


**Seventh Regional Stakeholders cum Coordination Meeting (RSC-7)**  
 Dhaka Bangladesh: 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> May, 2013



**AIR POLLUTION AND CONTROL ACTIVITIES**  
**PAKISTAN'S SCENARIO**

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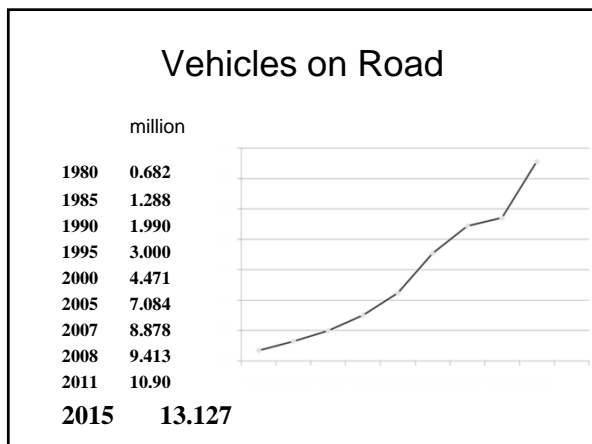


**About Pakistan**

- Location: 23° 73 North & 61° 76 East
- Total Area: 796095 sq km
- Population: 183 million
- Population Density: 225.19 (2010) persons/km<sup>2</sup>
- Vehicles: 10.9 million
- Climate: Temperate (cold winters and hot summers; Rain Fall 60 mm in South to 1600 mm in North)
- Forest cover: 4.8%
- GDP: Rs. 6.4 trillion
- Per capita income: \$ 1372

**MAJOR POLLUTION ISSUES OF CONCERN**

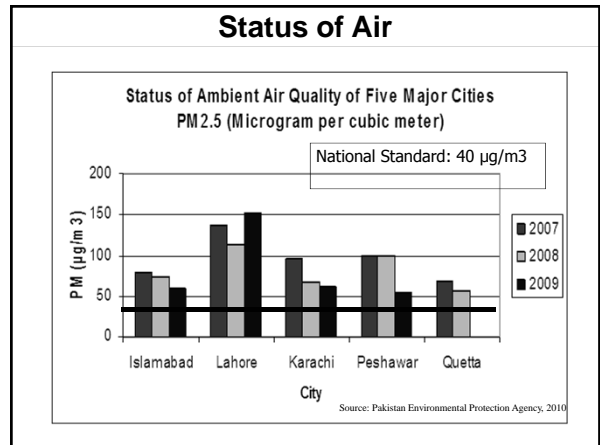
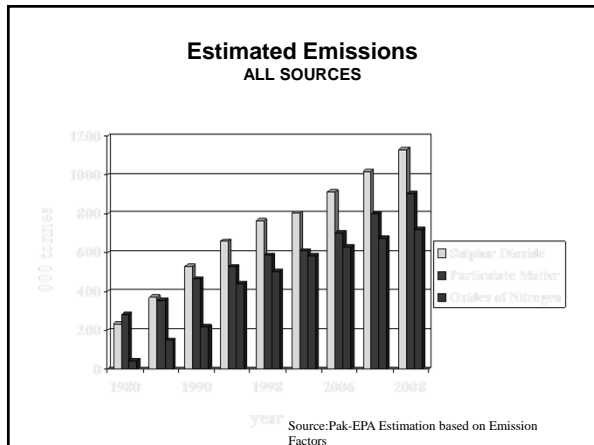
- High concentration of Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>) is of great concern in the country.
- Haze and Smog formation in urban centers.
- Heavy Fog in winter, adversely affecting communication
- Increasing concentration of Oxides of Nitrogen due to excessive use of CNG
- Increasing use of coal in industry due to shortage of natural gas and high cost of fuel oils .
- Burning of municipal solid waste is significant, almost 57,000 tons of solid waste is generated each day, most of which is either dumped or burnt (incomplete combustion)



**QUALITY OF FUEL OIL**

	<u>Pakistan</u>	<u>Other Countries of Region</u>
• Gasoline	Unleaded	Unleaded
• Sulphur in Diesel oil	0.05-0.5%	0.05-0.5%
• Sulphur in Furnace oil	3%	0.5-1%

