

The Ninth Senior Technical Managers' Meeting
Of the Acid Deposition Monitoring Network in East Asia
27-29 August 2008, Niigata, Japan

Report on the Progress of EANET since the Eighth Senior Technical Managers' Meeting (STM8)

I. INTRODUCTION

1. The Senior Technical Managers' Meeting (STM) of the Acid Deposition Monitoring Network in East Asia (EANET) has been organized annually by the Network Center (NC) since the start of EANET activities on the regular phase in 2001. These Meetings were attended by the senior technical managers of all the participating countries, who are responsible for monitoring operations and technical issues of EANET activities in their countries. The number of topics discussed at STM were concerned the progress on scientific and technical matters related to EANET, national monitoring activities and data, results of the inter-laboratory comparison projects and other issues to be considered further at the Sessions of the Scientific Advisory Committee (SAC) for EANET.
2. This report presents a review of the progress of EANET activities since the Eighth Senior Technical Managers' Meeting (STM8) held in Bogor, Indonesia on 1-3 August 2007 which was focusing on scientific and technical aspects.

II. PUBLICATION OF PROCEEDINGS, SUMMARIES OF THE MEETINGS AND NEWSLETTERS, ETC.

3. EANET Newsletter was published by the Secretariat in collaboration with NC twice in December 2007 and July 2008.
4. After STM8, publications of proceedings and summaries of the following meetings were completed and distributed to the participating countries and participants of the sessions:
 - Ninth Session of the Intergovernmental Meeting (IG9)
 - Seventh Session of the Scientific Advisory Committee (SAC7)
 - Fifth Session of the Working Group on Future Development of EANET (WGFD5)
 - Sixth Session of the Working Group on Future Development of EANET (WGFD6)
 - Eighth Senior Technical Managers' Meeting (STM8)

- Eighth Workshop on Public Awareness for Acid Deposition Problems (WSPA8)
- Capacity Building Course on Future Development of EANET for Officials and Experts in the Participating Countries of EANET

III. EANET MEETINGS

III-1 Scientific Advisory Committee (SAC)

5. The Seventh Session of the Scientific Advisory Committee of EANET (SAC7) was held on 10-12 October 2007 in Manila, Philippines in order to discuss all of the important technical and scientific issues of EANET including implementation of the Strategy on EANET Development (2006-2010). Major decisions/discussions during SAC7 include the following:
- 1) Review and adoption of the Data Report 2006 of EANET;
 - 2) Review and adoption of the Report of the Inter-laboratory Comparison projects in 2006 and consideration of recommendation for improvement of QA/QC activities;
 - 3) Consideration of updated National Monitoring Plans of the participating countries;
 - 4) Consideration of improvement of monitoring methodologies including review and revision of technical manuals;
 - 5) Consideration of research activities and other scientific activities on acid deposition including collaboration with regional/international initiatives;
 - 6) Decision to recommend to IG9 the approval of the establishment of a number of new Task Forces and Expert Groups under SAC:
 - i) Task Force on Monitoring Instrumentation
 - ii) Task Force on Research Coordination
 - iii) Expert Group on Dry Deposition Flux Estimation under the Task Force on Dry Deposition Monitoring
 - iv) Expert Group on Preparation of Second Periodic Report on State of Acid Deposition in East Asia
 - v) Expert Group on Revision of Technical Manual on Wet Deposition Monitoring
 - vi) Expert Group on Revision of Technical Manual on Inland Aquatic Environment Monitoring
 - vii) Expert Group to Review Substances to be Monitored in the EANET network
 - 7) Cooperation with other international programs on transboundary air pollution.

6. The Center for Environment Research, National Institute of Meteorology, Hydrology and Environment, Ministry of Natural Resources and Environment (CER/MoNRE), Viet Nam has officially notified the Secretariat of their intention to host the Eighth Session of the Scientific Advisory Committee (SAC8). The Session will be held on 15-17 October 2008 in Hanoi, Viet Nam. Currently, the Secretariat and the staff of CER are making the necessary arrangement for SAC8. The Task Force on Hemispheric Transport of Air Pollution (TF HTAP) of CLRTAP will hold a meeting back-to-back with SAC8 on 13-14 October 2008 in Hanoi, Viet Nam to discuss modeling (regional to global linkages) and impacts of transboundary transport, emissions inventories and observations. Participants of SAC8 will be invited to attend the meeting.

III-2 Intergovernmental Meeting of EANET (IG)

7. The Intergovernmental Meeting (IG) of EANET held its Ninth Session in Vientiane, Lao PDR on 19 and 20 November 2007. The Session approved the establishment of following two task forces and four expert groups:
 - Task Force on Monitoring Instrumentation
 - Task Force on Research Coordination
 - Expert Group on Dry Deposition Flux Estimation under the existing Task Force on Dry Deposition Monitoring
 - Expert Group on Preparation of Second Periodic Report on State of Acid Deposition in East Asia
 - Expert Group on Revision of Technical Manual on Wet Deposition Monitoring
 - Expert Group on Revision of Technical Manual on Inland Aquatic Environment Monitoring
8. The Session reached consensus to recommend that SAC reconsider its proposal of the establishment of two expert groups (Expert Group to Review Substances to be Monitored in the EANET Network, and Expert Group for Promotion on Emission Inventories and Modeling Activities).

