The Seventh Session of the Scientific Advisory Committee
on Acid Deposition Monitoring Network in East Asia
10-12 October 2007, Manila, Philippines

REPORT OF THE MEETING

I. Introduction

1. The Scientific Advisory Committee (SAC) of the Acid Deposition Monitoring Network in East Asia (EANET) held its Seventh Session in Manila, Philippines on 10-12 October 2007. The Session was organized by the Secretariat for EANET and the Network Center for EANET (NC), and hosted by the Government of the Philippines.

2. The Session was attended by the members of SAC or their alternates and other nominated participants from the participating countries of EANET: Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand, and Viet Nam.

3. The Session was also attended by experts from the United Nations Environment Programme, Regional Office for Asia and the Pacific (UNEP ROAP), Chemical Coordinating Center (CCC) of the Co-operative Programme for Monitoring and Evaluation of the Long Range Transmission of Air Pollutants in Europe (EMEP) under the UN ECE Convention on Long-Range Transboundary Air Pollution (CLRTAP), Kanazawa University, Japan and Frontier Research Center for Global Change, Japan. Local government officials and researchers from universities in the Philippines attended the Session as observers.

4. The List of Participants is attached as Annex I.

II. Opening of the Meeting (Agenda Item 1)

5. The Session was opened by Mr. Mylvakanam Iyngararasan, Acting Coordinator of the Secretariat for EANET. He stressed that with the increasing energy consumption and generation of more waste in the East Asian region, EANET has an important role, as the regional monitoring network, to develop capacity to help policy makers in addressing environmental issues.

6. Mr. Julian D. Amador, Director of the Environmental Management Bureau, Department of Environment and Natural Resources, Philippines presented the Keynote Address. He welcomed the participants to Metro Manila and informed of the initiatives that have been undertaken, particularly the use of clean fuels such as bio-ethanol and improvement of the mass transport system, that have succeeded in improving the trend of air quality in the Metro Manila area.

7. In his introductory remarks, the Director General of NC, Dr. Hiromasa Ueda, emphasized the importance of the Session to discuss consolidation of on-going monitoring methodologies, research activities for future development of EANET as mentioned in the Strategy on EANET Development (2006-2010) including new activities on promotion of emission inventories and modeling for more effective management of regional air pollution.

III. Election of the Officers (Agenda Item 2)

8. Dr. Sergey A. Gromov, Head of Science Sector, Environment Pollution Department, Institute of Global Climate and Ecology (IGCE), Russia was elected as Chairperson, and Dr. Wilfredo M. Carandang, Director, Institute of Agroforestry, College of Forestry and Natural Resources, University of the Philippines and Dr. Duong Hong Son, Director, Center for Environmental Research Institute of Meteorology and Hydrology, Ministry of Natural Resources and Environment, Viet Nam were elected as Vice-Chairpersons, and Dr. Esrom Hamonagan, Air Pollution Researcher, Ministry of Environment, Indonesia was elected as Rapporteur of the Session.

IV. Adoption of the Agenda (Agenda Item 3)

9. The Session agreed to include a presentation on the Workshop on Emission Inventory by Japan under Agenda Item 9. The Session adopted the Agenda (EANET/SAC 7/3/1) as proposed.

10. The Session also agreed to bring forward the discussions on Item 8 and Item 9 before Item 7 of the Agenda, as proposed by NC. The draft program (EANET/SAC 7/3/3) was amended accordingly.

V. Review of the EANET activities since the Sixth Session of the Scientific Advisory Committee (SAC6) and Eighth Session of the Intergovernmental Meeting (IG8) and Financial Report in 2006 (Agenda Item 4)

11. The Secretariat and NC made brief presentations on the Report on the Progress of EANET after the Sixth Session of the Scientific Advisory Committee (SAC6) and the Eighth Session of the Intergovernmental Meeting (IG8) (EANET/SAC 7/4/1). The Financial Report of the Secretariat and NC in 2006 was also presented. The Session was invited to comment on the reports.

12. Discussions included the following major points:

- It was clarified that the procedures for finalizing and printing of the First Periodic Report on the State of Acid Deposition in East Asia (PRSAD) in principle had been endorsed by IG8. In accordance with the decision of IG8, the final draft of both volumes of PRSAD and the Executive Summary had been forwarded to the members of the Drafting Committee of PRSAD and the National Focal Points (NFPs) for their comments and endorsement.
- The Executive Summary of PRSAD was distributed to the participants of the Session. It was clarified that Executive Summary was prepared as a supplementary document at the request of IG8.
- It was recommended that the procedures for the endorsement of PRSAD should be further clarified before preparation of the next PRSAD.
- The provision of Ion Chromatography Systems (IC) to Lao PDR and Cambodia was informed. It was clarified that the ICs were purchased using the savings of the Secretariat according to the decision of the Sixth Session of the Intergovernmental Meeting (IG6) and payments were directly disbursed by the Secretariat to the supplier.
- A question was raised by a resource person on the evaluation procedures of the joint research activities conducted by NC. NC informed that there are plans to improve the current evaluation system and one suggestion is the establishment of a new Task Force on Research Coordination to monitor EANET research activities. Relevant discussions were done under Agenda Item 9.