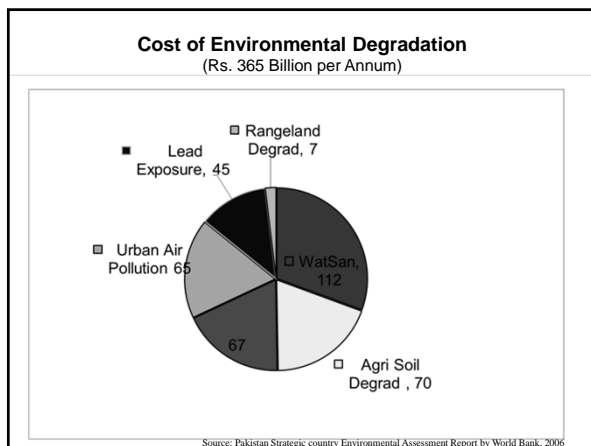
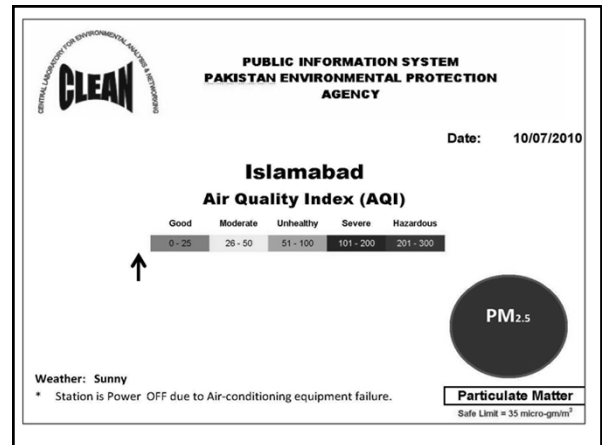
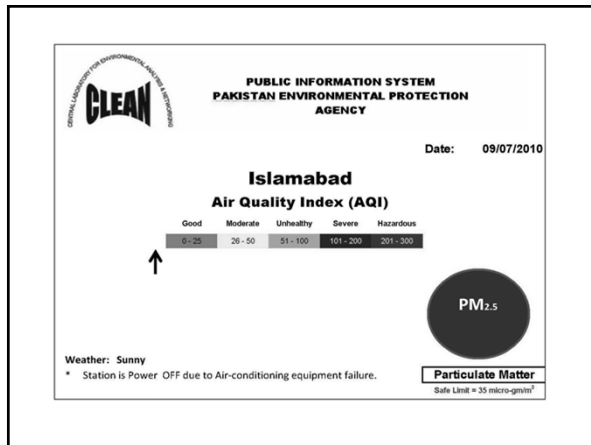
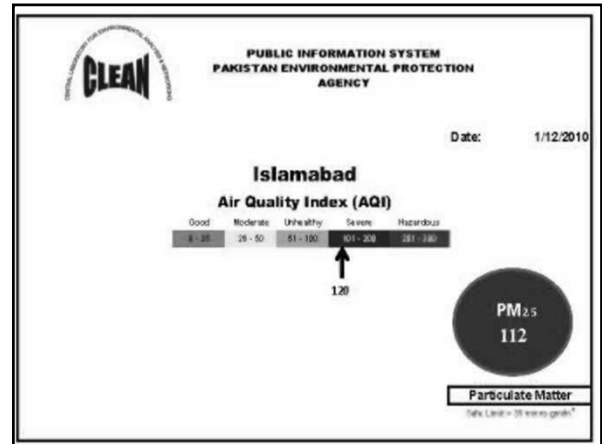
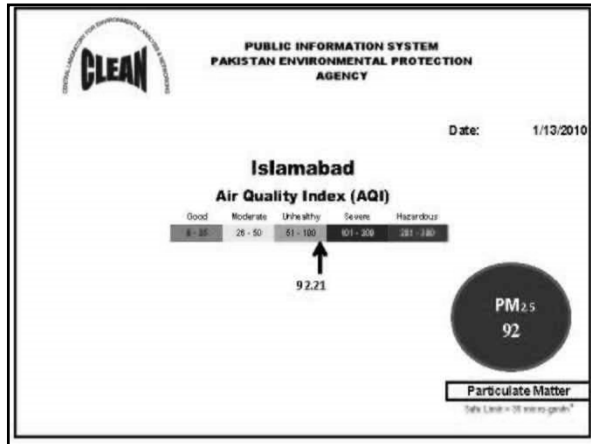
**Target for Sulphur Content in Diesel Oil: 0.05% by 2012 Revised 2014**



