2006

Report on the State of the Environment in China

State Environmental Protection Administration

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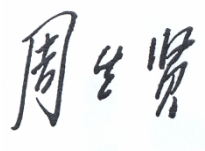
The 2006 Report on The State of The Environment is issued according to relevant provisions of the Law of the People's Republic of China.

Zhou Shengxian



Minister of State Environmental Protection Administration

June 4, 2007

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On April 1, 2006, Mr. Hu Jintao, General Secretary of CCCPC and President of the People's Republic of China took part in voluntary afforestation activities with the representatives of all walks of life in Beijing. He stressed that we should persist in doing well our work on the conservation and development of ecological environment and create good production and living environment for the public. *Photo of Xinhua News Agency*

During April 17~18, 2006, Premier Wen Jiabao made an important speech at the 6th National Congress on Environmental Protection held by the State Council in Beijing. In his speech, Premier Wen pointed out that we should put environmental protection at more important strategic position and do well environmental protection work in the spirit of highly responsible for our country, nation and future generations and promote comprehensive, coordinated and sustainable economic and social development.

Photo of China Environment News

The Central Committee of Communist Party of China (CCCPC) and State Council attach great importance to environmental protection. In a meeting of the Standing Committee of the Political Bureau of CCCPC, General Secretary Hu Jintao and the participants discussed the philosophy of environmental protection work in the new era. Mr. Hu has given important instructions several times on strengthening environmental protection work. On April 1, 2006, General Secretary Hu Jintao took part in voluntary afforestation activities with representatives of all walks of life in Beijing. On this occasion, he stressed that Party committees and governments at all levels shall, from the big picture of implementing the outlook on scientific development in an all round way, continuously do well the work on the protection and development of ecological environment, make more efforts in addressing the pre-eminent issues in this field and create a good living and production environment for the public. With long-term efforts of the entire society, we will have the beautiful environment with blue sky, green land, clean air and water and enjoy the harmony between man and nature. The State Council issued the Decision on Implementing the Outlook on Scientific Development and Strengthening Environmental Protection (hereinafter referred to as the Decision) and held the Sixth National Conference on Environmental Protection. Premier Wen Jiabao and Vice Premier Zeng Peiyan attended the meeting and made important speeches. In his speech, Premier Wen stressed that the key to doing well environmental protection work under new situations is that we should accelerate three transformations: The first “transformation” concerns the change from economy-centered development to equal attention on both environmental protection and economic development. The second is the change from delayed environmental protection after economic development to simultaneous environmental protection and economic development. The third

transformation is the change from sole administrative measures to an integrated approach of legal, economic, technical and necessary administrative measures to address environmental problems. The three transformations are guiding, strategic and historic transformations, indicating that environmental protection work in China enters a new stage where environmental protection optimizes economic growth. Our goal is to develop an environment-friendly society; our task is to facilitate the historical transformations. Our overall thinking is promoting the work in an all round way with some breakthroughs. Our main measures are focusing on implementation, practical and detailed activities at grassroot levels.

The Outline of the 11th Five-Year Plan for National Economic and Social Development approved by the 14th Meeting of the Standing Committee of the tenth NPC has identified the compulsory targets, that is, energy consumption per unit GDP will reduce by 20% and total emissions of major pollutants reduce by 10% by the year 2010. It puts energy saving and emission reduction at a pre-eminent and strategic position.

Guided by the outlook on scientific development, each department and local government have seriously carried out the plan of CCCPC on environmental protection work in the new era and made increasing efforts over the past year. As a result, 29 provinces (autonomous regions or municipalities under the State Council) have held conference on environmental protection. 26 provinces (autonomous regions or municipalities under the State Council) have issued their documents on the implementation of the Decision. Consequently, the Decision and the spirit of the Sixth National Conference on Environmental Protection are under in-depth implementation. Entrusted by the State Council, SEPA has signed emission reduction responsibility documents with each provincial level people's government and six big power corporations including

Huaneng Company to divide the emission reduction targets. With the approval of the State Council, National Meeting on the Prevention and Control of Atmospheric Pollution and National Teleconference on the Prevention and Control of Water Pollution were held with steady progress in pollution control. The installed capacity of coal-fueled power plants put into operation with desulphurization devices was 104 million kW, more than two times of the amount of previous 10 years being 46 million kW, marking a historic breakthough. The authority has earnestly carried out EIA system and the “Three synchronizations” system. It has carried out comprehensive streamlining activities on new fix-assets investment projects and phased out a range of out-of-date technologies, equipment and productivity. It continued the special environmental protection campaigns on cracking down enterprises that illegally discharge pollutants and safeguarding public health and has investigated and punished a number of environmental infringements threatening public interests. Some big environmental accidents with strong social concerns and complaints such as the Manniu River pollution accident in Jilin Province, Xinqiang River arsenic pollution accident in Yueyang City, Hunan Province and lead poisoning accident in Hui County of Gansu Province have been handled properly. Activities in such areas as ecological conservation, supervision on the safety of nuclear and radiation and international environmental cooperation have been deepened. The “Five developments” in thinking, organization, work style, capacity and system in all units in the field of environmental protection have enjoyed further progress. The capacity in guaranteeing environmental infrastructure and workforce has been strengthened. SEPA has successfully held National Conference on Environmnetal Science and Technology. Uniting all social forces and mobilizing the initiatives of each stakeholder, we have created a new situation where environmental

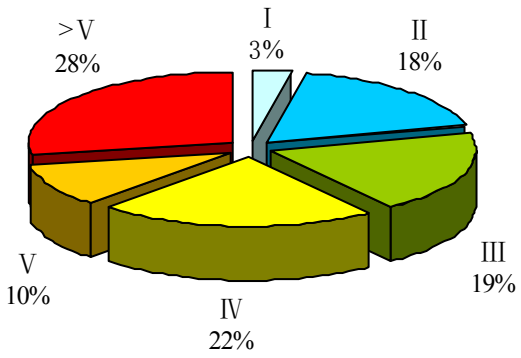
protection is facilitated by all parties.

In 2006, with 10.7% growth of GDP and 9.3% growth of total energy consumption compared with that of 2005, the overall environmental quality of China remained stable. The water quality of Pearl River and Yangtze River was good. The Songhua River, Yellow River and Huaihe River were subject to intermediate pollution. The Liaohe River and Haihe River were under heavy pollution.The overall water quality of collective drinking water sources of major cities was good. Coastal waters of the South China Sea and Yellow Sea enjoyed good water quality. While coastal waters of Bohai Sea were under slight pollution and coastal waters of East China Sea under intermediate pollution. Distant sea waters enjoyed good quality. The overall urban air quality had some improvement compared with that of 2005. Air quality of major cities maintained stable. So did acid rain regions. Acid rain areas mainly concentrated on the regions south to the Yangtze River and east to Sichuan Province and Yunnan Province. Cities across China enjoyed relatively good acoustic environment. Radiation environmental quality was good, too.

Water Environment

General Situation

In 2006, the overall quality of surface water across China was subject to intermediate pollution. Among 745 water sections under national surface water quality monitoring program (593 river sections and 152 lake or reservoir monitoring sites), 40% met Grade Ⅰ~Ⅲ national surface water quality standard, 32% met Grade Ⅳ~Ⅴ standard and 28% failed to meet Grade Ⅴ standard with main pollution indicators being permanganate index, ammonia nitrogen and petroleum. Compared with last year, the overall quality of surface water across China remained stable.



Quality of surface water in China in 2006

■ Water Quality of Seven Major Rivers

In 2006, the overall quality of the water of seven major rivers of China—The Yangtze River, Yellow River, Pearl River, Songhua River, Huaihe River, Haihe River and Liaohe River—was basically the same as in 2005.

Among the 408 monitoring sections of 197 rivers of the seven major

river basins under national monitoring program, 46% met Grade Ⅰ~Ⅲ National Surface Water Quality Standard, 28% met Grade Ⅳ~Ⅴ National Water Quality Standard and 26% failed to meet Grade Ⅴ standard. Among them, Pearl River and Yangtze River enjoyed good water quality. The Songhua River, Yellow River and Huaihe River were subject to intermediate pollution. The Liaohe River and Haihe River were under heavy pollution. Major pollutants were permanganate index, oils and ammonia nitrogen.

Water quality grade of 7 big rivers in 2006

Comparison of water quality of 7 big rivers in 2006

Water quality of the seven big river basins in 2006

Seven Rivers	Ⅰ~Ⅱ(%)	Ⅲ(%)	Ⅳ(%)	Ⅴ(%)	>Ⅴ(%)
Yangtze River	58	18	12	5	7
Yellow River	18	32	25	0	25
Pearl River	58	24	15	0	3
Songhua River	3	21	48	7	21
Huaihe River	5	21	37	7	30
Haihe River	14	8	11	10	57
Liaohe River	27	8	17	5	43
Overall	27	19	23	5	26

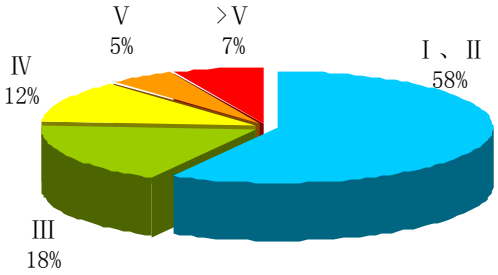
In 98 provincial trans-boundary sections under national monitoring program of the seven major rivers, the percentage of sections meeting Grade Ⅰ~Ⅲ, Grade Ⅳ, Grade Ⅴ and >Ⅴ was 43%, 31% and 26% respectively. Provincial trans-boundary sections of Haihe River and Huaihe River were under intermediate pollution.

Water quality of trans-province sections of the seven big rivers in 2006

The Yangtze River Waters The overall water quality of the YangtzeRiver was good. In 103 sections under national water quality monitoring program, the percentage meeting Grade Ⅰ~Ⅲ, Ⅳ, Ⅴ and > Ⅴ standards was 76%, 17% and 7% respectively with major pollutants being petroleum, ammonia nitrogen and BOD_5.

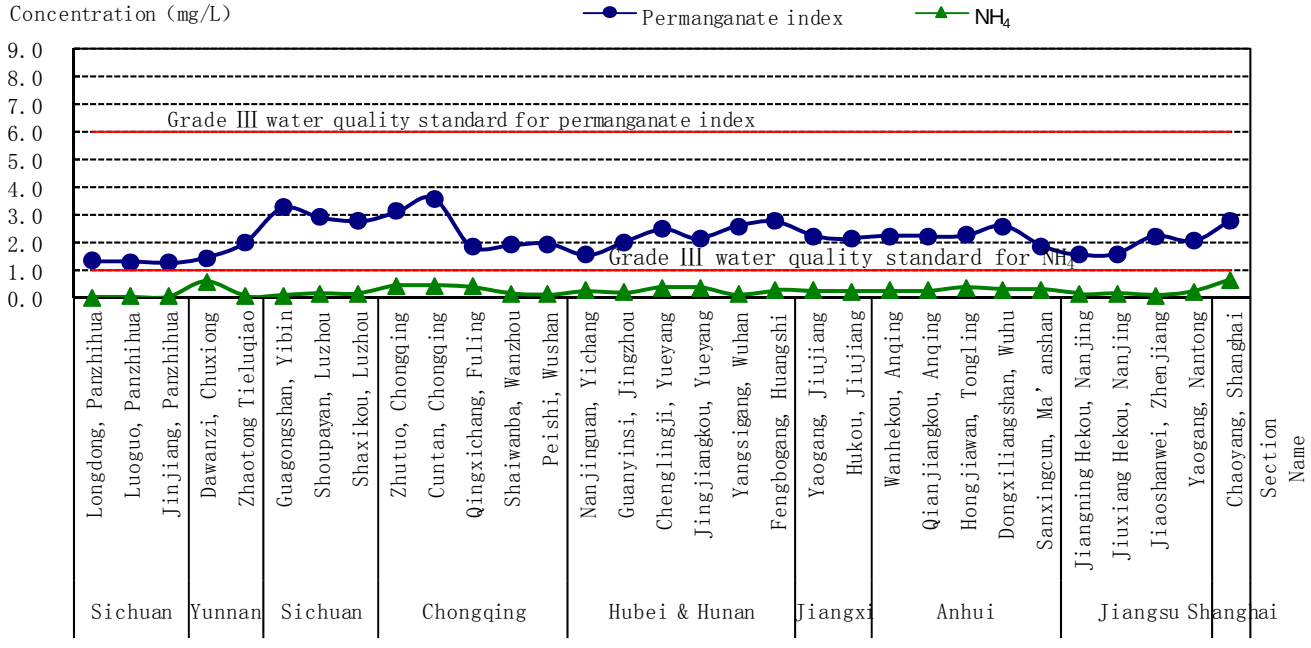
The mainstream of the Yangtze River enjoyed good water quality. The section at Zhaotong in Yunnan Province and Wuhu Section in Anhui Province were under light pollution. Other sections of the Yangtze River enjoyed excellent or good water quality. There is no obvious change in

water quality of the mainstream compared with last year.



Percentage of different grade of water quality of Yangtze

In general, the tributaries of the Yangtze River were subject to light pollution with water quality same as in last year. Yalong River, Jialing River, Wujiang River, Yuanjiang River and Hanjiang River enjoyed excellent water quality. Dadu River, Minjiang River (Meishan section of Minjiang River subject to light pollution with major pollutant of petroleum), Xiangjiang River and Ganjiang River had good water quality (Nanchang section of Ganjiang River subject to intermediate pollution with major pollutants of dissolved oxygen and ammonia nitrogen). Tuojiang River was subject to light water pollution.



Permanganate index and ammonia concentration change along the mainstream of the Yangtze River

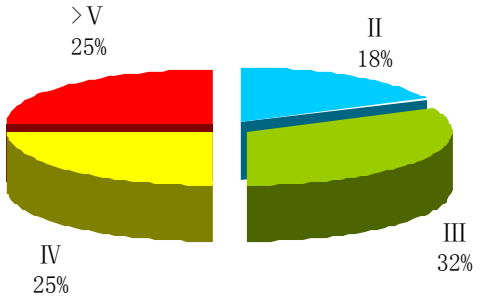
The quality of the water of the Three Gorges Reservoir areas was excellent. The water quality of all 6 monitoring sections under national monitoring program met or was superior to Grade Ⅲ quality standard. There was no obvious change of the water quality as compared with that of 2005.

The water of provincial trans-boundary sections of the Yangtze River under national water quality monitoring program enjoyed good quality, showing no obvious change as compared with that of last year. Among 20 sections under national water quality monitoring program, 85% met Grade Ⅰ～Ⅲ water quality standard, 10% met Grade Ⅳ and Ⅴ standards and 5% failed to meet Grade Ⅴ standard.

Water quality of trans-province boundary sections of the Yangtze River in 2006

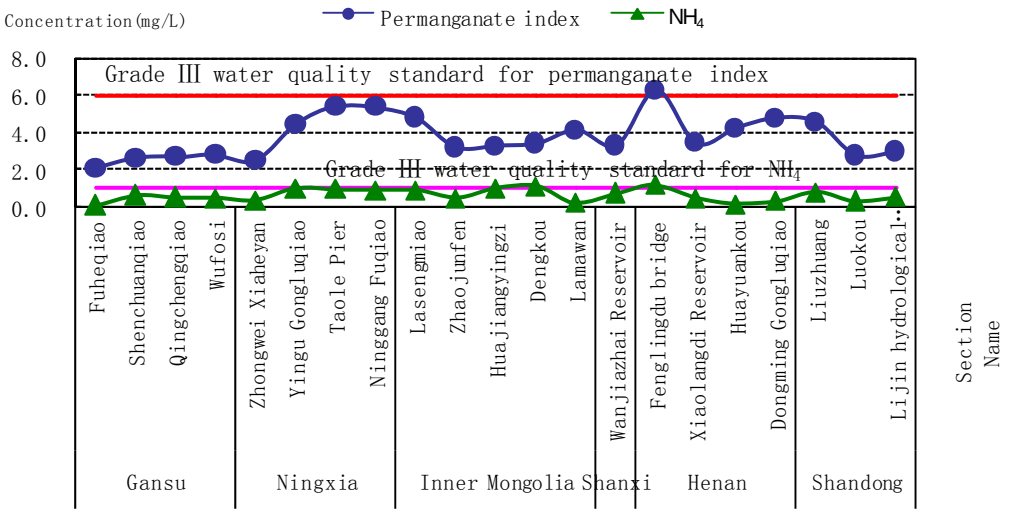
Place	River	Section	Upstream Province/ Downstream Province	Water Quality	
				2006	2005
Shuifu County	Jinsha River	Tieluqiao	Yuannan-Sichuan	Ⅳ	Ⅳ
Panzhihua	Jinsha River	Longdong	Yuannan- Sichuan	Ⅰ	Ⅱ
Yongchuan City	Yangtze River	Zhutuo	Sichuan - Chongqing	Ⅱ	Ⅱ
Wushan County	Yangtze River	Peishi	Chongqing-Hubei	Ⅰ	Ⅱ
Yueyang City	Yangtze River	Chenglingji	Hunan-Hubei	Ⅱ	Ⅱ
Jiujiang City	Yangtze River	Yaogang	Jiangxi-Hubei	Ⅱ	Ⅱ
Anqing City	Yangtze River	Wanhekou	Jiangxi-Anhui	Ⅱ	Ⅱ
Nanjing City	Yangtze River	Jiangning Hekou	Anhui-Jiangsu	Ⅰ	Ⅰ
Nantong City	Yangtze River	Yaogang	Jiangsu-Shanghai	Ⅱ	Ⅱ
Tongren Prefecture	Wujiang River	Yanhe	Guizhou-Chengdu	Ⅱ	Ⅰ
Chishui City	Chishui River	Lianyuxi	Guizhou- Sichuan	Ⅱ	Ⅱ
Longnan County	Bailong River	Chouziba	Gansu-Sichuan	Ⅰ	Ⅰ
Guangyuan City	Jialing River	Bamiaogou	Shaanxi- Sichuan	Ⅱ	Ⅱ
Hechuan City	Jialing River	Lize	Sichuan -Chengdu	Ⅱ	Ⅱ
Yuechi County	Qujiang River	Sailongxiang	Sichuan - Chengdu	Ⅱ	Ⅱ
Suining City	Fujiang River	Laochi	Sichuan - Chengdu	Ⅱ	Ⅳ
Nanyang City	Baihe River	Xindianpu	Henan-Hubei	Ⅳ	Ⅴ
Nanyang City	Tanghe River	Meiwan	Henan-Hubei	Ⅲ	Ⅲ
Shiyan City	Hanjiang River	Yangwei	Shaanxi -Hubei	Ⅱ	Ⅱ
Chuzhou City	Chuhe River	Chahe	Anhui-Jiangsu	＞Ⅴ	＞ Ⅴ

The Yellow River Waters The Yellow River waters were under intermediate water pollution. In 44 surface water sections under national monitoring program, the percentage meeting Grade Ⅱ ~Ⅲ, Grade Ⅳ~Ⅴ and failing to meet Grade Ⅴ standards was 50%, 25% and 25% respectively with major pollution indicators being petroleum, ammonia nitrogen and BOD_5.



Water quality of the Yellow River basin in 2006

The mainstream of the Yellow River was under light pollution with water quality same as in last year. The section in Ningxia, Baotou section in Inner Mongolia, Sanmenxia section in Henan and Heze section in Shandong of the mainstream of the yellow River were subject to light pollution. While other sections enjoyed good or excellent quality.



Permanganate index and ammonia concentration change along the mainstream of the Yellow River

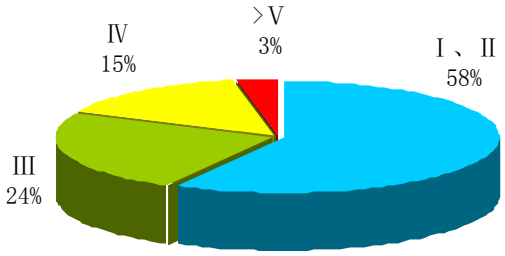
In general, most tributaries of the Yellow River were under heavy pollution, same as in last year. But there were a few exceptions. Yihe River and Luohe River enjoyed excellent or good quality. Bahe River, Dahei River, Qinhe River and Yiluo River were under light pollution. Weihe River (the section in Shaanxi subject severe pollution), Huangshui River, Beiluo River, Fenhe River and Sushui River were all under heavy pollution.

The trans-province boundary sections of the Yellow River under national water quality monitoring program were under intermediate pollution. Among 11 trans-province boundary sections, 46% met Grade Ⅱ～Ⅲ water quality standards, 18% met Grade Ⅳ standard and 36% failed to meet Grade Ⅴ standard.

Water quality of trans-province sections of the Yellow River waters in 2006

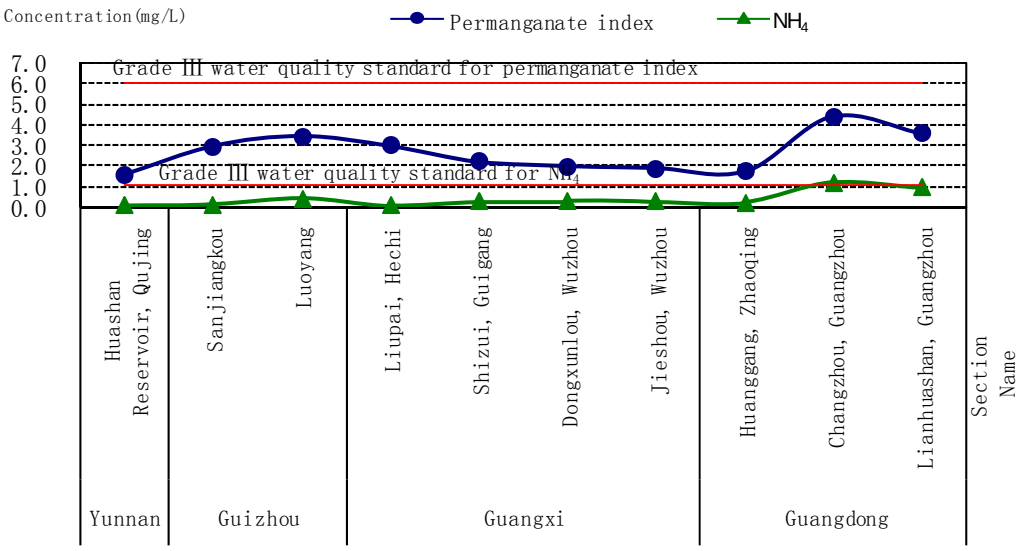
Place	River	Section	Upstream Province/ Downstream Province	Water quality	
				2006	2005
Wuhai	Yellow River	Lasengmiao	Ningxia-Inner Mongolia	Ⅲ	＞Ⅴ
Weinan	Weihe River	Tongguan bridge	Shaanxi-Henan, Shanxi	＞Ⅴ	＞Ⅴ
Yuncheng	Fenhe River	Hejin bridge	Shanxi-Shaanxi, Shanxi	＞Ⅴ	＞Ⅴ
Yuncheng	Sushui River	Zhangliuzhuang	Shanxi-Shaanxi, Shanxi	＞Ⅴ	＞Ⅴ
Minhe	Huangshui River	Minheqiao	Qinghai-Gansu	＞Ⅴ	Ⅴ
Zhongwei	Yellow River	Xiaheyan	Gansu-Ningxia	Ⅱ	Ⅳ
Huhehot	Yellow River	Lamawan	Inner Mongolia-Shanxi	Ⅲ	Ⅳ
Sanmenxia	Yellow River	Fenglingdu bridge	Shaanxi-Shanxi, Henan	Ⅳ	Ⅳ
Heze	Yellow River	Liuzhuang	Henan-Shandong	Ⅳ	Ⅳ
Jiyuan	Qinhe River	Wulongkou	Shanxi-Henan	Ⅱ	Ⅳ
Tianshui	Weihe River	Putaoyuan	Gansu-Shaanxi	Ⅲ	Ⅲ

Zhujiang River Waters The overall quality of Zhujiang River waters was good. In all 33 surface water sections under national monitoring program, the percentage meeting Grade Ⅰ～Ⅲ, Grade Ⅳ and Grade Ⅴ and beyond was 82%, 15% and 3% respectively. Major pollution indicators were petroleum and ammonia nitrogen.



Water quality of Zhujiang River waters in 2006

The overall quality of the mainstream of Pearl River was good, basically same as in last year. Changzhou section and Lianhuashan section in Guangdong Province was subject to light pollution. While other sections enjoyed good or excellent quality.



Permanganate index and ammonia concentration change along the mainstream of the Pearl River

The overall water quality of the tributaries of Pearl River was good with no obvious change as compared with that of 2005. Dabang River, Liujiang River, Zuojiang River, Lijiang River and Guijiang River enjoyed excellent water quality. Beipan River, Duliu River, Hujiang River, Yongjiang River, Longjiang River, Youjiang River and Hejiang River had good water quality. But Shenzhen River was subject to heavy pollution.

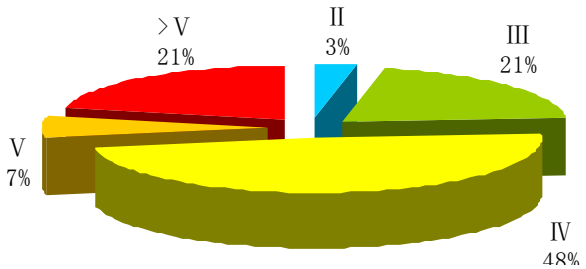
In general, water quality of all trans-province sections of Pearl River was good. All 7 such sections under national water quality monitoring program met or superior to Grade Ⅲ water quality standard.

Water quality of trans-province sections of Pearl River waters in 2006

Place	River	Section	Upstream/ Downstream	Water quality	
				2006	2005
Southwest of Guizhou	Nanpan River	Sanjiangkou	Yunnan-Guizhou	Ⅲ	Ⅲ
Hechi	Hongshui River	Liupai	Guizhou-Guangxi	Ⅲ	Ⅲ
Hechi	Longjiang River	Liujia	Guizhou-Guangxi	Ⅲ	Ⅲ
Hezhou	Hejiang River	Fulong Wharf	Guangxi-Guangdong	Ⅲ	Ⅲ
South Guizhou	Hongshui River	Luoyang	Guizhou-Guangxi	Ⅱ	Ⅱ
Wuzhou	Xijiang River	Jieshou	Guangxi-Guangdong	Ⅱ	Ⅱ
Southeast of Guizhou	Duliu River	Congjiang Bridge	Guizhou-Guangxi	Ⅲ	Ⅱ

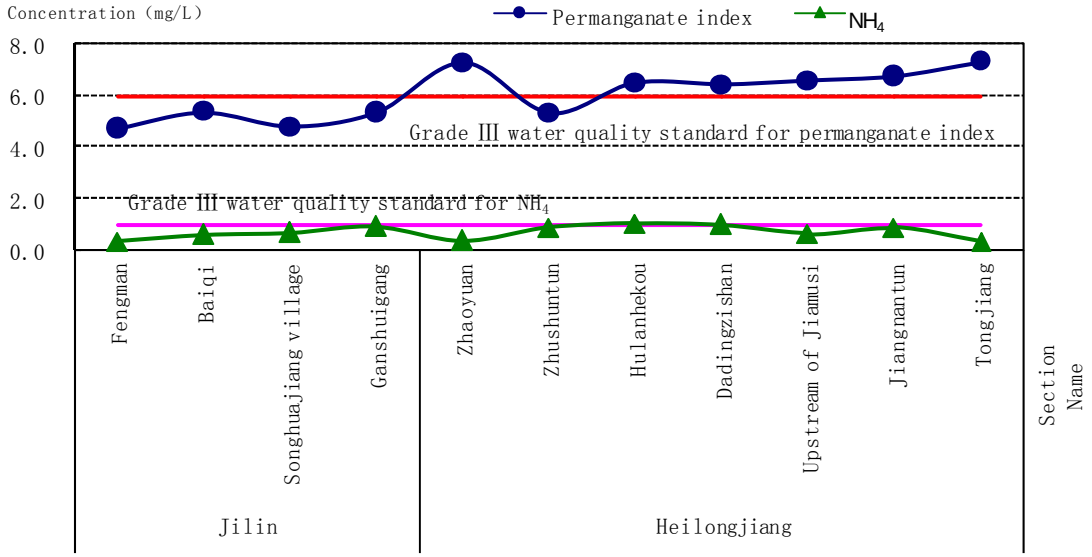
Rivers in Hainan Province There are two rivers in Hainan Province that flow into the sea. One is Wanquan River with excellent water quality. Another is Haidianxi subject to light pollution with main pollution indicators of petroleum. There is no obvious change in water quality as compared with that of 2005.

Songhua River Waters Songhua River waters were underintermediate pollution. Among 42 water sections under national water quality monitoring program, the percentage met Grade Ⅱ~Ⅲ, Grade Ⅳ Grade Ⅴ and beyongd was 24%, 55% and 21% respectively with major pollutants being permanganates, petroleum and ammonia nitrogen.



