

The Seventeenth Session of the Scientific Advisory
Committee on the Acid Deposition Monitoring Network in
East Asia 26-28 September 2017, Pathumthani, Thailand

**Report on the Progress of the Acid Deposition Monitoring Network in East Asia (EANET)
since the Sixteenth Session of the Scientific Advisory Committee (SAC16) on the EANET**

I. INTRODUCTION

1. This document is prepared to report the progress of the Acid Deposition Monitoring Network in East Asia (EANET) activities since the Sixteenth Session of the Scientific Advisory Committee (SAC16) on the EANET held on 24 to 26 October 2016 in Pathumthani, Thailand.
2. In general, the activities of the EANET implemented during this period were guided by the Medium-Term Plan for the EANET (2016-2020), adopted at the Seventeenth Session of the Intergovernmental Meeting (IG17) on the EANET held in November 2015 in Bangkok, Thailand. The activities were also in accordance with the Work Programme and Budget of the EANET in 2016 adopted at the Seventeenth Session of the Intergovernmental Meeting (IG17) on the EANET in November 2015 in Bangkok, Thailand and the Work Programme and Budget of the EANET in 2017 adopted at the Eighteenth Session of the Intergovernmental Meeting (IG18) on the EANET in November 2016 in Bangkok, Thailand, respectively.

II. INSTITUTIONAL AND ADMINISTRATIVE ARRANGEMENT

II-1 Voluntary Financial Contribution from the Participating Countries and Contractual Arrangement

3. In December 2016, requests for the transfer of voluntary financial contribution to the budget of the Secretariat in 2017 were sent out to all EANET participating countries. The voluntary financial contribution expected from each participating country in 2017 is shown in Table 1 of Annex 1.
4. According to the decision made at the IG17 to select the option 2 of the Scale of Voluntary Contributions to the Secretariat of the EANET (EANET/17/9/1), the scale of voluntary contribution to the EANET Secretariat for the period from 2017 to 2020 will be calculated based on the UN scale of assessments for the period from 2016 to 2018. In June 2016, Secretariat sent estimated voluntary financial contribution of participating countries to the Secretariat of the EANET from 2017 to 2020. The voluntary financial contribution expected from each participating country from 2017 to 2020 is shown in Table 2 of Annex 1
5. The IG18 approved budget of the Secretariat for the EANET in 2017 is 580,029. As of August 2017, Japan, Republic of Korea, Philippines, Russia, Thailand and Viet Nam have made their

contributions in 2017 to the Secretariat budget. The remaining participating countries which have not submitted their financial contribution are encouraged to submit it as soon as possible.

6. In 2017, the Secretariat made a small-scale funding agreement with Regional Resource Center for Asia and the Pacific, Asian Institute of Technology (RRC.AP/AIT) to support convening SAC17 in September 2017, in Pathumthani, Thailand, and IG19 in November 2017, in Siem Reap, Cambodia. The funding agreement includes the development and distribution of proceedings for the SAC17 and IG19.
7. The Secretariat also made a small-scale funding agreement with the Network Center (NC) to support implementation of the EANET Research Fellowship Programme in 2017. The Fellowship aims to enhance research activities on acid deposition related issues by targeting researchers from the participating countries.
8. A total contribution of US\$ 699,597 was received at UN Environment Contribution account from the voluntary contribution of the participating countries in 2016. Apart from the voluntary contribution, the Secretariat also received in-kind contributions from the participating countries as well as UN Environment. The total expenditure (including commitments) of the Secretariat in 2016 is US\$ 266,656. One of the main reason for cost efficiency in 2016 is because UN Environment provided in-kind support for most personnel costs of the Secretariat in that year. The total balance of EANET account as of December 2016 is US\$ 348,968.
9. In the IG18, it was informed that the remaining balance of the Secretariat for the EANET at RRC.AP/AIT account as of November 2016 is US\$ 104,917. The IG18 urged that the remaining balance needs to be transferred to UN Environment as the new Secretariat as soon as possible after the IG18. As a follow up, in March 2017, RRC.AP/AIT transferred the remaining balance of US\$ 104,917 to UN Environment.
10. In 2016, the decision made by the Selection Committee to take only one applicant instead of two, with consideration that there were no other submitted research plans reached the level of the project. Therefore, the NC only make use half of the budget provided by the Secretariat for the Fellowship in 2016 and returned the remaining fund to the Secretariat as much as US\$ 5,000 (first installment was US\$ 15,000).
11. The voluntary financial expected from the participating countries in 2017 to the NC core budget equals to US\$ 414,000 which is in accordance with the Revised Guidelines on Administrative and Financial Management for the Secretariat and the Network Center approved at the Fourteenth Session of the Intergovernmental Meeting (IG14) on the EANET in November 2012. The voluntary financial contribution expected from each participating country is shown in Table 3 of Annex 1.

12. Request letters were sent in December 2016 to inform all National Focal Points (NFPs) of the EANET of the estimated voluntary financial contribution expected from each participating country for the Network Center (NC) core budget in 2017 and requested the participating countries to make voluntary financial contributions accordingly.
13. As of August 2017, Philippines (March 2017), Russia (January 2017) and Thailand (April 2017) made contributions to the NC core budget for the year 2017. In March 2017, Japan made contributions for the budget for implementation of the NC additional budget activities for 2017.
14. The IG17 held on 24-25 November 2015 in Bangkok, Thailand approved the MTP for the EANET (2016-2020) and adopted option 2 of the “Scale of Voluntary Financial Contributions to the Core Budget of the Network Center (NC) of the EANET (EANET/IG 17/9/2)”. According to the option 2, scale of voluntary contribution to the core budget of the NC for the period from 2017 to 2020 will be calculated based on the UN scale of assessments for the period from 2016 to 2018. The voluntary financial contribution expected from each participating country to the NC core budget from 2017 to 2020 is shown in Table 4 of Annex 1.

