

NEWS LETTER

Malé Declaration on Control and Prevention of Air Pollution and Its Likely Transboundary Effects for South Asia

Volume 3 Number 1

April 2004



Stakeholders participation



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Malé Declaration is an intergovernmental agreement to cope with the issue of transboundary air pollution in South Asia. In addition to the intergovernmental cooperation, the declaration is also a call for the participation of stakeholders in tackling transboundary air pollution. Regular stakeholders forums at national as well as regional levels review the implementation of the declaration. The main objectives and aims of stakeholders forums are: a) increase the awareness of local and transboundary air pollution; b) share views and ideas of the stakeholders on implementation of the Malé Declaration; and c) improve exchange of information between those who manage the sources of pollution and those affected by it.

To this end a National Stakeholders Forum for Bangladesh was held in

Dhaka on 25 February 2004. Nearly 70 participants attended the day long meeting. The stakeholders included Department of Environment officials, Air Quality Monitoring Project officials, and officials from different organizations such as NGOs, medical institutions and Universities.

The National Stakeholders Forum was inaugurated by Syed Tanveer Hussain, Secretary, Ministry of Environment and Forest attended the Forum as Chief Guest. While addressing he stressed that "This National Stakeholders Forum assumes considerable significance in view of the initiative and measures being undertaken throughout our region toward implementation of the Malé Declaration, where it has been stated the need for countries to carry forward, initiate studies or programmes on air pollution in each of the countries". He further stressed the need

for more studies on the impact of air pollution on human health.

After the presentations from several stakeholders from Bangladesh, SEI and UNEP, extensive discussions in relation to the implementation of Malé Declaration specially in Bangladesh was held. Mr. Khan M. Ibrahim Hossain, Director General, Department of Environment facilitated the discussions as Chairperson of the forum. Several recommendations for further implementation of the Malé Declaration were derived from the discussion. During the closing session the Chair reiterated his hope that the main goals of the forum seem to have been achieved through the discussion and paper presentation and awareness among the stakeholders has been enhanced.

Third regional training programme



A three-step approach is being followed in the implementation of Malé Declaration. With the completion of the baseline studies and national action plans the first phase is completed. Currently, the implementation is in its second step which is to develop the national capacities in monitoring transboundary air pollution. The third step would provide meaningful information for policymaking and strengthening of the Malé Declaration.

Exclusive training programs at national level and centralized training programs at regional levels are being organised as part of the capacity building program. To date six national level training programs and three regional level training programs have been organised.

The third regional training programme was held at Central Pollution Control Board (CPCB), Delhi, India between 8 - 12 March 2004. The major objectives of the training are to familiarise the par-

ticipants with analysis of rainwater samples based on the common methodologies and standards and to discuss the issues encountered in operating the monitoring sites in each country.

The training program was attended by laboratory technicians who are in charge of the Malé Monitoring Stations in participating countries as well as the members of Monitoring Committee (MoC), IVL, UNEP, and AIT.

This is a continuation of the second training program held in August last year. Blind sample analysis by the participants shows a significant improvements in the participants skill from the last training programme.

Consultation with the village head and village communities on the selection of site for the monitoring station under the Malé Declaration



Awareness workshops in Bhutan

The NFP/NIA (National Environment Commission) organised 3 Environmental Awareness Workshops related to air pollution and its health impact focusing on vehicle emission and other sources in Bhutan. The participants of the workshop were the vehicle owners, automobile garage owners, motor car dealers, Industry environment officers (private sector), District Planning officers, and town and village Headmen. The workshops were held in Phuentsholing, Thimphu and Trongsa.