Water quality of the Songhua River waters in 2006

The mainstream of the Songhua River is subject to light pollution with water quality same as in last year. The section at Jilin City and Songyuan section in Jilin Province and upstream section to Harbin in Heilongjiang Province enjoyed good water quality. Other sections were under light pollution.



Permanganate index and ammonia concentration change along the mainstream of the Songhua River

Water quality of trans-province sections of the Songhua River waters in 2006

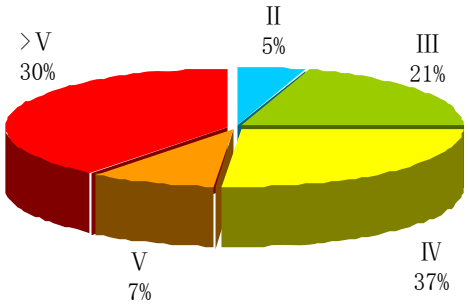
Area name	River	Section name	Upstream Province/ Downstream Province	Water quality	
				2006	2005
Zhaoyuan	Songhua River	Zhaoyuan	Jilin-Heilongjiang	Ⅳ	Ⅳ
Zhaoyuan	Nenjiang River	Nenjiang Hekou	Jilin-Heilongjiang	Ⅳ	Ⅳ
Hulun Buir	Yalu River	Genghis Khan	Inner Mongolia - Heilongjiang	Ⅳ	Ⅳ
Hinggan League	Taoer River	Silihen	Inner Mongolia- Heilongjiang	Ⅳ	Ⅳ
Songyuan	Songhua River	Ganshuigang	Jilin-Heilongjiang	Ⅲ	Ⅲ
Baicheng	Nenjiang River	Baishatan	Jilin-Heilongjiang	Ⅳ	Ⅱ

In general, the tributaries of the Songhua River were under heavy pollution. Water quality of most tributaries became worse as compared with that of 2005. Nenjiang River, Yalu River and Taohe River were under light pollution. Mudan River was under intermediate pollution.

While Ashi River, Hulan River, Yinma River and Yitong River were under heavy pollution.

The trans-province sections of the Songhua River under national water quality monitoring program were under light pollution.

Huaihe River Waters Huaihe River waters were under intermediate pollution. In all 86 water sections under national water quality monitoring program, the percentage meeting Grade Ⅱ~Ⅲ, Grade Ⅳ~Ⅴ and failing to meet Grade Ⅴ standards was 26%, 44% and 30% respectively. Major pollution indicators were petroleum, permanganate index and BOD_5.



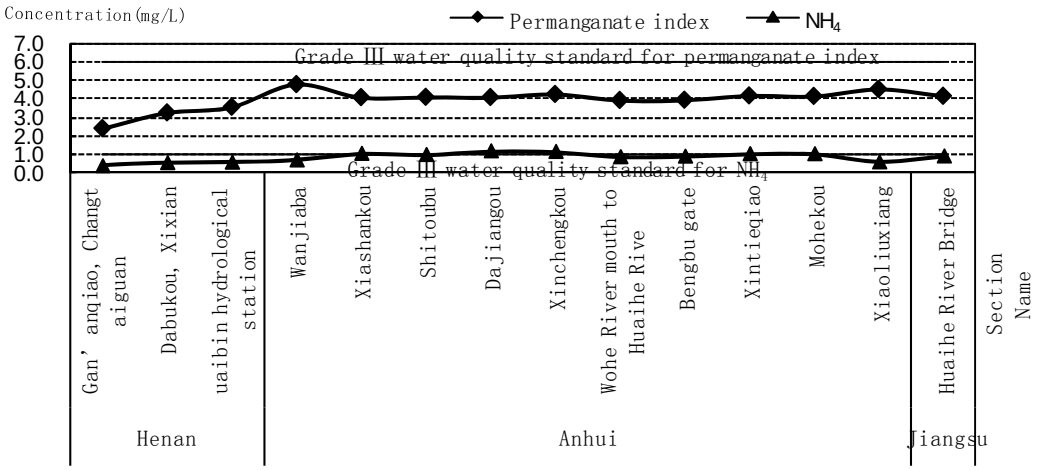
Water quality of the Huaihe River waters in 2006

In general, the mainstream of the Huaihe River was under light pollution. Its water quality was improved compared with that of 2005. The section in Anhui Province was subject to light pollution. Other sections enjoyed good or excellent quality.

The overall water quality of all tributaries of the Huaihe River was under intermediate pollution with some improvement compared with that of 2005. In main primary tributaries, Shiguan River had excellent quality and Xifei River good quality. Honghe River, Tuohe River, Shihe River, Huanghe River and Kuaihe River were under light pollution. But Wohe River and Yinghe River were subject to heavy pollution.

In general, rivers in Shandong Province were under intermediate pollution with no obvious change in water quality as compared with that

of 2005. The Yihe River and Benghe River River had good water quality. Shagou River, Wuhe River, Dongpicang flood diversion channel, Shuhe River, Xinshu River, Zhangtuan River, Great Canal, Dongyu River and Xizhi River were under light pollution. Baima River had intermediate pollution. But Chengguo River, Sihe River, Guangfu River and Zhuzhaoxin River were under heavy pollution.



Permanganate index and ammonia concentration change along the mainstream of the Huaihe River

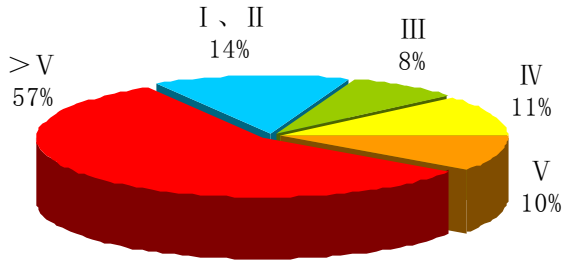
In general, all trans-province sections of the Huaihe River under national water quality monitoring program were under intermediate pollution with no evident change of water quality as compared with that of 2005. In all 32 trans-province sections, 16% met Grade Ⅲ water quality standard, 53% met Grade Ⅳ~Ⅴ standard and 31% failed to meet Grade Ⅴ standard.

Water quality of trans-province sections of the Huaihe River waters in 2006

Place	River	Section	Upstream/ Dowstream	Water quality	
				2006	2005
Shangqiu	Baohe River	Maqiao	Henan-Anhui	>Ⅴ	>Ⅴ
Fuyang	Yinghe River	Jieshou	Henan-Anhui	>Ⅴ	>Ⅴ

Place	River	Section	Upstream/ Dowstream	Water quality	
				2006	2005
Fuyang	Heici River	Niqiu	Henan-Anhui	>Ⅴ	>Ⅴ
Fuyang	Quanhe River	Downstream of Linquan section	Henan-Anhui	>Ⅴ	>Ⅴ
Bozhou	Huiji River	Liuzhaicun	Henan-Anhui	>Ⅴ	>Ⅴ
Bozhou	Wohe River	Bozhou	Henan-Anhui	>Ⅴ	>Ⅴ
Suzhou	Kuihe River	Yangzhuang	Jiangsu-Anhui	>Ⅴ	>Ⅴ
Suzhou	Suihe River	Baliqiao of Si County	Anhui-Jiangsu	>Ⅴ	>Ⅴ
Suzhou	Xinbian River	Si County Bridge	Anhui-Jiangsu	Ⅴ	>Ⅴ
Pizhou	Xipicang Canal	Aishanxi Bridge	Jiangsu-Shandong	>Ⅴ	>Ⅴ
Zhoukou	Wohe River	Luyifu Bridge	Henan-Anhui	>Ⅴ	Ⅴ
Shangqiu	Dasha River	Baogongmiao	Henan-Anhui	Ⅴ	Ⅴ
Shangqiu	Kuaihe River	Huangkou	Henan-Anhui	Ⅴ	Ⅴ
Fuyang	Honghe River diversion channel	Taolao	Henan-Anhui	Ⅳ	Ⅴ
Fuyang	Huaihe River	Wangjiaba	Henan-Anhui	Ⅳ	Ⅳ
Huaibei	Tuohe River	Xiaowangqiao	Henan-Anhui	Ⅳ	Ⅳ
Huaibei	Dongsha River	Linhuanji	Henan-Anhui	Ⅴ	Ⅳ
Chuzhou	Huaihe River	Xiaoliuxiang	Anhui-Jiangsu	Ⅳ	Ⅳ
Sihong	Xinsui River	Daqu	Anhui-Jiangsu	Ⅳ	Ⅳ
Linyi	Wuhe River	#310 Road Bridge	Shandong-Jiangsu	Ⅳ	Ⅳ
Linyi	Dongpicang diversion channel	Dongpianhong	Shandong-Jiangsu	Ⅳ	Ⅳ
Linyi	Shuhe River	Gaofengtou	Shandong-Jiangsu	Ⅳ	Ⅳ
Linyi	Baima River	Jiezhuang	Shandong-Jiangsu	Ⅳ	Ⅳ
Linyi	Xinshu River	Linshu Daxing Bridge	Shandong-Jiangsu	Ⅳ	Ⅳ
Linyi	Shagou River	Shagou Bridge	Shandong-Jiangsu	Ⅳ	Ⅳ
Linyi	Zhangtuan River	Zhangtuan Bridge	Shandong-Jiangsu	Ⅳ	Ⅳ
Zaozhuang	Great Canal	Taierzhuang Bridge	Shandong-Jiangsu	Ⅴ	Ⅳ
Xinyang	Huaihe River	Huaibin Hydrometric Station	Henan-Anhui	Ⅲ	Ⅲ
Xuzhou	Yanhe River	Liji Bridge	Shandong-Jiangsu	Ⅲ	—
Xuzhou	Great Canal	Linjiaba	Jiangsu-Anhui	Ⅲ	Ⅲ
Linyi	Yihe River	Gnagshang	Shandong-Jiangsu	Ⅲ	Ⅲ
Liuan	Shihe River	Hongshizui	Anhui-Henan	Ⅲ	Ⅱ

Haihe River Waters Haihe River waters were under severe pollution. In all 63 sections under national water quality monitoring program, 22% met Grade Ⅰ~Ⅲ water quality standard, 21% met Grade Ⅳ~Ⅴ stanbdard and 57% failed to meet Grade Ⅴ standard. Main pollution indicators were BOD_5, permanganate index and NH_4.



Water quality of the Haihe River waters in 2006

The mainstream of the Haihe River was subject to severe pollution without any significant change in water quality as compared with that of 2005.

Other major rivers of the Haihe River basin were under heavy pollution with no obvious change of water quality as compared with that of 2005. Luanhe River had good water quality, Yongding River was under light pollution. But North Great Canal, Zhangweixin River, Dasha River, Ziya River, Majia River and Tuhai River had heavy pollution.

In general, most trans-province sections of the Haihe River under national water quality monitoring program were under heavy pollution. Among 20 such sections, 30% met Grade Ⅰ~Ⅲ standards, 30% met Grade Ⅳ~Ⅴ standard and the remaining 40% failed to meet Grade Ⅴ standard.

Water quality of trans-province sections of the Haihe River waters in 2006

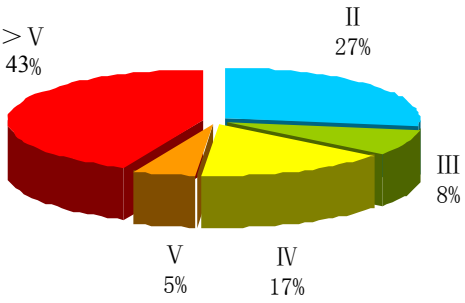
Place	River	Section	Upstream/ Downstream Province	Water quality	
				2006	2005
Liaocheng	Weiyun River	Chenggouwan	Hebei-Henan-Shandong	＞Ⅴ	＞Ⅴ

Place	River	Section	Upstream/ Downstream Province	Water quality	
				2006	2005
Langfang	Beiyunhe	Wangjiabai	Beijing-Hebei	>Ⅴ	>Ⅴ
Dezhou	Chahe River	Tianlongzhuang	Shandong-Hebei	>Ⅴ	>Ⅴ
Cangzhou	Nanyunhe	Sanyuanqiao	Shandong-Hebei	>Ⅴ	>Ⅴ
Damin County	Weihe River	Longwangmiao	Henan -Hebei	>Ⅴ	>Ⅴ
Liaocheng	Majia River	Rentangqiao	Henan -Shandong	>Ⅴ	>Ⅴ
Liaocheng	Tuhai River	Bichun	Henan -Shandong	>Ⅴ	>Ⅴ
Liaocheng	Jindi River	Zhangqiu	Henan -Shandong	>Ⅴ	>Ⅴ
Tianjin	Beiyunhe	Tumenlou	Hebei-Tianjin	Ⅴ	Ⅴ
Tianjin	Heilonggang River	Donggang river gate	Hebei-Tianjin	Ⅴ	Ⅴ
Zhangjiakou	Baihe River	Houcheng	Hebei-Beijing	Ⅲ	Ⅳ
Beijing	Yongding River	Yanhecheng	Hebei-Beijing	Ⅳ	Ⅳ
Zhangjiakou	Yanghe River	Zuoweiqiao	Shanxi-Hebei	Ⅴ	Ⅳ
Zhangjiakou	Sanggan River	Chuaigutuan	Shanxi-Hebei	Ⅴ	Ⅳ
Shijiazhuang	Mianhe River – Yehe River	Didu	Shanxi -Hebei	Ⅳ	Ⅳ
Handan	Zhanghe River	Liujiazhuang	Shanxi -Hebei	Ⅱ	Ⅲ
Changzhi	Zhuozhang River	Wangjiazhuang	Shanxi - Henan	Ⅲ	Ⅲ
Tianjin	Shahe River	Shaheqiao	Hebei-Tianjin	Ⅱ	Ⅱ
Beijing	Chaohe River	Gubeikou	Hebei-Beijing	Ⅲ	Ⅱ
Beijing	Juma River	Dashadi	Hebei-Beijing	Ⅰ	Ⅰ

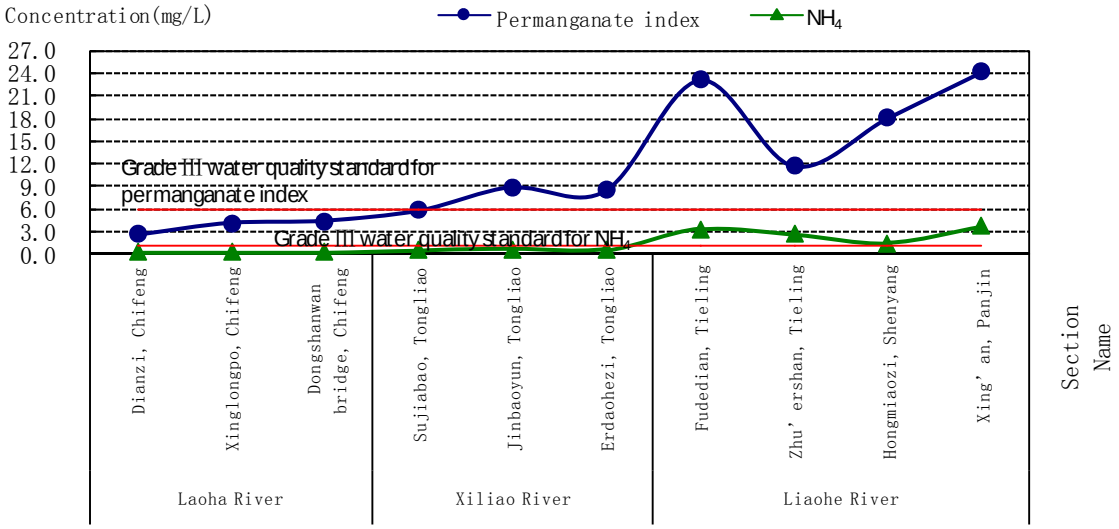
Liaohe River Waters Liaohe River waters were under heavy pollution. In all 37 water sections under national water quality monitoring program, 35% met Grade Ⅱ~Ⅲ quality standard, 22% met Grade Ⅳ~Ⅴ standard and 43% failed to meet Grade Ⅴ standard. Main pollution indicators were BOD_5, petroleum and ammonia nitrogen.

The mainstream of the Liaohe River was under intermediate pollution. In 13 sections under national water quality monitoring program, 31% met Grade Ⅱ~Ⅲ standard, 31% met Grade Ⅳ~Ⅴ standard and 38% failed to meet Grade Ⅴ standard. Laoha River had good water quality. Dongliao River and Xiliao River were subject to light pollution and Liaohe River under heavy pollution. The water quality had some

improvement compared with that of 2005.



Water quality of the Liaohe River waters in 2006



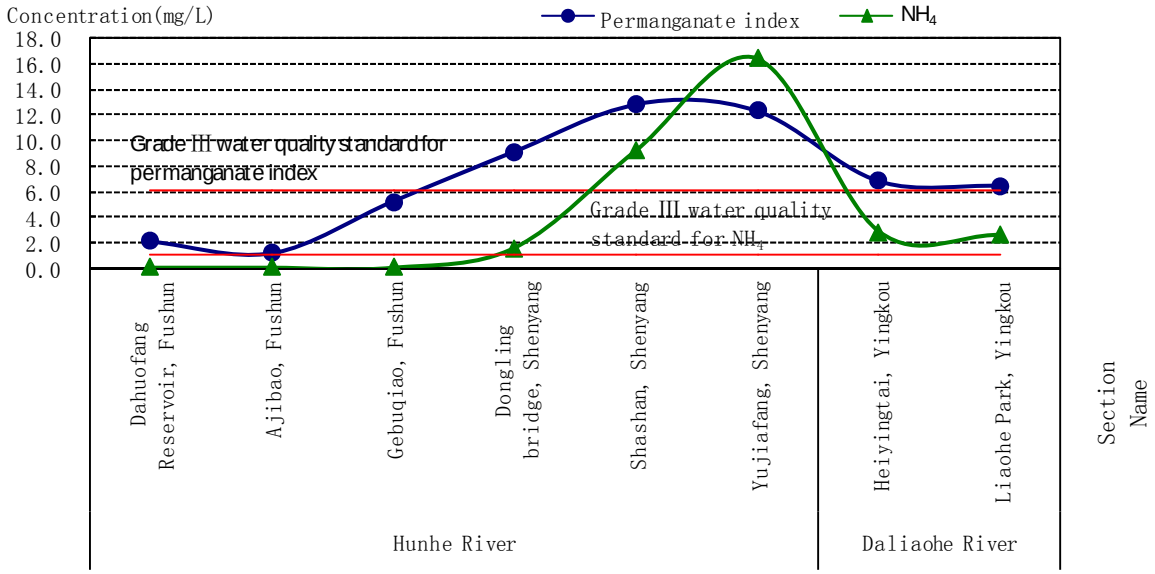
Permanganate index and ammonia concentration change along the mainstream of the Liaohe River

Among the tributaries of the Liaohe River, Xilamulun River was under light pollution. Tiaozi River and Zhaosutai River were under heavy pollution. The water quality was basically the same as in last year.

Trans-province sections of the Liaohe River waters were under heavy pollution. In the 3 such sections under monitoring, Dianzi section (Liaoning-Inner Mongolia) of Laoha River met Grade Ⅱ standard, Fudedian section (Jilin, Inner Mongolia - Liaoning) failed to meet Grade V standard, so did the Sishuangdaqiao section (Jilin-Liaoning) of the Dongliao River.

Water quality of trans-province sections of the Liaohe River waters in 2006

Place	River	Section	Upstream/Downstream Province	Water quality	
				2006	2005
Tieling	Liaohe River	Fudedian	Jilin, Inner Mongolia - Liaoning	>Ⅴ	>Ⅴ
Shuangliao	Dongliao River	Sishuangdaqiao	Jilin - Liaoning	>Ⅴ	Ⅴ
Chifeng	Laoha River	Dianzi	Liaoning – Inner Mongolia	Ⅱ	Ⅲ



Permanganate index and ammonia concentration change along the Hunhe River and Daliaohe River

In general, the Daliaohe River and its tributaries were under heavy pollution with water quality same as in last year. Taizi River was subject to intermediate pollution, while Daliaohe River and Hunhe River were under heavy pollution.

Daling River had heavy pollution. Among the 3 sections under monitoring, Wangjiagou section met Grade Ⅳ standard, but Zhangjiabao section and Xibaqian section failed to meet Grade Ⅴ standard. Main pollution indicators were permanganate index and BOD_5.

■ Rivers in Zhejiang Province and Fujian Province

The overall water quality of the rivers in Zhejiang Province and Fujian Province was good with no obvious change compared with that of 2005. Among the 32 sections under national water quality monitoring program, 75% met Grade Ⅰ~Ⅲ quality standard, 25% met Grade Ⅳ~Ⅴ standard without any section failing to meet Grade Ⅴ standard. Major pollution indicators were petroleum, ammonia nitrogen and BOD_5.

■ Rivers in Southwest and Northwest China

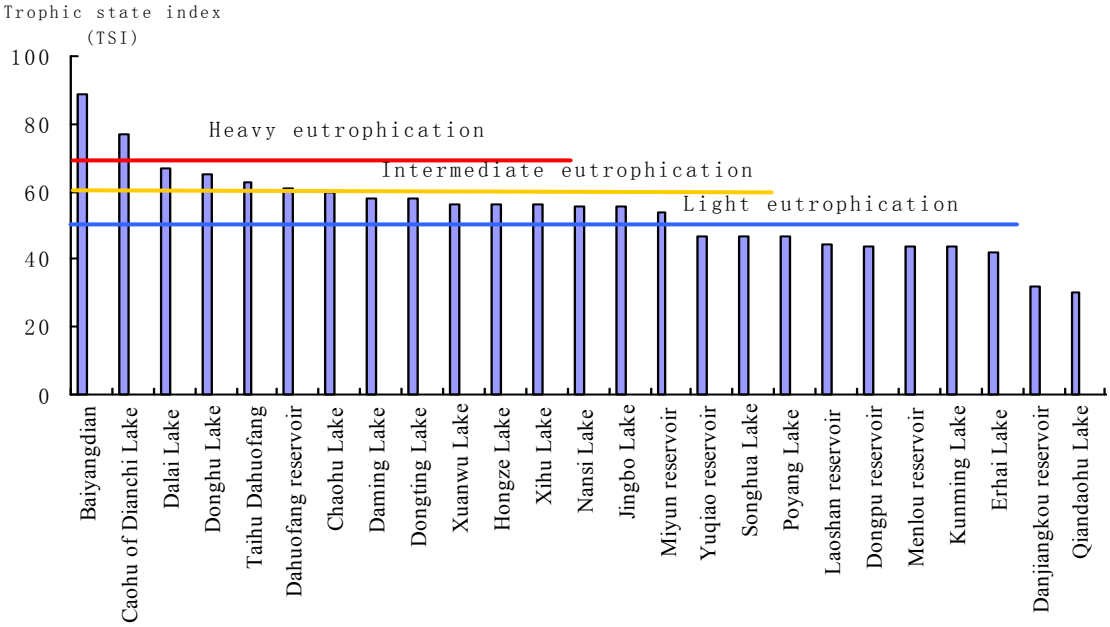
Rivers in Southwest China Rivers in Southwest China enjoyed good water quality with no obvious change compared with that of 2005. Among 17 sections under national water quality monitoring program, 82% met Grdae Ⅰ~Ⅲ quality standard, 6% met Grade Ⅳ standard and 12% failed to meet Grade Ⅴ standard. Major pollution indicators were lead, permanganate index and petroleum.

Rivers in Northwest China Rivers in Northwest China had good water quality with no obvious change compared with that of 2005. Among 28 sections under national water quality monitoring program, 82% met Grdae Ⅰ~Ⅲ quality standard, 14% met Grade Ⅳ standard and 4% failed to meet Grade Ⅴ standard. Major pollutant was ammonia nitrogen.

■ Water Quality of Lakes and Reservoirs

In 2006, among the 27 major lakes (reservoirs) under national water quality monitoring program, 2 lakes (reservoirs) (7%) met Grade Ⅱ water quality standard; 6 lakes (reservoirs) (accounting for 22%) met Grade Ⅲ water quality standard; 1 lake (reservoir) (taking up 4%) met Grade Ⅳ quality standard; 5 lakes (reservoirs) (accounting for 19%) met

Grade Ⅴ water quality standard and 13 lakes (reservoirs) (accounting for 48%) failed to meet Grade Ⅴ standard. Among them, water quality of Chaohu Lake was Grade Ⅴ. Taihu Lake and Dianchi Lake failed to meet Grade Ⅴ standard. Major pollutants were total nitrogen (TN) and total phosphorus (TP). Reservoir water had better quality than that of lakes, which had relatively light eutrofication.



Index of nutrition of major lakes & reservoirs in 2006

Water quality of major lakes and reservoirs in 2006

Amount / Waters	Amount	Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	>Ⅴ
Three lakes	3	0	0	0	0	1	2
Big freshwater lake	9	0	1	1	1	2	4
Urban lake	5	0	0	1	0	0	4
Big reservoir	10	0	1	4	0	2	3
Total	27	0	2	6	1	5	13
Percentage in 2006 (%)		0	7	22	4	19	48
Percentage in 2005 (%)		0	7	21	11	18	43

- **Taihu Lake**

Lake Areas: Annual average concentrations of permanganate index

and TP of lake areas met Grade Ⅲ standard and Grade Ⅳ standard respectively. However, the water quality failed to meet Grade Ⅴ water quality standard due to heavy pollution of total nitrogen. It was subject to intermediate eutrofication.

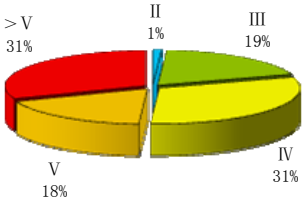
Among the 21 sites under national water quality monitoring program, none of them met Grade Ⅰ~Ⅳ quality standard. 14% met Grade Ⅴ standard and the remaining 86% failed to meet Grade Ⅴ standard. Major pollutant was total nitrogen. The water quality had no obvious change compared with that of 2005.

Major pollution indicators and water quality of Taihu Lake in 2006

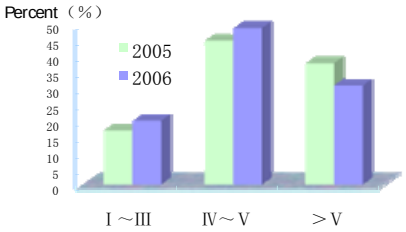
Lake areas	Permanganate index (mg/L)	TP (mg/L)	TN (mg/L)	Chlorophyll-a (mg/L)	Index of nutrition	Water quality	
						2006	2005
Meiliang Lake	5.4	0.11	5.21	0.10	68	>Ⅴ	>Ⅴ
Wuli Lake	5.4	0.15	6.36	0.04	67	>Ⅴ	>Ⅴ
Western part	5.1	0.12	3.74	0.04	65	>Ⅴ	>Ⅴ
Eastern part	4.1	0.07	2.02	0.02	57	>Ⅴ	>Ⅴ
Central area	4.2	0.11	2.50	0.05	62	>Ⅴ	Ⅴ
Average	4.6	0.08	3.17	0.05	63	>Ⅴ	>Ⅴ

Inflowing Rivers: Inflowing rivers of the Taihu Lake were under intermediate pollution with no obvious change of water quality compared with that of 2005. Major pollutants were ammonia nitrogen, BOD_5 and petroleum.

Among the 87 sections under national water quality monitoring program, the percentage meeting Grade Ⅱ~Ⅲ, Grade Ⅳ~Ⅴ and failing to meet Grade Ⅴ standard was 20%, 49% and 31% respectively.



Water quality of inflowing rivers in 2006



Annual comparison of water quality of inflowing rivers of Taihu Lake

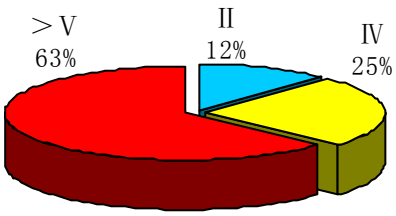
● Dianchi Lake

Lake Areas: The overall lake area of Dianchi failed to meet Grade Ⅴ water quality standard with major pollutants being TP, TN and NH_4. Caihai Lake was subject to heavy eutrofication. Waihai Lake was under intermediate eutrofication. The water quality of Waihai Lake became worse compared with that of 2005.

Major pollution indicators and water quality of Dianchi Lake in 2006

Lake areas	Permanganate index (mg/L)	TP (mg/L)	TN (mg/L)	Chlorophyll-a (mg/L)	Index of nutrition	Water quality	
						2006	2005
Caihai	7.1	0.43	4.61	0.08	70	＞Ⅴ	＞Ⅴ
Waihai	7.1	1.42	13.7	0.09	77	＞Ⅴ	Ⅴ

Inflowing Rivers: Inflowing rivers of Dianchi Lake were subject to heavy pollution with no obvious change in water quality compared with that of 2005. Major pollutant was ammonia nitrogen. Among the 8 sections under national water quality monitoring program, 12% met Grade Ⅱ standard, 25% met Grade Ⅳ standard and 63% failed to meet Grade Ⅴ standard.



