it is an important environmentalist task to control pollution of the agricultural environment and improve the rural environment.

-- Comprehensive control of the rural environment. In recent years, the Chinese government has launched campaigns to build towns and townships with a beautiful environment and ecologically advanced villages, pushing forward comprehensive control of the rural environment. At present, 178 towns and townships have been awarded the title of "National-level Towns and Townships with a Beautiful Environment." The Chinese government is concentrating on the demonstration of comprehensive control of pollution from livestock, poultry and fish breeding, and non-point pollution in Taihu, Dianchi and Chaohu lakes, as well as in the Yangtze, Zhujiang and Yellow river deltas. Some provinces and municipalities have beefed up control of the village environment and improved village

infrastructure, and made progress in treating rural sewage and waste and controlling agricultural non-point pollution. In recent years, China has completed more than 800,000 rural drinking water projects, solving difficulties and insecurity in this regard for 67 million rural residents. The government has started the investigation of soil pollution and demonstration of pollution control throughout the country, and set up a system of testing and controlling the security of agricultural products; strengthened the environmental security control of pesticides and chemical fertilizer, popularized high-efficiency, low-toxicity and low-residue pesticides, and prohibited the use of high-toxic and high-residual pesticides in the production of vegetables, fruits, grain, tea and Chinese medicinal herbs; prevented non-point pollution brought about by irrational use of chemical fertilizer, pesticides, farm-use plastic sheeting and wastewater irrigation, so as to ensure the security of agricultural products; developed and produced new, safe, high-quality and high-efficiency feed, improving the utilization rate of feed and reducing pesticide residue of breeding industry products and discharge of harmful substances; popularized the technique of comprehensively utilizing and treating faeces of livestock and poultry, and encouraged the development of eco-agricultural projects that closely integrates breeding industry with crop farming.

-- Development of eco-agriculture and ecological demonstration zones. The Chinese government has put the development of eco-agriculture high on the agenda for promoting the overall and coordinated development of the rural economy and ecological environment. At present, there are more than 400 eco-agriculture counties in China, and more than 500 counties and cities with eco-agriculture demonstration zones. Among them, there are 102 national-level eco-agriculture counties and 233 national-level eco-agriculture demonstration zones. In recent years, the Chinese government has continuously improved the system for developing and managing organic food, and issued the Measures on the Administration of Organic Food Certification and the National Organic Food Standards; released the national standard for good agricultural practice (GAP) and the implementation rules on the GAP certification to tackle the organic food problem at its source; and started to build national organic food production bases, with 43 national-level bases having been named as such, helping the industrialization of organic food. Well over three million ha throughout the country have met the organic food certification requirements.

-- Development of dry-farming and water-saving agriculture. By 2005, the Chinese government had poured over 700 million yuan into building more than 460 dry-farming and water-saving agriculture demonstration bases in semi-arid and arid areas, making comprehensive use of agronomic, biological and engineering measures and dry-farming technologies, and making full use of natural precipitation to increase water utilization and agricultural production ability, and control soil erosion. The State has been actively popularizing protective cultivation, including stalk coverage, no-tillage sowing, deep plowing and weeding, with the focus on the two recently completed protective cultivation belts, one around Beijing and Tianjin, and the other in duststorm sources in the northwest. By the end of 2005, 100 demonstration counties had been set up.

-- Development of new-energy projects in rural areas. It is an important approach to protecting and improving the rural ecological environment to develop and popularize new types of energy in rural areas. During the Tenth Five-Year Plan period, the State spent 3.5 billion yuan to popularize an ecological model of energy with marsh gas as the pivot. By the end of 2005, there were more than 17 million households using methane, and the yearly output of methane reached 6.5 billion cu m. The government has devoted major efforts to developing a project producing methane from wastes in livestock and poultry breeding. So far, more than 2,200 such methane projects have been completed, treating more than 60 million tons of faeces. And 137,000 methane pits for purifying domestic sewage and over 500 central heating projects with gas from burning stalks have been built. In addition, 189 million households now use fuel-saving stoves, and solar water

heaters cover a total of 28.5 million sq m. Meanwhile, the government has been actively promoting the use of renewable solar, wind and geothermal energy sources.

## VI. Ecological Protection and Construction

The eco-environment in some parts of China has begun to improve after a long period of unswerving efforts.

