

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

**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)**

**I. INTRODUCTION**

1. This report is prepared to review the progress of the Acid Deposition Monitoring Network in East Asia (EANET) activities after the Sixth Session of the Scientific Advisory Committee (SAC6) held in October 2006 in Pathumthani, Thailand and the Eighth Session of the Intergovernmental Meeting (IG8) held in November 2006 in Hanoi, Viet Nam.

**II. INSTITUTIONAL AND ADMINISTRATIVE ARRANGEMENT**

**II-1 Signing of Contracts/Agreements**

2. In March 2007, the Ministry of the Environment (MoE), Japan and the United Nations Environment Programme, Regional Resource Centre for Asia and the Pacific (UNEP RRC.AP) signed agreements regarding the Japanese contribution in 2006 for the EANET activities including both the Secretariat and the Network Center (NC) budget, and for NC budget covering the period January to March 2007 as well. Similarly, in March 2007 the Japan Environmental Sanitation Center (JESC) and the UNEP RRC.AP finalized the agreements for the transfer of budget for the implementation of NC core and additional budget activities in 2006 and for the first quarter of 2007.
3. A Sales Contract was executed between UNEP, RRCAP and the Archemica International Co. Ltd. for the procurement and complete installation of the Dionex Ion Chromatography System for Cambodia and Lao PDR, using the saving money of the Secretariat as decided by the Sixth Session of the Intergovernmental Meeting (IG6) in 2004. New equipment was installed to the national centers of Cambodia and Lao PDR in November 2006. NC also instructed staff of the laboratories of the national centers how to use the equipment.
4. The Contract for the transfer of the saving money of the Secretariat to NC for the implementation of the research fellowship program in 2006 was signed between JESC and UNEP, RRCAP in March 2007.

## **II-2. Staff Recruitment**

### (1) Secretariat

5. During IG8, a decision was made to facilitate the recruitment process for the Coordinator position at the Secretariat. On 26 April 2007, the Secretariat issued a vacancy announcement for the Coordinator position. The Secretariat received four applications from participating countries. On 4 June 2007, the list of candidates was sent for comments of the National Focal Points (NFPs). As per approved procedure of recruitment, the Secretariat established a selection committee. On 19 July 2007, the selection committee held its meeting to review the applications of the candidates and the comments of the NFPs and selected the final candidate for the Coordinator. The final candidate was sent to all NFPs for comments.

### (2) Network Center

6. In accordance with the revised “Guidelines for Recruiting the Deputy Director General of the Acid Deposition and Oxidant Research Center (ADORC) in charge of the Network Center of EANET (2005)”, JESC in cooperation with the Secretariat for EANET carried out the recruitment procedure of the next Deputy Director General (DDG) of ADORC in charge of the Network Center from August 2005. The Selection Committee of JESC was held in May 2006, and selected Ms. Leong Chow Peng, Malaysia as a final candidate. After considering the comments from the participating countries, she was selected as DDG of ADORC in charge of the Network Center by JESC. In accordance with the contract with JESC, she started on her EANET tasks in ADORC from March 2007.

## **II-3. Publications of Proceedings and Summaries of the Meetings and Newsletter**

7. An issue of the EANET Newsletter, dated July 2007 was published by the Secretariat in collaboration with NC.
8. After SAC6 and IG8, publications of proceedings and summaries of the following meetings were completed and distributed to the participating countries and participants of the sessions:
  - Fifth Session of the Scientific Advisory Committee (SAC5)
  - Seventh Session of the Intergovernmental Meeting (IG7)
  - Third Session of the Working Group on Future Development of EANET (WGFD3)
  - Second Special Session of the Working Group on Future Development of EANET (WGFD-S2)

- Seventh Senior Technical Managers' Meeting (STM7)
- Seventh Workshop on Public Awareness for Acid Deposition Problems (WSPA7)
- Fourth Session of the Working Group on Future Development of EANET (WGFD4)

### **III. EANET MEETINGS**

#### **III-1. Working Group on Future Development of EANET (WGFD)**

9. WGFD4 was held on 4-6 June 2007 in Pathumthani, Thailand in order to discuss the documents that are required to be developed by the Working Group for review/endorsement/adoption/approval, etc. at the Ninth Session of the Intergovernmental Meeting (IG9) in November 2007. The WGFD4 session discussed the Draft Text of the Instrument to Provide a Sound Basis for Contribution to EANET, Revised Procedures and Guidelines for Voluntary Financial Contributions to the Secretariat and NC budget, Draft Set of Procedures to be followed by EANET in Preparation of Project Proposal for Potential Donors, Brief Report on the Capacity Building Course on Future Development of EANET for Officials and Experts in the Participating Countries of EANET and so on.
10. The Fifth Session of the Working Group on Future Development of EANET (WGFD5) was held on 12-14 September 2007 in Pathumthani, Thailand in order to discuss the documents that were prepared based on the discussion at WGFD4. The WGFD5 session discussed the revised Draft Texts of the Instrument to Provide a Sound Basis for Contribution to EANET, the Report on Revised Procedures and Guidelines for Voluntary Financial Contributions to EANET, the Priority Projects for submission to Potential Funding Agencies, the Draft Work Program and Budget in 2008 for EANET and so on.

