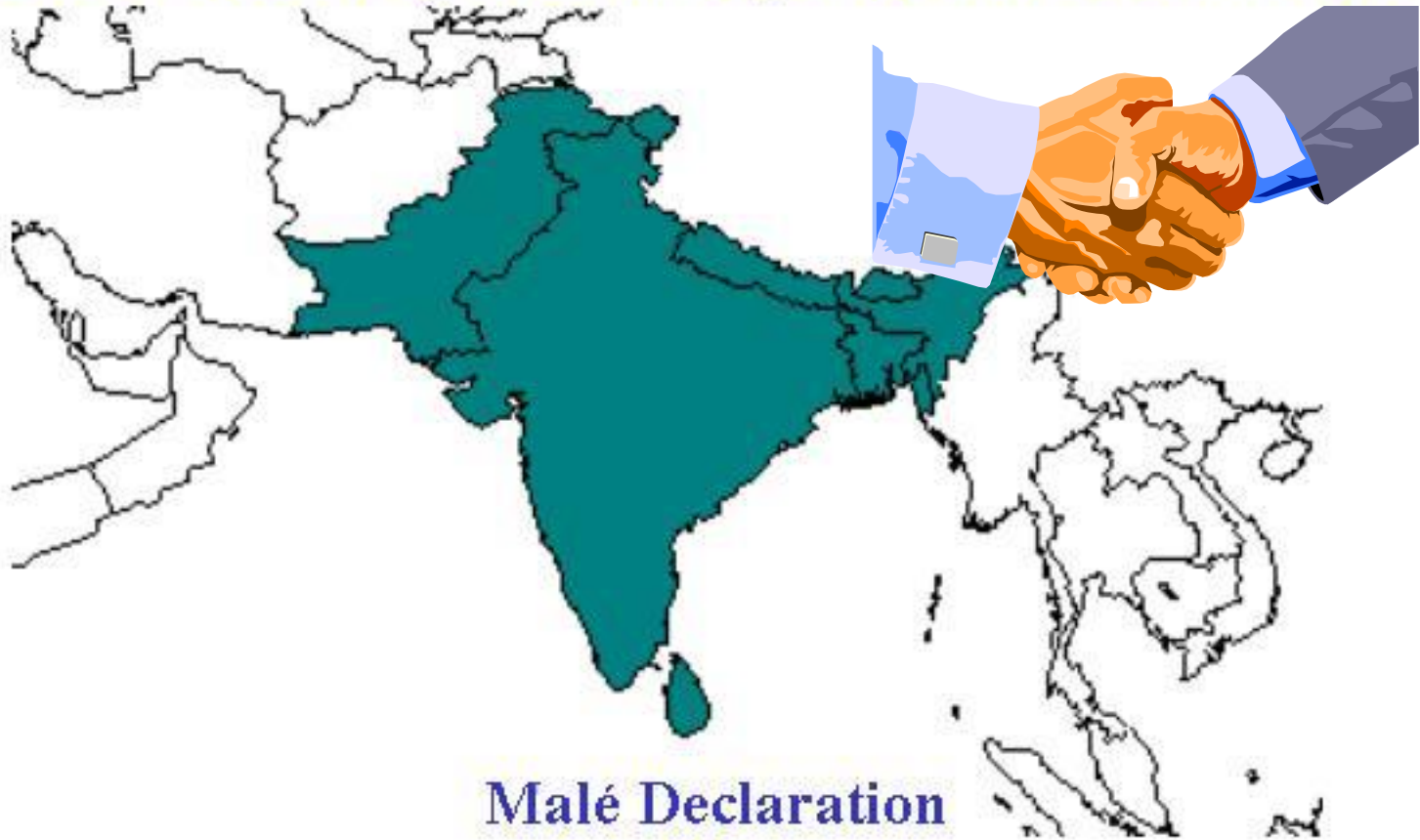


Male' Declaration on Control and Prevention of Air Pollution and its Likely Transboundary effects for South Asia



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Senior Environmental Engineer

Malé: Sub-Regional Response in South Asia



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

Malé: Brief History

POLICY DIALOGUE ON REGIONAL AIR POLLUTION ISSUES

9-20 March, 1998

Participants

**Target countries for
the phase I (South
Asia)**

Bangladesh

India

Nepal

Pakistan

Sri Lanka

ADB, ASEAN, SACEP

AIT, ERTC

Sida, SEI, UNEP

Main Aims

- ▶ *Create a broader dialogue of the air pollution issues in Asia*
- ▶ *Promote the policy cycle in South Asia by:*
 - (i) *re-affirmation that transboundary air pollution is a priority issue for South Asia;*
 - (ii) *agreeing upon a draft action plan for inter-governmental activities at the policy dialogue.*

AGREEMENT ON THE DRAFT DECLARATION

Malé: The Declaration

SACEP GC MEETING

Held on 22 April 1998 in
Malé, Maldives.