Water quality of inflowing rivers of Dianchi Lake in 2006

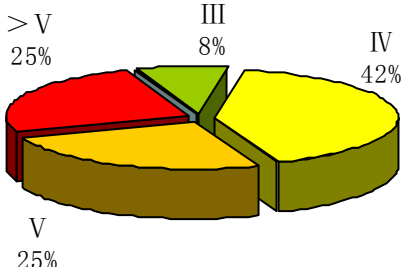
- **Chaohu Lake**

Lake Areas: The overall water quality of Chaohu Lake fell into Grade V category. Major pollution indicators were TN and TP. Water quality of Chaohu Lake had some improvement compared with that of last year. At present, Chaohu Lake is under intermediate eutrofication (Western part subject to intermediate eutrofication while estern part light eutrofication).

Major pollution indicators and water quality of Chaohu Lake in 2006

Lake areas	Permanganate index(mg/L)	TP (mg/L)	TN (mg/L)	Chlorophyll-a (mg/L)	Index of nutrition	Water quality	
						2006	2005
Western part	7.0	0.19	1.55	0.043	64	Ⅴ	＞Ⅴ
Eastern part	4.5	0.11	1.67	0.003	53	Ⅴ	Ⅴ
Average	5.8	0.15	1.61	0.023	60	Ⅴ	＞Ⅴ

Inflowing Rivers: Among the 12 sections under national water quality monitoring program (including two for pollution control) of inflowing rivers of Chaohu Lake, 8% met Grade Ⅲ standard, 67% met Grade Ⅳ～Ⅴ standard and 25% failed to meet Grade Ⅴ standard. Major pollutants were TP and TN.



Water quality of inflowing rivers of Chaohu Lake in 2006

- Other Big Fresh Water Lakes

Among the 9 major fresh water lakes under national water quality monitoring program, Xingkai Lake met Grade Ⅱ quality standard; Erhai lake met Grade Ⅲ standard; Jingbo Lake met Grdae Ⅳ standard; Dongting Lake and Poyang Lake met Grade Ⅴ standard; but Hongze Lake, Nansi Lake, Dalai Lake and Baiyangdian Lake failed to meet Grade Ⅴ standard. Major pollutants were TN and TP. There was some degradation of the water quality of Nansi Lake and Poyang Lake compared with that of 2005. There was no obvious change in water quality of other big fresh water lakes.

Water quality of 9 big fresh water lakes in 2006

Name	Index of nutrition	Degree of eutrofication	Water quality		Major pollution indicators
			2006	2005	
Erhai Lake	42	Intermediate	Ⅲ	Ⅲ	–
Dongting Lake	58	Light	Ⅴ	Ⅴ	TP
Hongze Lake	56	Light	>Ⅴ	>Ⅴ	TN
Nansi Lake	56	Light	>Ⅴ	Ⅴ	TN
Poyang Lake	47	Intermediate	Ⅴ	Ⅳ	TP
Jingbo Lake	56	Light	Ⅳ	Ⅳ	Permanganate index
Dalai Lake	67	Intermediate	>Ⅴ	>Ⅴ	pH, permanganate index, TN
Baiyangdian Lake	89	Heavy	>Ⅴ	>Ⅴ	TN, NH_4 and TP
Xingkai Lake	–	–	Ⅱ	Ⅱ	–

Nutrition status assessment shows that Erhai Lake and Poyang lake were subject to intermediate nutrition; Dongting Lake, Hongze Lake, Nansi Lake and Jingbo Lake were under light eutrofication. Dalai Lake was under intermediate eutrofication and Baiyangdian Lake was under heavy eutrofication.

- Urban Lakes

Among the 5 urban lakes under monitoring, Kunming Lake (Beijing) had Grade Ⅲ water quality, Xihu Lake (Hangzhou), Donghu Lake (Wuhan), Xuanwu Lake (Nanjing) and Daming Lake (Jinan) failed to meet Grade Ⅴ water quality standard. Major pollutants were TN and TP. Compared with that in last year, Kunming Lake had better water quality but Xuanwu Lake worse. There was no obvious change in water quality of other urban lakes.

Kunming Lake was subject to intermediate nutrition. Xuanwu Lake, Xihu Lake and Daming Lake were under light eutrofication. Donghu Lake was subject to intermediate eutrofication.

Water quality of Kunming Lake, Xuanwu Lake, Xihu Lake, Daming Lake and Donghu Lake in 2006

Name	Index of nutrition	Degree of eutrofication	Water quality		Major pollution indicators
			2006	2005	
Kunming Lake	44	Intermediate nutrition	Ⅲ	Ⅴ	—
Donghu Lake	65	Intermediate eutrofication	>Ⅴ	>Ⅴ	TP
Xihu Lake	56	Light eutrofication	>Ⅴ	>Ⅴ	TN
Xuanwu Lake	56	Light eutrofication	>Ⅴ	Ⅴ	TN
Daming Lake	58	Light eutrofication	>Ⅴ	>Ⅴ	TN

- Big Reservoir

Among the 10 big reservoirs under monitoring, Shimen Reservoir (Shaanxi) met Grade Ⅱ water quality standard; Danjiangkou Reservoir (Hubei), Miyun Reservoir (Beijing), Dongpu Reservoir (Anhui) and Qiandao Lake (Zhejiang) met Grade Ⅲ standard; Yuqiao Reservoir (Tianjin) and Songhua Lake (Jilin) met Grade Ⅴ standard; Dahuofang Reservoir (Liaoning), Laoshan Reservoir (Shandong) and Menlou Reservoir (Shandong) failed to meet Grade Ⅴ standard. The main

pollutant was total nitrogen. Compared with last year, the water quality of Yuqiao Reservoir changed from Grade Ⅳ to Grade Ⅴ with some degradation. But there was no obvious change in water quality of other 9 big reservoirs.

Dahuofang Reservoir was subject to intermediate eutrofication. Miyun Reservoir was under light eutrofication. Other 7 big reservoirs were under intermediate or poor nutrition status.

Water quality of the 10 big reservoirs in 2006

Name	Index of nutrition	State of nutrition	Water quality		Major pollution indicators
			2006	2005	
Danjiangkou Reservoir	32	Intermediate nutrition	Ⅲ	Ⅲ	-
Dahuogang Reservoir	61	Intermediate rutrofication	>Ⅴ	>Ⅴ	TN
Yuqiao Reservoir	47	Intermediate nutrition	Ⅴ	Ⅳ	TN
Songhua Lake	47	Intermediate nutrition	Ⅴ	Ⅴ	TN
Miyun Reservoir	54	Light eutrofication	Ⅲ	Ⅲ	-
Dongpu Reservoir	44	Intermediate nutrition	Ⅲ	Ⅲ	-
Laoshan Reservoir	44	Intermediate nutrition	>Ⅴ	>Ⅴ	TN
Menlou Reservoir	44	Intermediate nutrition	>Ⅴ	>Ⅴ	TN
Qiandaohu Lake	30	Poor nutrition	Ⅲ	Ⅲ	-
Shimen Reservoir	-	Not estimated	Ⅱ	Ⅱ	-

■ Water Quality of Concentrated Drinking Water Sources of Major Cities

In general, the water quality of 382 concentrated drinking water sources of 107 major cities (excluding Jining, Qujing, Taian, Tongchuan, Xianyang and Zhuzhou that are among the 113 key cities on environmental protection) was good.

The month-average total water withdrawal of key cities on environmental protection was 1.59 billion tons, 1.15 billion tons of which

met water quality standard (taking up 72.3%). The remaining 440 million tons failed to meet quality standard (accounting for 27.7%). The major pollution indicators of river-type drinking water sources was coliform group. The main pollutant of lake-reservoir-type drinking water sources was total nitrogen.

Up-to-Standard rate of water quality of concentrated drinking water sources of major cities in 2006

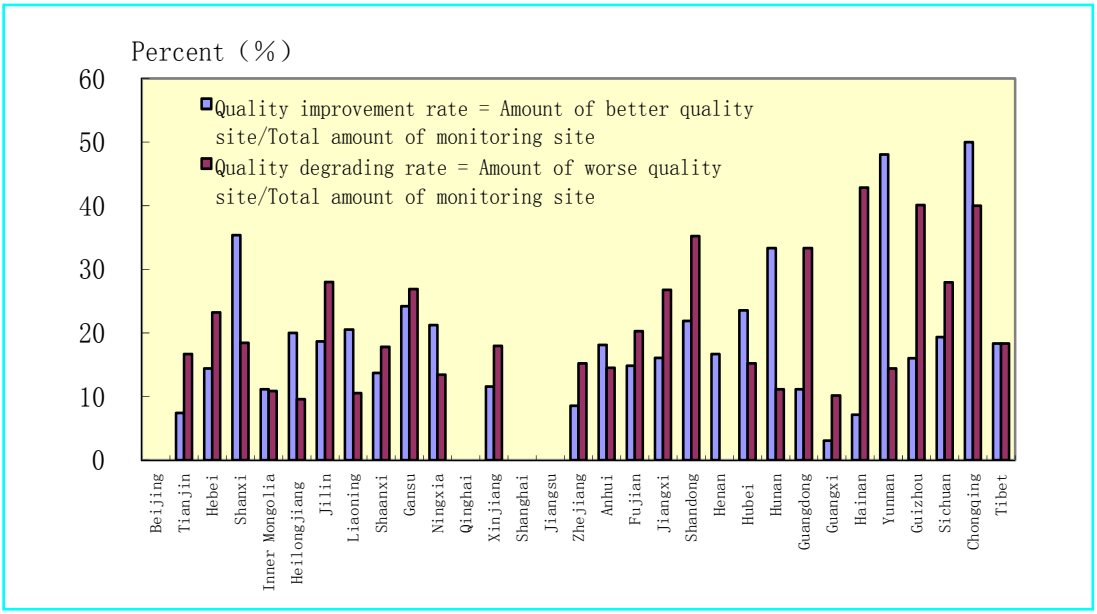
■ Groundwater

- Groundwater Quality

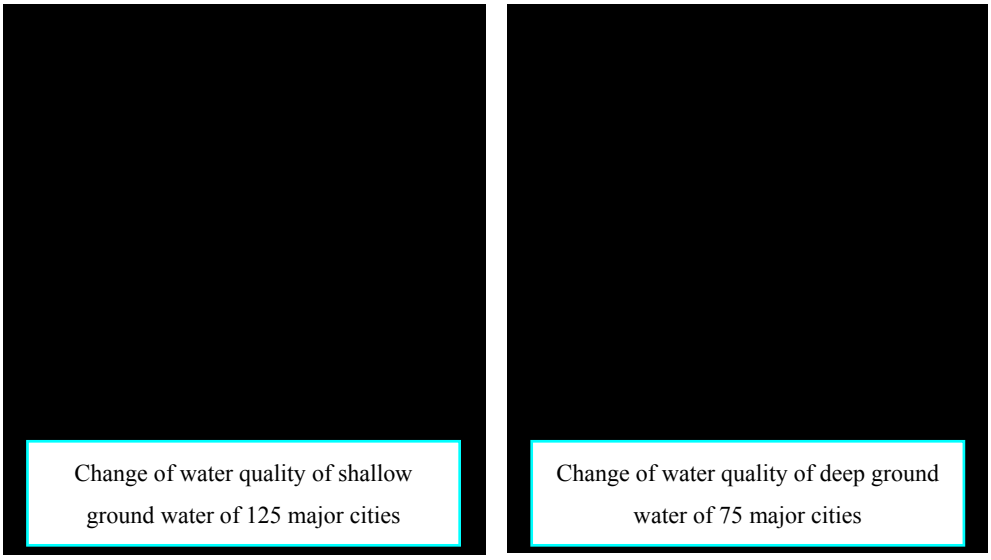
According to ground water monitoring results of 163 cities in 2006, most major monitoring sites had good or relatively poor water quality. The quality of deep ground water was superior to that of shallow ground water. Ground water resources with low degree of development had better quality than that from regions with high degree of development.

Among the 125 cities with monitoring program for shallow ground water quality, 21 of them had degradation trend in water quality compared with that of 2005. They mainly distributed in northeast, northwest, eastern part and contral south of China. A total of 95 cities across China had stable ground water quality. Nine cities had their ground water quality turning better.

Among the 75 cities with water quality monitoring program for deep ground water resources, 12 showed degradation trend in their major monitoring sites compared with that of 2005, they mainly distributed in eastern coastal regions. 59 cities across China had basically stable ground water quality. Only 5 cities showed better water quality.



Change of ground water quality of each province (autonomous region and municipality) in 2006



Change of ground water quality of major cities from 2005 to 2006

- Groundwater Table

According to groundwater table monitoring results of 163 cities (plain cities usually include the region under their jurisdiction) in 2006, ground water table maintained stable on the whole as compared with that of 2005. Compared with shallow ground water, deep ground water table had more obvious change. Regions with significant change of ground water table mainly concentrated on North China, East China and Northwest China where there is extensive development of ground water resources.

Among the 126 cities with monitoring program for shallow ground water table, 8 cities had a rising trend (>0.5 m) of ground water table compared with that of 2005, there were in Northeast China and Central South China. A total of 95 cities across China had rather stable water table (rise or fall margin < 0.5 m). 23 cities showed declining trend (decline margin > 0.5 m) and they are distrubited in North China, Northwest China and East China.

Among the 78 cities with monitoring program for deep ground water table, 10 cities in such areas as North China and Central South China showed a rising trend compared with that of 2005. 44 cities across China had basically stable water table. And 24 cities presented declining trend in water table, which mainly in North China and East China.

- Ground Water Draw-Down Funnels

Monitoring results in 2006 showed that there were 216 draw-down funnels (120 shallow draw-down funnels, 91 deep draw-down funnels and 5 karst funnels) across China. In general, ground water draw-down funnel situation kept stable compared with that of 2005. Draw-down funnels with significant change mainly distributed in North China and East China where there was extensive development of ground water resources.

Shallow draw-down funnels mainly distributed in North China and East China with area ranging from dozens of square kilometers to several thousands of square kilometers. Among them, the area of draw-down funnel of Huaxian County-Nanle County in Henan Province, the secondary artesian aquifer of Kangjiahu Plain of Zhejiang Province and Ningbolong of Xingtai City, Hebei Province was 4826 km^2, 4654 km^2 and 1574 km^2 respectively. Most shallow draw-down funnels of Northwest China and Northeast China ranged from several dozen square kilometers to several hundred square kilometers. In Central South China and Southwest China, there were fewer draw-down funnels with smaller area, usually less than 10 km^2.

Deep draw-down funnels mainly distributed in North China, Northeast China and East China with the area more than 100 km^2 or even as big as several thousand square kilometers. The funnel area of Hengshui and Cangzhou in Hebei Province, Decheng of Dezhou in Shandong Province, Handan and Tangshan Ninghe－Tanghai in Hebei Province, the third artesian aquifer of Hangjiahu Plain of Zhejiang Province, Xingtai Juxin of Hebei Province, Suzhou, Wuxi and Changzhou of Jiangsu Province, Langfang Dacheng of Hebei Province and Hangu in Tianjin was 8815, 7553, 5333, 2898, 2046, 2623, 1769, 1350, 1220 and 1043 km^2 respectively. There were fewer deep draw-down funnels in Northwest China, Southwest China and Central South China. The area of such funnels in these areas was less than 10 km^2 except the second artesian aquifer funnel of Haikou in Hainan Province with an area of 682 km^2.

■ Discharge of Waste Water and Major Pollutants

In 2006, total discharged amount of waste water in China was 53.7 billion tons, up by 2.4% compared with that of 2005. Total discharge of COD was 14.282 million tons, up by 1.0% than that of 2005.

Amount of waste water and major pollutants in China over the past 6 years

Item / Year	Amount of waste water (100 million tons)			COD (10,000 tons)			Amount of NH_4 (10,000 tons)		
	Total	Indus.	Domestic	Total	Indus.	Domestic	Total	Indus.	Domestic
2001	432.9	202.6	230.3	1404.8	607.5	797.3	125.2	41.3	83.9
2002	439.5	207.2	232.3	1366.9	584.0	782.9	128.8	42.1	86.7
2003	460.0	212.4	247.6	1333.6	511.9	821.7	129.7	40.4	89.3
2004	482.4	221.1	261.3	1339.2	509.7	829.5	133.0	42.2	90.8
2005	524.5	243.1	281.4	1414.2	554.8	859.4	149.8	52.5	97.3
2006	537.0	239.5	297.5	1428.2			141.3	42.1	99.2

Measures and Actions

【Plan for the Control of Total Amount of Major Pollutants】 *The Outline of the 11th Five-Year Plan for National Economic and Social Development* approved by the 4th Meeting of the 10th NPC on March 14, 2006 identifies the target of 10% reduction of total release of major pollutants by 2010. On August 5, 2006, the State Council approved the *Plan for the Control of Total Release of Major Pollutants during the 11th Five-Year Plan Period*. It is expected that by 2010, total release of major pollutants across China will reduce by 10% compared with that of 2005. COD will decrease from 14.14 million tons to 12.73 million tons. SO_2 emission will reduce from 25.49 million tons to 22.94 million tons. The local target on the control of total release of COD and SO_2 emission of each province (autonomous region or municipality under the State Council) shall be met.

【The First National Census on Pollution Sources】 On October 17, 2006, the State Council issued the Circular of the State Council on Carrying Out the First National Census on Pollution Sources (No.36 [2006] Document) It decided to carry out the first national census on pollution sources in the beginning of 2008. Vice Premier Zeng Peiyan holds the post of the head of the leading group on census of pollution

sources. It is planned that pollution discharge across China will be accurately understood in about three years. The standard starting time for the first national census on pollution sources is December 31, 2007. All preparation activities have been commenced in an all round way.

【Work Meetings on the Prevention and Control of Air and Water Pollution】 On May 30, 2006, the State Council approved and held National Work Meeting on Prevention and Control of Air Pollution. The State Council entrusted SEPA to sign the total SO_2 reduction target responsibility documents for the 11th Five-Year Plan period with the government of each province (autonomous region or municipality) and 6 key power corporations including Huaneng Corporation. It has identified the "Five measures" for the prevention and control of atmospheric pollution. That is: supervising and urging that all coal-fueled generation sets install desulphurization facilities according to law; promoting relevant units to strengthen R & D of desulphurization technology and manaufacturing of the equipment; intensifying the supervision and management of the emissions of coal fueled power plants; actively coopertinmg with relevant department to improve the policy measures for desulphurization of coal fueled power plants; facilitating local government to put in place their responsibilities for SO_2 emission reduction.

National Teleconference on the Prevention and Control of Water Pollution was held on July 21, 2006. SEPA has signed total water pollutants reduction target responsibility documents for the 11th Five-Year Plan period with the government of each province (autonomous region or municipality). It has identified the "Six measures" for the prevention and control of water pollution. They are the followings: strictly control total emissions of pollutants; actively do well the work on the prevention and control of water pollution in key river basins; speed up the development

of urban sewage treatment and garbage disposal facilities; firmly prevent safety accidents in relation to water environment; promote the optimization of economic structure and improve water environment quality; and practically do well the work on ensuring the safety of drinking water.

【Pollution Prevention and Control of Key River Basins】

According to the requirements of the Decision, we take it as the first priority to ensure the safety of drinking water in our environmental protection work. In 2006, SEPA launched a special law enforcement inspection in drinking water source protected areas with over 7,600 such sources across the country checked and more than 1,400 pollution sources threatening the safety of drinking water banned or removed. As a result, some pre-eminent environmental problems that had threatened the safety of drinking water for a long time have been addressed. SEPA has taken active and effective measures to facilitate pollution prevention and control of key river basins. The development of the 11th Five-Year Plans for key river basins such as the "Three rivers (Yangtze River, Yellow River and Huaihe River)", "Three lakes (Taihu Lake, Chaohu Lake and Dianchi Lake)", Three Gorges reservoir areas and their upstream, Xiaolangdi Reservoir area and its upstream section of the Yellow River has obtained active coordination. The 11th Five-Year Plan of the Songhua River Basin for the Prevention and Control of Water Pollution has been approved by the State Council for implementation. The work on claring out the bed of the Three Gorges Reservoir areas has been finished with complete success, which ensured stable quality of the water of 156 m impoundment of the reservoir.

【Pollution Treatment and Protection of the Songhua River】

The authority continued its efforts in pollution prevention and control of the aftermath of the Songhua River water pollution accident. It has

organized and finished the China-Russia loint monitoring on water pollution of the Songhua River during the ice melting period. As a result, the crisis resulting from the Songhua River water pollution accident has been tided over safe and sound. SEPA in cooperation with relevant departments of the State Council, the People's Governments of Heilongjiang Province and Jilin Province initiated the project titled "Assessment on Ecological Environment Impacts of the Songhua River Pollution Accident and Countermeasures". Heilongjiang Province, Jilin Province and Inner Mongolia Autonomous Region have developed emergency response program for environmental pollution accident of the Songhua River Basin and organized a number of extensive inspections and special examinations on environmental safety.

Strengthening pollution treatment in the Songhua River Basin. Entrusted by the State Council, SEPA has signed the Target Responsibility Document on the Reduction of Total Discharge of Water Pollutants during the 11th Five-Year Plan Period with the people's governments of Heilongjiang Province, Jilin Province and Inner Mongolia Autonomous Region. The Plan of the Songhua River Basin for the Prevention and Control of Water Pollution (2006-2010) (hereinafter referred to as the Plan) has been approved by the State Council. The Plan has identified 222 pollution treatment projects such as treatment of industrial pollution, development of urban sewage treatment and recycling facilities, and pollution prevention and control in key regions with total investment of 13.366 billion yuan RMB. With the implementation of the Plan in an all round way, the first 230 million yuan fund for pollution prevention and control has been appropriated to Heilongjiang Province, Jilin Province and Inner Mongolia Autonomous Region.

Establishment of the Long-term Mechanism for China-Russia

Environmental Cooperation. China has furthered China-Russia environmental cooperation to better address water pollution of transboundary rivers. In Febuary of 2006, China and Russia signed the Agreement on the Establishment of Environmnetal Protection Sub-Commission of China-Russia Premier Regular Meeting Commission. Environmnetal Protection Sub-Commission has passed the Environmnetal Protection Sub-Commission Regulations and set up the following three groups: working group on pollution prevention & control and emergency communications for environmental disasters, working group on trans-boundary nature reserves and conservation of biodiversity and working group on the monitoring and protection of the quality of transboundary waters. The establishment of Environmnetal Protection Sub-Commission marks the new stage of environmental cooperation between China and Russia.

【Investigation on Ground Water Resources and Pollution Prevention and Control】 In 2006, the authority continued its investigation on ground water resources and their environmental problems across China. It focused on the investigation, assessment and trial studies on the balance and dynamic trend of ground water resources of the Yellow River basin, three big river basins in Tibet and North China plain as well as the development and utilization of shallow ground water resources. It carried out investigations on ground water pollution in major cities and regions (including the Pearl River delta, the Yangtze River delta, plains of Huaihe River basin and North China Plains) across the country. It also launched emergency investigation and monitoring on ground water pollution of major sections of the Songhua River basin. In June of 2006, SEPA and Ministry of National Land and Resources jointly issued the Circular on the Development of National Plan for the Prevention and Control of Ground Water Pollution and began the compilation of such

plan.

Environmental protection laws, regulations, rules and standards

In 2006, the State Council promulgated the *Regulations of the People's Republic of China on the Import and Export of Endangered Wild Animals and Plants*, *Regulations on Scenic Spots and Historical Sites* and *Regulations on the Prevention and Control of Pollution to Marine Environment by Marine Construction Projects*. The Ministry of Supervision and SEPA issued the Provisional Regulations on the Displinary Action against Environmental Infringements and Dicipline Violations. Ministry of Information Industry issued the Regulations on the Management and Control of Pollution by Electronic Information Products. SEPA has issued such regulations as the Provisional Rules on Public Participation in EIA, Measures on Supervision and Inspection of National Nature Reserves, Measures on the Administration of Environmental Statistics, Measures on Environmental Complaints by Letters and Visit, Measures on the Administration of Safety Permit for Radioactive Isotopes and Devices, Measures on the Administration of the Environmental Safety of Pathogenic Microbe Laborotary, Regulations on the Quality of Environmental Monitoring, Measures on the Administration of the Revision of National Environmental Protection Standards and Measures on Environmental Administrative Reconsideration and Administrative Response to Lawsuit.

In 2006, China issued 118 various environmental protection standards. Among them, 2 were national (control) standards for pollution discharge; 113 were national industrial environmental protection standards and 3 for national policies on pollution prevention and control technologies.

Investment in National Environmental Pollution Treatment

In 2006, the total investment in environmental pollution treatment across China was 240.28 billion yuan, of which 131.43 billion went to urban environmental infrastructure construction; 49.27 billion were for industrial pollution source treatment; while 59.58 billion were investment in environmental protection of "three synchronization" of new construction projects. In 2006, the total investment in environmental pollution treatment of the entire country represented 1.15% of GDP.

International Environmental Cooperation and Exchanges

In 2006, President Hu Jintao, Premier Wen Jiabao and Vice Premier Zeng Peiyan took part in a total of 6 activities on international environmental cooperation. Foreign state leader such as Swedish King, Prince of Belgium and Vice Premier of Gabon visited SEPA. In 2006, there were a total of eight delegations visiting foreign countries headed by minister or vice ministers of SEPA or as a member. SEPA formally invited and received over 30 foreign delegations at or above minister level. There were a total of 220 foreign meetings at home or abroad. It sent out 485 delegations with 1,528 person•times visiting 48 countries and regions. In addition, it invited 268 groups (642 person•times) of foreigners to China for various meetings and cooperation projects. It put in place foreign donation of about $ 80 million (including those of new agreement).

In 2006, the Standing Committee of NPC approved the accusation to the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management. SEPA signed the Agreement between SEPA of the People's Republic of China and UNEP and held the Second Inter-Government Meeting on Global Action Plan for the Protection of Marine Environment from Land Source Pollution with complete success. SEPA also successfully held the Fifth Annual General Meeting of the Third Phase of China Council for International Cooperation on Environment and Development. Premier Wen Jiabao met with International Members of CCICED. Vice Premier Zeng Peiyan attened the meeting and gave a speech at the opening ceremony. In addition, China and Russia have signed the Agreement on the Establishment of Environmental Protection Sub-Commission of China-Russia Premier Regular Meeting Commission. The two countries held the First Meeting of the Environmental Protection Sub-Commission and signed the *Memorandum of Understand between China and Russia on Joint Monitoring of the Quality of Transboundary Waters* and Plan for Joint Monitoring of the Quality of Transboundary Waters.

Vice Premier Zeng Peiyan attended the Fifth Annual General Meeting of the Third Phase of CCICED on November 10, 2006.

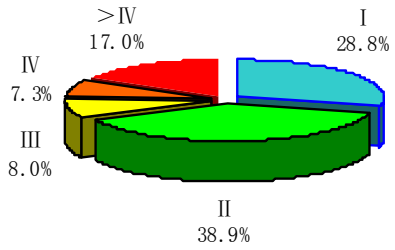
Marine Environment

General Situation

■ Marine Water Quality

In 2006, most of the coastal sea areas experienced good water quality despite continued severe pollution in some areas. Water quality of high sea areas remained in good condition.

67.7% of the coastal sea areas in China had water quality at Grade Ⅰ or Ⅱ standard, up by 0.5 percentage points than the previous year; 8.0% experienced Grade Ⅲ water quality, down by 0.9 percentage points; and 24.3% witnessed water quality of Grade Ⅳ or failed to meet Grade Ⅳ, an increase of 0.4 percentage points.



Distribution of Water Quality in Coastal Sea Areas Nationwide in 2006

In terms of coastal seawater quality of the four major sea areas, the South China Sea and the Yellow Sea enjoyed overall good water quality, the offshore water was slightly polluted in the Bohai Sea, and East China Sea suffered from medium level of water pollution.