#### **III-2. Scientific Advisory Committee of EANET**

11. SAC6 was held on 25-27 October 2006 in Pathumthani, Thailand in order to discuss all of the important technical and scientific issues of EANET including consideration on the Periodic Report on the State of Acid Deposition Monitoring in East Asia (PRSAD), the 5-Year Medium Term Plan (MTP) for EANET, the Data Report on acid deposition monitoring in 2005, Review of QA/QC activities in the participating countries, research activities and so on. The Draft MTP was revised for the adoption at IG8 in November 2006. Regarding PRSAD, it was decided that PRSAD should be finalized by Lead Authors based on the comments from SAC6, NFPs and external reviewers prior to submission to IG8.

12. Regarding the Seventh Session of the Scientific Advisory Committee (SAC7), in June 2007 the Environmental Management Bureau (EMB), Philippines officially notified their intention to host SAC7 in accordance with the request from the Secretariat. SAC7 will be held in Manila, Philippines in October 2007.

### **III-3. Intergovernmental Meeting of EANET**

13. IG8 was held in Hanoi, Viet Nam on 29-30 November 2006. Major decisions during the IG8 include the following:
  - 1) Adoption of the Terms of Reference (TOR) of the Working Group on Future Development of EANET for 2007-2008;
  - 2) Discussion on the Components of the Instrument to Provide a Sound Basis for Financial Contribution to EANET;
  - 3) Adoption of the “Strategy on EANET Development (2006-2010)” (hereinafter “EANET Strategy”. The name of 5-Year MTP was changed to Strategy on EANET Development (2006-2010);
  - 4) Discussion on the Report on the Review of the RRC.AP/AIT System and Establishment of a Trust Fund, and the Rules and Regulations of the Japan Environmental Sanitation Center (JESC) and the Acid Deposition and Oxidant Research Center (ADORC);
  - 5) Discussion on the Revised Procedures and Guidelines for Contribution to EANET, and Report on Ways in Obtaining Financial Support from International Funding Agencies;
  - 6) Endorsement on the Outcomes of the Sixth Session of the Scientific Advisory Committee (SAC6) including PRSAD; and
  - 7) Adoption of the Work Program and Budget in 2007 for EANET and so on.
14. During IG8 in November 2006, Lao PDR expressed their willingness to host the IG9 in 2007. IG9 will be held on 19-20 November 2007 in Lao PDR.

### **III-4. Eighth Senior Technical Managers’ Meeting (STM8)**

15. At the First Session of the Working Group on Future Development of EANET (WGFD1) held in August 2004, NC was suggested to consider a possibility of convening the future Senior Technical Managers’ Meetings in a participating country other than Japan. In accordance with the suggestion, NC asked the participating countries in February 2007 if they could host STM8. Indonesia expressed their willingness to host STM8 in their country. After receiving the letter from the National Focal Point of Indonesia (Ministry of Environment, Indonesia), NC decided to hold STM8 in cooperation with Indonesia. STM8 was held in Bogor, Indonesia on 1-3 August 2007. The meeting discussed the national monitoring plans of the participating countries, the preliminary draft data report on acid deposition monitoring in 2006, the preliminary draft report on inter-laboratory comparison projects in 2006, improvement

of monitoring methodologies and the research activities of EANET on acid deposition.

### **III-5. Task Forces**

16. NC continued its functions as the Secretariat of i) the Task Force on Dry Deposition Monitoring, ii) the Task Force on Soil and Vegetation Monitoring, and iii) the Network of Soil and Vegetation Specialists to promote the improvement of monitoring methodologies.

#### (1) Task Force on Dry Deposition Monitoring

17. With regard to the “Revised Edition of Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET” endorsed at SAC5, following the suggestion at SAC6, the discussion among the Task Force members on Dry Deposition Monitoring including the possibility of the application of several methods were started.

#### (2) Task Force on Soil and Vegetation Monitoring

18. The Task Force on Soil and Vegetation Monitoring of EANET prepared the final draft of the sub-manual on forest monitoring as one of the activities in line with the Strategy Paper for Future Direction of Soil and Vegetation Monitoring of EANET and submitted it to SAC6. The sub-manual was endorsed after discussion with a few modifications on terminology. NC distributed the endorsed sub-manual to the task force members, the participating countries of EANET and other relevant organizations in 2007.

### **III-6. Drafting Committee for the Periodic Report on the State of Acid Deposition in East Asia (PRSAD) and relevant workshop**

19. NC, in collaboration with Lead Authors, was requested to draft a summary of PRSAD for policy makers at IG8 in November 2006. The Second Lead Authors Meeting of Drafting Committee (DC) was held on 10-11 May 2007 in Niigata, Japan in order to elaborate the contents of PRSAD and to prepare the draft summary. Lead Authors discussed and finalized the draft summary. NC as the Secretariat of DC, circulated the final versions of PRSAD to all DC members in June 2007 for their comments and to the NFPs in July 2007 for endorsement.
20. The three reports of PRSAD namely, Executive Summary, Part I: Regional Assessment and Part II: National Assessments have been sent for printing in early August 2007 after finalization. Draft final versions of PRSAD have been distributed to the participants of STM8. Copies of the printed reports will be distributed by the Secretariat to member countries as soon as they are printed.

