

The Tenth Session of the Intergovernmental Network Meeting  
of the Malé Declaration on Control and Prevention of Air Pollution and Its Likely Transboundary Effects for  
South Asia; 21 August 2008

## **Report on the Progress of Malé Declaration after the Ninth Session of the Intergovernmental Meeting (IG9)**

### **I. INTRODUCTION**

1. This report reviews the progress of Malé Declaration activities after the Ninth Session of the Intergovernmental Meeting (IG9) held in Maldives on 3 October 2008.

2. The review is based on the 6 objectives of the Phase III implementation of the Malé Declaration:

1. Strengthen regional cooperation and stakeholders participation under the Malé Declaration;
2. Strengthen capacity building programmes initiated during Phase II on monitoring;
3. Enhance the capacity of NIAs on emission inventory development and Integrated Assessment Modeling
4. To enhance the analytical and impact assessment capability at the national level through integration of findings from local pollution studies and conducting assessment studies;
5. Provide decision support information for policy formulation and air pollution prevention; and
6. Raise awareness for action through targeted dissemination

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

#### **II-1 Intergovernmental meeting**

3. The annual intergovernmental and stakeholders meetings are an opportunity for the participating countries to share their experience and to plan for the future. The ninth session of the intergovernmental (IG9) meeting was held in Bandos, Maldives on 3<sup>rd</sup> October 2007. Mr. R. Rajamani, former Secretary of Ministry of Environment and Forests, Government of India chaired the meeting as the Regional Facilitator.

4. The Session discussed and endorsed two draft reports with some changes and comments. The first one is on "Compendium of best practices on Prevention and Control of Air Pollution" and instructed the Secretariat to incorporate the comments from the countries, if any, to the extent possible and publishes it. The second one is on Malé Declaration public awareness material (Malé Declaration/IG9/3) on "Youth for Clean Air" compiled by South Asian Youth Environment Network (SAYEN) in collaboration with the Malé Declaration Secretariat.

5. The session discussed adopted, with minor comments, proposal for the Phase IV implementation of the Malé Declaration (Malé Declaration /IG9/5). The session discussed the need for the continuation of Sida support during the phase IV implementation and requested the Secretariat to communicate to the Minister of Development Cooperation at the Ministry of Foreign Affairs

of Sweden the need for the continuation of Sida funding for the implementation of the Malé Declaration Phase IV. Based on the requested the Secretariat has communicated the request of the countries to Minister of Development Cooperation at the Ministry of Foreign Affairs of Sweden in December 2007.

6. The session also reviewed the progress in 2007 and adopted the work plan for 2008.
7. The Secretariat compiled the proceedings of the meetings and distributed them through the internet. ([www.rrcap.unep.org/Male/](http://www.rrcap.unep.org/Male/))

#### II-2 Regional stakeholders meeting cum coordination meeting

8. Malé Declaration is one of the few intergovernmental networks to have a formal network for stakeholder consultation, facilitated through annual meetings. The Fourth Regional Stakeholders cum Coordination meeting was held back to back with IG9 in Bandos, Maldives on 2-3 October 2007. The meeting was attended by the National Focal Points (NFP) and National Implementing Agencies (NIA) of Malé Declaration as well as representatives from various stakeholders groups and ongoing initiatives on air pollution at national, sub-regional, regional, and global levels. Progress in the implementation of the Malé Declaration during 2007 and the proposed work plan for 2008 were presented and reviewed by the stakeholders. In addition to the review of activities under the Malé Declaration, the stakeholders' forum has also provided a forum for the air quality related initiatives in South Asia to share their experiences. The meeting agreed that a joint programme between LRTAP and Malé Declaration will benefit capacity building under the Malé Declaration. Therefore, as proposed, the Malé Secretariat sent a letter to LRTAP Secretariat regarding the joint programme. The forum also attracted relevant intergovernmental networks such as EANET, and urban air quality networks such as CAI-Asia.