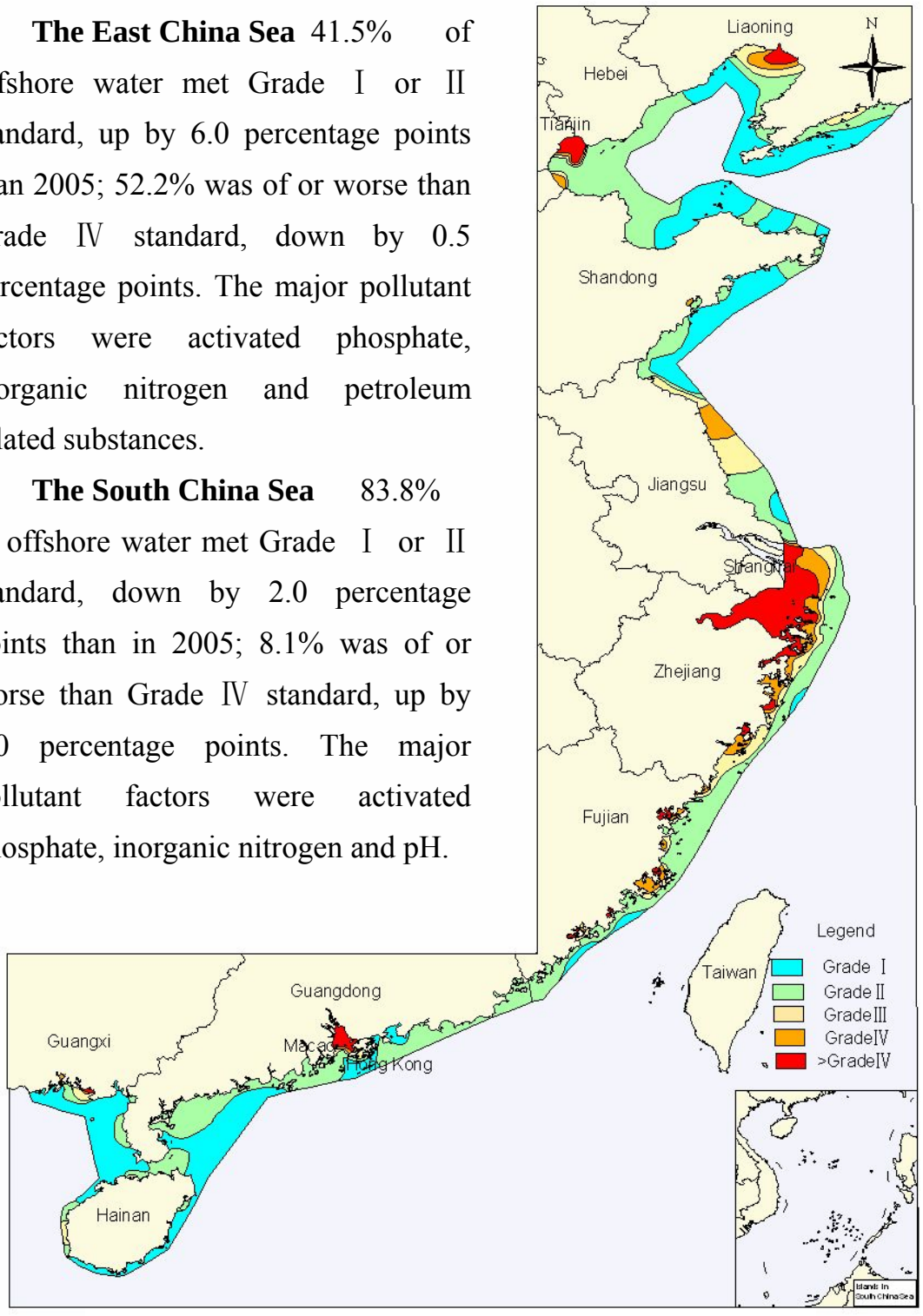
The Bohai Sea 69.6% of offshore water met Grade Ⅰ or Ⅱ standard, up by 3.6 percentage points than that of 2005; 21.7% was of or worse than Grade Ⅳ standard, up by 2.5 percentage points. The major pollutant factors were inorganic nitrogen, activated phosphate and petroleum related substances.

The Yellow Sea 83.7% of offshore water met Grade Ⅰ or Ⅱ standard,

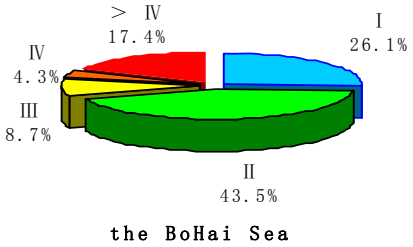
a decrease of 5.2 percentage points than that of 2005; 6.1% was of or worse than Grade Ⅳstandard, down by 5.0 percentage points. The major pollutant factors were inorganic nitrogen, pH and activated phosphate.

The East China Sea 41.5% of offshore water met Grade Ⅰ or Ⅱ standard, up by 6.0 percentage points than 2005; 52.2% was of or worse than Grade Ⅳ standard, down by 0.5 percentage points. The major pollutant factors were activated phosphate, inorganic nitrogen and petroleum related substances.

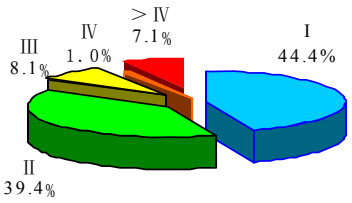
The South China Sea 83.8% of offshore water met Grade Ⅰ or Ⅱ standard, down by 2.0 percentage points than in 2005; 8.1% was of or worse than Grade Ⅳ standard, up by 2.0 percentage points. The major pollutant factors were activated phosphate, inorganic nitrogen and pH.



Sketch Map of Water Quality in China's Coastal Sea Areas in 2006



the BoHai Sea



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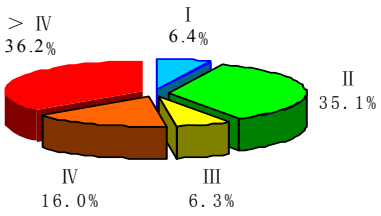
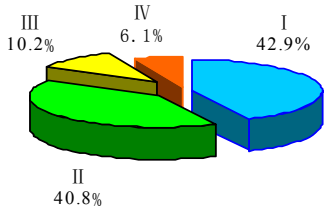


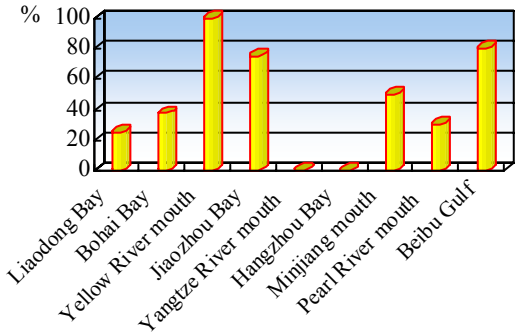
the East China Sea



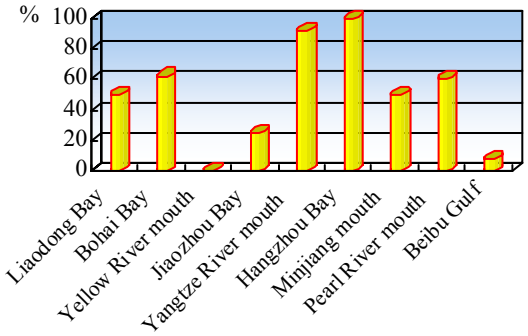
the Yellow Sea

Coastal Water Quality of the Four Major Sea Areas

Among the nine major bays, the Yellow River Mouth and Beibu Gulf enjoyed good water quality with 80% meeting Grade Ⅰ or Ⅱ standard. Jiaozhou Bay suffered from slight pollution with 75% of water of Grade Ⅰ or Ⅱ standard. Minjiang Mouth was subject to medium level pollution with 50% of water at Grade Ⅱ and Ⅳ standard each. Hangzhou Bay, the Yangtze River estuary, Liaodong Bay, the Pearl River Mouth and Bohai Bay both suffered from heavy pollution with less than 40% of the water of Grade Ⅰ or Ⅱ standard.



Ratio of Grade Ⅰ and Ⅱ Quality of water in Major Bays



Ratio of Ⅳ and Inferior to Ⅳ Grade of water in Major Bays

■ Sediment Environment of the Coastal Areas

The sediment environment of coastal areas was rather good on the whole with low comprehensive potential ecological risk caused by pollution. However, the sediment in certain parts of the sea areas was subject to pollution of DDT, PCB and arsenic, and the pollution level of PCB in the sediment was somewhat aggravated with large area affected.

■ Seashell Pollution of the Coastal Area

In 2006, China furthered the implementation of the monitoring plan of mussel in coastal regions, bringing a variety of mussels including Ruditapes philippinarum, clam, Mactra veneriformis Reeve, Mytilus edulis, Perna uiridis, Scapharca subcrenata, Sinonovacula constricta and Saccostrea cucullata under monitoring. Years of monitoring results showed that the overall residue level of DDT, lead, arsenic, cadmium and petroleum hydrocarbon in the bodies of various kinds of mussels in coastal areas was decreasing on the whole with a sharp drop of DDT in particular.

■ Red Tides

The year 2006 saw 93 cases of red tides in all the sea areas, up by about 13% than the previous year and involving an area of 19,840 km^2 in accumulation, about 27% less than that of 2005.

Red tides involving an area over 100 km^2 each numbered 31, involving an aggregated area of 18,540 km^2, accounting for 33% and 93% of the incidence and aggregated area of red tides respectively. Red tides covering an area over 1,000 km^2 numbered 7, 2 times less than that of 2005 and down by 51% in terms of aggregated area.

The red tide made a concentrated appearance with high incidence in the sea area of East China Sea, accounting for 68% and 76% of all the sea areas in terms of number of incidence and areas plagued. The red tides

that cover a large area mainly occurred in the sea area of Bohai Bay, sea area out of the Yangtze River estuary and central and southern part of Zhejiang.

The major biological species triggering the red tides are toxic algae of Karenia mikimotoi, Phaeocystis globosa and avirulent ones like Skeletonema costatum, Prorocentrum triestinum and Noctiluca scintillans. There were altogether 41 cases of red tides caused or concerted caused by toxic algae, covering a total area around 14,970 km^2 in aggregation, taking up 44% and 75% of the number of cases and areas of red tides of the whole year respectively, which is at the same level of that of 2005.

Large-scale Red Tides Occurring in China's Sea Areas in 2006

Duration	Location	Area (km^2)	Biological species causing red tides
May 3 ~ May 8	Sea area from the outer Zhoushan Island to southeast of Liuheng Island	1000	Prorocentrum triestinum, Skeletonema costatum
May 14 ~ May 17	Sea area of outer Yangtze River estuary	1000	Prorocentrum triestinum, Karenia mikimotoi
May 20 ~ May 27	Sea area near the Yushan Islands group	3000	Prorocentrum triestinum, Karenia mikimotoi
June 12 ~ June 14	Sea area of southern Zhejiang (from Dongtou to northern Jilie Island)	2100	Karenia mikimotoi, Prorocentrum triestinum
June 15 ~ June 21	Sea area near the Yushan Islands group and Xiangshan	1000	Karenia mikimotoi, Mesodinium rubrum
June 24 ~ June 27	Sea area from the central part of Yushan Islands group to Jiushan Island group near Zhejiang	1200	Chaetoceros curvisetus, Karenia mikimotoi
Oct. 22 ~ Nov. 5	Sea area near Huanghua of Hebei Province	1600	Phaeocystis globosa

Measures and Actions

【Blue Sea Action Plan in Major Sea Areas】Various works under the Blue Sea Action Plan in the Yangtze River Estuary and Adjacent Sea Areas were carried out steadily. By the end of 2006, a string of works

including the survey of the environmental situation of the Yangtze River estuary, pollution source inspection, monitoring of pollutants influx into the sea and checkup and appraisal of marine ecological environmental status have been conducted, thus laying the foundation for the fully launching of the Blue Sea Action Plan.

The fundamental work for the implementation of the Blue Sea Action Plan in the Pearl River Estuary and Adjacent Sea Areas has got along smoothly. In specific, the on-the-site survey work of the synchronized river and sea pollutants influx into the sea and marine ecological environment of the Pearl River estuary and adjacent sea areas during the flood and level period respectively have been completed, and the monitoring stations for continued monitoring of land-based non-point pollution source and dry deposition have also been established in 2006.

【Establishment of Marine Protected Areas】 In 2006, the State Council approved the inclusion of Shandong Binzhou Beike Bank and Wetland Protected Area into state level marine nature reserve, adding the total number of state level nature reserves up to 29. Presently, there are 149 marine nature reserves nationwide at all levels, covering a total area of 37,584 km^2 (including the area of the coastal lines covered) and registering 1.2% of the total sea area under jurisdiction of China. Marine nature reserves were established in all the 11 coastal provinces (autonomous regions and municipalities), and the establishment of marine special protected areas were also advancing in fast pace. By the end of 2006, altogether 7 marine special protected areas had been established across the country, among which 4 were state level marine special protected areas.

【The Global Program of Action for the Protection of the Marine Environment from Land-based Activities】 The Second Intergovernmental Review Meeting of the Global Program of Action

for the Protection of the Marine Environment from Land-based Activities of UNEP (GPA IGR-2) was held in Beijing from October 18 to 20 of 2006. A total number of around 600 representatives from 102 GPA member countries' government, international organizations and NGOs as well as global and local financial institutions participated in the Meeting. The Meeting adopted the Beijing Declaration for Further Promoting the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.

Completion Status for the Plan on the Control of Major Pollutant Discharges in 2006

In 2006, the emissions of SO_2 nationwide hit 25.888 million tons, up by 1.5% than that of 2005; COD discharges reached 14.282 million tons, up by 1.0%. On the whole, the target of reducing major pollutant discharges by 2% set down at the beginning of 2006 had been failed. However, the growth level of SO_2 and COD discharges in 2006 have fallen by 11.6 and 4.6 percentage points respectively than that of 2005.

Entrusted by the State Council, SEPA Minister Zhou Shengxian signed the responsibility agreement on the reduction of water pollutants discharges during the 11th "Five-Year" Plan period with 9 provincial governments including that of Hebei, Liaoning, Jiangsu, Zhejiang, Shandong, Henan, Hubei and Guangdong on July 21 of 2006.

Monitoring and Inspection of Pollution Sources Discharging Directly into the Sea

In 2006, the Monitoring Network of National Coastal Sea Area Environment continued their inspection of the pollution sources discharging directly into the sea by monitoring 587 sewage discharging outlets with daily discharge volume exceeding 100 m^3 and initiating the monitoring of pollutants at 156 river sections converging with the sea at the same time.

Among the 587 pollution sources discharging directly into the sea, 323 were industrial pollution sources, 112 were domestic pollution sources, and 152 were mixed sources. All these sources discharged 3.58 billion tons of sewage in total, of which 487 thousand tons were COD_{Cr}, 9.72 thousand tons were petroleum, 46.6 thousand tons were NH_4, and total phosphorus 12 thousand tons. Out of all the coastal provinces, Guangdong, Zhejiang and Liaoning saw relatively high volume of wastewater discharge, while Zhejiang, Guangxi and Guangdong loomed large in discharges of COD_{Cr}.

The monitoring results of the 156 river sections converging with the sea indicated that the overall quality of river water coming into the sea was rather bad. The total discharge volume of COD_{Mn} into the sea was 4.736 million tons, petroleum 67 thousand tons, NH_4 976 thousand tons and total phosphorus 245 thousand tons.

Severe Ship Related Pollution and Marine Fishery Pollution Accidents

In 2006, SEPA was reported on 124 cases of ship related pollution accidents in coastal areas with the total volume of oil leakage up to 1,216 tons. 5 cases were pollution caused by oil or chemicals over 50 tons.

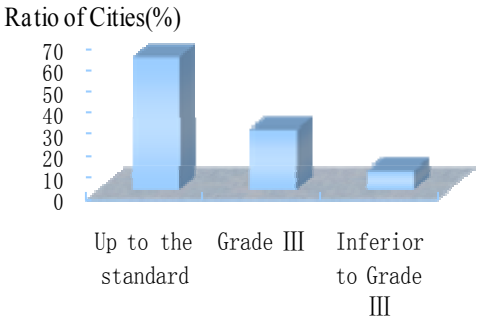
Also in 2006, 89 cases of water pollution accidents concerning marine fishery happened across China, polluting 69 thousand ha. of area and causing 3.065 billion yuan of direct economic losses. Out of them, 8 cases were extremely large fishery pollution accidents with the economic losses surpassing 10 million yuan.

Atmospheric Environment

General Situation

Overall urban air quality was improved to some extent compared with the previous year despite heavy pollution in some cities.

Of the 559 cities under the monitoring program of 2006, 322 were at or above prefecture level (including the capital of prefecture, autonomous region, league, the same as below), and 237 were at the county level. 24 cities met Grade Ⅰ national air quality standard (accounting for 4.3%), 325 met Grade Ⅱ standard (accounting for 58.1%), 159 met GradeⅢstandard (accounting for 28.5%), and 51 failed to meet Grade Ⅲ standard (accounting for 9.1%). The major pollutant was inhalable particulates.



Proportions of Cities with Varied Levels of Air Quality in 2006

Compared with last year (referring to comparable cities), the proportion of cities with air quality at or better than Grade Ⅱ increased by 4.7 percentage points, and thate with air quality worse than Grade Ⅲ dropped by 2.1 percentage points. On the whole, the urban air quality attained some improvement.

Year-on-year Comparison of Ambient Air Quality among Comparable Cities

Grade of Air Quality	2006	2005
At or better than Grade Ⅱ (up to standard), %	56.6	51.9
Grade Ⅲ, %	34.9	37.5
Worse than Grade Ⅲ, %	8.5	10.6

Major Pollutants in the Air Particulates were still the major pollutant that affected the air quality. The annual concentration of particulates of 66.5% of the cities nationwide met or exceeded Grade Ⅱ

standard, while 7.0% were inferior to Grade Ⅲ standard.

Compared with previous year (referring to comparable cities), the concentration of particulates of 62.8% of the cities had met or exceeded Grade Ⅱ standard, up by 3.3 percentage points; while 5.3% of the cities surpassed Grade Ⅲ standard, down by 0.2% percentage point. Compared with that of 2005, the overall pollution of particulate alleviated to some extent.

Cities with heavy particulate pollution were mainly distributed in provinces (autonomous regions or municipalities) of Shanxi, Xinjiang, Gansu, Beijing, Shaanxi, Ningxia, Sichuan, Inner Mongolia, Hebei, Hunan, Liaoning, Henan, Chongqing, Tianjin and Jiangsu.

Levels of Particulates in 2006

Year-on-year Comparison of Particulate Grade in Comparable Cities

Grade of Air Quality	2006	2005
At or better than Grade Ⅱ (up to standard), %	62.8	59.5
Grade Ⅲ, %	31.9	35.0
Worse than Grade Ⅲ, %	5.3	5.5

In 2006, 86.8% of the cities nationwide met or exceeded the Grade Ⅱ standard for annual SO_2 level and 3.6% surpassed Grade Ⅲ standard. Compared with 2005 (referring to comparable cities), the ratio of cities with the annual concentration of SO_2 of or superior to national Grade Ⅱ standard grew by 4.3% percentage points, and the ratio of

Different Levels in 2006

cities superior to national Grade Ⅲ standard was down by 2.1 percentage points. The situation of SO_2 pollution was reduced to a certain level.

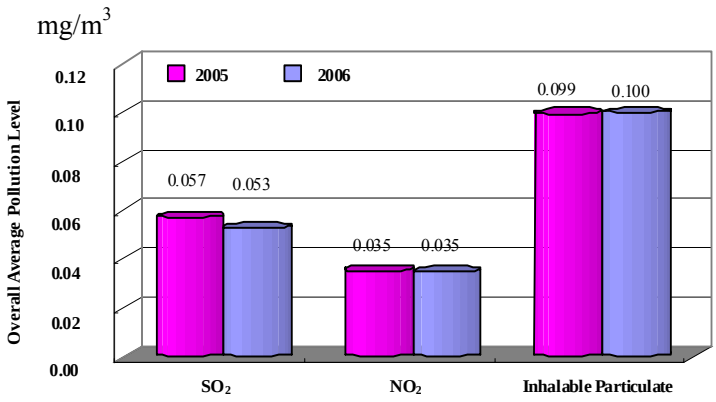
Cities suffering from relatively heavy SO_2 pollution were mainly distributed in provinces (autonomous regions or municipalities) of Shanxi, Inner Mongolia, Yunnan, Xinjiang, Guizhou, Gansu, Hebei, Hubei, Guangxi, Hunan, Sichuan, Liaoning, Henan, Chongqing and Tianjin.

Comparison of SO_2 Grade in Comparable Cities

Air Quality Grade	2006	2005
At or better than Grade Ⅱ (up to standard), %	81.7	77.4
Grade Ⅲ, %	13.9	16.1
Worse than Grade Ⅲ, %	4.4	6.5

NO_2 levels of all cities in the statistics met Grade Ⅱ national standard (among which 87.4% were up to Grade Ⅰ national standard). However, major cities like Guangzhou, Beijing, Urumchi, Shenzhen and Lanzhou observed relatively higher NO_2 levels. The grade distribution of NO_2 displayed insignificant change compared with that of 2005.

Air Quality of Major Cities Of the 113 major cities for air pollution prevention and control, 50 cities experienced Grade Ⅱ standard air quality (accounting for 44.2%); 55 ones met Grade Ⅲ standard (taking up 48.7%); and 8 ones failed to meet Grade Ⅲ standard (accounting for 7.1%). Compared with previous year, the proportion of cities up to national standard increased by 1.7 percentage points, while the ratio of cities with the air quality inferior to Grade Ⅲ also grew by 0.9 percentage point. The average SO_2 level of major cities saw slight reduction than that of 2005, NO_2 and inhalable particulate level remained at the same level, and the air quality of major cities were stable.



Average Annual Concentration of Major Pollutants in Key Cities

Acid Rain Out of 524 cities (or counties) under national acid rain monitoring program, 283 experienced acid rain at least once in 2006 (taking up 54.0%). The number of cities with the incidence of acid rain over 25% stood at 198 (taking up 37.8%), while the number of those over 75% were 87 (accounting for 16.6%). Among them, the incidence of acid rain was 100% in Jiande City, Xiangshan County, Huzhou City, Anji County and Shengsi County of Zhejiang Province and Jiangjin City of Chongqing Municipality.

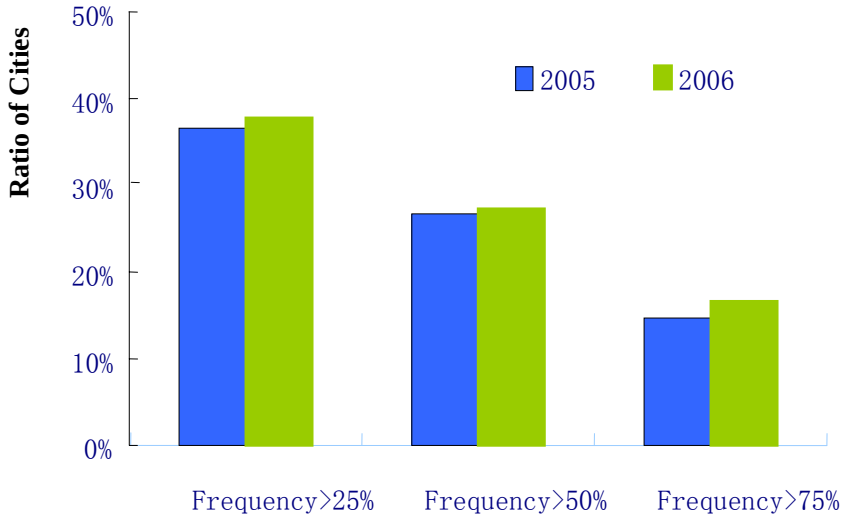
Compared with 2005, the ratio of cities subject to acid rain nationwide dropped by 3.1 percentage points, while the proportion of cities suffering from relatively heavy acid rain (pH value of precipitation<5.0) surged slightly, and the ratio of cities experiencing heavy acid rain (pH value of precipitation<4.5) somewhat plummeted.

Statistical Table of the Average Annual pH Value of Precipitation in 2006

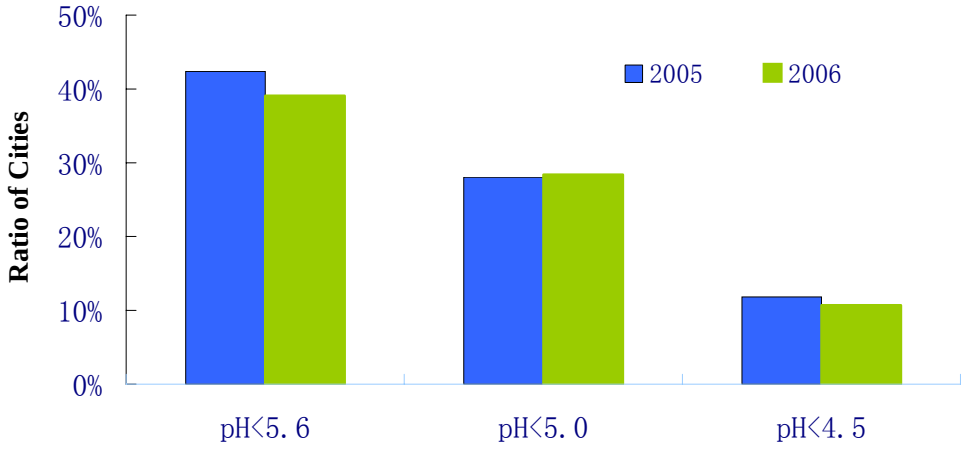
Range of Average Annual pH Value	< 4.5	4.5 ~ 5.0	5.0 ~ 5.6	5.6 ~ 7.0	≥7.0
Number of Cities	56	93	56	231	88
Ratio (%)	10.7	17.7	10.7	44.1	16.8

Stepped Statistical Table of Acid Rain Incidence in 2006

Incidence of Acid Rain (%)	0	0 ~ 25%	25% ~ 50%	50% ~ 75%	≥75%
Number of Cities	241	85	61	50	87
Ratio (%)	46.0	16.2	11.6	9.5	16.6



Proportions of Cities with Different Acid Rain Occurrence

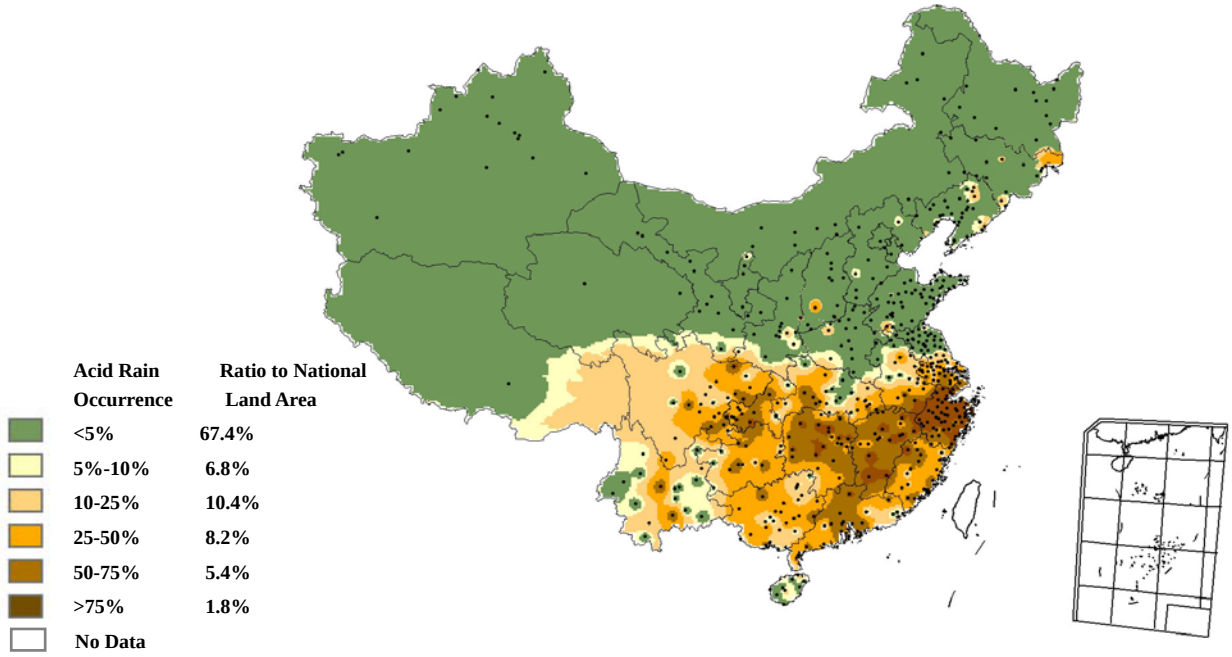


Proportions of Cities with Different Precipitation Acidity

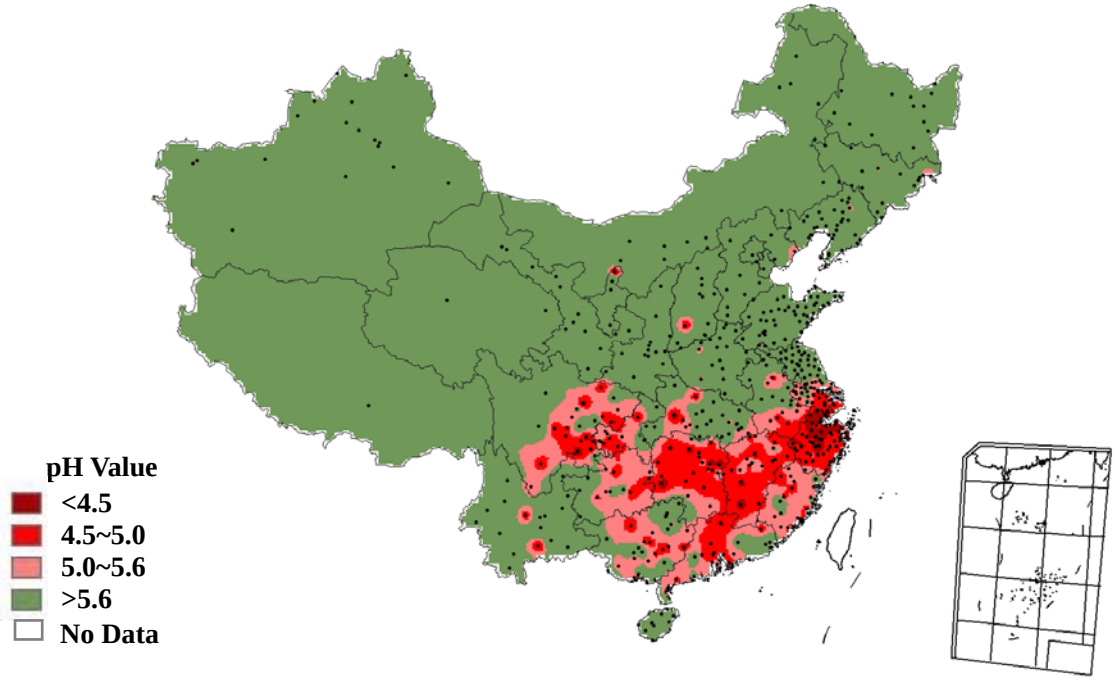
In the year of 2006, the areas with the acid rain incidence exceeding 5% took up 32.6% of the total national land territory, while the areas with 25% registered 15.4%.