-- Afforestation. The Chinese government has set a guideline focusing on ecological construction for the development of forestry, organized large-scale afforestation, strengthened the administration of forest resources, and initiated the compensation system for efforts made to achieve forest ecological efficiency. As a result, the total newly afforested area has reached over 6.67 million ha every year since 2002. In recent years, the total forest area and the amount of forest reserves have increased rapidly; the structures in terms of age of stand and the form of forest have become more rationalized, and the quality of forests is improving, achieving a historic turn from a downward to an upward trend. At present, the national forest acreage is 175 million ha; the forest cover, 18.21 percent; and forest reserves, 12.456 billion cu m. The State has given great attention to ecological forest construction. Since 1998, China has worked on projects to protect natural forest reserves, to reforest cultivated land, to build shelterbelts in northern, northeastern and northwestern China and in the Yangtze River basin, to control the sources of duststorms in the Beijing-Tianjin area, to build wild animal and plant reserves and other types of nature reserves, as well as fast-growing, high-yielding timber bases in some key areas. During the Tenth Five-Year Plan period, the natural forest protection project succeeded in securing eight million ha of forest for ecological benefits, enabling 93.33 million ha of forest resources to recover. The project to reforest cultivated land created 21.33 million ha of forests, among which 5.38 million ha were ecological forests transformed from cultivated farmland, 12 million ha were planted on barren hills and wasteland, and 1.33 million ha were created by closing off hillsides for afforestation. In addition, 6.67 million ha of land were covered in various ways by efforts to control the sources of duststorms in the Beijing-Tianjin area. The shelterbelt projects in northern, northeastern and northwestern China and in the Yangtze River basin as well as other key shelterbelt construction areas resulted in the reforestation of 3.41 million ha of land, and new greenery on 3.46 million ha of hillsides by closing them off for forest conservation.

-- The protection of pastures. In order to strengthen the eco-construction and planned management of grasslands, the strategic emphasis has been shifted from reaching economic goals to "giving equal importance to ecological, economic and social goals, with ecological goals receiving the priority." As a result, the vegetation coverage has effectively recovered and the eco-environment on the grasslands is improving. There is a continued increase in state investment in pasture protection and construction. From 2000 to 2005, over nine billion yuan was earmarked for this purpose from the central budget to support the projects of natural pasture vegetation recovery and construction, the building of pasture fences and forage grass seed bases, the halting of herding for vegetation recovery, and grassland eco-construction to control the duststorm sources threatening the Beijing-Tianjin area. These projects have brought about good ecological, economic and social results. By the end of 2005, the acreage of man-made grasslands had added up to 13 million ha, that of improved pasture to 14 million ha and that of fenced pasture to 33 million ha. Twenty percent of the pastures now practice grazing prohibition, grazing land recovery and designated rotation grazing.

-- Land protection, development and treatment. The Chinese government has set the protection of cultivated land as a basic national policy, and has implemented a strict policy for protecting cultivated land. The State has designated basic farmland conservation area as the key basis for grain security. Meanwhile, a land-use control system has been set up to strictly control the total amount and percentage of land used for construction to curb the unjustified appropriation of farmland. In 2004, the total farmland used for construction

purposes decreased by 37 percent from the previous year, achieving an overall balance between use and compensation of farmland. The government has also increased the intensity of land development and treatment, drawn up regulations for managing land development and treatment projects, and organized the implementation of the state-invested land development and treatment projects, so as to maintain an overall dynamic balance in farmland and to improve the eco-environment. In the Tenth Five-Year Plan period, 76,000 ha of land were reclaimed after scientific development and treatment of the land in rural and urban areas, the natural-disaster-damaged land, and the discarded land in industrial and mining areas. A number of new rural areas have emerged with neat layout and sound eco-environment, and the eco-environment of some resources-drained cities and key mining areas has been further improved or restored.

-- Water and soil conservation. The State has organized many special projects to control duststorm sources that threaten the Beijing-Tianjin area, to conserve water and soil for the sustainable use of the water resources in the capital area, to build up silt dams for water and soil conservation on the Loess Plateau, and to prevent and control comprehensively soil erosion in the black earth area in the northeast and in the limestone areas along the Southern and Northern Panjiang rivers on the upper reaches of the Zhujiang River. So far, the key areas of water and soil conservation have been expanded from the upper and middle reaches of the Yangtze and Yellow rivers to the black earth area in the northeast, the upper reaches of the Zhujiang River and the area around Beijing and Tianjin. The construction of national demonstration areas and demonstration projects has resulted in the completion of over 300 water and soil conservation projects each covering over 200 sq km, 190 eco-friendly model counties and 1,398 small demonstration drainage areas in terms of water and soil conservation. The State has also started to build the first group of 62 demonstration areas, each no less than 300 sq km, and over 50 sci-tech demonstration parks for water and soil conservation. Experimental work for water and soil conservation and ecological restoration has been conducted in 188 counties throughout the country, and overall protection has been carried out by closing off hillsides for afforestation in all key areas covered by water and soil conservation projects, putting some 126,000 sq km under such protection. Also, a project for preventing soil erosion is underway in the headwater areas of the Yangtze, Yellow and Lancang rivers. So far, 980 counties in 25 provinces (autonomous regions and municipalities directly under the Central Government) have wholly or partially closed hills or mountains to livestock grazing, which has hastened the recovery of the vegetation in areas totaling more than 600,000 sq km. During the Tenth Five-Year Plan period, China succeeded in bringing 240,200 sq km of eroded land under comprehensive control of water and soil erosion, improving 11,500 small drainage areas, creating 4.06 million ha of basic farmland, cultivating 15.33 million ha of forests for water and soil conservation, cash fruit and preserving headwaters, building up 7,000 silt dams and 3.5 million small water and soil conservation projects involving silt-blocking dams and slope water works.