9. The Secretariat compiled the proceedings of the meetings and distributed them through the internet. ([www.rrcap.unep.org/male/](http://www.rrcap.unep.org/male/))

#### II-3 Network expansion

10. The expert institutions, identified by National Focal Points are now actively involved in the impact assessment studies which has resulted in the expansion of the Malé Declaration network into the impact assessment area. Malé Declaration is now collaborating with Air Pollution Crop Effect Network (APCEN), Corrosion Network (CORNET) and Air Pollution Information Network for Africa (APINA) network. Secretariat had initial discussions with LRTAP convention on potential areas for collaboration. The EMEP steering body and the Executive Body of the LRTAP convention have responded positively.

#### II-4 National stakeholders forum

11. National stakeholders forums are being organized as part of the implementation of the Malé Declaration. The main aims of the stakeholders forum are to:
  - increase the awareness of transboundary air pollution;

- share and receive the stakeholders views and ideas on the implementation of the Malé Declaration; and
- improve the information exchange between information generators and users.

12. A National Stakeholders forum in Nepal was held in Kathmandu on 4 March 2008. The forum was organised by the National Focal Point (Ministry of Environment, Science and Technology - MOEST), and the National Implementing Agency (International Centre for Integrated Mountain Development - ICIMOD) in Nepal in collaboration with the Clean Air Network Nepal (CANN).

13. The stakeholder,s forum was participated by nearly 100 stakeholders representing various groups including schools, industries, and media. Stakeholders reviewed the air pollution issues and implementation of the Malé Declaration in Nepal. The stakeholder,s forum developed a new coordination mechanism to address the air pollution issues in Nepal.

14. National Stakeholder forum in Bhutan was held on 28 April 2008 in Thimphu, Bhutan. The forum was organized by National Environmental Commission and attended by Ministry of Health, Ministry of Agriculture, Ministry of Economy Affairs, Ministry of Finance, Ministry of Works and Human Settlement, Road Safety and Transport Authority and major Stakeholders who are directly involve in air pollution issues in Bhutan. The meeting started with opening remarks from Mr. Sonam Yangley, Director, NEC, Bhutan. The forum reviewed the air pollution issues and Malé Declaration implementation in Bhutan and identified specific recommendations for further implementation air pollution related activities in the country.

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

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

15. NIAs continued the operation of the monitoring sites during 2008. All the countries have submitted their data to the regional data based at the Malé Declaration Secretariat. Some of the developments in the existing monitoring stations include:

- National Implementing Agency in Bangladesh has recruited two new technical staffs to strengthen their monitoring activities at the site.
- Monitoring stations in in Bhutan, Iran and Sri Lanka have been equipped with instruments to measure meteorological parameters.
- Analytical capacity of Bhutan National Implementing Agency;s laboratory has been enhanced with the installation of AAS

16. MoC conducted site audit for Iran, Maldives, and Pakistan and provided site specific recommendations for further improvement of the data quality.

17. Details of the Malé Declaration monitoring sites are provided in the Annex 1.

#### III-2 Establishment of new monitoring sites

18. Five new monitoring sites are being installed during the phase III implementation to expand the geographical coverage of the monitoring network. In Bhutan, with the help of MoC, the NIA has completed the site selection process during a meeting held in Thimbu in April 2008. The installation of the monitoring site has been completed in June 2008.

19. In India, NIA has sanctioned three new stations under the Malé Declaration. The new monitoring stations will be established at Dawki in Meghalaya; in the Lakshadweep islands; and at Pathankot in Punjab. These stations will be operated by Meghalaya State Pollution Control Board (SPCB), Lakshadweep Pollution Control Committee (LPCC) and the Punjab State Pollution Control Board (SPCB) under National Air Quality Monitoring Programme (NAMP) of CPCB. NIA is in the process of establishing these stations.

20. In Iran, NIA with the help of MoC has finalised the site selection during a meeting held in July 2008. The installation of equipments is in the process.