Details of selected monitoring stations of Malé Declaration



Country: Nepal; Station: Rampur
Latitude and longitude: N 27 38 52.8; E 84 20 47.73
Altitude: 165 m
Site type: Rural site, located about 15 km south of the Royal Chitwan national park.
Monitoring parameters:
Air quality: Respirable Suspended Particulate Matter (RSPM) or PM₁₀ (particulate matter having a diameter <10µm), Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO₂) and Nitrogen dioxide (NO₂).
Wet deposition: pH, and Electrical Conductivity (EC)



Country: Bhutan; Station: Gelephu
Latitude and longitude: approx 27 degree 0 min N; 90 degree 30 min E
Altitude: ~ 350m
Site type: Remote site Close to Jigme Singye Wangchuk National Park and Manas National park
Monitoring parameters:
Air quality: Respirable Suspended Particulate Matter (RSPM) or PM₁₀ (particulate matter having a diameter <10µm), Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO₂) and Nitrogen dioxide (NO₂).
Wet deposition: pH, and Electrical Conductivity (EC)



Country: Sri Lanka; Station: Dutuwewa
Latitude and longitude: N 08 20.952; E 80 45.751
Altitude: ~ 100m
Site type: Remote site, in a forest in the north-central part of Sri Lanka
Monitoring parameters:
Air quality: Respirable Suspended Particulate Matter (RSPM) or PM₁₀ (particulate matter having a diameter <10µm), Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO₂) and Nitrogen dioxide (NO₂).
Wet deposition: pH, Electrical Conductivity (EC), Na⁺, K⁺, and Mg²⁺



Country: Maldives; Station: Hanimaadhu
Latitude and longitude: 6.47 N, 73.11 E
Altitude: ~2 m
Site type: Remote site, in the northern most atoll of Maldives located about 400 km north of the country's capital, Malé.
Monitoring parameters:
Air quality: Sulphur dioxide (SO₂) and Nitrogen dioxide (NO₂).

Health impact of Air Pollution



Asthma is a global disease and nearly 7 million people are suffering from bronchial asthma in Bangladesh alone. Dr. M. A. Hasan, President & Chief Scientist, Allergy Asthma and Environmental Research Institute, Bangladesh made a presentation on “Air pollution and Asthma & Allergy” at the National Stakeholders meeting of Malé Declaration held in Bangladesh. A summary of his conclusions is provided below:

- Maximum attention must be given to particulate matter of less than ten micrometers (PM_{10}), as it is highly associated with asthma exacerbation and increased respiratory symptoms in non-asthmatics. Steps to be taken to control PM_{10} to reduce exposure to inhaled particles.
- Formulate plan to reduce outdoor pollutants like nitrogen dioxide, ozone and acidic aerosols that cause exacerbation of asthma and respiratory symptoms.
- Increasing the greenery and spraying surface with water on the highway and public places that are naked can minimize airborne dust. Noxious emissions from mobile and stationary sources are to be reduced.

- Indoor air quality should be monitored and effective control measures should be tailored to suit individual needs. For example, mite allergy which is universal health problem should be controlled through multi-focal approach. Among these important methods are: reduction of mite population; avoidance of exposure; and humidity control.
- Maintaining low humidity can lower the growth of molds and yeast. Light and ventilation are important factors that can modify indoor environment favoring less growth of molds.
- Preventive measures to reduce exposure to allergens might be most important methodology to reduce asthma symptoms and other respiratory illness.
- Avoiding cigarette and other tobacco smoke, venting all furnaces to the outdoors can ensure perceivable improvement in indoor air quality. Avoiding wood smoke, kerosene smokes and volatile organic compounds, like formaldehyde, are important too.
- Attention must be given to control burning wood, leaves and other waste containing polyethylene.
- Maximum emphasis should be given on utilization of gas as fuel to reduce all hazardous emissions to the environment.
- All gas appliances emitting out nitric oxide, nitrogen oxides and carbon monoxide are to be avoided in the house or they should have ducts to expel the gas to the outside. Adequate ventilation will decrease noxious gas concentration.
- Overall outdoor and indoor air quality should be monitored regularly and improvement are to be assured through awareness, avoidance and other scientific approaches.

Towards mitigation

In January 2003, Government of Bangladesh imposed a ban on Two-Stroke Baby Taxis as part of its program to improve the air quality in Dhaka city. Analysis of air quality data from two different sources (Department of Environment, Bangladesh and Bangladesh Atomic Energy Commission) shows a significant improvement in the quality of air in Dhaka after this measure (figures below).

