



2nd National Stakeholder Workshop : 2008

Overview of National Level Implementation of Malé Declaration





Overview of National Level Implementation of Male´ Declaration

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Outline of the Presentation

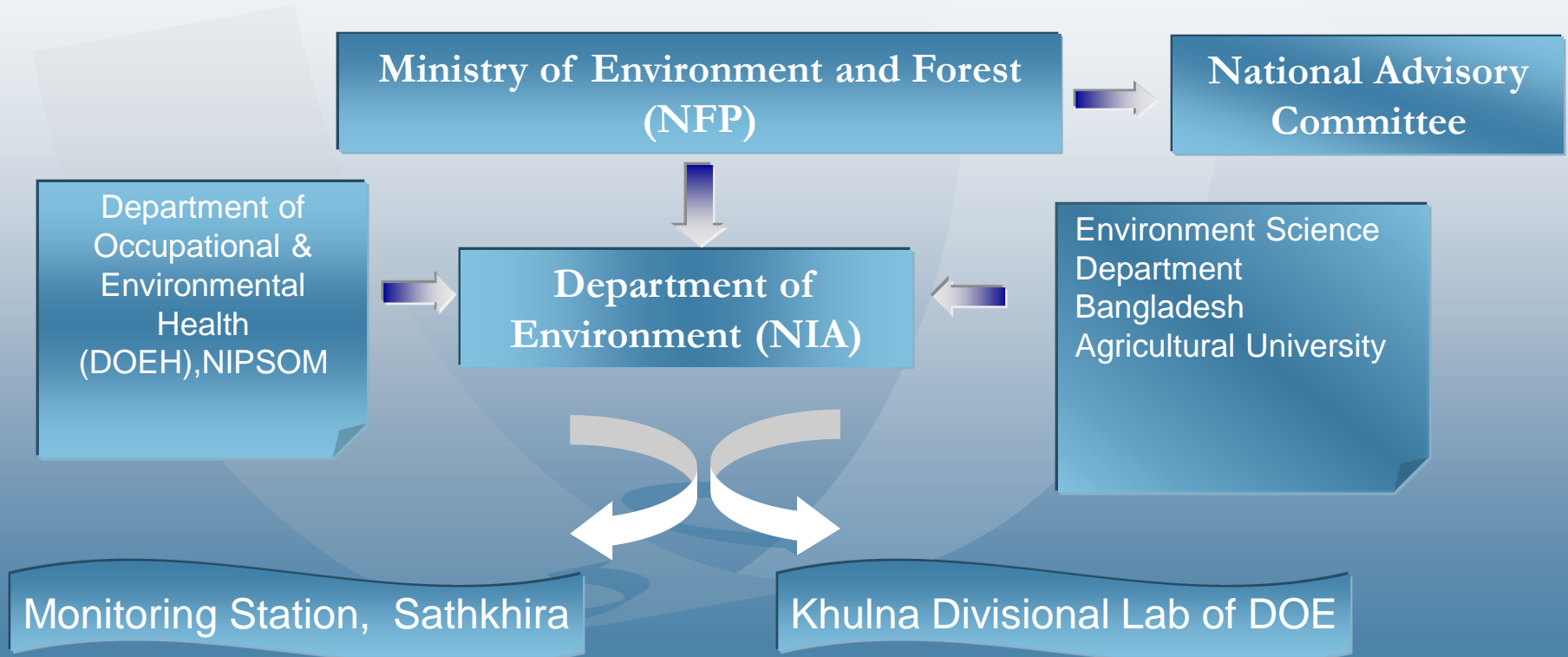
Last 3 Years of Implementation

1. National implementing agency and institutional arrangement
2. Monitoring activities.
3. Stakeholders participation.
4. Data completeness.
5. Status of emission inventory and modeling
6. Status of impact assessment including outcome
7. Awareness activities
8. Challenges and difficulties.



