



STRENGTHENING REGIONAL COOPERATION TO ADDRESS AIR POLLUTION ISSUES IN SOUTH ASIA

Twelfth Session of the Intergovernmental Meeting

The Twelfth Session of the Intergovernmental Meeting (IG12) on Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia (Malé Declaration) was held in Delhi, India on 30 June 2011. It was attended by representatives of the National Focal Points (NFPs) and National Implementing Agencies (NIAs) of the participating countries (Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka). Other international organizations such as the Stockholm Environment Institute (SEI), Swedish Environmental Research Institute Ltd (IVL), South Asia

Cooperative Environment Programme (SACEP), United Nations Environment Programme (UNEP), and the Regional Resource Centre for Asia and the Pacific (RRC.AP) were also represented.

Major discussions and conclusions of the Session included: (1) Capacity of member countries to address the atmospheric issues had been enhanced in terms of skilled manpower, infrastructure, and institutional setup; (2) The meeting agreed on the modalities to establish centers at regional and national levels to sustain the capability building in the region; (3) The meeting agreed on enhancing the regional cooperation

under the Malé Declaration towards achieving emission reduction; and (4) The meeting agreed on a sustainable financing mechanism to continue the Malé Declaration process with the ownership of the member countries.

The Session adopted, with modifications the Report of the Task Force for Future Development (TFFD) including its Annexes. The Workplan 2012 for Malé Declaration was also adopted by the IG12.

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Sixth Regional Stakeholders cum Coordination Meeting



The RSC6 meeting participants

The Sixth Regional Stakeholders cum Coordination Meeting (RSC6) of the Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia (Malé Declaration) was attended by representatives of the

National Focal Points (NFPs) and National Implementing Agencies (NIAs) of participating countries, such as, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka. Some officials from the Stockholm Environment Institute

(SEI), South Asia Cooperative Environment Programme (SACEP), United Nations Environment Programme (UNEP), AIT-UNEP Regional Resource Centre for Asia and the Pacific (RRC.AP) were present. A resource person from Murdoch University, an expert from the Swedish Environmental Research Institute Ltd. (IVL), a Technical Committee member of Malé Declaration, and an independent facilitator also took part in the meeting.

The RSC Meeting is held almost annually in order to enhance participation of stakeholders in air pollution control and prevention activities. The 2-day meeting provided a venue for knowledge sharing and information exchange among NIAs, NFPs and other stakeholders in South Asia and other regions. The NIAs presented updates on their implementation of the Malé Declaration activities. Stakeholders from SEI, Murdoch University and the participating countries also presented their own activities and initiatives on air pollution control and prevention.

Third Meeting of the Task Force for Future Development

The Third Meeting of the Task Force for Future Development of Malé Declaration was held on 9-10 August 2012 in Chonburi, Thailand. The Meeting was attended by the Task Force members from the participating countries of Malé Declaration as well as resource persons from the South Asia Co-operative Environment Programme (SACEP), Stockholm Environment Institute (SEI), Scand Environment, United Nations Environment Programme (UNEP) Headquarters and the Secretariat, Regional Resource Centre for Asia and Pacific (RRC.AP)-UNEP Collaborating Center. Mr. Christer Holtsberg, Senior Technical Advisor, RRC.AP delivered the Opening Remarks.

The Secretariat presented the "Progress on the Implementation of the Malé Declaration after the Twelfth Session of the Intergovernmental Meeting (IG12)". The presentation highlighted the activities undertaken during the Phase IV of the Malé Declaration which included: (1) strengthening the regional cooperation; 2) strengthening the air pollution monitoring network and conduct regular monitoring; 3) enhancing the capacity to undertake emission inventory, scenario development and Integrated Assessment Modeling; 4) enhancing the impact assessment of air pollution in the participating countries; 5) development of air pollution reduction policies and



development of a regional framework; and 6) raising awareness for action on air pollution issues through targeted dissemination.

The meeting considered and discussed, among others, (i) the draft guidelines for implementation of the sustainable financial mechanism of the Malé Declaration; (ii) the draft guidelines for the next steps of implementation on strengthening the framework on air pollution reduction in South Asia; (iii) the draft guidelines for

the operation of the regional centres; (iv) the Terms of Reference (TOR) for the Synthesis Report, (v) the Plan for Phase V implementation of the Malé Declaration for the next three years; and (vi) the Work Programme in 2013. The revised draft guidelines, outcomes and recommendations of the Task Force Meeting will be submitted to the Thirteenth Session of the Intergovernmental Meeting (IG13) for its guidance, endorsement and/or approval.

