

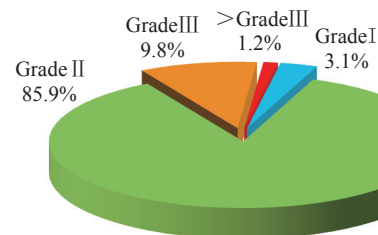
Atmospheric Environment

General Situation

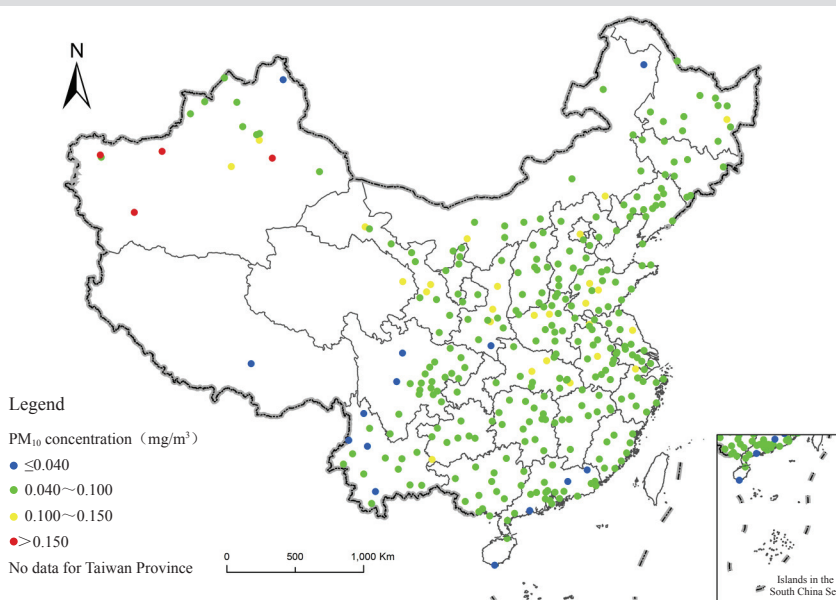
The overall urban ambient air quality of the country was stable* and there was no obvious change of the distribution areas of acid rain.

Air Quality

Cities at or above prefecture level In 2011, among 325 cities at or above prefecture level (including the capitals of some prefectures and leagues as well as cities directly under provincial administration), 89.0% of them met Grade II national air quality standard, the rest 11.0% cities failed to meet the national air quality standard.



Urban air quality of cities at or above prefecture level in 2011



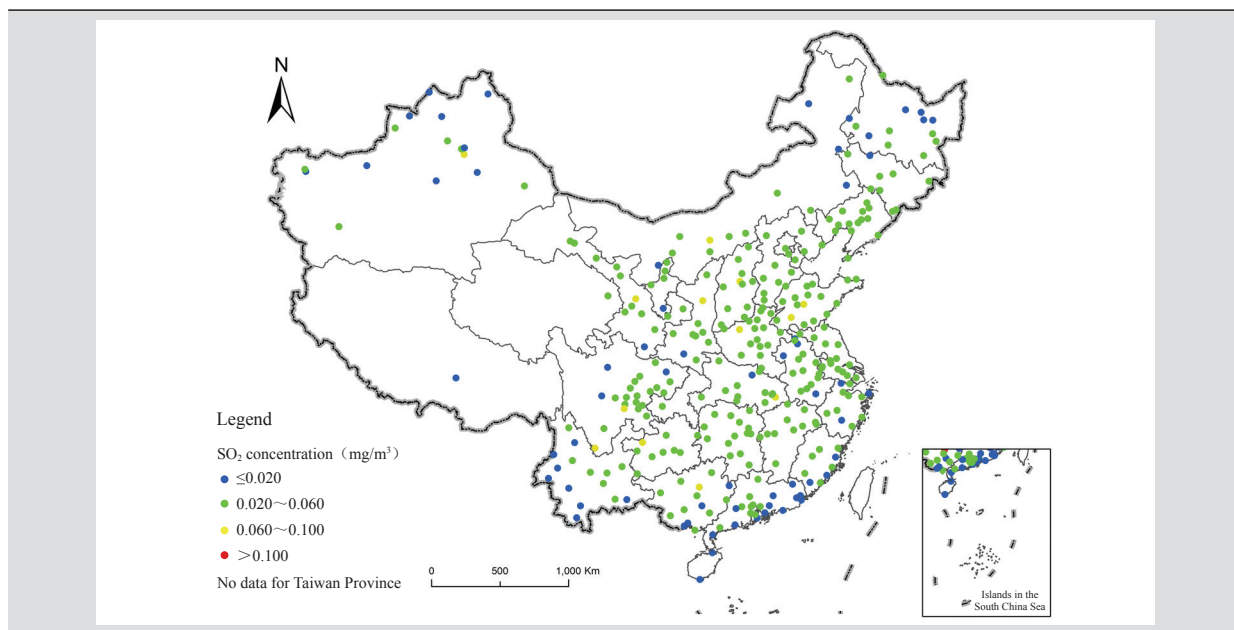
The annual average concentration of PM₁₀ in cities at or above prefecture level in 2011