II-2 Arrangement of the Provision of the Secretariat for the EANET under UN Environment

15. The Coordination Officer of the Secretariat (Head of the Secretariat) as agreed by IG15 decision (DECISION 1/IG.15) was recruited as a UNEP administered personnel working at UNEP ROAP in Bangkok. The recruitment process was started in 1 May 2015. Furthermore, the vacancy announcement was posted on the UN career website in December 2015. To encourage potential candidates to apply, the Secretariat informed the participating countries about the vacancy announcement. The recruitment process was conducted by following the UN Rules and Regulations. Upon completion of the process in October 2016, the result was communicated to the participating countries. The Coordination Officer has been joined UN Environment since November 2016 and has been leading the implementation of the Secretariat since then.
16. After proposed in the IG15, the provision of the EANET Secretariat under UN Environment was finally completed in 2016. It was marked by formal appointment of the Coordinator for the Secretariat for the EANET and adoption as well as signing of the Framework Agreement between UN Environment and the EANET during the 18th Intergovernmental Meeting on EANET, November 2016. The Chairperson, authorized by the IG18, signed the Framework Document on the Arrangements of the Secretariat for the Acid Deposition Monitoring Network in East Asia (EANET) between UN Environment and EANET on behalf of 13 Participating Countries.

III. IMPLEMENTED/IMPLEMENTING ACTIVITIES

III-1 Acid Deposition Monitoring including QA/QC Activities

III-1-1 Development/Review of Monitoring Guidelines, Technical Manuals and Strategy Papers

17. Activities in line with the “Strategy Paper for Future Direction of EANET on Monitoring of Effects on Agricultural Crops, Forest and Inland Water by Acidifying Species and Related Chemical Substances” have been carried out by the members of the Task Force on Soil and Vegetation Monitoring (TFSV) and scientists from the NC and relevant research organizations. Progress of the activities were reviewed at the Fifth Meeting of TFSV (TFSV5) held on 5 - 6 July 2017 in Niigata, Japan.
18. Task Force on Monitoring for Dry Deposition (TFMDD) reported the Progress Report on the Activities of the Task Force on Monitoring for Dry Deposition at SAC16. Because some monitoring criteria and dry deposition estimation methodology do not meet with current situation, TFMDD proposed the revision of Technical Manuals. The Terms of Reference (TOR) and the Membership of the Expert Group on Revision of the Technical Manuals for Dry Deposition Flux Estimation and Air Concentration Monitoring were adopted at SAC16. The 1st meeting of the Expert Group will be held in autumn 2017.

III-1-2 Implementation and Coordination of QA/QC Activities

(Inter-laboratory Comparison Projects in 2015)

19. The NC published the Report of Inter-laboratory Comparison Project 2015 (the 18th project on wet deposition, the 11th project on dry deposition (filter pack method), the 17th project on soil and the 16th project on inland aquatic environment), and distributed it to the participating laboratories in November 2016.

(Inter-laboratory Comparison Projects in 2016)

20. The NC distributed samples for the 19th Inter-laboratory comparison project on wet deposition, the 12th project on dry deposition (filter pack method), the 18th project on soil and the 17th project on inland aquatic environment to the participating countries in October 2016. The result of the projects in 2016 will be discussed at the Eighteenth Senior Technical Managers' Meeting on the EANET (STM18) to be held on 24-25 August 2017 in Ha Long, Viet Nam as the Agenda item 6 and will be submitted to the SAC17 for its adoption.

(Inter-laboratory Comparison Projects in 2017)

21. The NC will distribute samples for the 20th Inter-laboratory comparison project on wet deposition, the 13th project on dry deposition (filter pack method), the 19th project on soil and the 18th project on inland aquatic environment to the participating countries in October 2017.

Other Inter-laboratory Comparison Projects

22. Several EANET laboratories in Japan, Philippines, Russia and Thailand also participated in the international inter-comparison 2016-2017 organized by the Convention on Long-range Transboundary Air Pollution (CLRTAP), World Meteorological Organization (WMO), United States Geological Survey (USGS), the International Cooperative Programme on Assessment and Monitoring of Acidification in Rivers and Lakes (ICP-Waters), and etc.

III-2 Compilation, Verification, Evaluation, Storage & Provision of Data and Relevant Information

(Data Report 2015/2016)

23. The NC published the Data Report 2015 and distributed it to the NFPs, National Centers, SAC members and other relevant organizations in November 2016. Most of the participating countries have already submitted their 2016 monitoring data to the NC. The NC is in the process of checking and verifying the data. The Preliminary Draft Data Report 2016 based on the data and the related information submitted by the participating countries will be discussed at the STM18 as the Agenda item 5 and will be submitted to the SAC17 for its adoption.
24. In accordance with the Detailed Mechanism of Article 4 of the Procedures on Data and Information Disclosure for EANET, all the EANET monitoring data up to 2014 were disclosed outside of the EANET from January 2017. The raw data of 2015 were disclosed to the EANET member countries from January 2017, and will be also disclosed outside of the EANET from January 2018.

III-3 EANET Meetings

III-3-1 Intergovernmental Meeting (IG)

The Eighteenth Session of the Intergovernmental Meeting (IG18) on the EANET

25. The IG18 was held in Bangkok, Thailand on 22-23 November 2016. Representatives of the Participating Countries, namely Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand and Viet Nam

participated in the Session. Representatives of UN Environment Asia & Pacific Office and Headquarters; the Secretariat and the Network Center (NC) for the EANET; as well as experts from the Secretariat of the Convention on Long-range Transboundary Air Pollution (CLRTAP), United Nations Economic Commission for Europe (UNECE) through Skype; Regional Resource Centre for Asia and the Pacific, Asian Institute of Technology (RRC.AP/AIT); Kanazawa University; and an observer attended the Session. The Session outlined three important issues: (i) the Programme Work & Budget for 2017; (ii) the Periodic Assessment Report; and (iii) the Framework Document on the Arrangement of the Secretariat under UN Environment. Major outcomes of the IG18 are as follows:

- The Session endorsed the following,
 - Report on the Progress of the EANET since the IG17,
 - Financial Report of the Secretariat and the NC in 2015,
 - Report on the Outcomes of the Sixteenth Session of the Scientific Advisory Committee (SAC16) on the EANET,
 - The Framework Document on the Arrangements of the Secretariat for the EANET, and
 - Report on the Review of the Implementation of the Medium-Term Plan for the EANET (2011-2015).
- The Session approved the following,
 - Draft of Third Periodic Report on the State of Acid Deposition in East Asia (PRSAD3), and
 - Draft Work Programme and Budget of the EANET in 2016.