Acid rain made a concentrated appearance mainly in areas of the south to the Yangtze River and Sichuan and east to Yunnan. Such areas include the majority parts of Zhejiang, Jiangxi, Hunan, Fujian, Guizhou and Chongqing as well as the Yangtze River Delta and Pearl River Delta.

Compared with that of 2005, the distribution of acid rain remained rather stable across the country.



Nationwide Distribution of Acid Rain Incidence in 2006



Nationwide Distribution of Acid Rain in 2006

■ Discharge Amount of Major Pollutants in Waste Gas

In 2006, the SO_2 emissions amounted to 25.888 million tons, the emission of soot were 10.784 million tons, and the emission of industrial dust amounted to 8.075 million tons.

Nationwide Discharges of Major Pollutants in Waste Gas in Recent Years

Unit: 10,000 tons

Item / Year	SO_2 Emissions			Soot Emissions			Emissions of Industrial Dust
	Total	Industrial	Domestic	Total	Industrial	Domestic	
2001	1947.8	1566.6	381.2	1069.8	851.9	217.9	990.6
2002	1926.6	1562.0	364.6	1012.7	804.2	208.5	941.0
2003	2158.7	1791.4	367.3	1048.7	846.2	202.5	1021.0
2004	2254.9	1891.4	363.5	1095.0	886.5	208.5	904.8
2005	2549.3	2168.4	380.9	1182.5	948.9	233.6	911.2
2006	2588.8			1078.4	854.8	223.6	807.5

Measures and Actions

【Prevention and Control of Pollution by Vehicle Emissions】 In 2006, the amount of in-service vehicles nationwide increased at a high speed. 7.28 million vehicles were produced this year, marking an annual growth of 27.6%, among which 3.84 million were saloon cars, up by 39.7% than the previous year, and 7.22 million cars were sold, up by 25.1%. By the end of 2006, the number of in-service cars (including 13.99 million tricars and low speed vehicles) for civilian use hit 49.85 million, up by 15.2% than the figure by the end of 2005. Among them, 29.25 million were private cars, registering an increase of 23.7%. The number of in-service vehicles for civilian use reached 15.45 million, up by 27.2%, of which 11.49 million were private cars, up by 33.5%. As a result, the pollution caused by vehicle emissions became increasingly prominent.

In 2006, SEPA further enhanced the supervision and regulation of new vehicles, in-service vehicles and vehicle-use fuels, and released 12 groups of announcements on vehicle types that are up to national environmental standards. By the end of 2006, altogether 47,966 new vehicle (engine) types had been certified of meeting National Phase Ⅱ Motor Vehicle Emission Standard after examination, and 4,953 had been certified of meeting National Phase Ⅲ Motor Vehicle Emission Standard, among which 854 new types were equipped with On-board Diagnostics (OBD) system. National Phase Ⅱ Motor Vehicle Emission Standards was put into effect compulsorily from July 1, 2006 in China in full scale, and the production and sale of various vehicles and engines only meeting National Phase Ⅰ Motor Vehicle Emission Standard was then prohibited. Meanwhile, efforts had been augmented on the supervision and management of the consistency between environmental protection and production of automobile manufacturing enterprises. In specific, an annual supervision and checkup was launched to 23 automobile (engine) manufacturing enterprises and 10 motorcycle manufacturing enterprises, and the results of the checkup were disclosed to the public for requesting rectification and improvement for those enterprises failing to meet related standards.

On September 1 of 2006 after getting the approval of the State Council, Guangzhou City began to implement the National Phase Ⅲ Motor Vehicle Emission Standard ahead of schedule, becoming the second city enforcing the next phase of national motor vehicle emission standard in advance following Beijing.

【Plan on the Emission Control of ODS】 By the end of 2006, the Multilateral Fund (MLF)'s Executive Committee of Montreal Protocol on Substances that Deplete the Ozone Layer had already approved 15 industrial control plans of China, among which 4 had been completed

while the rest 11 were underway. The ODS (Ozone Depleting Substances) Reduction Industrial Plan had been advanced steadily. In 2006, the MLF's Executive Committee approved 47.5 million US$ of fund for the industrial plan of China followed by the signing of 169 new contracts, making fund payment totaling 53,64 million US$ and reducing the production and consumption of ODS equaling to around 25 thousand tons of ODP (Ozone Depleting Potential). The General Administration of Customs and SEPA jointly unfolded the "Sky Hole Patching" Special Action to crackdown illegal trade of ODS. As a result, 6 cases of illegal import and export of ODS had been found out and dealt with. The General Administration of Quality Supervision, Inspection and Quarantine found and handled three batches of illegal import of industrial and commercial cooling equipment containing CFCs, while SEPA and related local governments found out and dealt with 5 cases of illegal production and use of ODS. In addition, the development policy over the CMS production industry was issued, and the examination and approval of new construction project were carried out in a more stringent manner. The transfer technology of CCl_4 had been greatly promoted, and the related principle for capital compensation was laid down. Consequently, all the CCl_4 production enterprises across China had all started the construction of the transfer facilities of CCl_4, and the risk arising from non-implementation of the convention of CCl_4 was remarkably lowered.

【Air Pollution Prevention and Control in Beijing】Beijing continued to promote the improvement of energy mix to control the pollution caused by coal combustion. In 2006, the use volume of natural gas was increased to 3.8 billion m^3, the city completed the transformation of 1,479 coal-burning boilers (with the capacity less than 20 tons) to the use of clean energy and carried out the "coal to electricity" transformation of heating boilers in residential areas covering 2,500 single-story

household. The city also stepped up the control of vehicle exhaust emission, upgraded or phased out 15 thousand old taxies and 2,335 old buses. It also put 4,000 new buses powered by natural gas into use, and initiated the oil and gas recovery and treatment demonstrational project of oil depot, oil station and tank trunk. Some of the coke furnaces of the Shougang Group stopped production, and Beijing Coking and Chemical Works fully stopped production in a bid to cut emissions of pollutants. What's more, the in-depth treatment project on desulphurization, denitrogenation and dust removal of the five major coal-fired power plants of the city had been quickened, and more measures were taken to control the flying dust of construction sites. The SO_2 emissions reduction work had been materialized with its emissions being reduced than that of 2005. The city was also actively engaged in the environmental protection preparation work for the 2008 Beijing Olympic Games by launching the activity of "drive one day less a month" and attained air quality betterment for 8 consecutive years.

The Production and Consumption of ODS

Ozone depleting substances (ODS) include six major types of substances of CFCs, halon, methyl chloroform, $CC1_4$, methyl bromide and HCFCs. China formally became a member of the Vienna Convention for the Protection of the Ozone Layer in 1989 and the Montreal Protocol on Substances that Deplete the Ozone Layer in 1991. Ever since then, China has attained noticeable progress.

By the end of 2006, the production and consumption volume of all types of ODS in china dropped to varied degrees compared with the level of the baseline year. In specific, CFCs was down by 72.2% and 78.4%, halon down by 97.6% and 99.5%, trichloroethane down by 70% and 78.2%, the consumption of $CC1_4$ used in 25 types of auxiliary was down by 87.9%, and methyl bromide down by 23.9% and 71.9%. The target set down in the Montreal Protocol for the present phase had been smoothly accomplished. Since the ODP of HCFCs is rather low (within the range of 0.001~0.11), currently, the Montreal Protocol is asking developing countries to freeze its production and usage from 2016 and finally realize the phase out in 2040. However, due to the rapid growth in demand of HCFCs in recent years, the Conference of the Parties to the Montreal Protocol is now discussing the adjustment to the timetable for its phase-out.

Production Volume of ODS of China in Recent Years (in ODP ton)

Substance Name	2000	2001	2002	2003	2004	2005	2006	Baseline Level
CFCs	39363	36167	32269	29964	25264	18700	13079	47004
Halon	16214	11484	7408	5653	3424	5475	995	40993
$CC1_4$*	53012	64152	80242	59860	50195	33080	28470	Not set yet**
Methyl chloroform	81	39	121	87	106	78	78	113
Methyl bromide	1438	1391	744	558	317	323	591	776

*The production volume of $CC1_4$ includes the volume of $CC1_4$ used as raw material for CFCs and ODS and excludes the volume of that as raw material used for other uncontrolled purposes.
**The final data for the baseline year of $CC1_4$ (3 years of 1998~2000) is to be determined upon negotiation with related international organizations.

The Consumption Volume of ODS of China in Recent Years (in ODP ton)

Substance Name	2000	2001	2002	2003	2004	2005	2006	Baseline Level
CFCs	39124	33923	30621	22809	17906	13124	12470	57819
Halon	14780	10409	6604	4859	2239	4516	161	34187
$CC1_4$*	3952	4189	4440	3507	3886	485	461	3825
Methyl chloroform	758	465	381	337	370	187	157	721
Methyl bromide	2101	1568	1088	1008	689	540	310	1102

*The consumption data of $CC1_4$ presented in the table only includes the volume of those used as 25 types of auxiliaries approved by the 10th Conference of the Parties to the Montreal Protocol and excludes that of those used as other auxiliaries approved later.

Investigating and Punishing Environmental Infringements and Taking the Special Move on Environmental Improvement

From June to November of 2006, SEPA, NDRC, Ministry of Supervision, Ministry of Justice, State Administration of Industry and Commerce, State Administration of Work Safety and State Electricity Regulatory Commission jointly launched the Environmental Protection Special Move on Punishing Illegal Pollution Discharging Enterprises to Safeguard People's Health.

A total number of 1.67 million person•time of environmental law enforcement staff were dispatched nationwide, 720 thousand enterprises were inspected, 28 thousand environmental problem related cases were dealt with, and 3,176 illegal pollution discharging enterprises were clamped down or closed. The seven ministries organized two groups of 13 joint inspection teams to carry out the supervision and inspection of 20 drinking water source protected areas, 44 industrial parks and 207 enterprises in 36 cities (prefectures) and counties of 12 provinces. SEPA and Ministry of Supervision joint published and supervised the handling of 16 environmental lawbreaking cases in 3 batches which involved 133 enterprises in 13 provinces. As a result, 31 principal in chief were dealt with and 2 of them were ascertained of criminal responsibilities. A total number of 5,701 environmental lawbreaking cases were published for supervision of handling across China, among which the handling of 526 were supervised at the provincial level.

Extremely Severe and Severe Environmental Pollution Incidences in 2006

SEPA released the Measures on the Information Reporting of Contingent Environmental Incidence to Environmental Protection Competent Department and the Provisional Measures on Emergency Response of Contingent Environmental Incidence of SEPA.

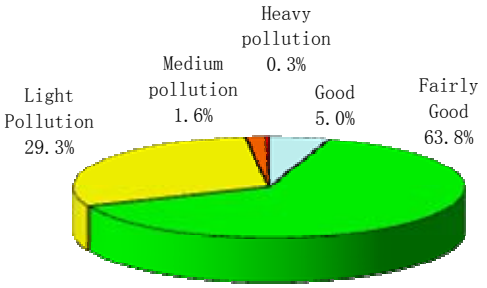
In 2006, SEPA altogether received and handled 161 cases of contingent environmental incidence, 85 more than the previous year. Among them, 3 cases were of extremely severe nature, the same as that of 2005; 15 cases were severe ones, 2 more than 2005; 35 cases were major ones, 17 more than in 2005; and 108 cases were general ones, 67 more than 2005.

Classified by the cause of the incidence, 78 cases (accounting for 48.4%) were environmental incidence of production safety accidents; 36 (accounting for 22.4%) were those of traffic accidents; 22 (accounting for 13.7%) were those caused by illegal pollution discharge by enterprises; and 25 (accounting for 15.5%) were caused by other reasons. Classified by the type of pollution, 95 were water pollution incidence; 57 were air pollution incidence; 7 were soil pollution ones; and 2 were of other types with each type taking up 59.0%, 35.4%, 4.4%, and 1.2% of the total number respectively.

Acoustic Environment

General Situation

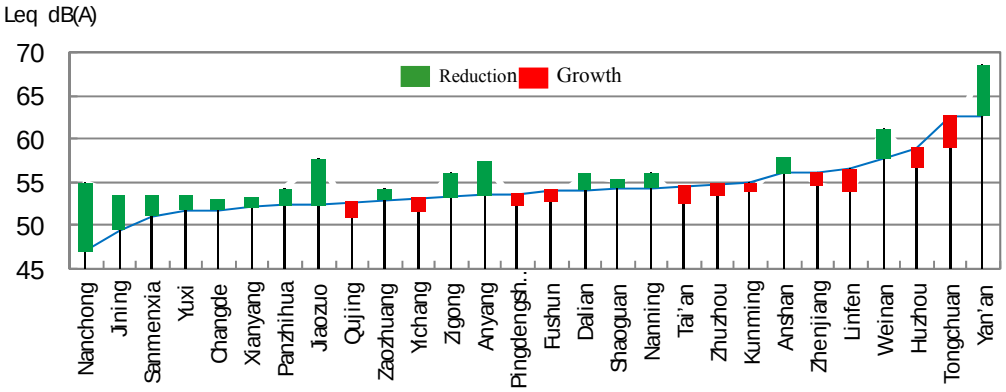
Regional Environmental Noise Among the 378 cities (counties) covered by urban regional environmental noise monitoring, 19 cities (5.0%) had good urban area-wide acoustic environment, 241 cities (63.8%) had fairly good area-wide acoustic environment, 111 cities (29.3%) registered light noise pollution while 6 cities (1.6%) and 1 city (0.3%) respectively recorded medium and heavy noise pollution.



State of Urban Regional Acoustic Environment in 2006

Of the 112 national key cities on environmental protection monitored (excluding Zunyi City, the same as below), the range of equivalent sound level of area-wide environmental noise was within 47.0～62.7dB(A), and the area weighted average of the equivalent sound level was 54.5 dB(A). 78 cities (69.6%) enjoyed fairly good acoustic environment in urban areas, 32 cities (28.6%) had light noise pollution, and 2 cities (1.8%) had medium noise pollution.

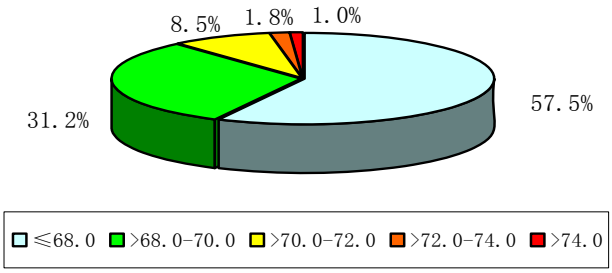
Compared with 2005 and out of the 111 comparable cities, 17 cities witnessed over 1dB(A) (including 1dB(A)) reduction of average equivalent sound level, and 11 cities experienced over 1dB(A) of growth (including 1dB(A)) in average equivalent sound level.



(Cities listed are all of the change range of or over 1dB (A))

Year-on-year Comparison of Equivalent Sound Level of Urban Area-wide Noise of Key Cities

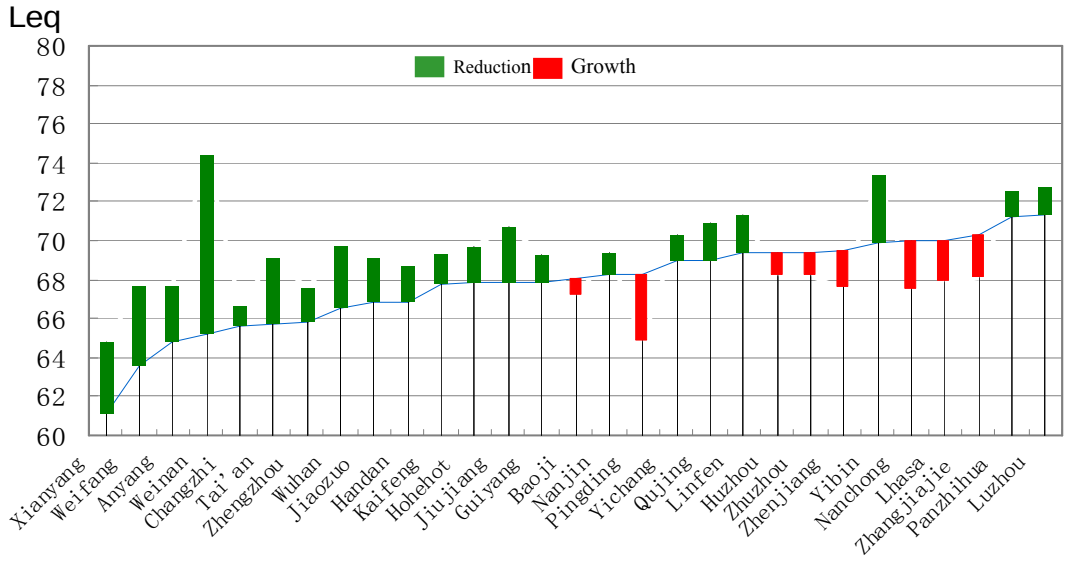
Road Traffic Noise Among the 398 cities (counties) covered by road traffic noise monitoring, the average equivalent sound level of 229 cities (57.5%) was at or below 68.0 dB(A); 124 cities (31.2%) was within the range of 68.0 to 70.0 dB(A); 34 cities (8.5%) was within the range of 70.0 to 72.0 dB(A); 7 cities (1.8%) was within the range of 72.0 to 74.0 dB(A) and 4 cities (1.0%) were above the level of 74.0 dB(A).



State of Acoustic Environment of Urban Traffic Noise in 2006

The monitored road length of the 112 national key cities on environmental protection totaled 13,068 km with the average equivalent sound level within the range of 61.1 ~ 74.7dB(A) and the road traffic weighted average of the equivalent sound level at 68.1dB(A). Among them, the equivalent sound level of 2,959.2 km exceeded 70 dB(A), accounting for 22.6% of the total length of road monitored.

In 2006, 8 cities witnessed over 1dB(A) growth of average equivalent sound level in road traffic noise, and 21 cities experienced over 1dB(A) reduction out of the 112 key cities.



(Cities listed are all of the change range of or over 1dB (A))

Comparison of Equivalent Sound Level of Road Traffic Noise of Key Cities between 2006 and 2005

Urban Functional Area Noise Among the 168 cities covered by functional noise monitoring nationwide, 3,163 site•time were monitored up to standard at all the sites in various types of functional areas in daytime throughout the whole year with the up-to-the-standard rate of 82.2% in daytime; 2,504 site•time were monitored at night with the up-to-the-standard rate of 65.1% at night. On the whole, the up-to-the-standard rate was better in daytime than at night for all types of functional areas, type 3 of functional area showed higher up-to-the-standard rate than those of other types.

Up-to-the-standard Status of the Monitoring Sites in Urban Functional Area

Functional Area Type	Type 0		Type 1		Type 2		Type 3		Type 4	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Up-to-the-standard site•time	62	45	659	515	883	741	645	555	914	648
Site•time monitored	108	108	813	813	1087	1087	706	706	1133	1133
Up-to-the-standard Rate (%)	57.4	41.7	81.1	63.3	81.2	68.2	91.4	78.6	80.7	57.2

Management of Environmental Impact Assessment (EIA)

In May 26~27 of 2006, SEPA held a National Work Meeting on Environmental Impact Assessment in Guangzhou. At the meeting, SEPA Minister Zhou Shengxian delivered an important speech on strengthening EIA management work and made the commitment of "providing efficient and convenient service to the people, keeping the work open and transparent, receiving supervision from the society, exercising fairness and impartiality in work, behaving honestly and self-disciplined, conducting the examination and approval procedure rigidly and upgrading efforts in acceptance checkup" to the general public.

In 2006, 820 state level construction projects were applied for approval from various construction units. As a result, SEPA received and handled 761 EIA reports (forms), approved 633 EIA reports (forms) and rejected or delayed the approval of 163 such reports (forms). SEPA also dealt with 48 work plans on EIA of planning and 18 reports, examined and completed 15 work plans on EIA of planning. In addition, 11 new EIA of planning pilot sites were initiated following the previous 5 ones including Inner Mongolia and Dalian.

Also in 2006, SEPA altogether received and handled 339 cases of environmental protection acceptance checkup application (including 229 industrial ones and 110 ecological ones) for construction projects, and 225 projects went through the environmental protection checkup for acceptance procedures (including 147 industrial ones and 78 ecological ones). In addition, 43 construction projects in violation of the "three simultaneity" system were ordered to take rectification measures within prescribed limit of time.

SEPA carried out the comprehensive qualification checkup of Grade A EIA Units for construction projects and qualification authorization extension of Grade B EIA Units across the nation. Following the checkup, 167 units (taking up 83.1% of the total) among 201 Grade A EIA Units were approved of Grade A qualification extension, while 34 (taking up 16.9% of the total) were rejected for such extension in 2006. Among the 733 Grade B EIA Units applying for qualification extension nationwide, the first group of 582 was approved.

Related works on the appraisal and selection of "State-level Environmentally-friendly Projects" were organized and unfolded, 10 projects were finally awarded with the title including the West-east Natural Gas Transport Pipeline Project following the procedures of initial appraisal, second appraisal, review and public notification.

Nationwide Environmental Risk Checkup of Chemical and Petrochemical Construction Projects

In 2006, SEPA asked local EPA at various levels to launch the environmental risk checkup of 7,555 chemical and petrochemical construction projects examined and approved in recent years totaling almost 1.0152 trillion RMB yuan of investment, among which 127 were at the state level covering 445.9 billion yuan of investment; 7,428 were at or below provincial level with 569.3 billion yuan of investment. The environmental protection departments at all levels issued request for rectification and improvement for 3,794 enterprises and demanded 49 enterprises having severe environmental risks to move to other places. Statistics showed that a newly added investment of 14.05 billion yuan on environmental risk was made to the 7,555 projects after the checkup.

Solid Wastes

General Situation

In 2006, total generated amount of industrial solid waste in China was 1.520 billion tons, up by 13.1% compared with that of 2005. The discharged amount of industrial solid was 13.03 million tons, down by 21.3% than in 2005. A total of 926 million tons of industrial solid were comprehensively utilized.

Measures and Action

【Development of Laws, Regulations and Standards】 In 2006, SEPA issued the Guidelines on the Release of the Information about the Prevention and Control of Solid Waste Pollution in Large and Medium Sized Cities, drafted such documents as the Measures on the Administration of the Application and Approval for the Export of Hazardous Waste, Guidelines for Hazardous Waste Operation Unit on the Development of Emergency Response and Detailed Rules on the Review of the Operation License for Hazardous Waste. It also organized the compilation of the Environmental Technical Specifications on the Treatment of Chrome Slag Pollution.

【National Plan for the Construction of Disposal Facilities for Hazardous Waste and Medical Waste】 In 2006, SEPA finished the technical review of 75 feasibility study reports of the projects under the National Plan for the Construction of Disposal Facilities for Hazardous Waste and Medical Waste. National Development and Reform Commission (NDRC) made an investment plan for 43 disposal facility construction projects for hazardous and medical waste (including 2

hazardous waste disposal projects in Chongqing), which approved total investment of 1817.34 million yuan (1096.67 million yuan were special fund from the central budget and 720.67 million yuan were were local supporting fund). It put in place 715.93 million yuan special fund in the central budget, approved 3 capacity building projects under the National Plan for the Construction of Disposal Facilities for Hazardous Waste and Medical Waste and total investment of 602.50 million yuan (Among them, 532.17 million yuan were special fund from the central budget and 70.33 million yuan were local supporting fund). The authority also put in place 296.18 million yuan special fund from the central budget (among them, 289.18 million yuan were for 31 radioactive waste projects and 7 million yuan for the construction of dioxin lab). In 2006, a total of 1012.11 million yuan special funds from the central budget were put in place under the National Plan for the Construction of Disposal Facilities for Hazardous Waste and Medical Waste.

【Environmental Management of Hazardous Waste】 In 2006, SEPA organized experts carrying out review of application documents and site inspection on 13 units applying for operation license of hazardous waste and issued 12 such operation license. To support national survey on pollution sources, SEPA selected chemical raw material industry and chemical manufacturing industry across China as key industries to carry out trial work on the notification & registration of industrial hazardous waste and special investigation on the sources of such waste. To ensure smooth implementation of the the Program on Integrated Treatment of Chrome Slag Pollution, SEPA and NDRC conducted site supervision on the treatment of chrome slag pollution in some provinces and municipalities. With close cooperation and on the basis of special inspection of last year, SEPA and Ministry of Health carried out another special inspection on medical waste in some coastal

provinces and municipalities of Southeast China.

【Environmental Management of the Import & Export of Toxic Chemicals】 SEPA, Ministry of Commerce and General Administration of Customs jointly issued the List of Goods Prohibited to Be Imported (Sixth Group) and List of Goods Prohibited to Be Exported (Third Group), which include 17 toxic chemicals phasing out in China or banned by international conventions into the national list of goods prohibited to be imported or exported. SEPA and General Administration of Customs (GAC) jointly issued the List of China on Toxic Chemicals under Strict Restriction, which includes 188 types of toxic chemicals and replaces the List of China on Toxic Chemicals under Prohibition or Strict Restriction (First and Second Groups) as of January 1, 2006. It sets up one-year transition period in accordance with the Regulations on Environmental Management of the First Import of Chemicals and Import & Export of Toxic Chemicals. In 2006, SEPA reviewed and issued 281 Registration Certificates on Environmental Management of Import & Export of Toxic Chemicals and 10,518 letters of advice for passing environmental management of import & export of toxic chemicals.

【Management on Import Waste】 In 2006, SEPA distributed the Circular on Strengthening the Administration of Approval for Imported Waste under Restriction. SEPA and GAC jointly launched the "Special Action for Sky Protection" to prevent and crack down the illegal transboundary movement of waste to China.

SEPA enhanced the review and administration on the designated enterprises that process and reuse of imported waste metals, electrical appliance, wire & cable and electric machinery. It made public 505 enterprises from 28 provinces or municipalities as designated units in 2006. It has enhanced the supervision and management on import-waste processing and reuse enterprises, organized local environmental

protection departments to investigate 26 reports on the import of waste and suspended the approval of the import of waste to 5 enterprises among them. It continued its promotion of "concentrated management" of import waste. In July of 2006, SEPA approved the development of import-waste processing industrial parks in Zhaoqing City and Jiangmen City in Guangdong Province.

In 2006, SEPA reviewed a total of 12,051 application documents from 3,577 enterprises that import waste for processing and utilization and issued 11,365 permits for the import of solid waste. It approved the import of a total of 96.63 million tons of waste. Import wastes with the largest amount were waste paper, waste iron & steel, waste hardware & electric appliance and waste plastics.

【Prevention and Control of Electronic Waste Pollution】 In 2006, SEPA drafted the Measures on Environmental Management of Electronic Waste. With the support of SEPA, Ministry of Information Industry has developed and issued the Limits of Toxic and Hazardous Substances in Electronic Information Products and Label Requirements for Pollution Control of Electronic Information Products. It has kept on supporting enterprises to carry out spontaneous activities in collecting and treatment of electronic waste and explored producer recycling its waste product mechanism.