-- Sand prevention and control. The Chinese government has made it a strategic principle to prevent land degradation and desertification for the improvement of the eco-environment, for the expansion of the spaces of survival and development, and for coordinated, sustainable socio-economic development. It has promulgated and implemented the Law on Sand Prevention and Control, approved the National Plan for Sand Prevention and Control (2005-2010), and issued the Decision on Further Strengthening the Work of Sand Prevention and Control. It has also organized a number of key relevant projects, achieving a net reduction in the areas suffering from land degradation and desertification. By the end of 2004, the total area of degraded land in China was 2,636,200 sq km, and that of desertified land was 1,739,700 sq km, net decreases of 37,924 sq km and 6,416 sq km, respectively, in a span of five years from 1999. Also, the degrees of land degradation and desertification had been alleviated, with a shrinkage of 245,900 sq km of the seriously and very seriously degraded land, initially curbing the overall expansion of land degradation and desertification.

-- Marine environmental protection. China has formed a basic legal system and an administrative law-enforcement system for marine environmental protection, set up a network for monitoring the marine environment, worked out and implemented marine function zoning and offshore environmental function zoning, so as to ensure the rational exploitation and protection of marine resources, prevent marine pollution and ecological destruction, and promote sustainable development of the ocean economy. The Chinese government has actively implemented a pollution prevention and control plan for the major sea-flowing rivers, and an environmental protection plan for the major sea areas. Following the Bohai Sea program, in 2005 the Chinese government started pollution control work in the sea areas around the estuaries of the Yangtze and Zhujiang rivers, carrying out environment monitoring and investigation in these areas, under overall planning with due consideration for both rivers and oceans, and both land and sea areas. The Chinese government has strictly implemented the administrative system for the examination and approval of oceanic engineering projects and of ocean dumping, intensified law-enforcement supervision over such dumping and strengthened monitoring of the marine environment. The State has approved the Emergency Plan for Red Tide Disasters and the Emergency Plan for Major Oil Spills from Oceanic Petroleum Exploration, and incorporated them into the national disaster emergency control system, thus giving initial shape to a marine disaster emergency control mechanism. The Chinese government has tightened its administration over the prevention and control of pollution from shipping, and the shipment of dangerous materials, and energetically promoted the construction of an emergency system for oil-spills from ships at sea. By the end of 2004, 120 marine nature reserves at different levels had been established in China, and a group of rare marine species placed under proper protection, in particular, important oceanic eco-systems such as coral reefs, mangrove forests and seaweed beds. By means of a series of measures taken to control the intensity of fishing, reduce the number of fishing boats, improve the moratorium system, establish marine sanctuaries, and practice zero growth rate, marine fishery resources have been protected and revived.

-- The construction of nature reserves, protected eco-areas, and places of historical interest and scenic beauty. The Chinese government deems the establishment of nature reserves as an important step to protect the eco-environment. By the end of 2005, there were 2,349 nature reserves of various kinds and levels in China, covering 1.5 million sq km and taking up about 15 percent of the country's land territory; a national nature reserves network with relatively complete types and a relatively rational layout had been initially formed, effectively protecting 85 percent of the land ecosystem types, 85 percent of wildlife species, and 65 percent of the natural plant community in China. Also, the State has started eco-area construction in the areas of river headwaters, and areas important for preserving water sources, river flood storage and buffering, sand fixing with windbreaks, and other ecologically important areas. National-level experimental eco-areas were set up in 18 typical regions, including the areas of the Dongjiang River headwaters, Dongting Lake and the Qinling Mountains. The construction of local eco-areas was also carried out in the Inner Mongolia Autonomous Region, and the provinces of Heilongjiang, Jiangxi, Hubei, Hunan, Gansu and Qinghai. So far, 677 places of historical interest and scenic beauty have been approved by the Chinese government, among which 187 are national-level ones. A group of nature reserves and national-level key places of historical interest and scenic beauty have been inscribed on the UNESCO's World Heritage List, International Man and Biosphere Reserve Network, or List of Wetlands of International Importance. They include Mount Taishan, Mount Huangshan, Mount Emei and the Leshan Giant Buddha, Mount Wuyi, Mount Lushan, Wulingyuan Scenic Area, Jiuzhaigou Valley Scenic Area, Huanglong Scenic Area, Mount Qingcheng and the Dujiangyan Dam, and the Three Parallel Rivers. There are more than 1,900 forest parks of various kinds in China, with 627 national-level ones. China has 85 national geological parks, eight of them having been included in the first group of the World Network of Geoparks: Mount Huangshan in Anhui Province, Mount Lushan in Jiangxi Province, Mount Yuntai in Henan Province, the Stone Forest in Yunnan Province, Mount Danxia in Guangdong Province, Zhangjiajie in

Hunan Province, the Five Volcanic Chain Lakes in Heilongjiang Province and Mount Songshan in Henan Province.