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

##### **IV-1. Seventh Collaborative Assessment Network (CAN7)**

21. The representative of NC participated in 7<sup>th</sup> Collaborative Assessment Network (CAN7) meeting and pre-meeting discussions (5-6 November 2006) in Bangkok, Thailand. The updated information on progress of EANET activities were delivered during the meeting including their institutional and technical aspects. The development of e-KH (Environmental Knowledge HUB) by UNEP RRC.AP and CAN-partners were observed and discussed including role of EANET and other organization in cooperation on creating Environmental Databases.

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

22. NC has been collaborating with the International Joint Research of Long-range Transboundary Air Pollutants in Northeast Asia (LTP), which is implemented by the experts of Korea, China, and Japan. The 9<sup>th</sup> Expert Meeting for Long-range Transboundary Air Pollutants in Northeast Asia, organized by NIER, Republic of Korea, was held in Daegu, Republic of Korea, from 7 to 9 November 2006. The Meeting was attended by the experts of Working Group and Sub-working Group from China, Japan and Republic of Korea. Annual reports on monitoring and modeling activities in each country were presented by the experts of three countries. The sub-working groups of each country are supposed to prepare and submit the Annual Report of LTP Project in 2006 until the end of March 2007 following the adopted formats. In addition to that, it was agreed in the meeting that the 3<sup>rd</sup> stage of LTP project would be conducted in 2008-2012. Draft contents of the 3<sup>rd</sup> stage were proposed from the Secretariat, however it was decided that the detailed contents would be discussed in the next meeting.

##### **IV-3. Expert Meeting on Precipitation Chemistry Data Synthesis and Community Product**

23. During the World Meteorological Organization (WMO) Expert Meeting on Precipitation Chemistry Data Synthesis and Community Product in Geneva, on 23 January 2007, the representatives of NC provided information on accumulated monitoring data for the period of regular phase of EANET and the procedure for dissemination. It was agreed to include the EANET monitoring data for 2001-2005 into the common data set of relevant networks around the world with the purpose of development of the global precipitation chemistry assessments under coordination by

WMO-GAW. Necessity of special preparation of the information was accepted by all the networks in terms of consistency, data quality, averaging procedures. It will be started its process late summer 2007.

#### **IV-4. Better Air Quality (BAQ) Workshop**

24. The representatives of NC and the Secretariat participated in Better Air Quality (BAQ) 2006 Workshop in Yogyakarta, Indonesia on 12-16 December 2006. Overview presentation was made at the special panel session with explanation on EANET principles, main activities and recent progress on institutional and technical development. The main directions of cooperation among Clean Air Initiative (CAI) members were observed as well as principles of CAI-Asia and its new arrangement for institutional and financial basis.

#### **IV-5. Task Force on Hemispheric Transport of Air Pollution (TF HTAP)**

25. The representative of EANET participated in Joint Task Force on Hemispheric Transport of Air Pollution (TF HTAP) and WMO Workshop on Integrated Observations for Assessing Hemispheric Air Pollution held on 24-26 January 2007 in WMO Headquarter (in Geneva, Switzerland). Problems of coordination, data harmonization and creation of infrastructure for modeling studies were discussed among the monitoring networks and researchers. Development of 2007 Interim Assessment Report of the TF HTAP was discussed with possible contribution from EANET.

#### **IV-6. Model Inter-comparison Study (MICS-Asia)**

26. In order to investigate the differences among the long-range transport models developed for East Asian region, NC has been collaborating with the Model Inter-comparison Study (MICS-Asia). The Ninth Workshop on the Transport of Air Pollution in Asia was held at the International Institute for Applied Systems Analysis (IIASA), Austria on 27-28 February 2007, financially supported by ADORC in order to review the recent activities on modeling and emission inventories and to discuss the future framework and its concrete procedure as Phase 3 project. Since various activities are expected in the next phase, the concrete framework and its procedure could not be decided during the workshop. The project cannot start Phase 3 project as a result, however it was agreed among participants to implement the interpolation of studies in Phase 2 and further investigation for the improvement of model performance on individual basis.

#### **IV-7. Conference for Environment and Health Asia**

27. EANET attended the Conference for Environment and Health Asia held in Seoul, Republic of Korea on 7 May 2007, which was organized by World Health Organization (WHO) and UNEP. On the same day after the conference, the first regional meeting of the Thematic Working Group on Air Quality was held to discuss work plans for the Thematic Working Group. EANET is supporting this regional initiative through our involvement in the activities of one of the three sub-groups; which is the Sub-Group on Transboundary Air Pollution. A representative from ADORC attended the High-Level Officials' Meeting and the Ministerial Regional Forum on Environment and Health held in Bangkok, Thailand on 8-9 August 2007.

#### **IV-8. International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests)**

28. NC sent a mission to the 23<sup>th</sup> Task Force Meeting of International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests) held in Zvolen, Slovak Republic on 12-16 May, 2007. Progress of the EANET activities was reported to European forest monitoring network, and possibility of further collaboration between EANET and ICP Forests was also discussed.

#### **V. COMMUNICATION WITH PARTICIPATING COUNTRIES AND OTHER RELEVANT AGENCIES**

29. The Secretariat received communications from some NFPs regarding a few changes on institutional bodies of EANET in their respective countries, e.g. NFPs, Scientific Advisory Committee (SAC) members, etc., from time to time and circulated this information to all concerned.
30. 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, communicating with some countries regarding transfer of voluntary contributions to EANET, promotion of public awareness and others.
31. The Secretariat and NC maintained close communication with the participating countries in all related activities of EANET and relevant organizations such as United Nations Economic Commission for Europe (UN/ECE).