21. In Sri Lanka, NIA in consultation with MoC has finalized the selection of new monitoring sites and completed the procurement of equipments. The new site will be located in the Haton place in the Central Province.

### III-3 Implementation of inter-laboratory comparison

22. In order to improve the quality of the participating laboratories of Malé Declaration, an inter-laboratory comparison programme was implemented based on an inter-laboratory comparison protocol which was presented during 2007 and reviewed during IG9.

23. The first attempt on inter-lab comparison was completed and the results were discussed during refresher training in March 2008. The results from the first attempt showed large variety in the results between the different laboratories. Results, together with recommendations for the improvement of laboratory practices, will be submitted to the NIAs.

### III-4 Passive sampler inter-comparison

24. A passive sampler inter-comparison study has been initiated to compare the available passive samplers in the region with the IVL sampler for their data quality and analytical procedure. The study has two main components: to implement a Passive Sampler inter-comparison and to compare Passive Samplers with active samplers.

25. Pak-EPA, Pakistan, the University of Peradeniya, Sri Lanka and the National Building Research Organisation (NBRO), Sri Lanka are participating in the Passive Sampler inter-comparison study.

26. The result of the passive sampler inter-comparison study was presented and discussed during refresher training in March 2008. The results of the study together will be discussed during the 5<sup>th</sup> session of the regional stakeholders cum coordination meeting in August 2008.

### III-5 National Training programme

27. In November 2007, a national training programme was organized in Bhutan on the operation of Atomic Absorption Spectrophotometer (AAS). The training programme focused on the improvement of analytical capability of laboratory staff on rainwater chemistry. Thirteen participants attended the training programme.

28. An exclusive training programme on monitoring of transboundary air pollution was conducted for two newly recruited technicians, who are in-charge of Malé monitoring station in Bangladesh. The training took place during 10-22 March 2008 at the Asian Institute of Technology.

### III-6 Regional training programme

29. The six regional training on monitoring transboundary air pollution was held at Asian Institute of Technology Conference Center, Pathumthani, Thailand during 25-28 March 2008. The major objective of the training are to review the QA/QC programme on monitoring activities, to review data reporting; and to discuss the issue encountered in operating the monitoring sites in each country. The result of the inter-lab comparison and passive sampler inter-comparison were also presented and discussed.

30. The training programme was attended by laboratory technicians and project managers in charge of each Malé Monitoring Station in participating countries as well as the members of Monitoring Committee (MoC), SEI, IVL, UNEP RRC.AP and AIT as a reference laboratory. The report of the training is available at <http://www.rrcap.unep.org/male/>.

### III-7 Central compilation, evaluation, and storage of data

31. The participating countries have submitted their data and related information obtained through the monitoring activities in 2007/08 to the Secretariat. After quality check by the MoC, the data were added to the regional data base. The Secretariat prepared a preliminary draft "Data report" for discussions at the refresher training programme held in March 2008. The preliminary draft data report was revised based on the comments at the refresher training, ready for the submission to the tenth Session of the Intergovernmental Network Meetings (IG10). Additional data from the participating countries were added to the database after the refresher training. In order to increase the quality of the data, the database and the data report was reviewed by an independent expert. Based on the review process the data reporting format was revised. Results of the review along with the revised data report and revised data reporting format will be submitted to the intergovernmental meeting. The regional database is available online for the NIAs at: <http://www.rrcap.unep.org/male/indicator/index.cfm>

### III-8 Study movement of air pollution

32. A lecture on trajectory analysis which is used to find the origin or the destination of an air-mass and some hands-on exercises were given to representatives from all Malé countries during the Emission inventory preparation / scenarios / atmospheric transport modeling workshops at

UNEP RRC.AP, Thailand during 28 January to 1 February 2008. During the training, all the country representatives, prepared and presented the trajectory calculations for their respective monitoring stations.

