

Thirteenth Session of the Intergovernmental Meeting on
Malé Declaration on Control and Prevention of Air Pollution and
Its Likely Transboundary Effects for South Asia (Malé Declaration)
20 May 2013, Dhaka, Bangladesh

Draft Guidelines for the Operation of the Regional Centres

I. Introduction

1. As the implementation of the Malé Declaration has progressed a lot, greater involvement of the participating countries is required. Moreover, establishing centers at regional and national levels is necessary to sustain the capability building in the region and at the national level. The First Meeting of the Task Force on Future Development (TFFD) of the Malé Declaration on Control and Prevention of Air Pollution and Its Likely Transboundary Effects for South Asia (Malé Declaration) held on 2-3 August 2010 at Pathumthani, Thailand, agreed on the framework and outline of the feasibility report on the establishment of regional centres.

2. During the Second Meeting of the TFFD which was held on 29-30 November 2010 in Colombo, Sri Lanka, the draft feasibility report on the regional centres was discussed and potential regional centres were identified.

3. The Objectives of the Regional Centre:

- The purpose of a regional centre is to advise on any technical problem faced by a country and provide guidance on the smooth operation of Malé Declaration activities and how to maintain high quality data provision. It will also offer training courses to update and enhance the knowledge and capacity in the field.
- The basic function of a regional centre is to 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.

4. The Twelfth Session of the Intergovernmental Meeting (IG12) of the Malé Declaration held in Delhi, India on 30 June 2011 adopted, with modifications the “Report of the Task Force for Future Development (TFFD)”, including the Feasibility Report on the Establishment of Regional Centres, among others.

5. This draft document was discussed at the Third Meeting of the Task Force on Future Development (TFFD3), for submission to the Thirteenth Session of the Intergovernmental Meeting (IG13), for its review and guidance.

II. Previous Discussions

6. The Secretariat made a presentation on the draft guidelines for operation of the regional centres during the Third Meeting of the TTFD (TTFD3). Major discussions are as follows:

- It was clarified that the regional centers would be established in a phase-wise manner as decided by the IG12.
- It was suggested that the selected regional centers shall prepare the work program for the regional centers based on the Terms of Reference (TOR), and submit to IG13.
- The Secretariat will prepare and circulate a template for the preparation of work programme for regional centers.
- Based on the suggestion, a template was prepared and circulated to the participating countries for comments on 9 October 2012 by the Secretariat as presented in Annex 1. Comments received from countries are as follows:
 - *Include a tentative timeframe in the work plan and schedule for reporting (quarterly/half yearly/annually).*
 - *Indicate time needed for preparing of work plan.*
 - *Expectation from the Regional Center. What programs should be followed, e.g. training course, guide program on implementation for modeling, etc.?*

III. Next Steps of Implementation

7. For the implementation, the operation of the regional centres will be in accordance with the decision of the IG12, of which the Terms of Reference is herewith attached as Annex 1. The regional centres in each country were identified by National Focal Points (NFPs) and National Implementing Agencies (NIAs) and designated in terms of the existing expertise. It was suggested that each country could have a maximum of two regional centres only. Accordingly, the IG12 adopted and agreed on the location of regional centers as follows:

- a. Regional Centre on Wet and Dry Deposition Monitoring - India
- b. Regional Centre on Crops and Vegetation Monitoring - Pakistan
- c. Regional Centre on Soil Monitoring - Bhutan
- d. Regional Centre on Corrosion Impact Assessment - India
- e. Regional Centre on Health Impact Assessment - Bangladesh
- f. Regional Centre on Emission Inventories – Sri Lanka
- g. Regional Centre on Modelling Atmospheric Transport of Air Pollution - Iran
- h. Regional Centre on Pollution Reduction Policies/Strategies –Nepal / Maldives

8. Based on the adoption of the IG12, the selected centres were recognized as the Regional Centre's of the specified area. The regional centre will work in close collaboration with the Malé Declaration Secretariat. The Regional centre's will coordinate with the NFPs and NIAs of the country to provide technical support, compile data and information and store it and prepare policy briefs. The other member countries in similar modality have to contact these regional centre's through their respective national focal point or implementing agency for any query or assistance required on the

subject. This will ensure that the NFP and NIAs in each country can monitor the use of the technical centres.