VI. Review of the Data Report 2006 of the Acid Deposition Monitoring Network in East Asia (Agenda Item 5)

13. NC presented the draft Data Report 2006 (EANET/SAC 7/5). The report included the wet deposition monitoring data, the dry deposition monitoring data, the soil and vegetation monitoring data and the inland aquatic monitoring data obtained by the participating countries in 2006 and submitted to NC. The meeting was invited to discuss, review and make recommendations as appropriate.

14. Major clarifications and discussions included the following:

i. Wet deposition monitoring data

- It was informed that contamination was one of the major reasons for missing measurements, and in the case of Japan, the contamination was mainly due to insects and plants in the sample.
- No precipitation data was reported in Cheju (Republic of Korea), Vientiane (Lao PDR), and Zhuhai (China) for periods of several months. NC will contact these countries to verify the data again. In this connection, NC was requested to review the dataset again and, if necessary, request countries to provide further information to explain their missing data.

- It was clarified that technical problem of the IC was the reason for the missing data in October 2006 in Lao PDR.

ii. Dry deposition monitoring data

- The seasonal trends in 2006 and annual trends from 2001 to 2006 for SO_2 and sulfate at EANET sites were introduced as preliminary analysis for data verification.
- It was informed that the annual mean of each sampling parameter was summarized for the first time in the Data Report 2006.

iii. Soil and vegetation monitoring data

- It was noted that several tables did not follow the reporting procedures recommended in the Technical Manual on Soil and Vegetation Monitoring. Some of these tables were revised in the corrigenda of the Data Report 2006. Further communications between NC and the National QA/QC Managers would be strengthened to discuss on improvements to the reporting of the survey.

iv. Inland aquatic environment monitoring data

- Annual mean values of the parameters in the monitoring of lakes or rivers from 2000 to 2006 were included in the Data Report 2006 according to the suggestion at SAC6. It was pointed out that the tables are informative for discussion on trends of the water chemistry.
- Decreasing trends of the water pH were seen in some monitored lakes or rivers. Moreover, one of the lakes showed relatively low pH, less than 6.5. It was suggested that causes of the phenomena should be investigated further by accumulating background information. It was also pointed out that aluminum species should be measured as an important indicator of acidification in such lakes or rivers.
- It was informed that Lao PDR is ready to start the monitoring.

15. The Session agreed that the final version of the Data Report 2006 including the corrigenda would be prepared and printed by NC by the end of 2007 taking the discussions above into account.

VII. Review of QA/QC activities of EANET (Agenda Item 6)

Review of Report of the Inter-laboratory Comparison Projects in 2006

16. NC presented Report of the Inter-laboratory Comparison Projects 2006 on wet deposition, dry deposition (filter pack method), soil and inland aquatic environment (EANET/SAC 7/6/1). It will be published as a combined report of all the four projects. The meeting was invited to discuss, review, and make recommendations as appropriate.

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

- It was announced that the samples for the Inter-laboratory Comparison Projects 2007 would be dispatched in the middle of November 2007.

i. Project on wet deposition

- It was informed that additional data analysis using Youden Plot was added in the report as an appendix.

ii. Project on dry deposition (filter pack method)

- It was informed that the relative standard deviation of Cl^- and NH_4^+ were higher compared to SO_4^{2-}.

iii. Project on soil

- Results of exchangeable cations showed that precisions of participating laboratories have wide variations, and were wider than those in 2005. It was suggested that low concentrations of the samples might affect the precision of the measurements.
- NC informed that the soil samples dispatched to the laboratories were well mixed during the preparation process and checked for its uniformity. Therefore, difference of soil samples dispatched to the countries may not be the main cause for the low precisions.
- The soil chemical analysis requires certain steps, such as extraction and instrumental analysis. The complicated analytical procedures might be one of the causes for the low precisions. It was suggested that each analytical step should be checked carefully to improve the precisions.

iv. Project on inland aquatic environment

- Number of the flagged data for measurement of NH_4^+ was the largest among the surveys conducted. It was discussed that measurement procedures of NH_4^+ and detailed analytical conditions of the respective laboratories should be checked carefully to improve the accuracy of the measurements.
- It was proposed to use natural water samples for the inter-laboratory comparison project on inland aquatic environment instead of or in addition to artificial water samples.

Consideration of recommendations for improvement of QA/QC activities

18. NC presented a Report of recommendations for improvement of QA/QC activities (EANET/SAC 7/6/2). This report mentioned the required items in the QA/QC program, actual situations of the implementation in the participating countries. Some actions to achieve the expected improvement of QA/QC in EANET were proposed such as (i) development of QA/QC program by each country, (ii) preparation and improvement of SOPs by each laboratory, (iii) domestic site audit for the nominated EANET sites by the National Center at least once per year. The Session was invited to discuss the report and make recommendations.

