

Fifteenth Session of the Intergovernmental Meeting  
Malé Declaration on Control and Prevention of Air Pollution and  
Its Likely Transboundary Effects for South Asia (Malé Declaration)  
16 October 2016, Colombo, Sri Lanka

## **Plan for Phase VI of the Malé Declaration (2017-2020) (Draft)**

### **I. Introduction**

1. Works under the 1998 “Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia” (Malé Declaration) provide an operational platform for gathering and disseminating reliable information on regional air pollution as a basis for envisaged policy development. Coordination of the programme is facilitated by the Secretariat at the Regional Resource Centre for Asia Pacific (RRC AP), Asian Institute of Technology located in Pathumthani, Thailand.
2. During the last 17 years of implementation, network of policy makers and stakeholders has been established, networks of monitoring and impact assessment have been established, completed several impact assessment studies and communicated to policy makers and stakeholders, and initiated policy measures to control emissions of air pollutants. The Twelfth Session of the Intergovernmental Meeting of the Malé Declaration held in June 2011, agreed to develop source specific protocols to control emissions and agreed on sustainable financing mechanism. Some countries are already contributing financially for the implementation of activities of the network.
3. The recent Phase V (2014-2016) aims to promote policy measures to control emissions of air pollution including short-lived climate pollutants (SLCPs) in South Asia and to ensure the sustainability and ownership of the Malé Declaration in the region. Phase VI was done through the intergovernmental meetings, stakeholders networks, intergovernmental task forces, and Regional Technical Centres for Wet and Dry Deposition Monitoring, Crops and Vegetation Monitoring, Soil Monitoring, Corrosion Impact Assessment, Health Impact Assessment, Emission Inventories, Modelling Atmospheric Transport of Air Pollution, and Pollution Reduction Policies/Strategies.
4. The Malé Declaration programme is exclusively owned by the eight participating countries. This joint ownership is an obvious strength for optimal performance of its activities. Safeguarding and strengthening such ownership would facilitate funding of further implementation and programme delivery.
5. The Draft Plan for Phase VI of the Malé Declaration (2017-2020) was discussed during the Fifth Meeting of the Task Force for Future Development of Malé Declaration held on 19 August 2016, New Delhi, India. Major discussions and suggestions included:
  - It was suggested to look for ways to access funding resources by submitting project proposals to major donor agencies.
  - Linkages with other organizations is important to effectively implement activities.

- It was suggested to consolidate all issues, identify ways to bridge the gap, i.e. for technical gap, work on organizing training programmes.
- It was suggested to strengthen the dissemination regarding the network.
- It was stressed to identify all issues in capacity-building to properly design the appropriate program.
- Project proposals for Regional Centers in the countries was suggested.
- It was proposed to hire a consultant to develop the Report on Strengthening the Framework of Malé Declaration.
- Newsletter development will continue.
- Learn best practices on air pollution issues including SLCPs from other networks to strengthen the Malé Declaration.

6. This document will be submitted to the Fifteenth Session of the Intergovernmental Meeting of Malé Declaration (IG15) to be held 16 October 2016, Colombo, Sri Lanka for its endorsement.

## **II. Objectives of Phase VI**

7. The objectives of Phase VI include:

- To enhance and strengthen monitoring of air pollutants, including short-lived climate pollutants, emission inventory and modelling, as well as impact studies and awareness-raising that will facilitate science-based political decision-making for the immediate benefit of the whole region and beyond.
- To improve assessment of air pollution and promote mitigation measures and emission control in South Asia region.
- To exchange information and review member countries policies, scientific activities and technical measures aimed at combating, as far as possible, the discharge of air pollutants which may have adverse effects, thereby contributing to the reduction of air pollution including long-range transboundary air pollution.
- To continue and enhance regional cooperation in order to secure long-term stable and sustainable progress in the Malé Declaration countries, ideally leading to intergovernmental policy arrangements.

## **III. Proposed Activities During Phase VI**

8. The following are proposed activities for Phase VI implementation:

### **3.1 Enhance and update the monitoring activities**

9. The Malé Declaration monitoring programme is important to protect and promote so it can provide the basis for action and the crucial task of the reviewing success of implementation. The Malé Declaration has established a foundation for harmonized monitoring of regional air

pollution. The time series data generated by the network need to be continued. It requires sustainable financing from the member countries.

