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Blue Skies for China

WITH THE OLYMPIC GAMES OPENING NEXT WEEK, THE SPOTLIGHT HAS BEEN ON CHINA'S FINAL push to reduce atmospheric pollution by limiting automobile use in Beijing, expanding public transportation, and temporarily shutting down some industries. One can now see a blue sky, a testament to the country's effort to clean house before the guests arrive. The important question is whether these intentions will be maintained, and even amplified, after the games are finished.

The mismatch between China's limited natural resources and the demands of a huge population (1.3 billion) has resulted in major environmental pollution, directly affecting public health and fueling social conflicts. Environmental deterioration has been considered one of the important sources of social unrest in Chinese society. In 2005, there were 51,000 conflicts among local residents and polluters over degradation incidents, including contaminated water, dust, and landslides. Furthermore, the environmental degradation caused by a fast-growing economy is itself causing economic losses. Over the past 20 years, the total cost from environmental pollution and ecological deterioration is estimated to have been 7 to 20% of the annual gross domestic product (GDP). In a global context, China will affect, and be affected by, the outside world both economically and environmentally. Effective and innovative strategies, therefore, must be established and implemented not only to facilitate sustainable development in China but to contribute to the sustainable future of the world.

The major environmental challenges include water contamination, air pollution, and land degradation. Last year, 40% of urban wastewater was discharged into neighborhood water bodies without treatment. In 2007, water quality at half of the 197 monitored rivers of China was rated as heavily polluted with ammonium nitrate, permanganate, and petroleum. In more than 60% of China's large lakes, minerals and organic compounds are so concentrated that there is overproliferation of plant life (especially algae), which has reduced dissolved oxygen and thus depleted the lakes of other organisms, including fish.

Air and land quality are no better. Of the 287 large cities monitored in 2007, only 60.5% had air quality that met the Ministry of Environmental Protection of China standard (comparable to the National Ambient Air Quality Standards of the United States). Land degradation resulting from overexploitation of land resources takes the forms of soil erosion, desertification, and habitat fragmentation. For example, excess erosion from wind and water has deteriorated about 37.1% of China's total land mass.

The most difficult mission will be to find effective ways to regulate the behaviors and relationships of the various stakeholders—different levels of government, the industrial sectors, and the public—who often have different and sometimes conflicting objectives and expectations. For example, China's government has made great efforts to mitigate lake eutrophication. However, these efforts have been undermined by local governments' pursuit of economic growth through industrial development that is not sensitive to environmental issues. Capacity-building is needed in basic scientific research, technological innovation, policy and institutional design, and environmental legislation and enforcement. For instance, market-based incentives for pollution control and efficient resource use, such as those in the United States for vehicle pollution control, are needed. The Chinese environmental management authorities still depend largely on a government command-and-control approach because the market-based mechanism is immature and weak. More financial support from the government is needed to enhance environmental monitoring and management. Although this support has continually increased since the 1980s, the current rate is still below 1.5% of GDP annually. China also needs to develop cost-effective pollution-control (such as wastewater treatment) and resource-recycling technologies, because the current processes are either too costly or not profitable to operate.

For decades, rapid economic growth and the improvement of human living status for the world's biggest population have been accomplished at the expense of environmental integrity. Now, human welfare, rather than living status, should be a priority in developing a strategy for a sustainable China. Hopefully, the world's attention, so focused on conditions in Beijing right now, will continue to focus on China's environmental issues beyond next week. **– Bojie Fu**

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