

## Environmentally Sustainable Transport (EST) in South Asia



**ASIAN MAYORS'  
POLICY DIALOGUE  
FOR PROMOTION  
OF EST IN CITIES**

**KYOTO,**

**23-24 APRIL 2007**



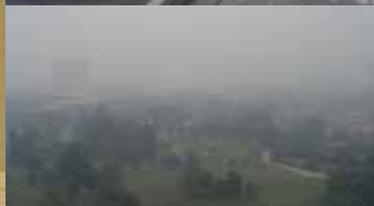
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## Transport related Issues in South Asia

- No separate transport policy exists at the National Level in several countries.
- No well defined policy to promote private participation in public transport.
- Lack of coordination between various government agencies to improve transport services.
- More people acquire personal transport, resulting in governments to build more roads, overpasses, and expressways rather than investing in public transit or non-motorized transit infrastructure.



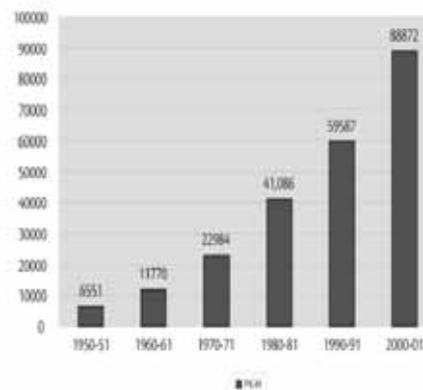
- Strained existing public transit networks prompting use of personal motorized vehicles for daily transport needs.
- Continued growth in the number of motorized vehicles and their use places major burdens on natural resources and cause severe pollution problems
- Traffic accidents, high noise levels that harm human health, and land use patterns that interfere with habitat, migration patterns, and ecosystem integrity.



### Some Examples on unsustainable transport in South Asia

- Large scale uninhibited and unplanned growth in urban areas has led to sharp increase in Suburban rail usage in Indian cities over the past five decades, with a 14-fold growth in passenger km of travel (Indian Railways 2001).

Figure 1. Growth in Suburban Rail Travel in Indian Cities 1951 to 2001 (in millions of passenger km)



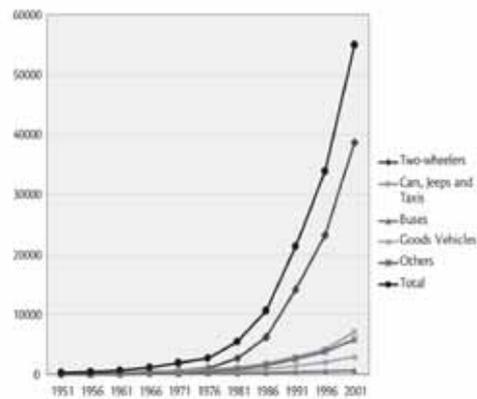
Source: Indian Railways, 2002

Cont .....

- Continued growth in the number of motorized vehicles and their use.

In India, the total number of private cars and motorized two-wheelers increased roughly four times faster than the number of buses over recent decades (World Bank 2002; Ministry of Road Transport and Highways 2003).

Figure 3. Growth of India's Motor Vehicle Fleet by Type of Vehicle 1950-2001 (in thousands of vehicles)



Source: Ministry of Road Transport and Highways 2003

## Major Initiatives taken by South Asian countries

### INDIA

- Specifications for 2T oil for two stroke engines became effective nearly two decades ago
- Unleaded Petrol ensured all over the country and CNG introduced in Many major cities
- Strict emission standards put in place.
- Restriction on movement of goods vehicles during peak hours have been enforced in many major cities
- Ban on commercial vehicles more than 15 years old.
- Phase out of high polluting vehicles
- Replacement of all pre 1990 autos and taxis with new vehicles in many metros
- Removal of eight year old buses from the roads in Delhi unless they use CNG
- National Golden quadrangle Project launched to improve road infrastructure
- Left lane made exclusive to buses and other heavy motor vehicles in Delhi.



## CONT .....

- Time clocks have been installed in red lights to enable drivers to switch off their vehicles
- MRT project has been completed in Calcutta, Mumbai, Delhi
- Two wheel scooters with 4 stroke engines were introduced in the market and two stroke engine phased out.
- Registration of only rear gear engine auto rickshaws is being allowed from 1996.



### **BHUTAN**

- As of 2002 Bhutan began to import unleaded petrol and 0.025% sulphur-content diesel.
- As of 1999, Bhutan banned the import of 2 stroke two wheelers and the import of secondhand vehicles.
- Established Euro 1 type approval for the import of new vehicles.

## Cont ...

### **Bangladesh**

- Banning 2-stroke 3-wheelers (baby taxies)
- Introduction of lead free gasoline (petrol) throughout the whole country
- Introduction of compressed natural gas (CNG) as an alternate cleaner
- Introduction of Ambient Air Quality Standards and Vehicle Emission



### **Nepal**

- Incentives to electrical and battery operated vehicles
- Enforcement of Nepal Vehicle Mass Emission standards.
- Ban on import of second hand and reconditioned vehicles and two stroke engine vehicles



## Cont .....

- Tax reductions for gas vehicles and replacement of diesel and petrol operated three wheelers
- Ban on Diesel fired three wheelers from Kathmandu Valley
- 45-km long ropeway to connect Kathmandu valley to the terai town Hetauda.
- Launch of Kathmandu valley Vehicular Emission Control Project (KVVECP)



### SRI LANKA

- Gazette Vehicle emission standards, fuel standards and specification standards for vehicle importation. Ban on import of >3yrs old vehicles
- Phase out of leaded gasoline
- Sulphur in auto diesel has been reduced to 0.7 % by 2000
- Initiatives have been taken to ban 2 stroke three wheelers.