【Implementation of International Conventions】 In 2006, SEPA facilitated relevant implementation work in such areas as control of transboundary movement of hazardous waste, registration of toxic and new chemical substances and strengthening of structure adjustment of chemical industries and products in accordance with the requirements of international conventions.

The implementation of the Stockholm Convention on Persistant Organic Pollutants by the Chinese Government has evolved from early

preparation stage to overall implementation stage. In 2006, 11 members of national implementation coordination group including SEPA discussed and studied the management policy on POPs and coordinated the implementation work of each relevant department. Shaanxi, Chongqing and Tianjin have established provincial level implementation institution for the Stockholm Convention. As a result, the overall capacity of China in implementation of the Convention has strengthened. SEPA in cooperation with relevant departments finished the National Implementation Plan of the People's Republic of China for the Stockholm Convention on Permenant Organic Pollutants. It has signed and launched such projects as the Demonstration Project on the Management and Disposal of PCB in China and Demonstration Project on the Substitution of Anti-termite Chlordan and Mirex with introduction of about $34 million and financing of around $30 million.

SEPA also implemented the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and Basel Convention and gave response to the requests and procedures to other parties.

Development of National Model City on Environmental Protection (NMCEP)

In 2006, SEPA issued the Examination Indicators for National Model City on Environmental Protection during the 11th Five-Year Plan Period and Its Detailed Rules for Implementation and Regulations on the Development and Management of National Model City on Environmental Protection, which have adjusted existing indicators, standardized such work and further raised the level of NMCEPs.

In 2006, SEPA organized the check and acceptance work on NMCEPs for such cities as Nantong, Tongzhou, Yixing, Taizhou, Jurong, Xuzhou in Jiangsu Province; Huzhou, Yiwu, Zhuji of Zhejiang Province; Jimo, Pingdu, Shouguang, Linyi and Zhangqiu in Shandong Province; Guangzhou and Zhaoqing of Guangdong Province; Quanzhou of Fujian Province; Jiayuguan of Gansu Province; Changde of Hunan Province and Wafangdian of Liaoning Province.

In 2006, 10 cities including Tianjin, Ma'anshan, Langfang, Nantong, Huzhou, Zhaoqing, Quanzhou, Yixing, Jimo and Pingdu won the award of NMCEP, while Pudong New District of Shanghai and BeibeiDistrict of Chongqing were awarded as National Model Urban District on Environmental Protection. Three existing NMCEPs including Shenzhen in Guangdong, Yangzhou and Taicang in Jiangsu Province passed reexaminations

Up to the end of 2006, there were 63 NMCEPs and 5 National Model Urban District on Environmental Protection.

Development of National Demonstration Site on Eco Industry, National ISO14000 Demonstration Site and National Environment-Friendly Enterprises

In 2006, SEPA approved the plan for the development of National Demonstration Site on Eco Industry in such places as Wuxi Xinqu Industrial Park, Qingdao Xintiandi Industrial Park (vein industries), Shanxi Taian Corporation, Zhangjiagang Bonded Area, Shaoxing Paojiang Industrial Zone, Rizhao Economic Development Zone and Kunshan Economic Development Zone. At present, there are 25 National Demonstration Site on Eco Industry.

In 2006, SEPA approved the following places as National ISO14000 Demonstration Site: Huayuan Industrial Area of Tianjin New Tech Industrial Park, Ningbo Bonded Area (export processing area), Nantong Economic & Technological Development Zone, Kunshan Economic & Technological Development Zone, Ningbo Economic & Technological Development Zone, Emeishan Scenic Spot in Sichuan, Qingchengshan—Dujiangyan Scenic Spot in Sichuan and Huangshan Scenic Spot. There were 31 National ISO14000 Demonstration Site up to the end of 2006.

In 2006, SEPA approved the title of "National Environment-Friendly Enterprises" to six enterprises in China, making the total amount of such enterprises reaching 38 to the end of 2006.

Radiation and Radioactive Environment

General Situation

In 2006, there was no significant change in overall radiation environmental quality across China, which was similar to that of last year. Most nuclear facilities, uranium mining and mineral processing facilities and nuclear technology utilization activities did not impose measurable pollution to the surrounding environment. Temperorary urban warehouse for radioactive wastes did not affect the surrounding environment. The electromagnetic radiation in the vicinity of most electro-magnetic radiation facilities met national standard. However, there was still certain hidden radiation environmental pollution risk in some units.

Environmental Radioactive Radiation In 2006, monitoring results on national radiation environment showed that atmospheric absorption dose rate of γ radiation and radioactive specific activities of aerosols and air precipitum were similar to that of 2005. The urban indoor radon concentration of some cities under radioactive monitoring program was lower than the National Standard for the Control of Indoor Radon Concentration. The concentration of radionuclide of each monitoring section of such waters as the Haihe River, Yellow River, Yangtze River, Songhua River, Huaihe River, Pearl River, Minjiang River, Qiantang River, Yili River and Heping Canal as well as that of big lakes and reservoirs kept at the same level compared with that of 2005. The total α and β radioactive specific activities of the drinking water sources under monitoring were below national dinking water quality standard and met drinking requirement. Within the monitoring region, the radionuclide concentration of the soil was similar to the measured results obtained from national natural radioactivity investigation without any abnormal

phenomenon. Among the biological samples, the concentrations of natural radioclide ^{90}Sr and artificial radionuclide ^{137}Cs were similar to the monitoring result of normal years. In all cities with radioactivity monitoring program, there was no significant difference between the atmospheric absorption dose rate of γ radiation within and surrounding tentative radioactive waste warehouse, radioclide concentration in water and soil and that of other environment.

Environmental Radiation Surrounding Nuclear Power Plants In 2006, Qinshan Nuclear PowerFacilities in Zhejiang Province, Dayawan/Ling'ao Nuclear Power Plants in Guangdong Province and Tianwan Nuclear Power Plant in Jiangsu Province operated safely and smoothly. Among them, the annual average of atmospheric absorption dose rate of γ radiation surrounding Qinshan Nuclear Power Facilities was 102nGy/h (not deducting the cosmic rays response value). The annual average of atmospheric absorption dose rate of γ radiation surrounding Dayawan/Ling'ao Nuclear Power Plant in Guangdong Province was 118nGy/h (not deducting the cosmic rays response value). The annual average of atmospheric absorption dose rate of γ radiation surrounding Tianwan Nuclear Power Plant in Jiangsu Province was 60nGy/h. Monitoring results showed that atmospheric absorption dose rate of γ radiation surrounding nuclear power plants was still within natural baseline fluctuations of the region where they located.

The average tritium concentration of Qinlian monitoring site, Xiajiawan monitoring site, Yangliucun monitoring site, Qinshanzhen monitoring site and Wuyuan monitoring site surround Qinshan Nuclear Power Facilities in Zhejiang Province was 145mBq/m^3·air, similar to that of 2005. Annual tritium concentration of surface water samples at Xiajiawan and Qinlian monitoring sites in the vicinity of the nuclear power plant was 21.1Bq/L, higher than that of the control site and that of

2005; the tritium concentration in pine needles and fresh tea leaves had some increase compared with that of 2005.

In sea waters west to Dayawan, there were trace amount of tritiuminsome sea water samples. In marine creature ─ oysters sampled from Dongshan, we had monitored trace amount of ^{110m}Ag with concentration of 0.74Bq/kg· flesh.

Environmental Radiation Srrounding Uranium Mines and Smelters and Associated Radioactive Mines In 2006, radiation situation surrounding some uranium mines and their hydrometallurgical facilities across China was within the controllable range. Monitoring results of the atmospheric absorption dose rate of environmental γ radiation, radioclide concentrations of water bodies, soil and sludge in the vicinity of uranium mines and their hydrometallurgical facilities and tritium concentration in surrounding atmosphere as well as radon α potential showed that the uranium concentration of environmental waters in the vicinity of some uranium mines and hydrometallurgical facilities was higher than that of the control site or baseline level. Radon concentration of air samples in the vicinity of uranium mines under radioactivity monitoring program had no significant rising trend under current monitoring conditions. The development and utilization of some associated radioactive minerals had some impacts at different degrees on the surrounding environment.

Environmental Radiation in the Vicinity of Uranium Transfer, Concentration and Element Pre-manufacturing Fcailities and Nuclear Fuel Post-Treatment System In 2006, Environmental γ radiation dose in the vicinity of nuclear fuel element manufacturers and facilities including Zhonghe Beifang Nuclear Fuel Company was still within the range of environmental baseline level. Under current monitoring conditions, we had not seen evident rise of radioclide

concentration in environmental media resulting from production and processing.

Radiation Surrounding Electromagnetic Radiation Facilities In 2006, the general field intensity of individual sites of radio and television launching towers exceeded derived public radiation limit. The electromagnetic radiation level of the building roof that installed the antenna of some mobile communication base stations went beyond relevant standard. The field intensity of the radio interference near 110kV, 220kV and 500kV transformer substations exceeded the standard. So did the radio interference field intensity near some 220kV, 500kV and 750kV power transmission lines. In addition, the electric field of operation frequency near some 500kV high-voltage transmission lines exceeded the required limit of that of operation frequency of residential communities.

Measures and Actions

【Laws, Regulations and Administrative Rules on Nuclear Safety】 On January 28, 2006, SEPA issued the No.3 Detailed Rules for the Implementation of the *Regulations on the Supervision and Administration of the Safety of Civil Nuclear Facilities* —— Regulations on the Application and Issue of Safety Permit of Research Reactors. SEPA and Ministry of Commerce issued the List of Radioactive Isotopes Restricted from Import on the same day. On May 30, 2006, SEPA and Ministry of Health began the implementation of the Measures for Classification of Radioactive Devices. On September 28, 2006, SEPA, Ministry of Public Security and Ministry of Health jointly issued a document requiring the establishment of classified handling and reporting system for radiation accident resulting from radioactive isotopes and radioactive devices.

【Development of Nuclear and Radiation Institutions】 In July of 2006, SEPA established Northeast China Nuclear and Radiation Safety Supervision Station and Northwest China Nuclear and Radiation Safety Supervision Station and expanded Shanghai Nuclear and Radiation Safety Supervision Station, Guangdong Nuclear and Radiation Safety Supervision Station, Sichuan Nuclear and Radiation Safety Supervision Station and North China Nuclear and Radiation Safety Supervision Station. The heads of the above six regional law enforcement supervision offices were at Director-General level.

【Supervision and Management of Radioactive Sources】 In 2006, SEPA issued radiation safety permits to 107 units with radioactive sources, reviewed more than 800 documents on the import & export of radioactive isotopes with accumulated import of 2,600 radioactive sources. There were a total of 23 radiation accidents across China due to loss, steal or poor management of radioactive sources. Among them, one was very big accident, 5 big accidents and 17 ordinary accidents. These accidents lead to radiation damage to one person but had not environmental pollution.

National Conference on Environmental Science and Technology

National Conference on Environmental Science and Technology was held in Beijing on August 18-19, 2006. Vice Premier Zeng Peiyan sent a congratulation letter to the conference. Ms. Gu Xiulian, Vice President of the Standing Committee of NPC, Mr. Zhang Rongming, Vice Chairman of CPPCC, Mr. Mao Rubai, Director of the Committee on Environment and Resources of NPC and the heads of over 20 minitries and commissions of the State Council attended the conference. This is the first national conference on environmental science and technology in China with rich contents and far-reaching significance.

National Conference on Environmental Science and Technology has identified the strategy of using science and technology to promote environmental protection, scientific innovation to facilitate the historic transformation of environmental protection and scientific progress to drive leap-frog development of the cause of environmental protection. It initiated national key scientific research project for the control of water pollution and set up National Environmental Advisory Commission and SEPA Science and Technology Commission with the wide “united front” on environmental protection taking shape. In addition, it made the overall arrangements for the implementation of the Some Suggestions on Strengthening the Capacity in Environmental Science & Technology Innovation, which further identifies the guiding policy, goal, key tasks and guarantee measures for the work on environmental science & technology of the next 5 ~ 10 years.

Natural Ecology

General Situation

Nature Reserves In 2006, the State Council approved 22 new national nature reserves in 17 provinces and autonomous regions including Shanxi and Inner Mongolia with total area of 2.8625 million ha. It also approved the scope and function zoning of the following 3 nnational nature reserves: the Yalu River Mouth Wetland of Dandong in Liaoning Province, Yancheng Wetland Rare Birds Nature Reserve in Jiangsu Province and Yading Nature Reserve in Sichuan Province.

Up to the end of 2006, there were a total of 2,395 various nature reserves at different levels across China with total area of 151.5350 million ha. Among them, 265 were national nature reserves with total area of 91.697 million ha, accounting for 11.06% of the total amount and 60.51% of the total area. Among the total area of protected areas, 6 million ha were coastal waters and 145.535 million ha land area. The total area of terrestrial nature reserves accounted for 15.16% of total land area of China. The amount of nature reserves increased by 46 and total area by 1.586 million ha compared with that of 2005.

Nature Reserves in China (Up to the end of 2006)

Province	Amount					Area(ha)					%of land area
	NL	PL	CiL	CL	Total	NL	PL	CiL	CL	Total	
Beijing	1	12	6	0	19	4660	91498	36150	0	132308	7.86
Tianjin	3	6	0	0	9	100949	63436	0	0	164385	14.50
Hebei	8	20	2	5	35	105802	457800	8806	24626	597034	3.19
Shanxi	5	40	0	0	45	82936	1045392	0	0	1128328	7.22
Inner Mongolia	21	54	33	84	192	3489958	7435568	436311	2128068	13489905	11.40
Liaoning	11	28	33	17	89	1162126	838786	691373	95652	2787937	10.91
Jilin	9	15	4	5	33	679081	1523238	8779	18831	2229929	12.34
Heilongjiang	15	53	35	73	176	1709320	2427017	419367	866025	5421729	11.93

Province	Amount					Area (ha)					% of land area
	NL	PL	CiL	CL	Total	NL	PL	CiL	CL	Total	
Shanghai	2	2	0	0	4	66175	27646	0	0	93821	14.79
Jiangsu	3	10	8	17	38	336211	111684	128832	116217	692944	6.75
Zhejiang	9	8	0	35	52	96724	125915	0	41768	264407	2.59
Anhui	6	27	0	2	35	164282	263652	0	6708	434642	3.34
Fujian	11	28	7	47	93	187760	155845	75354	88544	507503	3.06
Jiangxi	5	25	1	103	134	81536	346749	1560	491095	920940	5.53
Shandong	5	25	24	21	75	239674	471695	252850	133122	1097341	6.63
Henan	10	19	1	2	32	378941	373931	163	1400	754435	4.52
Hubei	7	17	21	18	63	166418	391514	312260	143764	1013956	5.45
Hunan	11	31	0	53	95	415925	433257	0	256439	1105621	5.22
Guangdong	9	49	106	135	299	175193	621383	369064	2277486	3443126	4.64
Guangxi	12	46	3	11	72	221062	944445	118947	141264	1425718	5.89
Hainan	8	25	9	27	69	83637	2635511	16205	76815	2812168	5.28
Chongqing	3	19	0	28	50	195512	373362	0	347634	916508	11.14
Sichuan	20	64	31	49	164	1593112	3969115	1453108	2053496	9068831	18.57
Guizhou	7	4	22	95	128	217308	70453	276344	385820	949925	5.40
Yunnan	16	52	71	59	198	1431215	1888471	557307	349846	4226839	10.73
Tibet	9	6	1	22	38	37153065	3816144	70	1504	40970783	34.14
Shaanxi	7	36	4	3	50	266452	683356	61534	34602	1045944	5.08
Gansu	13	40	0	4	57	6861230	2907645	0	114900	9883775	21.68
Qinghai	5	6	0	0	11	20252490	1506820	0	0	21759310	30.20
Ningxia	6	7	0	0	13	439208	67575	0	0	506783	9.78
Xinjiang	8	19	0	0	27	13339066	8349099	0	0	21688165	13.55
Total	265	793	422	915	2395	91697028	44418002	5224384	10195626	151535040	15.16

Note: NL refers to national level; PL refers to provincial level; CiL refers to city level and CL refers to county level.

Type of Nature Reserves of China in 2006

Type	Amount		Area	
	Amount	Percent (%)	Total area (10,000 ha)	Percent (%)
Natural eco system	1593	66.51	10366.45	68.41
Forest eco system	1205	50.31	3362.37	22.19
Grassland and grassy marshland eco system	45	1.88	319.35	2.11
Wilderness eco system	25	1.04	3966.78	26.18
Land wetland and water eco system	250	10.44	2616.42	17.27
Marine eco system	68	2.84	101.53	0.67

Type	Amount		Area	
	Amount	Percent (%)	Total area (10,000 ha)	Percent (%)
Wild biological species	669	27.93	4609.08	30.42
Wild animal reserve	511	21.34	4318.46	28.50
Wild plants reserve	158	6.60	290.62	1.92
Natural relics	133	5.55	177.97	1.17
Geological relics	101	4.22	125.55	0.83
Ancient extinct life relics	32	1.34	52.43	0.35
Total	2395	100	15153.50	100

Eco System China has various kinds of terrestrial ecological systems with each kind under different climate and soils. These eco systems mainly include forest, shrubbery, grassy marshland, marshland, grassland and grassland with some trees, wilderness and tundra, a total of 595 kinds. The aquatic ecological systems include various river eco systems, lake eco systems and marine eco systems, etc.

Species China is one of the countries with richest species in the world. Apart from fish, China has 2,619 species of vertebrates. Among them, 581 are mammals, 1331 birds, 412 reptiles and about 295 amphibious animals. There are about 30,000 species of higher plants in China. Among them, about 2,200 species are bryophytes，accounting for 9.1% of the world total. 2,200 ~ 2,600 are pteridophytes, taking up about 22% of the world total. As a country with richest gymnosperm in the world, China has around 250 species of 34 genuses of 10 families of gymnosperm, accounting for 66.6% of total species, 41.5% of total genuses and 37.8% and total families of existing gymnosperm in the world. China also has over 30,000 species of 3123 genuses of 328 families of angiosperm, taking up 75% of total family, 30% of total genuses and 10% of total species in the world. In addition, China has more than 3,000 species of insects on record.

China has many endemic species. Among vertebrate species, 667

species only exist in China, accounting for 10% of the total in China. In more than 30,000 higher plants in China, about 17,300 species are endemic, taking up over 57% of the total. Species such as Giant panda, red ibis, South China tiger, antelope, Pantholops hodgsoni, *Crossoptilon mantchuricum*, Chinese monal, white-flag dolphin, Yangtze alligator, dawn redwood, silver fir, dove tree, Taiwania, ginkgo, *Abies beshanzuensis*, *Emmenopterys henryi Oliv.* are all unique rare and endangered wild animals and plants in China.

Endangered Species With continuous conservation of wild animal and plant species and the protectioj and restoration of the habitats of endangered species, dramatic declining treand of most wildlife species under national key conservation program has been under effective control with gradual stable communities and population. For example, the amount of red ibis has gone up from 7 in 1981 to over 1,000 at present. In 2006, a total of 30 artifical-insemination giant pandas survived, a record high in history. There are 215 giant pandas fed by people. The amount of Hainan *Cervus eldi* went up from 26 about 30 years ago to over 1600 in 2006. *Hylobates concolor* in East China disappeared in 1950s reappears in Guangxi Zhuang Autonomous Region. The amount of botanical gardens in China is 160. 60% higher plant species were removed to better environment for conservation.

Biodiversity of Wetlands China is one of the countries with most complete type and amounts of wetland in the world. The total area of existing wetland with size over 100 ha is 38.48 million ha (excluding that of Hong Kong, Macao and Taiwan)，accounting for 4% of total national land area and about 10% of total wetland area in the world, ranking No.1 in Asia and No.4 in the world. Among them, natural wetland has an area of 36.2 million ha, including 5.94 million ha coastal wetland, 8.2 million ha river-type wetland, 8.35 million ha lake-type wetland and 13.70

million ha marshland.

China has very rich wetland species. For plant, there are about 2,276 species (including sub-species classification) of 815 genuses of 101 families. In wetland wildlife species, there are more than 1,000 species (or subspecies) of fish, 122 species of reptiles, 31 species of beasts and 271 species of birds. Among them, 56 species of birds are under national major conservation program. Among 57 spcies of endangered birds in Asia, 31 species live in wetlands in China, accounting for 54%. There are 15 species of crane in the world, 9 of them are recorded living in wetlands of China, taking up 60%. There are 166 species of wild goose and duck across the world, 50 of them have their habitat in wetlands of China, accounting for 30%.

Measures and Actions

【China High Level Forum on Ecological Safety】SEPA held "China High Level Forum on Ecological Safety" on June 5, 2006 to commemorate World Environment Day. Vice Premier Zeng Peiyan attended the meeting and made an important speech titled "Conserve ecological environment, safeguard eco safety and consolidate the foundation for the development of the Chinese Nation.

【 Management & Protection of Nature Reserves and Development of Eco Function Protected Areas】Seven departments of the State Council including SEPA, State Forestry Administration and Ministry of Agriculture jointly held the "Commemoration Meeting on 50-Year Development of Nature Reserves in China", Vice Premier Zeng Peiyan metb with participants and gave an important speech. In 2006 Ministry of Finance appropriated 50 million yuan special fund for the capacity building of 54 national nature reserves. SEPA issued the Measures on Supervision and Inspection on National Nature Reserves. In

cooperation with relevant department it has developed the National Plan for Major Eco Function Protected Area (2006 ~ 2020). SEPA also organized the review on the following three national eco function protected areas: Gannan in Gansu Province, Dongchuan in Yunnan Province and Dongjiangyuan in Jiangxi Province.

【Conservation of Biological Species and Biodiversity】 In 2006, SEPA in cooperation with the members of inter-ministry joint meeting on the conservation of biological species resources has completed the development of the National Plan for the Conservation and Utilization of Biological Species Resources, drafted the Regulations on the Administration of Biological Genetic Resources and held the 4th Inter-ministry Joint Meeting on the Conservation of Biological Species Resources. State Intellectual Property Office has amended the Patent Law and added the provision on disclosure of the source of biological genetic resources when applying for patent. General Administration of Quality Supervision, Inspection and Quarantine has drafted the Measures on the Management of Inspection and Quarantine of Entry & Exit Biological Species Resources. SEPA in cooperation with such departments as the Ministry of Education, Ministry of Agriculture, State Forestry Administration, Chinese Academy of Sciences and State Administration on Traditional Chinese Medicine has continued focused investigations on national biological species resources and made a series of important achievements with the primary establishment of national database on biological species resources. “The Study on the Intellectual Property of Biological Resources” as one of the strategic researches on national intellectual property has met its stage objective.

Ministry of Agriculture organized the investigations on wild plant resources for agriculture in 10 provinces including Jiangxi with more than 1,700 wild species (times) under investigation. Investigators have

collected, identified and made over 2,200 plant specimens and understood the current geological distribution of part of wild plant species. It has enhanced the research and development of wild plant species with agricultural value and identified Leizhou Penisular and northern part of Hainan Province as China Center for Genetic Biodiversity of Ordinary Wild Rice. It has developed 61 micro nucleus species materials representing 71% genetic biodiversity of wild soybean in China. It has established the database of wild soybean, wild rice and wheat kindred plant (including 6,708 wild soybean, 4,113 wheat kindred wild plants and 7,324 wild rice specimens). In addition, the studies on identification, evaluation, genetic positioning and clone research on high-quality resources have obtained fruteful achievements.

【Prevention and Control of the Invasion of Alien Species】 In 2006, the authority carried out investigations on the invasion of hazardous alien species in 26 national nature reserves across China. The findings show that there is such invasion in all 26 nature reserves with total 131 species. Low latitude regions such as islands and tropical areas are subject to relatively severe threats with more invasion species. And high latitude regions have lighter threats with less invasive species. At present, Crofton weed (*Eupatorium adenophorum Spreng*) is still the most hazardous alien species in Southwest China.

The Ministry of Agriculture continued the organization and implementation of Elimination of the Hazardous Alien Species in 100 Counties of 10 Provinces, focusing on collective elimination of 8 species of alien plants with severe threats including *Ambrosia artemisiifolia L.*, *Solidago Canadensis* and crofton weed with 14.43 million mu (15 mu = 1 ha) of such plants destroyed and 530,000 mu demonstration sites on comprehensive prevention and control of such plants established.

【 Implementation of International Conventions and

International Cooperation】 In March of 2006, the Chinese Delegation attended the 8th Conference of Parties (COP) of the Convention on Biological Convention and the 3rd COP of the Protocol on Bio-Safety held in Brazil. The 8th COP of the Convention on Biological Conventionfocused on in-depth discussion and review of such topics as island biodiversity, biodiversity in arid and semi-wet regions, initiatives on classification of global biodervisity, genetic resources acquisition and benefit sharing, publicity of Article 8(j) and relevant articles and provisions, education and public awareness, and passed 34 decisions. As a party for the first time, China attended the 3rd COP of the Protocol on Bio-safety. At this meeting, GEF/UNEP Implementation of China National Biosafety Framework won the award. SEPA in cooperation with relevant department has compiled the National Program for the Implementation of the Cartagena Protocol on Biosafety.

In 2006, China launched the "China Biodiversity Partnership Framework (CBPF)"and "EU－China Biodiversity Program". CBPF is a long-term project headed by SEPA and Ministry of Finance and donations from GEF and aims to establish a comprehensive and systematic cooperation mechanism for the conservation of biodiversity. As the biggest cooperation project between the Chinese Government and EU in the field of biodiversity, "EU－China Biodiversity Program" aims to establish information and monitoring system on biodiversity, enhance publicity on conservation of biodiversity and promote the development of policies, laws and regulations of China on the conservation of biodiversity through strengthening of the capacity of China in implementing the Convention on Biological Diversity.

【Ecological and Environmental Supervision and Management on Development of Natural Resources】 In 2006, SEPA issued the Circular on Streamlining and Standardizing the Development of Mineral

Resources, which requires environmental protection departments at different levels to enhance their awareness and make more efforts in investigating and sanction environmental infringements in the development of mineral resources. A total of 25,000 mining companies were inspected with 4,709 closed or banned and 1,461 eliminating hidden environmental risks. In view of sudden environmental accidents resulting from dam failure of tailings pond or fly-ash pond, SEPA and State Administration of Work Safety jointly issued the Circular on the Prevention of Environmental Emergencies resulting from Failure of Tailings Pond. NDRC and SEPA jointly developed the Suggestions on the Trial of Policy Measures for Sustainable Development of Coal Industry in Shanxi Province, which was approved by the State Council. It clearly requires the establishment of ecological rehabilitation compensation mechanism for coal mining. Ministry of Finance, Ministry of Land and Resources and SEPA jointly issued the Instruction on Gradual Establishment of Responsibility Mechansim for Mine Site Environmental Treatment and Ecological Rehabilitation. National Tourism Administration, SEPA and Ministry of Construction jointly held a work meeting on environmental protection for eco tourism to facilitate sustainable use of tourist resources.

Development of Eco Province (City and County)

In 2006, Sichuan Province, Guangxi, Liaoning Province and Tianjin began the application for eco province (autonomous region or municipality) with total number of such province reaching 13. Zhangjiagang City, Changshu City, Kunshan City and Jiangyin City of Jiangsu Province, Minhang District of Shanghai and Jixian County of Zhejiang Province were among the first to be awarded as National Eco Cities (District or County) on June 6. In cooperation with the development of socialist new countryside, SEPA has developed the Standard for the Development of National Eco Village (Trial).

Mine Site Environmental Protection and Control

According to rough estimate, a total of 1.545 million ha land across China was subject to mineral development up to the end of 2006. Among them, 915,000 ha were occupied by tailings, 230,000 ha for open pits and 330,000 ha subsidence due to mining activities.

In 2006, the Central Government appropriated 1.06 billion yuan for mine site environmental control projects, up by 40% than that of 2005. These funds were for 341 projects involving various mines covering over 40 mineral resources of 31 provinces (autonomous region or municipality) and over 10 state-owned big mining companies. According to primary estimate, mining companies across China had rehabilited a total of 44,841 ha land in 2006.

Protection of Geological Relics and Geological Park

In 2006, the protection of geological relics enjoyed further enhancement. With 150 million yuan special fund of the Central Government for the protection of geological relics, 87 projects were put in place. The fund focused on the protection of geological relics in West China and old industrial bases in Northeast China.

In 2006, 16 new national geological parks and 2 world geological parks began their operation with the amount of national (world) geological parks totaling 81.

Six national geological parks including Mount Tai have been approved by UNESCO as world geological parks. Up to the end of 2006, China had a total of 18 world geological parks.

