

# Workshop on Air Quality and Sustainable Transport in South Asian Cities (26 July 2012, Kathmandu, Nepal)



- ▶ KATHMANDU, Nepal, February 23, 2004 (ENS)
  - People walking in the streets and riding bikes with masks to cover their noses and mouths are now common sights in Kathmandu, The 1.5 million residents of Nepal's capital city, worried about the deteriorating air quality across the valley, are trying to protect themselves with masks.
- ▶ There are several laws, policies and programs in effect for curbing pollution in this 400 square kilometer (154 square mile) bowl shaped valley but the air quality continues to pose serious health threats.

# Background

- ▶ South Asian cities are growing in a faster pace during the last decades.
  - ▶ The trend of urbanization, migration and growth of urban population has been phenomenal in these cities.
  - ▶ The government and service providers are quite hard pressed to keep the city life moving.
  - ▶ There is a huge demand for transportation for the mobility of this population.
- Economic activities are also increasing accordingly.

# Background

- ▶ It is not only the dream of general people to live in the city but the government as well plans to increase the percentage of population in the city.
- ▶ With the increase in city population there is a sharp rise in the vehicle population in the city. In lack of Mass transit and also due to economic prosperity the numbers of cars and motor bikes in the city are increasing thereby causing traffic jams. They are in turn, affecting the pollution and air quality scenario in these cities



# Initiation and Implementation in 2011 /12

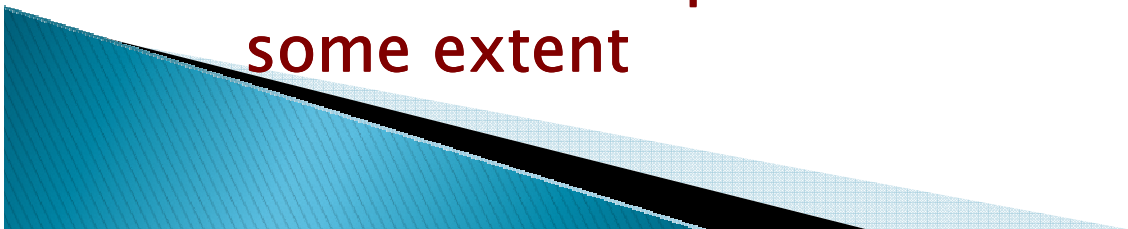
- ▶ Strengthening Air Quality Monitoring System
  - Ambient Air Quality Standards Upgrading
  - Outsourcing of Air Quality Monitoring
  - Vehicle Emission Standards – Upgrading
- ▶ Replacement of Old Vehicles
- ▶ Upgrading of Public Transport
  - Low Emission
  - Zero Emission
- ▶ Improving Fuel Quality
- ▶ Widening congested section of roads
- ▶ Clearing encroachment

# Causes of Air Pollution

- ▶ Most of the pollution is related with human activities as fuel burning, brick factories, unmaintained roads etc.
- ▶ Automobiles are the main source of air pollution inside the Kathmandu valley, which emits the carbon monoxide hydrocarbons, and nitrogen oxide.
- ▶ The automobile exhaust such as lead gas and black dust is very dangerous for human health
- ▶ recent inventory indicates that 67 percent of the PM10 is contributed by the vehicle emission in Kathmandu valley.

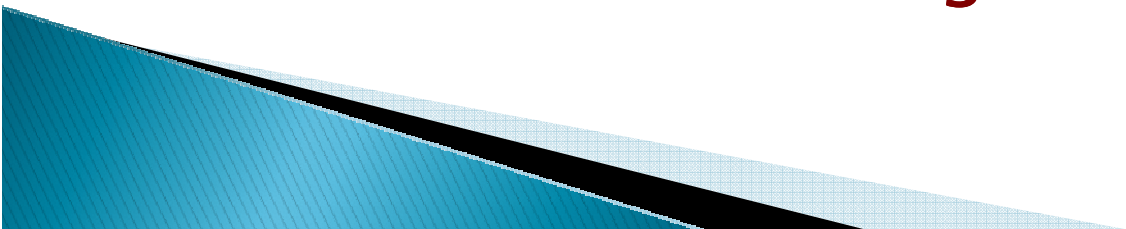
# Causes of Air Pollution

- ▶ Air pollution from automobiles are the complex function of fuel characteristics, extent of combustion, reactions with other gases and atmospheric condition
- ▶ The rapidly increasing vehicular traffic in the valley is a major contributor to air pollution in Kathmandu valley.
- ▶ It is mainly because of the large number of vehicles on congested streets, poor quality fuel and weakness in the emission controlling system
- ▶ **The BOWL shape of the valley also responsible to some extent**