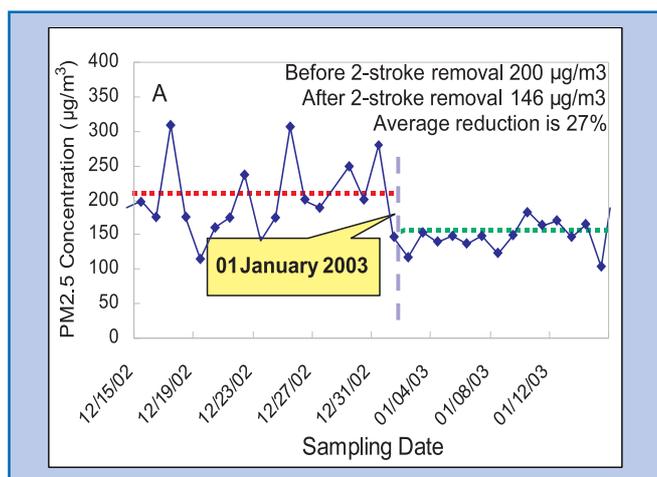


Figure A: Data from CAMS, DoE

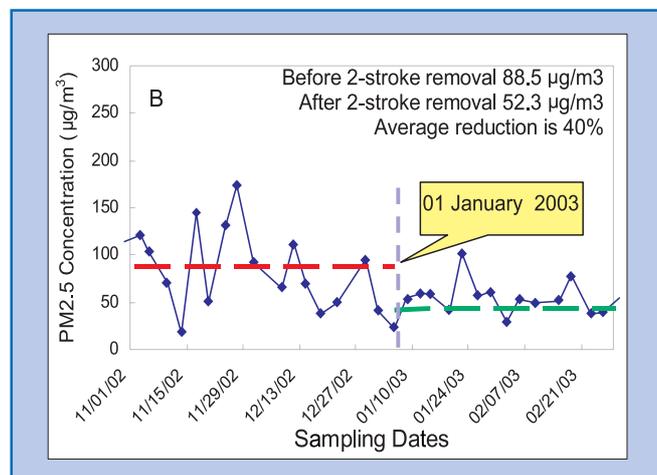


Figure B: Data from Farmgate, BAEC

Source: Dr. Swapan Kumar Biswas, National Stakeholders meeting of Malé Declaration

Meetings and events in brief

Workshop

A RAPIDC workshop on “Air pollution: Crops and Forests” was held at the Asian Institute of Technology, Thailand between 9 to 12 December 2003. The workshop discussed key observational and experimental studies describing air pollution impacts to crops and forests. UNEP RRC.AP presented the recent developments in the implementation of the Malé Declaration.

Discussion

Dr. Johan Kuylenstierna, SEI-Y visited UNEP RRC.AP on 23rd February 2003. Developments in the integrated assessment model and phase III implementation of the Malé Declaration were discussed during his visit.

Workshop

A RAPIDC Workshop on Rapid Urban Assessment, Health Impacts and Corrosion was held in New Delhi, India between 8 to 10 March 2004. Findings from Rapid Urban Assessment, Health Impacts and Corrosion programs were disseminated. UNEP RRC.AP made a presentation on Urban Air Pollution in the Context of the Malé Declaration. National Implementing Agencies from Bhutan, Bangladesh, Iran, Nepal and Sri Lanka; and SACEP also participated at this workshop.

Training

Mr. Sahdeo Choudary, one of the technical staff operating the Malé Declaration monitoring site at Chitwan, Nepal received a one-week intensive training course at CPCB, India. The training was on using AAS (Atomic Absorption Spectrophotometer) for rainwater analysis.

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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
New Delhi

Iran

NFP & NIA: Department of Environment
Tehran

Maldives

NFP & NIA: Ministry of Home Affairs, Housing & Environment
Malé

Nepal

NFP: Ministry of Population & Environment

NIA: International Center for Integrated Mountain Development
Kathmandu

Pakistan

NFP: Ministry of Environment, Local Govt. & Rural Development

NIA: Pakistan Environment Protection Agency,
Islamabad

Sri Lanka

NFP: Ministry of Environment & Natural Resources

NIA: Central Environment Authority, Colombo

Coordinating Agencies

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



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



Stockholm Environment Institute (SEI)
Stockholm, Sweden



Financial Support

Sida, the Swedish International Development Cooperation Agency, is funding this part of the Malé Declaration implementation as part of the Regional Air Pollution in Developing Countries (RAPIDC) programme.



Malé Declaration Newsletter

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