

**Recommendations from the Regional Scientific Workshop in Acid
Deposition in East Asia 2009**
12 - 13 October 2009, Tsukuba, Japan

General

1. To include descriptions of the strong linkages between:
 - global, regional and urban air pollution
 - emissions, observations, modeling, and impacts on health and ecosystems
2. To consider involving members of the international scientific community and relevant organizations in the assessment in order to enhance the content and quality of the report

Analysis of current state and long-term trend of wet and dry deposition

3. To consider the effects from forest fires/biomass burning, which are seasonal events in Southeast Asia and also effects of volcanic activities
4. To improve the coverage within the region by increasing the number of monitoring sites to enable a more detailed evaluation of the state of acid deposition in East Asia. It was suggested that participating countries could provide monitoring data from other national monitoring sites in order to enhance the dataset used in the assessment..
5. To consider a suggestion to compile the national assessments prior to the preparation of the regional assessment so that the latest information regarding the national monitoring activities and national assessments can be used for the regional assessment.
- 6.. To adopt an integrated approach in the assessment process. The wet and air concentration data should be considered together with information on emissions and modeling results.
7. Additionally, to conduct an analysis of the current state of the EANET monitoring program to identify areas requiring improvement to maintain data quality and completeness. Identify future environmental issues and challenges.
8. To identify variations in pollutant concentrations at the sites and understand the causes. It may be necessary to carry out more complex statistical analysis and filtering of the data. Modeling may be used to obtain a better understanding of the causes. The model results could be presented with a balanced view of the uncertainties of the model.
9. The current emissions database is a source of uncertainty in models. New research activities such as development of an updated emissions inventory using a bottom-up approach, intercomparisons of model results with the observations from EANET, and

integrated studies of emission inventories, ground observations, satellite observations may be promoted.

10. Due to constraints encountered in the determination of dry deposition flux in East Asia, it is suggested to use the air concentration measurements for trend and distribution analysis and calculate estimated dry deposition amounts only in 2009 at sites which could submit the necessary hourly meteorological parameters in that year.

11 The accumulated long-term monitoring data should be used to determine the cause of acid deposition as well as provide scientific explanation for the high concentrations of pollutants observed in some areas.

12. The sites in Japan are reporting hourly and daily data for air concentration measurements while some other countries are only providing monthly averaged values. If all EANET sites could provide hourly/daily data, it would be easier to detect changes in atmospheric chemistry.

Modeling analysis of regional air pollution in East Asia

13. As future projections of the states of acid deposition are considered useful to the policy makers, it was suggested to produce future projections based on current trends.

14. It is important to promote modeling as a useful tool to enhance evaluation of the state of acid deposition. Continuation of the activities of MICS-Asia Phase III, intercomparisons of models, use of observation data for validation and improvement of models should be continued. The establishment of a modeling center in Asia may be considered in the future

15. To consider the establishment of some supersites within East Asia to monitor additional chemical species and compounds, as this will enable in-depth analysis of the sources and causes of acid deposition.

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Ecological and human health impacts of acid deposition and related air pollution

16. In view of the increasing importance of ozone and PM, the monitoring of ozone and aerosols and assessment of effects on ecosystems and human health should be further developed.

17. Integration of wet and dry deposition monitoring data with observations of impacts and results from studies on effects of transboundary air pollution on ecosystems and human health can provide a better understanding of the processes and enhance the usefulness of the report.

18. More studies to determine the sensitivities of tropical forests species to acid deposition are needed.

19. It is proposed to strengthen collaboration with organizations conducting studies on health risk and effects of transboundary air pollution in order that that relevant information relating to health assessment and assessment of population exposure in East Asia could be included.

20. To effectively utilize the financial and manpower resources available, it is suggested to identify questions which are relevant to the policy makers and focus on addressing those topics to provide honest, scientific answers. The strengths and weaknesses of the analysis should be reported in an open way.

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