Air Pollution in Beijing and the North China Plain: Formation Processes and Health Impacts

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Beijing, a megacity with 20 million populations, has been experiencing severe air pollution in recent years. Since 1999, systematic air pollution control measures have been introduced, especially before and during the 2008 Beijing Olympics. However, the challenge of air pollution control in Beijing is unprecedented. This is because Beijing is located at the north edge of the North China Plain, a region with intensive air pollution emissions due to active human activities.

To understand the transport and transformation processes in regions surrounding Beijing, the North China Plain, and to formulate regional air pollution controlling policy for the Beijing Olympics, an international collaborative project, CAREBEIJING (Campaigns of Air Quality Research in Beijing and Surrounding Regions) led by Peking University was carried out 2006, 2007, and 2008. Based on the findings, regional coordinated air pollution control measures were proposed and implemented before and during Beijing Olympics.

In the meantime, short-term health effects of air pollution in Beijing were studied based on panel type study design, on schoolchildren, health young adults, and elderly with cardiovascular disease. Major findings of the formation processes and health impacts of atmospheric pollution in megacity Beijing and the North China plain, and analysis about the main factors lead to the most recent severe air pollution in Beijing, will be presented.

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