STRENGTHENING THE AIR POLLUTION MONITORING NETWORK

9th Regional Refresher Workshop

The 9th Regional Refresher Workshop of the Malé Declaration was held in New Delhi, India on 10-12 December 2012. The workshop was organized by the Central Pollution Control Board (CPCB), India, the Regional Center for Wet and Dry Deposition Monitoring and co-organized by the Secretariat for the Malé Declaration, the Regional Resource Centre for Asia and the Pacific (RRC.AP). The objectives of the workshop were as follows: (i) to provide hands-on-training on the use of different monitoring and laboratory equipment and enhance knowledge on quality assurance/quality control aspects; (ii) to discuss the progress of the implementation of Malé Declaration monitoring activities during Phase IV; (iii) to discuss the plan for Phase V implementation of the Malé Declaration; and (iv) to discuss the data submitted by the participating countries. The capacity-building events initiated at the previous implementation phases of the Malé Declaration were being continued during the Phase IV implementation.

Mr. J.S. Kamyotra, Chairman of CPCB, welcomed all participants to the workshop. He commended the efforts of the Malé Declaration through the years, being the network that finds solutions to the problem of transboundary air pollution in the region. He stressed that to make the network more

sustainable, it is high time to identify local experts to tackle local problems and to look into side technologies which can be adapted without much cost, use fewer resources, and conserve the environment. He also stressed at looking at adaptation measures, identifies strengths and needs of the countries, as well as sharing of success stories and experiences. Ms. Adelaida B. Roman, Head, Network Support Component of the RRCAP, also welcomed the participants and gave an overview of the workshop. She mentioned that after 13 years of implementation, the Malé Declaration had achieved

significant progress in the area of air pollution issues, i.e. networking, monitoring, emission inventory, impact assessment, regional cooperation, and awareness-raising in South Asia. The capacity of member countries to address the air pollution prevention and control issues had been enhanced in terms of skilled manpower, infrastructure, and institutional set-up. More importantly, the Malé Declaration has been providing the framework for the governments and stakeholders for cooperation at the regional as well as national level.



Workshop Participants

ENHANCING THE IMPACT ASSESSMENT CAPACITY OF THE NATIONAL INSTITUTIONS AND ASSESSING THE IMPACTS OF AIR POLLUTION AND THEIR SOCIO-ECONOMIC IMPLICATIONS IN THE PARTICIPATING COUNTRIES

Third Regional Training on Health Impact Assessment under the Malé Declaration

Mr. Frank Murray (person at the middle) showing the participants how to use the peak flow meter in measuring the level of pollution in Kathmandu



Health impact assessment is one of the priority areas identified for capacity building under the Malé Declaration. The health impacts of air pollution are major policy drivers for decision-makers in developing countries. To address capacity building needs in this area, training in the assessment of health impacts of air pollution was jointly organized by AIT-UNEP RRC.AP and ICIMOD. The participants included 17 health and air quality experts from seven participating countries (Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka) that are involved in health impact studies and air pollution-related activities. The activity was aimed at enhancing the capacity of key regional stakeholders, including

government agencies and health professionals, in health impact assessment methods and accessing relevant information. The training was mainly conducted by a resource person from Murdoch University, Australia. An expert

from the National Institute of Preventive and Social Medicine (NIPSOM), Bangladesh, who was also involved in a previous study on the impacts of air pollution on the health of schoolchildren in Dhaka, implemented

under Phase III of the Malé Declaration also shared his experience in conducting the study.

Training workshop on health impact assessment in Bangladesh



The workshop participants

The Malé Declaration organized a Training Workshop on Health Impact Assessment in Dhaka, Bangladesh on 9 January 2012. The training was attended by health and air quality experts involved in health impact studies and air pollution related activities from Bangladesh, Nepal, Pakistan and Sri Lanka. A resource person from Murdoch University in Australia and the representatives from the Malé Declaration Secretariat at AIT-UNEP RRC.AP were also present at the event which was hosted

by the National Institute for Preventive and Social Occupational Medicine (NIPSOM), Bangladesh. The programme was opened with the inauguration of NIPSOM as the Regional Center on Health Impact Assessment for South Asia under the Malé Declaration.

The health impact assessment study conducted in Dhaka, Bangladesh during the Phase III implementation of the Malé Declaration was replicated in selected

schools in Kathmandu, Nepal and in Islamabad, Pakistan, the results of which were presented at the workshop. The objectives of the study were: to a) determine whether there is an association between daily mean particulate matter (PM₁₀ and PM_{2.5}) concentrations and respiratory health and lung function in children in the selected city; b) quantify the relationship; and c) assess the scale and severity of the impacts of air pollutants. This assessment can address the information needs on the effects of air pollutants on health in South Asia at the highly concentration areas, commonly found in large cities, and provide locally-gathered evidences to support actions by governments to control particulate emissions.

