

Seventh Regional Stakeholders cum Coordination Meeting on  
Malé Declaration on Control and Prevention of Air Pollution and  
Its Likely Transboundary Effects for South Asia (Malé Declaration)  
18-19 May 2013, Dhaka, Bangladesh

**Report on the Progress of Malé Declaration after the Twelfth Session of the  
Intergovernmental Meeting (IG12)**

**I. INTRODUCTION**

1. This report presents and reviews the progress of Malé Declaration on Control and Prevention of Air Pollution and Its Likely Transboundary Effects for South Asia (Malé Declaration) activities after the Twelfth Session of the Intergovernmental Meeting (IG12) held in Delhi, India on 30 June 2011.
2. The review is based on the 6 objectives of the Phase IV implementation of the Malé Declaration:
  - Strengthen Regional Cooperation for addressing air pollution issues in South Asia;
  - Strengthen the air pollution monitoring network and conduct regular monitoring of high quality;
  - Enhance the impact assessment capacity of the national institutions and assess the impacts of air pollution and their socio-economic implications in the participating countries;
  - Enhance the capacity of National Implementation Agencies (NIAs) to undertake emission inventory and scenario development, atmospheric transfer of pollutants and Integrated Assessment Modelling;
  - Assist the member countries of Malé Declaration with the developing air pollution reduction policies and development of a regional framework; and
  - Raise awareness for action on air pollution issues through targeted information dissemination.

**II. STRENGTHEN REGIONAL COOPERATION AND STAKEHOLDER'S  
PARTICIPATION UNDER THE MALÉ DECLARATION**

**II-1 Intergovernmental meeting**

3. The IG12 of the Malé Declaration in June 2011 was attended by the representatives of the participating countries, namely: Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka. Experts from the following organizations: South Asia Cooperative Environment Programme (SACEP), Stockholm Environment Institute (SEI), United Nations

Environment Program (UNEP) Headquarters and Regional Resource Centre for Asia and the Pacific (RRCAP), and an independent facilitator also attended the Session.

4. The IG12 adopted, with modifications the Report of the Task Force for Future Development (TFFD), and its Annexes which include the Draft Resolutions for Consideration of the Ministerial Level Meeting, the Report on the Sustainable Financial Mechanism, the Feasibility Report on the Establishment of Regional Centres, and the Feasibility Report on Strengthening the Regional Framework on Air Pollution Reduction in South Asia. The Workplan 2012 for Malé Declaration was also adopted by the IG12.

## **II-2 Ensure Stakeholders Engagement with Intergovernmental Process**

5. The Sixth Regional Stakeholders cum Coordination Meeting (RSC6) of the Malé Declaration was held back to back with the IG12 in Delhi, India on 28-29 June 2011 and the Meeting Report was transmitted to all participants after the IG12. The meeting was attended by the Malé Declaration National Focal Points (NFPs) and National Implementing Agencies (NIAs) of the participating countries which include: Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka. Experts from South Asia Cooperative Environment Programme (SACEP), Stockholm Environment Institute (SEI), United Nations Environment Programme (UNEP), UNEP Regional Resource Centre for Asia and the Pacific (UNEP RRC.AP), a resource person from Murdoch University Australia, expert from Swedish Environmental Research Institute Ltd (IVL), Technical Committee Member of the Malé Declaration and an independent facilitator also attended in the meeting.
6. The National Implementing Agencies (NIAs) of the Malé Declaration presented the progress during the Phase IV implementation in their respective countries. Presentations focused on the institutional arrangement under the Malé Declaration, monitoring activities, impact assessment activities, recent measures to control air pollution emissions in the country and the plan for the next 2 years.

## **II-3 Task Force on Future Development (TFFD) of Malé Declaration**

7. The Ninth Session of the Intergovernmental Meeting (IG9) held in 2007 decided the establishment of the Task Force for Future Development of Malé Declaration (TFFD). The TFFD which was established to consider the expansion of the Malé Declaration, submitted to the IG12 its Report on Future Development which included: 1) Draft Resolutions for Consideration of the Ministerial Level Meeting; 2) Report on the Sustainable Financial Mechanism, 3) Feasibility Report on the Establishment of Regional Centres; and 4) Feasibility Report on Strengthening the Regional Framework on Air Pollution Reduction in South Asia. The Report of the TFFD was discussed, reviewed and adopted, with modifications during the IG12.

