

The Twelfth Session of the Scientific Advisory Committee
on the Acid Deposition Monitoring Network in East Asia
22-24 November 2012, Yangon, Myanmar

REPORT OF THE SESSION

I. Introduction

1. The Scientific Advisory Committee (SAC) of the Acid Deposition Monitoring Network in East Asia (EANET) held its Twelfth Session (SAC12) from 22 to 24 November 2012 in Yangon, Myanmar. The Session was organized by the Secretariat and the Network Center (NC) for the EANET and hosted by the Government of Myanmar.
2. The Session was attended by the members of the SAC and/or their alternates and other nominated persons from the participating countries of the EANET, namely: Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Russia, Thailand and Vietnam as well as the Secretariat and the NC. The Session was also attended by an expert from Norwegian Institute for Air Research (NILU), Norway. The List of Participants is attached as Annex.

II. Opening of the Session (Agenda Item 1)

3. The Session was opened with the Welcome address delivered by Mr. Tun Lwin Oo, Director General, Directorate of Water Resources and Improvement of River System, on behalf of the Government of Republic of the Union of Myanmar. He expressed their deep appreciation to the Government of Japan for providing valuable and continuous support for the EANET. He also expressed their sincere gratitude to the Secretariat and the NC for the EANET for their support and organizing the Session of the SAC in Myanmar. He pointed out that every country around the world has been experiencing the negative impacts of global warming and climate change. Myanmar had also faced various natural disasters. He emphasized the important roles of the EANET activities to provide a better understanding on the impacts of air pollution to the human health and the natural environment, and the importance of the annual Session of the SAC for achievement of the goals and objectives of the EANET.
4. Dr. Hajime Akimoto, Director General of the Asia Center for Air Pollution Research (ACAP) delivered the Introductory Remarks. He expressed his sincere appreciation to the Ministry of Transport, the Government of Myanmar for their hosting both the Sessions of the SAC12 and the Fourteenth Session of the Intergovernmental Meeting (IG14) in November 2012 in Yangon. He pointed out that the EANET had got into the second phase of the EANET since January 2012 when the Instrument became operational, and discussion on interrelationship between air pollution and climate change, so called Short Lived Climate

Pollutants (SLCP) in supporting co-benefit/co-control policy should be more seriously pursued particularly in Asia, since emissions of typical air pollutants and greenhouse gases in East Asia are comparable to those in Europe and North America. “Science and Policy” is getting more and more important in the 21st century. Consequently, he emphasized that scientific integrity should be more important in the future EANET activities and that the SAC should play more important roles to give proper guidance to the EANET.

5. On behalf of the Secretariat for the EANET, Dr. Supat Wangwongwatana, Coordinator of the Secretariat for the EANET, Regional Resource Center for Asia and the Pacific (RRC.AP) at Asian Institute of Technology (AIT) delivered the Opening Remarks. He welcomed the participants from participating countries of the EANET and expressed his deep appreciation to the Ministry of Transport, the Government of Myanmar, for their cooperation and hosting both the Sessions of the SAC12 and IG14 in Yangon. For better understanding, he introduced the background of the start of discussion to develop appropriate mechanism to overcome serious air pollution issues including acid deposition due to rapid economic growth in East Asia, history of the EANET including the discussion in early 1990’s, commencement of the EANET activities from 1998 as the preparatory phase, and from 2001 as the regular phase, to the adoption of the “Instrument for Strengthening the Acid Deposition Monitoring Network in East Asia (EANET)” which representatives of the twelve participating countries signed during and after the High Level Segment of the Twelfth Session of the Intergovernmental Meeting (IG12) held in November 2010, and its operational since the 1st January 2012 in accordance with the Decision of the IG12. He also introduced framework, major activities, roles of the participating countries, financial arrangement of the EANET and so on.

