

The Eleventh Senior Technical Managers' Meeting
of the Acid Deposition Monitoring Network in East Asia
on 2-3 September 2010, Niigata, Japan

MINUTES OF THE MEETING

I. Introduction

1. The Eleventh Senior Technical Managers' Meeting (STM11) of the Acid Deposition Monitoring Network in East Asia (EANET) was held in Niigata, Japan on 2-3 September 2010. The Meeting was organized by the Network Center (NC) of EANET in collaboration with the Secretariat for EANET.
2. Senior officials involved in EANET monitoring activities from Cambodia, China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand and Vietnam participated in the Meeting. Some experts from Japan participated as resource persons. Representatives of the host municipalities and observers also attended. The List of Participants is attached as Annex.

II. Opening of the Meeting (Agenda Item 1)

3. Ms. Adelaida Roman, Coordinator of the Secretariat for EANET, UNEP Regional Resource Center for Asia and the Pacific (UNEP RRC.AP) delivered the opening remarks. She stressed on the atmospheric issues and their impacts. It is notified that air pollution become one of the most important issues in East Asia, which affected human health and ecosystems. EANET activities and the way forward were also introduced as well as the adoption of the Instrument in order to strengthen the EANET.
4. Dr. Hajime Akimoto, Director General of ACAP made the welcome and introductory remarks of the meeting. He stressed that STM is very important meeting, which has been attended by the senior technical managers who were responsible on actual monitoring activities. This meeting focused more on scientific and technical issues.

III. Election of the Officers (Agenda Item 2)

5. Ms. Siniarovina Urban, Assistant Director, Environmental Studies Division, Malaysian Meteorological Department, Malaysia and Ms. Teresita Abungan Peralta, Engineer IV, Environmental Quality Division, Environmental Management Bureau-Dept. of Env. and Natural

Resources (EMB-DENR), Philippines were elected as Co-chairpersons of the Meeting.

IV. Adoption of the Agenda (Agenda Item 3)

6. The Agenda was adopted as proposed by the NC as the secretariat of the Meeting (EANET/STM 10/3/1). Prior to adoption of the agenda, a question was made for the agenda item "Adoption of the Meeting Report", as done in previous years. It was clarified that due to time limitation, the meeting report named "Minutes of the Meeting" would be drafted immediately after the meeting and will be circulated among the participants for finalization.

V. Report on progress of EANET since STM10 (Agenda Item 4)

7. The Secretariat and the NC made presentations on the "Report on progress of EANET since the Tenth Senior Technical Managers' Meeting (STM10)" (EANET/STM 11/4/1). The report included the outcomes of the Ninth Session of the Scientific Advisory Committee (SAC9) held on 14-16 October 2009 in Tsukuba, Japan and meetings of the Task Forces and Expert Groups under the Scientific Advisory Committee (SAC). Moreover, the Secretariat made a presentation on the "Outcomes of the Eleventh Session of the Intergovernmental Meeting and the Ninth Session of the Working Group on Future Development of EANET" (EANET/STM 11/4/2).
8. Clarification was made that emission inventory may be one of the candidate topics for the support from Asian Development Bank (ADB), in particular for some developing countries. Procedures for funding should be discussed as EANET.

VI. Consideration of the National Monitoring Plans of the Participating Countries (Agenda Item 5)

9. The representatives of the participating countries made presentations on their national EANET activities and monitoring plans. Major comments and discussions were as follows:
 - i. Cambodia
 - The result of the filter-pack monitoring was reported as well as the result of wet deposition monitoring. The training for university students was also introduced.
 - The presentation included high gaseous NH_3 concentration over 700 nmol.m^{-3} .
 - ii China
 - EANET activities of China in 2009 including annual national workshop and national

inter-laboratory comparison project on wet deposition were introduced as well as national monitoring plan in 2010.