III-3-2 Scientific Advisory Committee (SAC)

The Sixteenth Session of the Scientific Advisory Committee Meeting (SAC16) on the EANET

26. The SAC16 was held in Pathumthani, Thailand on 24-26 October 2016 to discuss all important technical and scientific issues of the EANET. Major decisions/discussions during the SAC16 include:

- The Session acknowledged the following,
 - Report on the Progress of the EANET since the Fifteenth Session of the Scientific Advisory Committee (SAC15) and the Financial Report of the Secretariat and the NC in 2015.
- The Session adopted the following,
 - EANET Data Report 2015,
 - Inter-laboratory Comparison Projects 2015.

- The Session discussed and made suggestions/recommendations on the following,
 - Updated National Monitoring Plans of the Participating Countries
 - Reports from the Chairpersons of the Task Forces of the Scientific Advisory Committee (SAC),
 - Draft QA/QC Guidelines,
 - Draft Third Periodic Report on the State of Acid Deposition in East Asia (PRSAD3),
 - The EANET Science Bulletin (Vol.4),
 - Draft Final Report on the Review of the Implementation of the Medium-Term Plan for the EANET (2011-2015),
 - The Cooperation with WMO/GAW, and
 - Draft Work Programme and Budget of the EANET in 2017 from scientific and technical viewpoints.

- The Session was updated on the Activities of Other Regional and International Initiatives related to Acid Deposition and Transboundary Air Pollution as following,
 - Progress of the Joint Research Activities on Model Inter-Comparison Study in Asia (MICS-Asia),
 - Progress of the Joint Research Project on Sulfur Dynamics in Forest Ecosystems in Thailand, Malaysia and Japan, and
 - Presentation of the related research activities, “Identification of the areas susceptible to acid deposition”.

III-3-3 The Advisory Group Meeting of the Feasibility Study on the Establishment of New Network Center for the EANET

27. The First Advisory Group Meeting of the Feasibility Study on the Establishment of New Network Center for the EANET was organized on 11 July 2017, in Bangkok, Thailand. The meeting aims to gather inputs from the Advisory Group members to support the Feasibility Study. The Advisory Group consist of representatives of National Focal Points of the EANET, Scientific Advisory Committee, UN Environment, Former Director General of Asia Center for Air Pollution Research (ACAP)/ the NC, and Former Coordinator of the Secretariat for the EANET. The Meeting discussed the results from the Questionnaire of the Feasibility Study, Scope of Activities and Outline of the Report. After the Meeting, the Secretariat finalized the Outline of the Report and the Final Draft Report of the Feasibility Study.

28. The Second Advisory Group Meeting of the Feasibility Study on the Establishment of New Network Center for the EANET was organized on 19 September 2017, in Bangkok, Thailand. The meeting aims to seek inputs and suggestions from the Advisory Group Member on the

Draft Report of the Feasibility Study before submission to the SAC17 Meeting. It was attended by the Advisory group members and the NC.

29. The Draft Report of the Feasibility Study on the Establishment of New Network Center for the EANET is presented in Agenda Item 9. The report is available for comments and suggestions by the SAC members.

III-3-4 Task Forces and Expert Groups established under the SAC

30. The NC has continued its tasks as the secretariat of the Task Forces and Expert Groups (TFs/EGs) established under the SAC. The NC contacted the Chairpersons of the TFs/EGs to discuss on dates, agenda of the TFs/EGs meetings and also membership of TFs/EGs accordingly. The latest Chairpersons and members of the TFs/EGs, and schedule of their meetings in 2017 are attached as Annex 2.
31. After the SAC16, the following TFs meetings were held to discuss the important issues of each TF in accordance with the TOR, future plan, etc..
 - The TFSV5 was held on 5-6 July, 2017 in Niigata, Japan. The members or their alternatives attended the meeting. The meeting reviewed progress of the activities in line with the strategy paper. Outputs from the relevant studies were also shared among the members. The meeting discussed possibilities of collaboration with the International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests) under CLRTAP, such as the joint workshop on regional impact assessment. The collaboration may contribute to the relevant activity in the current MTP as well as the activities in line with the strategy paper. The meeting minutes will be presented at SAC17.

III-3-5 Publication of Proceedings, Summaries of the EANET Meetings

32. After the STM17, publications of the proceedings and summaries of the following meetings were completed, and distributed to the participating countries and participants of the Sessions. The proceedings were also uploaded to EANET website as priority documents accessible by EANET authorized password holders.
 - The Seventeenth Senior Technical Managers' Meeting (STM17),
 - The Sixteenth Session of the Scientific Advisory Committee (SAC16) on the EANET, and
 - The Eighteenth Session of the Intergovernmental Meeting (IG17) on the EANET.

III-4 Communication with Participating Countries, etc.

33. The Secretariat has communicated with and circulated the necessary information to the NFPs and SAC Members and all concerned from time to time regarding any EANET activities, voluntary financial contribution, and preparation of the EANET meetings.
34. The Secretariat has continuously communicated with the participating countries of the EANET in all EANET activities and also promoted further communication and cooperation with relevant organizations and Programmes related to acid deposition such as Asia Pacific Clean Air Partnership (APCAP); United Nations Economic Commission for Europe, Convention on Long-range Transboundary Air Pollution (UNECE CLRTAP) and its programme including the Cooperative Programme for Monitoring and Evaluation of the Long Range Transmission of Air Pollutant in Europe (EMEP); Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants Initiative (CCAC); Clean Air Asia (CAA); Regional Forum on Environment and Health; etc.
35. The Secretariat has actively informed the National Focal Points regarding any regional and global agenda where the EANET has the potential to play greater role such as for the Third United Nations Environment Assembly (UNEA3) and the 2017 Asia-Pacific Ministerial Summit on the Environment. The Secretariat has provided regular information about the UNEA3 as well as requested the NFPs to provide comments to the draft of the Draft Report of the UNEA3. The Secretariat has also engaged in awareness raising event during the 2017 Asia-Pacific Ministerial Summit on the Environment.
36. The NC also communicated with participating countries regarding scientific and technical issues to improve monitoring and assessment of acid deposition and related air pollution in the region.

