

The Fifth Session of the Scientific Advisory Committee
on the Acid Deposition Monitoring Network in East Asia
1-3 September 2005, Niigata, Japan

REPORT OF THE SESSION

Introduction

1. The Scientific Advisory Committee on the Acid Deposition Monitoring Network in East Asia (EANET) (hereinafter referred to as SAC) held its Fifth Session in Niigata, Japan, from 1 to 3 September 2005. The Session was organized by the Secretariat for EANET and the Network Center for EANET (NC) under the cooperation with Ministry of the Environment, Japan, Niigata Prefecture and Niigata City.
2. The Session was attended by the members of SAC and their alternates nominated by the following participating countries: Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, the Philippines, Republic of Korea, Russia, Thailand and Viet Nam.
3. The Session was also attended by the representative from Myanmar as observer, the representative of World Meteorological Organization (WMO) as well as expert from the United Nations Economic Commission for Europe (UN ECE) representing the Executive Body of the Convention on Long-Range Transboundary Air Pollution (CLRTAP) and the Chemical Coordinating Center of the Co-operative Programme for Monitoring and Evaluation of the Long Range Transmission of Air Pollutants in Europe (EMEP-CCC).
4. Representatives from Niigata Prefecture, Niigata City, experts from local governments, and relevant bodies observed the Session.
5. The list of participants is attached as Annex 1.

Agenda Item 1: Opening of the Session

6. The Session was opened with address by Dr. Jiang Wei, Coordinator of the Secretariat of EANET.
7. Mr. Akinori Ogawa, Director, Global Environment Issues Division, Global Environment Bureau, Ministry of the Environment, Japan delivered the welcome address on behalf of the host country. Representatives of host municipalities, Mr. Heihachiro Watanabe, Director General, Department of Civic and Environmental Affairs of Niigata Prefecture and Mr. Toshio Kaise, Department Director, Environmental Affairs Department, Public Affairs Bureau, Niigata City gave welcome addresses of their organizations.

Agenda Item 2: Election of officers

8. The Secretariat explained the discussion on extension of the term for SAC bureau members in the Fourth Session of SAC (SAC4) and the Sixth Session of the Intergovernmental Meeting (IG6). The recommendation of the Intergovernmental Meeting (IG) to SAC was done that re-election of SAC bureau for next term is preferable if the Session of SAC wish so.
9. Prof. Muhamad Bin Awang, Malaysia was elected as Chairperson. Prof. Cho Seog-Yeon, Republic of Korea and Dr. Pojanie Khummongkol, Thailand were elected as Vice-Chairpersons. Ms. Bulgan Tumendemberel, Mongolia was elected as Rapporteur of the Session.

Agenda Item 3: Adoption of the agenda

10. The Session adopted the agenda as proposed by the Secretariat and NC.

Agenda Item 4: Review of the progress of EANET activities since SAC4 and IG6 from scientific and technical viewpoints and financial report

11. The Secretariat and NC presented a report describing the EANET activities since SAC4 and IG6 held in November 2004 in Siem Reap, Cambodia. The Secretariat reported the progress in institutional and administrative aspect of EANET. NC introduced briefly a progress in all terms of Network activities implemented in cooperation with the participating countries for this period, including overview of training activities in the participating countries in 2004. The Financial Reports in 2004 of the Secretariat and NC were presented consequently.
 - One country suggested to consider the necessity to increase budget allocation for public awareness activities.

Agenda Item 5: Review of the development of the Periodic Report on the State of the Acid Deposition in East Asia (PRSAD)

12. NC presented overview of the process on preparation of PRSAD since SAC4. The general summary of the First Meeting of Drafting Committee (DC1) and the Second Scientific Workshop on Evaluation of the State of Acid Deposition in East Asia (SWS2) were introduced together with schedule of preparation process of PRSAD. Some clarification were done as follows:

- The schedule of the Sixth Session of SAC (SAC6) in the next year should be considered carefully in order to prepare final draft of the PRSAD before the Eighth Session of the Intergovernmental Meeting (IG8). Possibly, SAC6 and IG8 will be conducted separately with enough time to revise the draft Report. The schedule will be decided with close communications between NC and the Secretariat.
- The procedures for deciding the host country of the relevant meetings were explained by the Secretariat. It was pointed out that clear rules/procedures for hosting the meetings should be clarified.