- It was clarified that in order to revise the national monitoring plan such as establishment of new monitoring sites, decisions of the relevant municipalities need to be considered.

iii Indonesia

- National accreditation system for the laboratories and capacity building on laboratories for inland water, soil, and vegetation was introduced.
- It was suggested that expansion of soil and vegetation monitoring could be considered since the laboratories may have a potential for soil analysis.

iv Japan

- It was pointed out that description of the site names should be corresponded to the registered name shown in Data Report to avoid possible confusion in the future.
- A question of the criteria to select urban sites was raised from a participant.

v Lao PDR

- It was clarified that wet deposition monitoring was conducted continuously throughout the year, although the samples could be collected only in rainy season.

vi Malaysia

- It was pointed out that organic acids, such as formic and oxalic acids, measured for wet deposition monitoring have certain contribution to the ion balance.
- It was also clarified that the lowest pH at Petaling Jaya was above 4.0, although a distribution from 4.0 to 4.2 was the highest.

vii Mongolia

- Joint research project on aerosols was introduced.

viii Myanmar

- It was recommended that the viewgraph of the pH should not be drawn by bar graph with scale 0.

ix Philippines

- It was clarified that the plastic mesh was set in the funnel of the wet only sampler in Metro Manila as a possible solution to remove fallen leaves/branches and other large dusts.
- It was pointed out that the catchment-scale monitoring in La Mesa Watershed would contribute to the future development of ecological monitoring.

x Republic of Korea

- It was pointed out that data completeness of wet deposition monitoring be improved.

xi Russia

- Result of EANET monitoring in 2000-2009 was introduced.

xii Thailand

- It was clarified that the data of the automatic monitor in Bangkok station is disclosed on the web for the public.
- It was informed that the automatic monitor was operated at the city area of the Nakhon Ratchasima and it was also clarified that the situation is quite different from the Nakhon Ratchasima monitoring site in the Sakaerat Silvicultural Research Station.

xiii Vietnam

- It was pointed out that soil and vegetation monitoring in Hoa Binh was mostly stopped for the last 6-7 years. Possibility on restarting the monitoring there or establishing the new site should be considered.
- The new monitoring site, Sapa, near the border of China, is being reconsidered because of the local pollution.
- To estimate HCO_3 , the end point of the titration method should be pH 4.8.
- Submission of the automatic monitor data is expected for the new three sites. It was clarified that submission of the data to EANET should be discussed at the national level.

10. The NC made a presentation on the “Overview of the National Monitoring Plans of the Participating Countries” (EANET/STM 11/5) which included the latest information provided by the participating countries.

11. The Meeting was informed that to date, there are 54 wet deposition monitoring sites, 42 dry deposition monitoring sites, 28 soil and vegetation monitoring sites, and 18 inland aquatic monitoring sites in EANET. It was suggested to update the list of monitoring sites to reflect the current development.
12. The participating countries were requested to submit their latest national monitoring plans after the meeting for compiling and confirming present monitoring activities and their capability by the NC.

VII Consideration of the preliminary draft Data Report 2009 (Agenda Item 6)

13. The NC presented the Preliminary Data Report 2009 (EANET/STM 11/6) which contains a summary of the monitoring data in 2009 and related information submitted by the participating countries. According to the agreed procedures, the participating countries were required to submit their data and information to the NC before 30 June 2010 to be compiled, checked, stored and analyzed. The Meeting reviewed the preliminary draft Data Report 2009.
14. Major clarifications and discussions on this topic included the following:
 - i Wet deposition
 - It was suggested that the site classification should be illustrated with the data trend to check the situation on each site category.
 - It was pointed out that the pH value was decided based on the balance between acids and bases.
 - ii Dry deposition
 - The process of development of Draft Data Report for submission to the SAC was explained in detail.
 - iii Soil and vegetation
 - It was pointed out that frequent observation of tree decline must be informative to identify the effects of meteorological events.
 - iv Inland aquatic environment
 - The cause of acidification phenomena in Jinyunshan Lake was discussed in China. It was clarified that no clear relationship between the trends of deposition and lake water chemistry was observed. However, it was suggested that not only the current deposition but also the cumulative load of sulfur should be considered to discuss a catchment-scale acidification, since sulfur could be accumulated in the catchment.