19. Major points of the discussion were as follows:

- It was stressed that information exchange between NC and relevant organizations of the EANET participating countries should be promoted to find appropriate solutions for improvement of QA/QC activities.
- It was suggested that standard solutions used in the analysis of the inter-laboratory and actual samples by the laboratories could be sent to NC to check its quality if necessary. It was also suggested that standard solutions could be prepared by NC and distributed to the laboratories that require the solution. In addition, regular calibration and maintenance of equipment should be considered.

VIII. Consideration of updated National Monitoring Plans of the participating countries (Agenda Item 7)

20. NC presented the Overview of the National Monitoring Plans of the participating countries (EANET/SAC 7/7) based on the updated/confirmed national monitoring plans submitted by the participating countries. It was informed that currently there are 51 wet deposition monitoring sites, 39 dry deposition monitoring sites, 18 soil and vegetation monitoring sites and 15 inland aquatic monitoring sites. NC also informed of the new monitoring sites in Tokyo, Japan, Mt. Sto. Tomas, Philippines and Nakhon Ratchasima, Thailand.

21. Three countries with additional information on their national monitoring plans, namely Myanmar, Thailand, and Philippines, made presentations on their current monitoring activities.

22. Major comments and discussions on the presentations of the national monitoring plans included the following:
    - Revised monitoring plan of Cambodia was not reflected in the overview of the monitoring plan. It was informed that the information would be updated soon after SAC7.
    - It was clarified that meteorological data is available at the new monitoring site, Nakhon Ratchasima in Thailand.

IX. Consideration on Improvement of Monitoring Methodologies including Review and Revision of Technical Manuals (Agenda Item 8)

23. NC made a presentation to introduce the proposals in the discussion papers in Agenda Item 8 and 9. The proposal to establish new sub-groups under SAC to increase transparency and efficiency in the implementation of EANET activities was introduced. It was informed that detailed information on the proposals will be provided in the following presentations.

Consideration of improvement of data completeness and recommendation for improvement of equipment and maintenance

24. NC presented a discussion paper on Consideration of improvement of data completeness and recommendation for improvement of equipment and maintenance (EANET/SAC 7/8/1). The paper highlighted some of the areas where improvement may be necessary to achieve data of better quality and completeness. The Session was invited to discuss, make comments and provide further guidance.

25. Major discussions on this topic included:
- It was informed by the resource person from EMEP-CLRTAP that the establishment of a Task Force would serve to bring together relevant experts to contribute more effectively to EANET activities.
- It was suggested that establishment of a Task Force may also contribute to improvement of analytical quality such as ion balance and the NH_4^+ analysis.

26. The Session agreed to recommend to IG the approval of the establishment of a Task Force on Monitoring Instrumentation to coordinate all matters related to monitoring instrumentation in the EANET Network. It was also agreed that the Chair of the Task Force should be a SAC member and NC would function as its Secretariat.

Consideration for establishment of new EANET sites

27. NC presented an overview of the current strategies for Establishment of new EANET sites within the EANET region (EANET/SAC 7/8/2). The paper informed of efforts made by NC and the participating countries to increase the number of monitoring sites and the selected locations of new sites to be established from now on. The Session was invited to discuss and provide comments.

28. Major clarifications included:
- Participating countries were encouraged to continue making efforts to increase the number of monitoring sites within the EANET region.

Consideration on use of less expensive monitoring methods

29. NC presented a discussion paper on Consideration on use of less expensive monitoring methods (EANET/SAC 7/8/3). The paper focused on the effectiveness of passive sampler in EANET monitoring as one of the less expensive methods. In addition, issues related to the introduction of passive samplers into the EANET network were presented. The Session was invited to discuss, make comments and provide further guidance.

30. Major clarifications and discussions are as follows:

- It was informed that passive sampler has uncertainty due to various influences such as lower concentration at remote/rural site, high temperature and humidity in tropical region, and dusts in atmosphere.
- NC informed that the current joint research with Thailand is focused on the intercomparison among filter pack, passive sampler and automatic monitor in a tropical region. It was expected that the results of the research will contribute to the development of EANET monitoring.
- It was suggested that review of existing researches on use of passive sampler should be undertaken because of various types of passive samplers which are in use by countries.
- It was suggested that with the establishment of the Task Force on Monitoring Instrumentation under SAC, information such as experiences on the use of monitoring instrumentation could be better gathered and shared among participating countries, and the implementation of new monitoring instrumentation in the EANET network would be better coordinated.

Review of the Strategy Paper for Future Directions of Soil and Vegetation Monitoring

31. NC made a presentation on the Strategy Paper for Future Directions of Soil and Vegetation Monitoring of EANET (EANET/SAC 7/8/4). The paper suggested that the strategy paper should be reviewed and revised to contribute to the implementation of the activities proposed in the Strategy on EANET Development (2006-2010). A brief explanation on the reasons and benefits of the revision and the possible work schedule was also made. The Session was invited to discuss, make comments and provide further guidance.