10. Regional Center for Wet and Dry Monitoring (India) has been established. Capacity of national centers need to be further strengthened in a harmonized manner using the regional center.

11. Considering the recent developments in atmospheric science, capacity of member countries could be enhanced to monitor air pollution including SLCPs to assess environmental and climatic impacts of air pollutants.

### **3.2 Capacity building and strengthening the impact assessment (i.e. health impact assessment, crop impact assessment and corrosion impact assessment)**

12. Capacity building of national implementing agencies in air pollution, impact assessment and mitigation strategies will continue in Phase VI for the MD activities.

13. Impact assessment that involved air pollution and human health and crop loss shall continue in the participating countries. Some studies were undertaken in the previous phase and shall be strengthened in the next phase.

14. The studies on the link of the Malé Declaration emission activities to the impacts (health and ecosystems) as well as climate change (e.g. Short-lived Climate Pollutants (SLCPs)) have to be intensified and strengthened as well.

#### *3.2.1 Human Health Impact Assessment*

15. Successful studies carried out by South Asian practitioners on the relationship between air pollution (particulate matter (PM)) and the health of school children in Dhaka, Bangladesh, Kathmandu, Nepal and Islamabad, Pakistan. Regionally specific data shows that lung function of children is impacted by levels of particulate matter pollution found in Asian cities. The Malé Declaration studies are some of the first to have been conducted where particulate matter concentrations are at the highest levels found in many large Asian cities. The finding of these studies emphasize the high cost of air pollution to the health of the community and the need to implement cost-effective measures to reduce emissions of health-damaging air pollutants. A Regional Centre of Health Impact Assessment was established in Bangladesh to oversee coordination, harmonization, quality control and reporting of the Malé Declaration health impact activities.

16. The activities will be undertaken in health impact studies in some other countries during Phase VI as follows:

17. Carefully selected technical studies of the health impacts of PM<sub>2.5</sub> should be established to inform policy, with an emphasis on analysis of social and economic impacts of air pollution on health to enable more thorough national and regional assessments of impacts, policy options, costs and health benefits of key options.

18. A regional study should be conducted to quantify and assess the health costs and associated social and economic costs of ambient concentrations of health damaging PM<sub>2.5</sub> particles in Malé Declaration countries and reporting to the Governments. The aim is to enable more thorough national assessments of impacts, policy options, costs and health benefits of key options to reduce the burden of disease caused by air pollution. This could be conducted by a team nominated by governments of Malé Declaration countries using national data and working to a common methodology.

### *3.2.2 Crop Impact Assessment*

19. New large-scale experimental evidence of effects of air pollutant ozone (O<sub>3</sub>) at ground level on yield of important South Asian crops, such as Mung bean, spinach, wheat and potato; evidence fits well with modelling-based regional prediction of O<sub>3</sub> concentration fields and the national emission inventory work of the Malé Declaration. The Malé Declaration has produced wide-spread evidence of plant-damaging concentration levels of O<sub>3</sub> during main growing seasons of important South Asian crops. Standardized risk assessment methodologies have been developed that have been evaluated for their application across the region. A Regional Centre of Crop Impact Assessment is currently being established in Pakistan to oversee coordination, harmonization, quality control and reporting of the Malé Declaration crop impact activities.

20. Activities suggested to be undertaken on crop impact assessment include:

-Although this work has established methods that enable increased understanding of current day air pollution impacts in the Malé Declaration countries, there still remain a large number of future challenges to fill the remaining knowledge gaps, such as a better estimation of the extent of yield losses of staple crops across the entire South Asian region, the differing O<sub>3</sub> sensitivity of common crop cultivars cultivated in the region, the effect of a changing climate on crop growth and eventually a robust estimation of the extent of the socio-economic effects of O<sub>3</sub> and climate change on crop yields for small- to large-scale farmers in the region.

-Future assessments related to crop impacts from O<sub>3</sub> would therefore ideally incorporate the effects of climate change, and seek to involve specialists on adaptation options. Ideally, key decision-makers from governments would come together to discuss likely combined impacts, measures to reduce vulnerability of end users, national risk assessments and policy options to reduce the threat from this environmental problem. The opportunity for co-benefits for air pollution and climate change in emission reduction policy is of particular importance in South Asia as well as in other developing regions around the globe.