### Maldives

- Banning of the import of reconditioned motorcycles which have an engine capacity less than 150 cm.
- Banning of import of cars more than 5 years old.

### Pakistan

- ban on registration of more diesel buses and conversion of old public transport vehicles with CNG.
- Imposition of ban on sale of oil/lubricants from roadside or any other premises other than petrol pumps and on sale of reclaimed lubricant oil of poor quality.
- Replacement of buses or mini-buses or coaches over 15-years-old with CNG buses only on 'oldest bus to go first' principle.



## Regional Initiatives

- Malé Declaration on Control and Prevention of Air Pollution and Its Likely Transboundary Effects for South Asia.
  - Ministers of environment of South Asia endorsed Male Declaration in 1998
  - The participating countries are Nepal, Bhutan, Bangladesh, Pakistan, Maldives, Iran, India and Sri Lanka
  - Funded by SIDA
  - The implementation has three phases
  - Monitoring stations established in all countries on the borders and regular data being generated and analysed.
  - phase I and II dealt with agreement and awareness raising, and capacity building
  - Phase III will use information and knowledge concerning air pollution problems for further development of policy and assess the risk of impacts to health, crops, materials etc

## Efforts by donors

- Funds from the Global Environment Facility (GEF) may be utilized to catalyze and pilot test new approaches.
- USAID established 45- Km roadway in Kathmandu valley Nepal.
- Global Resources Institute (GRI) began a programme to develop EVs as profitable industry in Kathmandu, Nepal.
- Danish International Development Agency (DANIDA) is strengthening the vehicular emission testing in Kathmandu Valley under the vehicle anti- pollution Programme.



## Experiences and lessons from community initiatives

- **Sri Lanka:** Introduction of Electric Vehicles to Sri Lanka by the Lanka Electric Vehicle Association
  - Considerable success has been achieved
  - Several private firms are now beginning to manufacture and import electric vehicles (EVs).
  - The government has also thrown its support behind the technology, and is considering using electric busses to upgrade Colombo's mass transit system.



## Experiences and lessons from community initiatives contd....

- **India:** Environmentally Sustainable, People-centred Urban Transport, Pune
- 2006 Pune municipal budget made significant financial commitments to sustainable transport development, including:
  - Upgrade of Pune's citywide cycling network, including several kilometres of cycling tracks
  - Initial funding for a multi-million dollar BRT system, including construction of two initial routes
  - Mandated footpaths for all public roads in the city.



## Experiences and lessons from community initiatives contd....

- **Nepal:** Electric Buses to Improve Urban Air Quality and Mitigate Climate Change, Kathmandu
  - Implemented in December 2003
  - Funded by Small Grant Programme of UNDP
  - The project was quite successful in sensitizing policymakers as well as the general public to the
    - *Potential role of electric buses in Kathmandu's transit system*
    - *policy advocacy*
    - *Regulatory framework enhancement*
    - *EV promotion activities continue.*



## Some suggestions :

- Discourage the use (not ownership) of personal motor vehicles would have to go hand in hand with measures that encourage the use of public transport.
- Pedestrian-only areas
- Vehicle-free zones with special consideration for public transport (such as non-polluting buses or special loop trolleys)
- The availability of parking space and the levy of a high parking fee should be used as a means to curb the use of personal motor vehicles.



## Needs for Environmentally Sustainable Transport Systems in South Asia

- Under Development of Technology in the region
- Continued growth in the number of motorised vehicles, including speed boats and diesel powered boats in coastal areas leading to large scale marine pollution. Immediate need to establish a hybrid ferry from the airport to the Main island Male' in the Maldives similar to the one in Sydney Harbour. Similar efforts to counter marine pollution due to rapid growth in diesel powered boats in South Asia especially small islands.
- Insufficient and ineffective regulatory system. Lack of efficient implementation of laws
- Rapid increase of urban population in South Asian Countries
- Low priority for the political agenda
- Lack of sufficient funding and investment
- Information gap



## Suggestions for Optimizing Regional Initiatives

- Closer integration of land use and transport planning
- Greater use of public transport and non-motorized modes of travel since these modes occupy less road space and emit fewer pollutants compared to personal motor vehicles.
- Provision of good parking facilities in urban areas and also the need to properly manage the freight traffic that gets generated.
- Building up capability for sound urban transport planning in the cities.
- A coordinated approach to urban transport planning and the need for creating greater awareness about the problems amongst city residents.

## Suggestions for Optimizing Regional Initiatives

1. **Communications:** information exchange on each other's activities. Learning from the global initiatives and initiatives in the countries of South Asia
2. **Coordination:** to coordinate with each other on present and future activities
3. **Cooperation:** to share resources and outcomes
4. **Collaboration:** to merge programs or activities by keeping own individual institutional identity
5. Establish a Working Group on Environmental Sustainable Cities in South Asia
6. Extend the coverage of the EST Forum to More cities in SA

## Elements of Cooperation

- Knowledge management
- Capacity building
- Supporting policy development
- Pilot projects
- Funding-need for more support from donors in one of the fastest growing sub-regions of the world-both economically and as far as urban population is concerned



THANK YOU FOR  
YOUR KIND  
ATTENTION