#### **VI. COMPILATION OF DATA AND DISSEMINATION OF DATA AND RELEVANT INFORMATION**

##### **VI-1. Data reports**

32. After presentation and consideration of the draft “Data Report on the Acid Deposition in the East Asia 2005 (Data Report 2005)” at SAC6, NC finalized it taking into account the comments at SAC6 and then distributed it to NFPs, National Centers, SAC members and other relevant organizations in November 2006. Data Report 2005 was disclosed outside of EANET in January 2007.
33. All the participating countries have submitted their monitoring data in 2006 to NC.

#### **VI-2. Dissemination of EANET data**

34. In accordance with the Detailed Mechanism of Article 4 of the Procedures on Data and Information Disclosure for EANET decided by the Third Session of the Scientific Advisory Committee (SAC3) and the Fifth Session of the Intergovernmental Meeting (IG5) held in Pattaya, Thailand in 2003, all of the EANET monitoring data in 2001, 2002, 2003 and 2004 were disclosed outside of EANET in January 2007 with dissemination on CD upon the requests. The data of 2005 will be disclosed in January 2008.

### **VII. STRENGTHENING OF TECHNICAL CAPACITY IN THE PARTICIPATING COUNTRIES**

#### **VII-1. Dispatch of technical missions**

35. NC dispatched technical missions to the participating countries to exchange information and experiences, to provide technical advices and to disseminate the latest technical information. As of the end of July 2007, NC missions were sent to Cambodia and Lao PDR (November 2006), Thailand (November-December 2006), Malaysia (December 2006), R. of Korea (February 2007), Indonesia (August 2007), Russia (September 2007) after SAC6/IG8.
36. NC technical mission to Cambodia and Lao PDR in November 2006 visited the labs of Ministry of Environment (MOE), Cambodia and Environment Research Institute (ERI) of Science Technology and Environment Agency (STEA), Lao PDR and confirmed that two new Ion Chromatograph (IC) systems installed by using the saving of the Secretariat to the labs can be operated without any problems. (See Annex: Results of Technical Missions of NC since SAC6/IG8).

#### **VII-2. Implementation of the technical cooperation programs**

37. With the financial support by MoE, Japan, NC has implemented the technical

cooperation programs for some participating countries in Japanese Fiscal Year (JFY) 2006 and 2007 by providing technical and financial support to the countries. Wet only sampler was sent to Department of Meteorology and Hydrology (DMH), Ministry of Transport, Myanmar, and a filter-pack kit was sent to Xiamen Environmental Monitoring Center, China. Technical and financial assistance were rendered for the Cambodia, China, Lao PDR, Mongolia, Myanmar and Philippines including above wet only sampler and filter-pack kit.

## **VIII. IMPLEMENTATION AND COORDINATION OF QA/QC ACTIVITIES**

### **VIII-1. EANET 2005 inter-laboratory comparison projects**

38. Following the discussion on the draft reports of 2005 inter-laboratory comparison projects (the eighth one on wet deposition, the first one on dry deposition (filter pack method), the seventh one on soil and the sixth one on artificial surface water) at SAC6, NC finalized these reports taking into account the comments at SAC6 and distributed them to the participating laboratories in January 2007.

### **VIII-2. EANET 2006 inter-laboratory comparison projects**

39. NC distributed samples of the 2006 inter-laboratory comparison projects (the ninth one on wet deposition, the eighth one on soil and the seventh one on artificial surface water and the second one on dry deposition (filter pack method) to the participating countries in November 2006.
40. All the participating countries have submitted their EANET inter-laboratory comparison projects data in 2006 to NC.

### **VIII-3. Other inter-laboratory comparison projects**

41. Several national centers and EANET laboratories of participating countries in Japan, Philippines, Russia and Thailand took part successfully in the international inter-comparison 2006 (20<sup>th</sup> project) organized as a part of the Convention on Long-range Transboundary Air Pollution (CLRTAP) International Cooperative Programme on Assessment and Monitoring of Acidification in Rivers and Lakes (ICP-Waters). NC also promoted a participation of EANET laboratories in this EMEP 24<sup>th</sup> inter-laboratory comparison on artificial rain water in 2006.

## **IX. IMPLEMENTATION OF CAPACITY BUILDING ACTIVITIES**

42. Following training activities have been implemented in accordance with the request from the participating countries and “Training Programs for EANET in the Regular Phase” endorsed at the Third Session of the Intergovernmental Meeting (IG3) in November 2001.

### **IX-1 Capacity Building Course on Future Development of EANET**

43. As suggested by China, the Capacity Building Course on Future Development of EANET for Officials and Experts in the Participating Countries of EANET was held in Pathumthani, Thailand on 28 May - 01 June 2007. It was organized by the Secretariat in cooperation with NC.
44. The objective of the course was to enhance capacity of officials and experts to contribute to the process of discussion/negotiation by providing them with the relevant necessary knowledge on acid deposition and other transboundary air pollution issues, practical negotiating skills, and information on some international institutional arrangements.