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

##### IV-1 Regional Training workshop

33. The first regional level workshop on emission inventory preparation / scenarios / atmospheric transport modelling was conducted in July 2006. Second follow-up workshop was organised at UNEP RRCAP during 26-28 February 2007 and the third follow-up workshop was organized at AIT Conference Center, Pathumthani, Thailand during 28 January to 1 February 2008. There were 27 participants in the workshop: Seventeen participants from all eight Malé Declaration participating countries and resources persons participated the training programme. Resource persons are from Stockholm Environment Institute - York (SEI-Y), International Institute for Industrial Environmental Economics (IIIEE), Institute for Environment and Sustainability (European Commission), Swedish Meteorological and Hydrological Institute SMHI, Asian Institute of Technology (AIT), EAGAR and UNEP RRC.AP. Inventory and Malé Declaration Emission Inventory to see how they are differed regarding data collection, emission factors used, emission sources, etc. The Secretariat compiled the proceedings of the workshop and distributed through internet. (<http://www.rrcap.unep.org/male/>). All countries have reported that they are developing the emission inventories and a couple have got to a stage where they have been checked for quality and are seen to be fairly comprehensive. Other countries have received the training, but due to some unforeseen issues, are still developing their first emission inventories.

##### IV-2 National Emission Training workshop

34. Bhutan requested additional national emission inventory training for their country and a workshop was organised during 29-30 April 2008 in Thimphu, Bhutan. Around 20 participants from Bhutan attended the training. After the training an emission inventory compilation grouping, comprised the representatives from different sectoral agencies, was established to compile the emission inventory for Bhutan.

##### IV-3 Scenarios Development

35. A working draft document entitled '*Development of Emission Scenario background and procedure manual: Manual for the Development of Emission Scenarios for Air Pollution Prevention and Control in South Asia*' was presented for the workshop in July 2006. A more advanced draft was then issued for a second round of review - and as a support for training - at the February 2007 workshop. An overview of the types of emission scenarios and its role within the air quality management cycle was presented during the third follow-up workshop which was held during 28 January to 1 February 2008. During the training, a hands-on exercise was conducted using the energy and emission scenarios of India for the year 2030. The exercise was based on IEA energy data for the year 2000.

#### IV-4 Integrated Assessment Modelling

36. The update on the Integrated Assessment Model (IAM) being developed for the Malé Declaration, named as Integrated Information and Assessment System (IIAS) was presented to the NIA during follow up training workshop in January 2008. The progress in the development of the model was presented and its current functionalities were demonstrated. The IIAS serves as a way to integrate the different Malé Declaration activities, and provide additional information. The use of IIAS, using sulphur deposition in South Asia, which was done using the EDGAR database on emissions and the MATCH model was demonstrated as an example to the participants during training. This approach could be used for the other pollutants for risk assessments, and therefore helpful in investigating various sub-regional and national scenarios.

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

##### V-1. Develop capacity for urban integrated assessments

37. Capacity building on urban integrated assessment is being enhanced through regional level training programme and city level case study. Case study is being implemented in Kathmandu, Nepal. The city of Kathmandu has been mapped with respect to area sources, major point sources and the road network. Data have been compiled into a GIS where geographical sources have been subdivided into sectors and activities. Traffic counts have been performed at some locations. Concentration of air pollutants were also monitored using diffusive samplers at nine sites for a period of 1 year. Results of the urban integrated assessment will be presented to the stakeholders meeting as well as the intergovernmental meeting.

38. A three-day regional level training workshop on urban integrated assessment was organized during 5 to 7 March 2008 in Kathmandu, Nepal. The workshop was attended by representatives from NIAs. The workshop discussed the results of integrated urban assessment studies in Kathmandu and identified the gaps in the region for conducting integrated urban assessment.

