

The Tenth Session of the Scientific Advisory Committee
on Acid Deposition Monitoring Network in East Asia
13-15 October 2010, Pattaya, Thailand

REPORT OF THE SESSION

I. Introduction

1. The Scientific Advisory Committee (SAC) of the Acid Deposition Monitoring Network in East Asia (EANET) held its Tenth Session (SAC10) from 13 to 15 October 2010 in Pattaya, Thailand. The Session was organized by the Secretariat for EANET and the Network Center (NC) for EANET.
2. The Session was attended by the members of SAC or their alternates and other nominated persons from the participating countries of EANET, namely: Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand and Vietnam.
3. The Session was also attended by two experts from Tokyo University of Agriculture and Technology, Japan and Gwangju Institute of Science and Technology, Republic of Korea. Researchers from Japan and Thailand attended the Session as observers.
4. The List of Participants is attached as Annex.

II. Opening of the Session (Agenda Item 1)

5. The Session was opened by Dr. Duong Hong Son, Director, Center for Environmental Research (CENRE), Vietnam Institute of Meteorology, Hydrology and Environment (IMHEN) as the Chairperson of SAC from the Ninth Session of the Scientific Advisory Committee (SAC9).
6. On behalf of the Secretariat for EANET, Mr. Mahesh Pradhan, Interim Director of the United Nations Environment Programme Regional Resource Center for Asia and the Pacific (UNEP RRC.AP) delivered the Opening Remarks. He emphasized that the year 2010 is a remarkable and important year for EANET as it will celebrate the Tenth Anniversary during the Twelfth Session of the Intergovernmental Meeting (IG12) in Niigata, Japan as well as the signing of the Instrument for EANET. He commended the success of the EANET. He also expressed that UNEP appreciated the tangible results of this regional cooperation. He also mentioned that the United Nations declared 2010 as the International Year of Biodiversity and he referred on the upcoming Tenth Meeting of the Conference of the Parties (COP10).

7. Dr. Hajime Akimoto, Director General of the Asia Center for Air Pollution Research (ACAP) gave the introductory remarks. He informed that this year 2010 is the Tenth Anniversary of EANET and it is a good time to review the accomplishment in the past ten years and to consider future direction. Due to rapid economic growth in Asia, concerns on Asian regional air pollution are increasing. Under this situation, EANET should expand the scope of activities on air pollution. He also mentioned on the interaction between air pollution and climate change, including black carbon as also a big problem for air pollution, therefore, co-benefit approach on these issues is very important. He also informed the Session about the new name of ACAP. It could cope issues on air pollution more effectively for the network and would be able to get more external funds in the future.

III. Election of the Officers (Agenda Item 2)

8. Considering the important tasks of the SAC, such as the development of the Periodic Report, etc. and to ensure continuity, the Session re-elected the same bureau members, following the decision of the Sixth Session of the Intergovernmental Meeting (IG6).
9. Dr. Duong Hong Son was elected as the Chairperson. Prof. Hiroshi Hara, Field Science Center, Faculty of Agriculture, Tokyo University of Agriculture and Technology, Japan, and Dr. Elizabeth Philip, Senior Research Officer, Forest Research Institute of Malaysia (FRIM) were also elected as Vice-Chairpersons and Ms. Jean N. Rosete, Chief, Air Quality Management Section, Environmental Management Bureau, Department of Environment and Natural Resources, Philippines was elected as Rapporteur of the Session.

IV. Adoption of the Agenda (Agenda Item 3)

10. The Session adopted the Agenda (EANET/SAC 10/3/1) and the Draft Program (EANET/SAC 10/3/3) as proposed.

V. Report on the Progress of EANET since the Ninth Session of the Scientific Advisory Committee (SAC9) and the Financial Report in 2009 (Agenda Item 4)

11. The Secretariat and the NC made presentations on the Report on the Progress of EANET since the Ninth Session of the Scientific Advisory Committee (SAC9) (EANET/SAC 10/4/1) and the Financial Report of the Secretariat and the Network Center in 2009 (EANET/SAC 10/4/2). The Secretariat also presented the Report on the Outcomes of the Eleventh Session of the Intergovernmental Meeting (IG11), and the Ninth Session of the Working Group on Future Development of EANET (WGFD9) (EANET/SAC 10/4/3).
12. Major points highlighted are as follows:

- It was clarified that five regional networks, namely EANET, Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia, ASEAN Agreement on Transboundary Haze Pollution, Framework Convention on the Environmental Protection for Sustainable Development in Central Asia, and South Asia Co-operative Environment Programme (SACEP); and other programmes/organizations, e.g. Pacific Regional Environment Programme (SPREP) and Clean Air Initiatives for Asian Cities (CAI-Asia) participated in the meeting of the Joint Forum on Atmospheric Environment in Asia and the Pacific.
- It was suggested that capacity building is one of the most important issues and information that would be useful from other regional network (e.g. Male Declaration).
- The Secretariat updated the Session on the progress of the national procedures on approval and signatories to the Instrument for EANET.