Agenda Item 6: Consideration on the Report on the 5-Year Medium Term Plan (MTP) for EANET and scientific content of the Report for Policy Makers (RPM) and its Fact Sheets

13. The Secretariat presented an overview of the outcomes of the Second Session of the Working Group for Future Development of EANET (WGFD2) held on 20-21 June 2005, Bangkok, Thailand. The major explanations were done on the questions by the participants:
 - The guideline including the rules of procedures for SAC was prepared at WGFD2. It was suggested that SAC should prepare the document including more evident rules of procedures for SAC.
 - It was suggested that target group of RPM could be extended to the general public as reports for the respective nations. However, RPM will basically be prepared for the people who are not familiar with the technical issues on air pollution and acid deposition, and therefore, it could be easily understood by not only policy makers but also the general public.

14. NC made a presentation on the Draft Report on the 5-Year MTP for EANET revised after consideration at WGFD2. The process of revision and circulation of MTP before consideration at IG7 was explained with summary of comments and suggestions by participating countries and WGFD2. SAC5 gave comments and suggests as follows:
 - Tasks listed up in MTP might be too many and ambitious for five years. It was pointed out that feasibilities of the tasks and their priority should be clarified taking account of necessary human and financial resources including expected number of reports.
 - It was pointed out that QA/QC, the expansion of monitoring parameters/species, and assessments of the effects on human health and environment should be promoted based on current activities. And it could be followed by modeling, inventory and ecological impacts assessment.
 - It was commented that capacity building on modeling and emission inventories should be promoted taking account of its advantages such as assessment of the data, prediction and usefulness for decision making process.
 - It was suggested that regional modeling of pollutants should be promoted before hemispheric model.
 - It was pointed out that model inter-comparison project has been promoted since various

models were developed in the world.

- The opinion was expressed that it might be difficult to discuss relationship between acid deposition and its effects based only on the data of monitoring. Modeling is essentially important for interpretation of data, so the monitoring and modeling should be promoted together.
- It was indicated that the development of inventories may require human and financial resources and that scientific evidence on impacts of acid deposition is necessary before developing inventories.
- The delegate of Japan informed that JICA will start the training course on modeling and inventory in Thailand next year.
- The cooperation with other regional initiatives like LTP project, JICA Country's Development Studies and using of their achievements were suggested.

15. The Secretariat and NC made presentations on the scientific content of RPM and its Fact Sheets. Major discussion and suggestions were as follows:

- It was suggested that the Secretariat should take official written procedures to get comments from the participating countries and to complete RPM before IG7.
- The need to complete RPM before IG7 was emphasized because of its importance. It was expressed that Review Workshop on RPM will be an opportunity to discuss the report.
- The Secretariat requested the participating countries to suggest other appropriate and "catchy" titles for RPM.
- It was suggested that RPM should be based on the information of the Fact Sheets, which were prepared based on the scientific facts. References should be cited in RPM for readers to identify the scientific sources.
- It was suggested that "hotspots" of air pollution and acid deposition should be quoted from reliable sources.
- Figure 10 of RPM "Integrated approach for air quality management" and the related descriptions should be elaborated.
- It was suggested that the necessity to add a disclaimer on the responsibility of the text of RPM should be considered.

Agenda Item 7: Review of the Data Report on acid deposition monitoring in 2004

16. NC presented a draft Data Report on Acid Deposition in the East Asian Region 2004. The clarification on presented data of some chapters included the following:

- i. Wet deposition monitoring data
 - Wet deposition monitoring is under the development and a lot of data was accumulated by EANET.

ii. Dry deposition monitoring data

- Monitoring system provides a lot of air concentration data and these data can be very helpful for assessment of effects on health and environment. At the same time in the data report, there are no data on dry deposition itself. It was clarified that estimation of dry deposition flux is important in EANET activities.
- It was pointed out that investigations to evaluate an appropriate method for dry deposition flux should be put into MTP.
- It was pointed out that research activities should be promoted for estimation of dry deposition velocity in East Asian region.

iii. Soil and vegetation monitoring data

- One country modified the plot design of forest monitoring from circle plots to square plots. It was pointed out that appropriateness of the modification should be discussed and that further communication between NC and the National Center of this country should be promoted for harmonization of the methods.

17. NC presented the Progress on a Detailed Mechanism of the Procedures on Data and Information Disclosure. Major explanation on this topic included the following:

- It was announced that EANET data would be distributed by CD-R.
- It was announced that registration form and information for data disclosure could be obtained on the EANET website.
- It was clarified that the computer software for the registration system on the website would be developed to distribute the raw data and information.
- NC informed that deadline of the monitoring data submission in the next year would be the end of June.

