"Pollution Control and Air Quality Management in Myanmar"

### Session 1: Inland Transport

#### Introduction

- 1. Air pollution is due to the excessive discharge of particulate matters, fumes and chemicals into the atmosphere and their suspension in the atmosphere for the long period of time. Air pollutant may occur in the form of solid particles, liquid droplets and/or gases.
- 2. There are over 100 identified air pollutants. The major categories of those pollutants are: particulate, oxides of sulfur and nitrogen, volatile organic compounds and ozone. Noise and odor also considered pollutants.

## **Background**

3. During the 21<sup>st</sup> century, Asia is expected to achieve significant economic growth. The growth will be accompanied by increased transport related services and activities resulting in significant environmental consequences. Most of the Asian countries face transport related environmental problems. So, it is need to promote Environmentally Sustainable Transport (EST) to protect these problems. EST is the transportation system that meets social, economic and environmental objects.

## **Establishment of Environmentally Sustainable Transport System**

- 4. National Commission for Environmental Affairs (NCEA), Ministry of Rail Transportation, other related Ministries and stakeholders are cooperating with their efforts to develop the environmentally sustainable transport system. Establishing the EST system, to promote collaborative and participatory efforts towards harmonization off vehicle emission control, standards, inspection and maintenance, roadside air quality monitoring, fuel quality standards, traffic noise management and environment & people friendly urban transportation.
- 5. Urban air pollution is due to the growth in the size of cities, economic development, increasing the number of vehicles and level of energy consumption. The movement of people into urban areas together with the increase in energy consumption, urban and industrial development lead to the problem of air pollution. Thus, it will require a wide range of effective measures to reduce the environmental and social impacts associated with the rapid growth of urbanization.

## Vehicle Emission Control, Standards, Inspection and Maintenance

### Number of Registered Vehicles (2001-2008)

Sr.	Particular	2004	2005	2006	2007	2008(Oct)
1.	Total No. of Passenger Cars	186,484	192,543	200,132	213,719	227,820
2.	Total No. of Truck	52,510	54,482	55,423	56,904	58,095
3.	Total No. of Bus	17,880	17,985	18,614	19,390	19,531
4.	Total No. of Motorcycles	638,386	640,313	645,683	654,741	1,552,992
5.	Total No. of Others	65,081	73,199	71,784	79,618	78,380
	Grand Total	960,341	978,522	991,636	1,024,372	1,936,818

### RTAD-Road Transport Administration Department

- 6. The main source of air pollution in urban area in mobile sector. So pollution control and air quality management should focus on mobile sector. Vehicle inspection and maintenance programmes are enforcing for vehicle emissions and safety in Myanmar as follows:
  - (a) Motor Vehicle Law (1964) and Motor Vehicle Rules (1989)
  - (b) Practicing Standard of Road Transport Administration Department Exhaust Emission (smoke), 50% Bosh Unit
  - (c) Prohibition of aged cars (over 20 years of manufacturing) to be registered in the Yangon City Development Area
  - (d) Annually renewal for motor vehicles and biennially renewal for motorcycles
  - (e) Surprise Check Inspection

# **Enforcing Activities for Extreme Smoking Vehicles**

7. Road Transport Administration Department has made surprise check inspection with Exhaust Emission Tester for emission control and reducing the emission.

Extreme smoking vehicles are enforced into three phase as follows:

- (a) 1<sup>st</sup> phase give warning and force to maintain the exhaust system of vehicle
- (b) 2<sup>nd</sup> phase withdraw the issued vehicle registration certificate and vehicle inspection certificate
- (c) 3<sup>rd</sup> phase taking punishment

## **Road Side Air Quality Monitoring**

- 8. Air quality monitoring was conducted in there selected sites in Yangon.

  They are commercial, residential and surrounding near to industrial zone. Air quality monitoring at these places are as follows:
  - (a) suspended particulate matters

- commercial area 342.58ug/m3, 177.69 ug/m3

- residential area 168.61 ug/m3, 68.59 ug/m3

- industrial area 127.32 ug/m3, 66.95 ug/m3

(b)  $NO_2$  and  $SO_2$ 

- residential area 1.14 ug/m3, 23.22 ug/m3

- industrial area 0.37 ug/m3, 28.36 ug/m3

9. No Legal instrument or institutional mechanism exists for monitoring ambient air pollution. And air quality master plan is being focused.

#### Cleaner Fuel

10. Ministry of energy and Road Transport Administration Department have conducted regarding with the standard of cleaner fuel. The contribution of alternative fuels such as Compressed Natural Gas (CNG) and biomass-derived ethanol and bio-diesel is as a means to reduce vehicle emission. So the Government is encouraging the use of CNG in place of petrol and diesel in city transportation and commercial vehicles. The Government is also encouraging the plantation of Jatropha to produce bio-diesel throughout the country since 2004.

Number of Vehicles by using Gasoline, Diesel, CNG and LPG

No.	Туре	FUEL				Total
		Gasoline	Diesel	CNG	LPG	1000
1.	Passenger Car	138701	78075	11003	41	227820
2.	Truck (Light Duty)	4881	17735	1896	-	24512
3.	Truck (Heavy Duty)	1090	31214	1279	-	33583
4.	Bus	3447	10645	5436	3	19531
5.	Others	689	12398	721	-	13808
6.	Two Wheeler	1552992	-	-	-	1552992
7.	Three Wheeler	6025	144	301	-	6470
8.	Trawlergi	-	58102	-	-	58102
	Grand Total	1707825	208313	20636	44	1936818

### **Traffic Noise Management**

11. The impacts of road side pollution are effected to people traveling on the roads and working or living close to the roads. So it is need to standardize on noise levels and the enforcement of such standards by establishing management mechanism. Practicing standard of Road Transport Administration Department on Traffic Noise is Max db 115.

# **Environment and People Friendly Urban Transportation Infrastructures**

12. In urban areas, affordable and socially acceptable transport infrastructure and facilities are needed to provide to become environment and people friendly urban transportation. In Yangon, public transport bus lines operate to carry 4.4 million passengers daily. Moreover, 200 trips of circular trains carry 4085814 passengers and 10 numbers of river ferries carry 1184984 passengers everyday.

#### Recommendation

13. Environmentally sustainable transport system is not only to improve the human health through the reduction of urban air pollution but also to reduce the greenhouse gas emission, the reduction of deaths and injuries from road accidents, the reduction of harmful noise levels and the reduction of traffic congestion levels. Thus establishing the environmentally sustainable transport system, national and local level policies, strategies and programmes are needed to adopt and implement widely. The understanding and awareness of the civil society and decision-makers on the beneficial aspects of EST is also to become the accomplish changes in policies, investment decisions and personal behaviour.

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