* The assessment of air quality of the current Report is based on Ambient Air Quality Standard (GB3095-1996). The assessment indicators are PM₁₀, SO₂ and NO₂.

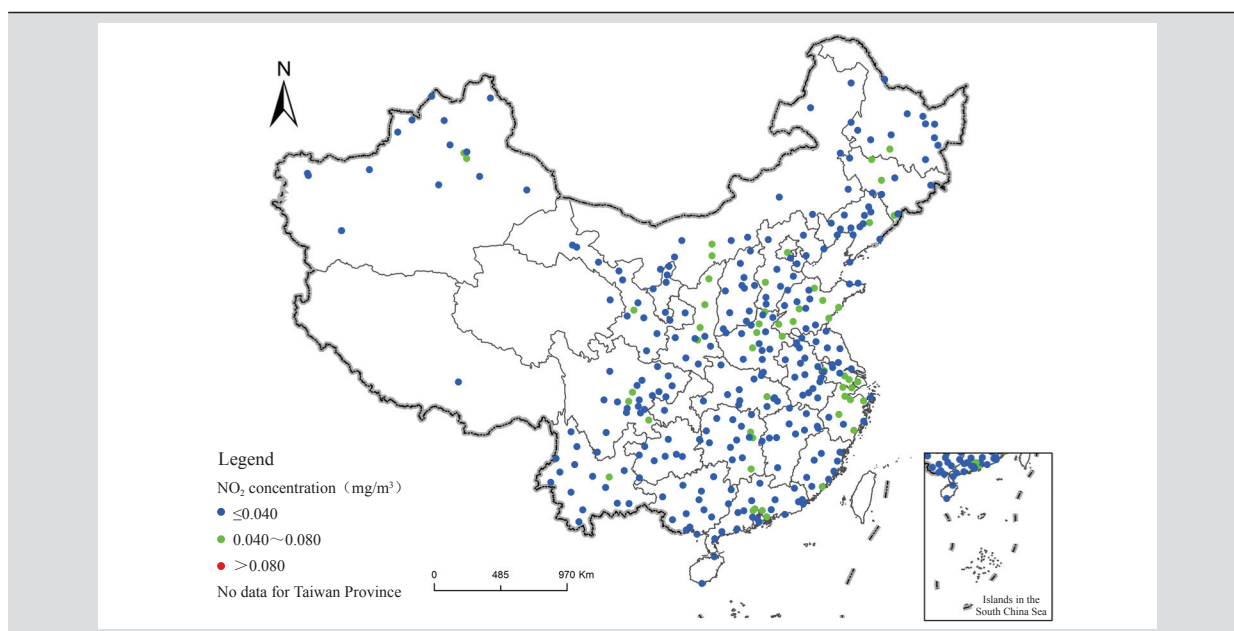
In 2011, the annual average concentration of PM_{10} in ambient air of 90.8% cities at or above prefecture level met or was superior to Grade II national air quality standard. The annual average concentration of PM_{10} of 1.2% cities failed to meet Grade III standard. The annual average of PM_{10} concentration was $0.025\sim 0.352\text{ mg/m}^3$, mainly ranging from 0.060 mg/m^3 to 0.100 mg/m^3 .