9. Further, the regional centres will support the development and evaluation of new monitoring technologies, and the development and application of quality assurance/quality control guidelines. Annually the regional centres will brief the Intergovernmental Meeting (IG) on progress. The viable technologies will be adopted during the IG meeting and disseminated to the member countries through the NFPs and NIAs.

IV. Status of Implementation

Regional Centre on Wet and Dry Deposition Monitoring – India

10. Enhancing the capacity to monitor and assess air pollution concentrations and wet deposition levels and trends in each country is one of the major activities of the Malé Declaration. Also, the national level capacity building is one of the key objectives of the network. The capacity building events initiated in the previous implementation phase of the Malé Declaration are being continued during the Phase IV implementation. Included in the priority areas for capacity building is the Refresher training on monitoring transboundary air pollution programme are being held every year.

11. The 9th Refresher Training Course on Monitoring Transboundary Air Pollution was held on 8-12 October 2012 in New Delhi, India. The training was organized by the Central Pollution Control Board (CPCB), India which is designated as the Regional Centre on Wet and Dry Deposition Monitoring of the Malé Declaration. This regional center is already operational.

Regional Centre on Health Impact Assessment - Bangladesh

12. During the Phase IV implementation of the Malé Declaration, the health impact assessment study which was conducted in Dhaka, Bangladesh during the Phase III implementation was also conducted in selected schools in Katmandu, Nepal and Islamabad, Pakistan. Objectives of the study is to a) determine whether there is an association between daily mean PM₁₀ and PM_{2.5} concentrations and respiratory health and lung function in children in a the selected city, b) quantify the relationship, and c) assess the scale and severity of impacts. This assessment can address the need for information on the effects of air pollutants on health in South Asia at the high concentrations commonly found in large cities, and provide locally-gathered evidence to support actions by governments to control particulate emissions.

13. In order to review the results of the study, the workshop on Health Impact Assessment was held in Dhaka, Bangladesh on 9 January 2012. The training was attended by health and air quality experts from Nepal, Pakistan and Bangladesh who are involved in health impact studies and air pollution related activities, a resource person from Murdoch University, Australia and the Malé Declaration Secretariat. The training was organized and conducted at the National Institute for

Preventive and Social Occupational Medicine (NIPSOM), Bangladesh which was the selected as Regional Center on Health Impact Assessment, and co-organized by the Secretariat.

14. The inauguration of the *Regional Centre on Health Impact Assessment* was also held on the same day of the training.

Regional Center on Emission Inventory- Sri Lanka

15. The 5th Regional Training on Emission Inventory and the National Training on Emission Inventory were held in Colombo, Sri Lanka on 23-25 May 2012 and 21-22 May 2012, respectively. The trainings were organized by the Central Environment Authority (CEA), Sri Lanka which serves as the Regional Center on Emission Inventory of the Malé Declaration, and co-organized by the Secretariat.

16. The objective of the trainings were to enhance the capacity and capability of National Implementing Agencies (NIAs) and those involved in the participating countries to undertake emission inventory and scenario development, and integrated assessment modeling.

V. Financial Arrangement of the Regional Centres

17. During the IG12, it was clarified that the regional centres are institutions in the countries and have their own operational set-ups. Each centre should develop a proposal in order to mobilise resources.

18. Each country is encouraged to support its respective regional centre and should manage its financial resources/matters.

19. It was suggested that support from outside donors be sought for the initial establishment and/or operation of the regional centres.

Annex 1

Work Plan for 2013-2015
Name of the Regional Centre

1. Problem identification

This introductory section provides description of the problem, examine the cause, need for the changes. Preferably, the arguments could be supported by qualitative information.

Length: approximately half page

2. Goal & Objectives

This section is a statement of the project goals and objectives.

- Goals: statements of what the project will strive to accomplish, but which are not necessarily measurable.
- Objectives: specific, tangible and generally “measurable” targets or achievements that will help achieve the goals.