32. Major clarifications and discussions were as follows:
- The Session agreed that the strategy paper for future direction of soil and vegetation monitoring of EANET should be updated considering new developments in EANET.
- A question was raised by a resource person on relationship between the strategy paper and the Strategy on EANET Development (2006-2010). It was clarified that the revised strategy paper would describe practical action plans for future works to implement activities described in the Strategy on EANET Development (2006-2010).
- Some of the methodologies and guidelines on forest monitoring in the current manuals do not fulfill the needs of biodiversity-rich countries in the tropical region. While the Sub-Manual on Forest Vegetation Monitoring has included additional information to cover the problem, it may not be sufficient. It was suggested that consideration on new methodologies should be included in the revised strategy paper to improve the situation.
- It was suggested that the Chairperson of the Task Force should make the presentation on the strategy paper instead of NC.
- Inclusion on impacts of tropospheric ozone was proposed in the revised strategy paper. It was further clarified that the ozone issue would not be the main topic in the strategy paper but some descriptions on this issue should be included to evaluate impacts of acid deposition precisely.

Consideration on revision of Technical Manuals

33. NC presented a discussion paper on Consideration on revision of Technical Manual on Wet Deposition Monitoring and Inland Aquatic Environment Monitoring (EANET/SAC 7/8/5). The paper informed that the Manuals have been in use for approximately ten years and suggests that they should be reviewed in view of new developments. The Session was invited to discuss, make comments and provide further guidance.

34. Major discussions on this topic included:
- It was pointed out that revisions should be scientifically sound and practical.
- A technical manual for dry deposition (air concentration) monitoring has not been developed. As various methodologies for air concentration monitoring are still under discussion, it was proposed that the development of a technical manual be considered in the next Strategy on EANET Development.
- It was pointed out that there was a priority for review of the Technical Manual for Inland Aquatic Environment Monitoring.

35. The Session agreed to recommend to IG the approval of the establishment of Expert Groups to review the Technical Manual on Wet Deposition Monitoring and Technical Manual on Inland Aquatic Environment Monitoring. It was also agreed that the Chairs of the Expert Groups should be SAC members and NC would function as the Secretariat. Experts from participating countries would be invited as well as experts from other regions with specialization in the relevant area, if necessary.

Consideration of Recommendation on the estimation methods for dry deposition flux in EANET

36. NC made a presentation on Recommendation on the estimation method for estimating dry deposition flux in EANET (EANET/SAC 7/8/6), which recommended the inferential method as the most suitable for estimation of dry deposition flux in the EANET region. In addition, issues to be discussed regarding the promotion of flux estimation were presented. The Session was invited to discuss, make comments and provide further guidance.

37. Major discussions on this topic included:
- It was commented that the frequency of the estimation of dry deposition amount depends on the methodology. Appropriate method for the flux estimation in EANET should be discussed with reference to published methodologies.

38. The Session agreed to recommend to IG the approval of the establishment of an Expert Group on Dry Deposition Flux Estimation under the existing Task Force on Dry Deposition Monitoring. It was also agreed that the Chairs of the Expert Group as well as the Task Force should be SAC members and NC would function as the Secretariat.

X. Consideration of the research activities and other scientific activities on acid deposition including collaboration with regional/international initiatives (Agenda Item 9)

Consideration on promotion of emission inventories

39. NC presented a discussion paper on Consideration on promotion of emission inventories (EANET/SAC 7/9/1). The paper described the necessity of an appropriate forum to discuss the promotion of emission inventory and proposed to establish an Ad hoc Expert Working Group on promotion of emission inventories and modeling activities. The Session was invited to discuss, make comments and provide further guidance.

40. The Chair of the Workshop on Emission Inventories (WEI), Dr. Akimoto from Frontier Research Center for Global Change, presented the outcomes of the Workshop on Emission Inventory held on 9 October 2007, which was funded by the Ministry of the Environment of Japan and organized by the Acid Deposition and Oxidant Research Center (ADORC), Japan.

41. Major discussions on this topic included:
- It was informed that the Workshop on Emission Inventory and the JICA Third Country Training on "Emission Inventory and Modeling for Acid Deposition Assessment" held in Bangkok, Thailand in 2005 and 2006 were very useful in improving knowledge on the importance of emission inventories in East Asia.
- It was informed that there are experts on modeling and emission inventories in the Long-range Transport of Air Pollutants in Northeast Asia (LTP) research project and thus EANET should work together with LTP in this area.
- The Session was informed on the project proposal on Pilot Project on Emission Inventories for Interested Participating Countries which was recently approved by the NFPs for submission to donor agencies.