Last 3 Years of Implementation

National implementing agencies and Institutional Arrangement





Last 3 Years Implementation

Monitoring activities

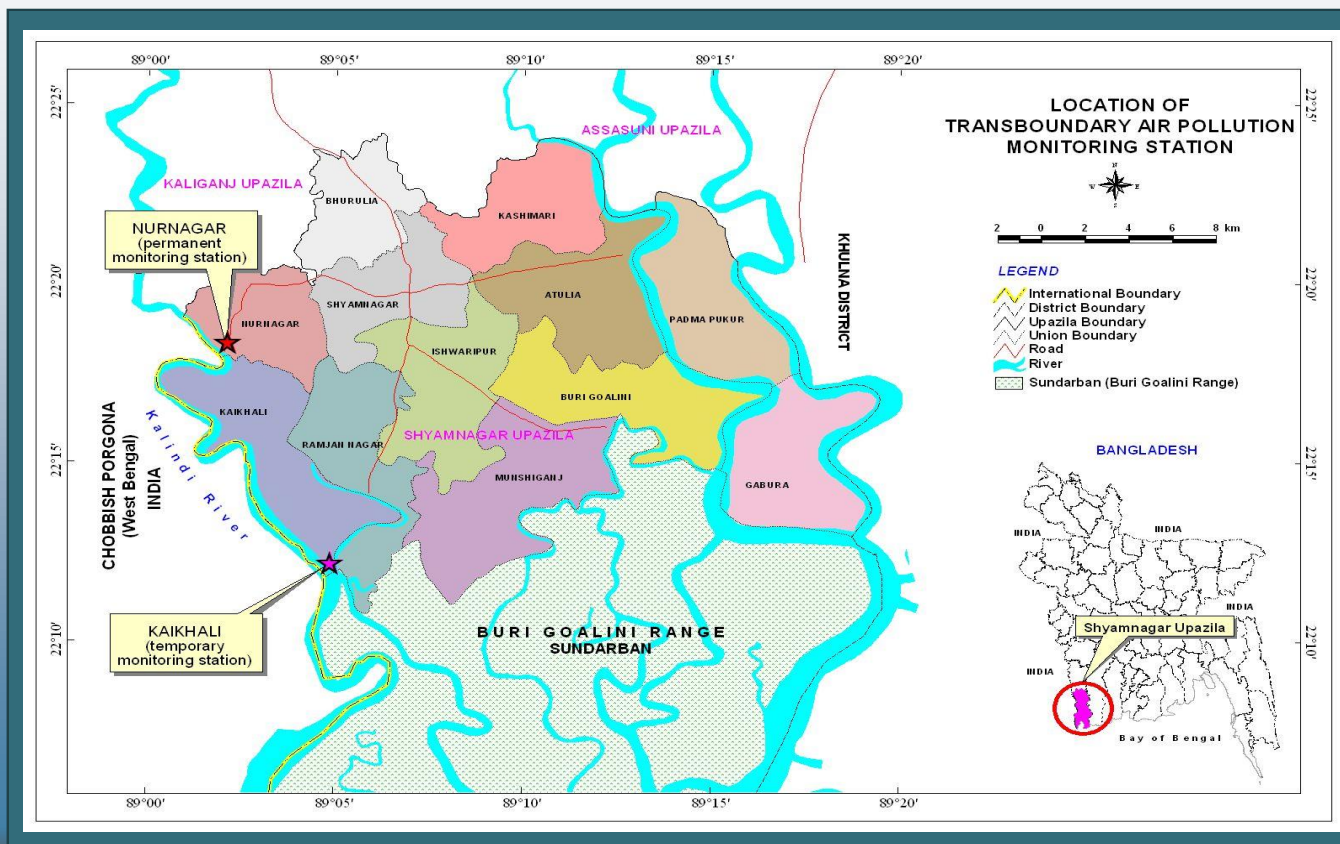
- Analysis Concentration of Air Pollutants By High Volume samplers and Diffusive samplers
- Rain water Analysis
- Metrological Parameter



