

The First Senior Technical Managers' Meeting of EANET  
20- 22 February 2001, Niigata, Japan

## REPORT OF THE MEETING

### Introduction

1. The First Senior Technical Managers' Meeting of the Acid Deposition Monitoring Network in East Asia (EANET) was held in Niigata from 20–22 February 2001, organized by the Acid Deposition and Oxidant Research Center (ADORC) as the Network Center for EANET, in collaboration with the Ministry of the Environment of Japan, and in cooperation with the Ministry of Foreign Affairs of Japan, Niigata Prefecture and Niigata City.
2. The Meeting was attended by senior technical managers of all the participating countries, namely, China, Indonesia, Japan, Malaysia, Mongolia, Philippines, Republic of Korea, Russia, Thailand and Viet Nam, who are responsible for technical issues on EANET activities in each country.
3. The Meeting was also attended by experts from international organizations as well as Japanese universities, research institutes, local governments and relevant body.
4. The trainees of a training program on acid deposition monitoring technology organized by ADORC observed the Meeting as a part of the training.
5. The list of participants is attached in the Annex.

### Opening of the Meeting

6. The Meeting was opened with remarks by Mr. Naoya Tsukamoto, the Interim Secretariat for EANET. Dr. Tsumugu Totsuka, Director General of ADORC, made the introduction of the meeting organization.
7. Mr. Wang Ruibin of China, Dr. Park Chul Jin of Republic of Korea, and Ms. Leong Chow Peng of Malaysia were elected as co-chairpersons of the Meeting.

### Introduction of the outcomes of the Second Intergovernmental Meeting

8. The Network Center introduced the outcomes of the Second Intergovernmental Meeting held in October 2000. The introduction included the decisions of the meeting, the evaluation of preparatory-phase activities of EANET, "Report on the Acid Deposition Monitoring of EANET during the Preparatory-Phase", and Technical documents for EANET and the Work Program and budget for EANET in 2001.

### Presentations on the experiences of the participating countries

9. The representatives of all the participating countries presented their experiences of EANET activities during the preparatory phase including their major constraints during the phase and perspectives towards the next steps.
10. As for the activities on a regular basis, all the participating countries expressed their intention to improve their monitoring activities such as increase the number of the EANET monitoring sites, better coordination with the relevant organization and others.

### Clarification of some important technical issues such as site selection criteria

11. The Network Center made a presentation to clarify some important technical issues on wet deposition monitoring. Major discussion on this topic included the following:
  - Snow sampling should be further tested in the northern part of East Asia, since the characteristics of snow and the precipitation amount in winter change from region to region.
  - The filtration of samples as pre-treatment for injecting samples to ion chromatograph should be considered further in terms of application in all countries in the region.
12. The Network Center made a presentation to clarify some important technical issues on dry deposition monitoring. Major discussion on this topic included the followings:
  - The list of priority parameters for dry deposition monitoring should be expanded to include compounds currently stated as "Second priority".

- The technical specification for filter pack monitoring should be developed taking into account the latest scientific information.
- Regarding the filter pack monitoring, weekly sampling should be recommended and biweekly sampling might be accepted as a first step taking into account the capacity of the participating countries.
- Comparison study on different methods to make air concentration monitoring in Southeast Asia should be encouraged because of the lack of experiences in the region.
- Step-wise approach should be taken to develop the method of dry deposition monitoring in East Asia.

13. The Network Center made a presentation to clarify some important technical issues on soil and vegetation monitoring. Major discussion on this topic included the followings:

- The emission sources in an area should be also considered in the selection of two monitoring forest sites.
- Monitoring interval of every 3-5 years described in the technical document is based on the experience in the temperate zone. More frequent monitoring is probably useful for accumulation of the baseline data in the tropical region although too frequent sampling may disturb the site condition.
- Based on the experience in other regions, studies of soil water chemistry and the biogeochemical cycles of sulfate and nitrate in soil were recommended to improve the evaluation of acid deposition impact on ecosystem.

14. The Network Center made a presentation to clarify some important technical issues on inland aquatic environment monitoring. Major discussion on this topic included the followings:

- The site selection criteria in inland aquatic environment monitoring for tropical region should be further developed.
- The monitoring method on the watershed linking monitoring on inland aquatic sites should be developed as a practical means for the ecosystem analysis sites.
- It was pointed out that the alkalinity in inland water as a parameter of site criteria had a higher priority than pH.