Length: approximately half page

3. Description

This section lays out how the project will be set to achieve the stated objectives. The content should include major implementation stages (project phases), activities and time frame (in table format). It should also specify who will be involved in these activities and their respective roles.

Length: half page to one page depending on the complexity of the project.

4. Expected outputs

This section will describe, or provide a bullet point listing of the expected outputs and end deliverables that will result from the project. It should be given for each of the stated objectives.

Length: half page to one page depending on the complexity of the project.

5. Budget

This section should tabulate the required resources (major budget items) for the implementation of the project. It should also identify what required resources are available or should be mobilized.

Length: maximum half page

Annex II

MD/IG12/3/4a. Terms of References (TORs) for Regional Centres adopted by the IG12

Terms of References (TORs) for Regional Centres

**MD/IG12/3/4a.1. THE REGIONAL CENTRE ON WET AND DRY DEPOSITION
MONITORING**

Criterion: The regional centre should have the required capacity (technical experts and experience) and the facilities to conduct dry and wet deposition monitoring.

Mission: To ensure and promote accurate procedures and data on dry and wet deposition monitoring for better control and prevention of air pollution and its likely transboundary effects in South Asia.

Mandate: Compile, evaluate and store data; implement and coordinate quality assurance/quality control (QA/QC) activities; and provide technical support on monitoring wet and dry deposition in South Asia.

Networking: The NIAs and NFPs shall nominate the national centre for dry and wet deposition monitoring. The regional centre shall coordinate among the national level technical centres identified for the implementation of the monitoring activities.

Governance: The regional centre will directly report to the IG and make strategic decisions in consultation with the Malé Declaration Monitoring Committee.

1. To further develop and elaborate the strategy for dry and wet deposition evaluation in the region.
2. To discuss on further direction of dry and wet deposition evaluation and provide guidance on relevant activities based on the strategy.
3. To develop the Technical Manual for dry and wet deposition monitoring in the sub-region.
4. To develop a work programme and report to the IG.

Responsibilities of the National Centre

1. To take charge of developing and/or maintaining the monitoring sites.
2. To collect data and liaise with the regional centre for storage and quality control of data.

MD/IG12/3/4a.2. THE REGIONAL CENTRE ON CROPS AND VEGETATION MONITORING

Criterion: The regional centre should have the required capacity (technical experts and experience) and the facilities to conduct crop and vegetation monitoring to assess the effects of air pollution.

Mission: To ensure and promote accurate procedures and data on crop and vegetation monitoring for better control and prevention of air pollution and its likely transboundary effects in South Asia.

Mandate: Compile, evaluate and store data; implement and coordinate (QA/QC) activities; and provide technical support on crops and vegetation monitoring in South Asia.

Networking: The NIAs and NFPs shall nominate the regional centre for crop and vegetation monitoring. The regional centre shall coordinate among the identified national level technical centres for the implementation of the monitoring activities.

Governance: The regional centre will directly report to the IG Meeting and make strategic decisions in consultation with the Malé Declaration Secretariat.

1. To develop manual of methodologies for crop and vegetation monitoring for Malé Declaration.
2. To revise the technical documents on crop and vegetation monitoring as necessary.
3. To develop a work programme for the implementation of activities on crop and vegetation monitoring and report to the IG.
4. To assess the impacts of relevant air pollutants on crop and vegetation based on available data and other information for the Malé Declaration periodic reports.

Responsibilities of the National Centre

1. To take charge of developing and/or maintaining the monitoring sites.
2. To collect data and liaise with the regional centre for storage and quality control of data.

MD/IG12/3/4a.3. THE REGIONAL CENTRE ON SOIL MONITORING

Criterion: The regional centre should have the required capacity (technical experts and experience) and the facilities to conduct soil monitoring.

Mission: To ensure and promote accurate procedures and data on soil monitoring for better control and prevention of air pollution and its likely transboundary effects in South Asia.

Mandate: Compile, evaluate and store data; implement and coordinate (QA/QC) activities; and provide technical support on soil monitoring in South Asia.