III-5 Technical support and capacity building activities

III-5-1 EANET Training

EANET Individual Training at the NC

37. One trainee each from Lao PDR, Malaysia, Mongolia, Republic of Korea, Russia and Thailand participated in the EANET individual training course at the NC from 3 to 21 in July 2017. They received training on wet deposition, dry deposition, soil/vegetation and inland aquatic environment monitoring, data management and automatic monitoring of air concentration such as O₃ and PM_{2.5}.

Questionnaire Survey for Training Activities in 2016

38. In July 2017, the NC implemented the Annual Questionnaire Survey on Training Activities in 2016 carried out by the participating countries. The information gathered from the questionnaire on training requirements and suggestions on new training areas are useful for planning of the future training activities of the EANET. As of August 2017, 8 participating countries replied their national training activities in 2016. The results including the requests from the participating countries were summarized as Annex 3.

III-5-2 Support to the Participating Countries

Dispatch of Technical Missions

39. After the SAC16, the NC dispatched technical missions to Myanmar & Lao PDR (March 2017), Vietnam (March 2017) and Myanmar (April 2017) to exchange information, provide technical advice, repair some parts of monitoring machines, calibrate ozone monitors in particular country and observe operation of EANET monitoring sites. The mission members also checked the condition of the instruments provided to countries. The summary of the technical missions of the NC to the participating countries after the SAC16 is attached as Annex 4.

Technical Support for the Participating Countries

40. The NC provided assistance to Cambodia, Indonesia, Lao PDR, Myanmar, Russia and Vietnam in 2015 and/or 2016 for their monitoring activities in addition to dissemination of the latest information, provision of equipment and its spare parts and consumables such as filter pack kit, standard solutions, etc.

III-6 Research Activities

41. The NC provided assistance to Myanmar, Russia and Vietnam in 2016 and 2017 for their monitoring activities in addition to dissemination of the latest information, provision of equipment and its spare parts and consumables such as filter pack kit, pump unit, etc.

III-6-1 EANET Research Fellowship Programme

(Fellowship Research in 2016)

42. In June 2016, the NC sent a letter to the NFPs and the SAC members inviting applicants for the research fellowship in 2016. In response to the invitation letter, the NC received 6 applications

from 5 countries namely China, Indonesia, Mongolia, Lao and Cambodia. The Selection Committee of the NC considered the proposed research plans submitted by the applicants and decided to invite one researcher from China. Duration of the fellowship research in 2016 in the ACAP was from 31 October to 22 December 2016 (for approximately eight weeks). After the Fellowship Research, she sent the final report of her research in March 2017. The title was “Comparison of observed and modeled NO₂ in China during the summer, 2013-2015: sensitivity of meteorological conditions and NO_x emission constrains”. Baed on the decision of TFRC8, her final report has been reviewed by Dr. Toshimasa Ohara now.

(Fellowship Research in 2017)

43. In May 2017, the NC sent a letter to the NFPs and the SAC members inviting applicants for the research fellowship in 2017. In response to the invitation letter, the NC received 9 applications from 6 countries namely Cambodia, China, Mongolia, Philippines, Russia and Thailand. The Selection Committee of the NC considered the proposed research plans submitted by the applicants and decided to invite 2 researchers; one is from China and the other is from Russia. Duration of the fellowship research in 2017 in the ACAP will be for approximately eight weeks, from October to December 2017.

III-6-2 Joint Research Project on Catchment Analysis with Thailand, Malaysia and Japan

44. Catchment analysis is one of the issues described in the strategy paper, “Strategy Paper for Future Direction of EANET on Monitoring of Effects on Agricultural Crops, Forest and Inland Water by Acidifying Species and Related Chemical Substances”. The NC has been conducting the joint research projects on the catchment analysis with the Royal Forest Department (RFD) and the Environmental Research and Training Center (ERTC) in Thailand, with the Universiti Putra Malaysia (UPM) and the Malaysian Meteorological Department (MMD) in Malaysia, and with Niigata Prefecture and Niigata University in Japan. Based on the project with Thailand, the scientific paper entitled “Alkalinization and acidification of stream water with changes in atmospheric deposition in a tropical dry evergreen forest of northeastern Thailand” was published in the international journal, “Hydrological Processes”. Some papers are also under preparation.

III-6-3 International Workshop on Atmospheric Modeling Research in East Asia

45. The 7th International Workshop on Atmospheric Modeling Research in East Asia was held in February 2016 in Chengdu China. In this workshop, preliminary analysis of comparison between simulated results of participant models and observations were reported and discussed.

At the 8th workshop held in March 2017 at IIASA, Austria, results of advanced analysis and additional work plans such as new simulations for more recent year and with fine resolution were discussed. Also, responsible researchers for further analysis were assigned to proceed preparation of scientific papers for special issues of MICS-Asia III.

III-7 Public Awareness Activities

III-7-1 Dissemination of Information through EANET Website

46. New information has been uploaded on the EANET website such as publication (e.g. Data Report 2015 and Inter-laboratory comparison projects 2015), EANET Newsletter (Vol. 20-21), EANET meeting reports, monitoring site information, and so on.

III-7-2 Publication of Newsletters

47. The EANET Newsletter highlighting issues and current activities of the EANET during the period of January- June 2016 (Vol.20) and July-December 2016 (Vol.21) were published by the Secretariat in collaboration with the NC and distributed to the participating countries. The Secretariat is currently finalizing EANET Newsletter Vol. 22 and it will be circulated to all EANET Members as draft before finalization.

III-7-3 Fourth Report for Policy Maker (RPM4)

48. The Secretariat in collaboration with the Network Center are currently working to develop the Fourth Report for Policy Maker (RPM4). The progress of development of the RPM4 will be reported to the Nineteenth Session of the Intergovernmental Meeting of the EANET in November 2017. The Report is expected to be finalized by mid-2018. The finalization of the Report will be linked with the EANET Science and Policy Dialogue, which will be organized in 2018. The Draft Provisional and Annotated Provisional Outline of RPM4 is available in Annex 5 for comments and suggestions.

III-7-4 Development of various communication products

49. The Secretariat in collaboration with the NC is currently developing various communication products such as renewal of the EANET brochure and factsheet, development of EANET flyer, social media cards and revamping the EANET website.