8. The Third Meeting of the Task Force Task was held on 9-10 August 2012 in Chonburi, Thailand. The objectives of the meeting include, among others, the presentations and discussions on the following guidelines, for submission to the Thirteenth Session of the Intergovernmental Meeting for its review and guidance: 1) Draft guidelines for implementation of the sustainable financial mechanism of the Malé Declaration; 2) Draft guidelines for the next steps of implementation on strengthening the framework on air pollution reduction in South Asia; 3) Draft guidelines for the operation of the regional centres; 4) Terms of Reference for the Synthesis Report, Plan; 5) Plan for Phase V; and 6) Work Programme in 2013 for the Malé Declaration.

### **III. STRENGTHEN CAPACITY BUILDING PROGRAMMES INITIATED DURING PHASE IV ON MONITORING**

#### **III-1 Continue operation of the monitoring stations**

9. NIAs continued the operation of the monitoring sites during the phase IV. The Malé Declaration monitoring network has been strengthened through the addition of new sites in India (4 new sites) and Iran (1 site), which have been mostly funded by in-kind contributions from those countries. Training for the enhancement of capacity for technicians in charge of the monitoring site/s in each of the member countries is being continued. The results will be presented and discussed during the 9<sup>th</sup> Refresher Training to be held in India in October 2012. The Malé Declaration had improved the operation of the established monitoring stations by site audits and on- site training.

#### **III-2 Implementation of inter-laboratory comparison**

10. Dr. Nguyen Thi Kim Oanh, Asian Institute of Technology, Thailand submitted to the Secretariat the “Draft Report of the Inter Laboratory Comparison of Precipitation Chemistry Analyses of the Malé Declaration” in May 2012. The report was based on the analytical results of the artificial rain water samples from the NIAs. This is the third attempt of the inter-laboratory comparison project which involves a round-robin analysis of uniformly prepared artificial rainwater samples by the NIA laboratories of the Malé Declaration. The result of the third inter-laboratory comparison was presented to the 9<sup>th</sup> Refresher Workshop held in New Delhi, India and to be submitted to the the IG13 for its review, guidance or endorsement.
11. The overall objective of the inter-laboratory comparison is to recognize the analytical precision and accuracy of the data in each participating NIA laboratory and consequently to provide an opportunity to improve data reliability/quality. The protocol highlighting the methodology of this inter-laboratory comparison has been developed based on Quality Assurance/Quality Control (QA/QC) procedure for Malé Declaration network with reference to the inter-laboratory comparison reports of the EANET project. The sample preparation, distribution and analysis with necessary QA/QC are included in the protocol which was

circulated and agreed upon by all NIAs in September 2007, i.e. before the inter-laboratory exercise started.

### **III-3 Regional training programme**

12. The 9th Refresher Training on Monitoring Transboundary Air Pollution was held on 10-12 December 2012 in New Delhi, India. The training was organized by the Central Pollution Control Board (CPCB), India which is designated as the Regional Centre on Wet and Dry Deposition Monitoring of the Malé Declaration, in collaboration with the Secretariat. The capacity building events initiated in the previous implementation phase of the Malé Declaration are being continued during the Phase IV implementation. Included in the priority areas for capacity building is the Refresher Training on monitoring transboundary air pollution programme which is being held every year.
13. The objectives of this workshop included: to provide hands-on-training on the use of different monitoring and laboratory equipment and enhance knowledge on quality assurance/ quality control aspects; to discuss the progress of the implementation of Malé Declaration monitoring activities during Phase IV; to discuss the plan for Phase V implementation of the Malé Declaration; and to discuss the data submitted by the member countries.

### **III-4 Central compilation, evaluation, and storage of data**

14. Some of the participating countries have submitted their data and related information obtained through the monitoring activities in 2010-2012 to the Secretariat. The Data Analysis Report during Phase IV will be developed based on the data and monitoring information provided by the participating countries. After quality check by the MoC, the data will be added to the regional database. The regional database is available online for the NIAs at: <http://www.rrcap.unep.org/male/>.

## **IV. ENHANCE THE CAPACITY OF NIAs ON EMISSION INVENTORY, SCENARIO DEVELOPMENT AND INTEGRATED ASSESSMENT MODELING**

15. The 5th Regional Training on Emission Inventory and the National Training on Emission Inventory were held in Colombo, Sri Lanka on 23-25 May 2012 and 21-22 May 2012, respectively. The trainings were organized by the Central Environment Authority (CEA), Sri Lanka which serves as the Regional Center on Emission Inventory of the Malé Declaration, and co-organized by the Secretariat. The objective of the trainings were to enhance the capacity and capability of National Implementing Agencies (NIAs) and those involved in the participating countries to undertake emission inventory and scenario development, and integrated assessment modeling.