42. The Session decided that the promotion of emission inventories and modeling is more appropriate as an activity of NC and suggested that an Expert Group for promotion of Emission Inventory and Modeling be established in NC in coordination with the Secretariat since the activities may include training and capacity building. NC requested that some SAC members should assist the Expert Group in its tasks.

Consideration on establishment of a framework for reviewing substances to be monitored including other air pollutants and monitoring parameters

43. NC presented a discussion paper on the Consideration on Establishment of a Transparent Framework for Reviewing Substances to be monitored including Other Air Pollutants and their Monitoring Parameters (EANET/SAC 7/9/2). The paper described some of the reasons for a review of the list of priority substances to be monitored by the Network. The Session was invited to discuss, make comments and provide guidance.

44. Major clarifications and discussions were as follows:
- It was clarified that the main role of SAC should be to discuss important scientific/technical topics for the network and to provide advice to IG from the scientific view point.
- The expert from EMEP suggested that, in view that the East Asian region is experiencing air pollution problems, EANET should do its best to add relevant new parameters to the program using a step by step approach and set up different levels considering some mandatory and some optional measurements.

45. The Session agreed to recommend to IG the approval of the establishment of an Expert Group to review substances to be monitored in the Network. It was also agreed that the Chair of the Expert Group should be a SAC member and NC would function as its Secretariat.

Consideration of research activities for further development of EANET

46. The NC presented the paper on Consideration of Research Activities for Further Development of EANET (EANET/SAC 7/9/3). The cooperative research studies in Mongolia, Republic of Korea, Russia and Thailand were briefly described as well as other research activities carried out by NC in collaboration with regional and international organizations. The need for coordination of the research activities of EANET was highlighted for further development of EANET. The Session was invited to discuss, make comments and provide further guidance.

47. Major clarifications and discussions are as follows:
- Several papers were published in scientific journals based on the research projects. It was suggested that information on the publications should be shared among the EANET community.
- It was suggested that a special report on the EANET research activities should be published annually or biannually. The publication may also include other research activities conducted in the participating countries using the EANET dataset.

48. The Session agreed to recommend to IG the approval of the establishment of a Task Force on Research Coordination to coordinate all research activities in the Network. It was also agreed that the Chair of the Task Force should be a SAC member and NC would function as its Secretariat. It was agreed that the Chairpersons of other Task Forces and Expert Groups established under SAC should be members of the Task Force on Research Coordination.

49. Further, the Session agreed to recommend to IG the approval of the establishment of an Expert Group on Preparation of the Second Periodic Report on State of Acid Deposition in East Asia to coordinate all activities relating to the preparation of the next Periodic Report prior to the formation of the Drafting Committee. It was also agreed that the Chair of the Expert Group should be a SAC member and NC would function as its Secretariat.

Consideration on collaboration with other initiatives on emission inventories and numerical modeling

50. NC made a presentation on Consideration on Collaboration with Other Initiatives on Emission Inventories and Numerical Modeling (EANET/SAC 7/9/4). The paper described the joint modeling activities conducted in collaboration with International Institute for Applied System Analysis (IIASA) in the Model Intercomparison Study in Asia (MICS-Asia) project and the relevance of the outputs to the Strategy on EANET Development (2006-2010) activities. The Session was invited to discuss, make comments and provide further guidance on direction of future activities.

51. Major point of discussion was as follows:
- It was clarified that collaboration would be promoted not only with MICS-Asia but also other initiatives in this field.

XI. Cooperation with other international programs on transboundary air pollution (Agenda Item 10)

52. NC presented a paper to report on Cooperation with other international programs and initiatives (EANET/SAC 7/10). The existing collaborative activities with some international and regional programs were described and new partnerships were proposed. The possibility of the Task Force on Hemispheric Transport of Air Pollution (TF HTAP) of CLRTAP EMEP organizing a workshop back to back with SAC8 was informed.

53. The representative from CLRTAP EMEP Dr. Kjetil Torseth presented an overview of the current EMEP activities relevant to EANET. The presentation focused on the activities of TF HTAP and its global database, the European Network of Excellence on Atmospheric Composition Change (ACCENT) Workshop on network harmonization and data intercomparability, and revision of the EMEP monitoring strategy. It was also informed that EMEP is participating in the Group on Earth Observations (GEO) and its Global Earth Observation System of Systems (GEOSS). It was pointed out that harmonization of the data obtained by relevant international initiatives including EANET would be informative for evaluation of hemispheric transport of air pollutants.

54. Prof. Hajime Akimoto, expert from Frontier Research Center for Global Change, made a presentation on hemispherical ozone transport. The presentation included the modeling analysis to determine the contributions to tropospheric ozone concentration from several source regions on the global scale. In addition, analyses of spatial distribution and source-receptor relationship analysis of tropospheric ozone concentration in East Asia was presented. It was pointed out that ozone and aerosol pollution issues in Asia should be considered more in EANET.