VIII Consideration on the preliminary draft report on inter-laboratory comparison projects in 2009 (Agenda Item 7)

15. The NC presented the preliminary draft Report on the Inter-laboratory Comparison Projects in 2009 for wet deposition, dry deposition (filter pack method), soil and inland aquatic environment (EANET/STM 11/7) and Data Reporting. It was mentioned that the deadline for submission of the results of the Inter-laboratory Comparison Project 2010 will be by 28 February 2011. The meeting was invited to discuss and provide comments, as appropriate.

16. Major discussions on this topic included the following:

- i Inter-laboratory comparison project on wet deposition
 - Drawing calibration curve for ion analysis was discussed and explained in detail.
- ii Inter-laboratory comparison project on dry deposition
 - It was recommended that all the participating laboratories shall finish their analyses by end of December 2010 for the project in 2010, because the sample shelf life would be set up to 3 months.
- iii Inter-laboratory comparison project on soil
 - It was suggested that "repeatability" or "within-laboratory reproducibility" of low concentration samples should be considered for inter-laboratory variation in exchangeable cations
- iv Inter-laboratory comparison project on inland aquatic environment
 - The prepared values may not be the true values of the samples. It was suggested that preparation of the samples and the evaluation method for the inter-lab program should be reconsidered, taking a use of other parameters, such as mean, median and Z score, into account.
- v Data reporting
 - A comment was raised that reference values which were the standard value for the evaluation of submitted inter-laboratory comparison data should be the statistically treated values, such as arithmetical mean or median instead of designed values, since some bias were observed in the reference values. Additional evaluation using Robast Z-score method conducted by the NC will be included in the Appendix of the revised Report of Inter-laboratory Comparison Projects 2009.

IX Progress report on technical activities of EANET (Agenda Item 8)

17. The NC made presentations on the status of the activities being conducted by the EGs of SAC.

The presentations included:

- i Progress Report on Revision of the Technical Manual on Wet Deposition Monitoring (EANET/STM 11/8/1)
- ii Progress Report on the Preparation of the Technical Manual on Dry Deposition Flux Estimation (EANET/STM 11/8/2)
- iii Progress Report on Revision of the Technical Manual on Inland Aquatic Environment Monitoring (EANET/STM 11/8/3)
- iv Establishment of the Expert Group on Preparation of the Technical Manual for Air Concentration Monitoring (EANET/STM 11/8/4)

18. The participants of STM11 were requested to submit their comments by the end of September 2010 for the (revised) manuals (wet deposition, dry deposition flux estimation and inland aquatic environment monitoring) which will be uploaded on the website in the middle of September 2010. The final draft manuals will be submitted to the Tenth Session of the Scientific Advisory Committee (SAC10) for endorsement, and to the Twelfth Intergovernmental Meeting (IG12) as parts of the Report of the SAC10 after endorsement at SAC10.

19. Major discussions included the following:

- i Revision of the Technical Manual on Wet Deposition Monitoring
 - It was informed that Quality Assurance and Quality Control (QA/QC) manual will be also developed.
 - The contents of the draft revised manual especially new items and major revision parts were introduced.
- ii Preparation of the Technical Manual on Dry Deposition Flux Estimation
 - Necessity of calculation of dry deposition and basic information about estimation of dry deposition flux were explained.
- iii Revision of the Technical Manual on Inland Aquatic Environment Monitoring
 - It was clarified that frequency of the sampling should be preferably 12 times a year (monthly) or at least 6 times a year for streams/rivers, while the frequency for the lakes/ponds would be 4 times a year as same as the current method.
- iv Expert Group on Preparation of the Technical Manual for Air Concentration Monitoring
 - The draft member list and the Terms of Reference were introduced.