-- Conservation of biodiversity. China is a country rich in biodiversity. The State has formulated the China Action Plan for Biodiversity Conservation, followed by China's Biodiversity: A Country Study and the Plan for the Protection and Utilization of the Resources of Biological Species. At present, there are 250 bases for saving and breeding wildlife, over 400 centers for conserving and cultivating wild plant species or preserving wild plant genes in China, which have artificially produced stable species groups for over 200 kinds of endangered rare animals and about 1,000 types of wild plants. Meanwhile, investigation and collection of key wild plants on the verge of extinction and under state protection have been carried out, and 67 zones have been set up to protect the original habitats of wild agricultural plants. A nationwide investigation has also been carried out on species from abroad, and action has been taken to root out the most harmful and noxious of such species in 100 counties in ten provinces, enhancing the public awareness and people's capacity to guard against the intrusion of foreign species. Among the 189 types of wild plants covered in a national investigation of wild plant resources, 71 percent are up to the standard for stable survival, and 55.7 percent of the 252 kinds of wild animals covered by a national investigation have been shown to be increasing steadily. The numbers of rare and endangered wild animal species, such as the Chinese alligator and red ibis, have increased by wide margins. The number of wild giant pandas has now reached 1,596, and domesticated ones, 183. Some wildlife species have been found in wider areas, and new records, breeding grounds or winter homes of black-beaked gulls and black-faced spoonbills have been constantly discovered. Arborvitae, which was declared by the International Union for the Conservation of Nature and Natural Resources to be an extremely endangered species after having disappeared in China for over 100 years, has been found in China again.

-- Wetland protection. The Chinese government has promulgated the National Plan for Wetland Protection Action; formulated and implemented the National Program for Wetland Protection Engineering (2002-2030) and the National Implementation Program for Wetland Protection Engineering (2005-2010). So far, China has 473 wetland nature reserves, totaling 43.46 million ha. Almost 45 percent of the natural wetlands included in the country's wetland nature reserves have been protected effectively; and 30 wetlands, including the marshlands of Dongting Lake, Poyang Lake and Zhalong, have been put on the List of Wetlands of International Importance, totaling 3.46 million ha. With the stable expansion of the acreage of some key wetlands, and the recovery and improvement of their ecological functions, the trend toward rapid decrease in the overall area of wetlands has been effectively checked. The protection of urban wetland resources has drawn more attention and been strengthened; and the government has approved the establishment of ten urban wetland parks.

## VII. Economic Policy and Investment Concerning the Environment

The last decade has seen the largest increase ever in China's investment in its environmental protection. A pluralistic financing system based on government support has taken initial shape after years of efforts.

-- Increasing government input into environmental protection. During the Tenth Five-Year Plan period, 111.9 billion yuan was earmarked from the central budget for environmental protection, of which 108.3 billion yuan from the treasury bonds was used mainly to control the duststorm sources threatening the Beijing-Tianjin area, to protect natural forests, to turn cultivated farmland back into forests or pastures, to control pollution around the Yangtze River's Three Gorges Dam area and its upstream, as well as pollution on the Huaihe, Liaohe and Haihe rivers, Taihu, Dianchi and Chaohu lakes, to industrialize the reuse and recycling of sewage and garbage, and to reclaim waste water. Since 1998, the State has focused treasury bond investment on environmental infrastructure construction,

bringing along a large amount of social investment. Between 1996 and 2004, China's investment into environmental pollution control reached 952.27 billion yuan, amounting to one percent of that period's GDP. In 2006, expenditure on environmental protection has been formally itemized in the State's financial budget.

-- Improving policies concerning environment-related fee collection. The management and collection of discharge fees have been strengthened by strict separation of their collection and use, and channeling the fees exclusively into the prevention and control of environmental pollution. The collection of sulfur dioxide discharge fees has been expanded to include all related enterprises, public institutions and private businesses, and the rate of such fees per kg has been raised from 0.2 to 0.63 yuan. The treatment of urban sewage, garbage and hazardous wastes is also charged, so as to channel social capital in a variety of ways into the environmental protection infrastructure construction and operation, and to promote the marketization and industrialization of pollution control. A concession operation system has been established and implemented for the operation of urban sewage and garbage treatment. In some places, the operation of sewage treatment plants and garbage treatment establishments set up by the government has been transferred to enterprises through public bidding/tendering and contracting. In this way, the government has strengthened its role of supervision while the economic returns of the investment in environmental protection have also been augmented.