55. Mr. Mylvakanam Iyngararasan, UNEP ROAP, provided an update on the Malé Declaration as well as the program and activities of the Atmospheric Brown Cloud (ABC) project. He informed that Malé Declaration has developed its own emission inventory manual and is using the MATCH model for the analysis of air pollution, and their experience may be useful for promoting related activities in EANET.

XII. Consideration of the Work Program and Budget of EANET in 2008 from the scientific and technical viewpoints (Agenda Item 11)

56. The Draft Work Program and Budget in 2008 for EANET (EANET/SAC 7/11) was presented by the Secretariat and NC. This document was prepared for consideration and adoption by IG9. The Session was invited to make comments on the document from the scientific and technical viewpoints.

57. Major discussions and clarifications were on the following items:

- It was agreed that an additional paragraph informing on the establishment of the new Task Forces and Expert Groups under SAC at SAC7 should be inserted after para. 42 of the document.
- It was noted that there was no budget to support the new Task Forces and Expert Groups in 2008. It was therefore requested that NC should include some budget to start the activities under the new Task Forces and Expert Groups.
- It was agreed that the following amendments would be made to para. 56 of the draft document:
  - Consideration of improvement of monitoring methodologies including review and revision of the technical manuals
  - Consideration of the report on promotion of modeling activities and emission inventories
  - Consideration on general directions of research activities and implementation of other scientific and technical issues of the Strategy on EANET Development (2006-2010)
  - Review of the strategy paper for future directions of soil and vegetation monitoring of EANET
- It was requested that more detailed information on research activities and relevant budget should be provided for review at future SAC meetings.

XIII. Other Issues (Agenda Item 12)

58. Prof. Hiromasa Ueda, Director General of ADORC gave a presentation on proposal of EANET to participate in Group on Earth Observations (GEO), and highlighted the importance of voluntary collaboration with the participating countries. NC was requested to prepare an information paper on GEO including membership conditions and benefits that

can be derived from participation of EANET in GEO to be sent to SAC members to enable them to discuss further with their national authorities.

59. Prof. Katsunori Suzuki, an expert from Kanazawa University, Japan made a presentation on the importance of inter-linkage between EANET and some related activities. He provided detailed information on three monitoring networks, namely North-west Pacific Action Plan (NOWPAP), Dust and Sandstorms Monitoring, and POPs Monitoring Workshop in East Asia.

XIV. Consideration and adoption of the Report of the Meeting (Agenda Item 13)

60. The List of the Chairpersons of the Task Force and the Expert Group as shown in Annex 2 was adopted by the Session.

61. The Report of the Meeting (EANET/SAC 7/13) was considered and adopted.

XV. Closing of the Meeting (Agenda Item 14)

62. The participants expressed their gratitude and appreciation to the organizers and host country and particularly to the staff of the Environment Management Bureau, Department of Environment and Natural Resources, Philippines for the excellent arrangements made for the meeting. The Meeting was officially closed by the Chairperson.

Annex 1

List of Participants

Participating Countries

Cambodia

Mr. Hang Dara
Vice Chief of Air Quality, Noise and Vibration Management Office
Department of Environmental Pollution Control
Ministry of Environment

Ms. Peou Phalla
Engineer, Meteorology Department
Department of Meteorology
Ministry of Water Resources and Meteorology

China

Dr. Li Guogang
Deputy Director
China National Environmental Monitoring Center

Mr. Zheng Haohao
Engineer
Department of Air Quality Monitoring
China National Environmental Monitoring Center

Indonesia

Prof. Dr. R.T.M. Sutamihardja
Lecturer, Bogor Agricultural University and University of Indonesia
Graduate School

Dr. Esrom Hamonangan
Air Pollution Researcher, Monitoring Division
Environmental Impact Management Facilities (PUSARPEDAL)

Japan

Prof. Hiroshi Hara
Professor, Field Science Center
Faculty of Agriculture
Tokyo University of Agriculture and Technology

Dr. Tomoyuki Hakamata
Advisor
Hamamatsu Photonics K.K.

Dr. Hajime Akimoto
Program Director
Japan Agency for Marine-Earth Science and Technology
Frontier Research Center for Global Change (JAMSTEC)

Dr. Hideaki Nakane
Director, Asian Environment Research Group
National Institute for Environmental Studies

Ms. Reiko Sodeno
Deputy Director
Global Environmental Issues Division
Global Environment Bureau
Ministry of the Environment

Lao PDR

Ms. Sisouphanh Luangrath
Director, Environment Quality Monitoring Center
Environment Research Institute
Water Resources and Environment Administration

Ms. Bounyaseng Sengkhammy
Deputy Director
Environment Quality Monitoring Center
Environment Research Institute
Water Resources and Environment Administration

Malaysia

Dr. Elizabeth M.P. Philip
Senior Research Officer
Biodiversiti & Environment Division
Forest Research Institute of Malaysia (FRIM)

Mongolia

Mr. Lkhagvasuren Badarch
Director
Central Laboratory of Environment & Metrology

Ms. Suren Otgonjargal
Engineer, Water Quality Section
Central Laboratory of Environment & Metrology