### **IX-2 Assistance for national training activities**

45. In line with the Training Programs for EANET in the Regular Phase, NC implemented a questionnaire survey of the national training activities carried out in the participating countries in 2006.
46. The survey indicated that training on acid deposition and other related air pollution issues have been successfully carried out in most of the EANET countries by national trainers.

### **IX-3 Utilization of existing training programs (Japan International Cooperation Agency (JICA) Training Course)**

#### **(1) JICA Area Focused Training Course on EANET**

47. “JICA Area Focused Training Course on EANET” in JFY 2006 was held from 10 October through 16 December 2006 in Kobe and some other places in Japan. Ten trainees attended this course from ten EANET participating countries, namely Cambodia, China, Indonesia, Lao P.D.R., Malaysia, Mongolia, Myanmar, Philippines, Thailand and Viet Nam. Several lectures were delivered by NC staffs in Kobe for this period. In addition, during the visit of JICA trainees to Niigata, NC presented lectures and demonstrated practices on acid deposition monitoring of EANET.
48. NC has maintained close communication and coordination with the organizers of JICA

training course on the curriculum by sending its staff to the steering committee informing of EANET activities in a timely manner.

49. The training course in JFY 2007 will be held in October - December 2007 in Kobe, Japan. Ten trainees will be invited from the ten EANET participating countries. NC in cooperation with JICA and the EANET participating countries will make effort to select appropriate trainees from the participating countries.

#### (2) JICA Third Country Training Course

50. JICA Third Country Training on “Emission Inventory and Modeling for Acid Deposition Assessment” in Thailand was held from 14 January through 2 February 2007. NC dispatched experts to Thailand during this training as lecturers of the training. There were 19 trainees from 8 EANET countries, namely Cambodia, China, Indonesia, Malaysia, Mongolia, Myanmar, Thailand and Viet Nam to get the knowledge and information on acid deposition monitoring and introduction courses on emission inventory and modeling studies. (Phase I of this course was completed in February 2007.)
51. Since the last course was finished in February 2007 (Japanese Fiscal Year (JFY) 2006), JICA asked Ministry of the Environment, Japan to dispatch an expert to Thailand before the course in JFY 2006 so as to evaluate this phase of the training course. In accordance with the request from Ministry of the Environment, Japan, NC staff was dispatched to Thailand in December 2006. Based on the result of the evaluation, JICA decided to continue the training course for two more years from 2008 (JFY 2007) in Thailand. The title of the next phase of the training course is “Third Country Training on Control Strategy and Mitigation Measures of Acid Deposition”. General Information (GI) was sent to the EANET countries in August 2007.

#### **IX-4. Implementation of individual training**

52. The individual training at NC has been implemented taking into account specific situations in the participating countries. One trainee from each from Cambodia, China, Lao PDR and Myanmar received individual training at NC from 13 February through 8 March 2007 on wet deposition monitoring, dry deposition, soil/vegetation monitoring, inland aquatic environment monitoring and data management. Trainees from Cambodia and Lao PDR were instructed how to use IC. One trainee from Indonesia also received individual training at NC from 26 February through 8 March 2007, on soil/vegetation and inland aquatic environment monitoring and data management.

#### **IX-5. Workshop on Emission Inventory**

53. During WGFD4 held in June 2007, the Secretariat announced that Japan had offered to provide financial contribution for a workshop to promote the understanding of emission inventories among participating countries of EANET. This workshop will be held back-to-back with SAC7 in Manila, Philippines in October 2007.

## **X. RESEARCH ACTIVITIES**

54. In order to attain the objectives of EANET, it is important to evaluate appropriately the actual situation of environmental impacts of acid deposition and to research on monitoring methodologies and development of analytical methods suitable for East Asia. NC performed following research activities under considerations of the regional characteristics.

### **X-1. EANET research fellowship**

55. Following the discussion at IG6 on EANET held in Siem Reap, Cambodia, November 2004, it was agreed that research fellowship should be established in NC during 2005-2006, and two researchers would be invited each year from the participating countries with the budget allocated in accordance with the "Proposal on the possible use of the previous savings of the Secretariat (EANET/IG 6/9)".

#### (1) Research fellowship in 2005

56. The researchers from China and Philippines that conducted researches at NC under the EANET research fellowship in JFY 2005 have submitted the scientific papers to NC. The titles of their researches are "Assessment of ozone concentration in Asia, especially in terms of long term exposure" and "Determination of Unanalyzed Components in Rainwater".

#### (2) Research fellowship in 2006

57. Based on the Guidelines for short-term research fellowship discussed at the Second Session of the Working Group on Future Development of EANET (WGFD2), NC in cooperation with the Secretariat carried out the application procedure on the research fellowship in 2006. NC received 8 applications from 7 participating countries named Cambodia, Indonesia, Mongolia, Philippines, Russia, Thailand and Viet Nam. Considering the contents of proposed research plans, from the viewpoint of promotion of research activity and future development of EANET, NC decided to invite two researchers one each from Mongolia and Russia.

58. The researcher from Mongolia was attached to NC from the beginning of November to

the end of December 2006 and the researcher from Russia from the end of October to the beginning of December 2006. The titles of the researches are “Determination of unanalyzed components in precipitation water” and “Application of scientific climatological approach and statistical methods for optimization for EANET network” respectively. Based on the results of their research, the researchers are expected to prepare the scientific papers on mentioned themes for publication.