### *3.2.3 Corrosion Impact Assessment*

21. The capacity to understand the air pollution impacts of corrosion on materials and cultural heritage has been significantly increased in South Asia, as well as the capacity to undertake stock at risk and economic loss assessments. In South Asia, dry deposition of sulphur dioxide (SO<sub>2</sub>) is the most important parameter for corrosion impacts but acid rain is also important

for all materials while nitric acid (HNO<sub>3</sub>) is important for the corrosion of zinc and limestone. A Regional Centre of Corrosion Impact Assessment is currently being established in India to oversee coordination, harmonization, quality control and reporting of the Malé Declaration corrosion impact activities.

### **3.3. Update Emission Inventory and Strengthen modelling**

22. Air pollutant emission inventory (EI) compilation capacity has been considerably enhanced in all eight Malé Declaration countries. Using a harmonised methodology (the Malé Declaration Emission Inventory Manual/Workbook), national EIs have been produced for the baseline year 2000 and draft EIs for 2005 are currently being finalised in some countries. As a result of this activity, decision makers will now be better able to identify national and regional trends in air pollution emissions and prioritize emission sources for mitigation. The EI data will also provide input for modelling the regional impacts of these emissions and assessing the likely benefits of alternative mitigation scenarios. A major achievement has been the establishment of the Regional Centre on Emission Inventory (at the Central Environment Authority, Colombo, Sri Lanka) to oversee coordination, harmonization, quality control and reporting of the Malé Declaration EI activities.

23. The Regional Centre on Modelling Atmospheric Transport of Air Pollution (Iran) can build on existing work and link with modellers in the region to assess the current extent of transboundary air pollution in the South Asia.

24. The work of the Male Declaration should also link with other international initiatives, such as the LRATP Task Force on Hemispheric Transport of Air Pollution (HTAP), that estimate the movement of air pollution between regions.

### **3.4. Decision Support for Policy Formulation and Mitigation**

#### ***Convene Sessions of the Intergovernmental Meeting***

25. The sessions of the Intergovernmental Meeting (IG) will be convened annually during the Phase VI in order to review the progress and make decisions on further implementation, e.g. the review on air quality guidelines and emission standards to draw policy recommendation and road map for emission reduction in South Asia.

#### ***Convene Meetings of the Task Force on Future Development (TFFD)***

26. The TFFD will meet prior to IG Sessions. The TFFD will discuss the future development of Malé Declaration, for submission to the Intergovernmental Meeting (IG) every year.

#### ***Convene Meeting of the Expert Group on Strengthening the Framework of Malé Declaration***

27. The Expert Group Meeting will be convened during Phase VI specifically on 2017, based on its Terms of Reference (TOR) as approved by the IG14. A consultant will be hired to develop the Report of the Expert Group.

### ***Convene Stakeholders Meetings***

28. The Regional Stakeholders meetings will be convened every 2 years to consult on the implementation of Malé Declaration, and to raise awareness on air pollution issues in the region. The meeting will also bring together scientific activities on-going in South Asia to inform the Malé stakeholders. The National Stakeholder Meetings will be held in phase VI implementation. The design of these meetings will be considered to ensure maximum engagement of the stakeholders at national level.

### **3.5. Implementation on the activities of regional technical centres and enable them to conduct studies and communicate the results to policy makers and stakeholders**

29. The basic function of a regional centre is to enhance and exchange knowledge and to support the research and development on air pollution issues in the region on the proposed theme namely: a) dry and wet deposition monitoring; b) soil monitoring c) vegetation monitoring; d) corrosion impact assessment; e) health impact assessment; e) emission inventory compilation f) atmospheric transport modeling; and g) pollution reduction policies/strategies. The activities of the regional centers in accordance with the Terms of Reference adopted by the IG will be implemented and pursued in phase V. The regional centers shall enable to conduct studies and communicate the results to policy makers and stakeholders, among others.

30. In Phase VI, project proposals for the Regional Centers will be developed for submission to donor agencies.

### **3.6. Raising awareness**

31. Regional-level training-cum-awareness workshop will be conducted for policy makers. High-level policy makers in different ministries will also be targeted to broaden the awareness of the issues on transboundary air pollution. Other stakeholders and youth awareness on air pollution issues in the region will be enhanced through trainings and workshops during phase V.

32. The development of newsletter and updating of the MD website at the Secretariat office will be continued and enhanced.