Mr. Erdembileg Bayar
Engineer
Soil and Radiation Section
Central Laboratory of Environment & Metrology

Myanmar

Mr. Maung Maung Soe
Assistant Director
Department of Meteorology and Hydrology

Mr. Tin Aung Tun
Staff Officer
Department of Meteorology and Hydrology

Philippines

Engr. Cesar Siador, Jr.
Chief, Air Quality Management
Environmental Quality Division
Environmental Management Bureau
Department of Environment and Natural Resources

Dr. Wilfredo M. Carandang
Associate Professor
Institute of Renewable Natural Resources
College of Forestry and Natural Resources
University of the Philippines Los Baños

Republic of Korea

Prof. Cho Seog-Yeon
Professor
Department of Environmental Engineering
Inha University

Dr. Han Jin-Seok
Director, Air Quality Division
National Institute of Environmental Research

Russia

Dr. Tamara V. Khodzher
Vice-Director
Limnological Institute of the Siberian Branch of the Russian Academy of Sciences

Dr. Sergey Gromov
Head of Science Sector
Environmental Pollution Department
Institute of Global Climate and Ecology

Thailand

Dr. Jesada Luangjame
Director of Silvicultural Research Division
Royal Forest Department

Dr. Pojanie Khummongkol
Associate Professor
Environmental Technology Division
King Mongkut's University of Technology Thonburi

Vietnam

Dr. Duong Hong Son
Director
Center for Environmental Research
National Institute of Meteorology, Hydrology and Environment

Prof. Dao Xuan Linh
Head, Administrative Division
National Institute of Meteorology and Hydrology

International Organizations etc.

NILU

Dr. Kjetil Tørseth
Director
Department of Regional and Global Pollution Issues
Norwegian Institute for Air Research (NILU)
Norway

Resource Person

Kanazawa University

Mr. Katsunori Suzuki
Professor
Frontier Science Organization
Kanazawa University
Japan

Observers

EMB-Philippines

Ms. Petra U. Aguilar
Engineer IV
Environmental Quality Division-Air Quality Management Section
Environment Management Bureau
Department of Environment and Natural Resources (DENR)

Mr. Arturo B. Bongco
Senior Environmental Management Specialist
Environment Management Bureau
Department of Environment and Natural Resources (DENR)

Mr. Jundy T. Del Socorro
Science Research Specialist II
Environment Management Bureau
Department of Environment and Natural Resources (DENR)

Ms. Lerma Dimayuga
Chief
Air Laboratory Unit
Environment Management Bureau
Department of Environment and Natural Resources (DENR)

Ms. Lorizel M. Montealegre
Public Affairs Officer
Public Affairs Office
Department of Environment and Natural Resources (DENR)

Ms. Carmelita M. Passe
Media Production Specialist III
Department of Environment and Natural Resources (DENR)

Ms. Jean Rosete
Engineer IV
Environmental Quality Division-Air Quality Management Section
Environment Management Bureau
Department of Environment and Natural Resources (DENR)

Ms. Arcely C. Viernes
Science Research Specialist II
Research & Development Division
Department of Environment and Natural Resources (DENR)

Mr. Henry D. Diona
Senior Environmental Management Scientist
EMB-Calabarzon
Department of Environment and Natural Resources (DENR)

DOH-Philippines

Dr. Cecille G. Magturo
Medical Specialist
Department of Health

DLSU-Philippines

Dr. Susan M. Gallardo
Director
Asian Regional Research Program on Environmental Technology
De La Salle University

PAGASA-Philippines

Ms. Rusy G. Abastillas
Weather Specialist-I
Philippines Atmospheric, Geophysical and Astronomical Services Administration

Secretariat

Network Center

Prof. Hiromasa Ueda
Director General
Acid Deposition and Oxidant Research Center

Ms. Leong Chow Peng
Deputy Director General
Acid Deposition and Oxidant Research Center

Mr. Akira Nitta
Deputy Director General
Acid Deposition and Oxidant Research Center

Mr. Ken Yamashita
Principal Senior Researcher
Acid Deposition and Oxidant Research Center

Mr. Shinji Nakayama
Head
Information Management Department
Acid Deposition and Oxidant Research Center

Dr. Tatsuya Sakurai
Researcher
Information Management Department
Acid Deposition and Oxidant Research Center

Dr. Hiroaki Yagoh
Head
Atmospheric Research Department
Acid Deposition and Oxidant Research Center

Dr. Hiroyuki Sase
Senior Researcher
Ecological Impact Research Department
Acid Deposition and Oxidant Research Center

Mr. Hirokazu Taniguchi
Senior Researcher
Acid Deposition and Oxidant Research Center

EANET Secretariat

Mr. Mylvakanam Iyngararasan
Senior Programme Officer
UNEP RRC.AP

Mrs. Adelaida B. Roman
Programme Officer, EANET Secretariat
UNEP RRC.AP

Ms. Sumana Ratanasawetwad
Administrative Assistant, EANET Secretariat
UNEP RRC.AP