-- Formulating price and tax policies favorable to environmental protection. A mechanism to share fees for renewable energy resources has been established. The part of the price of grid electricity generated by renewable energy higher than that of the electricity generated by local desulfurized coal-burning generators, the difference between the expenses for maintaining the independent power system using renewable energy subsidized or funded by the government and the average power price of local provincial power grids, as well as the expenses involved in renewable-energy-generated electricity to be incorporated in power grids, will be resolved by collecting extra fees from electricity consumers. The tax rebate policies for exported products, including iron and steel, electrolytic aluminum and iron alloy, have been annulled or reduced in group form. Taxation policy has been formulated in favor of auto industry upgrading and auto pollution alleviation. The consumption tax will be reduced by 30 percent for auto producers if they reach the low-pollution emission standard ahead of schedule. Tax reduction or exemption are extended to enterprises engaged in reclaiming renewable resources, making comprehensive use of resources and producing equipment for environmental protection, as well as enterprises using waste water, gas and residues as the main materials of production. The policy of collecting tax on the occupation of cultivated land is observed strictly, so as to promote the rational use of land resources, strengthen land management and protect arable land. The standards of tax collected on the production of coal, crude oil, and natural gas will be raised in steps in the future in order to protect mineral resources and promote the rational development and utilization of resources.

## VIII. Environmental Impact Assessment

Environmental impact assessment (EIA) is a legal measure to curb environmental pollution and ecological destruction at the source. In 1998, the Chinese government promulgated the Regulations on Environmental Management of Construction Projects, which put forth the idea of environmental impact assessment, and required construction projects to design, construct and put into use relevant environmental protection facilities along with the progress of the project itself ("three simultaneousnesses" for short). The Law of the People's Republic of China on Environmental Impact Assessment, which came into effect in 2003, extends the EIA practice from construction projects to all development construction plans. The State has also adopted the EIA engineer professional qualification certification system to foster a contingent of professional technicians in this field.

EIA is practiced in 1.46 million construction projects nationwide, and 630,000 new projects have met the requirements of designing, constructing and putting into use relevant environmental protection facilities, with the implementation ratio being 99.3 percent and 96.4 percent, respectively, 95.7 percent of the latter has reached the set standards. Since 1996, a total of 26,998 billion yuan has gone into construction projects across the country, of which the input for environmental protection amounts to 1,230.6 billion yuan, and the amount keeps rising year by year. Thanks to the implementation of the EIA system, industrial projects are reporting "increase in output instead of pollution" or "increase in output with decrease in pollution," and some ecological projects involving major environmentally sensitive issues have avoided potential ecological damage by making changes to the site, route or plan. In 2005, 30 illegal construction projects involving a total of 117.94 billion yuan of investment were halted. In February 2006, ten construction projects, with a total of 29 billion yuan of investment, were investigated and dealt with for not simultaneously designing, constructing and putting into use relevant environmental protection facilities.

The state environmental protection authorities have listed Inner Mongolia, Xinjiang, Guangxi, Dalian and Wuhan, the railway and petrochemical industries, the planning of the Ningxia Ningdong Coal Chemical Industry Base and that of the Shanghai urban rail transportation network as the first pilots of EIA practice in the field of construction planning. The authorities have also completed the EIA work regarding the Special Plan on the Integrated Construction of the National Forestry and Paper-making Industry, conducted EIA work regarding the development and utilization planning of the Tarim River valley, the middle and lower reaches of the Lancang River, the Dadu River in Sichuan, the upper reaches of the Yalong River, and the Yuanshui River valley. When applying EIA to the Nujiang River valley hydropower development plan, comparisons were made regarding the environmental impact to be caused by the layout, scale, ways and sequence of time at different steps of the development plans, and measures were suggested to prevent and reduce the possible impact. The EIA of the stepped hydropower development plan of the Dadu River valley had taken into full consideration the coordination between environment and development, and made comprehensive arrangements for protection of the environment in the valley where resources exploitation would be carried out, by which arrangements a total of backwater distance of 39 km, 1,867 ha of arable land and two county seats were saved from being submerged, and consequently 85,000 people no longer had to be relocated. The State encourages orderly exploitation of hydropower resources, and has reset the energy development strategy and the electricity development principle from "actively developing" to "orderly developing" hydropower based on ecological protection.

## IX. Environmental Science and Technology, Industry and Public Participation

China attaches great importance to and consistently seeks to enhance the support capability of science and technology for environmental protection, actively promotes the industrialization of environmental protection, and has adopted various measures to encourage public participation in this regard.