Land and Rural Environment

■ Land

General Situation

Up to October 31 of 2006, among all investigated land area of 31 provinces (autonomous regions or municipalities) across China, 9.858 billion mu (69.1%) were farmland, 485 million mu (3.4%) were construction land and 3.917 billion mu (27.5%) not in use. Per capita farmland was 7.50 mu and construction land 0.37 mu. Among the farmland, 1.827 billion mu were arable land, 177 million mu of vegetable and frute tree land, 3.54 billion forest land, 3.929 billion mu grazing land and 383 million mu other kind of farmland. Among the built land, 395 million mu were residential communities and separate plants and mines; 36 million mu for transportation and 54 million mu for water conservancy facilities.

In 2006, arable land across China had net reduction of 4.602 million mu. Among them, gross loss of arable land was 10.11 million mu (3.878 million mu for construction; 2.51 million mu of them for the construction work in 2006, and 1.368 million mu having been used for construction in the past few years without reporting the change; 538,000 mu destroyed by natural disasters; 5.091 million mu restored as grassland and forest; and 603,000 mu reduction due to agricultural structure adjustment). A total of 5.508 million mu land had been rehabilitated as arable land. Construction sector has realized the balance between occupying of arable land and rehalitation for arable land.

Compared with that of 2005, total arable land area reduced by 0.25%;vegetable and orchard area went up by 2.33%; forest land increased by 0.16%; grazing land went down by 0.08%; residential areas

and separate plants and mines land area increased by 1.30%; communications and transportation land area went up by 3.67%; and land area for water conservancy facilities increased by 0.46%.

Measures and Actions

【Investigation on Soil Pollution】 In 2006, national investigations on soil pollution was launched in an all round way. SEPA held the National Teleconference on the Investigation of Soil Pollution, developed and distributed the Master Plan for the Investigation of Soil Pollution and a series of technical specifications. It also carried out topic training and publicity work. Some regions such as the Yangtze River delta, Pearl River delta, central south of Liaoning Province and Zhuzhou of Hunan Province have finished the collection of soil samples.

【Streamlining of Development Zones】 With streamlining activities, the total amount and planned area of various development zones across China had decreased from 6866 and 38,600 km^2 at the end of July of 2003 to 1568 and 9949 km^2 respectively in December of 2006.

【Treatment of Water and Soil Erosion】 In 2006, a total of 103,200 km^2 land subject to water and soil erosion had been comprehensively treated. Among them, 41,700 km^2 were under comprehensive treatment; and 61,500 km^2 were enclosed for plant growth and conservation. Among the area under comprehensive treatment, 395,000 ha had transformed to new basic farmland. 2.542 million ha land were for plant growth to control water and soil erosion; 896,200 ha land were enclosed with banning of logging; 235,100 ha land were under measures for soil conservation. A total of 5,328 small river basins had finished comprehensive control program. 235,000 small water conservancy and soil conservation structures had been constructed. 1,113 new dams had been built involving 2.22 billiom m^3 of earth and stone.

【Key Water and Soil Conservation Projects】 In 2006, the authority continued the key water and soil conservation projects in some regions as the upstream and mid-stream of the Yangtze River and Yellow River, sand and dust source areas for Beijing and Tianjin, black earth area in Northeast China, Nanpan River and Beipan River at upstream of the Pearl River. It initiated the World Bank loan project on water and soil conservation in Yunnan, Guizhou, Hubei and Chengdu. The Central Government had invested 1.457 billion yuan and finished comprehensive control of water and soil erosion of 12,300 km^2. It launched the second batch national trial projects on water and soil conservation and ecological restoration with planned restoration area of 26,000 km^2. In addition, it has strengthened the enclosure and protection of national key project areas and further enhanced its efforts in the supervision and management on water and soil erosion for development or construction projects.

■ Rural Environment

General Situation

The situation of rural environment is quite serious with increasingly worse soil pollution due to the combination of point and non-point pollution, demostic and industrial contamination, various new, old and secondary pollution as well as transfer of industrial and urban pollution to rural areas, which becomes a factor constraining sustainable economic and social development in rural areas of China. Most garbage was directly piled near farmland or road or even discarded into ditches and ponds without treatment, affecting sanitation and rural landscape. Most domestic water was directly permeated into ground or discharged into ditches or ponds without any treatment. The distribution of township enterprises was not appropriate with striking pollution problems. In

addition, inappropriate application of fertilizers and pesticides caused pre-eminent non-point pollution in some areas. Pollution resulting from livestock and fowl breeding increased due to lag-behind comprehensive application measures.

Measures and Actions

【Drinking Water Safety in Rural Areas】 The Executive Meeting of the State Council reviewed and approved the 11th Five-Year National Plan for Safe Drinking Water Project in Rural Areas at the end of August of 2006, which identifies the target of addressing safe drinking water issue for 160 million people by the end of 2010, thus reducing half population without access to safe drinking water. It is planned that 100 demonstration counties on rural safe drinking water will be developed across the country. In areas with high concentrations of fluorine, arsenic and saline in water as well as the schistosomiasis epidemic area, the authority would carry out the study and demonstration work on integrated technology for safe drinking water in rural areas in cooperation with the key science and technology projects of the Ministry of Science and Technology during the 11th Five-Year Plan period

【 Environmental Protection Initiative for the Well-off Countryside 】 In 2006, SEPA issued the National Action Plan on Environmental Protection for a Well-off Countryside and facilitated its implementation. Centering on the goal of building a well-off society in an all round way, the Plan focuses on the following five key areas: comprehensive control of village environment; prevention and control of pollution by industrial enterprises in rural areas; control of soil pollution and rural non-point pollution sources; ensuring safety of drinking water; and prevention and control of the pollution caused by scaled livestock and fowl farming. It is expected that the “dirty, mess and poor” environment

issue in rural areas will be basically solved in the next 15 years to effectively curb worsening trend of environmental pollution in countryside and improve the living and production environment in rural areas. Ministry of Finance has established the sub-item of "environmental protection initiative for the new and well-off countryside" in special environmental protection fund of the central budget. Trial work, publicity and training activities on environmental protection initiative for the well-off countryside have been carried out in 27 province, cities, districts and counties including Ningxia, Liaoning, Chengdu and Jixi.

【Development of Rural Biogass and Clean Village Projects】

In 2006, the Central Government invested 2.5 billion yuan to boost the development of biogass facilities in countryside with new 4 million households getting access to biogass and the acculated amount of 22 million households. A total of 3,500 biogass facilities had been constructed with the waste of livestock and fowl as raw material.

Ministry of Agriculture carried out the activities on the clean village demonstration projects in 251 villages of 11 provinces (cities) across China in 2006. Focusing on "recycling and utilization of rural waste", the authority launched three big projects, namely, cleaning farmland, cleaning household and cleaning water sources. A total of 92,010 m sewage collection pipe, 3,802 sewage treatment cells, 200 collective sewage treatment stations, 143 garbage treatment stations, 2,895 waste recycling ponds, 1,969 compost (fermentation treatment) cells had been constructed. Rural areas have been equipped with 42,008 garbage bins (cells), 119 garbage trucks, 1,099 frequency-vibration insect killing lamps and 131 logistic management stations. With the construction and waste treatment facilities and extension of recycling technologies, agricultural non-point pollution has been effectively decreased.

【Prevention and Control of Pollution by Livestock and Fowl

Farming】 In 2006, the special fund for the prevention and control of pollution by collective breeding of livestock and fowl from the Central Government supported 29 projects of 13 provinces (autonomous regiona or municipalities) targeting on the pollution prevention & control and comprehensive utiolization of livestock and fowl farming wastes. The authority has actively facilitated legislation on rural environmental protection with the drafting of the Regulations on the Prevention and Control of Pollution by Livestock and Fowl Farming and the Regulations on Environmental Protection in Rural Areas. It has carried out investigations and review on the above two drafts and relevant issues.

【Scientific Application of Fertilizers and Pesticides】In 2006, Ministry of Agriculture provided subsidy for fertilizer application based on soil test in 600 counties across China. The Central Governemnt allocated 700 million yuan. Combining with new farmer training program, relevant workers carried out face-to-face training and guidance at farmland. A total of 3.8 million test items (times) on 585, 000 soil samples were made. An accumulated 260 million mu of farmland have been applied fertilizers based on soil sample test findings. As a result, this is equivalent to the reduction of the application of 500,000 t (pure form) fertilizers. At the same time, the authority has accelerated the reduction and substitution of high-toxic pesticides with comprehensive banning the production, sale and application of 5 kinds of high-toxic organic phosphorus pesticides including acephatemet. It has selected, demonstrated and promoted safe, efficient and environment-friendly pesticides and their supporting application technologies. In addition, pesticide-reduction application techniques have been studied and promoted with faster pace of upgrading of application machines and equipment. Moreover, more efforts have been made to promote top quality and highly efficient pesticide application equipment to improve

the efficiency.

【Comprehensive Utilization of Stalk】 The authority has vigorously promoted the protective cultivation and carried out technical demonstration on mechanic returning of stalk to cropland. Up to 2006, the Central Government had invested 140 million yuan, carried out protective cultivation projects in 167 counties of 15 provinces in North China, bring about 262 provincial-level demonstration counties with accumulated project area of 20 million mu. Protective cultivation practice has reduced CO_2 and dust emissions and taised soil moisture and water efficiency.

The authority continued using meteorological satellite to monitor the burning of agricultural stalks in summer and autumn across the country in 2006. Monitoring results show that the burning of agricultural stalks in most regions was on steady decline in 2006.

Water and Soil Erosion

There were a total of 3.56 million km^2 across China subject to water and soil erosion, accounting for 37.08% of total national land. Among them, 1.65 million km^2 were subject to water erosion, taking up 17.18% of national land; and 1.91 million km^2 subject to wind erosion, accounting for 19.9%. If we classify water and soil erosion area in terms of intensity, 1.62 million km^2 were subject to slight water and soil erosion, 800,00 km^2 subject to intermediate erosion, 430,000 km^2 subject to heavy erosion, 330,000 km^2 subject to very heavy erosion and 380,000 km^2 extremely heavy water and soil erosion.

Improvement of Drinking Water Source and Toiletsin Rural Areas

Up to the end of 2006, 91.06% of 951 million rural residents across China (excluding Tibet) got access to improved drinking water sources. Among them, 582 million people got access to tap water, taking up 61.12% of total rural population; 184 million people got access to water from hydraulic press，accounting for 19.35% of total rural population; 15 million people got got water supply from collected rain water, taking up 1.58% of the total; 86 million people got water from other type of primary improvement facilities, accounting for 9.04% of the total population.

Up to the end of 2006, among 252 million rural households across China, 54.95% got access to sanitary toilets. Among them, 32.31% had access to innocuous sanitary toilets; other types of sanitary toilets took up 41.20% of the total.

Prevention and Control of Endemic Diseases

According to monitoring results on iodized salt consumption in 2006, a total of 2,652 counties (district or banner) across China had carried out iodized salt monitoring and its overall coverage was 96.9%. 96.8% of iodized salt products were qualified, 93.8% of the iodized salt consumed was qualified and 3.1% was found not iodized salt.

According to annual statistics on endemic diseases, there are 1,115 districts and counties across China subject to fluorine poisoning endemics due to drinking water involving 113,354 villages and 81.63 million people. The amount of counties where the endemic is under basic control is 189. 1.34 million people suffer from bone fluorosis due to drinking water. In 2006, 735 endemic villages improved their drinking water benefiting 842,000 people. Accumulated 51,002 endemic villages have been improved their drinking water supply benefiting 42.049 million people. 45.0% endemic striken population had improved drinking water supply and 76.5% of such facilities under normal operation. 35,672 endemic villages of 201 counties (districts) were suffering from fluorosis due to coal burning involving 36.241 people of 8.6913 million households. 24 counties have met basic control standard. 1.957 million people were suffering from bone fluorosis due to coal burning. 419,000 households improved their stoves or kitchens in 2006 benefiting a population of 1.992 million. A total of 3.203 million households have improved their stoves or kitchens, accounting for 36.85% of the total, 71.8% of them under smooth operations.

According to investigation, 385,300 people in 425 endemic villages from 35 counties (districts) across the country were subject to arsenic poinsoning due to drinking water with 15,000 patients. 246 of such villages have improved their drinking water supply benefiting 247,000 people. 58% endemic areas have finished the improvement of their drinking water supply. 91% were in normal use. 310,000 people of 20,332 households from 276 endemic villages from 12 counties (districts) across the country were subject to arsenic poinsoning due to coal combustion with 15,000 patients with 16,000 victims. A total of 4,471 households in arsenic endemic striken areas had improved their stoves and kitchens. The accumulated amount of such household was 20,306. 88.2% of the improved stoves and kitchens could be in normal use.

358 counties (districts) across China were subject to Kaschin-Beck disease, 208 of which had basically controlled the endemic. There were 740,500 victims of Kaschin-Beck diseas, 33,200 of them were under 12 year's old.

According to investigation results, 327 counties (districts) across China had the endemic of *keshan* disease, 257 of them had basically controlled the disease. A total of 40,500 people were subject to the disease with 30,000 latent cases and 10,500 chronic cases.

Forest

General Situation

With vase area, complex natural climate condition, rich plant species, diversified forests, China has evident geological distribution of its forest resources. From the north to the south, main type of forests are the followings: coniferous forest, coniferous and broad-leaved mixed forest, deciduous broad-leaved forest, broad-leaved evergreen forest, seaonal rain forest and rain forests, constituting a unique forest landscape.

China ranked No.5 in the world in terms of forest area and No.6 interms of forest reserves and No.1 in terms of the area of artificial forests. According to the findings of the 6th National Investigation on Forest Resources (1999 ~ 2003), China had forest area of 174.9092 million ha, up by 15.9683 ha compared with the findings of the 5th National Investigation on Forest Resources (1994 ~ 1998). The forest coverage was 18.21%, up by 1.66 percentage points compared with that of the findings of the 5th National Investigation on Forest Resources. The total reserve of living trees was 13.618 billion m^3; forest reserve was 12.456 billion m^3. Per capita forest area was 0.132 ha, up by 0.004 ha compared with the findings (0.128 ha) of the 5th National Investigation on Forest Resources. Average annual net forest growth was 497 million m^3 and average annual logging amount was 365 million m^3.

Plant Diseases and Insect Pests 2006 was the year with more occurrences of plant disease and insect pests in forests than the historical average with 10.97 million ha affected, up by 20% than in 2005. Among them, 8.28 million ha suffered from insect pests, 1.04 million ha plant disease and 1.65 million ha subject to the damage by rats and rabbits. In addition, 300,000 ha forests were subject to hazardous plants.

Forest Fire In 2006, there were 8,170 forest fires across China. Among them, the amount of forest fire alarm, general fire, big fire and

very big forest fire was 5467, 2691, 7 and 5 respectively. Total area suffering from forest fires reached 562,300 ha and 408,300 ha forest affected. Forest fires had led to the loss of 10.0197 million m3 of mature forests, 138 million very young trees and other losses equivalent to 53.7495 million yuan. About 240.4948 million yuan occurred for fire fighting. A total of 102 people injured or died due to forest fire 102. Among them, 18 had slight injury, 43 heavy injury and 41 dead.

Measures and Actions

【Development of Six Major Projects in Forestry】 In 2006, the six major projects in forestry finished the afforestation (by labour or aeroplanes) of 1.7907 million ha, accounting for 65.89% of the total afforestation area (2.7179 million ha) in China. Another 1.3162 million ha area of mountainous land were closed to facilitate afforestation.

【Project for the Protection of Natural Forest Resources】 A total of 951,700 ha various kind of forests for public interests were developed. Among them, 68,200 ha were planted by people, 156,000 ha were planted by plane. 727,500 ha new mountainous area was closed to facilitate afforestation. A total of 98.3772 million ha forests were under management and protection.

【Grain for Green Project】 A total of 1.2043 million ha finished the "Grain for green" project (including 89,600 ha in the project for the control of sand & dust sources of Beijing and Tianjin), Among them, 1.0485 million ha of trees were planted by labour, including 268,900 ha from "grain for green" and 779,600 ha new forest in wilderness suitable for afforestation; 155,800 ha of new mountainous area closed to facilitate afforestation. During 1999 ~ 2006, 353 million mu across China had finished the "grain for green". Among them, 138 million mu of cropland were returned to forest in 2006, 195 million mu barren hills and

wasteland were covered with trees and 20 million mu mountainous areas were closed to facilitate afforestation. The Central Government has invested a total of over 130 billion yuan in this field.

【Control Project on Wind Dust Sources to Beijing and Tianjin】 The authority has finished the treatment of 863,300 ha land. Among them, 416,000 ha forests were developed, including 135,900 ha artificial forest, 83,800 ha forest by airplane and with 196,300 ha new mountain area closed to facilitate afforestation. 306,500 ha grassland finished the treatment work. 140,900 ha land of small river basins had completed the comprehensive treatment. A total of 14,000 water conservancy supporting facilities had been constructed. There were 28,500 people had removed due to ecological conservation involving 5,063 households.

【Project on the Development of Sanbei Shelter Forest and Shelter Forests in the Yangtze River Basins】 A total of 615,400 ha forest were developed, 343,400 ha of them were artificial forests and 17,300 ha of them developed by air sowing, 254,700 ha additional mountain area were closed to facilitate afforestation. 18,300 ha low-yield and low-efficiency shelter forest finished the improvement.

【Project on the Development of the Fast-growing Commercial Forest Bases in Kay Regions】 A total of 13,700 ha fast-growing commercial forest were developed, 9100 ha of them appeared in desolate mountains and waste land and 1100 ha forest in marginal land area. In addition, 19,300 ha forest were improved.

【Project for the Conservation of Wildlife and Development of Nature Reserves】 Up to the end of 2006, there were 1,740 nature reserves set up and administrated by forestry departments of China with total area of 121 million ha, accounting for 12.6% national land areas. Among those 1,740 nature reserves, 357 were for the conservation of wildlife, 1,120 for the conservation of forest ecology, 233 for the

conservation of wetlands, and 30 for the conservation of wilderness. 27 nature reserves in China have been put into "Inventory of Wetland of International Importance" and 18 nature reserves listed as World Natural Heritages.

Development of Garden City and China Living Environment Award

Up to the end of 2006, 97 cities (ditricts) had won the award of "National Garden City (District)" and 10 counties named as "National Garden County".

Up to the end of 2006, 14 cities including Shenzhen, Dalian, Hnagzhou, Nanning, Shihezi, Qingdao, Xiamen, Sanya, Haikou, Yantai, Yangzhou, Weihai, Shaoxing and Zhangjiagang won the title of "China Living Environment Award". 193 cities or projects won "Model for China Living Environment"，and a total of 35 cities won "China Living Environment Award (Excellent Model City on the Treatment of Water Environment".

Development of Environmental Industry

According to estimate, the amount of environmental enterprises with certain scale (state-owned or non-state owned enterprises or institutions across China with annual revenue over 2 million yuan) in 2006 was about 12,500 with around 1.7 million employees, annual revenue of about 600 billion yuan, about 52 billion yuan profits and about 45 billion yuan tax paid.

In 2006, a total of 412 units obtained operation qualification certificates for environmental protection facilities. Up to the end of 2006, there were accumulated 786 units with lisence and total lisence number being 1076. Among them, 305 lisences were for domestic sewage, 492 for industrial effluent, 48 for the removal of sulphur and dust，31 for industrial waste gases, 31 for garbage, 43 for solid waste and 126 for automatic on-line monitoring. The amount of entrusted operation project exceeded 2,000.

In 2006, the authority carried out the certification for 6 categories of products including water pollution treatment, air pollution control, noise and vibration control, solid waste disposal, environmental monitoring instruments and equipment, and materials and reagents for environmental protection. A total of 172 environmental products from 144 enterprises have passed the certification.

In 2006, SEPA and Ministry of Finance jointly issued the *Suggestions on the Implementation of Government Procurement of Environment-Labelled Products* and the *List of Government Procurement for Environment-Labelled Products*. It requires that the procurement of governments and institutions at all levels and organizations using government funds shall firstly procure products with environmental labels. Up to the end of 2006, China had carried out environmental certification for 56 categories including household appliance, office equipment, daily necessities, textile, building decoration materials，product of 21,000 specifications from 1366 enterprises have obtained environmental label.

Grassland

General Situation

China has nearly 6 billion mu various natural grassland including desolate grassland, ranking the second in the world. Its area takes up 41.7% of total national land area.

In 2006, China had remarkable achievements in the development of grassland conservation system and the transformation of production mode in grassland husbandry. According to primary estimate, the accumulated reserve land for grassland was 400 million mu in 2006, grassland fence area was 787 million mu and 1.3 billion mu of banned, suspended or rotation grazing grassland. A total of over 30 million livestock were raised in pen instead of depending on grazing at natural grassland. With such measures as enhancing the development of artificial grassland and pens, we have basically met the objectives of "banning grazing but raising, reducing the amount of livestock but income". In doing so, grassland vegetation has enjoyed good restoration, which has laid a good foundation for sustainable grassland livestock husbandry.

Grassland Productivity The monitoring results in 2006 showed that fresh grass output across China was 943.13 million tons, equivalent to about 295.87 million tons of dry grass, which could support about 231.61 million sheep，up by 0.6% than that of last year. The top ten provinces (autonomous regions) of grassland output are Inner Mongolia, Xinjiang, Qinghai, Sichuan, Tibet, Yunnan, Heilongjiang, Gansu, Guangxi, and Hubei with total output of 211.23 million tons, accounting for 71.4% of total output.

Monitoring results on the balance between grass and livestock showed that natural grassland across China overgrazed by 34% on the average. There were overgrazing in six big grazing regions at different degree except the ecological development project areas. Among them, the

overgrazing was 38% in Tibet, 22% in Inner Mongolia, 39% in Xinjiang, 39% in Qinghai, 40% in Sichuan and 40% in Gansu. Among 266 pastoral areas and semi-agriculture-semi-pastoral districts, counties (banners), 204 counties (banners) were under overgrazing. Pastoral counties were overgrazed by 28% on the average and semi-agricultue-semi-pastoral counties by 42% on the average.

Grassland Rat and Insect Pests In 2006, 560 million mu grassland suffered from damage by rats, down by 1.8% than that of 2005. Among them, 308 miilion mu were subject to serious damage, down by 3.0% compared with that of 2005. Relatively serious rat damage occurred in 7 provinces (autonomous regions) including Qinghai, Inner Mongolia, Gansu, Sichuan, Xinjiang, Tibet and Ningxia with 499 million mu affected, accounting for 88.8% of total grassland. Rat species causing serious damages including mousehare, sand rat, zokor, field mouse and ground squirrel. In 2006, the accumulated grassland area finishing the prevention and control of rat damages was 86 million mu. Among them, 37.40 million mu finished the emergency prevention and control of rat damages and 48.60 million mu finished the establishment of rat-free demonstration grassland.

In 2006, 252 million mu grassland in China suffered from insect pests, down by 9.9% compared with that of 2005. Among them, 109 million mu were subject to serious insect pests, down by 27.3% compared with that of 2005. Inner Mongolia had the most serious insect pests with 102 million mu affected, accounting for 40.5% of total affected area. Second to Inner Mongolia were Xinjiang, Qinghai and Gansu with 84.30 million mu affected. Insect species causing most serious damages were grassland locust, white puncture vine moth, caterpillars, grassland larva and *orgyia antique* etc.. In 2006, accumulated 57 million mu grassland had finished the prevention and control of insect pests, accounting for

22.6% of the total affected. Among them, 40.16 million mu finished the prevention and control of grassland locust, accounting for 27.2% of total area affected by locusts.

Grassland Fire and Snow Disasters In 2006, 350 fires occurred on grassland in China. Among them, 312 were fire alarms, 35 were fire disasters, 2 were big fire disasters and 1 very big fire disaster. A total of 47,394 ha grassland were affected by fire with the casualty of 1,595 livestock and injury of one person. The amount of grassland fire reduced by 216 and affected area rediced by 6,022 ha compared with that of 2005, being the low level in historical record. Grassland fires mainly occurred in 12 provinces (autonomous regions) including Hebei, Shanxi, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Sichuan, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang as well as Xinjiang Production and Construction Corps. Inner Mongolia Autonomous Region suffered most from fire disaster with 32 (one of them was very big fire disaster), affecting 33,800 ha grassland, taking up 71.4% of the total affected area in China. Next were Sichuan Province and Heilongjiang Province with 4783 ha and 3690 ha respectively subject to grassland fire, accounting for 10.1% and 7.8% of the total affected area.

From January of 2006 to March 10, 2007, Inner Mongolia, Xinjiang, Tibet, Sichuan, Qinghai, Jilin and Liaoning had relatively serious snow disasters affecting 5.245 people and 12.6346 million cattle and sheep, a total of 838,000 livestock died due to the disaster with direct economic loss of 1.038 billion yuan.

Measures and Actions

【Grassland Protection and Development】 Up to the end of 2006, 400 million mu accumulated land were reserved for planting grass. 787 million mu land were fence grassland and 1.3 billion mu grassland were

banned or suspended for grazing or under rotation grazing. Among them, all grassland in Ningxia Hui Autonomous Rehion banned grazing. With such measures as enhanced development of artificial grassland and pens and sheds, more than 30 million livestock had shifted from depending on grazing on natural grassland into pen raiseing. The objective of "banning grazing but pen raising and reducing the amount of livestock but income" has been primarily met and grassland vegetation had enjoyed relatively good rehabilitation.

【Grassland Law Enforcement】 In 2006, there were 5,924 grassland law infringements, 327 were big cases with 31 cases constituting crime and handed over to judicial institutes. Grassland reclamation infringements dominated various grassland infringements, followed by the disputes over the contractual grassland operation rights and cases of excessive collection and digging of wild plants without permission. In addition, infringements such as temporary occupation of grassland, tree planting or fish pond digging in grassland without any permission as well as illegal requisition or occupation of grassland also constitute significant proportion.

【Master Plan for the Protection, Development and Utilization of Grassland】 With the approval by the State Council, the Master Plan for the Protection, Development and Utilization of Grassland has been officially distributed to each province and autonomous region. The Master Plan summarizes and analyzes the achievements and main problems in the protection, development and utilization of grassland; establishes the guiding principle for the protection, development and utilization of grassland, objjectives and tasks. It also identifies the following 9 big projects for the protection and development of grassland: enhanced efforts in returning grazing land to grassland; treatment of sanded grassland; treatment of grassland in karst region of Southwest

China; planting good grass species; prevention and mitigation of grassland disasters; development of grassland nature reserves; good proportion and supporting facilities among people, grass and livestock in pastoral areas; development and utilization of grassland in agricultural areas; and water conservancy in pastoral areas.

【Project of Returning Grazing Land to Grassland】 From 2003 to 2006, 7.1 billion yuan were allocated from the central government to complete fencing of 440 million mu of grassland. The Plan for the Project on the Treatment of Sand & Dust Storm Sources of Beijing and Tianjin (2001－2010) was implemented. Up to the end of 2006, the central government had invested 2.5 billion yuan and finished the treatment of 35.1418 million mu of grassland. In 2006, with the approval by the State Council, National Development and Reform Commission, Office for West China, Ministry of Finance and Ministry of Agriculture jointly issued the project plan for trial site on the rehabilitation of grassland vegetation in karst areas of Southwest China. They appropriated 15.76 million yuan to Qinglong County and Dejiang County of Guizhou Province and Qiaojia County of Yunnan Province for trial site on the rehabilitation of 400,000 mu grassland.

Protection of Geothermal Energy and Minieral Water Resources

In 2006, Qingyuan of Guangdong Province, Xiongxian Countyof Hebei Province, Xianning of Hubei Province, and Weihai of Shandongt Province were named as “Home of Hot Spring in China”. Xianyan of Shaanxi was named as “China City of Geothermal Energy”. Tangchi Hot Spring in Yingchang, Hubei Province was named as “National Demonstration Site on the Development and Utilization of Hot Spring”.

In order to effectively conserve and manage mineral water resources and further promote the development of mineral water industry, the demonstration work on the selection of “Home of mineral water” was initiated in 2006. As a result, Shifang City in Sichuan Province and Gongchangling District of Liaoyang City in Liaoning Province were named as “Home of Mineral Water in China”.

Development of Urban Civil Infrustructure

Urban Water Supply and Saving In 2006, total water supply was 54.1 billion m^3. Among them, 22.17 billion m^3 were for production, accounting for 40.9% of total water supply. 6.37 billiom m^3 were for public service, taking up 11.8% of total water supply. 15.93 billion m^3 were for domestic consumption, accounting for 29.4% of total water supply. There were 322 million users of urban water supply, accounting for 86.53% of total urban population. The average daily consumption of water was 189.7 liters per person. In 2006, cities across China saved 4.82 billion m^3 of water, up by 1.02 billion m^3 than that of 2005. Reuse rate of industrial water was 82.2%, similar to that of 2005.