III-7-5 Awareness raising activity during the Asia Pacific Ministerial Summit on the Environment

50. The Secretariat for the EANET participated in the Pavilion of Partnership during the Asia-Pacific Ministerial Summit on the Environment, in Bangkok from 5 to 8 September 2017. The exhibition of the EANET during the Summit aims to raise awareness on the importance to keep continue working towards reduction of air pollutants in the form of SO₂ and NO_x as the source of acid rain. By visually explaining about what is acid rain, the current status, and the impacts to human and ecosystems, it is expected that the exhibition will catch attention of meeting audience who may be able to learn from the exhibition and transmit the information towards their peers and through social media.

III-7-6 National Public Awareness Activities

51. In Niigata, Japan, the annual Open House of ACAP was held on 28 July 2017, attended by approximately 60 school students and their parents. Global environmental problems, acid deposition and related air pollution problem in particular and activities of the EANET were introduced to the participants. The students experienced hands-on experiment to measure pH of various water samples such as rain water, sea water, etc. collected from the different locations. The participants also made backstage tour of ACAP laboratory and learned about a few monitoring and measuring instruments such as PM2.5 capturing equipment. The event was reported by Niigata Daily News (newspaper) and 2 TV stations.

IV. CHALLENGES IN THE IMPLEMENTATION OF THE EANET ACTIVITIES

52. There are a few problem and challenges encountered in the implementation of the EANET activities and some challenges for the future of the EANET.
- The Secretariat faced a challenge in getting some of the participating countries to submit their contribution timely.
 - The total financial contributions (revenues) that the Secretariat and the NC (core budget) received in 2016 from the participating countries to implement their EANET activities in 2016 were almost the same as the expected figure. However, when we check the figure country by country, there were some countries which did not make the contributions or made contributions less than the estimated amount.

Annex 1

Table 1 - Voluntary Financial Contributions expected from the Participating Countries to the Secretariat Budget in 2016 and 2017 (as of July 2017 (US\$))

Countries	2016 Budget		2017 Budget	
	Expected	Actual	Expected	Actual
Cambodia ^b	118 ^a	400 ^c	105 ^a	-
China	148,367	247,300	203,730	-
Indonesia	9,973	-	12,962	-
Japan	312,208	312,208	248,974	248,915
Lao PDR	56 ^a	-	74 ^a	-
Malaysia	8,096	-	8,280	-
Mongolia	87 ^a	400 ^c	130 ^a	-
Myanmar	291	291	260	-
Philippines	4,435	3,435	4,244	4,244
R.O. Korea	57,467	57,467	52,432	52,432
Russia	70,265	70,265	79,427	79,427
Thailand	6,888	6,888	7,485	7,485
Viet Nam	1,208	935	1,493	1,493
Total Contribution	619,460	699,589	619,600	393,996

Note: ^a Minimum amount of voluntary financial contribution is US\$ 200 as recommended and specified in the Procedures for Financial Contributions to the EANET Trust Fund to support the Activities of the Acid Deposition Monitoring Network in East Asia for the new Secretariat arrangements at UN Environment.

^b Cambodia provided in-kind support to the EANET Secretariat by providing meeting arrangements and reception for the IG19 in Siem Reap, Cambodia.

^c It includes contribution in 2015.

Table 2 - Estimated Voluntary Financial Contribution of Participating Countries to the Secretariat for the EANET for the period from 2017 to 2020

Country	UN scale of assessment 2016-2018 (%)	Scale of EANET burden sharing (%)	Estimated annual contribution from 2017 to 2020 (USD)
Cambodia*	0.004	0.017	105*
China	7.921	32.881	203,730
Indonesia	0.504	2.092	12,962
Japan	9.680	40.183	248,974
Lao People's Democratic Republic*	0.003	0.012	74*
Malaysia	0.322	1.337	8,280
Mongolia*	0.005	0.021	130*
Myanmar	0.010	0.042	260
Philippines	0.165	0.685	4,244
Republic of Korea	2.039	8.464	52,432
Russian Federation	3.088	12.819	79,427
Thailand	0.291	1.208	7,485
Viet Nam	0.058	0.241	1,493
Total	24.090	100.000	619,600**

*Note: *Minimum amount for the voluntary financial contribution is USD 200*

*** Estimated 5-year flat amount of annual voluntary contribution based on MTP for the EANET (2016-2020)*

**Table 3 - Contributions from the Participating Countries to the NC
Core Budget in 2016/2017(US\$) (As of the end of August 2017)**

Countries	2016 Budget		2017 Budget	
	Expected	Actual	Expected	Actual
Cambodia	79.00*	200.00	70*	---
China	99,157.00	---	136,127	---
Indonesia	6,665.00	---	8,661	---
Japan	208,656.00	337,745.37	166,353	75,559.98
Lao PDR	37.00*	---	50*	---
Malaysia	5,411.00	---	5,535	---
Mongolia	58.00*	---	87*	---
Myanmar	195.00*	211.98	170*	---
Philippines	2,964.00	2,835.00	2,836	2,836.00
R. of Korea	38,407.00	---	35,041	---
Russia	46,960.00	46,960.00	53,071	53,071.00
Thailand	4,604.00	4,604.00	5,001	4,315.00
Viet Nam	807.00	807.00	998	---
Total	414,000.00	393,363.35	414,000**	135,781.98

* Cambodia, Lao PDR, Mongolia and Myanmar are expected to make a minimum contribution of US\$ 200.00 based on the “Revision of the Revised Guidelines on the Administrative and Financial Management for the Secretariat and the Network Center (EANET/IG 17/9/3)”, etc.

**Table 4 - Estimated Voluntary Financial Contribution of Participating Countries to the NC
Core Budget for the period from 2017 to 2020**

Country	UN scale of assessment 2016-2018 (%)	Scale of EANET burden sharing (%)	Estimated annual contribution (US\$)
Cambodia *	0.004	0.017	70*
China	7.921	32.881	136,127
Indonesia	0.504	2.092	8,661
Japan	9.680	40.182	166,353
Lao PDR*	0.003	0.012	50*
Malaysia	0.322	1.337	5,535
Mongolia*	0.005	0.021	87*
Myanmar*	0.010	0.041	170*
Philippines	0.165	0.685	2,836
Republic of Korea	2.039	8.464	35,041
Russia	3.088	12.819	53,071
Thailand	0.291	1.208	5,001
Viet Nam	0.058	0.241	998
Total	24.090	100	414,000**

* Minimum amount for the yearly financial contribution is US\$ 200.