III-3 Task Forces and Expert Groups established under SAC

9. At the Ninth Session of IG (IG9), the NC has been designated as the Secretariat of the Task Forces and Expert Groups (TFs/EGs) established under SAC, each of which is chaired by a SAC member. (Ref.: paragraph 6) NC has started its duties as the Secretariat of the TFs/EGs soon after IG9. The NC contacted the chairs of each of the 4 Task Forces and 4 Expert Groups to discuss on membership, TOR and dates of the first meeting. The chairs and members of each subsidiary body, and proposed dates of their meetings are attached as Annex 1. The budget for the meetings has been approved in the Work Program and Budget of NC in 2008.

10. The first meeting of the Expert Group on Dry Deposition Flux Estimation, Task Force on Research Coordination, Expert Group on Review of Inland Aquatic Environment, Task Force on Soil and Vegetation Monitoring and Task Force on Monitoring Instrumentation were held in Niigata, Japan on 23-24 June, 25-26 June, 26-27 June, 6-7 August and 26 August 2008, respectively. At the meetings, Draft Terms of Reference (TOR), future schedule, etc. were discussed. Outcomes of the meetings of the TFs/EGs will be informed at STM9 and SAC8.

III-4 Draft Committee for the Periodic Report on the State of Acid Deposition in East Asia (PRSAD)

11. The PRSAD, namely Executive Summary, Part I: Regional Assessment and Part II: National Assessments was printed in November 2007, dispatched to all the participating countries and relevant individuals and organizations in December 2007 and January 2008. These reports were also issued on the EANET website in January 2008.

III-5 Workshop on Second Report for Policy Makers (RPM2)

12. As in the Work Program and Budget in 2009, the Secretariat coordinated with NC and participating countries in developing materials for public awareness including RPM2 on EANET. The Workshop on RPM2 was convened on 28 July 2008 in Pathumthani, Thailand. Prior to this workshop a draft outline and timetable for preparing the RPM2 was circulated to the participating countries for comments. A revised preliminary draft RPM2 was discussed in this workshop.

IV. INTERNATIONAL COOPERATION - PARTICIPATION IN MEETINGS AND WORKSHOPS RELATED TO EANET

IV-1 Collaborative Assessment Network (CAN)

13. A representative of NC participated in 8th Collaborative Assessment Network (CAN8) meeting (5 November 2007) in Bangkok, Thailand and exchanged information with other UNEP partners from Central Asia, Northeast Asia, South Asia, Southeast Asia, South Pacific. The recent developments such as the e-KH (Environmental Knowledge HUB) by UNEP RRC.AP, Climate Change and Atmospheric Brown Cloud (ABC) and Health and Environment issues relevant to EANET were discussed including the role of EANET and other organizations.

IV-2 Long-Range Transboundary Air Pollutants in Northeast Asia (LTP)

14. NC has been participating in the International Joint Research of LTP between Korea, China, and Japan. NC representatives attended the 9th Expert Meeting for Long-range Transboundary Air Pollutants in Northeast Asia, organized by NIER, Republic of Korea, and held in Busan, Republic of Korea, from 6 to 8 November 2007. The reports on monitoring and modeling activities in each country were presented by the experts of three countries. The work plan for the 1st year of the 3rd Stage of the monitoring field and modeling field were agreed. Regarding emission study, it was agreed that the target year for new estimation would be determined by June 2008 taking each country's situation into account.

IV-3 CLRTAP meetings

15. A representative of EANET participated in the 25th session of the Executive Body of the Convention on Long-range Transboundary Air Pollution (CLRTAP) held in Geneva, Switzerland from 10–13 December 2007. EANET's recent achievements and highlighted the existing and future collaboration with CLRTAP were reported. EANET will continue to explore opportunities for collaboration with relevant experts, programs, task forces and expert groups of the Convention, in particular the TF HTAP. The TF HTAP has proposed to hold a workshop back to back workshop with SAC8 in 2008.
16. NC attended the Workshop of TF HTAP under the European Monitoring and Evaluation Programme (EMEP) held in June 2008 in Washington D.C. and exchanged information on the hemispheric air pollution issues. Workshop of TF HTAP to be held back to back with SAC8 on 13-14 October 2008 in Hanoi, Viet Nam was also discussed. (Ref.: paragraph 6)

IV-5 Model Inter-Comparison Study (MICS-Asia)

17. In order to investigate the differences among the long-range transport models developed for East Asian region, NC has been collaborating with MICS-Asia. The 10th Workshop on the Transport of Air Pollution in Asia held at the International Institute for Applied Systems Analysis (IIASA), Austria on 18-19 February 2008 was financially supported by ADORC. The workshop discussed the activities to be conducted in Phase 3. It was decided that the following would be conducted as Phase III activities;
 - 1) Collaboration between MICS and TF HTAP
 - 2) Source-Receptor relationship analysis in EANET region (Urban-Regional)
 - 3) Ensemble analysis based on plural models
 - 4) Studies related to Climate
 - 5) Studies related to Emission scenarios

IV-6 Strategic Workshop on Forest Ecosystem in a Changing Environment

18. NC attended the Strategic Workshop on Forest Ecosystem in a Changing Environment held on 11-13 March 2008 in Sisli, Turkey. The main purpose was to identify future forest monitoring and research needs. In the Quality Assurance (QA) Session, NC introduced the EANET forest monitoring and exchanged information on QA of forest monitoring.