**V. ENHANCE THE ANALYTICAL AND IMPACT ASSESSMENT CAPABILITY AT THE NATIONAL LEVEL**

**V-1 Assess the socio-economic impact of air pollution on the health of people**

16. During the Phase IV implementation of the Malé Declaration, the health impact assessment study which was conducted in Dhaka, Bangladesh during the Phase III implementation was replicated in selected schools in Kathmandu, Nepal and in Islamabad, Pakistan. The objectives of the study are: to a) determine whether there is an association between daily mean PM10 and PM2.5 concentrations and respiratory health and lung function in children in a the selected city; b) quantify the relationship; and c) assess the scale and severity of impacts of air pollutants. This assessment can address the need for information on the effects of air pollutants on health in South Asia at the high concentrations commonly found in large cities, and provide locally-gathered evidence to support actions by governments to control particulate emissions.
17. In order to review the results of the study, the Workshop on Health Impact Assessment was held in Dhaka, Bangladesh on 9 January 2012. The training was attended by health and air quality experts from Nepal, Pakistan and Bangladesh who are involved in health impact studies and air pollution related activities, a resource person from Murdoch University, Australia and representatives from the Malé Declaration Secretariat from the Asian Institute of Technology (AIT) United Nations Environment Programme (UNEP) Regional Resource Center for Asia and the Pacific (RRC.AP).
18. The training was hosted by the National Institute for Preventive and Social Occupational Medicine (NIPSOM), the selected regional center on Health Impact Assessment for South Asia under the Malé Declaration.
19. The Final Health Impact Studies conducted by Bangladesh, Nepal and Pakistan will be presented to IG13 for its review and endorsement.

**V-2 Crop Impact Assessment Studies**

20. Nepal has conducted the crop impact study titled “ *Assessing The Impact Of Ambient Ozone On Growth And Yield Of Mungbean Under Rampur, Chitwan Condition*”. The experiment was carried out at the Institute of Agriculture and Animal Science (IAAS) Rampur, Chitwan. The location falls in inner Terai region of Nepal. The study was conducted from April, 2012 to July 2012.
21. Bhutan also conducted the cop impact study titled “Quantifying the impact of tropospheric ozone on spinach using protective chemical (EDU), Kanglung Bhutan”. The main objective

of the study was to qualitatively and quantitatively assess the impact of ozone, expressed as foliar injury and biomass reduction, on **spinach** using the anti-ozonant ethylenediurea (EDU).

## **VI. PROVIDE DECISION SUPPORT INFORMATION FOR POLICY FORMULATION AND AIR POLLUTION PREVENTION**

22. In response to a call by the Department of Environment (DOE) of the Government of Bangladesh, the “Final Report on Air Pollution Reduction Strategy for Bangladesh’ was completed by Bangladesh in April 2012. The report describes the current state of air quality, major sources of air pollution, past policies implemented and suggests future strategies to reduce air pollution in Bangladesh. Around 50 strategies were initially selected, of which 26 are finally recommended after evaluation of the strategies. The criteria for evaluation were likely impact, time to introduce, time to benefits, technical and implementation effectiveness, cost effectiveness and co-benefits. The recommended strategies are presented in the report. The strategy choices were based on a *qualitative* multi-criteria evaluation because of lack of information for quantitative benefit-cost modeling.
23. The publication on “Rapid Urban Assessment of Air Quality for Katmandu, Nepal” was completed by ICIMOD, NIA, Nepal in 2012. This publication provides a detailed account of the pollution hotspot areas in Kathmandu. This is the first study done using quantitative data to get an overall picture of the major pollutants. Population density and pollution concentration data are overlaid to provide easily understood maps that will be of particular relevance to policy makers. This study provides an example that can be replicated for other cities.

## **VII. RAISE AWARENESS FOR ACTION THROUGH TARGETED DISSEMINATION**

24. The Report on Compendium of Good Practices on Prevention and Control of Air Pollution (first report) was compiled by Prof. Ram M. Shrestha, in collaboration with Malé Secretariat as part of the phase III implementation of the Malé Declaration. This report has been updated by the Centre for Environment Education in collaboration with the Secretariat as part of the phase IV implementation of the Male’ Declaration.
25. Raising the awareness of youth on air pollution issues is continued through the activities of the South Asia Youth Environment Network (SAYEN). A national “Youth for Clean Air Awareness Workshop” was held in January 2012 in Dhaka, Bangladesh and the Regional Workshop on “Youth for Clean Air” was held in February 2012 in Ahmedabad, India.