Overview of National Level Implementation of Male' Declaration

Last 3 Years Implementation

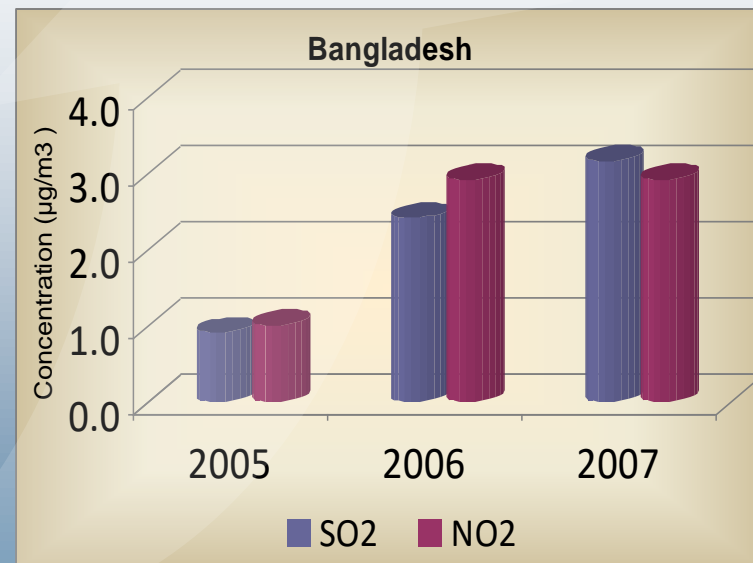
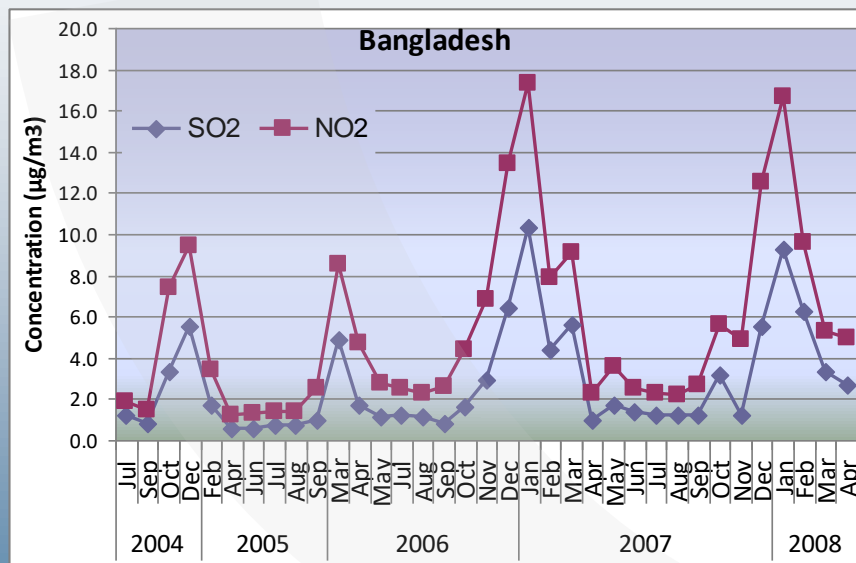
Location of Transboundary Air Pollution Monitoring Station





Last 3 Years Implementation

Data Completeness



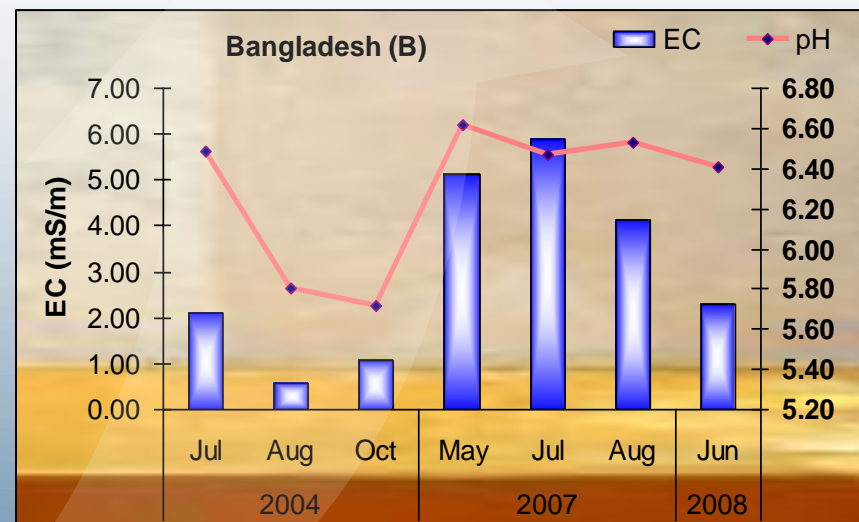
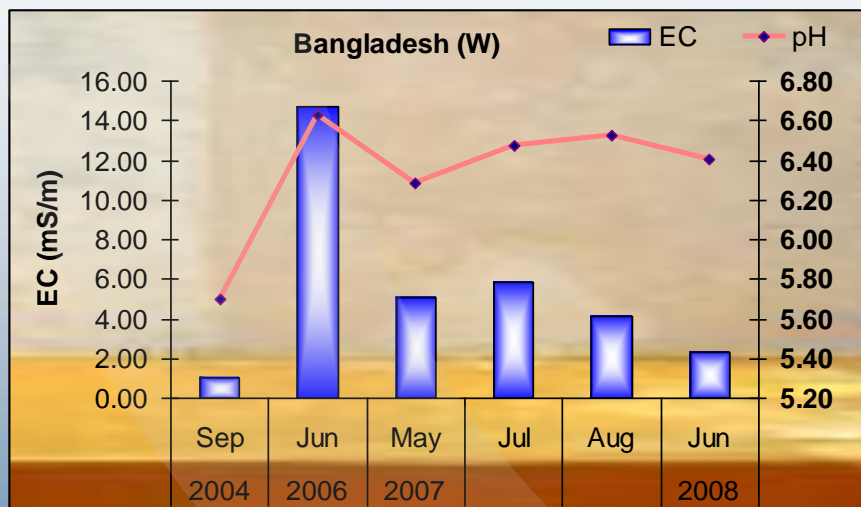
Temporal variation of average SO₂ & NO₂ concentration