### Ambient Air Quality In Big Cities Of Punjab, Jan 2010

City	Ozone ug/m <sup>3</sup>	SO <sub>2</sub> ug/m <sup>3</sup>	CO mg/m <sup>3</sup>	NOX ug/m <sup>3</sup>	PM 2.5 ug/m <sup>3</sup>
Lahore	32.8	72.8	2.5	164.4	252.3
Faisalabad	31.2	69.7	2.0	170.5	255.2
Rawalpindi	46.0	74.0	2.0	177.0	128.0
Gujranwala	31.5	75.3	2.3	179.2	260.3
Sahiwal	13.2	5.0	0.5	20.3	73.8
Multan	15.0	29.0	1.8	77.0	170.0
Bahawalpur	18.2	38.9	2.0	94.4	209.4
Muzafargarh	36.0	18.0	1.0	62.0	189.0

SO<sub>2</sub>: Sulfur Dioxide, mg/m<sup>3</sup>: Milligram Per Cubic Meter,  
 CO: Carbon monoxide,  
 NOX: Nitrogen Oxides, \* National Ambient Air Quality Standards (draft)  
 PM2.5: Particulate Matter up to 2.5 micron



**Health Impacts of Particulate Matter in Air**

Health End-Points	Attributed Total Cases
Premature mortality adults	21,791
Mortality children under 5yrs	658
Chronic Bronchitis	7,825
Hospital Admissions	81,312
Emergency room visits/ outpatient hospital visits	1,595,080
Restricted activity days	81,541,893
Lower respiratory illness in children	4,924,148
Respiratory symptoms	706,808,732

Source: Pakistan Strategic country Environmental Assessment Report by World Bank, 2006

### Control of Air Pollution Major Steps Taken

Pakistan Clean Air Program (PCAP) approved by Environment Protection Council

- Clean Fuels
- Unleaded gasoline introduced through out the country
- Phasing out Sulphur in diesel from 1% to 0.5% (achieved) target sulphur 0.05% by 2014 (Euro-II compliant)
- Promotion of CNG in vehicles (more than 2.5 million vehicles converted to CNG) and 3331 CNG stations set up.
- Improved Technology
- Euro II compliant Engines in Vehicles
- Dual Fuel Firing (LPG+ Diesel)
- Phasing out of 2-stroke vehicles

### Control of Vehicular Emission....Cont.

- **Vehicle Emission Testing Centers**
  - Pilot Project for improved Motor Vehicle Examination
  - Tune up stations established in different cities with the assistance of UNDP
- **Enforcement of Standards**
  - Various Campaigns were initiated with Traffic Police to check visible smoke of vehicles
  - Environmental squads in Traffic Police.
  - Implementation of National Environmental Quality Standards for industry
- **Establishment of Air Quality Monitoring System**
  - Established continuous Air Quality Monitoring Stations in federal and provincial capitals with the assistance of JICA

### Checking of Vehicles



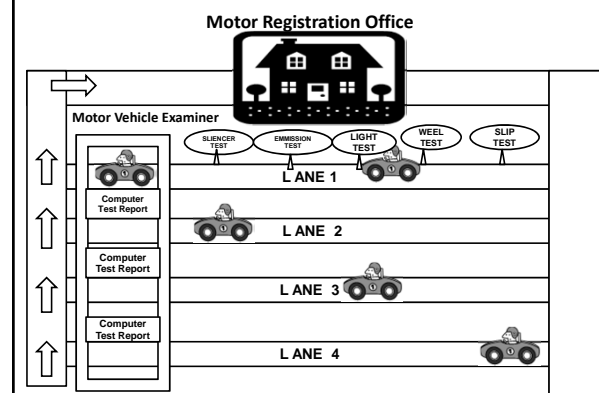
### Clean Fuel Program Achievements

- 2000:** Mono grade 87 RON Gasoline introduced in the country by eliminating Super and Regular grades
- 2001:** World Bank carried out techno-economic study of clean fuel options
- 2002:** Unleaded gasoline introduced throughout the country
- 2002:** HSD of 0.5 % sulphur was made available
- 2008:** M/o P&NR exercising its power under rule 11 of the Pakistan Petroleum Rules, 1971 directed refineries to produce HSD of 0.05% sulphur along with other improved parameters by 1<sup>st</sup> January, 2011.

### Model Dust Control Unit for Stone Crushers in Sargodha (Punjab)



### A typical motor vehicle inspection system



### Air Quality Monitoring Stations



### Challenges & Difficulties

- Communication and Logistical Constraints for Supervising & Monitoring of the Site due to shortage of funds
- Equipment were Showing Sign of Wear – Tear and non-functional.
- High Volume Sampler is not functional due to Unavailability of filter papers.
- Male' station condition was going bad day by day due to unavailability of funds.
- Weak Coordination Among NIA and Expert Institute Nominated for Crop Impact Assessment.

**THANK YOU**