** Estimated 5 year flat amount of annual voluntary contribution based on the MTP for the EANET (2016-2020)

Annex 2

Members of the Task Forces and Expert Groups under the SAC and Meeting Plan in 2017

Name	Members	Meeting plan in 2017
Task Force on Monitoring for Dry Deposition	Dr. Cho Seog-Yeon (R. of Korea) - Chairperson Mr. Chhek Roth/ Mr. Kong Savuth (Cambodia) Dr. Li Jianjun (China) Ms. Rina Aprishanty (Indonesia) Dr. Shiro Hatakeyama (Japan) Ms. Setouvanh Phanthavongsa (Lao PDR) Ms. Maznorizan Mohamad (Malaysia) Ms. B. Altantuya (Mongolia) Ms. Htwe Htwe Win (Myanmar) Engr. Jean N. Rosete (Philippines) Dr. Chang Lim-Seok (Republic of Korea) Dr. Tamara V. Khodzher (Russia) Dr. Patcharawadee Suwanathada (Thailand) Dr. Duong Hong Son (Viet Nam)	
Task Force on Soil and Vegetation Monitoring	Dr. Wilfredo M. Carandang (Philippines) - Chairperson Prof. Zhaozhong Feng (China) Mr. Dr. Sijin Lu (China) Dr. Masamichi Takahashi (Japan) Dr. Nik Muhamad Majid (Malaysia) Dr. Apolonio M. Ocampo (Philippines) Dr. Jeong-Ki Yoon/ Ms. Ji-In Kim (Republic of Korea) Dr. Tatiana A. Mikhailova (Russia) Mr. Bopit Kietvuttinon (Thailand) Dr. Hiroyuki Sase (ACAP)	The TFSV5 was held on 5-6 July 2017 in Niigata, Japan.

<p>Task Force on Monitoring Instrumentation</p>	<p>Vacancy - Chairperson Mr. Chhek Roth (Cambodia) Mr. Zheng Haohao (China) Ms. Novy Farhani (Indonesia) Dr. Tsuyoshi Ohizumi (Japan) Ms. Setouvanh Phanthavongsa (Lao PDR) Ms. Ying Ying Toh (Malaysia) Mr. Barkhasragchaa Baldorj (Mongolia) Ms. Htwe Htwe Win (Myanmar) Engr. Arturo Bongco /Engr. Robert Co (Philippines) Dr. Ahn Joon-Young (Republic of Korea) Dr. Sergey Paramonov (Russia) Mr. Pichaid Atipakya (Thailand) Mr. Tran Son (Viet Nam)</p>	
<p>Task Force on Research Coordination</p>	<p>Dr. Sergey Gromov (Russia) - Chairperson Dr. Meng Fan Dr. Toshimasa Ohara (Japan) Prof. Katsunori Suzuki (Japan) Dr. Elizabeth Phillip (Malaysia) Dr. Wilfredo M. Carandang (Philippines) Dr. Cho Seog-Yeon (R. of Korea) Dr. Tamara Khodzher (Russia) Dr. Hathairatana Garivait (Thailand) Dr. Duong Hong Son (Viet Nam) Dr. Kazuhiko Sakamoto (ACAP)</p>	
<p>Expert Group on Preparation of Technical Manual for Air Concentration Monitoring</p>	<p>Dr. Duong Hong Son (Viet Nam) – Chairperson Prof. Min Hu (China) Dr. Masahide Aikawa (Japan) Mr. Hajime Mikasa (Japan) Dr. Akinori Takami (Japan) Prof. Kihong Park (Republic of Korea) Mr. Phunsak Theramongkol (Thailand)</p>	
<p>Expert Group on Revision of the Technical Manuals for Dry Deposition Flux Estimation and Air Concentration Monitoring</p>	<p>Prof. Cho Seog-Yeon (Republic of Korea) – Chairperson Prof. Min Hu (China) Dr. Kazuhide Matsuda (Japan) Engr. Jean N. Rosete (Philippines) Dr. Patcharawadee Suwanathada (Thailand) Dr. Duong Hong Son (Viet Nam)</p>	<p>The 1st meeting of the Expert Group will be held in autumn 2017.</p>

Annex 3

National Training Activities in the Participating Countries of EANET in 2016

Major Training Course

Country	Title of Training Course	Duration	No. of Participants	Major Topics
Cambodia	General knowledge related to Acid Deposition and Wet, Dry and Inland aquatic Monitoring	25-27 July (3 days)	60	Workshop on general knowledge related to Acid Deposition and Wet, Dry and Inland aquatic Monitoring
China	Equipment operation and air quality assessment in background stations	6-7 July (2 day)	42	Technical guidance on data validation; Technical specification on air quality assessment; monitoring technology; monitoring equipment operation
Indonesia	Training on Chemical Analysis of Acid Deposition (Basic course)	90days	16	Chemical Analysis of Acid Deposition
	National seminar on atmospheric science by LAPAN	1 day	150	Science contribution & atmospheric technology to improve national competency
	International workshop on biomass burning by BMKG & WMO	2 days	200	Forecasting emissions from vegetation fires and their impacts on human health and security in SEA
Japan	Technical Training on Environmental Monitoring	27-30 September (4 days)	44	Training on regular and automatic air and water quality monitoring
	Training on Atmospheric Environment	26-29 July (4 days)	95	Management of air pollution (especially PM _{2.5} and O ₃).
	Training on Measurement of Global Warming	6 – 10 June (5 days)	96	Visit ECO facilities contributing the measurement of global warming, to consider how to create low carbon society

Country	Title of Training Course	Duration	No. of Participants	Major Topics
	Joint Environmental Training in Japan, China and R of Korea	6-12 November (5 days)	19	To share environmental problem, policy and management for strengthening tripartite environmental network.
	Training on Instrumental Analysis	19 May–3 June (12 days)	48	To develop the analytical skills using gas chromatograph, liquid/ion chromatograph and atomic absorption spectrometry.
	Training on Atmospheric Analysis	9-24 February (12 days)	20	To learn atmospheric sampling and analytical method, especially PM _{2.5}
Lao PDR	<ul style="list-style-type: none"> - Basic and fundamental understanding on air pollution - Human and natural sources of air emissions - Regulatory and standard on air emission - Dispersion model of air emissions - Methods and sampling analysis technique of air emissions and type of equipment - Sampling, Analysis and Measurement of Ambient Air Quality (TSP, PM10, CO, SO2, NO2, wind velocity/direction, temperature, humidity, atmospheric pressure and Monitoring Stations (Stationary and mobile) 	03–06 April 2017	5	Ambient air Quality monitoring