Urban Gas Supply and Concentrated Heating In 2006, total supply of artificial coal gas 29.65 billion m^3, up by 4.07 billion m^3 compared with that of 2005; total supply of natural gas was 24.44 billion m^3, up by 3.39 billion compared with in 2005; total supply of LPG was 12.623 million tons, up by 403,000 tons compared with that of 2005. A total of 294 million people utilized gas, accounting for 78.97% of urban population. By the end of 2006, the steam heating capacity was 94,300 t/h, hot-water heating capacity 217200 MW with total concentrated heating area of 2.66 billion m^2.

Urban Public Transportation By the end of 2006, there were 314,000 buses, trolley buses, trams and rail vehicles in all cities of the mainland of China. Among them, 2,486 were trolley buses, 38,716 were fueled by natural gas, 15,726 were driven by LPG and 2,764 trams or rail vehicles. The amount of public transport vehicles were 337,000 buses equivalent (BE), 9.05 BE per 10,000 urban people. 64.67 billion person•times of passengers (including those by taxi) were served by urban public transportation. 621 urban ferries provided 240 million person•times services. Total amount of urban taxi was 927,000.

Urban Civil Infrastructure By the end of 2006, China had 241,000 km urban road with an area of 4.11 billiom m^2 with per capita 11.04 m^2. A total of 20.11 billion m^3 of urban sewage were treated, accounting for 57.1% of the total, up by 5.15 percentage points compared with that of 2005.

Urban Greening Greening area of urban built areas was 1.179 million ha by the end of 2006, up by 11.2% compared with that of 2005. Green coverage of built areas increased from 32.54% in 2005 to 35.1%. Total green areas of urban parks across China were 307,000 ha with per capita of 9.24 m^2.

Urban Environmnetal Sanitation By the end of 2006, a total of 3.26 billiom m^2 of urban road were kept clean. Among them, 760 million m^2 were cleaned by cleaning vehicles, accounting for 23.4% of the total. 170 million tons of domestic garbage and excrement were cleaned and removed in the year. The garbage and excrement of each big and medium sized city were basically cleaned and removed daily.

Note: There has been some revision in urban construction statistics report system since 2006. ① The above data is only for urban areas, not including independent towns affiliated to city. ② Per capita indicator is calculated by urban registered population plus transient population.

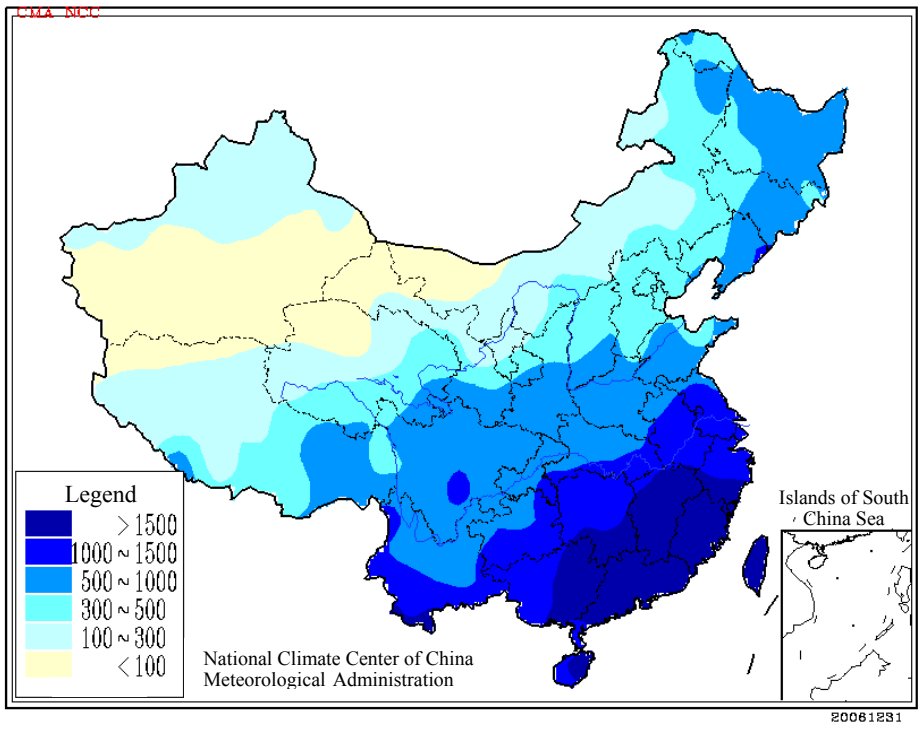
Climate and Natural Disasters

General Situation

Basic National Climate In 2006, the annual average precipitation of China was slightly less than the historical average. National average precipitation in winter was slightly higher than that of normal year. Average precipitation in spring was similar to that of normal year but less in summer and autumn. There was obvious less precipitation in Chongqing and Sichuan in summer and most central and eastern China in autumn with drought at different degrees. National average temperature was 1.1℃ higher than the historical average, the warmest since 1951. China had abnormal and changeable climate with frequent meteorological disasters such as tropical cyclones, typhoons, drought, storms, floods, torrent, mud-stone flow and landslide, sand & dust storm, freezing damage and snow damages in 2006, which lead to more economic losses than historical average. To agriculture, the climate in 2006 was a normal year.

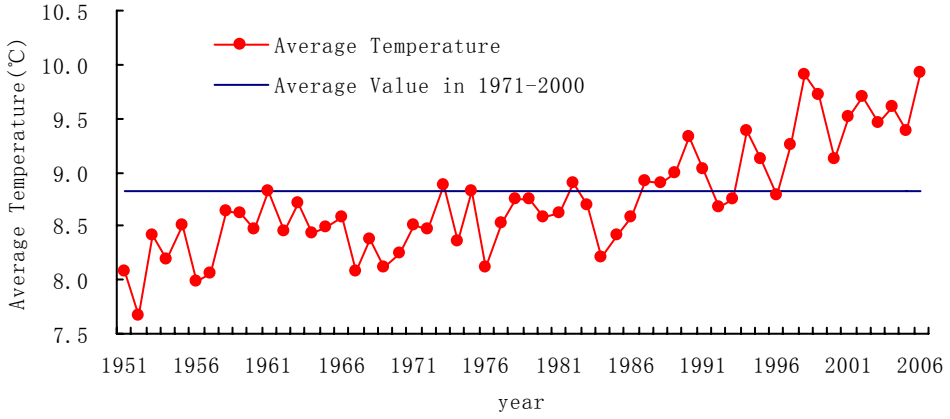
Precipitation In 2006, national annual average precipitation was 596.7 mm, down by 16.2 mm compared with the historical average. Except the areas south to Weihe River and downstream of the Yellow River, central and eastern parts of Northwest China, and central and eastern parts of Northeast China, the precipitation of other parts of China was less than 500 mm.

Changes in Average Annual Precipitation of China (mm)



National precipitation distribution in 2006 (mm)

Temperature Distribution In 2006, the annual average temperature of China was 9.9℃, 1.1℃ higher than the historical average. It was the warmest year since 1951. Apart from the northern part of Northeast China with similar air temperature, the annual average temperature across China was evidently higher than that of normal years. Among these regions, the average air temperature of such areas as Northwest China, most of Southwest, central and western part of North China, most of the mid and downstreams of the Yellow River, Huaihe River and Yangtze River and central and western part of Inner Mongolia was 1 ~ 2℃ higher than the historical average.



Annual change of annual average temperature in China (℃)

Meteorological Disaster In 2006, among various meteorological disasters in China, tropical cyclones caused most direct economic losses and deaths or missing people, while drought lead to the biggest disaster striken population and largest affected cropland area. There was no large scale serious flood disaster across China in 2006. The total area subject to storms and floods was less than that of normal years. However, storms and floods of some regions or disasters such as torrent, mud-stone flow and landslide resulting from local strong precipitation caused relatively big casualty. The occurrence of hails across China was more than that of normal years with heavier economic losses. In spring, China had 18 times

of blowing dust weather, 5 of them were strong sand & dust storms, the highest occurrence since 2000. Total area subject to freezing damage and snow disaster was bigger than the historical average with more economic loss. In December of 2006, the sun had continual strong eruptions, the strongest solar activities since 1957.

【Tropical Cyclones】 There were 6 tropical cyclones (Maximum wind force ⩾ Grade 8) landed in the mainland of China in 2006, less than the historical average (7 times). Among them, No. 0601 typhoon "Chanchu" landed on coastal areas of Guangdong Province on May 18, more than 40 days earlier than the average historical landing date. It has been the earliest typhoon landing Guangdong Province since 1949 and also the strongest one occurred in May since 1949. No. 0604 strong tropical storm "Bilis", landing on Xiapu of Fujian Province on July 14 and going into inland and interacting with southwest monsoon, brought about large scale and continuous strong precipitation with unprecedented scope and duration.

Tropical cyclones landing China in 2006

Code (Name)	Landing time	Place	Maximum wind speed (m/s)	Central pressure (100 Pa)	Affected area
0601 (Chanchu)	May 18	Raoping-Chenghai, Guangdong	35 m/s	960	Guangdong, Fujian, Zhejiang and Jiangxi
0604 (Bilis)	July 13 July 14	Ilan, Taiwan Xiapu, Fujian	30 m/s 30 m/s	975 975	Fujian, Zhejiang, Guangdong, Hunan, Jiangxi, Guangxi and Shanghai
0605 (Kaemi)	July 24 July 25	Taidong of Taiwan Jinjiang, Fujian	40 m/s 33 m/s	960 975	Jiangxi, Guangdong, Anhui, Hunan, Fujian, Guangxi and Hubei
0606 (Prapiroon)	August 3	Dianbai—Yangxi, Guangdong	33 m/s	975	Guangdong, Guangxi and Hainan
0609 (Bopha)	August 9	Taidong, Taiwan	23 m/s	990	Taiwan
0608 (Saomai)	August 10	Cangnan, Zhejiang	60 m/s	920	Zhejiang, Fujian, Jiangxi and Hubei

【Drought】 In 2006, Ningxia, Gansu, Yunnan and North China had obvious drought in spring. The average temperature of Chongqing and Sichuan in summer had a record high since 1951. This was especially serious after July, Chongqing and eastern part of Sichuan suffered from continuous heat wave, leading to aggravated drought. As a result, Chongqing was nit by extreme summer drought once in 100 years and Sichuan Province suffered from the heaviest drought since 1951.

【High Temperature and Heat Wave】 In 2006, high temperature over 35℃ occurred in such areas as eastern part of Northwest China, North China and the region south to it, Xinjiang and western part of Inner Mongolia. Among them, the extreme high temperature of such areas as eastern part of Sichuan, Chongqing, western part of Hubei and southern part of Shaanxi was as high as 38℃ ~ 45℃, the amount of high temperature days was 15 ~ 30 days more than the historical average.

【Storms and Flood】 In 2006, there was no large scale serious flood disasters across China, total area subject to storms and flood disasters was smaller than that of normal years with less direct economic losses. However, disasters such as storms and floods in some regions and mountain area floods and mud-stone flow due to local strong precipitation caused relatively heavy casualties.

【Sand and Dust Storm】 In the spring of 2006, there were 18 sand and dust weather across China, the most frequent since 2000. Among them, 11 were sand & dust storms and strong sand & dust storms. The strongest sand & dust storm occurred during April 9 ~ 11, affecting 13 provinces (autonomous regions or municipalities) and leading to 9 death.

Main sand & dust storms in China in the spring of 2006

No.	Time	Type	Main weather system	Affected areas
1	March 9-12	strong sand & dust storm	Cold front (CF) of Mongolia cyclone	Blowing dust occurred in Xinjiang, Inner Mongolia, Gansu, Ningxia, Shaanxi, Shanxi, Hebei, Beijing and Liaoning. Among them, sand & dust storms or strong sand & dust storm appeared in such areas as Nanjiang Basin, central west of Inner Mongolia, northwest of Qinghai, central Gansu, east Ningxia, north Shaanxi and west Liaoning
2	March 26-27	strong sand & dust storm	CF of Mongolia cyclone	Blowing dust occurred in Inner Mongolia, Hebei, Liaoning, Beijing & Tianjin, Ningxia, Shaanxi, Shanxi, Shandong and Henan with sand & dust storms or strong sand & dust storm in the central and southeast of Inner Mongolia
3	April 5-7	strong sand & dust storm	Mongolia cyclone	Blowing dust occurred in Gansu, Inner Mongolia, Ningxia and Shaanxi with the occurrence of sand & dust storms or strong sand & dust storm in some areas
4	April 8	sand & dust storms	CF of Mongolia cyclone	Blowing dust in Inner Mongolia and Gansu with snad & dust storm in the central Inner Mongolia
5	April 9-11	strong sand & dust storm	CF of Mongolia cyclone	Blowing dust occurred in Xinjiang, Qinghai, Gansu, Inner Mongolia, Ningxia, Shaanxi, Shanxi, Hebei and Henan with sand & dust storms or strong sand & dust storm occurred in some areas
6	April 16-18	strong sand & dust storm	CF of Mongolia cyclone	Blowing dust and sand & dust storm occurred in Inner Mongolia, Gansu, Ningxia, Shaanxi, Shanxi, Hebei and Beijing. Strong sand & dust storm appeared in local areas of Gansu and Inner Mongolia
7	April 21-23	sand & dust storms	CF of Mongolia cyclone	Blowing dust occurred in Inner Mongolia, Hebei, Shanxi and Ningxia. Among them, sand & dust storms or strong sand & dust storm occurred in central part of Inner Mongolia.
8	May 6	sand & dust storms	CF of Mongolia cyclone	Blowing dust occurred in the central and north of Inner Mongolia with local sand & dust storm
9	May 10-11	sand & dust storms	Cold front	Sand & dust storm in the south of Xinjiang
10	May 15-18	sand & dust storms	CF of Mongolia cyclone	Blowing dust occurred in Xinjiang, Inner Mongolia, Gansu, Ningxia, Shaanxi, Shanxi, Hebei, Beijing, Liaoning, Jilin and Heilongjiang with local occurrence of sand & dust storms or strong sand & dust storms.
11	May 19-20	sand & dust storms	Cold front	Blowing dust occurred in Xinjiang, Inner Mongolia, Gansu, Ningxia, Shaanxi and Shanxi with sand & dust storms in central Inner Mongolia

【Hails】 In 2006, China had frequent local strong convective weather such as gale, hail, tornadoes and thunderstorms. According to statistics, there were over 1200 county (city) • times of hails or tornodoes across China, more than the historical average with heavier economic losses than that of normal years.

【Freezing Damage/Snow Disasters】 In 2006, nearly 5 million ha of cropland across China suffered from freezing damage and snow disaster. The disaster affected area was bigger compared with that of normal years with more economic losses.

【Dence Fog】 A dense fog at Gaoyou section of Beijing—Shanghai Expressway in Jiangsu Province on October 30, 2006 caused a very big traffic accident involving the collision of over 50 vehicles, leading to the injury of more than 50 people and 3 death. Large scale dense fogs occurred in such provinces or municipalities as Liaoning, Hebei, Beijing, Tianjin, Shandong, Henan and Jiangsu during November 19~20. The visibility of some parts of Liaoning, Hebei and Shandong was less than 200 m, leading to the paralysis or closure of many expressways in Liaoning Province, several traffic accidents on Beijing—Shenyang Expressway with 4 dead. More than 600 flights in Capital Airport were delayed. In addition, heavy fogs caused evident increase of respiratory disease victims.

【Solar Activities】 The sun had continual strong eruptions during December 5~16, 2006, which is the strongest solar activity since 1957. Because of the solar eruption, there were several times of long-term and large scale shortwave communication message attenuation and interruption with relatively strong additional current in power network in China and many abnormal operations of both domestic and foreign satellites.

Earthquake Disasters There were 34 earthquakes with Richter

scale higher than Grade 5 across China in 2006. Among them, 1 was Grade 7 by Richter scale; 4 were Grade 6 ~ 7 by Richter scale; 29 Grade 5 ~ 6. 14 of them occurred in the mainland of China and 20 of them in seas or Taiwan region.

10 earthquake disasters occurred in the mainland of China in 2006, affecting about 666,900 people and total area of 7,168 km^2 with 25 deaths, 34 serious injuries and 170 slight injuries. They also caused the following damages to buildings: 546808.4 m^2 destruicted, 93,966.9 m^2 of serious damage, 3,376,644.9 m^2 of intermediate damage, and 987,092.7 m^2 of slight damage. Total direct economic loss was about 800 million yuan.

Earthquake disasters and their losses in the mainland of China in 2006

No.	Time		Place	Richter Scale	Casualty			Building damage (m^2)				Direct economic loss (10,000 yuan)
	Month-Day	Hour			death	SD	LD	Destructed	Serious	Intermed.	Slight	
1	Jan.12	9:05	Mojiang, Yunnan	5.0	0	1	0	134306		510441	45649	11060.00
2	Mar.27	3:20	Dangchang, Gansu	4.3	0	0	1	4669	9125	24102	67943	449.26
3	Mar.31	20:23	Qian'an-Qianguo, Jilin	5.0	0	0	2	13540		440019		11068.36
4	Apr.20	5:05	Baingoin, Tibet	5.6	0	0	0		1539	5086.6	5600.4	518.48
5	Jun.21	0:52	Wudu-Wen County,Gansu	5.0	1	5	14	5415.4	54047.9	130462.4	569889.7	7335.15
6	July 4	11:56	Wen'an, Hebei	5.1	0	0	0			873.92	80669.55	980.17
7	July 18	4:41	Yushu, Qinghai	5.0	0	0	0	6857	29255	85081	199556	4253.89
	July 19	17:53		5.6								
8	July 22	9:10	Yanjin, Yunnan	5.1	22	13	101	201223		1174671		23900
9	Aug. 25	13:51	Yanjin, Yunnan	5.1	2	15	52	180798		1001868		20270
10	Nov. 23	19:04	Wusu-Jinghe, Xinjiang	5.1	0	0	0			4040	17785	126.39
Total					25	34	170	546808.4	93966.9	3376644.92	987092.65	79961.7

Note：During the investigations on the damages of the earthquakes in Qian'an-Qianguojian of Jilin Province and one in Yanjin of Yunnan Province on simple rural buildings, we classified the damages in three kinds: complete destruction, damage and basically good.

SD = serious damage. LD = light damage.

Geological Disaster In 2006, there were 102,804 various geological disasters across China. They caused the casualty of 1,227, 663 of them

dead, 111 missing and 453 injured, leading to direct economic loss of 4.32 billion yuan.

In 2006, sudden events dominated geological disasters. Except Beijing, Shanghai and Ningxia, all other 28 provinces (autonomous regions or municipalities) had sudden geological disasters mainly including landslide, collaps, mud-stone flow and subsidence etc. Among them, landslide had the most cases, accounting for 86.1% of the total geological cases in China. Chronic geological disasters mainly included subsidence, ground cleave and sea water invasion.

In 2006, geological disasters mainly distributed in central South China and Esat China subject to serious impacts of typhoon. Among them, the five provinces (autonomous regions) of Hunan, Guangdong, Fujian, Jiangxi and Guangxi had 100,576 geological disasters, accounting for 97.8% of the total in China.

Marine Disasters 2006 is a year with serious marine disasters in China. A total of 179 marine disasters such as storm surge, sea wave, sea ice, red tide and tsunami occurred in the whole year, similar to that of 2005. They caused direct economic loss of 21.845 billion yuan, down by 11.4 billion yuan compared with that of 2005 and 492 deaths or missing, up by 121 people than in 2005.

Loss of major marine disasters in China in 2006

Disaster	Amount	Death (missing)	Direct economic loss (100 million yuan)
Storm surge (including coastal typhoon and wave)	28	327	217.11
Sea wave	55	165	1.34
Sea ice	1	0	—
Red tides	93	0	—
Tsunami	2	0	0
Total	179	492	218.45

Storm surges (including coastal typhoon and wave) had reached direct economic losses of 21.711 billion yuan leading to 327 deaths (missing), being No.1 marine disaster in 2006. Sea waves caused 134 million yuan direct economic loss with 165 deaths (missing). Tsunami did not cause any economic loss or casualty.

Measures and Actions

【Early Warning and Forecasting of Meteorological Disasters】 In 2006, Meteoroligical Center of China Meteoroligical Administration and local meteorological observatories strengthened such work as forecasting of sand & dust storm, weather service for forest fires, forecast and early warning of storms and floods as well as typhoons, weather services for drought and transportation environment. They have continuously improved the accuracy of forecast and early warning and the quality of weather services.

【 Prevention and Control of Geological Disasters 】 The Organization Departmnet of CCCPC, Ministry of Land and Resources, Ministry of Construction and Ministry of Education jointly carried out the "National Training Actions for 10,000 Villages in China on the Knowledge about Prevention and Control of Rural Geological Disasters" from December 8, 2006 to Febuary 10, 2007, which improved the grassroot awareness of rural areas across China subject to geological disasters in the prevention of such disasters as well as the capacity of masses in observing and preventing such disasters. The central government has put in place national emergency response program for sudden geological disasters. Each province (autonomous region or municipality) and prefecture (city) or county (city) subject to serious geological disasters has developed corresponding emergency response program. Some regions carried out the manoeuvres on emergency

response to sudden geological disaster. The Ministry of Land and Resources and China Meteoroligical Administration continued their joint work on early warning and forecast for geological disasters during the flood season.

【Earthquake Disaster Prevention and Emergency Rescue】 In 2006, China Seismological Bureau printed and distributed the Emergency Reponse Program of China Seismological Bureau for Earthquakes. It has established 6 earthquake emergency response coordination regions across China and also established the earthquake emergency response leading group and joint meeting mechanism of the coordination regions.

In 2006, China Seismological Bureau sent 7 national on-site working groups after some big earthquakes including the one in Meijiang of Yunnan Province. It in cooperation with provincial seismological bureaus including Yunnan Seismological Bureau sent out about 200 person•times of emergency response teams to the site, which helped local governments of quake striken areas for earthquake relief work. On May 27, 2006, an earthquake of Grade 6.4 at Richter scale occurred in Yogyakarta, Indonesia. With the approval of the State Council, China International Rescue Team sent out 40 members to the disaster areas of Indonesia for earthquake relief work. It has rescued and treated 3,015 injured people, carried out sample investigations on 50 villages and towns and submitted to the Indonesia Government a comprehensive disaster assessment report and rehabiolitation recommendations. The team worked in the area for 18 days.

【Epidemics Prevention and Sanitation Emergency Response in Disaster-hit Area】 Beginning on August 1, 2006, China carried out national network report on the information about disaster relief and epidemics prevention, which has raised the promptness, accuracy and intact of the epidemics report on disaster-hit areas. At the same time,

health departments at all levels have strengthened the monitoring and early warning work, expanded information reporting channels and established information reporting system and accountability system. In addition, the Ministry of Health has established emergency sanitation technical guarantee and material guarantee mechanism for natural disasters, established 12 national rescue and anti-disease medical and sanitation epidemics prevention teams and finished the material reserve for sanitation emergency response to natural disasters. It appropriated about 44.79 million yuan disaster relief and anti-epidemics funds to disaster-hit provinces in 2006.

Note: National statistics in the current otherthan administrative zoning, national land and earthquake disasters does not include that of Taiwan Province, Hong Kong Special Administrative Region and Macao Special Administrative Region

National plan for the control of total COD during the 11th Five-Year Plan period

Unit: 10,000 tons

Province	2005 emission	2010 target	Difference between 2010 target and 2005 emission (%)
Beijing	11.6	9.9	-14.7
Tianjin	14.6	13.2	-9.6
Hebei	66.1	56.1	-15.1
Shanxi	38.7	33.6	-13.2
Inner Mongolia	29.7	27.7	-6.7
Liaoning	64.4	56.1	-12.9
Among it: Dalian	6.01	5.05	-16.0
Jilin	40.7	36.5	-10.3
Heilongjiang	50.4	45.2	-10.3
Shanghai	30.4	25.9	-14.8
Jiangsu	96.6	82.0	-15.1
Zhejiang	59.5	50.5	-15.1
Among it: Ningbo	5.22	4.44	-14.9
Anhui	44.4	41.5	-6.5
Fujian	39.4	37.5	-4.8
Among it: Xiamen	5.56	4.94	-11.2
Jiangxi	45.7	43.4	-5.0
Shandong	77.0	65.5	-14.9
Among it: Qingdao	5.79	4.75	-18.0
Henan	72.1	64.3	-10.8
Hubei	61.6	58.5	-5.0
Hunan	89.5	80.5	-10.1
Guangdong	105.8	89.9	-15.0
Among it: Shenzhen	5.59	4.47	-20.0
Guangxi	107.0	94.0	-12.1
Hainan	9.5	9.5	0
Chongqing	26.9	23.9	-11.2
Sichuan	78.3	74.4	-5.0
Guizhou	22.6	21.0	-7.1
Yunnan	28.5	27.1	-4.9
Tibet	1.4	1.4	0
Shaanxi	35.0	31.5	-10.0
Gansu	18.2	16.8	-7.7
Qinghai	7.2	7.2	0
Ningxia	14.3	12.2	-14.7
Xinjiang	27.1	27.1	0
Among it: Xinjiang Production and Construction Corp	1.43	1.43	0
Total	1414.2	1263.9	-10.6

Note:

1. The 10% COD reduction target is equivalent to 12.728 million tons. The actual amount allocated to each province is 12.639 million tons. The State reserves 89,000 tons for compensated distribution of COD pollution right and trade trial.

2. COD discharge amount of Xinjiang Production and Construction Corps does not include the domestic COD discharge amount of the areas where the Corps is in and that of the Eighth Agriculture Division or (Shihezi City).

National plan for the control of total SO_2 during the 11th Five-Year Plan period

Unit: 10,000 tons

Province	2005 emission	2010		Difference between 2010 target and 2005 emission (%)
		Target	Among it: Power industry	
Beijing	19.1	15.2	5.0	-20.4
Tianjin	26.5	24.0	13.1	-9.4
Hebei	149.6	127.1	48.1	-15.0
Shanxi	151.6	130.4	59.3	-14.0
Inner Mongolia	145.6	140.0	68.7	-3.8
Liaoning	119.7	105.3	37.2	-12.0
Among it: Dalian	11.89	10.11	3.54	-15.0
Jilin	38.2	36.4	18.2	-4.7
Heilongjiang	50.8	49.8	33.3	-2.0
Shanghai	51.3	38.0	13.4	-25.9
Jiangsu	137.3	112.6	55.0	-18.0
Zhejiang	86.0	73.1	41.9	-15.0
Among it: Ningbo	21.33	11.12	7.78	-47.9
Abhui	57.1	54.8	35.7	-4.0
Fujian	46.1	42.4	17.3	-8.0
Among it: Xiamen	6.77	4.93	2.17	-27.2
Jiangxi	61.3	57.0	19.9	-7.0
Shandong	200.3	160.2	75.7	-20.0
Among it: Qingdao	15.54	11.45	4.86	-26.3
Henan	162.5	139.7	73.8	-14.0
Hubei	71.7	66.1	31.0	-7.8
Hunan	91.9	83.6	19.6	-9.0
Guangdong	129.4	110.0	55.4	-15.0
Among it: Shenzhen	4.35	3.48	2.78	-20.0
Guangxi	102.3	92.2	21.0	-9.9
Hainan	2.2	2.2	1.6	0
Chongqing	83.7	73.7	17.6	-11.9
Sichuan	129.9	114.4	39.5	-11.9
Guizhou	135.8	115.4	35.8	-15.0
Yunnan	52.2	50.1	25.3	-4.0
Tibet	0.2	0.2	0.1	0
Shaanxi	92.2	81.1	31.2	-12.0
Gansu	56.3	56.3	19.0	0
Qinghai	12.4	12.4	6.2	0
Ningxia	34.3	31.1	16.2	-9.3
Xinjiang	51.9	51.9	16.6	0
Among it: Xinjiang Production and Construction Corps	1.66	1.66	0.66	0
Total	2549.4	2246.7	951.7	-11.9

Note:

1. The control target of 10% reduction of national total SO_2 emission is 22.944 million tons. The actual amount allocated to all provinces is 22.467 million tons. The State reserves 477,000 tons for compensated distribution of SO_2 emission right and emission trade trial.

2. SO_2 emission of Xinjiang Production and Construction Corps does not include the emission of domestic sources of the areas where the Corps is in and that of Shihezi City.

Departments Participating in the Compilation of the 2006 Report

Leading Department

State Environmental Protection Administration

Contributing Ministries and Administrations

The Ministry of land and Resources
The Ministry of Construction
The Ministry of Communications
The Ministry of Water Resources
The Ministry of Agriculture
The Ministry of Health
National Bureau of Statistics
State Forestry Administration
State Oceanic Administration
China Meteorological Administration
China Seismological Bureau

Translation

Department of International Cooperation, State Environmental Protection Administration