Networking: The NIAs and NFPs shall nominate the regional centre for soil monitoring. The regional centre shall coordinate among the identified national level technical centres for the implementation of the monitoring activities.

Governance: The regional centre will directly report to the IG Meeting and make strategic decisions in consultation with the Malé Declaration Secretariat.

1. To develop manual of methodologies for soil monitoring for Malé Declaration.
2. To map the sensitivity of soil in South Asia to acidic deposition.
3. To revise the technical documents on soil monitoring as necessary.
4. To develop a work programme for the implementation of activities on soil monitoring and report to the IG.
5. To assess the impacts of relevant air pollutants on soil based on available data and other information for the Malé Declaration periodic reports.

Responsibilities of the National Centre

1. To take charge of developing and/or maintaining the monitoring sites.
2. To collect data and liaise with the regional centre for storage and quality control of data.

MD/IG12/3/4a.4. THE REGIONAL CENTRE ON CORROSION IMPACT ASSESSMENT

Criterion: The regional centre should have the required capacity (technical experts and experience) and the facilities to conduct corrosion impact assessment.

Mission: To ensure and promote accurate procedures and data to assess the impact of air pollutants on materials and objects of cultural heritage for better control and prevention of air pollution and its likely transboundary effects in South Asia.

Mandate: Compile, evaluate and store data; implement and coordinate (QA/QC) activities; and provide technical support on conducting corrosion impact assessment in South Asia.

Networking: The NIAs and NFPs shall nominate the regional centre for corrosion impact assessment. The regional centre shall coordinate among the identified national level technical centres for the implementation of the monitoring activities.

Governance: The regional centre will directly report to the IG and make strategic decisions in consultation with the Malé Declaration Secretariat.

1. To develop a work programme on corrosion impact assessments and report to the IG.
2. To develop manual of methodologies for corrosion impact assessment for Malé Declaration.
3. To continue developing capacity of Malé Declaration countries in assessing the impacts of air pollutants on materials and objects of cultural heritage.
4. To continue assisting the countries on collecting environmental data at the required period of time.
5. To analyse collected data and transform it into information for policy makers and the community.
6. To develop data & assessment reports based on gathered data.
7. To facilitate the development of awareness materials in the countries based on updates.

Responsibilities of the National Centre

1. To take charge of establishing and/or maintaining the corrosion monitoring sites.
2. To collect data and liaise with the regional centre for storage and quality control of data.

MD/IG12/3/4a.5 THE REGIONAL CENTRE ON HEALTH IMPACT ASSESSMENT

Criterion: The regional centre should have the required capacity (technical experts and experience) and the facilities to conduct health impact assessments.

Mission: To ensure and promote accurate procedures and data on health impact assessments. To develop capacity within NIAs of the Malé Declaration countries to assess the impacts of air pollutants such as particulate matter and ozone on human health.

Mandate: Compile, evaluate and store data; implement and coordinate (QA/QC) activities; and provide technical support on conducting health impact assessment in South Asia.

Networking: The NIAs and NFPs shall nominate the regional centre for health impact assessment. The regional centre shall coordinate among the identified national level technical centres for the implementation of the assessment activities.

Governance: The regional centre will directly report to the IG and make strategic decisions in consultation with the Malé Declaration Secretariat.

1. To develop a work programme and report to the IG.
2. To continue facilitating the development of networks in all Malé Declaration countries with medical or health institutions having expertise on this type of impact assessment.
3. To develop manual of methodologies for health impact assessment for Malé Declaration countries.
4. To continue developing capacity of Malé Declaration countries in assessing the impacts of air pollutants on human health.
5. To develop data and assessment reports based on gathered data.
6. To analyze collected data and transform it into information for policy makers and the community.
7. To facilitate the development of awareness materials in the countries based on updates.

Responsibilities of the National Centre

1. To take charge of developing and conducting the health impact assessment at the national level.
2. To collect data and liaise with the regional centre for storage and quality control of data.

MD/IG12/3/4a.6. THE REGIONAL CENTRE ON EMISSION INVENTORIES

Criterion: The regional centre should have the required capacity (technical experts and experience) and the facilities to conduct emission inventory.