##### V-2 . Strengthen knowledge on impacts on human health

39. Capacity building on human health impact assessment is being enhanced through regional level training programme and city level case study. The case study is being implemented in Dhaka, Bangladesh. National Institute of Preventive and Social Medicine (NIPSOM) Bangladesh is conducting a health impact study among school children in selected schools in Dhaka.. Three schools had been selected in the central part of Dhaka city, which is subjected to high level of air particulate and all student of class VI, VII & VIII (around 2000) are included in the study. Expert visits has been organised during January 2007 for a survey and in August 2007, to give further guidance on data analysis. Results of the health impact assessment study will be presented to the regional stakeholders cum coordination meeting and the intergovernmental meeting.

40. The methodology, which is being followed in the health impact study in Dhaka, is being disseminated through regional level trainings. The second follow up regional training workshop on Health Impacts was held at AIT Conference Center, Thailand during 15-18 October 2007. Thirteen participants from Malé Declaration countries attended the training workshop. They were drawn from the Government agencies dealing with environment and with health issues. The Secretariat compiled the proceedings of the workshop and distributed through internet. ([www.rrcap.unep.org/male/](http://www.rrcap.unep.org/male/)).

#### V-3. Strengthen knowledge on impacts on crops

41. Capacity building on crop impact assessment is being enhanced through regional level training programmes and national level. Case studies are being implemented in Bangladesh, India, Nepal, Pakistan, and Sri Lanka. Two methodologies are applied to assess the impacts of air pollutants on crop: (i) bio-monitoring campaign, and (ii) chemical protectant study.

42. *Bio-monitoring campaign:* To assess visible injury and biomass reductions resulting from exposure to ozone pollution, an existing clover-clone bio-monitoring method was modified for application under Asian conditions. This method is applied according to a standardised experimental protocol, which was introduced during the 1<sup>st</sup> Malé crops training workshop (Dhaka, August 2007) and revised during the combined 2<sup>nd</sup> Malé crops training workshop and the 3<sup>rd</sup> APCEN (Air Pollution Crop Effect Network) network meeting (Bangkok, March 2008). The bio-monitoring campaign in Pakistan acted as the pilot study for the region since the expertise of Prof. Shamsi provides an opportunity to infer the suitability of this experiment for south Asian conditions.

43. Problems in establishing the clover plants meant that the satisfaction with this experiment among participants decreased over the course of the project. All scientists expressed their wish to concentrate more on the chemical protectant study (see below). It should however be mentioned that a new bio-monitoring technique using two genotypes of bush bean (*Phaseolus vulgaris*) with differing sensitivity to ozone might be available soon for a first pilot study in South Asia. There was general consensus among Malé crop effect scientists that this technique might be more appropriate, because i) beans are a staple crop in the region and are known to grow well in the South Asian climate, and ii) the plants would be propagated from seeds rather than cuttings, which will avoid the transport and plant import problems encountered with the clover cuttings.

44. *Chemical protectant stud.:* To demonstrate the actual yield losses for specific crops resulting from elevated ozone concentrations, a chemical protectant experimental method using EDU (ethylenediurea) was selected. This method has been widely used in South Asia (i.e. India and Pakistan) for a number of different crops and varieties and can provide data describing yield losses under ambient ozone conditions in comparison to plants growing in an ozone free (protected) environment. Malé participants were trained in the use of this method during the 1<sup>st</sup> Malé crops training workshop (Dhaka, August 2007); the method was revised during the combined 2<sup>nd</sup> Malé crops training workshop and the 3<sup>rd</sup> APCEN network meeting (Bangkok, March 2008). Because of the problems with the clover bio-monitoring, it was agreed among the Malé participants, SEI and UNEP to extend the chemical protectant study, in effect replacing the final year clover bio-monitoring study. India carried out a pilot EDU study as part of the APCEN activity on mung bean in 2006. Since then Indian has carried out two further EDU studies, one for spinach (2007) and one for potato (2008); these pilot studies were conducted as a Malé crops activity allowing the development of EDU



protocols for new species. Pakistan has carried out two studies with spinach and mung bean (a 3<sup>rd</sup> study using mung bean is underway ); Bangladesh has started with an EDU chemical protectant study in December 2007. Nepal and Sri Lanka will each perform one study using mung bean in the 2008 growing season. Once these studies are complete, the data will be synthesised and used to complete the Malé crops project report.

