

The Fifteenth Senior Technical Managers' Meeting
of the Acid Deposition Monitoring Network in East Asia
4-5 August 2014, Hanoi, Vietnam

**The Reviewing Committee on Present Status of Air Pollution in East Asia
under Task Force on Research Coordination (TFRC)**

I. INTRODUCTION

1. “The Instrument for Strengthening the Acid Deposition Monitoring Network in East Asia (EANET)” was adopted at the Twelfth Session of the Intergovernmental Meeting (IG12) on the EANET held in November 2010, and was signed by twelve participating countries of the EANET during and after the IG12. In accordance with the “Decision 1/IG.12” adopted at the IG12, it has been operational since 1st January 2012 although one country still has not signed yet.
2. The Instrument stipulated the possibility of expansion of the scope of the EANET in the Item 2 “Objectives and Scope”, which stated that “the scope of this Instrument may be extended, as decided by the Intergovernmental Meeting (IG)”. In line with this provision, the Terms of Reference (TOR) of the Working Group on Future Development of the EANET (WGFD) in 2011-2012 decided by the IG12 includes the “Discussion on the issues of expansion of the scope of the EANET”, and the Medium Term Plan for the EANET (2011-2015) also includes this issue as one of the agenda to be discussed during the five years.
3. “Expansion of the scope of the EANET” was discussed at the Tenth Session of the Working Group on Future Development of the EANET (WGFD10) held in July 2011 in accordance with the TOR of the WGFD, where it was suggested that the scientific evidence be regarded as an important basis to consider the future priorities.
4. This issue was taken also at the Fourth Meeting of the Task Force on Research Coordination (TFRC4) and the Eleventh Session of the Scientific Advisory Committee (SAC11) held in October 2011. As the result of discussions, the SAC11 agreed to refer the review of the status of air pollution in East Asia to the Task Force on Research Coordination (TFRC) according to the TOR of the TFRC.
5. The Thirteenth Session of the Intergovernmental Meeting (IG13) on the EANET held in November-December 2011 in Hanoi, Vietnam took note that the TFRC will review the status of air pollution in East Asia, and recommended the WGFD to discuss the issues on expansion of the scope, including the possible way to make use of the review to be conducted by the TFRC.
6. The TFRC5 held on 21 November 2012 in Yangon, Myanmar agreed the review of the

status of air pollution in East Asia will be implemented by the “Reviewing Committee on the Status of Air Pollution in East Asia (RC)” and the chairperson of the TFRC, Dr. Gromov assigned Prof. Wilfred M. Carandang and Prof. Cho Seog-Yeon as the co-chairpersons of RC. Based on the discussion at TFRC5, the chairperson of TFRC reported names of co-chairperson and the membership candidates of RC and preliminary contents of the “Review on the state of Air Pollution in East Asia (RSAP)” to SAC12.

- Based on the discussion at the SAC12, the RC consists of several experts on atmospheric environment and ecological impact assessment were established under the TFRC in February 2013 and four meetings were held in February and August 2013 and February and July 2014. The NC was delegated as the secretariat for the RC.
- The First meeting of the RC (RC1) was held on 4 February 2013 in Niigata, Japan. The preliminary table of contents, possible lead authors and contributors to draft the first manuscripts, and the” Scope of the review (Attachment 1)” were discussed and decided. The list of lead authors, authors and contributors (Attachment 2) is attached as well.
- The Second meeting of the RC (RC2) was held on 2-3 August 2013 in Niigata, Japan. The status of submission of the first draft manuscripts from the lead authors and contributors were confirmed. The meeting confirmed action plans towards submission of the preliminary draft report of the Review to TFRC6 and SAC13.
- The Third meeting of the RC (RC3) was held on 17-18 February 2014 in Niigata, Japan. The roles of “Executive Summary”, “Chapter 9 Conclusions and Recommendations” and “Summary for Policy Maker” and how to compile them were discussed. The review by the external expert was considered and the meeting listed up the candidate of the external reviewers(The final external reviewers are shown in Attachment 3). The meeting confirmed action plans towards submission of the final draft report of the Review to TFRC7 and SAC14.
- The fourth meeting of the RC (RC4) was held on 15-16 July 2014 in Niigata, Japan. The RC considered and decided how to respond the comments, suggestion and recommendation provided by the external reviewers. How to finalize “Foreword”, “Executive Summary”, “Chapter 9 Conclusions and Recommendations”, and “Summary for Policy Makers ” was discussed and decided. The draft minutes of the meeting of the RC4 is attached to this document (Attachment 4) including the final draft content of the review (Attachment 5), and the preparation schedule (Attachment 6).