V. COMMUNICATION WITH PARTICIPATING COUNTRIES AND OTHER RELEVANT AGENCIES

V-1 Communication with participating countries, etc.

19. The Secretariat received communications from some NFPs regarding a few changes on institutional bodies of EANET in their respective countries, e.g. NFPs, SAC members, etc. from time to time and circulated this information to all concerned.
20. The Secretariat is communicating continuously to all concerns regarding administrative and financial matters for EANET which include: contracting with ADORC for the NC activities and the MoE, Japan. In December 2007, the Secretariat also sent communication to all participating countries regarding transfer of voluntary contributions to EANET which included the Secretariat budget in 2008 and NC core budget in 2008.
21. The Secretariat and NC maintained close communication with the participating countries in all related activities of EANET and relevant international organizations such as United Nations Economic Commission for Europe (UN/ECE), UNEP, etc.
22. The NC also communicated with countries regarding scientific and technical issues to improve monitoring and assessment of acid deposition in the region.

V-2 Communication with donor agencies

23. During the Eighth Session of the Intergovernmental Meeting (IG8), the Secretariat and NC were encouraged to communicate with the potential donors to identify their interest and priority to further develop good concept papers/project proposals. The IG9 endorsed the "Capacity Building Workshops for Policy Makers of the Participating Countries of EANET", with a funding support from UNEP. The workshops will be implemented for a period of two years (2008 and 2009). The first workshop will be held on 23-26 September 2008 in Pathumthani, Thailand. A training module for this workshop is currently being prepared by the consultant hired by UNEP.

24. A face-to-face meeting with the Asian Development Bank (ADB) was convened by the Secretariat and NC on 8 October 2007, in Manila, Philippines, ADB Headquarters. The ADB was represented by senior staff of the Regional and Sustainable Development Department and other relevant staff. The Secretariat and NC made a presentation on EANET including the Strategy on EANET Development (2006-2010) and exchanged views on priority projects that might have potential for collaboration. Two options were discussed for potential support from ADB as follows:

- 1) Seek a possibility for integrating EANET priority projects into ADB on-going projects.
- 2) Seek a possibility if EANET can develop a new Technical Assistance (TA) project for EANET under the new scheme that ADB is developing.

It was agreed to make further discussions with ADB on this issue.

25. A follow-up meeting was convened on 7 November 2007 for a short briefing of the activities and exchange of information and views on acid deposition and other transboundary air pollution problems. The Secretariat and NC met with the senior staff of the ADB Greater Mekong Subregion Core Environment Program, Southeast Asia Regional Department in Thailand.

VI. CENTRAL COMPILATION, EVALUATION, STORAGE AND DISSEMINATION OF DATA AND RELEVANT INFORMATION

26. The NC finalized and published the Data Report 2006 in November 2007 and distributed it to NFPs, National Centers, SAC members and other relevant organizations in December 2007. Data Report 2006 was distributed outside of EANET in January 2008. The NC would like to remind participating countries to submit their 2007 monitoring data to NC before the end of June 2008. Some participating countries have already submitted their monitoring data in 2007 to NC.

27. In accordance with the Detailed Mechanism of Article 4 of the Procedures on Data and Information Disclosure for EANET adopted at the Fifth Session of the Intergovernmental Meeting (IG5) held in Pattaya, Thailand in 2003, all of the EANET monitoring data in 2001, 2002, 2003, 2004 and 2005 are disclosed outside of EANET in January 2008 with dissemination on CD upon the requests. The data of 2006 will be disclosed in January 2009.

VII. STRENGTHENING THE CAPACITY IN THE PARTICIPATING COUNTRIES

VII-1 Dispatch of technical missions

28. NC dispatched technical missions to the participating countries in 2007-2008 to exchange information and experiences, provide technical advices and disseminate the latest technical information. As of the end of June 2008, NC missions visited Cambodia and Lao PDR (December 2007), Thailand (December 2007), China (December 2007), Myanmar (December 2007), Malaysia (January 2008), Philippines (January 2008), Viet Nam (March 2008) and R. of Korea (March 2008). The mission members checked the condition of the instruments provided to countries and also provided advice on the suitability of proposed sites for future EANET monitoring. (Ref. Annex 2: Summary of Technical Missions of NC since IG9).

VII-2 Implementation of the technical cooperation programs

29. With the financial support from MoE, Japan, the NC, under its technical cooperation program, has assisted some participating countries in 2007 and 2008 by providing technical and financial support in their monitoring activities. Among the assistance rendered, filter-pack sampling kits were provided to Cambodia, China, Lao PDR, Mongolia, Myanmar, Philippines and Viet Nam.