45. A regional-level workshop on crop impacts assessment was held in Pathumtani, Thailand on 11 March 2008 to discuss the results obtained thus far, from the national-level case studies. The workshop was attended by participants from the Malé Declaration member countries as well as experts from APCEN. The workshop reviewed the preliminary results from crop impacts assessment studies in Bangladesh, India, Nepal, Pakistan, and Sri Lanka. An assessment report compiling results from all case studies will be presented to the stakeholders cum coordination meeting and the intergovernmental meeting.

#### V-4. Strengthen knowledge on corrosion

46. Capacity building on corrosion impact assessment is being enhanced through regional level training programme and national level case studies. Corrosion impact sites were established in Kathmandu, Nepal; Agra, India; Battaramulla, Sri Lanka; Teheran, Iran and Hanimaadhoo, Maldives. Exposure started in the fall of 2006 with planned withdrawal of specimens in 2007. The evaluations of results are on-going.

47. A training programme on stock at risk was conducted in Kathmandu, Nepal during 29 October – 2 November 2007. The training included stock at risk methodologies, and in field training of stock at risk assessment based on a case study at Patan Durban square. .

48. The second training workshop on “development of dose-response functions, stock of materials at risk and evaluation of corrosion trends” was held in Livingstone, Zambia during 11-13 February 2008. The workshop was organised jointly by the Air Pollution Information Network for Africa (APINA) through the School of Mines, University of Lusaka, Zambia, the UNEP Regional Resource Centre for Asia and the Pacific (RRCAP), and CORNET. There were nineteen participants from Malé Declaration countries, CORNET network, APINA network (South Africa, Mozambique, Tanzania, Zimbabwe, Zambia) and from collaborating institutions attended the workshop. The workshop was aimed at capacity building for development of dose-response functions, assessment of stock of materials at risk and evaluation of trend results.

49. These data collected from the Malé corrosion sites were recently compiled and presented at the workshop. The work on development of dose-response functions is on going. The raw data have been distributed to all participants of the project. Materials which were exposed at Malé Declaration corrosion sites are intended for three exposure periods: 1, 2 and 4 years of exposure. Hence, It was concluded at the 2nd Corrosion meeting and workshop in Livingstone that continued trend exposures are important in order to verify future changes. The report of the training is available on [www.rrcap.unep.org/male](http://www.rrcap.unep.org/male). Results of the case studies will be presented to the stakeholders cum coordination meeting and the intergovernmental meeting.

#### V-5. Soil Acidification

50. The first training workshop on soil acidification was held during 25-28 March in AITCC, Thailand. Representatives from the participating countries of the Malé Declaration participated the training workshop. They were drawn from NIAs and Universities working on soil science and ecology. The main objectives of the training were to introduce the assessment of acidification and experience from Europe and North America; methodology for mapping sensitive soil in South Asia; and modeling the time development of damage for South Asian soils. The Malé Declaration manual on monitoring soil acidification was used as the background document.

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

51. Decision support information focuses on two major areas:

- Promote case studies in practical options to reduce air pollution;
- Study good practices for local, national and regional level legal and financial measures and provide options tailored for each country.

### VI-1 Case studies

52. UNEP had established a network of experts on eco-housing and has been promoting eco-housing in South Asia through networking, demonstration projects, capacity building and building a knowledgebase. This network is assisting the Malé Declaration countries in disseminating the concept of eco-housing.

53. Training workshop on Eco-housing: A six-day training workshop on eco-housing was conducted during 31 March to 5 April 2008 at the UNEP RRC.AP office and Chulalongkorn University, Thailand. The objective was to build the capacity and develop awareness on the various aspects of eco-housing among Malé Declaration member countries. The workshop dealt with various aspects of eco-housing such as design, building materials, and construction techniques. The training included study visits to eco-housing projects at various sites in Thailand. Resource persons were drawn from the Chulalongkorn University, the Asian Institute of Technology, Thailand, and UNEP RRC.AP.

