

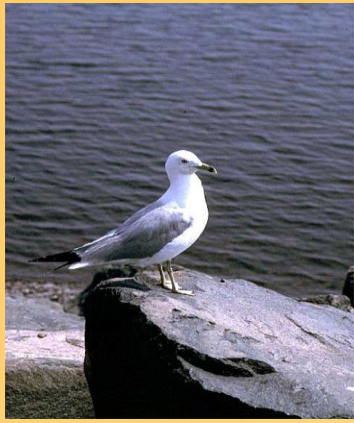
# Male Declaration Regional Stakeholders Meeting

October 2003



# “Miraculously Clean Air”

- Is how we describe the atmosphere in many rural, mountain, lake and ocean areas in South Asia.
  - But in many places, especially in Urban and Industrial settings
- “Clean Air” is a Miracle !



# When is the Air Unclean?

- When it has
  - Sulphur and Nitrogen Oxides
  - Carbon Monoxide
  - Solid Particulate Matter (TSPM), PM10, PM25
  - Ozone
- Most of them are toxic and affect human and animal health causing chronic respiratory and heart diseases

Contd...



- The pollutants also impact on
  - Soil nutrients
  - Crops
  - Forests
  - Monuments and Materials (Corrosion)
- Acid Rain can be caused

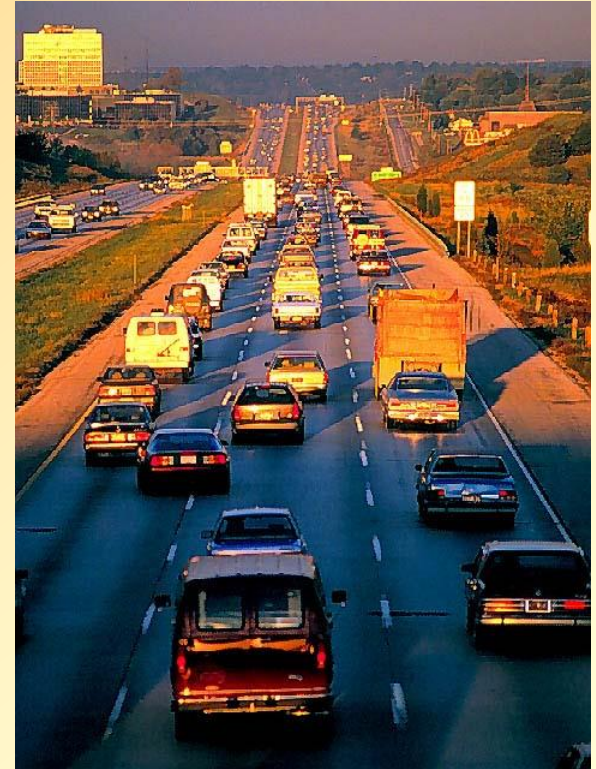
# Need to Act quickly

- Follow “precautionary principle” -  
Now universally recognised in all  
environmental conventions
- Please lock the stable before the  
horse is stolen



# Sources of Emissions

- Industrial
- Power Stations
- Automobile Exhausts
- Domestic fuels
- Fuel in other projects
- Brick manufacturing
- Agriculture and burning of vegetation



# Transboundary Air Pollution

- How is it caused?
- By dispersal of pollutants due to winds and other causes

## What is the remedy?

- Policies and practices which focus on regional cooperation
  - “Male” declaration is an example

# **Male declaration on Control and Prevention of Air Pollution and its likely Transboundary effects for South Asia**

- Signed in April 1998 by members of the Governing Council of SACEP being Environmental Ministers of South Asia
- To initiate studies and programmes in all countries for better understanding of the phenomena and impacts
- It is implicit that member countries use the results of studies to initiate national and regional action



# **Learning within and From Others**

- Others include European Union cooperation
  - UNECE convention on long range transboundary air pollution -
- ASEAN cooperation plan on transboundary air pollution - Haze Action Plan after Indonesian fires 1991-1994
- RAINS ASIA model from East Asia - Air Quality Modeling and Forecasting

# **The ‘Male’ Process So far...**

## **Phase-I**

- National focal points (NFPs) and National implementing agencies (NIAs) constituted
- Baseline studies made
- National Action plans formulated
- Regional network created
- Review of policy responses
- Example from Nepal

# Implementation of Malè Declaration on Control and Prevention of Air Pollution and its likely Transboundary Effects for South Asia (Nepal)

## Objectives

- Network and Database on Experts/Institutions
- Baseline Studies and Database on Air Pollution
- National and Sub-regional Action Plans

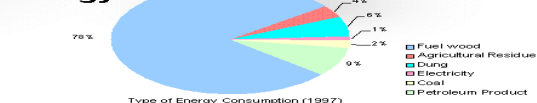
## Ambient Air

- TSP & PM<sub>10</sub> - Above WHO Guideline Value
- NO<sub>x</sub>, SO<sub>2</sub> - Within WHO Guideline Value

