Environmental Cooperation to tackle the Regional Air Pollution together with three countries, China, Japan and Korea

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Thanks to Korea's 'Special Act on Metropolitan Air Quality Improvement' which took effect in 2005, air pollution in Seoul and the metropolitan area has greatly improved. However, since the second half of 2013, Koreans are suffering from severe particulate matter in the atmosphere.

China has a more severe smog problem. Beijing observed 993 $\mu g/m^3$ particulate matter(PM) concentration in January 2014 which is 40 fold higher than WHO standard. Especially in China, the main source of smog is the exhaust gas from out-of-date automobile fleet and increasing coal consumption which accounts for 70% of total energy consumption.

Particulate matter originated from China travels east-bound and affects the air quality in Korea and Japan. According to a research study, about 30~50% of particulate matter in Korea is originated from China. The western region of Japan which is close to China also exceeds the environmental standard.

As China's coal use increases, particulate matter continuously increases. As particulate matter freely travels across borders, it is quite difficult to make a clean atmosphere by reducing PM.

To solve the particulate matter problem, the cooperation of experts from Korea, China and Japan is strengthening. Recently in Korea there was an environment minister meeting which Korea, China and Japan participated in and public and private cooperation is becoming stronger.

To tackle this trans-boundary air pollution concern, Korea included particulate matter in the air quality monitoring and warning system and has been implementing various domestic policies as well as enhancing cooperation with China and Japan.

China is also implementing and proposing various policies. China sets a goal to reduce PM2.5 concentration in Beijing by 25% by 2017 through replacing old cars with new ones at the cost of 304 trillion won.

Due to the trans-boundary nature of air pollutant, the effective policy measures should be implemented under the cooperation between China, Japan, and Korea. Three countries have

already started cooperation to deal with regional air pollution since early 1990. The following is a list of the cooperative projects related to air pollution.

LTP (Long-range Transboundary Air Pollutant, 1996), NEASPEC (North East Asian Programme of Environmental Cooperation, 1993), EANET (The Acid Deposition Monitoring Network in East Asia, 1993), TEMM (Tripartite Environmental Ministers' Meeting, 1999)

In addition to central government-level cooperation, recently, municipal level cooperation has kicked off. An MOU was signed between Ulan Bator and Seoul in Feb 2014, and between Seoul and Beijing in April 2014.

We are in the second half of 2014 and Korean citizens are worrying about severe smog. The Korean government has established many measures and spent a huge budget to tackle this problem, but it seems that the particulate matter pollution will not be easily solved.

The reason is that there is little chance that countries would shrink its industrial output and stop its economic growth for environmental reasons. Also we can't redirect the wind blowing from China. The more important reason is that we do not have information on the amount of particulate matter generation nor do we have information on its travel path.

The first step towards tackling regional air pollution problem in Northeast Asia is sharing basic information and data between three countries such as what is the source of pollution, how and where the pollutants travel and what is the impact of air pollution etc. Trilateral Ministerial Meeting on Environment or LTP is not an effective channel to share these information and data. Therefore, there needs to be an institution for sharing such information.

I propose here to establish an organization, so-called "Northeast Asia Atmospheric Environmental Center" that is in charge of collecting and sharing these information between three countries. The center will do following function; real-time sharing of air pollution monitoring data, sharing air pollution warning and forecasting, monitoring and share of pollution-driven weather characteristics, monitoring and modeling of air pollutant transportation and sharing air pollution abatement technology and policy.

The economic development of a country should not cause environmental harm to other countries. In the case that it does, coordinated effort between those countries that are directly involved is necessary. For example, successfully developed environmental technologies in Korea, such as the CNG bus, Diesel Particulate Filter (DPF), and Tele-Metric System (TMS) of air pollution monitoring, can be transferred to China.

If the air pollution problem which is a side-effect of economic growth can be solved, the North-East Asia region including China, Japan and Korea will become an economically successful region and an environmental best-practice case.