### VI-2 Compendium of good practices and strategies for implementing air pollution prevention and control measures in South Asia

54. The following steps are applied for implementation of this activity: (i) identify the areas for pollution control and abatement in the participating countries of the Malé Declaration; (ii) collate success stories (for pollution control and abatement); and identify the strategy for up scaling the success stories and disseminate them. A compendium of good practices in preventing and controlling air pollution in South Asia has been completed and endorsed by the IG9. The finalized compendium

will be widely disseminated in South Asia. A draft report on strategies to implement and upscale the identified good practices in South Asia has been developed. The draft report will be submitted for the consideration by the IG10.

## VII. RAISE AWARENESS FOR ACTION THROUGH TARGETED DISSEMINATION

### VII-1 Newsletter and Brochure

55. . The Malé Declaration newsletter was launched in 2002 to disseminate Malé Declaration related information to the public and stakeholders. The content of the newsletter has largely been reports on the network's activities. The Secretariat published the Malé Declaration newsletter, Vol. 5 Number 2 in November 2007 and Vol. 6 Number 1 in April 2008. It is expected that the newsletter will serve as a medium for information sharing both within and beyond the Malé Declaration network. The digital file could be downloaded from <http://www.rrcap.unep.org/male> . The newsletter and brochure are distributed to all the members of UNEP Collaborative Assessment Network (CAN), which includes generators and users of environmental data in Asia. The newsletter is also distributed through relevant meetings.

### VII-2 Information sharing

56. The Secretariat updated the Malé Declaration website by posting relevant information on Malé Declaration activities, such as training programmes, meeting documents, and the newsletter. Relevant scientific and technical information was disseminated among the participating countries, as well as other countries, relevant organizations, and individuals.

### VII-3 Dissemination through the youth network

57. SAYEN has been participating in the awareness activities of the Malé Declaration. A public awareness document titled "Youth for Clean Air" was developed and endorsed by the IG9 with comments. The public awareness document has been finalized by incorporating the comments from IG9 and it will be published during IG10. Based on the publication an animated interactive CD has also developed. These public awareness information will be disseminated through national level awareness programmes for other Youth, and school.

### VII-4 National level public awareness campaigns

58. The Malé Declaration Secretariat together with the NIAs published national brochures on Malé Declaration. These brochures have been widely disseminated at the national and regional levels.

59. Awareness campaigns have been developed for Bangladesh and Sri Lanka. In Bangladesh, NIA has developed and disseminated brochures, posters, and sticker in local language during the world environment day. The activities in Bangladesh have also included: stage dramas, folk songs.

60. The Awareness campaigns in Sri Lanka is targeted according to the levels of education and understanding of the general public, School and University students and Technical/Scientific professionals. The NIA in Sri Lanka has developed a comprehensive plan for the national level awareness activities.