VI. Review of the EANET Data Report 2009 (Agenda Item 5)

13. The NC presented the draft Data Report 2009 (EANET/SAC 10/5). The report included the wet deposition monitoring data, dry deposition monitoring data, soil and vegetation monitoring data and inland aquatic environment monitoring data from the monitoring activities carried out by the participating countries in 2009, which were submitted to the NC.
14. Major discussions were as follows:
 - i. General
 - The NC announced that all the monitoring data will be made available in the Excel file on the website after SAC10.
 - ii. Wet deposition monitoring data
 - It was clarified that some additional data would be accepted even after SAC10.
 - The data of two new stations in Vietnam, namely Cuc Phuong, and Da Nang, was included in the Data Report 2009. The data from other two stations will be sent to the NC as soon as possible.
 - Sampling frequency at the new stations in Vietnam was 10-day basis, because the stations were established as the national air monitoring stations. It was pointed out that the frequency should be changed to daily or weekly at these new sites according to the EANET criteria.
 - iii. Dry deposition monitoring data
 - Some editorial mistakes should be corrected.
 - It was suggested that the data of particulate matters could be verified by using the relationship between specific ions (e.g. sulfate and sodium ions).

iv. Soil and vegetation monitoring data

v. Inland aquatic environment monitoring data

- Water quality is affected by natural and/or anthropogenic environmental factors at local and regional levels. It was pointed out that the data should be analyzed carefully taking into account the characteristics of the sites.

15. The Session endorsed the Data Report 2009 with corrections.

VII. Overview of the updated National Monitoring Plans of the participating countries (Agenda Item 6)

16. The NC presented the Overview of the Updated National Monitoring Plans of the Participating Countries (EANET/SAC 10/6). The Session was informed that to date, there are 54 wet deposition monitoring sites, 44 dry deposition monitoring sites, 28 soil and vegetation monitoring sites and 18 inland aquatic environment monitoring sites in EANET.

17. Major points of discussions were as follows:

- In Vietnam, Sapa station has been planned, but not yet operational.
- In Thailand, it was pointed out that the classification of Nakhon Ratchasima site (Sakaerat) was changed from remote to rural site. The Session was informed that the automatic monitoring data including PM10 was collected in the city area of Nakhon Ratchasima Province.
- Information on site characteristics should be submitted with the monitoring data as the metadata for interpretation. It was recommended that the relocated site should be renamed.
- In Malaysia, the rehabilitation forest in Bintulu is considered as the candidate site for soil and vegetation monitoring. It was clarified that the NC supports this plan and the Bintulu could be included as one of the sites for soil and vegetation monitoring in the near future based on the decision of the Malaysian government.

VIII. Review of the Report on the Inter-laboratory Comparison Projects 2009 (Agenda Item 7)

18. The NC presented the Report of the Inter-laboratory Comparison Projects 2009 on wet deposition, dry deposition (filter pack method), soil and inland aquatic environment (EANET/SAC 10/7).

19. Major clarifications and discussions on this topic included the following:

i. Wet deposition monitoring data

- Additional statistical analysis using Z score was included in the Annex of the report.
- It was clarified that the Table 2.12 showed the years of experience of the staff.

ii. Dry deposition monitoring data

- The samples from the 6th Inter-laboratory Comparison Project on Dry Deposition (2010 - onwards) have an expiry date on the label and should be analyzed before this date.
- Participating laboratories will be requested to submit the detection and quantification limits. It was clarified that the information above was announced to the senior technical managers at the Eleventh Senior Technical Managers' Meeting (STM11).

iii. Soil and vegetation monitoring data

- Some laboratories submitted negative values and blank cells. It was pointed out that the data sheet should be carefully checked before submission to the NC.

iv. Inland aquatic environment monitoring data

20. The Session adopted the Report on the Inter-laboratory Comparison Projects 2009.
21. The Session was further informed that the NC already distributed the samples for the Inter-laboratory Comparison Projects 2010 to the participating laboratories in October 2010. Participating laboratories were requested to submit their results to the NC after the review by their national QA/QC managers before the end of February 2011.