-- Environmental protection scientific research. During the Tenth Five-Year Plan period, the State has organized and conducted the national key "water pollution control technology and treatment project," carried out research and development of such model programs as lake pollution control and ecological recovery, quality improvement of urban water environment, drinking water security safeguard and newly developed waste-water treatment project, thus providing practical technological plans and supportive technological systems for water pollution prevention and control. A batch of environmental monitoring technologies and equipment has been developed, and many applied. The research and development of such pilot programs as motor-vehicle emission purification, desulphurization of gas discharged by coal-fueled boilers, disposal of solid wastes, clean production of key sectors and other key technologies have been conducted, and a group

of high and new technologies and equipment have been developed with independent intellectual property rights. The "research on countermeasures against significant environmental issues and relevant key supportive technologies" has been listed in the State's key scientific and technological plans; research is under way regarding environmental protection strategy and technological policy, the theory of cyclical economy and ecological industrial technology, chemicals control technology, and polluted site recovery technology, and a green GDP accounting framework has roughly taken shape. The government has carried out research on comprehensive ecological system assessment, ecological functional zoning, and the recovery and reconstruction of the frail ecological zones in the western part of the country, thus shaping up a variety of treatment technology patterns and a mechanism for large-scale demonstration and popularization in those zones. The country has also completed its survey of alien invasive species, and set up a biodiversity database. It has formulated the State Environment and Health Action Plan, and conducted surveys on environment and health in key areas. It has actively conducted research on global environmental changes, and worked out the State Assessment Report on Climate Changes, which provides a scientific basis for the State to formulate policies to cope with global environmental changes and participate in the negotiation on relevant international conventions.

-- Environmental protection industry. After years of practice, China has formed an industrial system of environmental protection with a basically complete category and certain economic scale, and made considerable progress in the production of environmentally-friendly products and related services, as well as comprehensive utilization of resources and clean technology products. By the end of 2004, China had 11,623 enterprises, each with an annual sales income of more than 2 million yuan, from the environmental protection industry, employing a total of 1.595 million workers. The entire industry generated 457.21 billion yuan in revenue and 39.39 billion yuan in profits.

-- Public participation. The Chinese government has endeavored to boost public participation in environmental protection. The Environmental Impact Assessment Law requires public participation in the work, and demands appraisal meetings or hearings be held or other forms be taken for any plan or construction project that may cause an unfavorable impact on the environment to collect the opinions of the relevant authorities, experts and the public on the EIA report. In February 2006, the environmental authorities released the Provisional Measures for Public Participation in Environmental Impact Assessment, which clearly stipulates the scope, procedure and form of organization regarding public participation. Non-governmental organizations and volunteers are an important force in public participation. There are now more than 1,000 such organizations in China.

-- Publicity and education. To strengthen the publicity and education of environmental protection, the State has formulated the National Action Program for Environmental Publicity and Education (1996-2010) and the 2001-2005 National Program for Environmental Publicity and Education Work. The Fourth Five-Year Plan of Legislation Publicity, commencing in 2001, has made the publicity and education concerning laws and regulations on environmental protection a major part of the national legislation publicity and education drive, and included the publicity of those laws and regulations in the annual legislation publicity plan. Every June 5, World Environment Day, various activities are held across the country, publicizing protection of the environment. Neighborhoods, schools and families are encouraged to make themselves environmentally-friendly. So far, the drive has gathered the support of 2,348 neighborhoods and 25,000 primary and middle schools, secondary vocational schools and kindergartens, and 100 model families have been elected. Special programs tailored for young boys and girls, such as "Mother River Protection Operation," "Green Promise," "Environmental Action Every Day" and "Ecological Monitor," are launched to give them moral education in eco-environment and make them more aware of the importance of environmental protection. The Green China Forum and the China Environment Culture Festival and other similar activities are held to provide

knowledge about the environment to the public and guide their discussions and participation in building a green home.

-- Making information on the environment known to the public. By the end of 2005, all cities at the prefecture level or above had realized automatic monitoring and daily report of air quality. The quality of water is monitored in key river valleys, and monthly reports of the water quality in ten major river valleys and weekly reports of automatic monitoring results are released. Monitoring of the water quality of the eastern section of the South-North Water Diversion Project is conducted regularly. The 113 cities under special environmental protection are now making monthly reports of the quality of the source of centralized drinking water supply. A system of quarterly analysis of environmental quality has been put in place to timely release relevant information. Regular or occasional news conferences are held by governments and environmental authorities at various levels to report on environmental conditions, major policies and measures, unexpected incidents and violation of laws and regulations as a way to guarantee the public's right to information on environmental protection and promote their participation in the work.

-- Protection of the environmental rights of the public. By the end of 2005, the four municipalities directly under the Central Government, 312 prefecture-level cities, 374 county-level cities and 677 counties had opened hotlines for environmental pollution reports, covering 69.4 percent of the administrative divisions above the county level. Since 2003, the environmental authorities at various levels have received 1.148 million complaints on environmental pollution through the hotlines, 97 percent of which have been dealt with, and 80 percent of the people making such complaints in major cities are satisfied with the results. Along with the public's increasing awareness of the importance of protecting the environment and demand for a better environment, the number of complaints lodged by letter or interview about infringements on the people's environment-related rights keeps increasing. From 2001 to 2005, the environmental authorities across the country received more than 2.53 million letters, 430,000 visits by 597,000 petitioners, accepted and handled 673 proposals from NPC deputies and 521 motions from members of the CPPCC National Committee.