Annual variation of SO₂ and NO₂



Last 3 Years Implementation

Data Completeness



Variation in electrical conductance and pH (wet (wet))

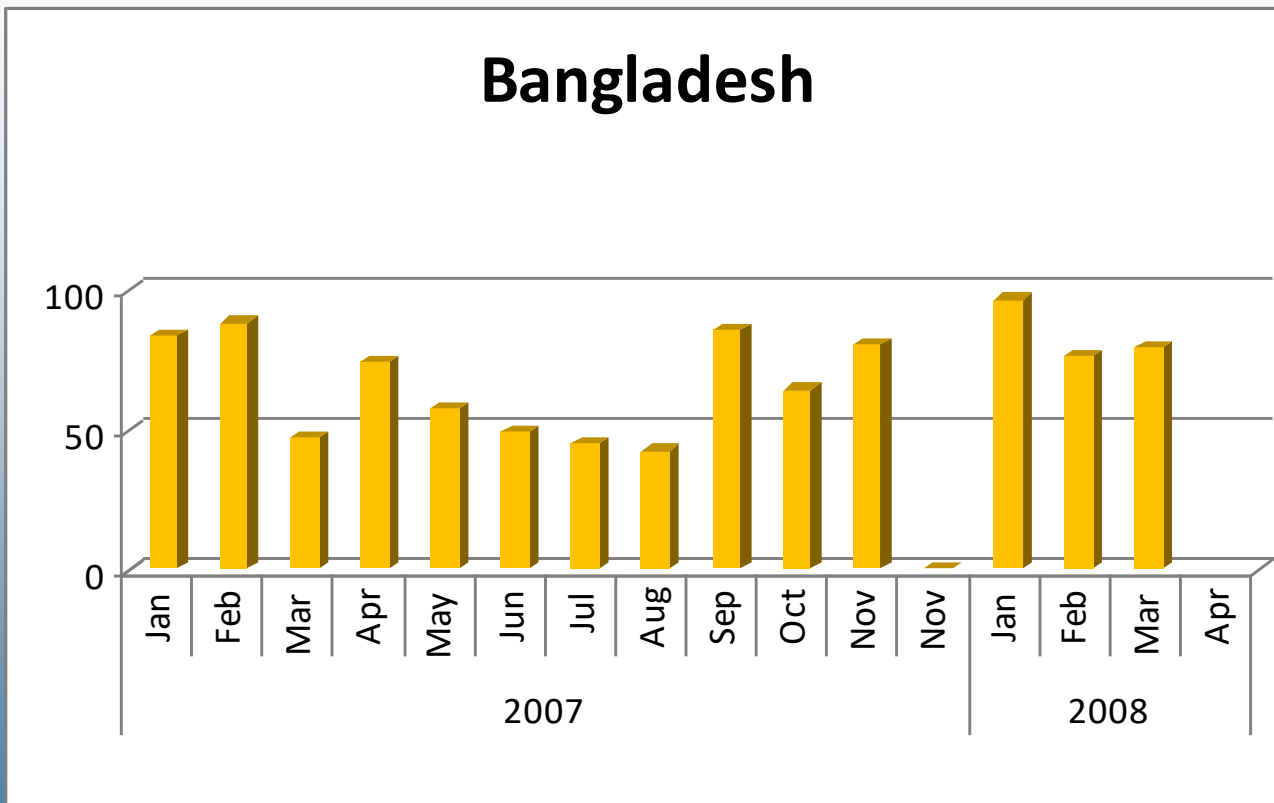
Variation in electrical conductance and pH wet (bulk)