Inaugurated by His
Excellency Mr. Maumoon
Abdul Gayoom, President
of Maldives

Attended by ministers
and high level policy
makers from South Asian
Environment ministries.



Major Initiative

Male' declaration on control and
prevention of air pollution and its
likely transboundary effects for South
Asia was adopted by all the South
Asian countries.

Male' Declaration - Programmes

- Assess and analyse the origins and causes of local and regional air pollution
- Develop and adopt strategies for minimising air pollution
- Work in cooperation with each other and set up monitoring arrangements
- Establishing standardised methods for monitoring pollutants and their impacts
- Engage other key stakeholders

Malé : Implementation

PHASE I: Awareness and preparation of the baseline information

PHASE II: Local capacity development for monitoring and analysis

PHASE III: Provide scientific information; assist in activities to reduce pollution

Outline of Phase I Implementation

Network Establishment

Identification of NIAs

Establishment of NIAs

Network & Database of Experts/Institutions

Baseline Studies

Guidelines for the Baseline Studies

Preparation of Baseline Studies

Baseline Studies and Action Plan

Action Plans

National Action Plan

Sub-regional Action Plan

Malé: Network

•National Implementing Agencies (NIA)

Iran

DoE

Pakistan

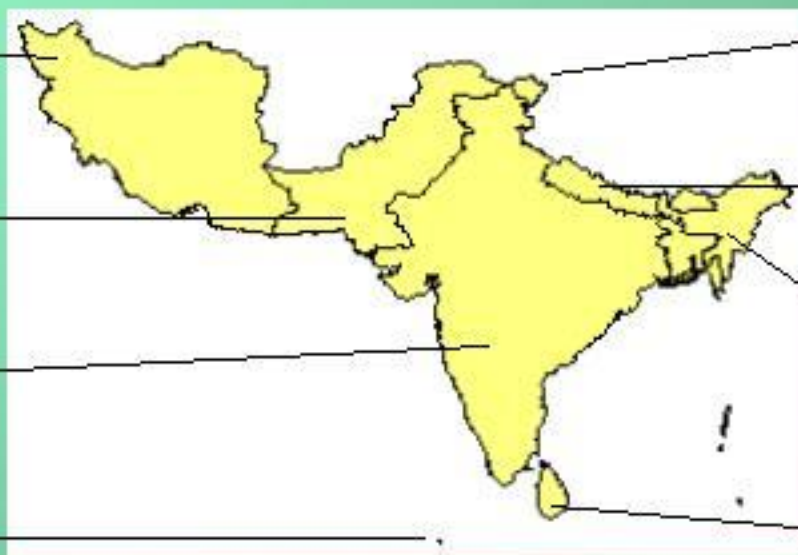
Pak-EPA

India

CPCB

Maldives

MPHRE



Bhutan

NEC

Nepal

MoPE/ICIMOD

Bangladesh

MoEF

Sri Lanka

CEA

Malé: Phase I Achievements

Network of Experts and Scientist have been established

Awareness

NEWSLETTERS



ON THE WEB



STAKEHOLDERS WORKSHOPS



Baseline Information
and Action Plan have
been completed by 8
South Asian countries



Malé: Phase II



Major Task

Strengthening the monitoring capacities (harmonized to the extent possible) in the region would be the major task of Phase II.