III. Election of the Officers (Agenda Item 2)

6. The Secretariat introduced the previous custom of 3-year fixed term SAC bureau members and re-election of the officers. The 3-year fixed term of the SAC bureau members from the Fourth Session to the Sixth Session of the SAC (SAC4-SAC6) in 2004-2006 and from the Ninth Session to the Eleventh Session of the SAC (SAC9-SAC11) in 2009-2011 were implemented by means of re-election. In 2012, the 3-year fixed term of the SAC bureau members from SAC9-SAC11 in 2009-2011 was already expired. In this regard, it was proposed the new 3-year fixed term SAC bureau members again taking into account of the important tasks on the “Review on the Status of Air Pollution in East Asia”.
7. Dr. Sergey A. Gromov, Head of Scientific Sector, Environmental Pollution Department, Institute of Global Climate and Ecology, Roshydromet and Russian Academy of Science (RAS), Russia was elected as Chairperson, Prof. Wang Ruibin, Director of Department of Air Quality Monitoring, China National Environmental Monitoring Center (CNEMC), China and Prof. Dr. Wilfredo M. Carandang, College of Forestry and Natural Resources, University of the Philippines Los Baños, Philippines were elected as Vice-Chairpersons and

Ms. Khin Cho Cho Shein, Director, Department of Meteorology and Hydrology (DMH), Ministry of Transport, Myanmar was elected as Rapporteur of the Session.

IV. Adoption of the Agenda (Agenda Item 3)

8. The Session adopted the Agenda (EANET/SAC 12/3/1) and the Draft Program (EANET/SAC 12/3/3) with modification of an additional presentation on Introduction of Ambient Air Quality Monitoring in China in the Agenda Item 14, Other Issues.

V. Review on the Draft Report on the Progress of the Acid Deposition Monitoring Network in East Asia (EANET) since the Eleventh Session of the Scientific Advisory Committee (SAC11) and the Draft Financial Report in 2011 (Agenda Item 4)

9. The Secretariat and the NC made presentations on the Report on the Progress of the Acid Deposition Monitoring Network in East Asia (EANET) since the Eleventh Session of the Scientific Advisory Committee (SAC11) (EANET/SAC 12/4/1) and the Financial Report of the Secretariat and the Network Center in 2011 (EANET/SAC 12/4/2).

10. Major points of the discussion included:

- It was clarified by the Secretariat that expected contributions from the participating countries have been calculated based on the proposed budget for each year and UN assessment scale burden sharing percentage.
- The NC informed that the NC core budget was estimated based on the Medium Term Plan (MTP) for the EANET (2011-2015) (EANET/IG 12/5.rev1) adopted at the IG12 in 2010 and the Procedures and Guidelines for Voluntary Financial Contribution to the EANET for 2011-2013 (EANET/IG 12/10/2.rev1) adopted at the IG12, and 3-year average was used without any changes for 3 years.
- It was introduced that the “Procedures for Establishing Task Forces and Expert Groups under the Scientific Advisory Committee of the EANET (Annex 2 of EANET/SAC 8/14)” adopted at the Tenth Session of the Intergovernmental Meeting (IG10) in 2008 will be included in the “Draft Revised Guidelines on Administrative and Financial Management for the Secretariat and the Network Center” to be submitted to the IG14.
- The NC informed that the raw data of the EANET monitoring for each year can only be downloaded from the special website upon the request from researchers.

VI. Adoption of the EANET Data Report 2011 (Agenda Item 5)

11. The NC presented the Draft Data Report 2011 (EANET/SAC 12/5). The report included data on wet deposition, dry deposition (air concentration), soil and vegetation, inland aquatic

environment and catchment, from the monitoring activities carried out by the participating countries in 2011, which were submitted to the NC.

12. Major discussions included:
 - Consideration on collection interval of the wet deposition samples was pointed out.
 - It was clarified that current graphs for R1 and R2 did not take into consideration the organic anion data. It would be considered in the next data report.
13. The Session adopted the Data Report 2011 with minor revisions. The data to be submitted after SAC12 will be included into the report of the next year.