Report of the Review on the State of Air Pollution in East Asia (RSAP)

Network Center for the EANET

1. Scope of the RSAP

(i) Objectives

This review aims at synthesizing best scientific knowledge on the present status on air pollution in East Asia covering emission inventory, air quality, risk assessment, interaction between climate and air pollution, and mitigation measures. It is expected to be a basis for discussion on future development and expansion of the scope of the EANET.

(ii) Geographical Scope of the Review

The targeted area to be covered by the review should be East Asia ranging the participating countries of the EANET, i.e. Northeast Asia including Asian part of Russia, and Southeast Asia. Other part of the world may be referred for comparison whenever necessary. Data for urban and regional scale air pollution should be given higher priority rather than local air pollution.

(iii) Temporal scope of the Review

Recent status of air pollution since 2000 should be focused, but the data in previous years may also be referred for trend analysis, or for historical comparison.

(iv) Literature to be surveyed

Literatures published in peer-reviewed international journals should be referred in principle. Other types of literature sources may be referred in some of research areas such as emission inventories and mitigation measures.

(v) Difference policy of review from Chapter 6 in the Second Periodic Report

The review of Chapter 6 in the Second Periodic Report on the State of Acid Deposition in East Asia (PRSAD2) was made focusing on the research output using EANET data for analysis or model validation. In the RSAP, papers that are not relevant to the EANET should also be given equal priority to the EANET relevant papers.

**Lead Authors and Contributors for the Report
of the Review on the State of Air Pollution
in East Asia (RSAP)
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Attachment 3**List of the final External Reviewers for RSAP**

Chapter	External Reviewer	Receipt of the review
Chapter 2	Prof. Chul Han Song	Received
	Prof. Min Hu	Received
	Prof. Tzung-May Fu	Received just before the RC4
Chapter 3	Prof. Dan Jaffe	Received
	Prof. Oliver Wild	Received
	Prof. Lisa Emberson	Not Yet
	Prof. Tzung-May Fu	Received just before the RC4
Chapter 4	Dr. Yun-Ting Fang	Received
Chapter 5	Dr. Takeshi Nakano	Not Yet
Chapter 6	Dr. Great Maenhout	Received
Chapter 7	Dr. Zbigniew Klimont	Not Yet
Chapter 8	Dr. Eric Zusman(?)	Not Yet
All	UNEP	Received
All	UNECE	Not Yet

Attachment 4

MINUTES OF THE MEETING (Draft)

I. Introduction

1. The Fourth Meeting of the Reviewing Committee (RC4) on the Status of Air Pollution in East Asia was held on 15-16 July 2014, in Niigata, Japan. The Meeting was organized by the Network Center (NC) for the Acid Deposition Monitoring Network in East Asia (EANET).
2. The Reviewing Committee (RC) members from Japan, Philippines, Republic of Korea, Thailand and the United States of America attended the RC4, though one member from Japan could not attend due to a personal reason and one member from china could not attend due to conflict of the schedule with other business. Dr. Sergey Gromov, the Chairpersons of both Task Force on Research Coordination (TFRC) and Scientific Advisory Committee (SAC) as well as the representatives of the NC for the EANET also attended the RC4. The List of Participants is attached as Annex 1.

II. Opening of the meeting (Agenda Item 1)

3. The RC4 was opened by Dr. Hajime Akimoto, Director General of the Asia Center for Air Pollution Research (ACAP). He welcomed the RC members and Dr. Gromov. Dr. Akimoto introduced that all manuscript for the review report had been submitted from the authors and appreciated the contributions by the lead authors, authors, contributors and RC members. He pointed out that the RC4 was the final meeting of the RC and how to develop the final draft as the RC for submission to the TFRC and the SAC would be discussed.

III. Adoption of the agenda (Agenda Item 2)

4. From Agenda Item 2, the RC4 was chaired by the Co-chairperson of the RC, Prof. Wilfredo M. Carandang, Assistant to the Chancellor, University of the Philippines Los Banos, the Philippines on 1st day and by Prof. Seogyeon Cho, Inha University, Republic of Korea on 2nd day.
5. The Agenda was adopted as proposed (EANET/RC 4/2/1).

IV. Report on Progress of preparation of the Review Report since 3rd Meeting of RC (Agenda Item 3)

6. The NC made a presentation on the “Progress of preparation of the Review Report since 3rd Meeting of RC” in order to explain the format of all of the chapters and to introduce the comments and the suggestions from the external reviewers.