Overview of National Level Implementation of Male' Declaration

Last 3 Years Implementation

Data Completeness



Temporal variation of Ozone concentration ($\mu\text{g}/\text{m}^3$)



Overview of National Level Implementation of Male' Declaration

Last 3 Years Implementation

Stakeholders Participation on Male' Declaration Activities

- Awareness activities
- Monitoring activities
- Emission inventory and modeling
- Impact assessment



Last 3 Years Implementation

■ Status of Emission inventory and modeling

- Emission Inventory, Emission Scenario and Modeling under Malé Declaration on Control and Prevention of Air Pollution And Its Likely Transboundary Effects for South Asia

The emissions inventory under the current exercise is based on a common methodology developed by the Swedish Environmental Institute (SEI) for countries in South Asia - itself derived from various inventory approaches used in other regions of the world. According to the SEI approach, sources of air emissions are categorized into ten sectors.



Last 3 Years Implementation

1. Combustion in the energy industries,
2. Combustion in the manufacturing industries and construction,
3. Transport,
4. Combustion in other sectors
5. Fugitive emissions from fuels
6. Industrial processes
7. Solvent and other product use
8. Agriculture,
9. Vegetation fires and forestry, and
10. Waste

Each sector has several sub sectors. For each sector the basic approach for calculating emissions of a particular pollutant is simple in concept.



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Last 3 Years Implementation

DIFFICULTIES.....

- Data are not available in all sectors.
- Data are not in same time frame.
- Incomplete data



Last 3 Years Implementation

Status of Impact Assessment

- Assessment of Impact of Air Pollution among School Children of selected school of Dhaka City
- Impacts of Troposphere Ozone on crop



Last 3 Years Implementation

Assessment of Impact of Air Pollution among School Children of selected school of Dhaka City

3 schools of Dhaka City

Survey: 1680 Students (Class V-IX),

Duration: 7 Days

Main Study: 180 Students (120 Asthma=60 Non-Asthma),

Duration: 42 Days



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Last 3 Years Implementation





Last 3 Years Implementation





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- The study was carried out in three schools , the schools are located with in one Km radius of the air pollution monitoring center.. A total of 180 school children Both asthmatic and non-asthmatic children were included in the study.
- The assess the lung function of the student in relation to PM_{10} and $PM_{2.5}$ Peak Expiratory Flow Rate (PEFR) was measured daily in the morning and afternoon under the supervision of teachers and technicians.



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- The current study is concluded with that the air pollution especially the particulate matter (PM_{10} and $PM_{2.5}$) are causing respiratory health problems particularly of the children in Dhaka, who are suffering from asthma.
- The air pollution is not only affecting the health of the children but also causing adverse economic implication in the family and as well as in the nation



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Last 3 Years Implementation

Ozone injury in white clover





Last 3 Years Implementation

Findings

Higher Troposphere ozone concentration in atmosphere reached up to 34.75 ppb

Ozone sensitive white clover was suffering from troposphere ozone injury symptom



Last 3 Years Implementation

- Ozone concentration in atmosphere was lower than 1st year,
- Ozone sensitive white clover was suffering from tropospheric ozone injury symptom



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Last 3 Years Implementation

Research going current year

EDU study is underway on Tomato, Mug bean , Potato and spinach plant , which may be completed within January 2009.



Last 3 Years Implementation

Awareness Activities

Awareness material for print and electronic media developed

Print Material:

- a .Posters-20,000
- b. Leaflets-20,000
- c. Stickers-10,000


Electronic Media Material:

- a. TV spots- 4 Nos.
- b.Docodramas-3 Nos.
- C. Folksongs- 2 Nos.