VII-3 Capacity Building Workshop for Policy Makers of the Participating Countries of EANET

30. The Secretariat is currently making an arrangement regarding the “Capacity Building Workshop for Policy Makers of the Participating Countries of EANET”. The main objective of the workshop is to enhance the capacity of officials and those involved in the policy making process in order to contribute to the process of discussion necessary for future development of EANET. It will be held on 23-26 September 2008 in Pathumthani, Thailand

VIII. IMPLEMENTATION AND COORDINATION OF QA/QC ACTIVITIES

VIII-1 EANET Inter-laboratory Comparison Projects

31. The NC finalized and published the inter-laboratory comparison reports on the 9th inter-laboratory comparison project on wet deposition, the 2nd inter-laboratory comparison project on dry deposition (filter pack method), the 8th inter-laboratory comparison project on soil and the 7th inter-laboratory comparison project on artificial surface water, which were all conducted in 2006, and distributed the report to the participating laboratories in January 2008.

32. NC distributed samples of the 10th inter-laboratory comparison project on wet deposition, the 9th inter-laboratory comparison project on soil, the 8th inter-laboratory comparison project on artificial surface water and the 3rd inter-laboratory comparison project on dry deposition (filter pack method) to the participating countries in November 2007. Most of the participating countries have submitted their results and the NC is in the process of evaluating the data received.
33. Several national centers and EANET laboratories in Japan, Philippines, Russia, Thailand and Viet Nam also took part in the international inter-comparison 2007 organized by the CLRTAP International Cooperative Programme on Assessment and Monitoring of Acidification in Rivers and Lakes (ICP-Waters). NC also promoted participation of EANET laboratories in the EMEP 25th inter-laboratory comparison on artificial rain water.

IX. IMPLEMENTATION OF TRAINING ACTIVITIES

34. Several training activities were held after IG9. Some were based on the requests from the participating countries while in some cases the NC collaborated with the Japan International Cooperation Agency (JICA) to hold a training course on acid deposition for participants from EANET. The training activities implemented were in accordance with the “Training Programs for EANET in the Regular Phase” endorsed at the Third Session of the Intergovernmental Meeting (IG3) in November 2001.

IX-1. Assistance for national training activities

35. The NC implemented “Questionnaire Survey for National Training Activities in 2007” in July-August 2008. The result was summarized as Annex 3, “National Training Activities in the Participating Countries of EANET in 2007”. 23 kinds of national training activities such as “Training on automatic air quality monitoring” were implemented in 11 EANET countries in 2007. Many participating countries have training requirements and some suggestions to the NC.

IX-2 JICA Area Focused Training Course on EANET

36. The “JICA Area Focused Training Course on EANET” in JFY 2007 was held from 10 October through 16 December 2007 in Kobe and some other places in Japan. Ten trainees from ten EANET participating countries, namely Cambodia, China, Indonesia, Lao P.D.R., Malaysia, Mongolia, Myanmar, Philippines, Thailand and Viet Nam attended this course. Several lectures were delivered by NC staffs. During the visit of JICA trainees to Niigata, NC also presented lectures and demonstrated practices on acid deposition monitoring of EANET.

37. NC maintained close communication with the organizers of the JICA training course on the curriculum by attending the meetings of the steering committee and briefing them on EANET activities regularly. The training course in JFY 2008 will be carried out from October to December 2008 in Kobe, Japan. Participants from Cambodia, China, Lao PDR and Myanmar have been selected.

IX-3 JICA Third Country Training Course

38. JICA Third Country Training Course on “Control Strategy and Mitigation Measures of Acid Deposition” was held in Thailand from 14 January through 1 February 2008. This is the first year of Phase II of the training course. (Phase I of this course was implemented in 2004-2007.) NC dispatched an expert to Thailand as one of the lecturers of the training course. There were 22 trainees from 8 EANET countries, namely Cambodia, China, Lao PDR, Malaysia, Mongolia, Myanmar, Thailand and Viet Nam. The participants informed that they had acquired useful knowledge and information on acid deposition problems and development of appropriate mitigation measures and control strategy for abatement of acid deposition in the region.

IX-4 EANET Individual Training at ADORC

39. The individual training at NC had been implemented taking into account specific situations in the participating countries. One trainee each from Cambodia, China, Lao PDR, Myanmar and Viet Nam were invited to ADORC from 12 February through 6 March 2008 to receive individual training on wet deposition monitoring, dry deposition, soil/vegetation monitoring, inland aquatic environment monitoring, and data management including instruction on how to use the laboratory instruments.

X. RESEARCH ACTIVITIES

40. The research activities of EANET are important to evaluate the environmental impacts of acid deposition on the region’s diverse ecosystem, to improve the monitoring methodologies, and develop analytical methods suitable for East Asia. NC performed research activities with consideration of the regional characteristics.

X-1 EANET Research Fellowship Program 2007

41. Due to the strong interest from member countries, NC agreed to continue the EANET research fellowship program in 2007. However, as the Secretariat did not have the budget to support the fellowship program in 2007, this activity was carried out using additional funds directly contributed by the government of Japan to the NC (ref.

paragraph 4).

42. In response to the invitation letter sent by NC to NFPs and SAC members on 22 June 2007, the NC received 6 applications from 6 countries namely Cambodia, China, Mongolia, Myanmar, Philippines and Vietnam. Based on the procedures of the fellowship research program, the Selection Committee of NC considered the proposed research plans submitted by the applicants and decided to invite the researchers from China and Viet Nam to conduct their research in ADORC for two months from the end of January to end of March 2008. The titles of their researches were “Comparison of Air Pollution and Acid Deposition between Two Mega-Cities” and “Assessment of Ozone and Other Gaseous Concentrations in East Asia” respectively. The researchers submitted scientific reports on mentioned themes after completing their research.
43. NC has sent a letter of “Announcement on application of the Research Fellowship of the Network Center in 2008” to NFPs and SAC members on 4 July 2008. As in previous years, two researchers will be selected to carry out research for two months in 2008.