IX. Consideration of the Reports from the Chairpersons of the Task Forces and Expert Groups of Scientific Advisory Committee (SAC) (Agenda Item 8)

Task Force on Soil and Vegetation Monitoring

22. The Chairperson of the Task Force on Soil and Vegetation Monitoring presented the Progress report on the activities of the Task Force on Soil and Vegetation Monitoring (EANET/SAC 10/8/1) including the final draft Guideline for the Catchment-scale Monitoring in East Asia (EANET/SAC 10/8/1/1) for future monitoring.
23. Major comments and discussions included the following:
- It was pointed out that agricultural crops should also be taken into account for future monitoring of vegetation impacts.
 - It was suggested that soil classification systems in the participating countries, phenology (timing of flushing, blooming, defoliating, etc.) of the monitoring trees, and interactions between vegetation and soil should be taken into account, especially in tropical forests.
 - It was pointed out that characteristics or formality of the questionnaire survey on tree decline symptoms were not clear enough and some countries might have difficulties in

providing feedback. The Task Force should work carefully based on scientific point of view.

- It was clarified that the guideline for catchment-scale monitoring was prepared for use in the participating countries which would like to start the regular monitoring.
 - If necessary, the Task Force may elaborate the guideline step by step taking the experience of the countries into account.
24. The Session endorsed the final draft Guideline for the Catchment-scale Monitoring in East Asia (EANET/SAC 10/8/1/1).

Task Force on Monitoring for Dry Deposition

25. The Chairperson of the Task Force on Monitoring for Dry Deposition presented the Progress Report on Activities of the Task Force on Monitoring for Dry Deposition (EANET/SAC 10/8/2) including the final draft Strategy Paper for Future Direction of Monitoring for Dry Deposition of EANET (2011-2015) (EANET/SAC 10/8/2/1).
26. The Session endorsed the final draft Strategy Paper for Future Direction of Monitoring for Dry Deposition of EANET (2011-2015) (EANET/SAC 10/8/2/1).

Expert Group on Dry Deposition Flux Estimation

27. The Chairperson of the Expert Group on Dry Deposition Flux Estimation presented the Progress Report on the Preparation of the Technical Manual on Dry Deposition Flux Estimation (EANET/SAC 10/8/3) including the final draft Technical Manual on Dry Deposition Flux Estimation (EANET/SAC 10/8/3/1).
28. The Session endorsed the final draft Technical Manual on Dry Deposition Flux Estimation (EANET/SAC 10/8/3/1) with some modifications. It will be submitted to the Twelfth Session of the Intergovernmental Meeting (IG12) in 2010 for its adoption, with the Report of the Session of SAC10.

Expert Group on Revision of the Technical Manual on Wet Deposition Monitoring

29. The Chairperson of the Expert Group on Revision of the Technical Manual on Wet Deposition Monitoring presented the Progress Report on Revision of the Technical Manual on Wet Deposition Monitoring (EANET/SAC 10/8/4) including the final draft Technical Manual on Wet Deposition Monitoring - 2010 (EANET/SAC 10/8/4/1).
30. The Session endorsed the final draft Technical Manual on Wet Deposition Monitoring - 2010 (EANET/SAC 10/8/4/1). It will be submitted to the IG12 in 2010 for its adoption, with the Report of the Session of SAC10.

Expert Group on Revision of the Technical Manual on Inland Aquatic Environment Monitoring

31. The Chairperson of the Expert Group on Revision of the Technical Manual on Inland Aquatic Environment Monitoring presented the Progress Report on Revision of the Technical Manual on Inland Aquatic Environment Monitoring (EANET/SAC 10/8/5) including the final draft Technical Manual on Inland Aquatic Environment Monitoring - 2010 (EANET/SAC 10/8/5/1).
32. The Session endorsed the final draft Technical Manual on Inland Aquatic Environment Monitoring - 2010 (EANET/SAC 10/8/5/1). It will be submitted to the IG12 in 2010 for its adoption, with the Report of the Session of SAC10.