VII. Adoption of the Report on the Inter-laboratory Comparison Projects 2011 (Agenda Item 6)

14. The NC presented the Draft Report of the Inter-laboratory Comparison Projects 2011 on wet deposition, dry deposition (filter pack method), soil and inland aquatic environment (EANET/SAC 12/6).
15. The Session adopted the Report on the Inter-laboratory Comparison Projects 2011.
16. The Session was further informed that the NC already shipped the samples for the Inter-laboratory Comparison Projects 2012 to the participating laboratories at the beginning of October 2012. Participating laboratories were strongly requested to submit their results to the NC after the review of their national QA/QC managers by 28 February 2013.

VIII. Overview of the Updated National Monitoring Plans of the Participating Countries (Agenda Item 7)

17. The NC presented the Overview of the Updated National Monitoring Plans of the Participating Countries.
18. Major points of discussion included:
 - The participating countries were requested to review their National Monitoring Plans (NMPs) and to submit the reviewed NMPs to the NC by the end of July 2013, even if the present NMP has not been changed. The draft electronic template for preparation of the NMP will be newly provided for trial.
 - It was reported that three new additional monitoring sites in Vietnam on wet and dry deposition will be established in 2013.

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

Task Force on Research Coordination

19. The Chairperson presented the Progress Report on the Activities of the Task Force on Research Coordination (TFRC) including the schedule and the membership of the Reviewing Committee of the Review on Present Status of Air Pollution in East Asia (EANET/SAC 12/8/1).
20. Major discussions included:
 - It was proposed that an informal small group will be considered for creating research proposals of priority research themes to apply potential external funding sources or donor agencies.

Expert Group on Preparation of Technical Manual for Air Concentration Monitoring

21. The NC on behalf of the Chairperson of the Expert Group presented the Progress Report on the Activities of the Expert Group on Preparation of Technical Manual for Air Concentration Monitoring (EGACM) (EANET/SAC 12/8/2).
22. Major discussions included:
 - The technical manual plays a critical role to operate air concentration monitoring. Measurements of ozone and PM strongly support interpretation of wet deposition measurements.
 - For PM monitoring, important parameters such as flow rate and humidity should be included in the manual.
 - Calibration procedures of the DOAS will be included in the manual. Advantage/disadvantage of the long-pass monitoring system should be also included.
23. The Session approved the appointment of Prof. Kihong Park as an alternative member of Prof. Young Joon Kim.

X. Proposal of the Trial of Preparing National Monitoring Plan using Draft Revised Template and Consideration on the Common Implementation of Sites and Laboratory Inspections (Agenda Item 9)

24. The NC made a presentation on Instruction of Preparation of National Monitoring Plan using Draft Revised Template and Consideration on the Common Implementation of Sites and Laboratories Inspection (EANET/SAC 12/9), which was discussed at the Thirteenth Senior Technical Managers' Meeting (STM13) held in August 2012 in Hanoi, Vietnam.

25. Major points of discussion included:
- It was pointed out that quality of meta data could be improved through this trial.
 - It was suggested that actual changes of the NMP for the last twelve months (from the last July to June) should be written in the page after the cover, if the contents of the NMP were changed for that period.
 - The locations of major emission sources should be indicated in the site maps.
 - The NC intends to upload the NMPs on the EANET website with a password.
 - The submission procedures of the NMP were clarified. The NMP should be submitted by the end of July. If some significant changes in the NMP are made after the Senior Technical Managers' Meeting (STM) or the Session of the SAC, the revised version should be submitted again by the end of the year.
 - It was pointed out that the National QA/QC Manager in each participating country has responsibility for development of the national QA/QC program. It was suggested that staff assigned by the National QA/QC Manager practically could help to conduct actual audit for each site and laboratory.
 - It was clarified that the audit report in each participating country has not to be submitted to the NC. The audit should be conducted under responsibility of each country.