20. Technical discussion on soil, vegetation and related ecosystems monitoring was presented by the NC. (EANET/STM 11/8/5) It was clarified that the general information of tree decline should be reported for the questionnaire survey, including the famous declining areas and major emission sources near the area (e.g. radius < 50 km). This does not require the detailed scientific data and identification of the cause at this stage. If necessary, detailed investigation may be conducted later.

X Progress of the Second Periodic Report on the State of Acid Deposition in East Asia (PRSAD2) (Agenda Item 9)

21. The NC presented the “Progress of the Second Periodic Report on the State of Acid Deposition in East Asia (PRSAD2)” (EANET/STM 11/9). It was requested that the first draft of the regional and national assessments be sent to the NC by the end of February 2011. The details of the chapters and topics were already sent to all National Focal Points of the EANET participating countries.

XI Other Issues (Agenda Item 10)

22. Mr. Tetsunori Hatta from the Ministry of the Environment, Japan introduced the “Calibration of the automatic ozone monitoring of Japan”.
23. Dr. Hiroshi Hara (resource person) presented “An Application of Positive Matrix Factorization (PMF) to EANET Datasets”.

XII Closing of the Meeting (Agenda Item 11)

24. The Co-chairperson closed the meeting and expressed her deep appreciation to all the participants for very active contribution and spirit of cooperation. Her thanks were also addressed to the meeting secretariat for their hard work.

List of Participants

PARTICIPANTS

MALAYSIA

CAMBODIA

Mr. KONG Savuth
Technical Officer
Laboratory Office, Dry and Wet Monitoring,
Department of Environment Pollution Control,
Ministry of Environment

Ms. Siniarovina URBAN
Assistant Director
Environmental Studies Division
Malaysian Meteorological Department

CHINA

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

INDONESIA

Ms. Rento Puji LESTARI
Air Laboratory Staff
Environmental Management Center (EMC),
Ministry of Environment

JAPAN

Mr. Tetsunori HATTA
Official Global Environmental Issues
Division
Global Environmental Bureau Ministry
of the Environment Japan

LAO PDR

Ms. Daoluang HONGLIKITH
Technical officer
Water Resources and Environment Research
Institute Water Resources and Environment

MONGOLIA

Mr. Barkhasragchaa BALDORJ

Engineer

Air quality section, National Agency for
Meteorology and Environment Monitoring,
Central Laboratory of Environment and
Metrology

MYANMAR

Mr. Sein Lim

Staff Officer

Hydrological Division, Department of
Meteorology & Hydrology

PHILIPPINES

Ms. Teresita Abungan PERALTA

Engineer IV

Environmental Quality Division
Environmental Management Bureau-Dept. of
Env. and Natural Resources

REPUBLIC OF KOREA

Dr. Sangdeok LEE

Researcher

Air Quality Research Division, Climate and Air
Quality Research Department National Institute
of Environmental Research, Korea

Environmental Research Complex

RUSSIA

Dr. Olga NETCVETAeva

Senior staff scientist

SB RAS Limnological Institute

THAILAND

Mr. Phunsak THERAMONGKOL

Director

Ambient Air Quality Division, Air Quality and
Noise Management Bureau Pollution Control
Department

VIETNAM

Mr. TRAN Son

Head of Environmental laboratory Center for
Environment Research (CENRE)

National Institute of Meteorology, Hydrology
and Environment (IMHEN) Ministry of Natural
Resources and Environment of Vietnam
(MoNRE)

Resource Persons

Prof. Norio FUKUZAKI

Professor

Niigata Institute of Technology, Department of
Environmental Science

Mr. Izumi NOGUCHI
Senior Research Manager
Hokkaido Research Organization, Institute of
Environmental Sciences
Environmental Protection Division,
Atmospheric Environmental Group

Dr. Takatoshi HIRAKI
Hyogo Prefectural Institute of Public Health and
Environmental Sciences

