

Interim Report of Special Committee on Dust and Sandstorm Issues

1. Outlines

Dust and sandstorms (DSS), which devastate northeast Asia and whose damages are aggravating significantly, are the common concerns for Japan, South Korea, China and Mongolia. The prevention and the control of DSS events becomes, therefore, an emergent issues among these countries.

Ministry of the Environment, Japan set up a special committee on DSS issues (chairperson: Professor Iwasaka of Nagoya University) in Overseas Environmental Cooperation Center (OECC) in December 2002, which aims to accumulate and summarize the scientific knowledge on DSS issues, and to elaborate future programs of Japan. In September 2004, OECC, as the secretariat of the special committee, reported the progress of the committee based on the discussions among committee members.

This interim report covers both international and domestic issues on 1) backgrounds and present situations on DSS, 2) necessity of scientific approach to comprehend the DSS phenomena, 3) possible measures and evaluations, and 4) international cooperation against DSS issues.

The Ministry will further examine the results of DSS particle sampling and analysis, and also deepen the future programs on DSS issues. The Ministry aims to finalize the report and publicize it by next spring.

2. Backgrounds and present situations on DSS

In recent years, the frequency e.g. number of days which DSS events were observed is increasing in Japan, China and South Korea. So far, severe damages and adverse effects, which have been seen in China and South Korea have not been reported in Japan. However, in addition to air pollution by suspended particles, lowering visibility, and stains to laundries and vehicles, the damages to agricultural activities are concerned. DSS have the possibility to neutralize acid deposition, on one hand; they are said, on the other hand, to adsorb atmospheric pollutants and to transport them to Japan.

3. Scientific approach to comprehend DSS phenomena

In order to comprehend DSS, it is of prior importance to accumulate scientific data such as the monitoring data in DSS source region and along DSS pathway. Recently, the effects on human health are the growing concerns. The accumulation of the knowledge about the physical properties (e.g. particle size distribution) and chemical properties (e.g. mineral composition, adsorbed pollutants such as pesticides etc.) should be surveyed and analyzed.

4. Possible measures and evaluations

Various measures will be applicable to prevent and control DSS, which include the makeshift measures at DSS source region and/or affected region, the short-term measures such as forecasting and early warning, and the long-term measures such as re-vegetation and land use

change etc. For short- and medium-term measures, planned approach should be applied in consideration with the priority of the region.

5. International cooperation against DSS issues

Japan, South Korea, China and Mongolia and four international organizations have formed ADB/GEF project to prevent and control DSS. The monitoring and the entrainment control activities to cope with DSS should be determined and executed based on the recommendations of the project. The monitoring network with LIDAR (Light Detection and Ranging; so-called, Laser Radar), especially, requires the establishment of monitoring data sharing framework together with the installation of the instruments themselves. The international data validation and sharing scheme, which improves the precision of the real time LIDAR data, should be enhanced in order to collect accurate data and to utilize them for forecasting and public information.

6. Further reading

For Japanese readers, please visit following web site, which contains the summary of the interim report.

<http://www.env.go.jp/press/press.php3?serial=5225>