XI. Consideration on Future Development of the EANET (Agenda Item 10)

26. The Secretariat made a presentation on the Draft Terms of Reference (TOR) of the Working Group on Future Development (WGFD) of the Acid Deposition Monitoring Network in East Asia (EANET) (2013-2015) (EANET/SAC 12/10/1).
27. Major comments and discussions included:
- It was clarified that the Third Report for Policy Makers (RPM3) will be developed in 2013.
 - It was confirmed that the Third Periodic Report on the State of Acid Deposition in East Asia (PRSAD3) will be developed and published after 5 years of the Second Periodic Report on the State of Acid Deposition in East Asia (PRSAD2).
 - It was pointed out that cooperation with other existing initiatives in Asia and other regions are important.
28. The NC made a presentation on Future Expansion of the Scope of the EANET (EANET/SAC 12/10/2). The presentation included review of the present scope of the EANET, recommendations in the PRSAD2 such as monitoring of ozone and PM, assessment of those impacts and review on the status of air pollution in East Asia.
29. Major comments and discussions included:
- It was pointed out that air pollutants proposed to be included in the Review are relatively limited, mainly acidic substances, ozone and PM. It was also clarified that

relevant major species related to the current activities are only targeted in the draft content. If necessary, some additional species could be included in the review.

- It was clarified that the SAC will review the draft Review Report in 2013 and 2014.
- An expert from CLRTAP supported the idea on the expansion of the scope from the experience of the EMEP. It was suggested that mass concentration monitoring of PM_{2.5} might be less cost and easily started on a regular basis compared with its chemical analysis.
- Black Carbon (BC) is an important species as one of the climate forcers. It was suggested that measurement of BC (or Elemental Carbon (EC)) should be started on a research basis for future activities.
- It was pointed out that expansion of the scope is a right direction to understand air pollution in this region. It was also clarified that some information such as health impacts will be collected by the reviewing committee.
- It was noted that ozone monitoring could be conducted relatively easily in the EANET participating countries, but PM_{2.5} mass concentration monitoring should be firstly conducted as a pilot monitoring because there is a difficulty to select comparable monitoring equipment.
- It was clarified that the discussion on expansion of the scope was included in the Medium Term Plan (MTP) and approved by the last Sessions of the SAC and the IG to provide a Review on the Status of Air Pollution in East Asia under the TFRC. The information obtained from the Review within the next two years could be useful for consideration on expansion of the scope by the IG.
- It was pointed out that Annex of the document (EANET/SAC 12/10/2) should be revised in accordance with the discussions at the TFRC.

XII. Consideration of the Relevant Scientific Activities (Agenda Item 11)

(1) Harmonization of Monitoring Methodology to be defined in the Technical Manual for Air Concentration Monitoring

30. The NC made a presentation on the Harmonization of Monitoring Methodology to be defined in the Technical Manual for Air Concentration Monitoring (EANET/SAC 12/11/1).
31. Major comments and discussions included:
 - Feedbacks and comments regarding the monitoring methodologies described in the draft technical manual are welcomed anytime after the Session.

(2) Joint Research Activities on Model Inter-comparison Study in Asia (MICS-Asia)

32. The NC made a presentation on Work Plan for Model Inter-Comparison Study in Asia, Phase III (MICS-Asia III) (EANET/SAC 12/11/2).

33. Major comments and discussions included:
- It was informed that the Phase I was focused on the model intercomparison of sulfur compounds, and the Phase II expanded the target species including nitrogen compounds, ozone and PM. The Phase III further expanded the research targets including interaction between air quality and climate change.
 - It was also informed that some scientists in Malaysia, Thailand and Vietnam from Southeast Asia also participated in the previous modeling workshops. Participation of the scientists in East Asian countries will be expected to attend the next workshop.