Expert Group on Preparation of Technical Manual for Air Concentration Monitoring

33. The Chairperson of the Expert Group on Preparation of Technical Manual for Air Concentration Monitoring presented the Progress Report on the Activities of the Expert Group on Preparation of Technical Manual for Air Concentration Monitoring (EANET/SAC 10/8/6).
34. Major comments and discussions included the following:
 - It was pointed out that transparency of works in Task Forces/Expert Groups including the member selection should be improved.
 - The proposed membership was endorsed by the SAC. However, the NFPs will be invited to nominate potential experts to be members of the Expert Group.
35. For the updated/developed technical documents endorsed by SAC, the following subjects were suggested:
 - Formats of the new manuals could be further harmonized.
 - List of the contributors should be shown in the respective manuals.
 - Major revision could be highlighted in a separate section of the introduction.

Task Force on Research Coordination

36. The Chairperson of the Task Force on Research Coordination presented the Progress Report on the Activities of the Task Force on Research Coordination (EANET/SAC 10/8/7).
37. Major comments and discussions included:
 - The Task Force suggested the possibility of the special EANET session during the next Acid Rain Conference to be held in Beijing, China in 2011.

X. Report on the Progress of the Drafting Committee (DC) for the Second Periodic Report on the State of Acid Deposition in East Asia (PRSAD2) (Agenda Item 9)

38. The NC presented the Report on the Progress of the Drafting Committee (DC) for the Second Periodic Report on the State of Acid Deposition in East Asia (PRSAD2) (EANET/SAC 10/9).
39. Major comments and discussions included the following:
- The Secretariat could contribute to preparation of the introduction, Executive Summary, etc. Therefore, it was proposed that the coordinator of the Secretariat should be one of the members of the Drafting Committee.
 - It was suggested that the lead authors and contributors of the Chapters 5 and 6 should be mentioned.
 - It was suggested that the “in East Asia” in the titles of Chapters 3, 4 and 5 should be deleted.
 - It was clarified that emission inventory, model simulation, risk on human health in the Chapter 6 would be described based on published literatures in the region.
 - It was suggested that the title of the section 6.3.3 should be changed as appropriate; e.g., Case Studies.

XI. Consideration of the Draft Medium Term Plan (MTP) for EANET (2011-2015) from scientific and technical viewpoints (Agenda Item 10)

40. The NC made a presentation on the Medium Term Plan (MTP) for EANET (2011-2015) (Draft) (EANET/SAC 10/10).
41. Major comments and discussions included the following:
- It was pointed out that acid deposition could be understood as a part of air pollution problems.
 - In accordance with the requests by WGFD9, the following three points were discussed:
 - The last sentence of the first paragraph of the introduction was modified to read as “Due to the transboundary nature of the acid deposition problems and its inter-linkages with air pollution issues, participating countries of EANET have since 1998 cooperated in conducting monitoring, scientific researches, training and capacity building activities”.
 - The second bullet of 2.2 Objectives remained as it was.
 - The modification of the activity 17 in Annex 1 was accepted.

XII. Consideration of the Report on the EANET High Priority Research Project (Agenda Item 11)

42. The reports of three EANET High Priority Research Projects were presented by each project leader (lead researcher) or the NC; Aerosol Deposition Studies in Forests for Improvement of Estimation Method for Dry Deposition (EANET/SAC 10/11/1) by Dr. Pojanie Khummongkol, Feasibility Study on Low Cost Methodologies for Monitoring Air Concentrations (EANET/SAC 10/11/2) by the NC, and Analysis of Existing Data for Improving the Understanding of the Status of Acidification in East Asia, on Wet Deposition by Prof. Hiroshi Hara, on Dry Deposition by the NC, and on Soil, Vegetation and Inland Aquatic Environment by Prof. Wilfrado Carandang. Outcomes from the research projects would be used to supplement the Technical Manual on Dry Deposition Flux Estimation, promotion of low cost methodologies for monitoring air concentrations, and development of PRSAD2, respectively.

XIII. Consideration of the relevant activities of EANET (Agenda Item 12)

Joint research activities on modeling studies for Asia

43. The NC presented the Report on Joint Research Activities on Modeling Studies for Asia. In the presentation, activities in the Model Inter-Comparison Studies (MICS) Asia Project and other modeling research activities were introduced. Moreover, it was pointed out that several modeling researchers from China and Japan would contribute to PRSAD2 on a voluntary basis. The modeling works by collaboration of various researchers may contribute to implementation of the activities in the Medium Term Plan for EANET (2011-2015) (EANET SAC10/10).