V. **Consideration on the comments, suggestions and recommendations provided by the external reviewers (Agenda Item 4)**

7. The NC proposed the following points and the meeting agreed that:
 - Modification is not necessarily needed for the manuscript responding to all of the suggestions and comments by the reviewers.
 - Regarding the reviews from the external reviewer who have not yet submitted their reviews, and submitted just before the RC4, the RC leaves the lead authors, the authors and the secretariats the decision on how to respond to them and modify the manuscript.
 - The lead authors and the authors will modify the manuscript by 12 August 2014 based on the discussion at the RC4.
 - The NC will compile the responses to each reviewer based on the discussions at the RC4 and send them to each reviewer by the end of August 2014.
8. Prof. Joshua Fu, Lead Author of Chapter 2, introduced his idea on how to respond to the comments and suggestions by the external reviewers. Dr. Yamashita made his additional comments on sub-chapter 2.3.
9. After the presentations, the meeting discussed how to respond to the comments and suggestions submitted from the external reviewers and agreed to the following points:
 - i) The published studies on PM and Haze in Southeast Asia are still limited (It will be mentioned in Chapter 9.) but the latest studies (e.g. 7-SEAS) will be included.
 - ii) The relationship between the emission decrease of the SO₂ and PM_{2.5} air quality standards in China will be mentioned in Chapter 6.
 - iii) The necessity of establishment of air quality standard for PM_{2.5} and capacity building for PM_{2.5} measurement will be included in Chapter 9.
10. The NC introduced the comments and suggestions to Chapter 3 submitted from the external

reviewers. Dr. Kohno and Dr. Yamashita and explained their ideas on how to respond to the comments and suggestions to sub-chapter 2.3.

11. After the presentations, the meeting discussed how to respond to the comments and suggestions from the external reviewers and agreed to the following points:

i) The RC leaves Dr. Tanimoto how to respond to the comments and suggestions to sub chapter 3.1 and 3.2.

ii) Dr. Yamashita will discuss with Prof. Honda how to expand the sub-chapter 3.3 Impacts on human health.

12. Prof. Cho, Lead Author of Chapter 4, introduced his idea on how to respond to the external reviewers' comments and suggestions.

13. After the presentations, the meeting discussed how to respond to the comments and suggestions from the external reviewers and agreed to the following points:

i) Some literature will be newly included following the reviewers' comments and suggestions.

ii) The critical load will be considered as items of the scope expansion.

14. Dr. Shiozaki, Lead Author of Chapter 5, introduced the modification of Chapter 5. He also introduced that the NC asked review of Chapter 5 to another external reviewer.

15. After the presentations, the meeting agreed to the following points:

i) Chapter 5 only targeted the literatures within recent five years because most of the papers published were written in Japanese, etc.

ii) The NC asked Dr. Nakano, Osaka University, to review the manuscript of Chapter 5 as the external reviewers.

iii) The sub-chapters will be integrated.

16. Dr. Savitri, Dr. Inomata and Dr. Kurokawa introduced their ideas on how to respond to the comments and suggestions from the external reviewers.

17. After the presentations, the meeting discussed how to respond to the comments and suggestions from the external reviewers and agreed to the following points:

i) The several suggestions and comments on Chapter 6 are already covered by other chapters.

- ii) The suggestions and comments on the part of natural dust will be considered by Prof. Sung Ung Park.
 - iii) The structure of sub-chapters 6.2 and 6.3 will be modified following the reviewers comments (Annex 2).
18. The NC presented the comments and suggestions to Chapter 7 from the external reviewers.
- .
19. After the presentations, the meeting discussed how to respond to the comments and suggestions from the external reviewers and agreed to the following points:
- i) The suggestion from UNEP that the analysis from the policy, economic and social aspects should be included in the Chapter 7 is beyond the scope of the review report.
 - ii) In order to clarify the scope of Chapter 7, the title of the chapter should be changed as follows:

<Original Name > Chapter 7 Mitigation measures of air pollutant emissions in East Asia: current status and future perspectives

<Updated name > Chapter 7 Mitigation technologies of air pollutant emissions in East Asia
20. Dr. Akimoto and Prof. Suzuki introduced their ideas on how to respond to the comments and suggestions from the external reviewers.
21. After the presentations, the meeting discussed how to respond to the comments and suggestions from the external reviewers and agreed to the following point:
- i) Title of sub-chapter 8.2 and 8.3 will be changed.
 - ii) Other relevant initiatives such as Surya, ABC and IBAQ will be added.
 - iii) The policy implications for EANET will be added to Chapter 9.
22. The meeting agreed that the sub chapter for summary and gaps will be newly developed at the end of each chapter.
23. The NC introduced the general comments on the whole review report from UNEP.
24. After the presentations, the meeting discussed how to respond to the comments and suggestions from the external reviewers and agreed to the following points:

- i) Against the UNEP comments on science and policy balance: The purpose of the review report is to identify the scientific gap for the basis of the discussion on expansion of the scope of the EANET. So the scientific review is main purpose of this report than other aspects.
- ii) Against EANET data: Compiling and evaluation of the data from EANET is beyond the scope of the review report. .