Annex 1: Details of Malé Declaration monitoring sites

<p><b>Country:</b> Bhutan; <b>Station:</b> Gelephu  <b>Latitude and longitude:</b> 27°0'N; 90°30'E  <b>Altitude:</b> ~ 350m above sea level  <b>Site type:</b> Remote site, close to Jigme Singye Wangchuk National Park and Manas National park  <b>Monitoring parameters:</b>  Air quality: PM<sub>10</sub> (particulate mass of particles with diameters &lt;10µm) or Respirable Suspended Particulate Matter (RSPM) or, Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO<sub>2</sub>) and Nitrogen dioxide (NO<sub>2</sub>).  Wet deposition: pH, and Electric Conductivity (EC)</p>	<p><b>Country:</b> Bangladesh; <b>Station:</b> Kulna  <b>Latitude and longitude:</b> 22° 18.975' N; 89° 02.607'E  <b>Site type:</b> Rural site, located about 30 km North to the Sundarbans forest.  <b>Monitoring parameters:</b>  Air quality: PM<sub>10</sub> (particulate mass of particles with diameters &lt;10µm) or Respirable Suspended Particulate Matter (RSPM), Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO<sub>2</sub>) and Nitrogen dioxide (NO<sub>2</sub>).  Wet deposition: pH, and Electric Conductivity (EC)</p>
<p><b>Country:</b> Iran; <b>Station:</b> Chamsari  <b>Latitude and longitude:</b> 32° 24'N, 47°31'E  <b>Site type:</b> Rural site, 40 km south to the town of Dehlaran and about 200 km south to Ilam, the headquarters of the province.  <b>Monitoring parameters:</b>  Air quality: PM<sub>10</sub> (particulate mass of particles with diameters &lt;10µm) or Respirable Suspended Particulate Matter (RSPM), Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO<sub>2</sub>) and Nitrogen dioxide (NO<sub>2</sub>).  Wet deposition: pH, and Electric Conductivity (EC)</p>	<p><b>Country:</b> India; <b>Station:</b> Port Canning  <b>Average annual rainfall:</b> 1750 – 1800 mm  <b>Dominant wind direction:</b> N/NE during winter and S/SW in summer  <b>Site type:</b> Rural site, close to Synderbans.  <b>Monitoring parameters:</b>  Air quality: PM<sub>10</sub> (particulate mass of particles with diameters &lt;10µm) or Respirable Suspended Particulate Matter (RSPM), Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO<sub>2</sub>) and Nitrogen dioxide (NO<sub>2</sub>).  Wet deposition: pH, and Electric Conductivity (EC)</p>
<p><b>Country:</b> Maldives; <b>Station:</b> Hanimaadhu  <b>Latitude and longitude:</b> 6.78° N and 73.18° E  <b>Altitude:</b> ~2 m  <b>Site type:</b> Remote site, in the northernmost atoll of Maldives located about 400 km to the north of the country's capital, Malé.  <b>Monitoring parameters:</b>  Air quality: Sulphur dioxide (SO<sub>2</sub>) and Nitrogen dioxide (NO<sub>2</sub>).</p>	<p><b>Country:</b> Nepal; <b>Station:</b> Rampur  <b>Latitude and longitude:</b> 27° 38'N; 84° 20'E  <b>Altitude:</b> 164.95 m  <b>Site type:</b> Rural site, located about 15 km to the south of the Royal Chitawan national park.  <b>Monitoring parameters:</b>  Air quality: PM<sub>10</sub> (particulate mass of particles with diameters &lt;10µm) or Respirable Suspended Particulate Matter (RSPM), Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO<sub>2</sub>) and Nitrogen dioxide (NO<sub>2</sub>).  Wet deposition: pH, and Electric Conductivity (EC)</p>
<p><b>Country:</b> Pakistan; <b>Station:</b> Bahawalnagar  <b>Site type:</b> Rural site  <b>Monitoring parameters:</b>  Air quality: PM<sub>10</sub> (particulate mass of particles with diameters &lt;10µm) or Respirable Suspended Particulate Matter (RSPM), Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO<sub>2</sub>) and Nitrogen dioxide (NO<sub>2</sub>).  Wet deposition: pH, Electric Conductivity (EC)</p>	<p><b>Country:</b> Sri Lanka; <b>Station:</b> Dutuwewa  <b>Latitude and longitude:</b> 08° 20.952' N; 80 45.751'E  <b>Altitude:</b> ~ 100m  <b>Site type:</b> Remote site, in a forest in the north-central part of Sri Lanka  <b>Monitoring parameters:</b>  Air quality: PM<sub>10</sub> (particulate mass of particles with diameters &lt;10µm) or Respirable Suspended Particulate Matter (RSPM), Total Suspended Particulate Matter (TSPM), Sulphur dioxide (SO<sub>2</sub>) and Nitrogen dioxide (NO<sub>2</sub>).  Wet deposition: pH, Electric Conductivity (EC), Na<sup>+</sup>, K<sup>+</sup>,</p>