Country	Title of Training Course	Duration	No. of Participants	Major Topics
Malaysia	Training Course on Handling and Maintenance of Meteorological Instruments for Assistant Meteorological Officers	7 - 11 March (5days)	25	Regarding to Acid Deposition instruments:- Handling, maintenance and calibration of Acid Precipitation Sampler. Wet-only Rainwater Sampler Instrument troubleshooting
	Dialogue between Department of Chemistry Malaysia and Malaysian Meteorological Department	25 August (1day)	16	Discussion on matters regarding the collaboration between the 2 agencies on acid deposition monitoring activities and matters regarding EANET (sampling and lab analysis issues).
	Department of Chemistry Malaysia's personnel's work visit to MMD's Petaling Jaya GAW Station	11 October (1 days)	8	Learning about the operations in Petaling Jaya GAW Station including sample handling.
Mongolia				
Myanmar	Paper Reading at World Meteorological Day	1 day		Analysis of Air Quality Monitoring at Yangon (Kaba-Aye) (2012-2014)
Philippines				
R. of Korea	2 nd Korea-China Air Quality Joint Research Team	1 day	30	Source apportionment of PM2.5 in East Asia, elements in aerosols, etc.
	3 rd Korea-China Air Quality Joint Research Team	1 day	15	PM2.5 monitoring and source identification, ozone satellite modeling etc.
Russia				

Country	Title of Training Course	Duration	No. of Participants	Major Topics
Thailand	Training on operation and maintenance of particulate sampler (Dichotomous)	25 - 26 February 2016	20	General information and theory of instruments, operating and maintenance procedure of the instruments
	Training on operation and maintenance of automatic volatile organic Compounds monitoring instruments	31 March 2016	25	General information and theory of instruments, operating and maintenance procedure of the instruments
	Training on Sampling of Ambient Volatile Organic Compounds	7 - 8 September 2016	30	General information, theory and methodology for sampling of ambient volatile organic compounds
Viet Nam	Acid Deposition Monitoring and QA/QC in Environmental monitoring	6-7 October (2 days)	7	Introduction on Acid Deposition Monitoring, EANET, Wet deposition monitoring, Dry deposition monitoring, Inland aquatic environment, Soil and vegetation

Training Requirements

Country	Requirements
Cambodia	<p>Basic training on acid deposition monitoring Basic training on PM_{2.5} / PM₁₀ monitoring</p>
China	<p>Basic training on PM_{2.5} / PM₁₀ monitoring</p>
Indonesia	<p>Basic training on acid deposition monitoring Basic training on O₃ monitoring Basic training on PM_{2.5} / PM₁₀ monitoring Basic training on automatic Ozone/PM monitoring</p>
Lao PDR	<p>Basic training on automatic Ozone/PM monitoring</p>
Malaysia	<p>Basic training on acid deposition monitoring Basic training on PM_{2.5} / PM₁₀ monitoring</p>
Myanmar	<p>Basic training on acid deposition monitoring Basic training on PM_{2.5} / PM₁₀ monitoring</p> <p>Specific topics: -Training on wet and dry deposition monitoring, operation and maintenances procedure of the instrument for new technical staffs -Training on PM_{2.5} /PM₁₀ monitoring to study the priority chemical species on emissions of vehicles at inner city (traffic hot sports & traffic congestion place) and to analyze the impact on the city for air quality management and to develop the capacity building in EANET activities</p>
R. of Korea	<p>Basic training on acid deposition monitoring Basic training on O₃ monitoring Basic training on PM_{2.5} / PM₁₀ monitoring Basic training on automatic Ozone/PM monitoring</p>
Thailand	<p>Basic training on acid deposition monitoring/ Basic training on automatic Ozone/PM monitoring</p>
Viet Nam	<p>Basic training on acid deposition monitoring</p>

Suggestions in EANET Training Activities

Country	Suggestions
Indonesia	<ol style="list-style-type: none"> 1. Data analysis 2. Subject on dry deposition in more detail
Lao PDR	Every trainee should be have their supervisor.
Malaysia	<ol style="list-style-type: none"> 1. Training on QA/QC activities for QA/QC Managers 2. Training on acid deposition data analysis
Myanmar	<ul style="list-style-type: none"> - Number of trainees of participating countries for individual training program of the EANET should be further increased to enhance their knowledge and experience on acid deposition monitoring and air concentration monitoring especially PM_{2.5} and ozone. - Duration of individual training course is too short and the training course should be one or two months. - Need to provide the modernize ion chromatography instrument and other necessary reagents .

Use of EANET Printed Materials

Country	Suggestions
Indonesia	Technical Guidance
Malaysia	Brochures, posters, video graphics, education websites
Thailand	<ul style="list-style-type: none"> - Periodic Report on the State of Acid Deposition in East Asia - Technical Manuals - Annual Data Reports - Materials necessary for public awareness program

Annex 4

Summary of the Technical Missions of the NC after the SAC16

Country	Duration	Major Activities/Outcomes of the Mission
Myanmar	6-8 March 2017	The mission members visited Department of Meteorology and Hydrology (DMH) in Yangon, and discussed the current situation and QA/QC of EANET activity. The mission members repaired the wet only sampler, but could not fix the ion chromatography (IC) because the suppressor was supposed to be broken and need to be replaced. DMH planned to start inland aquatic monitoring around Yangon, so the mission members visited the candidate sites and provided the preliminary advice.
Lao PDR	9-10 March 2017	The mission visited the Water Resources and Environmental Research Institute (WREI). The mission members discussed QA/QC, transfer of monitoring site and condition of analysis equipment such as Ion Chromatography (IC) which was repaired in the previous technical mission with the technical staff in WREI. The mission members visited the Vientiane monitoring site as well as the new laboratory.
Viet Nam	13-17 March, 2017	The mission visited Vietnam Institute of Meteorology, Hydrology and Climate Change (IMHEM) and Vietnam Center for Environmental Monitoring (CEM) to confirm the current status of air quality monitoring and ozone calibration system in Vietnam. The mission conducted comparison of the ozone calibrator installed in CEM and ACAP working standard. Then, the parallel monitoring using ozone monitors at the Long Bien site and an ACAP ozone monitor was conducted from March to April, 2017. The mission also visited Vietnam Center for Environmental Research (CENRE) and discussed about the current situation and problems in EANET sites.
Myanmar	25-26 April 2017	The mission visited the Department of Meteorology and Hydrology (DMH). The mission members provided the consumables and could repair Ion Chromatography (IC). During the repairmen of IC, the mission members found another problem on the program of IC. The mission member kept contact with DMH and solved the problem after the technical mission.