## Causes of Air Pollution

- ▶ Most vehicles in Kathmandu have old engines, (more than 15 years old); are not well maintained
- ▶ There are 1500 kilometres of motor-able road in the Kathmandu valley, of which 1000 km are in poor condition.
- ▶ It is causing serious problem of traffic congestion and air pollution
- ▶ **Share of motorbikes in Kathmandu valley is 73% : causes congestion**





## Efforts to check Air Pollution

- ▶ Ban on two stroke vehicles
- ▶ Regular testing of vehicular emission
- ▶ Setting air quality standards
- ▶ Enhancing fuel and vehicle standard
- ▶ Replacing old vehicles
- ▶ Shifting pollution prone industries out of the valley
- ▶ Improving road condition: Kathmandu road expansion /Maintenance drive

## Efforts to check Air Pollution

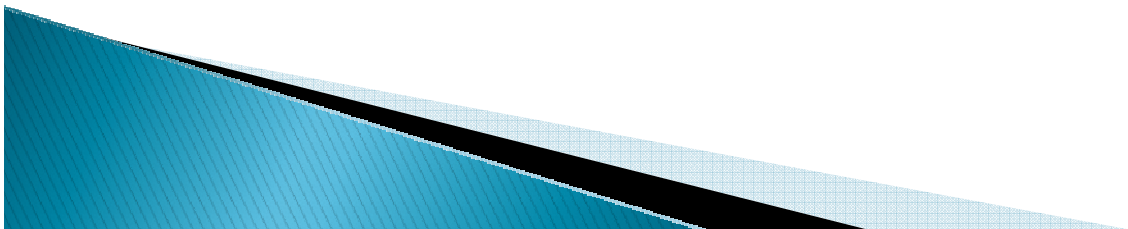
- ▶ Improve the vehicle inspection and maintenance system.
- ▶ Checking adulteration at fuel pump station
- ▶ Promote use of non-motorized vehicles
- ▶ Alternative energy sources, more efficient, less polluting, and cost effective should be promoted E.g. use of methane gas from landfill site to brick industries.
- ▶ • Continuous air quality monitoring and set up standards

## Initiation and Implementation in 2011 / 12

- ▶ Strengthening Transport Management Activities: Traffic Management and Organizing Public Transport
- ▶ Pedestrianisation: Historical Areas planned
- ▶ Study for Re-introduction and Extension of Electric Trolley in Kathmandu Valley done
- ▶ Feasibility Study of East West and Kathmandu – Pokhara Electric Railway just completed
- ▶ Study of Metro/overhead transport in Kathmandu going on  
DPR for 234 Km of electric Railway started

# Initiation and Implementation in 2011

- ▶ One door policy for maintenance fund
- ▶ Environmental Management Action Plan  
EMAP prepared/followed
- ▶ DPR completed for 100 km of electric railway  
under Indian Assistance



# Initiation and Implementation in 2011

- ▶ Kathmandu Sustainable Urban Transport: Support under Grant/Loan Financing of ADB is in implementation
  - ✓ Experimentation with 2 Pilot Routes – Public Transport will be done
  - ✓ GEF funding for Upgrading Public Transport Fleet will be available
  - ✓ Traffic Management Support
  - ✓ Rationalization of Public Transport Routes
  - ✓ Improvement of footpath in city core



# Initiation and Implementation planned for 2012

- ▶ Ensuring Adequate Fund for Road Maintenance
- ▶ Developing electric railway system
- ▶ Incentives/Promotion/Upgrading – Public Transport System
- ▶ Appropriate Organizational Set Up and Affiliation of Transport Management
- ▶ Revision of “National Transport Policy”

# Initiation and Implementation planned for 2012

- ▶ Developing Expressways for reasonable speed under PPP
- ▶ Reducing Congestion
  - Bypasses construction in Hetauda and Bhairahawa
  - Ring road improvement in Kathmandu and Biratnagar
  - Junction improvement/grade separation in Kathmandu
  - Planning Flyover and elevated roads in Kathmandu
  - Policy for Congestion pricing
- ▶ JICA study for Kathmandu valley traffic management to start

# Initiation and Implementation planned for 2012 and beyond

- ▶ Capacity Development of Concerned Institutions
- ▶ Improve Transport Inclusiveness
- ▶ Transport Planning in line with forthcoming Federalism
- ▶ Strengthening Periodic Plans of Municipalities – Effective Land Use
- ▶ Effective maintenance of roads under municipal jurisdiction

# There is ample scope to improve



# The Way Forward

- ▶ Better maintenance of Roads: central, municipal and Local
- ▶ Improved Vehicle fleet
- ▶ Proper maintenance of vehicle
- ▶ Emphasis on Public transport
- ▶ Plan for Mass Transit
- ▶ Go for green vehicles
- ▶ Observe high standard against pollution
- ▶ Act before it is too late



# THANK YOU !



7/30/2012