Mission: To ensure and promote accurate procedures and data on emission inventory for better control & prevention of air pollution and its likely transboundary effects in South Asia.

Mandate: Compile, evaluate and store data; implement and coordinate (QA/QC) activities; and provide technical support to carry out emission inventory in South Asia.

Networking: The NIAs and NFPs shall nominate the regional centre for emission inventory. The regional centre shall coordinate among the identified national level technical centres for the implementation of the inventory activities.

Governance: The regional centre will directly report to the IG and make strategic decisions in consultation with the Malé Declaration Secretariat.

1. To develop a work programme and report to the IG.
2. To continue to improve methodologies mentioned in the Malé Declaration Manual for Emission Inventory Compilation.
3. To facilitate good partnerships with governments and academia in all the Malé Declaration countries on emission inventory activities.
4. To continue to assist the countries in conducting emission inventory compilation and develop emission factor suitable for South Asia
5. To conduct QA on the emission inventories submitted to the centre.
6. To develop accurate regional emission inventories
7. To facilitate the development of online real-time emission inventory.

Responsibilities of the National Centre

1. To take charge of developing and/or maintaining emission inventory activities.
2. To collect data and liaise with the regional centre for storage and quality control of data.

MD/IG12/3/4a.7. THE REGIONAL CENTRE ON MODELING ATMOSPHERIC TRANSPORT OF AIR POLLUTION

Criterion: The regional centre should have the required capacity (technical experts and experience) and the facilities to conduct atmospheric transport modeling.

Mission: To ensure and promote accurate procedures and data on atmospheric transport modeling for better control & prevention of air pollution and its likely transboundary effects in South Asia.

Mandate: Compile, evaluate and store data; implement and coordinate (QA/QC) activities; and provide technical support to run atmospheric transport modeling in South Asia.

Networking: The NIAs and NFPs shall nominate the regional centre for atmospheric transport modeling. The regional centre shall coordinate among the identified national level technical centres for the implementation of the modeling activities.

Governance: The regional centre will directly report to the IG and make strategic decisions in consultation with the Malé Declaration Secretariat.

1. To develop a work programme and report to the IG.
2. To continue to improve methodologies for the Malé Declaration atmospheric transport modeling activities.
3. To continue to assist the countries in conducting atmospheric transport modeling activities.
4. To develop accurate regional atmospheric transport models linked to the regional emission inventory compilation activity.
5. To facilitate good links with air pollution monitoring efforts in all the Malé Declaration countries to promote validation of the results of the atmospheric transport models being developed in the region.

Responsibilities of the National Centre

1. To take charge of developing and/or maintaining atmospheric transport modeling activities.
2. To collect data and liaise with the regional centre for storage and quality control of data.

MD/IG12/3/4a. 8. THE REGIONAL CENTRE ON POLLUTION REDUCTION POLICIES/STRATEGIES

Criterion: The regional centre should have the required capacity (expertise and experience) for developing and implementing pollution reduction policies/strategies.

Mission: To ensure and promote the best pollution reduction practices, policies and strategies for better control & prevention of air pollution and its likely transboundary effects in South Asia.

Mandate: Compile and update good practices on prevention and control of air pollution in South Asia; facilitate update and monitor progress in the implementation of air pollution reduction policies/strategies in South Asia and assist countries in developing and implementing such in their respective nations.

Networking: Work closely with the other regional technical centres, NIAs & NFPs and the Secretariat; assisted by the regional partners and the Regional Stakeholders' Forum.

Governance: The regional centre will directly report to the IG and make strategic decisions in consultation with the Malé Declaration Secretariat.

1. To develop a work programme and report to the IG.
2. To continue updating the compilation on good practices on prevention & control of air pollution for reference of the Malé Declaration countries.
3. To compile pollution reduction/ strategies developed or implemented by the countries.
4. To assist countries in developing and implementing air pollution reduction strategies.

Responsibility of the National Centre

1. Implement and monitor updates on activities on prevention and control of air pollution at the national level.
2. Liaise with the regional centre for information on good practices.