X-2 Joint research project with Russia

44. The joint research project Phase 3 with the Limnological Institute, Russian Academy of Science, Siberian Branch (RAS/SB) was started since 2002. Annual acid deposition as well as heavy metals (mercury and lead) and lead isotope ratio in rain and snow have been determined at four sites in East Siberia and Primorsky Region in Russia. The methodologies on data analysis used in the project for the acid deposition data were expected to be useful for evaluation of EANET monitoring data. The monitoring data were important to evaluate long-range transportation of air pollutants from Europe and industrial regions of Russia to East Asia.

X-3 Joint research project on dry deposition monitoring with Thailand

45. The Joint Research Project on dry monitoring was carried out by NC and Pollution Control Department (PCD), Thailand focusing on QA/QC of gas concentration monitoring method in tropical region. Under Phase II of the Joint Research Project, measurement of gas concentrations by several types of monitoring methods has been carried out at Bangkok EANET monitoring site in order to evaluate the difference of gas concentrations among some different types of monitoring methods (automatic monitor, filter-pack method, and passive sampling method) in tropical region in East Asia.

X-4 Joint research project on catchment analysis with Thailand and Malaysia

46. NC has implemented the joint research project on catchment analysis in Thailand with the Royal Forest Department (RFD) and Environmental Research and Training Center (ERTC) by using funds from the Global Environment Research Fund of the Ministry of the Environment, Japan. Monitoring on input (deposition) and output (stream water) fluxes in/from a small catchment area, and analyses on other biogeochemical aspects was carried out continuously, and nutrient dynamics and acid deposition impacts in the area would be estimated. In addition to Thailand, a new project with the Malaysian Meteorological Department (MMD) has just started in 2008 in the EANET monitoring site in Danum Valley which is also a site under the Global Atmosphere Watch (GAW) Program of the World Meteorological Organization (WMO). Passive samplers for NO₂, SO₂, NH₃, NO_x, and O₃ were installed at the GAW station for a comparison study. Chemical analysis of the stream water has also started in a small catchment near the EANET site. Outcomes of this project will be informative to evaluate impacts of acid deposition on terrestrial ecosystems in tropical region including Thailand and Malaysia as well as other regions in East Asia.

X-5 Joint research project on aerosol monitoring with Republic of Korea

47. In the discussion at SAC4 for the improvement of dry deposition monitoring methodologies, it was suggested that a study on PM₁₀, PM_{2.5} and their components at special sites should be considered. In line with the suggestion of SAC4, the project on aerosol monitoring was planned as a joint research between National Institute of Environmental Research (NIER), Ministry of the Environment, Republic of Korea and NC. Based on the discussion between NIER and NC at the workshop during NC technical mission in 2007, intensive monitoring was conducted at Cheju in Korea and ADORC, Niigata in Japan during the period from 16 through 31 April 2007. Parallel measurements of aerosol were carried out using 4 kinds of method (Andersen sampler was also used at ADORC for reference). In order to evaluate aerosol sampling methodology and PM_{2.5} behavior in Japan and R. of Korea a workshop was held in February 2008 in NIER, R. of Korea during NC mission in February 2008. The future plan was also discussed in the workshop.

X-6 Other research activities

48. Catchment analysis is one of the issues described in the Strategy Paper for Future Direction of Soil and Vegetation Monitoring of EANET. For obtaining basic data on this issue, research activities have been implemented in a small catchment area in Shibata City, Niigata Prefecture, Japan. The data will be informative for development of guidelines or manual on catchment monitoring as well as implementation of the joint research project on catchment analysis with Thailand and Malaysia.

XI. BUILDING PUBLIC AWARENESS

XI-1 Joint Public Awareness Project with Myanmar

49. In 2007, NC supported an in-country public awareness workshop held in Yangon, Myanmar in December 2007. About 30 people attended the “Workshop on Dissemination of Public Awareness Brochure on Acid Deposition”. NC experts disseminated information on acid deposition and air pollution issues and EANET activities. (Ref.: Annex 2.)

XI-2 Joint Project on Environmental Education Activities with Thailand

50. NC undertook a joint project with Thailand to support their environmental education activities on acid deposition in schools. School children from one school in Bangkok and two elementary schools in Niigata Prefecture participated in measurements of the concentration of nitrogen oxides and dust around their schools and experiments involving measurement of rainwater pH, dissolution of seashell and other objects in rainwater, and growing sprouts. The results of the project were presented by school children at the internet conference in the Workshop on Public Awareness for Acid Deposition Problems (Ref. paragraph 49-50).

XI-3 Joint Project on Environmental Education Activities with China

51. NC will carry out a joint project with China to support the environmental education activities on acid deposition in schools of China and Japan in 2008. NC and China are considering the project plan based on the experience in the project mentioned above, and the results of the project will be reported through the Internet Conference.