At the training, the results of the health impact assessment studies conducted in Bangladesh, Nepal, Pakistan, and Sri Lanka were discussed and deliberated. The Guideline for Preparing the Synthesis Report on Health Impact Study and the Draft Manual on Health Impact Assessment were also presented. Ms. Adelaida B. Roman, Head of the Network Support, AIT-UNEP RRC.AP presented the overview and the objectives of the meeting. Ms. Bernadeth Lim of the Secretariat also participated in the training.

ENHANCE THE CAPACITY OF NATIONAL IMPLEMENTING AGENCIES TO UNDERTAKE EMISSION INVENTORY AND SCENARIO DEVELOPMENT, ATMOSPHERIC TRANSFER OF POLLUTANTS AND INTEGRATED ASSESSMENT MODELLING

National Training on Emission Inventory

The National Training on Emission Inventory was held on 21-22 May 2012 in Colombo, Sri Lanka. The event was jointly organized by the Central Environment Authority (CEA), Sri Lanka, which is the Regional Center on Emission Inventory of the Malé Declaration and the Secretariat

for Malé Declaration, the RRC.AP.

The training was attended by representatives from the government of Sri Lanka and the different stakeholders or organizations that are involved in various environmental issues, air pollution activities and the compilation

of data for the national emission inventory. The United Nations Environment Programme (UNEP), Headquarters and RRC.AP, and the Stockholm Environment Institute (SEI) were also represented.

The main objective of the training was to provide hands-on experience on the compilation of emission inventory. This formed part of the national level capacity building initiatives undertaken as one of the key objectives of the Malé Declaration. The capacity building events initiated at the previous implementation phases of the network is being continued during the phase IV implementation. Discussions and hands-on exercises during the two-day training covered the following sectors: i) combustion in energy sector, ii) combustion in manufacturing and construction, iii) transport, iv) combustion in other sectors, v) fugitive emissions from fuels, vi) industrial processes, vii) solvent and other produce use, viii) agriculture, ix) vegetation fires & forestry, and x) waste.



Opening of the National Training on Emission Inventory

Fifth Training on Emission Inventory



Training Participants

The 5th Emission Inventory Training (Regional Training) was held in Colombo, Sri Lanka on 23-25 May 2012 back-to-back with the National Training on Emission Inventory. The event was opened by the lighting of the traditional oil lamp. The training was organized by the Central Environment Authority (CEA), Sri Lanka which serves as the Regional Center on Emission Inventory of the Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia (Malé Declaration), in collaboration with the Secretariat for Malé Declaration, the Regional Resource Centre for Asia and the Pacific (RRC.AP). The objective of the training was 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.

Representatives of the participating countries of the Malé Declaration which include Bangladesh, Bhutan, Maldives, Nepal, Pakistan, and Sri Lanka attended the training. The representatives of UNEP Headquarters, UNEP RRCAP, and experts from the Asian Institute of Technology (AIT) and Stockholm Environment Institute (SEI) also participated in the training.

Ms. Adelaida B. Roman, Head, Network Support Component of RRCAP, delivered

the Opening Remarks on behalf of the Malé Declaration Secretariat. She mentioned that as part of the capacity building activities, emission inventory has been regularly organised since the previous implementation phases of the Malé Declaration in order to strengthen the monitoring capacity of the countries. The quality of the emission inventories being produced by the Malé Declaration has been improving in every phase.

The representatives of the Malé Declaration member countries presented the progress on their respective emission inventories. Presentations were focused on the results of current emission inventory; the problems encountered, the data gaps and how they were addressed; and the future plans of the emission inventory. Presentations, discussions and hands-on exercises on emission inventory were also done during the three-day training for the different sectors, such as: i) combustion in energy sector, ii) combustion in manufacturing and construction, iii) transport, iv) combustion in other sectors, v) fugitive emissions from fuels, vi) industrial processes, vii) solvent and other produce use, viii) agriculture, ix) vegetation fires & forestry, and x) waste.

The participants also learned about the air quality modeling and had hands-on exercises on the Integrated Information and Assessment System (IIAS).