## X. International Cooperation in Environmental Protection

China stresses international cooperation in environmental protection, and is active in conducting relevant activities with the United Nations (UN) and other international organizations. Over the years, it has dispatched senior delegates to all the meetings of the UN Commission on Sustainable Development, and the World Summit on Sustainable Development and its successive preparatory activities. China and the United Nations Environment Programme (UNEP) have conducted fruitful cooperation in the fields of desertification prevention and control, biodiversity protection, ozone layer protection, clean production, cyclical economy, environmental education and training, flood prevention and control on the upper and middle reaches of the Yangtze River, regional sea action plan, and the global action plan for preventing land-sourced pollution and protecting the oceans. China has also established, with the United Nations Development Programme (UNDP), the World Bank, the Asian Development Bank and other international organizations, effective modes of cooperation. China has actively participated in the environmental protection and sustainable development activities under the framework of the Asia-Pacific Economic Cooperation (APEC), and attended all the APEC environment ministerial meetings. China's efforts for environmental protection have been acknowledged and praised by the international community. The UNEP, the World Bank and the Global Environment Facility granted the "UNEP Sasakawa Environment Prize," "Green Award" and "Global Environment Leadership Award" to the persons in charge of China's environment affairs, and the UNEP also awarded the title "Champion of the Earth" to the leader of the All-China Youth Federation. By the end of 2005, the UNEP had conferred the "Global 500 Award" on 22 units and six persons in China.

So far, China has acceded to more than 50 international conventions on environmental protection, and has been active in performing the obligations stipulated in these conventions, which include the United Nations Framework Convention on Climate Change and its Kyoto Protocol, the Montreal Protocol on Substances That Deplete the Ozone Layer, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Stockholm Convention on Persistent Organic Pollutants, the Convention on Biological Diversity, the Cartagena Biosafety Protocol, and the United Nations Convention on Combating Desertification.

The Chinese government has compiled the State Report of the People's Republic of China on Sustainable Development and the China Action Program for Sustainable Development in the 21st Century, and made clear the key fields and action plans of sustainable development for the early 21st century. It has approved the China State Plan on Gradually Eliminating Substances That Deplete the Ozone Layer, drawn up more than 100 policies and measures in relation to the protection of the ozone layer, built development and production bases for products that can substitute ozone-layer-depleting substances, and other environmentally-friendly products, and met the phasing-out target set in the Montreal Protocol. According to a World Bank estimate, the amount of ozone-layer-depleting substances that China has eliminated accounts for 50 percent of the total amount eliminated by all the developing countries. The Chinese government hosted in Beijing the fifth meeting of the conference of the signatory states to the Vienna Convention for the Protection of the Ozone Layer and the 11th meeting of the conference of the signatory states to the Montreal Protocol, which adopted the Beijing Declaration and Beijing Amendment, respectively.

China has consolidated and promoted its cooperation with neighboring countries and regions involved, and actively participated in the construction of a regional cooperation mechanism. Together with Japan and the Republic of Korea (ROK), it has established a mechanism for environment ministers to meet to hold regular policy exchanges and discussions of environmental issues of common concern. After the launching of the Greater Mekong Subregion (GMS) Environmental Cooperation mechanism, the first GMS environment ministers' meeting was successfully held in 2005, which spelled out the biodiversity conservation corridor program for the subregion and other cooperative projects. Environmental cooperation under the mechanisms of the Association of Southeast Asian Nations (ASEAN) and China (10+1) and ASEAN and China, Japan and the ROK (10+3) has started. At the proposal of the Chinese government, the first Environment Ministers' Meeting (EMM) of the Asia-Europe Meeting (ASEM) was convened in 2002, which released the Chairman's Statement of ASEM EMM and reached agreement about the basis, potential and principle of Asia-Europe environmental cooperation, and defined the key fields and priorities for such cooperation. In recent years, the China-Europe mechanism of ministerial dialogue on environmental policy and the meeting mechanism of China-Europe environment liaison officers have been set up, and the first China-Arab Cooperation Conference on the Environment was held earlier this year.

China has been active in bilateral cooperation in environmental protection. It has signed bilateral agreements or memorandums of understanding on such cooperation with the United States, Japan, Canada, Russia and 38 other countries, and signed bilateral agreements or memorandums of understanding on nuclear security cooperation with 11 countries. It has made considerable progress in its wide exchanges and cooperation with others regarding environment policies and regulations, pollution prevention and control, biodiversity protection, climate change, sustainable production and consumption, capacity construction, model projects, environmental technology and environmental industries. In addition, it has carried out several environmental cooperation programs with the European Union, Japan, Germany, Canada and nine other countries or international organizations with bilateral assistance gratis. China is also active in environmental cooperation and exchanges with developing countries. To support the follow-up action of the China-Africa Cooperation Forum, China has sponsored the thematic activity of China's Environmental

Protection Oriented Towards Africa. In 2005, China and the UNEP jointly hosted China-Africa Environment Cooperation Conference, and the Chinese government has organized courses of Workshop on Water Pollution and Water Resources Management for African Countries, helping African countries with environmental training.