(3) Monitoring and QA/QC System of Ozone

34. The NC made a presentation on Monitoring and QA/QC System of Ozone (EANET/SAC 12/11/3).

35. Major comments and discussions included:
- It was clarified that local governments are responsible for air pollution monitoring in Japan. On the other hand, the ACAP, the EANET National Center of Japan, is responsible for air concentration monitoring at the Japanese EANET monitoring sites including QA/QC activities.

(4) Joint Research Project on Sulfur Dynamics in Forest Ecosystems in Thailand, Malaysia and Japan

36. The NC made a presentation on the Joint Research Project on Sulfur Dynamics in Forest Ecosystems in Thailand, Malaysia and Japan (EANET/SAC 12/11/4).

37. Major comments and discussions included:
- Sulfur cycle is less studied than the nitrogen cycle, particularly in the East Asian region. It was clarified that sulfur dynamics in ecosystems would be discussed at the first in the new project, and then its relationship with nitrogen would be discussed.
 - In Southeast Asian countries, some types of soil are naturally acidified and affected by natural sulfur sources. It was suggested that effects of such natural soil conditions should be carefully considered in the tropical region.

XIII. Consideration of the Draft Work Program and Budget of the EANET in 2013 from Scientific and Technical Viewpoints (Agenda Item 12)

38. The Work Program and Budget of the EANET in 2013 (Draft) (EANET/SAC 12/12) was presented by the Secretariat and the NC. This document was prepared for consideration and approval at the IG14.

39. The Secretariat and the NC were requested to amend descriptions in the Work Program and Budget in 2013 in accordance with the latest discussion in the relevant recent Sessions of the EANET such as the WGFD, the TFRC and the SAC.

XIV. Updates on the Activities of Other Regional and International Initiatives related to Acid Deposition and Transboundary Air Pollution (Agenda Item 13)

40. Dr Kjetil Tørseth (NILU), Head of the EMEP Chemical Coordinating Centre (EMEP-CCC) presented activities ongoing under the Convention on Long-range Transboundary Air Pollution (CLRTAP) of relevance for the EANET. In particular, he presented results of a recent trend analysis for 40 years of monitoring and ongoing activities of the EMEP and the Task Force on Hemispheric Transport of Air Pollutants (TF HTAP). A number of initiatives are currently contributing to the assessment to be finalized by December 2014. It was acknowledged that several of these activities will benefit from the involvement of the EANET, and specific ideas on joint activities were introduced.

XV. Other Issues (Agenda Item 14)

(1) Proposal for an Asia Science Panel on Air Quality

41. Dr. Hajime Akimoto, Director General, the ACAP made a presentation on the Proposal for an Asia Science Panel on Air Quality (ASPAQ) (EANET/SAC 12/14/1). The idea on the ASPAQ was proposed as a Japanese research team to establish an epistemic community of Asian scientists, to reach a common understanding among scientists and policy makers, and to develop an international initiative for an integrated approach to air pollution and climate change reflecting the views of Asian scientists. Contents of the ASPAQ would be to review the existing latest scientific knowledge and to prepare reports and “Summary for Policy Makers” based on a consensus of major research scientists on the issues of air pollution and its relation to climate changes in Asian region.

(2) Introduction of Ambient Air Quality Monitoring in China

42. Ms. Ding Junnan, Assistant Engineer, CNEMC, China made a presentation on Introduction of Ambient Air Quality Monitoring in China (EANET/SAC 12/14/2). In her presentation, the framework on air monitoring network in China was introduced and trends on ambient air quality and acid rain were summarized.

XVI. Consideration and Adoption of the Report of the Session (Agenda Item 15)

43. The Report of the Session (EANET/SAC 12/15) was considered and adopted.

XVII. Closing of the Session (Agenda Item 16)

44. The Session expressed its deepest gratitude to the host country, Myanmar, the Secretariat and the NC for organizing the SAC12. The Session also appreciated the efforts made by the Chairperson, Vice-Chairpersons, Rapporteur and a resource person.
45. The Session was officially closed by the Chairperson, thanking all the participants for their great contributions.

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