In 2011, the annual average of SO_2 concentration in ambient air of 96.0% cities at or above prefecture level met or was superior to Grade II national air quality standard. The rest 4% met Grade III standard. The annual average of SO_2 was $0.003\sim 0.084\text{ mg/m}^3$. The SO_2 of most of cities ranged from 0.020 mg/m^3 to 0.060 mg/m^3 .

In 2011, the annual average of NO_2 in ambient air of cities



The annual average concentration of SO_2 in cities at or above prefecture level in 2011

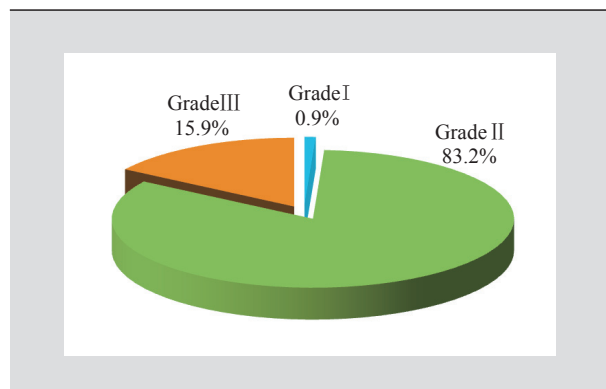


The annual average concentration of NO_2 in cities at or above prefecture level in 2011

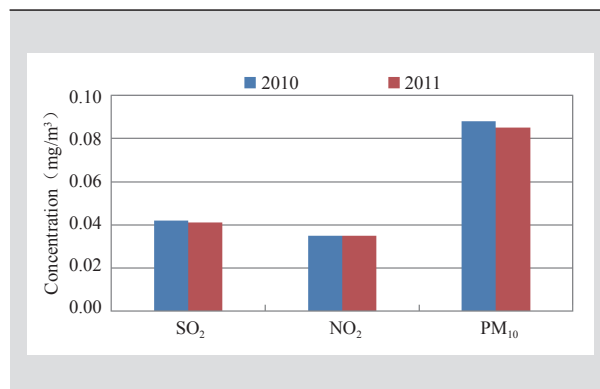


at or above prefecture level met Grade II national air quality standard. Among them, 84.0% met Grade I standard. The

annual average of NO₂ was 0.004~0.068 mg/m³. The NO₂ of most of cities ranged from 0.015 mg/m³ to 0.040 mg/m³.



Air quality of Major Cities on Environmental Protection in 2011



Annual change of air pollutant concentration of major cities on environmental protection

Major Cities on Environmental Protection In 2011, among the 113 major cities on environmental protection, 84.1% met Grade II national air quality standard. The percent of cities meeting national air quality standard went up by 10.6 percentage points compared with that of last year.

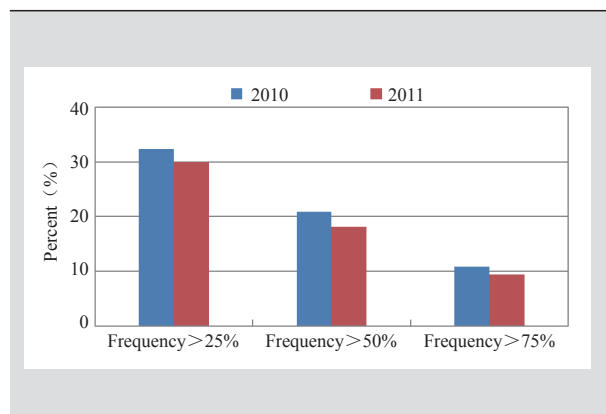
In 2011, the annual concentration of SO₂, NO₂ and PM₁₀ of major cities on environmental protection was 0.041mg/m³, 0.035 mg/m³ and 0.085 mg/m³ respectively. The annual SO₂ and PM₁₀ concentration went down by 2.4% and 3.4% respectively compared with that of last year. The annual NO₂ concentration remained the same.