(3) Research fellowship in 2007

59. NC has sent a new letter of “Announcement on application of the Research Fellowship of the Network Center in 2007” to NFPs and SAC members on 22 June 2007. Based on the experience of the fellowship research in 2006, two researchers will be invited from the participating countries to conduct their studies in ADORC in accordance with the decision of the Selection Committee of NC.
60. As of early August 2007, NC has received 5 applications from researchers in Cambodia, China, Myanmar, Philippines and Vietnam. The Selection Committee of NC was held in late August 2007 and will inform the result soon.

**X-2. Joint research projects with the participating countries**

(1) Joint research project with Russia

61. The joint research project Phase 3 with the Limnological Institute, Russian Academy of Science, Siberian Branch (RAS/SB) has been implemented. 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.

(2) Joint research project on dry deposition monitoring with Thailand

62. Following the termination of the Joint Research on dry deposition flux (Phase I) from January 2000 to December 2005, NC and Pollution Control Department (PCD), Thailand agreed to establish Phase II of the Joint Research Project focusing on QA/QC of gas concentration monitoring method in tropical region in August 2005. 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 will be evaluated through the joint research. Measurement of gas concentrations by several types of monitoring methods has been carried out at Bangkok

EANET monitoring site.

(3) Joint research project on catchment analysis with Thailand

63. NC has started a joint research project on catchment analysis in Thailand with the Royal Forest Department (RFD) and Environmental Research and Training Center (ERTC), Thailand by using a fund 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 have been carried out continuously, and nutrient dynamics and acid deposition impacts in the area would be estimated. Outcomes of this project will be informative to evaluate impacts of acid deposition on terrestrial ecosystems in tropical region including Thailand as well as other regions in East Asia.

(4) Joint research project with Mongolia

64. NC and Central Laboratory of Environment and Meteorology (CLEM), Mongolia continued passive sampling of O<sub>3</sub> and SO<sub>2</sub> and measurement of tree growth in the Bogdkhan Mountain, where tree decline was reported. The data will be informative for discussion on acid deposition impacts on forest ecosystems.

(5) Joint research project with Republic of Korea

65. In the discussion at SAC4 for the improvement of dry deposition monitoring methodologies, it was suggested that a study on PM<sub>10</sub>, PM<sub>2.5</sub> 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. Workshop to be discussed the results was held in February 2007 in R. of Korea. In order to evaluate aerosol sampling methodology and PM<sub>2.5</sub> behavior in Japan and R. of Korea, intensive monitoring was conducted on 12-27 October 2006 and 16-31 May 2007. The results have been summarized each other and the results and future plan will be discussed in a small workshop held in the technical mission of NC to R. of Korea.

**X-3. Other research activities**

66. 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 were 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.

## **XI. ACTIVITIES RELATED TO PUBLIC AWARENESS FOR ACID DEPOSITION PROBLEMS**

### **XI-1. Joint public awareness projects with selected participating countries to develop national brochures**

67. Since 1999, the (Interim) Network Center (INC/NC) has been undertaking joint projects with selected participating countries to develop their own national brochures and/or videotapes/VCD on acid deposition. In 2005, NC undertook a project with Lao PDR to develop brochures, and supported an in-country workshop in Cambodia held in February 2006.
68. In JFY 2006, NC undertook the project with Myanmar to develop their national brochure, and a project on support of an in-country workshop in Lao PDR..A public awareness brochure in Myanmar language on acid deposition problems was developed by Department of Meteorology and Hydrology (DMH), Myanmar. NC supported financially a workshop held in Vientiane, Lao PDR as a national workshop in November 2006 and February 2007. (See paragraph 69.)

### **XI-2. Workshop on Public Awareness for Acid Deposition Problems**

#### **(1) Workshop on Public Awareness for Acid Deposition Problems**

69. NC organized the Seventh Workshop on Public Awareness for Acid Deposition Problems (WSPA7) on 6 - 7 February 2007 in Niigata, Japan. Major objectives of the Workshop were: (1) to introduce the progress of EANET activities; (2) to exchange information and share experiences on achievements at the national and regional levels relating to acid deposition monitoring, progress on pollution control in the participating countries and transboundary pollution issues; (3) to share information on recent progress of public awareness activities in the participating countries; (4) to introduce the public awareness activities in Japan on environmental education and environmental conservation by non-governmental organization (NGO)/non-profit organization (NPO) and companies in various fields. The workshop was attended by approximately thirty participants and observers from Cambodia, China, Indonesia, Japan, Lao P.D.R., Malaysia, Mongolia, Myanmar, Philippines, Russia, Thailand and Viet Nam. The participating countries made presentations on atmospheric pollution control, wet and dry deposition and public awareness activities in their countries. Some relevant municipalities, local sector and Non-profit organization also made presentations on their policies, etc. Active discussions on air pollution issues and raising public awareness activities were performed.