**Fourth Report for Policy Makers
Draft Provisional Outline**

Proposed Theme

Review on the state of acid deposition and air pollution in East Asia in the last 15 years (2000 to 2014): Effects on human health, ecosystem and economy.

Chapter 1: Acid Deposition and EANET

- 1.1 Transboundary nature of acid deposition and air pollutants
- 1.2 EANET activities to address acid deposition in East Asian region

Chapter 2: Current state and trend of acid deposition and air pollution in Asia

- 2.1 The state of the atmospheric environment in East Asia
- 2.2 Adverse effects of air pollution on the environment, human health, ecosystems and economy
- 2.3 Challenges in managing acid deposition and related air pollution issues
- 2.4 Strategic initiatives to achieve cleaner air

Chapter 3: Opportunities for better air quality management

- 3.1 Key environmental issues
- 3.2 Links between acid deposition, air pollution and other environmental issues
- 3.3 Motivation for an integrated approach to air quality management
- 3.4 Creating synergy through closer collaboration/partnerships with other global and regional initiatives

Chapter 4: Significant Achievements of the EANET

- 4.1 Progress made by participating countries in addressing acid deposition/air pollution issues
- 4.2 Current and new activities for improving understanding on acid deposition and air pollutants
- 4.3 Considerations on future direction of the EANET

Chapter 5: The Way Forward

5.1 Role of policy makers

5.2 Recommendations, priority actions, and targets to be pursued

Draft Annotated Provisional Outline

Preface

Introduction to EANET

Table of Contents

Executive Summary

Chapter 1: Acid Deposition and EANET

1.1 Transboundary nature of acid deposition and air pollutants

[A short description of the acid deposition and air pollution issues]

1.2 EANET activities to address acid deposition in East Asian region

[The current activities of the EANET to address acid deposition and air pollutants will be described in this section]

Chapter 2: Current state and trend of acid deposition and air pollution in Asia

2.1 The state of the atmospheric environment in East Asia

[The results reported in PRSAD3 will be used to describe the current state of acid deposition and air pollution in East Asia. Reports from internationally recognized publications will also be used to inform on the situation in Asia and other regions as well as global trends.]

2.2 Adverse effects of air pollution on the environment, human health, ecosystems and economy

[Adverse effects of air pollution will be discussed with emphasis on risks to human health.]

2.3 Challenges in managing acid deposition and related air pollution issues

[Problems faced by countries in monitoring and assessing the impacts of acid deposition and related air pollution will be discussed.]

2.4 Strategic initiatives to achieve cleaner air

[Some regional initiatives, in particular the intergovernmental agreements will be mentioned.]

Chapter 3: Opportunities for better air quality management

3.1 Key environmental issues

[Current environmental issues and emerging ones will be described. Urban pollution and indoor air pollution will be included.]

3.2 Links between acid deposition, air pollution and other environmental issues

[As acid deposition shares precursor emissions with ozone, aerosols and climate issues, mitigating acid deposition will suppress the atmospheric pollutants that contribute to other environmental problems. The links will be elaborated in this section including some explanation on the role of SLCPs etc.]

3.3 Motivation for an integrated approach to air quality management

[This section will provide possible means to reduce air pollution as well as references on new technology options for clean air. And also, this section will highlight the benefits when countries adopt a comprehensive atmospheric environment management approach that integrates current measures for preventing and mitigating acid deposition with programmes to manage other atmospheric environmental issues. Co-benefits and co-controls strategies will be discussed.]

3.4 Creating synergy through closer collaboration/partnerships with global and regional initiatives

[The close collaboration between EANET and international environmental organizations, such as UN Environment, WMO/GAW, WHO, EMEP etc. and linkages with the regional and sub-regional initiatives, networks and programmes involved in the protection of the atmospheric environment such as APCAP will be highlighted. Sharing of best practices and new technologies among networks and between countries will be promoted to enhance global collaborative action to tackle air pollution issues.]

Chapter 4: Significant Achievements of the EANET

4.1 Progress made by participating countries in addressing acid deposition/air pollution issues

[This section is a summary of the country reports in PRSAD3 Part II: National Assessments highlighting the progress made and achievements from their participation in the EANET.]

4.2 Current and new activities for improving understanding on acid deposition and air pollution

[This section will mention some on-going and future activities, as identified in the Medium-Term Plan for the EANET (2016-2020), which will improve understanding of acid deposition and air pollution. The signing of the Framework Agreement between UN Environment and the EANET resulting in changes in the Institutional Framework of the EANET will be mentioned. Research programmes particularly those concerning development of transport models, emission inventories and their importance will be highlighted.]

4.3 Considerations on future direction of the EANET

[This section will inform policy makers on the concerns regarding the future of the EANET. There is urgent need to strengthen basis of the network's operations but the future path has not been clearly defined. The differing views on the expansion of scope of the EANET, and the on-going Feasibility Study on the Establishment of a New Network Center for the EANET will be mentioned. In addition, it will be also considered for the EANET to focus on air pollution not only acid deposition for practical improvement of air quality in our region.]

Chapter 5: The Way Forward

5.1 Role of policy makers

[This section will emphasise the important role of policy makers in the field of atmospheric environment of the participating countries of the EANET and other countries in Asia.]

5.2 Recommendations, priority actions, and targets to be pursued

[This section will summarize the recommendations in Chapter 7: Summary and Recommendations for Future Activities of PRSAD3 Part III: Executive Summary, and urge policy makers to fully support the targets mentioned in PRSAD3 in order that the EANET can remain relevant and sustainable.]

References