(counties) under monitoring, 227 cities (counties) had acid rain, accounting for 48.5%; 140 cities had acid rain frequency over 25%, taking up 29.9%; 44 had acid rain frequency over 75%, taking up 9.4%.

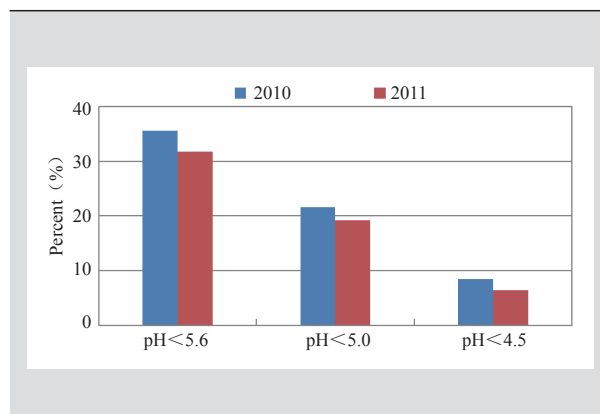
Precipitation pH Value In 2011, 31.8% of the cities (counties) had the annual average of precipitation pH value less than 5.6 (acid rain), 19.2% of the cities (counties) had the annual average of precipitation pH value less than 5.0 (relatively heavy acid rain) and 6.4% of the cities (counties) had the annual average of precipitation pH value less than 4.5 (heavy acid rain). The proportion of the cities (counties) with acid rain, relatively heavy acid rain and heavy acid rain went down by 3.8 percentage points, 2.4 percentage points and 2.1 percentage points respectively compared with that of last year.