XI-4 EANET Workshop on Public Awareness for Acid Deposition Problems 2008

52. The Eighth Workshop on Public Awareness for Acid Deposition Problems was held in Bangkok, Thailand, on 22 and 23 January 2008, organized by NC in collaboration with the Niigata Prefectural Environment Conservation Corporation (NPECC), Japan and the Pollution Control Department (PCD), Thailand. The Workshop consisted of two parts, Part I and Part II. Part I consisted of an internet conference between schoolchildren from a school in Bangkok, Thailand and 2 schools in Niigata, Japan. Approximately 140 school children and teachers of Thailand and 40 participants and observers from EANET participating countries attended Part 1 of the workshop in Bangkok and approximately 170 school children, teachers and observers participated in the internet conference from Niigata, Japan.
53. In Part II, presentations on country experiences on public awareness and environment

education were made by the participating countries. It was discussed how to promote environmental education as well as public awareness activities to general public more effectively. The possibility to carry out a similar environment education course with experiments in each participating country of EANET was also discussed.

XI-5 e-Learning Program on EANET Website

54. NC continued to maintain the e-Learning program on acid deposition problems for environmental education which was developed in collaboration with Institute for Global Environmental Strategies (IGES) and issued on the EANET web site since March 2006.

Annex 1

Members and proposed meeting dates of Task Forces and Expert Groups under SAC

Name	Members	Proposed meeting date and venue
Task Force on Dry Deposition Monitoring	Dr. Cho Seog-Yeon (R. of Korea) - Chair Mr. Thiv Sophearith (Cambodia) Mr. Chin Chamroeun (Cambodia) Dr. Emil Budianto (Indonesia) Dr. Hajime Akimoto (Japan) Mr. Lim Sze Fook (Malaysia) Ms. Bulgan Tumendemberel (Mongolia) Ms. Lerma L. Dimayuga (Philippines) Mr. Cesar S. Siador, Jr. (Philippines) Dr. Tamara V. Khodzher (Russia) Dr. Pojanie Khummongkol (Thailand) Mr. Nguyen Van Tien (Viet Nam)	Back to back with SAC8 in Hanoi, Viet Nam (14 October 2008)
Task Force on Soil and Vegetation Monitoring	Dr. Wilfredo M. Carandang (Philippines) - Chair Mr. Liu Fang (China) Dr. Tomoyuki Hakamata (Japan) Dr. Nik Abdul Majid (Malaysia) Dr. Apolonio M. Ocampo (Philippines) Ms. Hoe-Jung Noh (Republic of Korea) Dr. Tatiana A. Mikhailova (Russia) Dr. Jesada Luangjame (Thailand) Dr. Hiroyuki Sase (ADORC)	6-7 August 2008 in Niigata, Japan
Task Force on Monitoring Instrumentation	Prof. Wang Ruibin (China) - Chair Mr. Chhek Roth (Cambodia) Mr. Zheng Haohao (China) Ms. Novy Farhani (Indonesia) Dr. Hiroaki Yago (Japan) Ms. Setouvanh Phanthavongsa (Lao PDR) Ms. Wong Fook Lian (Malaysia) Mr. Barkhasragchaa Baldorj (Mongolia) Ms. Htwe Htwe Win (Myanmar) Engr. Arturo Bongco (Philippines) Engr. Robert Co (Philippines) Dr. Han Jin Seok (Republic of Korea) Dr. Sergey Paramonov (Russia) Ms. Wassana Toruksa (Thailand) Mr. Tran Son (Viet Nam)	26 August 2008 in Niigata, Japan (Back to back with STM9)
Task Force on Research Coordination	Dr. Sergey Gromov (Russia) - Chair Prof. Wang Ruibin (China) Dr. Hajime Akimoto (Japan) Dr. Hiroshi Hara (Japan) Prof. Katsunori Suzuki (Japan) Dr. Elizabeth Phillip (Malaysia) Dr. Cho Seog-Yeon (R. of Korea) Dr. Wilfredo M. Carandang (Philippines) Dr. Tamara Khodzher (Russia) Dr. Pojanie Khummongkol (Thailand) Dr. Duong Hong Son (Viet Nam) Dr. Hiromasa Ueda (ADORC)	25-26 June 2008 in Niigata, Japan

Name	Members	Proposed meeting date and venue
Expert Group on dry deposition flux estimation	Dr. Pojanie Khummongkol (Thailand) - Chair Dr. Kazuhide Matsuda (Japan) Dr. Kentaro Hayashi (Japan) Dr. Akira Takahashi (Japan) Dr. Hong You-Deog (R. of Korea) Dr. Hiromasa Ueda (ADORC)	23-24 June 2008 in Niigata, Japan
Expert Group on Preparation of Second Periodic Report on the State of Acid Deposition in East Asia	Dr. Hiromasa Ueda (ADORC) - Chair Prof. Wang Ruibin (China) Dr. Wilfredo M. Carandang (Philippines) Dr. Sergey Gromov (Russia) Dr. Duong Hong Son (Viet Nam) Ms. Adelaida B. Roman (Secretariat)	During SAC8 meeting in Hanoi, Viet Nam (16 October 2008)
Expert Group on Revision of Technical Manual on Wet Deposition Monitoring	Dr. Hiroshi Hara (Japan) - Chair Dr. Tsuyoshi Ohizumi (Japan) Mr. Izumi Noguchi (Japan) Ms. Bulgan Tumendemberel (Mongolia) Dr. Ahn Jun-Young (R. of Korea) Dr. Hathairatana Garivait (Thailand) Dr. Dave Mactavish (WMO/Canada) Ms. Leong Chow Peng (ADORC)	2-3 October 2008 in Niigata, Japan
Expert Group on Revision of Technical Manual on Inland Aquatic Environment Monitoring	Dr. Tamara Khodzher (Russia) - Chair Dr. Senichi Ebise (Japan) Dr. Haruo Fukuhara (Japan) Dr. Vu Van Tuan (Viet Nam) Dr. Hiroyuki Sase (ADORC)	26-27 June 2008 in Niigata, Japan