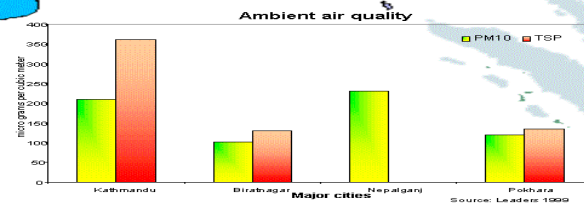
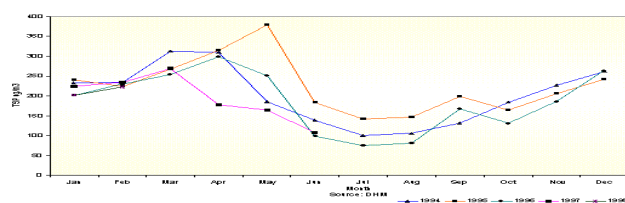
## Industries

- Himal Cement
- Brick Manufacturing Industries

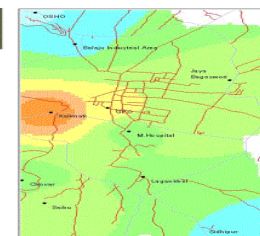
## Energy



## Ambient Total Suspended Particle(TSP) in KTM



Map 1 Kathmandu Valley Concentration of Total Suspended Particles



## Vegetation

- Foliar Injury
- Low Yield in Crops
- Photosynthesis Disturbances
- Dust Deposition
- Straw of Rice, Wheat not Palatable to Animals

## Impact

## Atmosphere

- Number of Foggy Days (38/yr, 1970 - 60/yr, 1994)

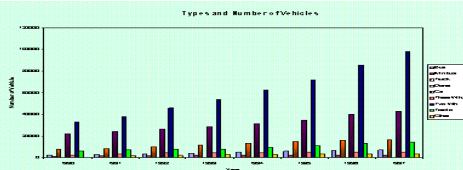
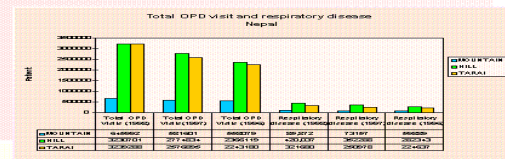
## Health

- ARI - Among the Top Five Disease
- 31% of Bronchitis Cases were due to Indoor Smoke in Jumla

- Cleaner Production Policy
- Emission Charges
- Incentive for Clean Technology/ Relocation
- Common Treatment Facility
- Environment protection Fund
- Verification and certification
- Liability on Emitters

## Policy

- Monitoring
  - Monitoring Network for Ktm Valley
  - PM<sub>10/2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub>, Lead, Benzene, CO
- Emission Standards
  - AQS for Kath. Valley
  - Emission Std. for Industries (cement, sugar, paper & pulp, iron & steel, brick kiln)
- Emission Factor for Industries



## Measures

- Ban on Three-wheeler (Vikram) in the Valley - 18th Sept. 1999
- Ban new Registration of Diesel Three-wheeler and Two-stroke vehicle - 30th Aug. 1999
- Introduction of Unleaded Petrol - 26th Dec. 1999
- Introduction of Nepal Vehicle 2056 - 22nd Dec. 1999





# Phase-II

- Expand Network
- Strengthen Monitoring capacity
- Analyse the status and effects of Air Pollution in South Asia
- Monitoring Committee constituted and gave key suggestions on sites for monitoring stations, methodology of monitoring
- Monitoring manual prepared
- Stress the importance of sustainability of monitoring network

# Stakeholders Meeting

- This is part of the expansion of the network
- The Objectives are
  - Increase awareness
  - Share views and ideas on implementation of the “Male” declaration
  - Improve exchange of information between those who manage sources of pollution and those affected by it



# Who are the Stakeholders?

- In Air pollution they are
  - Those who cause contribute air pollution
    - Manufacturers and users of Automobiles, Industrialists, etc.
  - Those who are affected directly or through assets
    - Pedestrians, Cyclists, Police man, Women, Tribals, Householders, Slum dwellers, etc.
  - Those who have interest or influence
    - Governments, Local bodies, Technologists, Experts, NGOs and Doctors

# Regional Stakeholders

- Numbers will be very large
- Optimum solution is to have a small number who can represent various stakeholders and can reach out to their own constituencies to explain all the dimensions and solutions
- Stakeholders should also give feed back and identify how to balance the sacrifices against gains
- Also to evolve communication strategies

# Issues for Discussion

- Has the stage has been reached for collective action ?
- What should be done about local as well as Transboundary air pollution?
- Role of stakeholders to increase there own awareness and its spread
- Role of National regulators and policy makers in regional issues

- Should 'Male' get into more formal legal structures?
- Role of business and Industry
- Role of S&T Institutions and academia
- What should medical science and clinical practitioners do - State of Epidemiological studies
- Role of Agriculture veterinary institutions - Impacts on vegetation, Animals, Soils
- Engineers and Architects to look at corrosion of material and monuments

# Role of Non-Regulatory, Non Business, Non S&T Stakeholders

- Women
- Youth
- NGOs working on Socio economic problems
- Think tank Institutions
- Media



# Role of Regulators

- Legislators
- Bureaucrats
- National Governments
- Local Self Governments

# Strategy for Regional Network

- Organizational links
- Study of gains and losses and optimal solutions
- Funding mechanisms
- Drawing upon South Asian values and Ethos