Annex 2

Proposed Chairs of the Task Forces and the Expert Groups

Task Force:

Task Force on Dry Deposition Monitoring: Dr. Cho Seog-Yeon (Rep. of Korea)
Expert Group on Dry Deposition Flux Estimation: Dr. Pojanie Khummongkol (Thailand)
Task Force on Soil and Vegetation Monitoring: Dr. Wilfredo M. Carandang (Philippines)
Task Force on Monitoring Instrumentation: [Prof. Wang Ruibin (China)]
Task Force on Research Coordination: Dr. Sergey Gromov (Russia)

Expert Group:

Expert Group on Preparation of Second Periodic Report on State of Acid Deposition in East Asia: [Dr. Muhamad bin Awang (Malaysia)]/ Dr. Hiromasa Ueda (ADORC)
Expert Group on Revision of Technical Manual on Wet Deposition Monitoring: Dr. Hiroshi Hara (Japan)
Expert Group on Revision of Technical Manual on Inland Aquatic Environment Monitoring: Dr. Tamara Khodzher (Russia)
Expert Group to Review Substances to be Monitored in the EANET network: Dr. Hajime Akimoto (Japan)

[ ] to be confirmed

Expert Group on dry deposition flux estimation

Draft TOR

Composition of the Expert Group (5 - 8 members)

- Chairperson: from SAC
- Experts: from selected countries and related international organizations
- Secretariat: NC

Terms of Reference of the Expert Group

- Recommend frequency of estimation of dry deposition fluxes
  - every year for the Data Report
  - every 5-year for the Periodic Report
- Review of existing researches of direct measurement and inferential method
- Selection of future monitoring sites where the estimation by inferential method or direct measurements should be implemented
- Validation of inferential method by using direct measurement results obtained in and outside of EANET
- Coordination of the preparation of Technical Manual for dry deposition fluxes estimation
- Submission of Technical Manual to SAC

Recommended Timetable

Early 2008 : Establishment of the Expert Group

By the end of 2008 : The first meeting of Expert Group will be held.

At SAC10 (autumn 2010) : Submission of the draft Technical Manual for comments

By the end of 2010 : Finalization of the Technical Manual for dry deposition fluxes estimation.

Expert Group on Revision of Technical Manual on Wet Deposition Monitoring

Draft TOR

Composition of the Expert Group (5 – 8 members)

- Chairperson: from SAC
- Experts: from selected countries and related international organizations
- Secretariat: NC

Terms of Reference of the Expert Group

- Preparation of the Revised Technical Manual on Wet Deposition Monitoring. The Manual should consider detailed standard methodology for analysis of all necessary parameters including fluoride, bicarbonate, nitrite and organic acids. Reference should be made to the WMO Manual for the GAW Precipitation Chemistry Programme (2004)

Recommended Timetable

By the end of 2008 : The first meeting of Expert Group should be held.

By the SAC9 which will be held in autumn on 2009: prepare the first draft of the Technical Manual on Wet Deposition Monitoring and submit to the 9th SAC meeting for comment

Middle of 2010 : Second meeting of the Expert Group to finalize the revised Technical Manual

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

Draft TOR

Composition of the Expert Group (5 - 8 members)

- Chairperson: from SAC
- Experts: from selected countries and related international organizations
- Secretariat: NC

Terms of Reference of the Expert Group

- Preparation of the Revised Technical Manual on Inland Aquatic Environment Monitoring including consideration of sampling from rivers and streams, update with current methodologies and an integrated approach for monitoring ecological impacts

Recommended Timetable

By the end of 2008 : The first meeting of Expert Group should be held.

By the SAC9 which will be held in autumn on 2009 : prepare the first draft of the Technical Manual on Inland Aquatic Environment Monitoring and submit to the 9th SAC meeting for comment

Middle of 2010 : Second meeting of the Expert Group to finalize the revised Technical Manual

Expert Group to review substances to be monitored in the EANET network

Draft TOR

Composition of the Expert Group (up to 15 members)

- Chairperson: From SAC
- Member: At least 1 representative from each EANET member country
- Secretariat: NC

Terms of Reference of the Expert Group

- Review the list of substances to be monitored from the scientific viewpoint considering the pollutants of importance to each particular region
- Recommend substances to be added to or removed from the current list
- Recommend procedures for monitoring of proposed substances
- Submit progress reports to SAC for comments and guidance
- Prepare a final report to be submitted by SAC for consideration of IG

Recommended Timetable

First quarter of 2008 : Establishment of Expert Group. Invitations sent to the participating countries

In the second quarter of 2008 : The first meeting of the Expert Group

SAC8 in 2008 : First progress report to SAC

SAC9 in 2009 : Second progress report to SAC

SAC10 in 2010 : Finalization of the draft report

2010 : Submission of final report to IG12