Bus Sticker- 6 Nos.



Overview of National Level Implementation of Male' Declaration Sticker on air pollution



আপনি জানেন কি.....
 প্রতিদায়িত্ব বায়ুদূষণের কারণে....
 যানবাহন, কলকারখানা আর ইটের ভাটা থেকে নির্গত কাগো ধোঁয়া, অনিয়ন্ত্রিত নির্মাণ কাজ, উন্মুক্ত স্থানে রাখা ইট-বালুর মতো নির্মাণ সামগ্রী এবং উন্মুক্ত স্থান থেকে নির্গত ধূলিকণা। ইত্যাদি কারণে প্রতিদায়িত্ব ঘটছে বায়ুদূষণ। আর এতে বৃদ্ধি পাচ্ছে শ্বাস ও হৃদযন্ত্রের নানা ধরনের জটিল রোগ।
 ডেকে আনছে অকাল মৃত্যু।

আপনার দায়িত্বশীল ভূমিকাই বায়ুদূষণ রোধ করতে পারে

যদি.....

- ✓ আপনার ব্যবহৃত গাড়ির নিয়মিত রক্ষণাবেক্ষণ, পরিবেশ বান্ধব জ্বালানী ব্যবহার ও দূষণ প্রতিরোধক যন্ত্র সংযোজন করেন;
- ✓ আপনার কলকারখানায় ও ইট ভাটায় আধুনিক প্রযুক্তির যন্ত্রপাতি ও বায়ুদূষণ নিরোধক সরঞ্জামাদি স্থাপন করেন;
- ✓ আপনার চরপাশের উন্মুক্ত স্থানগুলো ঘাস দিয়ে বা পাকস করে ঢেকে দেন এবং প্রয়োজনে পানি ছিটান;
- ✓ আপনি পরিবেশ বান্ধব ইট নির্মাণ ও ব্যবহার করেন;
- ✓ ইটের গুড়া ও বালুর মতো বাতাসে উড়ে যেতে সক্ষম নির্মাণ সামগ্রী ঢেকে রাখেন

আমাদের অস্তিত্বের জন্য প্রয়োজন নির্মল বায়ু

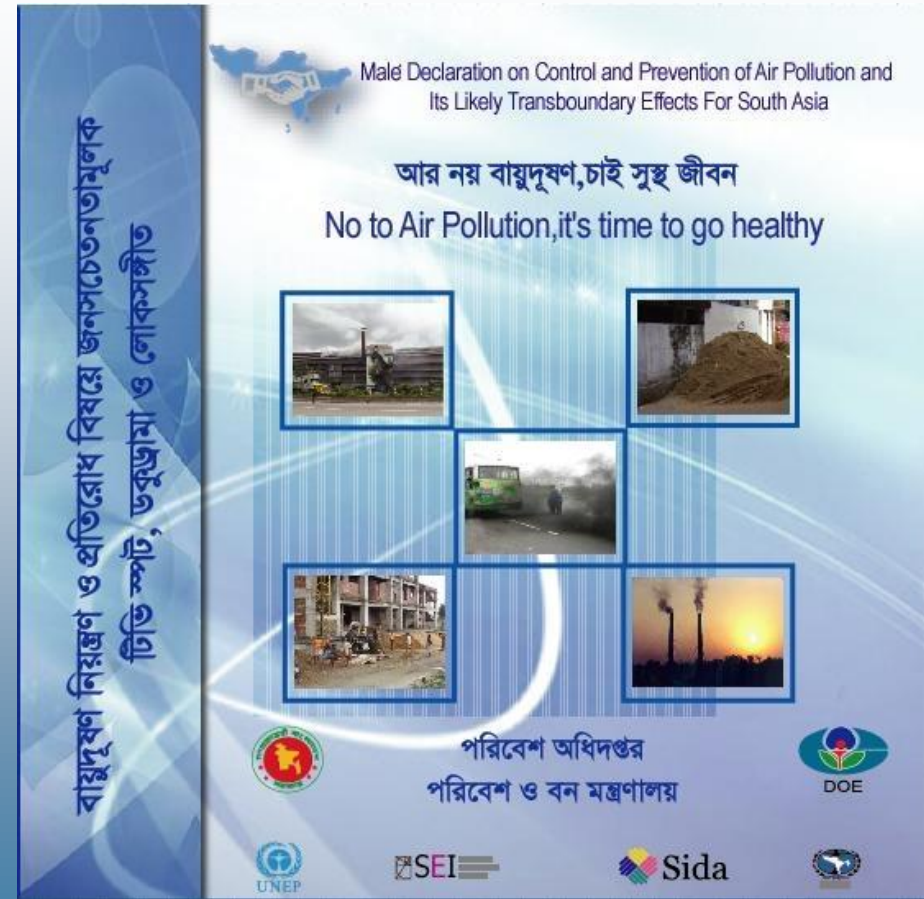
প্রচার-পরিবেশ অধিদপ্তরের মাসে ডিক্লোরেশন অন কন্ট্রোল এন্ড প্রিভেনশন অব এয়ার পলিউশন এন্ড ইটস লাইকলি ট্রান্সবায়ুভারি ইফেক্টস ফর সাউথ এশিয়া সংক্রান্ত বাস্তবায়ন প্রকল্প সহায়তায় : জাতিসংঘ পরিবেশ কর্মসূচি ও স্টকহোম এনভায়রনমেন্ট ইনস্টিটিউট, সুইডেন