(2) National Workshops on Public Awareness on Acid Deposition

70. The First National Workshop on Public Awareness on Acid Deposition was held in Vientiane, Lao PDR on 10 November 2006. Environment Research Institute (ERI), Science Technology and Environment Agency (STEA), Lao PDR organized the meeting in collaboration with the Secretariat and NC. The meeting was attended by about 100 participants including relevant governmental agencies, Provincial Science Technology and Environment Offices (PSTEOs), private sectors, academe, worker unions and so on. Various air quality issues such as prioritization of monitoring parameters were discussed. The Second National Workshop was held in Vientiane on 2 February 2007 attended by about 50 participants from the relevant organizations. The dissemination of the brochure and future plan of public awareness on acid deposition in Lao PDR were discussed.
71. The National Workshop on Public Awareness on Acid Deposition was also held in Phnom Penh, Cambodia on 13 November 2006. The Department of Pollution Control, MOE, Cambodia organized the meeting in collaboration with the Secretariat and NC for EANET. The meeting was attended by staff from MOE, other relevant governmental agencies, private sectors, academe, worker unions, non organization, media, civil society, provincial environmental department (24 provinces of Cambodia) as well as representatives from the Secretariat and NC. Presentations on overview of EANET, NC activities from scientific and technical viewpoints including wet and dry deposition monitoring were made. Various air quality issues such as effect of acid deposition on human health and ecosystem, importance of reduction of air pollutants, etc. were discussed.

**XI-3. Development of e-Learning program**

72. NC also has been developing an e-Learning program on acid deposition problems for environmental education in collaboration with Institute for Global Environmental Strategies (IGES) since 2002. Its English version was finalized in March 2006 and issued on EANET web site. NC also distributed the CDs of the program in July 2006 considering the situation on the circumstances of internet access in the participating countries. After issuing on EANET website, NC has been managing the program on the EANET website.

**XI-4. Joint public awareness project with Thailand**

73. In JFY 2007, NC undertakes the joint project with Thailand to support their environmental education activities on acid deposition in schools, and a project on support of an in-country workshop in Myanmar. The outcomes from the environmental

education will be presented by school children at the session of Internet meeting in the workshop on public awareness to be held in Thailand in January, 2008.

## **XII. CHALLENGES/PROBLEMS/SOLUTIONS IN EANET IMPLEMENTATION**

74. At the present stage we haven't encountered problems and challenges in EANET, as we recognized that in the implementation of EANET, participating countries are in consensus of a step-by-step approach and all countries have different situations and conditions.

**Annex**

**Results of Technical Missions of NC since SAC6/IG8**

Country	Period	Main Purposes	Results of Mission
Lao PDR	9 - 12 November 2006	<p>(i) to attend Public Awareness Workshop on Acid Deposition and make presentations on EANET activities in Lao PDR and exchange information and views on progress of EANET; and</p> <p>(ii) to visit the laboratory concerned and make technical discussion with the relevant staff members and to exchange information and views on institutional and technical arrangements for the activities of EANET.</p>	<p>(i) Mission participated in the workshop on “Public Awareness Workshop on Acid Deposition” held in Vientiane and made presentations on EANET activities and exchanged information and views on progress of EANET; and</p> <p>(ii) Mission visited Science Technology and Environment Agency (STEA), Lao PDR and had a meeting with STEA staffs discussing the recent EANET activities and also visited Environment Research Institute (ERI) of STEA and confirmed that new IC system installed by using EANET Secretariat Saving can be operated without any problems. The ERI staff requested NC to provide some kinds of consumables for IC operation.</p>
Cambodia	12 - 16 November 2006	<p>(i) to attend Public Awareness Workshop on Acid Deposition and make presentations on EANET activities in Cambodia and exchange information and views on progress of EANET; and</p> <p>(ii) to visit the laboratory concerned and make technical discussion with the relevant staff members and to exchange information and views on institutional and technical arrangements for the activities of EANET.</p>	<p>(i) Mission participated in the workshop on “Public Awareness Workshop on Acid Deposition” held in Phnom Penh, Cambodia and made presentations on EANET activities and exchanged information and views on progress of EANET; and</p> <p>(ii) Mission visited Ministry of Environment (MOE), Cambodia and exchanged information and views with the staffs of MOE in Cambodia and also visited the lab of MOE, Cambodia and confirmed that new IC system installed by using EANET Secretariat Saving can be operated without any problems. MOE staff requested NC to support some kinds of consumables for IC operation.</p>

Country	Period	Main Purposes	Results of Mission
Thailand	26 November -1 December 2006	<ul style="list-style-type: none"> <li>(i) to exchange information on EANET activities in Thailand;</li> <li>(ii) to discuss the progress of the Joint Research Project on the Catchment Analysis in Thailand; and</li> <li>(iii) to carry out the intensive surveys on streams/rivers in Nakhon Ratchasima Province.</li> </ul>	<ul style="list-style-type: none"> <li>(i) Mission visited Pollution Control Department (PCD) with Royal Forest Department (RFD) and discussed EANET activities in Thailand and exchanged information for the joint project;</li> <li>(ii) Mission visited Environmental Research and Training Center (ERTC) and discussed the progress of chemical analysis and exchanged technical information on this project; and</li> <li>(iii) Mission members with the staff of RFD and ERTC visited Sakaerat Silvicultural Research Station to check the progress of sampling and to carry out the intensive surveys on this project.</li> </ul>
Malaysia	10-16 December 2006	<ul style="list-style-type: none"> <li>(i) to exchange information and views on the progress of the monitoring activities on EANET in Malaysia;</li> <li>(ii) to discuss and exchange information on technical issues, especially QA/QC activities and data reporting, including condition of analytical instruments; and</li> <li>(iii) to visit the candidate monitoring site on inland aquatic environment and discuss site selection.</li> </ul>	<ul style="list-style-type: none"> <li>(i) Mission visited Ministry of Natural Resources and Environment (NRE), Malaysian Meteorological Department (MMD) and Department of Chemistry (DOC) and explained the progress of EANET activities, and discussed monitoring activities in Malaysia and so on.</li> <li>(ii) In the meeting, mission also discussed and exchanged information on technical issues and it was clarified that the monitoring data of Semenyih Dam in 2005 and 2006 would be submitted to NC; and</li> <li>(iii) Mission visited a monitoring station on wet/dry deposition in Danum Valley and new monitoring sites on inland aquatic environment. There are two candidate points/places for sampling of the inland aquatic environment monitoring.</li> </ul>