Discussion on technical issues that are required for the monitoring on a regular basis

15. The Network Center made a presentation on review and revision of the national monitoring plans for the activities on a regular basis, emphasizing that the participating countries were requested to submit the reviewed and revised plans to the Network Center through the national focal points by 30 June 2001. The Network Center underlined that it was important for each participating country to review and improve its national monitoring plan, prior to its submission. Some countries expressed their concern over the time limit because it may take some time to decide monitoring sites, particularly due to the availability of appropriate lakes/reservoirs for inland aquatic environment monitoring.
16. The Network Center made a presentation on the nomination of the members of the Scientific Advisory Committee, emphasizing that the participating countries were requested to nominate one or two experts to the Interim Secretariat by 30 June 2001. The Interim Secretariat was requested to make an official invitation for the nomination to each participating country. Members of the Scientific Advisory Committee should be scientists actively involved in relevant research areas. It was suggested that the Interim Secretariat request information on the scientific background of nominated person(s) in a form of CVs including a list of his/her papers.
17. The Network Center made a presentation on the activities of the Task Force on Dry Deposition Monitoring, the Task Force on Soil/Vegetation Monitoring and the Network on soil/vegetation specialists. In response to the question by participating countries, the difference of the function between the Task Force on Soil/Vegetation Monitoring and the Network on soil/vegetation specialists was clarified by the Network Center. Some experts recommended that the Task Force on Soil/Vegetation Monitoring should invite experts from outside of the participating countries if necessary like the Task Force on Dry Deposition Monitoring.
18. Dr. Gregory P. Ayers (CSIRO) made a presentation entitled "A universal bias in inorganic rainwater chemical composition data". He pointed out that virtually all previous rainwater composition studies based on ionic analysis might have

systematically underestimated for nutrient deposition because ammonium, potassium, nitrate, sulfate, methanesulfonate and phosphate ions in rainwater are removed biologically after sample collection, being converted into organic form.

19. The participants were asked their comment how to disclose the name of the participating laboratories as a progress of inter-laboratory comparison, while sharing understanding that the issue should be considered and decided by the Scientific Advisory Committee and the Intergovernmental Meeting. Some of the participants felt that it was still premature to disclose the specific names of the laboratories in the report of inter-laboratory comparison. A proposal was made to retain non-identifying information in the report on inter-laboratory comparisons, but to circulate a separate sheet listing the identity number of each participating laboratory. Some participants expressed their view that the disclosure should be made to enhance transparency of the Network and emphasized positive effects of disclosure on improvement of data quality.

Identification of priority technical issues to be further addressed for the monitoring on a regular basis

20. In the discussion at the Meeting, it became clear that the followings are the priority technical issues to be further addressed for the monitoring on a regular basis.

21. Site selection:

- Appropriate numbers and locations of monitoring sites need to be further discussed and elaborated in the future in order to adequately assess the situation of acid deposition in the East Asian region.
- Appropriate sites for inland aquatic environment should be explored along with elaboration of site selection criteria.

22. Monitoring methodologies:

- Effort should be continued to further elaborate monitoring methodologies suitable for this region, such as wet and dry deposition monitoring in frigid zones and dry deposition and soil/vegetation monitoring in tropical zones.
- To elaborate methodologies for dry deposition monitoring, development of

manuals for air concentration monitoring and research on deposition velocity should be encouraged in the region.

- Methodologies for soil/vegetation monitoring in this region need to be further elaborated. Methodologies of vegetation monitoring, especially suitable for tropical zone and grassland, should be elaborated. The latest technique such as the hemispherical photograph method and use of the remote sensing should be explored.

#### 23. Equipment for monitoring and analysis:

- Some countries do not sample precipitation using wet-only samplers. The use of wet-only samplers is strongly recommended. If however, bulk samplers are used, careful measures should be taken to avoid dry deposition to the sampler. The data originator is expected to evaluate the influence by dry deposition to the bulk sample.
- Application of recommended type of sampler is strongly recommended.
- Acquisition and installation of high quality measurement and analytical systems is a high priority.

#### 24. Capacity building:

- Intensive training should further be undertaken at national and regional levels.
- Development and dissemination of training and technical materials should be undertaken.

#### 25. QA/QC activities:

- Inter-laboratory Comparison should be continuously undertaken and the results should be disseminated.
- A report on the state of QA/QC activities in the participating countries should be prepared and reported to share the experiences.
- Certified reference materials suitable for this region are expected to be developed in future.

#### 26. Data assessment and reporting:

- Data quality assessment should be continuously undertaken to obtain reliable data.
- Effort should be made to clarify the reasons why  $R_1$  and  $R_2$ , do not meet the specified criteria at some sites.
- The problems such as delay of submission of data are expected to be improved.
- Monitoring data obtained in 2000 should be submitted to the Network Center by 30 June 2001 in accordance with the Work Program in 2001 for EANET.
- It was recognized that the issue of how to share the monitoring data with the relevant bodies and scientists outside of EANET remains to be addressed.

27. Review, revision and implementation of national monitoring plans:

- Based on the experience during the preparatory phase, national monitoring plans should be reviewed and revised where appropriate for the monitoring activities on a regular basis.
- The revised national monitoring plans should be submitted to the Network Center by 30 June 2001 in accordance with the Work Program in 2001 for EANET.

Excursion to Niigata-Maki Monitoring Site

28. The excursion to Niigata-Maki Monitoring Site was undertaken.

Wrap-up of the Meeting

29. This report was considered and adopted.

30. All the participants expressed their gratitude and sincere appreciation for the efforts made by the organizer and the host country for having arranged this important meeting.

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22 February 2001

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