Acid Rain

Acid rain frequency In 2011, among the 468 cities



Annual change of percent of cities (counties) with different acid rain frequency

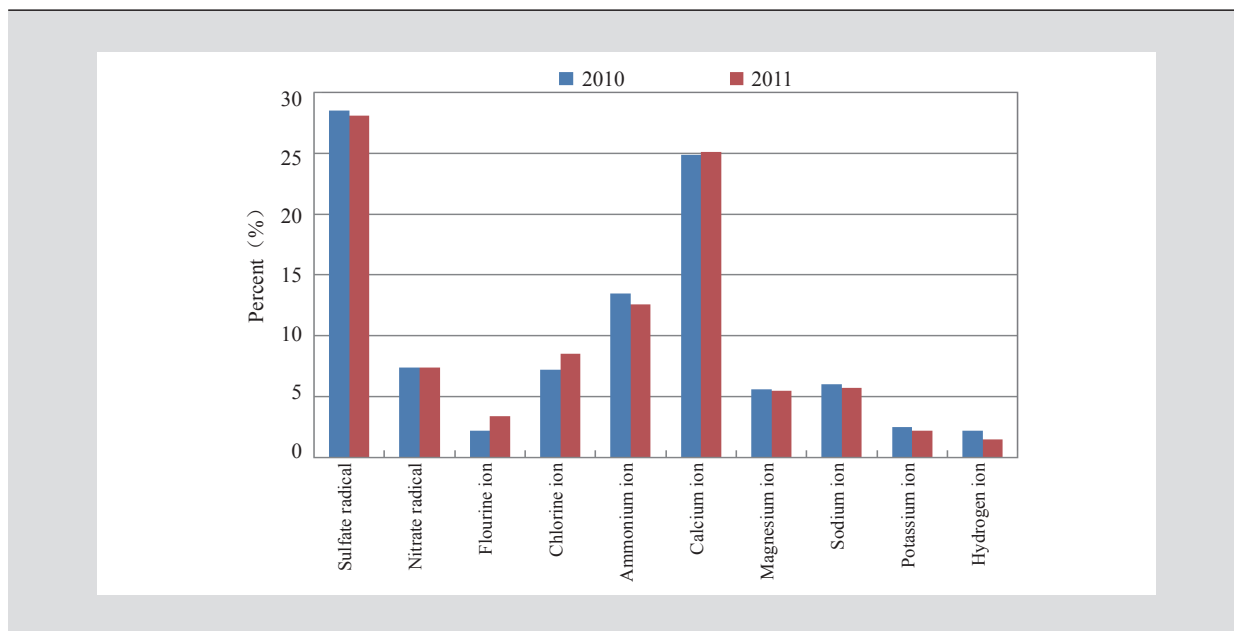


Annual change of percent of cities (counties) with different annual average pH value of precipitation

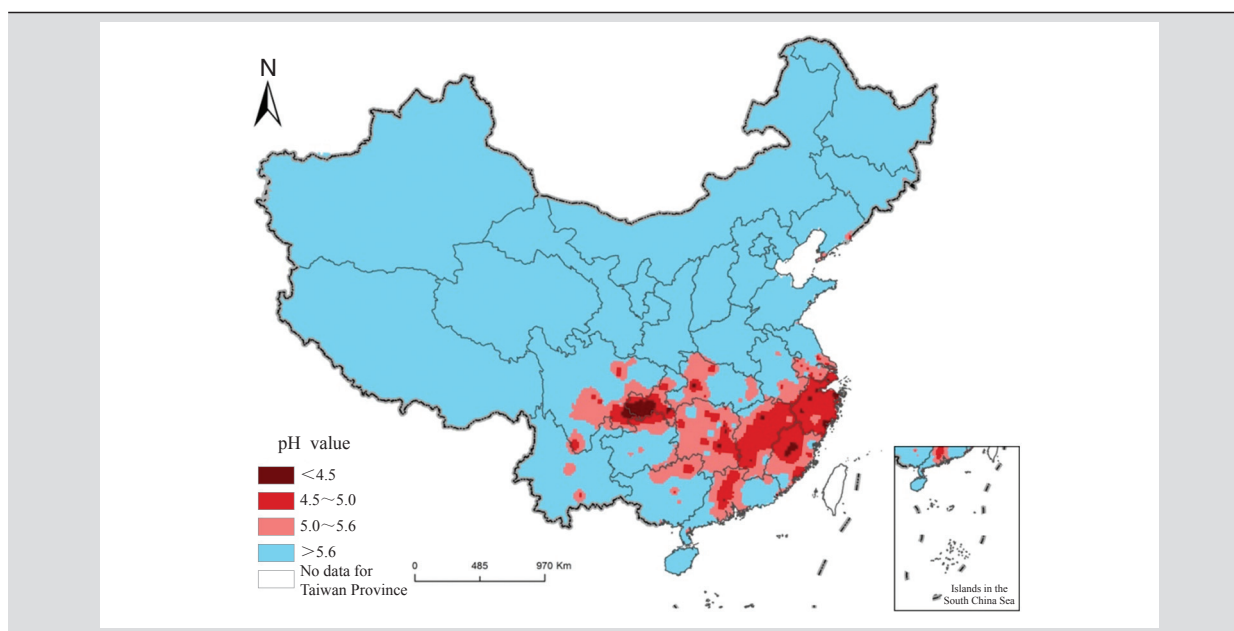
Chemical Composition In 2011, the main cations in precipitation were calcium and ammonium, accounting for 25.1% and 12.6% of the total ionic equivalent respectively. The main anion was sulfate radical, taking up 28.1% of total ionic equivalent; nitrate radical took up 7.4% of total ionic equivalent. Sulfate was the main acid causing substances.