Agenda Item 8: Consideration on the revisions of the national monitoring plans of the participating countries

18. NC presented an overview of national monitoring plans of participating countries including brief introduction of national monitoring plan of Cambodia and its revision. The overview was followed by clarification of some participating countries:

- It was informed that China would like to start test monitoring on the filter pack method with new equipments because the old equipments used in four cities were out of order. Filter pack measurement would be extended after the success of the test monitoring.
- It was clarified that measurement at the site in remote area was carried out as the national monitoring activity in China. China will consider possibility of including the

site in EANET.

- Some monitoring sites on inland aquatic environment do not meet the criteria of alkalinity, and it might be difficult to find appropriate sites in some countries. It was pointed out that efforts should be made to find sites with lower alkalinity to detect symptoms of acidification.
19. The situation on the revision of the monitoring plan in Viet Nam was explained. It was clarified that the Ministry of Natural Resources and Environment (MoNRE) of Viet Nam prepared the new national monitoring plan and it is expected to be submitted in November 2005. The revised monitoring plan for EANET activities in Viet Nam would be approved following the national monitoring plan.

Agenda Item 9: Review of QA/QC activities in the participating countries

20. NC presented draft reports on the inter-laboratory comparison projects in 2004 on wet deposition monitoring, soil monitoring, and monitoring on inland aquatic environment. Clarification was done for project on soil monitoring:
- The QA/QC program on soil monitoring included the statistical model for evaluation of the data, and both processes of sampling and chemical analysis were considered in the model. It was pointed out that sampling process should be evaluated for the first periodic report in addition to the analytical process in the inter-laboratory comparison project.
21. NC presented a new QA/QC activity on filter pack method in EANET. Based on the results of test studies, NC prepared the draft plan of the first inter-laboratory comparison project. Major clarification of the proposed project included the following:
- Samples of the project will be distributed to the participating laboratories at the same time as the artificial rainwater in the middle of November 2005.
 - The data gathered in the project will be evaluated taking into account the results of test studies, filter stability, addition and recovery, and transportation test.
 - It was clarified that the samples will be distributed using centrifuging tubes.
 - All of the participating countries can take part in the project upon their requests.
 - The inter-comparison on sampling collection should be considered in the future.

Agenda Item 10: Consideration of improvement of the monitoring methodologies

22. NC presented the Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET. SAC5 endorsed the revised Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET after a few modifications.

23. Dr. Alexey Ryaboshapko, Russia introduced modeling approach for the estimation of dry deposition flux. It was recommended to consider numerical modeling approaches for estimation of spatial distribution of wet and dry deposition fluxes. Modeling and monitoring should be promoted in parallel.
24. As the Secretariat of the Task Force on Soil and Vegetation Monitoring, NC presented a report on “Activities in line with the strategy paper for future direction of soil and vegetation monitoring of EANET” including a progress on the development of sub-manual on forest monitoring.

Agenda Item 11: Consideration of research activities on acid deposition including collaboration with initiatives on emission inventory and numerical modeling

25. NC presented review of the on-going research activities on acid deposition being conducted as joint research projects with Russia on evaluation of atmospheric environment in East Siberia and Primorsky Region, with Thailand on dry deposition flux and on catchment analysis, with Mongolia on plant sensitivity to acid deposition, with Republic of Korea on aerosol monitoring, as well as collaboration with existing initiatives on developing emission inventory and numerical modeling. Some comments and suggestions were made:
 - i. Joint Research Project with Russia on evaluation of atmospheric environment
 - As the first step of evaluation on long-range transportation of air pollutants from Europe to East Asia, cooperative research project on clarification of atmospheric environment has been implemented in East Siberia and Primorsky Region, a transition area where the transportation can be monitored.
 - ii. Joint Research Project with Thailand on dry deposition flux
 - Progress of the flux study in Mae Moh, Thailand was introduced. The variations of dry deposition flux, concentration, and deposition velocity of ozone from January to April in 2002 and from June to September in 2003 were reported.
 - iii. Joint Research Project with Thailand on catchment analysis
 - It was expressed that the project could be the first case study concerning effects of acid deposition on ecosystems of a catchment scale in tropical region.
 - iv. Joint Research Project with Mongolia on plant sensitivity
 - It was discussed that meteorological conditions and the height of the smoke stack might

affect transport of the pollutants providing higher concentrations of the pollutants on the slope than in the city area.