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Leaflet & Audio Visual Material

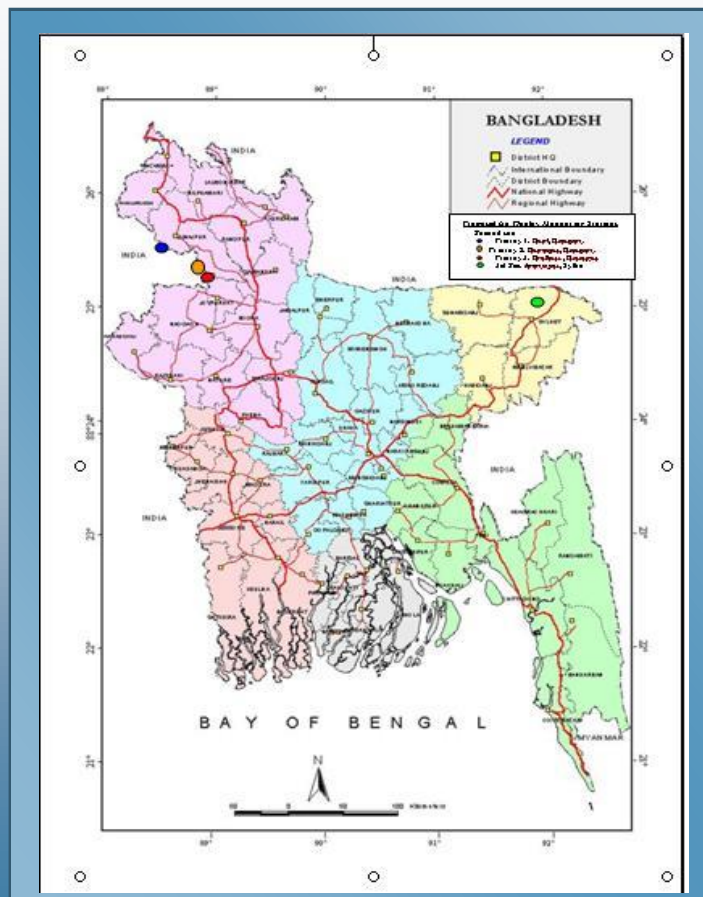




Overview of National Level Implementation of Male' Declaration

Last 3 Years Implementation

Selection of 2nd Monitoring Station





Plan for Next 3 Years

Institutional Arrangement

This will be almost same. The institutional arrangement may change with inclusion of new study.



Plan for Next 3 Years

Monitoring Activities

- All parameters will be monitored as usual.
- 2nd monitoring station will be set up, if fund is made available



Plan for Next 3 Years

PLAN FOR EMISSION INVENTORY AND MODELLING

Updating emission inventory by using 2005 data



Plan for Next 3 Years

Plan for Impact Assessment :

- Health Impact –Study may be expended to other areas
- Crops Impacts - Study may be undertaken on local varieties in other areas
- Corrosion Impacts-Study may be undertaken
- Acidification- Study may be undertaken



Thank you.....