Acid Rain Distribution In 2011, acid rain areas were

mainly in areas along the Yangtze River and areas south to the Yangtze River and the regions east to Qinghai-Tibet Plateau. They mainly included most regions of Zhejiang, Jiangxi, Fujian, Hunan and Chongqing as well as the Yangtze River delta, Pearl River delta, western part of Hubei, southeastern part of Sichuan and northern part of Guangxi. The acid rain area was about 12.9% of total land area.



Annual change of the percent of equivalent concentration of main ions in precipitation



Isograms of annual average pH values of precipitation in China in 2011

Emissions of major pollutants in waste gas

In 2011, the total SO₂ emission of the country was 22.179 million t, down by 2.21% compared with that of last year.

The total NO_x emission was 24.043 million t, up by 5.73% compared with that of last year.

Emissions of major pollutants in waste gas in 2011

SO ₂ (10,000 t)				NO _x (10,000 t)				
Total amount	Industrial source	Domestic source	Collective	Total amount	Industrial source	Domestic source	Vehicle	Collective
2217.9	2016.5	201.1	0.3	2404.3	1729.5	37.0	637.5	0.3

Measures and Actions

【Organizing the development of the Plan for Prevention and Control of Air Pollution of Major Regions】 Based on the *Circular of the General Office of the State Council on Transfer of the Guidance of Departments Including Ministry of Environmental Protection on Facilitating Joint Prevention and Control of Air Pollution and Improving Regional Air Quality*, MEP has organized the development of the Plan for Prevention and Control of Air Pollution of Major Regions (2011-2015) (hereinafter referred to as the Plan) after site investigation, expert verification and discussions. The Plan has identified 13 major regions, that is, “three regions and 10 urban agglomerations” (Beijing-Tianjin-Hebei, Yangtze River delta, Pearl River delta, central part of Liaoning Province, Shandong Peninsula, Wuhan and its surrounding area, Changsha-Zhuzhou-Xiangtan, Chengdu-Chongqing, west bank of the Taiwan Strait, central and northern parts of Shanxi Province, Guanzhong of Shaanxi Province, Urumqi of Xinjiang, and Lanzhou-Baiyin urban agglomerations). Aiming at improving air quality, it requires taking synergy control of several pollutants as an approach, establishing joint mechanism for prevention and control of regional air pollution and successfully preventing and controlling atmospheric pollution of major regions during the “12th Five-Year Plan” period.

【Successfully finish the task of ensuring good air quality for the Universiade 2011 Shenzhen】 Learning the successful experience of Beijing Olympic Games, Shanghai World Expo and Guangzhou Asian Games in ensuring good air quality, the environmental protection authority facilitated environmental protection cooperation of the Pearl River delta and carried out joint prevention and control measures for regional air pollution. The air pollution index of Shenzhen

was less than 30, indicating excellent air quality during the Universiade 2011 period. The environmental protection authority successfully finished the task of ensuring good air quality for the “Green Universiade”.

【Promote the prevention and control of vehicle emissions】 1) Relevant authority organized the implementation of Grade IV standard for light-duty gasoline vehicles and emission standard for non-road mobile machines and actively facilitated low sulphur content of vehicle oil. 2) Relevant authority organized the self examination of vehicle environmental protection testing institutions. It organized six groups visiting 9 provinces for site supervision. 3) Relevant authority conducted scientific assessment and active publicity on prevention and control of vehicle emission. It has compiled and released the *Annual Report of China on Prevention and Control of Vehicle Pollution (2011)*. Meanwhile, it coordinated authoritative world transport organizations to develop and release the *Assessment Report on Control Measures for Vehicle Emissions in China*.

【Hold the Seventh International Workshop on Management of Regional Air Quality】 The Seventh International Workshop on Management of Regional Air Quality was held during November 10~11, 2011. At the workshop, relevant experts at home and abroad had in-depth discussions focusing on issues such as relevant policy measures for joint prevention and control of atmospheric pollution of major regions as well as the prevention and control of VOC pollution.