Implementation period: 3 years; Number of monitoring sites proposed: 8; Technical Trainings: 4; National Stockholders meetings: 3; Network Meeting: 3; Regional workshop: 1

Objectives of Phase II

To put in place the expertise, equipment and information, needed for the quantitative monitoring, analysis and policy recommendations for eventual prevention/control of air pollution

Capacity Building

- Equipment procurement
- Training for monitoring and data handling
- Installation of monitoring Equipments

PROPOSED MONITORING SITES - INDIA

<i>BANGLADESH BORDER</i>	:	- Port Canning (Sunder bans) - Dumki
<i>BHUTAN BORDER</i>	:	Bongaigaon
<i>MALDIVES BORDER</i>	:	Lakshadweep Islands
<i>NEPAL BORDER</i>	:	Narkatiaganj
<i>PAKISTAN BORDER</i>	:	- Tanot - Pathankot
<i>SRILANKA BORDER</i>	:	Thirunelveli
<i>SOUTH EAST ASIA BORDER</i>	:	Andaman Islands
<i>NORTH EAST ASIA BORDER</i>	:	Changele
<i>ECOLOGICAL SITE</i>	:	Molem

Proposed Monitoring Stations



Monitoring Parameters

Air Concentration

Sulphur dioxide, Nitrogen dioxide, PM₁₀

Wet Deposition

pH, EC, Na⁺, Mg²⁺, K⁺, Ca²⁺, NH₄⁺, SO₄²⁻, NO₃⁻, Cl⁻

Soils

Moisture content, pH, exchangeable cations (Ca, Mg, K, Na), exchangeable acidity, effective cation exchangeable capacity, carbonate content, Total organic content, total nitrogen, available phosphate, SO₄²⁻, Ca²⁺, Fe³⁺,

Vegetation

Forests

Species enumeration of trees, herbs and shrubs, phyto sociology (Species density & diversity), Lichen studies, Monitoring of DBH, Observation of tree decline, canopy analysis

Rain and throughfall samples - pH, EC, Na⁺, Mg²⁺, K⁺, Ca²⁺, NH₄⁺, SO₄²⁻, NO₃⁻, Cl⁻, PO₄³⁻

Water Quality

pH, EC, Total alkalinity, Na⁺, Mg²⁺, K⁺, Ca²⁺, NH₄⁺, SO₄²⁻, NO₂⁻, NO₃⁻, Cl⁻, PO₄³⁻

Information Exchange

- Publication of Newsletter
- Annual Network Meeting
- Stakeholders Meeting
- Regional NGOs Workshop
- Website (discussion Group)

<http://www.rrcap.unep.org/md/webboard>

Stakeholders Meeting

Recommendations

1. All the stakeholders who have been sensitized to the Male Declaration process would in turn disseminate information amongst their own colleagues / group/ communities.
2. This kind of information dissemination must lead to greater awareness of the localized air pollution on health, soil, crop production, heritage monuments, ecosystem etc.
3. In a sub-region where the process of industrialization and power production are bound to increase dramatically in the next few decades that also impacts on human health and environment. It is vital that preventive steps are taken rather than wait until problems occur.

4. Trans boundary air pollution will be adding to local air pollution and therefore must be addressed seriously, but this must be done only on the basis of clear scientific findings.

5. The monitoring setup proposed must gradually cover all air pollutants. It's findings must be analyzed and mutually discussed within the countries to locate the source of concern and manner in which it can be addressed.

6. There should be wider participation in monitoring by academic institutions in the vicinity of stations and also the agricultural research stations and NGOs. Capability building should receive priority.

7. Mechanisms for information sharing should be strengthened.
8. The action plans of focal points should be reviewed from time to time based on data generated.
9. Before steps are taken to give legal binding to regulate trans-boundary air pollution, there should be very detailed discussions of data and collecting more data, if needed be.
10. The Male process can be taken forward in South Asia only with funding support from UN and other agencies but countries can be persuaded to step up their investments, especially in kind.

Advisory Committee

The Terms of Reference of the Advisory Committee

- To review the data, generated from the Air quality monitoring stations, established to monitor the transboundary air pollution before releasing it to UNEP or any other organisation.
- To identify the emission sources within the country which may contribute to transboundary movement of air pollutants.
- To prepare a list of major emission sources across the border which may affect the air quality within the country.

- To develop a model for assessing the movement of air pollutants from major emission sources within the country.
- To assess the need for strengthening / developing an Air quality monitoring network for assessing the transboundary movement of air pollutants from the neighbouring countries.
- To identify the parameters, necessary for monitoring the transboundary movement of air pollutants (in addition to the parameters, identified under Male' Declaration).