## Conclusion

The Chinese government and the Chinese people have made great efforts to protect the environment. But the Chinese government is fully aware of the grave situation of environmental protection in China, because the country is now at a stage of accelerated industrialization and urbanization when the contradiction between economic growth and environmental protection is particularly prominent. In some regions environmental pollution and ecological deterioration are still very serious. The discharge of major pollutants has surpassed the sustaining capacity of the environment. Water, land and soil pollution is serious, and pollution caused by solid wastes, motor vehicle emission and not easily degradable organic matter is increasing. In the first 20 years of the new century, China's population will keep growing, and its total economic volume will quadruple that of 2000. As the demand on resources from economic and social development is increasing, environmental protection is facing greater pressure than ever before.

Facing the mounting pressure on resources and the environment, the Chinese government has set forth the idea of taking the scientific outlook on development as the guiding principle for overall economic and social development. It calls for China to quicken its pace of building a resources-efficient, environmentally-friendly society, and to promote the harmonious development of man and nature. The Chinese government has placed resources saving and environmental protection in an important strategic position as it works out the country's development goals. In the 11th Five-Year Program for Economic and Social Development (2006-2010), China has clearly set forth its main goals for environmental protection for the next five years: By 2010, while the national economy will maintain a relatively stable and fast growth, the environmental quality of key regions and cities will be improved, and the trend toward ecological deterioration will be brought under control. Energy consumption per unit of GDP will decline by 20 percent compared with the end of the Tenth Five-Year Plan period. The total amount of major pollutants discharged will be reduced by ten percent, and forest coverage will be raised from 18.2 percent to 20 percent.

To achieve these goals, the Chinese government will make sure that the tasks to prevent and control water and air pollution are completed. It will strengthen the environmental protection of urban and rural areas and the protection of the eco-environment and ensure the safety of the nuclear and radioactive environments. It will undertake the key tasks of building national environmental protection projects and promote environmental protection work in an all-round way. The Chinese government will mobilize all forces available to solve the pollution problems that are causing serious harm to people's health. Its overriding task in the control and prevention of environmental pollution is to ensure that people have access to safe drinking water. It will take the most stringent measures to dispel potential risks of pollution of the sources of drinking water.

To achieve this goal, the Chinese government will actively speed up "three changes": First, change from emphasizing economic growth but ignoring environmental protection to emphasizing both environmental protection and economic growth; second, change from environmental protection lagging behind economic growth to synchronizing environmental protection and economic growth; and third, change from mainly employing administrative measures in environmental protection to comprehensive use of legal, economic, technical and necessary administrative measures to solve environmental problems. Economic, social and cultural systems will be established featuring stable economic growth, minimal cost to environmental resources and high awareness of the environment. As regards spatial distribution, economic growth and the sustaining capacity of the environment will be

coordinated to form development patterns with their own characteristics. The functions of different regions will be clearly defined according to different requirements: whether it is a preferential development region, a key development region, a limited development region or a region where development is prohibited. Then different regions will work out their own development directions and goals for environmental protection. The Chinese government will make sure that the environment is effectively protected in the course of development, and that protective measures will in turn promote development. It will adhere to a policy of safe, clean and resources-efficient development so as to realize a sustainable development.

To achieve this goal, the Chinese government will stick to the principle of all-round development with breakthroughs in key areas. It will emphasize the principle of prevention first, and control pollution in a comprehensive manner. It will continue working to improve policies and legislation on environmental protection, and strictly supervise their implementation. Management of the environment will be strengthened according to law. Local governments' legal obligations for environmental quality will be reinforced. Environmental access will be tightened. Evaluation of the impact of planning and important decisions on the environment will be strengthened, so that environmental pollution and ecological destruction can be prevented right from the sources. It will make greater efforts to control pollution of key drainage areas, rivers, cities and offshore sea areas, and effectively improve the environmental quality there. Financial input will be increased by improving the system of government, enterprises and the general public investing in and financing environmental protection. It will encourage people to participate in environmental protection, and strengthen supervision by the people. China will establish an advanced environmental monitoring and early-warning system, and a sound environmental law enforcement and supervision system in an effort to enhance its early-warning capability in case of environmental emergencies, and to improve its all-round environmental supervision and management capabilities.

The importance of protecting the global environment has become the common understanding of people all over the world. China is a big, responsible developing country. Solving China's environmental problems is in keeping with China's development goals. It will contribute to the wellbeing of the 1.3 billion Chinese people, and it is also an important manifestation of the shared interest of mankind. The Chinese government and the Chinese people will join all other governments and peoples in the world in protecting the Earth -- our beautiful home.