VI. Consideration on how to finalize Foreword, Executive Summary, Chapter 9 Conclusions and Recommendations, and Summary for Policy Markers (Agenda Item 5)

25. The NC made a presentation on “the roles of Foreword, Executive Summary, Chapter 9 Conclusions and Recommendations and Summary for Policy Markers”.
26. The meeting confirmed that the possible questions of Summary for Policy Markers which were presented at the RC3.
27. The NC explained the draft “Executive Summary.”
28. Prof. Cho presented the draft “Chapter 9 Conclusions and Recommendations.”
29. The meeting discussed how to finalize each item based on the drafts of them. Agreements were made to the following points:
 - i) Foreword should be shortened by eliminated the part of background of the review report. Dr. Gromov will finalize and undersign the Foreword by 31 July 2014.
 - ii) After the discussion, based on the possible questions presented in the RC3, the meeting agreed to the questions for the Summary for Policy Markers and designated several RC members to make an answer for each questions (Annex3). The designated RC members will submit the draft answers by 31 July 2014.
 - iii) RC members and lead authors will give comments and suggestions to the draft “Chapter 9 Conclusions and Recommendations” by 31 July 2014. Prof. Cho will finalize Chapter 9 by 12 August 2014.
 - iv) RC members and lead authors will give comments and suggestions to the draft “Executive Summary by 31 July 2014. The NC will finalize the Executive Summary by 12 August 2014.

VII. Consideration on how to report to the Seventh Meeting of the Task Force on Research

Coordination (TFRC7) and the Fourteenth Session of the Scientific Advisory Committee (SAC14) (Agenda Item 6)

30. The NC explained the draft documents for SAC “The Reviewing Committee on Present Status of Air Pollution in East Asia on Research Coordination (TFRC)”. After the discussion, the meeting agreed to revise the draft documents.
31. The meeting agreed that Prof. Carandang would make a presentation at TFRC and Prof. Cho would make a presentation at SAC. The Secretariat was assigned to develop the presentation material (PPT) for the sessions of the TFRC and the SAC.

IX. Consideration on the further process of preparation of the final draft of the Review Report (Agenda 7)

32. The NC proposed the “Preparation Schedule of the Report of the Review on the Status of Air Pollution in East Asia”. After the discussion based on the proposed schedule, the meeting revised the schedules attached as Annex 4.

X. Other Issues (Agenda Item 8)

- 33 The NC showed and explained the final draft table of contents.
- 34 After the explanations, the RC members agreed to the final draft table of contents attached as Annex 2.
- 35 The NC made a presentation on “Copy Right Permission for the Report of the Review on the State of Air Pollution in East Asia”.
- 36 After the presentation, it was agreed that the meeting secretariat would get the permission from the copy right owners of the figures referred in all of the review report.

XI. Wrap up of the Meeting (Agenda Item 9)

- 37 There were no issues raised by the participants.

XII. Closing of the Meeting (Agenda Item 10)

38 Prof. Cho, the Co-chairperson expressed his deep appreciation to all the participants for their active contribution and cooperation. Then he officially closed the Meeting .

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References

Chapter 3 Tropospheric Ozone

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3.2.3 Source-receptor relationships

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Chapter 7 Mitigation Measures of air pollutant emissions in East Asia

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References

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8.2.2 Benefit for human health and crop yields

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8.2.4 Recent policy initiatives for SLCPs co-benefit approach

References

Chapter 9 Conclusions and Recommendations

Abbreviations

List of Members of the Reviewing Committee on the Status of Air Pollution in East Asia

List of the secretariat of the Reviewing Committee for the Reviewing Committee on the Status of Air Pollution in East Asia

Preparation Schedule of the Report of the Review on the State of Air Pollution in East Asia (RSAP)