### **3.7. Co-benefits approach**

33. The Malé Declaration Emission Inventory Manual preparation tool has now been extended to include emissions of methane (in important precursor of tropospheric ozone) and two constituents of particulate matter (black carbon and organic carbon) that can have impacts on regional and global climate in the short-term. Thus, in the future or in this phase, this will enable Malé Declaration countries to assess the co-benefits of any planned air pollutant mitigation actions for also reducing concentrations of the short-lived climate pollutants (SLCP) such as black carbon and tropospheric ozone.

### **3.8. Implementation of the Sustainable Developments Goals (SDGs)**

34. The Male' Declaration will support in the implementation of mandates by the countries regarding the United Nations Sustainable Development Goals (SDGs), adopted in September 2015, of which three goals pertain to air pollution, which include, Goal 3: Ensure healthy lives and promote well-being for all at all ages; Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all, and Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Targets have been set up, which also include: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination" for Goal 3; Ensure universal access to affordable, reliable and modern energy services for Goal 7; and by 2030, reduce the adverse per capita environmental impact of cities for Goal 11, among others.

35. The Male' Declaration will assist in facilitating and helping governments to formulate action plans and establish and implement nationally determined ambient air quality standards, taking into account the World Health Organization Air Quality Guidelines and other relevant information and to establish emissions standards for their significant sources of air pollution; and assist countries in Asia on the aspects of ambient air quality and emission monitoring, air and atmospheric modelling, development of air quality management policy and plan and air pollution control technologies.

### **IV. Financial Consideration**

36. The Thirteenth Session of the Intergovernmental Meeting (IG13) held in 2013 in Bangladesh endorsed the "Guidelines for implementation of the sustainable financial mechanism".

37. The contribution of the participating countries is crucial for the successful implementation of Phase VI as regional level core activities. Similarly, it is urged that monitoring activities shall continue using their national budget. Depending on availability of funding, activities on Malé Declaration will be prioritized in consultation with the member countries.

#### ***Regional Level Core Activities***

38. Table-1 presents the annual budget of each of the core activities under the regional level, and Table 2 presents the voluntary financial contribution per year by the member countries.

**Table-1 for the Budget of Regional Core Level Activities**

<b>No.</b>	<b>Activities/Tasks</b>	<b>Estimated Budget (USD)</b>
<b>1.</b>	<b>Decision support for policy formulation</b>	
	Intergovernmental Meeting	30,000
	Task Force on Future Development Meeting	30,000
	Expert Group Meeting and Hiring of Consultant in 2017	23,000
<b>2.</b>	<b>Strengthening the monitoring, capacity building and training</b>	
	Regional Training Workshop on Air Pollution	20,000
<b>3.</b>	<b>Impact assessment</b>	
	Regional Training Workshops on Impact Assessment (health impact, crop impact and corrosion impact)	30,000
<b>4.</b>	<b>Emission inventory and modelling</b>	
	Workshop on emission inventory and modelling	20,000
<b>5.</b>	<b>Raising awareness</b>	
	Regional Stakeholders Meeting	20,000
<b>6.</b>	<b>Programme Operation</b>	
	Personnel	60,000
	Operating cost (office supplies, postage, communication)	8,000
	Reporting, Publications and Newsletters	2,000
	Staff travel	7,000
	Programme support	32,500
<b>7.</b>	<b>TOTAL BUDGET</b>	<b>282,500</b>



**Table 2 – Annual Contribution by the Member Countries to the Regional Core Activities of the Malé Declaration**

<b>Estimated Contribution in Phase VI (2017-2020)</b>				
<b>No.</b>	<b>Country</b>	<b>UN assessment scale (20-16-2018) (%)</b>	<b>Male' Declaration Burden Sharing (%)</b>	<b>Contribution in US \$</b>
1	Bangladesh	0.01	0.740	2,091
2	Bhutan	0.001	0.074	209
3	India	0.737	54.552	154,110
4	Iran	0.471	34.863	98,488
5	Maldives	0.002	0.148	418
6	Nepal	0.006	0.444	1,255
7	Pakistan	0.093	6.884	19,447
8	Sri Lanka	0.031	2.295	6,482
	<b>Total</b>	<b>1.351</b>	<b>100</b>	<b>282,500</b>

### **Additional Activities**

39. The budget for other activities varies according to the project to be implemented in each of the participating countries.