【Trial work on prevention and control of mercury air pollution of coal-fueled power plants】 According to the Circular on *Carrying Out Trial Work on the Control of Mercury Pollutant Emission of Coal-Fueled Power Plants*, relevant authority has actively facilitated the prevention and control of mercury pollution of coal-fueled power plants. A total of 32 coal-fueled generating units in 16 trial power plants of 6 power corporations have been chosen for trial monitoring.

The six big power corporations have finished the installation of mercury monitoring equipment, which began operation.

【Strengthen environmental management of substances that deplete ozone layer】 The Work Flow on *Administrative Review and Approval of Substances Depleting Ozone Layer*

was finished and made public in May of 2011. This facilitates clear and standard work flow of review and approval of the production, use, import and export of the substances depleting ozone layer. It practically guarantees the openness, justice and transparency of the review and approval process.

2011 National Work Meeting on Environmental Protection

The 2011 National Work Meeting on Environmental Protection was held in Beijing during January 13-14. Member of the standing committee of the CPC Political Bureau, Vice Premier of the State Council Li Keqiang made an important instruction, fully affirming the great progress made in environmental work in the 11th Five-Year Plan period and making requirement that all colleagues in the environmental field should work hard to solve prominent environmental problems based on promoting scientific development and accelerating transformation of economic development mode, improve the level of ecological civilization, facilitate green development and better address people's new hope for eco environment. MEP Minister Zhou Shengxian attended the meeting. He first conveyed the instruction of Vice Premier Li Keqiang and required all staff to learn the instruction carefully, seriously implement it, actively explore a new path to environmental protection and open up a new situation for environmental work. The 11th Five-Year Plan period was extraordinary in China's development history and it was also a time when environmental cause unfolded. During this period, China took pollution reduction as a binding target of its plan for national economic and social development and met the target. We maintained that environmental protection should serve the interest of the people and concentrate our effort on solving prominent environmental problems harming scientific development and public health. Great changes have taken place from environmental perception to practice, accompanied by steady improvement of environmental quality. As a result, the environmental protection team has withstood test and groundbreaking progress was made in environmental work. Our achievements in the past five years were hard-won and the accumulated experiences were far too valuable. These could be summed up in six aspects. First, we must put environmental protection in the context of overall development of society and economy and approach environmental problems from macro strategic perspective. Second, we must balance the relationship among environmental protection, economic development and social progress with a view to achieving historic transformation of environmental protection. Third, we must solve notorious environmental problems affecting public health to safeguard people's environmental rights and interest. Fourth, environmental economic policies must be developed covering the whole process of reproduction and a combination of different policies should be employed. Fifth, we must promote harmony between man and nature and rehabilitate ecosystems overloaded with pollutants. Sixth, we must mobilize all social forces and develop the broadest possible united front. Zhou highlighted that the year 2011 was the beginning of the 12th Five-Year Plan and we should work hard on ten key tasks. First, we should make careful preparation for the 7th National Conference on Environmental Protection. Second, we will improve and release the 12th Five-Year Plan for Environmental Protection. Third, we will speed up the development and implementation of an indicator system and assessment measures for ecological civilization. Fourth, we will take vigorous measures against pollution reduction to win the first battle. Fifth, we will enlarge the role of environmental protection as it may work comprehensively to facilitate the transformation of economic development mode and has a basic function to guarantee and improve people's well being. Sixth, more effort will be made to prevent and control pollution in key river basins, regions and waters. Seventh, we will strengthen supervision of nuclear and radiation safety. Eighth, we will boost environmental protection in rural areas and conservation of nature and ecology. Ninth, solid work is needed in the area of environment policy and legislation, science and technology, publicity and education and international cooperation. Tenth, we will continue to enhance capacity building in environmental monitoring, supervision, emergency response and information management.