Attachment 6

Year	Month	Activities/Events	Deliverables
2011	October	TFRC4 and SAC11 (SAC agreed to refer the RSAP into TFRC.)	Report of Session of SAC11
	November/December	IG13 (IG took note that TFRC will review the status of air pollution in East Asia.)	Report of Session of IG13
2012	November	TFRC5, SAC12 and IG14 (Establishment of RC was presented and assignment of RC members was reported.)	<ul style="list-style-type: none"> - Report of TFRC5 - Report of Session of SAC12 - Report of Session of IG14
2013	February	1 st Meeting of the RC Preparation of minutes of the meeting of the RC	<ul style="list-style-type: none"> - Draft Contents of RSAP - Names and contacts of DC members - Lead Authors and Contributors of RSAP (Organization) - Work Schedule (Implementation Plan)
	February	RC1 minutes of the meeting to be sent to RC members	RC1 Minutes of the Meeting
	February-	Compilation and communications with contributors and Lead Authors	<ul style="list-style-type: none"> - Confirmation of authors of each chapter, items etc. - Clarification of responsibilities
	~ End of June	Submission of manuscripts and Circulation to Lead Authors	Early stage of preliminary draft of some sections of RSAP
	2-3 August	2 nd Meeting of the RC Preparation of minutes of the meeting of the RC	
	August	Circulation of preliminary draft among RC	<ul style="list-style-type: none"> - Completed Preliminary Draft Report of RSAP - Report of Co-Chairpersons of RC to TFRC6 and SAC13
	24-27 September	TFRC6 and SAC13 Submission of the Preliminary Draft Report of RSAP	<ul style="list-style-type: none"> - Report of TFRC6 to SAC - SAC Chairperson's Report to IG15 (and to WGFD12) - Report of Session of SAC13
	October & December	WGFD12/IG15 NC/Chairperson of SAC reports of progress and Preliminary Draft Report of RSAP to WGFD12/IG15	<ul style="list-style-type: none"> - Report of Session of WGFD12 - Report of Session of IG15
2014	February	3 rd Meeting of the RC Preparation of minutes of the meeting of the RC	<ul style="list-style-type: none"> - Review of the Preliminary Draft Report - Work plan toward the completion of the Final Draft - Minutes of Meeting
	By middle of April	Drafting "Conclusion and Recommendation". Format the report for the Final Draft.	
	During April	Contact to reviewer candidates	
	End of April	Circulation of the formatted Draft among RC members, contributors and Lead Authors for comments.	Comments/modification from RC members, contributors and Lead Authors

End of April	Review Request to UNECE and UNEP, and external experts.	Comments and recommendation from UNECE, UNEP and external experts.
Middle of June	Drafting Executive Summary	
Middle of June	Dead line of Internal/External Review	
Beginning/middle of July	Circulation of the reviewer for Chapter 5, 7, and 8	
15-16 July	-4 th Meeting of the RC (RC4) - Preparation of minutes of the meeting of the RC	- Comments from RC members and Lead Authors. - Minutes of Meeting
25 July	Deadline of external reviews for Chapter 5, 7 and 8.	Comments from the external reviewer.
31 July	-Submission of the comments for Executive summary and Chapter 9 from RC members to the secretariats. -Submission of draft "Answers" of summary for policy makers.	
1 st week of Aug	- Circulation of draft summary for policy maker to RC members	
12 August	- Submission of the revised manuscript based on the discussion of the RC4 from the authors to the secretariats.	- Final draft including Executive Summary
18 August	- Circulation of final draft and summary for policy makers among SAC members.	-
End of August	- Sending the response to external reviewers.	- Response to the external reviewers.
2-4 September	- TFRC7 and SAC14 - Preparation of the report of the Chairperson of TFRC to SAC14 - Presentation of final draft of the draft report, Executive Summary, and Summary for Policy Makers at SAC14 for approval	- Final Draft of RSAP, Executive Summary at TFRC7 - Report of the Chairperson of TFRC to SAC14 - Approved Report by SAC14 - Report of Session of SAC14
End of September	Revision of final draft to include comments from SAC14.	Third draft of the Final Draft
1-2 October	WGFD13 NC/Chairperson of SAC submits the approved Report of RSAP	- Report of Session of WGFD13
14 November	- Circulation of second draft of final draft to	
25 October	Comments from WGFD members.	
Beginning of November	Revision of final draft to include comments from WGFD.	Fourth draft of the Final Draft
14 November	- Circulation of Fourth draft of final draft to IG members.	
25-26 November	IG16 Chairperson of SAC submits the approved Report of RSAP, Executive Summary, and Summary for Policy Maker.	- Report of Session of IG16
December	Revision of Final Draft to include comments from IG16 Language Check	Final Draft of the Report of RSAP checked by language expert
December 2014/January 2015	Printing and distribution of the report of RSAP	