ASSISTING THE MEMBER COUNTRIES WITH AIR POLLUTION REDUCTION POLICIES AND DEVELOPMENT OF A REGIONAL FRAMEWORK

Air Pollution Reduction Strategy for Bangladesh

The Department of Environment (DoE), the Government Agency entrusted with safeguarding the environment in Bangladesh, sought proposals to develop an 'Air Pollution Reduction Policy for Bangladesh' under the framework of the Malé Declaration. The DoE, with the assistance from the Malé Declaration Secretariat and the Stockholm Environmental Institute (SEI), selected the Department of Civil Engineering at Bangladesh University of Engineering and Technology (BUET) as the consultant to produce the report. BUET provides consulting services to nationally important projects under its

Bureau of Research Testing and Consultation (BRTC) framework.

Air pollution, especially in the large cities, is a major environmental concern in Bangladesh. In response to a call by the Department of Environment of the Government of Bangladesh, this 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 were presented. The strategy choices were based on a qualitative multi-criteria evaluation because of lack of information for quantitative benefit-cost modeling. It is strongly recommended each of the strategies is quantitatively evaluated before final implementation.

Rapid Urban Assessment of Air Quality for Kathmandu, Nepal

In Kathmandu, Nepal, air pollution has emerged as one of the biggest threats to residents. Various studies clearly indicate that Kathmandu's air quality fails to meet national and international standards owing to the high level of particulate matter in the air.

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.

The publication was prepared by ICIMOD in partnership with the Regional Resource Centre for Asia and the Pacific – A United Nations Environment Programme (UNEP) Collaborating Centre – and the Ministry of Science and Technology of

the Government of Nepal (MOEST). It was prepared under the Malé Declaration, which calls for regional cooperation to address shared local air quality problems and the increasing threats of transboundary air pollution and its possible impacts. The Declaration also calls for the formulation and implementation of national and regional action plans and protocols based on a fuller understanding of transboundary air pollution issues. Nepal is a member country to the Malé



RAISE AWARENESS FOR ACTION THROUGH TARGETED DISSEMINATION

Regional Workshop for Youth Awareness on Malé Declaration



The youth making a presentation

The Regional Workshop for Youth Awareness on Malé Declaration on Air Pollution and Transboundary Air Pollution issues was organized on 5 February 2012 by the Centre for Environment Education (CEE), India, in collaboration with the Malé Declaration Secretariat based at the AIT-UNEP RRC.AP. Around twenty five youth leaders from South Asia participated in the Malé Declaration Youth Workshop where they developed a strategy to engage youth in awareness and education activities on air pollution issues. Ms. Adelaida B. Roman, Head of the Network Support Component, UNEP RRCAP, participated and presented the Progress of the Malé Declaration during the workshop.

Back to back with the Malé Declaration Youth Awareness Workshop, the CEE, in partnership with the Ministry of Environment and Forests (MoEF), Government of India convened the Asia-Pacific UNEP TUNZA Children and Youth Conference on 6-8 February 2012 in Ahmedabad, India. The Asia-Pacific UNEP TUNZA brought together children and youth from Asia-Pacific region to learn and share their perspectives on issues of environment and sustainability which will be taken to the global platforms at the Rio+20 Conference in Brazil and the Eleventh Meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD/COP 11), to be held sometime in 2012.

The participants formulated project ideas on the theme “Sustainable Lifestyles for a Green Economy – the Future we want”, which covered several issues such as sustainable consumption, equity and dignity, science and technology choices, in the context of Rio Principles. These projects were focused on the “leadership” roles the youth participants play in their respective institutions, in the community and beyond. The projects included awareness, education and communication efforts and ‘action’-based programmes which would have a demonstrable impact in their institutions and communities.

National Focal Points (NFP) and National Implementing Agencies (NIA)

Bangladesh

NFP: Ministry of Environment & Forest

NIA: Department of Environment, Dhaka

Bhutan

NFP & NIA: National Environment Commission, Thimpu

India

NFP: Ministry of Environment and Forests

NIA: Central Pollution Control Board, Delhi

Iran

NFP & NIA: Department of Environment, Tehran

Maldives

NFP: Ministry of Environment & Energy

NIA: Environmental Protection Agency (EPA), Maldives

Nepal

NFP: Ministry of Science, Technology and Environment

NIA: International Centre for Integrated Mountain Development (ICIMOD), Kathmandu

Pakistan

NFP: Ministry of Environment

NIA: Pakistan Environment Protection Agency, Islamabad

Sri Lanka

NFP: Ministry of Environment & Natural Resources

NIA: Central Environment Authority, Colombo

Coordinating Agencies

Regional Resource Centre for Asia and the Pacific (RRC.AP)
Bangkok, Thailand



South Asia Co-operative Environment Programme (SACEP)
Colombo, Sri Lanka



Stockholm Environment Institute (SEI)
Stockholm, Sweden



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