- v. Joint Research Project on aerosol monitoring with Republic of Korea
 - Outline and schedule of the joint research project were introduced with clarification that chemical analysis will be performed for PM_{2.5} collected by filter pack on daily basis.
 - Intensive monitoring will be performed in the same period with LTP intensive monitoring in October 2005.
 - Workshop on this research will be held during next NC technical mission.
 - vi. Collaboration with existing initiatives on emission inventory and numerical modeling
 - It was pointed out that experience of MICS-Asia would be informative for EANET especially for capacity building of the participating countries.
26. Dr. Hiromasa Ueda, Director General of Acid Deposition and Oxidant Research Center, presented a Proposal on Future Research Activities of Highest Priority. Research for improvement of monitoring activities and environmental assessment on regional and national scale are ongoing. Modeling and emission inventory as well as early detection of ecological impacts and integrated environmental assessment were proposed as important researches. It was suggested that modeling activities should be given higher priority for future activities of EANET.

Agenda Item 12: Updates of other international programs on acid deposition

27. Dr. Kjetil Torseth, expert of EMEP-CCC, presented a general overview of the CLRTAP and its institutional set-up, as well as the role of the EMEP-CCC in data collection and compilation, quality assurance etc. The EMEP Monitoring Strategy for 2004-2009 was mentioned with brief explanation on programs for stations of different levels. The assessments of trends in acid deposition, ozone and climatic parameters were introduced as well as projection of several pollutants in Europe. The topics of cooperation and relations with other monitoring programs worldwide on intercontinental pollution issues were presented with introduction of activities of Task Force on Hemispheric Transport. Calculated air mass trajectories for the rural and remote EANET sites were also demonstrated as application, and EMEP-CCC offered to make them available for EANET on the web-site (www.nilu.no/trajectories).
28. Dr. Slobodan Nickovic, the representative of WMO/Atmospheric Research and Environmental Programme (AREP) made a presentation on the current activities of WMO Global Atmospheric Watch (GAW) for promotion of monitoring and data exchange with

emphasis on the precipitation chemistry program. WMO currently conducts an initiative on developing a new scientific global precipitation chemistry assessment. Within this action, a workshop on assessment issues is planned in 2006 to which EANET representatives will be invited.

29. The representative from UNEP RRC.AP made a presentation on “Monitoring Acid Deposition under Male’ Declaration for South Asia”. The technical document on emission inventory and other topics were introduced. The prospective works and process of developing national capacities were indicated.

Agenda Item 13: Consideration of the Work Program and Budget in 2006 for EANET from scientific and technical viewpoints

30. The Revised Draft Work Program and Budget in 2006 for EANET was presented by the Secretariat and NC for the comments on the document from scientific and technical viewpoints:
 - It was suggested that an additional comparative table on the budget during the previous years of the Secretariat and NC should be attached.
 - The table 4 of actual expenses of the Secretariat year by year should be presented item by item.
 - The Secretariat informed the session on the decision on further financial arrangement adopted by the Fifth Session of the Intergovernmental Meeting (IG5) in 2003 and the progress of this issue.
 - Necessity of voluntary contribution to NC budget was emphasized by NC with reference to “A Memorandum on More Efficient and Transparent Activities of NC”.

Agenda Item 14: Other issues

31. The brochure on dust and sandstorms (Yellow sand, Kosa), which was prepared by the government of Japan, was distributed as an informative reference of the regional atmospheric environmental network. An expert of the international organization introduced relevant projects on dust and sandstorms such as the network of WMO and Atmospheric Brown Cloud (ABC). It was pointed out that further cooperation between EANET and such initiatives should be promoted.
32. NC informed on start of the selection process of the fellowship in ADORC in 2005 supported by the savings. The invitation letter, application form and proposed fields of researches were sent to all NFPs together with Guidelines prepared by WGFD.
33. Mr. Htay Oo Kyi, Assistant Director, Department of Meteorology and Hydrology (DMH),

Ministry of Transport, Myanmar, introduced acid deposition monitoring activities of DMH including data on pH of rain waters collected in 2004 and 2005.

Agenda Item 15: Consideration and adoption of the report of the Session

34. This report was considered and adopted.

Agenda Item 16: Closing of the Session

35. All the participants expressed their gratitude and appreciation for the efforts made by the organizers and host country, particularly Ministry of the Environment, Japan, Niigata Prefecture and Niigata City for having arranged this important meeting and warm hospitality.
36. The Session was closed by Dr. Pojanie Khummongkol, Vice Chair of SAC5.

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