



## **The First Step Towards ROK-China Cooperation on Fine Dust Reduction: Achieve Consensus and Conduct Joint Research**

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“I am not sure whether we have sufficient evidence that South Korea’s fine dust is coming from China...we should follow the science on this issue.” (Lu Kang, spokesperson for the Chinese Ministry of Foreign Affairs, March 6, 2019)

“The truth is fine dust originates in China” (Kang Kyung-hwa, South Korean Minister of Foreign Affairs, March 7, 2019)

“The head of China’s Ministry of Environment has acknowledged that China’s fine dust has a partial impact on South Korea.” (Cho Myung-rae, South Korean Minister of Environment, March 7, 2019)

One of the unique things about air pollution is its inclination to travel as it pleases, without consideration for national boundaries or borders. What this means in practice is that when it comes to the management of air pollution, it is difficult to decide upon a national jurisdiction within which to enforce such measures. This also means that cooperation between nations is essential to handle transboundary air pollution. But from which point should such international cooperation begin?

There are conditions which must be fulfilled before solutions to issues such as fine dust or yellow dust can be pursued. First, it is necessary to establish a consensus as to the scientific facts regarding where air pollution originates, how it travels, and where and what kind of impact it brings with it. Environmental scientist Peter Haas argues that when it comes to global environmental problems, trust in the scientific epistemic community regarding the basis of expert knowledge and scientific facts has a significant influence on policy making regarding environmental issues faced by international organizations and nations. But even among scientists, there are differences of opinion when it comes to methods, results, and theories, and ongoing and varied joint natural and social science efforts are necessary to reduce these gaps.

The following investigation of ROK-China diplomacy will show that, despite a long history of ROK-China cooperation, the two countries are still unable to agree on the origins of transboundary air pollution and fine dust, the path upon which it travels, and its impacts. China and South Korea began working to jointly address environmental pollution in the mid-1990s. In 2000, they launched the “ROK-China Long-range Transboundary Air Pollution (LTP) Joint Research Project”, established an air modeling system, analyzed the source-receptor relationship of sulfur oxide and nitrogen oxide emissions, and assessed the impact of fine dust on each country. Of particular note is one of the findings from the 2013 impact analysis modeling of fine dust source-receptor emissions. The

study found that while there are seasonal fluctuations, 47% of South Korea's fine dust comes from domestic sources, the remaining pollution comes from China and North Korea. According to the latest study from the South Korean Ministry of Environment, while usually 30-50% of the country's pollution comes from foreign sources, during periods of high air pollution this concentration reaches 60-80%. However, after ultrafine dust was included as a target for joint research, China did not release the details of the study's results. The scientific uncertainty resulting from the absence of actual joint research and failure to present the results of joint research which has been done serve as an impeding factor to environmental cooperation in Northeast Asia on transboundary pollution.

There are different ideas about the other factors that are impeding cooperation in Northeast Asia on transboundary air pollution issues including fine dust. This idea gap between China and South Korea is not limited to policy makers; academics and the general public also have significantly different ideas about the transboundary pollution. According to Kim Sang Kyu and Kim Dong Yeon (2018), an analysis of domestic academic articles published in Korea from 1990-2017 finds that as few as 0.75% to as many as 3.44% use the key words "China" together with "acid rain", "yellow dust", "fine dust", "environmental pollution", and "air pollution." Out of 695 publications on marine pollution, 5 used "marine pollution + China" as key words, and out of 261 publications on "acid rain", 9 used the combination of "acid rain + China". In contrast, during the same period of time, a single Chinese publication relating to yellow dust out of a total of 1,966 on the same topic out of all academic articles published referenced a connection to South Korea, and out of 4,328 research articles published in China on the topic of fine dust, a single article mentioned South Korea. This shows that although China's air pollution worsened and the amount of research on this subject increased over this period, Chinese research did not link the phenomenon to South Korea. 200,000 members of the South Korean public signed a petition on the Blue House website demanding that the government hold China accountable for the fine dust entering South Korea, while in China, it is not easy to find members of the public who are concerned about the effects of fine dust in South Korea and other Asian regions.

Quantitative, scientific analysis has already clearly identified where the responsibility lies for the source, path, and effects of transboundary pollution through the country-level agreement of the Polluter Pays Principle (PPP), which places the burden of handling pollution squarely on the polluting country. But with transboundary air pollution, polluters and the victims do not exist as pure and separate categories. For example, China may suffer from transboundary pollution which travels from Mongolia, and Japan may suffer the effects of transboundary pollution from China and South Korea. Rather than pointing fingers and evading responsibility, the joint research and analysis of East Asian countries on transboundary pollution must first establish a consensus on baseline data to improve air quality. Further, they must conduct practical, joint research using this consensus on air pollution in the East Asian region, and present it together. On the basis of this presentation, East Asian policy makers and members of the public must reach a shared consensus on the issue and seek ways to address it. Even if East Asian researchers utilize scientific methodologies to reach and present joint research results, if policy makers ignore this, it will be difficult to even take the first step towards problem solving of achieving consensus. Should this occur, it will, as it has been in the past, be difficult to expect effective cooperation to reduce transboundary air pollution including fine dust. There must be cooperation between scientists and policy makers in order to ensure that transnational research cooperation produces trustworthy data and information analysis which are then utilized by poli-

cy makers engaged in cooperative decision making.

Fortunately, there has been a recent emergence of multilateral cooperation platforms to address transboundary air pollution in Northeast Asia, as well as cooperation between South Korea and China. The two countries established and signed an environmental cooperative plan (2018-2022) which establishes the “ROK-China Environmental Cooperation Center”. One of the tasks of the center is to run both the “Air Quality Joint Research Group” and the “Center for Empirical Support for Environmental Technology,” and it acts more generally as the control tower for environmental cooperation between the two countries (Ministry of Environment, 2017). In addition, October 2018 saw the launch of the Northeast Asia Clean Air Partnership (NEACAP) which comprises South Korea, North Korea, China, Japan, Russia, and Mongolia. NEACAP is advocating for the formation of a network of policy makers and scientists to reduce regional air pollution, including fine dust and other pollutants.

The first step towards ROK-China cooperation on fine dust is to establish a consensus and conduct joint research. There must be research conducted within each country which can transcend the domestic concepts of the problem of air pollution and form a basis for the recognition that air pollution spills across domestic borders and can impact other countries within the region. Once this joint research has been reflected in the public understanding of the issue and in policy decisions, this can act as a trigger to strengthen international environmental cooperation. The first priority must be a powerful push to act within each country to resolve the problem of the fine dust which is suffocating the public. At the same time, bilateral and multilateral channels must be created and reinforced to shift domestic efforts to the realm of international environmental cooperation. With these efforts, we can guarantee that everyone will be able to enjoy their right to breathe clean air freely. ■

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