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

Mr. Hideaki KURIBAYASHI
Assistant Counselor,
Environmental Management Division,
Department of Civic and Environmental Affairs,
Niigata Prefectural Government

Dr. Naoki KANO
Associate Professor
Institute of Science and Technology
Materials and Bioengineering, Department of
Chemistry and Chemical Engineering
Faculty of Engineering

Mr. Tatsuya KANO
Staff, Environmental Management Division,
Department of Civic and Environmental Affairs,
Niigata Prefectural Government

Mr. Shinji NAKAYAMA
Visiting researcher, Asia Center for Air Pollution
Research

Niigata Prefectural Government

Mr. Shinichi MINAGAWA
Senior Deputy Director
Environmental Management Division,
Department of Civic and Environmental Affairs,
Niigata Prefectural Government

Mr. Yukitoshi AKIYAMA
Assistant Senior Staff
Environmental Management Division,
Department of Civic and Environmental Affairs,
Niigata Prefectural Government

**Niigata Prefectural Institute of Public Health
and Environmental Sciences**

Dr. Hiroaki YAGOH
Senior Research Scientist

Ms. Tomomi ENDO
Researcher

Niigata City Municipal Government

Mr. Tsutomu HORI
Assistant Director
Environmental Pollution Control Division
Niigata City Municipal Government

Mr. Masashi SAITO
Senior Staff
Environmental Pollution Control Division
Niigata City Municipal Government

Mr. Ryuta SHIRAI
Engineer
Environmental Pollution Control Division
Niigata City Municipal Government

Mr. Takuya NAKAGAWA
Engineer
Environmental Pollution Control Division
Niigata City Municipal Government

Observer

Joetsu Environmental Science Center

Mr. Tadashi UMEBAYASHI
Director of Environmental Research Division
Joetsu Environmental Science Center

Secretariat for EANET

United Nations Environment Program (UNEP
RRC.AP)
Regional Resource Center for Asia and the
Pacific

Ms. Adelaida Bonquin ROMAN
Coordinator
EANET Secretariat

Ms. DONG Yao
Program Officer
EANET Secretariat

Network Center

Asia Center for Air Pollution Research (ACAP)

Dr. Hajime AKIMOTO
Director General

Dr. Jesada LUANGJAME
Deputy Director General

Mr. Takaaki ITO
Deputy Director General

Mr. Jiro SATO
Assistant Deputy Director General

Mr. Shinichi YOKOTA
Head
General Affair Department

Mr. Akihito MORIZUMI
Chief
General Affair Department

Ms. Megumi OKAMURA
Administrative Staff
General General Affair Department

Dr. Ken YAMASHITA
Head
Planning and Training Department

Mr. Shiro TODA
Senior Researcher
Planning and Training Department

Dr. Amin NAWAHDA
Researcher
Planning and Training Department

Mr. Ryo KOBAYASHI
Researcher
Ecological Impact Research Department

Ms. Kozue KASAHARA
Administrative Staff
Planning and Training Department

Ms. Junko FUJITA
Administrative Staff
Planning and Training Department

Dr. Tsuyoshi OHIZUMI
Head
Atmospheric Research Department

Dr. HUO Mingqun
Researcher
Atmospheric Research Department

Mr. Tomokazu NAGAI
Researcher
Atmospheric Research Department

Mr. Kenichi KOIDE
Researcher
Atmospheric Research Department

Mr. Tsutomu OHTA
Researcher
Atmospheric Research Department

Dr. Hiroyuki SASE
Head
Ecological Impact Research Department

Dr. Naoyuki YAMASHITA
Researcher
Ecological Impact Research Department

Dr. Takuya SHIOZAKI
Head
Data Management Department

Mr. Yoshiaki IKENORI
Researcher
Data Management Department

Ms. Ayako AOYAGI
Researcher
Data Management Department

Ms. Kumiko NAKAMURA
Researcher
Data Management Department