Country	Period	Main Purposes	Results of Mission
Republic of Korea	20-22 February 2007	<ul style="list-style-type: none"> <li>(i) to exchange information and views on progress of the monitoring activity on EANET in Republic of Korea;</li> <li>(ii) to exchange information and views in detail on the progress of wet &amp; dry deposition and the soil &amp; vegetation monitoring of EANET in Republic of Korea; and</li> <li>(iii) to hold a Workshop on Joint Research Project for the Measurement of Aerosol.</li> </ul>	<ul style="list-style-type: none"> <li>(i) Mission visited Air Quality Policy Division, Ministry of Environment, Republic of Korea and had a meeting with National Focal Point, and other staff. Mission discussed recent progress of EANET including draft schedule of EANET activities in 2007 and monitoring activities of Republic of Korea;</li> <li>(ii) Mission visited National Institute of Environmental Research (NIER) and had a meeting so as to exchange information and views on progress of the monitoring activities on EANET with NIER staff members; and</li> <li>(iii) A workshop on Joint Research Project for the Measurement of Aerosol was held, and NC and NIER gave presentations for the result of the intensive monitoring which was conducted at Jeju, Kanghwa in R. of Korea and Niigata-Maki in Japan in October 2006. Aerosol was observed by parallel measurement of the following 4 kinds of methods. Finally it was agreed that further intensive monitoring should be implemented.</li> </ul>

Country	Period	Main Purposes	Results of Mission
Indonesia	6 - 10 August, 2007	<ul style="list-style-type: none"> <li>(i) to exchange views and information on the institutional arrangement on the acid deposition monitoring of EANET in the Indonesia;</li> <li>(ii) to discuss and exchange information on technical issues, especially QA/QC activities and data reporting, including check on condition of analytical instruments;</li> <li>(iii) to visit the wet and dry deposition monitoring site and discuss about the maintenance of sampling instruments; and</li> <li>(iv) to discuss and exchange information on inland aquatic environment at RIWR.</li> </ul>	<ul style="list-style-type: none"> <li>(i) Mission visited Ministry of Environment Republic of Indonesia (KLH), Environmental Management Center (EMC), Bureau of Meteorology and Geophysics (BMG), National Institute of Aeronautics and Space(LAPAN) , Research Institute For Water Resources (RIWR), and Research Center for Limnology and explained the progress of EANET activities, and discussed monitoring activities in Indonesia and so on.</li> <li>(ii) In the meeting, mission also discussed and exchanged information on technical issues and it was clarified that the monitoring sites on inland aquatic environment will increase to two sites; and</li> <li>(iii) Mission visited three candidate monitoring sites on inland aquatic environment, Sangiag Lake, Cicerem Lake and Gunung Lake.</li> </ul>
Russia	16 - 23 September, 2007	<ul style="list-style-type: none"> <li>(i) to finalize MOA of the Cooperative Research Project in 2007 by using the Global Environment Research Fund of Ministry of the Environment (MOE), Japan;</li> <li>(ii) to exchange views and information concerning EANET activities;</li> <li>(iii) to visit three atmospheric monitoring stations, Irkutsk and Listvyanka in East Siberia and Primorskaya in Primorsky Region, and the two monitoring sites for inland aquatic environment, Pereyomnaya River and Komarovka River;</li> <li>(iv) to discuss the invitation plan of Russian scientist to Japan by using the Global</li> </ul>	<ul style="list-style-type: none"> <li>(i) The mission discussed the joint research project funded by using the Global Environment Research Fund of Ministry of the Environment (MOE), Japan. The MOA of the Cooperative Research Project. The MOA was contacted by ADORC and Limnological Institute (LIN).</li> <li>(ii) The Mission visited LIN and Primorsky Center for Environmental Monitoring (PCEM) and discussed EANET activities in Russia.</li> <li>(iii) The Mission visited three atmospheric monitoring stations, Irkutsk and Listvyanka in East Siberia and Primorskaya in Primorsky Region, and the two monitoring sites for inland aquatic environment, Pereyomnaya River and Komarovka River. The mission exchanged information on technical</li> </ul>

<b>Country</b>	<b>Period</b>	<b>Main Purposes</b>	<b>Results of Mission</b>
		Environment Research Fund.	issues for wet/dry deposition or inland aquatic Environment monitoring in these monitoring sites with the staffs. Detailed schedule of the plan to invite Russian Scientist to Japan by using the Global Environment Research Fund was discussed.