Annex 2

Summary of Technical Missions of NC since IG9

Country	Duration	Major Activities/Outcomes of the Mission
Cambodia	5–7 December 2007	The mission confirmed that IC systems in Cambodia installed by using EANET Secretariat savings in 2006 have been operated without any problems. And the mission provided some consumables and apparatus for IC operation during the mission. The mission agreed to recommend DG to support filter-pack monitoring kit to Cambodia ASAP.
Lao P.D.R.	9–12 December 2007	The mission confirmed that IC systems in Lao PDR installed by using EANET Secretariat savings in 2006 have been operated without any problems. And the mission provided some consumables and apparatus for IC operation after the mission. The mission agreed to recommend DG to support filter-pack monitoring kit to Lao PDR ASAP.
Thailand	16–21 December 2007	The mission and Thai side agreed that outcomes of the project on the catchment study should be shared among the EANET participating countries. The outcomes of the project will be reported at the next session of the Scientific Advisory Committee. It was announced that development of a simulation modeling on the catchment scale would be a main target.
China	17–21 December 2007	The mission confirmed that dry deposition monitoring was conducted in the site of Xiamen with a filter-pack sampler since May 2007 and the filter-pack sampler moves properly (Flow rate is 1 L/min). And SO ₂ concentration of the filter pack and a gas monitor has been compared by Xiamen City, The mission suggested Xiamen Environmental Monitoring Center to assemble the filter-pack holder correctly.
Myanmar	18-22 December 2007	At the “Workshop on Dissemination of Public Awareness Brochure on Acid Deposition”, 30 people have attended. The mission disseminated information on acid deposition issues and EANET activities. Regarding installation of equipment, the mission was informed that JICA might offer some equipment to DMH as one of the following-up activities of JICA.
Malaysia	4–10 January 2008	The mission confirmed that monitoring activities have been managed very well by MMD and DOC in cooperation with MNRE, NFPs. The mission visited the candidate study site for the joint research project on the catchment analysis, Danum Valley Conservation Area, and discussed the detailed plan.
Philippines	14–18 January 2008	The mission discussed flagged concentrations of Inter-lab project in 2006 with EMB. As for NH ₄ ⁺ , the mission advised that it could be easy for them to use IC rather than spectrophotometer to solve this problem. The mission provided some consumables for wet/dry deposition monitoring.
Viet Nam	17–21 March 2008	The mission confirmed that the “Master plan of the monitoring network of Viet Nam up to 2020” was approved by the Prime Minister. It includes the monitoring network of VEPA and NCHM.
Republic of Korea	18-20 March 2008	In the Workshop on Joint Research Project, the results of NIER and ADORC were introduced. The results of the monitoring at Niigata showed close values among four kinds of methods. Future plan of the project was also discussed.

Annex 3

National Training Activities in the Participating Countries of EANET in 2007

Country Name		Title of Training course/ Meeting	Duration	No. of Participants	Major Topics
Cambodia	1	Training course on “ Air Pollution and Acid Deposition, Their Effluence, and Related Countermeasure”	7-9 May 2007	45	1. Air Pollution and their effects; 2. General aspect of deposition (wet and dry forms) and their impacts; 3. Countermeasure on acid deposition and air pollution ; 4. Some methodologies for monitoring wet deposition.
	2	Training course on “ Air Pollution and Acid Deposition, Their Effluence, and Related Countermeasure”	19-21 September 2007	50	1. Air Pollution and their effects; 2.General aspect of deposition (wet and dry forms) and their impacts; 3. Countermeasure on acid deposition and air pollution ; 4. Some methodologies for monitoring wet deposition.
China	1	Training on automatic air quality monitoring	6 days	93	Mechanism, operation and maintenance of automatic instruments for air quality monitoring
Indonesia	-	-	-	-	-
Japan	1	The training of atmosphere monitoring	19 Feb-2 Mar 2007	12	- Sampling/analytical methods for atmospheric monitoring
	2	The training of equipment operation	10-25 May 2007	34	- Equipment operation training
	3	The training of acid deposition monitoring for officials of municipalities	21-22 May 2007	16	1. General consideration of acid deposition 2. Sampling/analytical methods for acid deposition monitoring
	4	The training of atmospheric and traffic environment	5–8 Jun. 2007	90	-Atmospheric and traffic environment
	5	Audit (Inspection and guidance) of National monitoring sites (including EANET monitoring sites)	Aug.2007-Mar. 2008	59	1. Site and laboratory audit 2. Wet and dry deposition sites 15 3. Soil and vegetation Monitoring sites 3 4. Sites on inland aquatic environment 4
	6	The training of global environment conservation	4-7 Sep. 2007	47	- Global environment conservation