Monitoring and QA/QC system of ozone

44. The NC presented the Monitoring and QA/QC system of ozone at EANET sites. In the presentation, the current situation of ozone monitoring in EANET countries and necessity of establishing ozone traceability system were introduced. It was announced that the NC started calibration of ozone monitor at EANET sites in Japan and Russia. The establishment of calibration system will contribute to implementation of the activity in line with the Strategy Paper for Future Direction of Monitoring for Dry Deposition of EANET (2011-2015).

Catchment analysis in the EANET countries

45. The NC presented the Catchment analysis in the EANET countries. In the presentation, research outcomes at the EANET related catchment sites were introduced. It was pointed out that acid sensitive catchments coupled with high atmospheric deposition could be further acidified areas in Japan. Moreover, stream water chemistry in a tropical seasonal forest seemed to react to atmospheric deposition sensitively. The catchment-scale studies will contribute to implementation of the activities in line with the Strategy Paper for Future Direction of Soil, Vegetation and related Ecosystems Monitoring of EANET (2009-2014).

Impacts of aerosols in East Asia on plants and human health

46. Prof. Shiro Hatakeyama, Institute of Agricultural Science, Tokyo University of Agriculture and Technology presented the Impacts of aerosols in East Asia on plants and human health. In his presentation, various studies on aerosols were introduced in the four priority fields, namely, formation and emission source evaluation, transport and spatial distribution, impacts on plants, and impacts on human health. He pointed out that environmental science of aerosols should be established.

XIV. Consideration of Work Program and Budget of EANET in 2011 from scientific and technical viewpoints (Agenda Item 13)

47. The Work Program and Budget of EANET in 2011 (Draft) (EANET/SAC 10/13) was presented by the Secretariat and the NC. This document was prepared for consideration and adoption by IG12.
48. Major discussions and clarifications were as follows:
- The voluntary financial contributions to the Secretariat and the NC core budget of the participating countries were clarified.
 - The meaning of the 5th bullet in paragraph 8, “start to discuss the scope of the instrument” was clarified. It was requested to describe the activities in an appropriate way.

XV. Consideration of the EANET Science Bulletin (Vol. 2) (Agenda Item 14)

49. The NC presented the EANET Science Bulletin (Volume 2) (EANET/SAC 10/14).
50. Major suggestions were as follows:
- The list of the publications should include the scientific papers using the EANET data or resources. The list may contribute to the promotion of the EANET activities.
 - To encourage the outside authors, it is suggested to acknowledge in their papers.
 - All the names of the collaborative researchers should be written in the report of joint research projects in EANET.
51. It was informed that the EANET Science Bulletin (Volume 2) would be published in early next year after reviewing the fellowship research paper.

XVI. Updates on the activities of other regional and international initiatives on acid deposition and transboundary air pollution (Agenda Item 15)

52. Prof. Young Joon Kim, School of Environmental Science and Engineering, Gwangju Institute of Science and Technology, Republic of Korea, presented the Joint research on Long-range Transboundary Air Pollutants in Northeast Asia (Monitoring). In his presentation, activities of the Long-range Transboundary Air Pollutants in Northeast Asia (LTP) Project were introduced. In particular, he highlighted the monitoring on aerosols in Republic of Korea by observations on the ground level, satellite remote sensing, and aircraft measurement.

XVII. Other issues (Agenda Item 16)

53. The Secretariat introduced the Joint Forum on Atmospheric Environmental Issues in Asia and the Pacific. Outcomes from two meetings held in 2009 and 2010, terms of reference and structure, work plan until 2012 of the Joint Forum were introduced. It was informed that the next meeting would be held in 2011.
54. The NC introduced Seminar on a Co-benefits Approach: Emerging Trends and Needs, and other international initiatives on co-benefits. In the presentation, Short-Lived Climate Forcers (SLCF), such as ozone and black carbon, was highlighted as a key of co-benefits for local air pollution and climate.

XVIII. Consideration and adoption of the Report of the Session (Agenda Item 17)

55. The Report of the Session (EANET/SAC 10/17) was considered and adopted.

XIX. Closing of the Session (Agenda Item 18)

56. The Session expressed its deepest gratitude to the Secretariat and the NC for organizing SAC10. The Session also appreciated the efforts made by the Chairperson, Vice-Chairpersons, Rapporteur and resource persons.
57. The Session was officially closed by the Chairperson, thanking all the participants for their great contributions.

Annex

List of Participants

Participating Countries

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