Country Name		Title of Training course/ Meeting	Duration	No. of Participants	Major Topics
Lao PDR	1	National Public Awareness workshop on Acid Deposition	02 Feb. 2007	50	<ol style="list-style-type: none"> 1. Introduction of EANET activities in East Asia; 2. Objective of EANET; 3. Effect of acid deposition; and 4. EANET activities in Lao PDR.
Malaysia	1	Training on TEOM Maintenance and Multi-gas Analyzer	25 – 26 May 2007	15	<ol style="list-style-type: none"> 1. Principle Operation of TEOM 2. Troubleshooting of TEOM 3. Maintenance and Calibration of TEOM 4. Principle Operation of Multigas System 5. Maintenance and Calibration of NO, NO_x, NO₂, SO₂, O₃ and CO System
	2.	Course Meteorology Observation Aspects on Air Pollution	10 – 13 July 2007	16	<ol style="list-style-type: none"> 1. Meteorology of Air Pollution 2. Introduction of Air Pollution Monitoring and Activities of the Environmental Studies Division 3. Sampling of Wet and Dry Fallout 4. Sampling of High Volume Air Sampler 5. Quality Assurance / Quality Control
Mongolia	1	Yearly seminar for environmental monitoring	19-24 Mar. 2007	11	- Environmental quality monitoring including acid deposition monitoring, QA/QC program
	2	Individual training course	10-22 Sep. 2007	2	- Air pollution monitoring and control
Myanmar	1	Workshop on Air Quality Management	9-11 April, 2007	35	- Dry deposition
	2	Training on Air Pollution	18-20 September, 2007	30	- Analysis of Air Quality
Philippines	1	Seminar-Workshop on Soil and Vegetation Monitoring	07-09 November 2007/(3 days)	20	<ol style="list-style-type: none"> 1. Overview of EANET (Regional/ Philippines); 2. Basis survey of soil and forest, site selection criteria, general description of forest, description of trees, monitoring parameters for soil, etc.; 3. Soil acidification, soil pH requirement of some crops; 4. Nutrient imbalance / Deficiency symptoms; 5. Physiological damage; and 6. Forest decline

Country Name		Title of Training course/ Meeting	Duration	No. of Participants	Major Topics
R. of Korea	1	Dry Deposition Monitoring Technical Manager's Seminar	1 times/ year	20~30	- Data analysis and reporting QA/QC Data
	2	Air Pollution Monitoring Network Technical Manager's Workshop	1 times/ year	50~60	1. Air Pollutant Measurement Data analysis and reporting 2. QA/QC Data
Russia	1				
	2				
Thailand	1	JICA Third Country Training on Emission Inventory and Modeling for Acid Deposition Assessment	20 days (Jan.-Feb 2007)	19 (From 8 EANET countries)	1. General Information of acid deposition monitoring 2. Emission inventory 3. Air Pollution modeling 4. Discussion and exercise on emission inventory and modeling for acid deposition assessment 5. Field observation and study visit
Viet Nam	1	Training Course on Atomic Absorption Spectrometry for cation testing	7 days	5	- Use AAS for cation testing (19 elements)
	2	Training Course on Ion Chromatography for anion and cation testing	5 days	3	- Use IC for anion and cation testing
	3	SOPs for wet deposition	1 day	10	- Review SOPs for wet deposition

Training Requirements

Country	Requirements
Cambodia	Air pollution and acid deposition, their effluence, and related countermeasure
China	Basic training on acid deposition monitoring
Lao PDR	Dry deposition
Malaysia	Basic training on soil and vegetation monitoring
Mongolia	Training to qualify officer who will responsible to repair/maintenance all acid deposition monitoring instrumentations.
Philippines	Basic training on acid deposition monitoring and following specific fields: a) Training on EANET's methods of analyses for wet and dry deposition samples; b) Air pollution control techniques on mobile and stationary sources; c) Cost benefit analysis on air pollution control strategies; and d) Training on emissions inventory and modeling.
Thailand	QA/QC of the laboratory, laboratory analysis improvement and data analysis
Viet Nam	Basic training on acid deposition monitoring and specific topics

Suggestions in EANET Training Activities

<ol style="list-style-type: none"> 1. More training courses related on air pollution and acid deposition monitoring from EANET 2. <ol style="list-style-type: none"> (1) The simple, low cost and high accuracy monitoring method of air pollution. i.e. wireless sensor, passive sampler, etc.; (2) Principle, operation and maintenance of environmental instrumentations; (3) Atmospheric chemistry and global warming; (4) The development of clean technology and alternative energy vehicles; (5) The training of environmental management in the factories (waste water, air pollution, solid waste, energy saving); (6) Indoor air pollution and Green building design; (7) Environmental learning in all educational level; and (8) Ecological and cultural impact monitoring in acid deposition problem (i.e. surface water (living organism), soil and vegetation, erosion of materials). 3. Dry deposition monitoring by Passive sampler
--