

## Chapter-8

### Air pollution due to automobiles

#### Introduction

One of the major causes of air pollution is vehicular emission. The Source Apportionment Study carried out (2010) by the Ministry revealed that (a) automobile tailpipe emissions are an important component of air pollution, (b) given the growing pace of vehicle ownership and use, vehicle tailpipe emissions will only grow in quantum, and (c) the only way to deal with rising air pollution due to the automobile is to make the quality of vehicles and fuel much better.

The Expert Committee of GoI constituted (December 2012) to devise Auto Fuel Vision and Policy 2025, in its report (May 2014) suggested vehicle pollution strategy consisting of four components (i) increasing stringent new vehicles standards, (ii) specifications for clean fuel, (iii) proper inspection and maintenance of in-use vehicles and (iv) transport and travel management. To control the menace of air pollution due to automobiles, it suggested actions such as the policy of retiring more than 15 years old vehicles, stringent compliance of Pollution Under Control (PUC) checks, idling emission standards (Rule 115 of the Central Motor Vehicle Rules, 1989) for Carbon Monoxide and Hydro Carbons, control on overloading of vehicles and efficient public transport.

Audit observations on issues in the regulation of auto emission in Gujarat are as under: -

#### 8.1 Auto fuel emission load in the State

The total geographical area of the Gujarat is 1.96 lakh square kilometres. The growth of vehicles (transport and non-transport) and population since 2000-01 and ratio of vehicles are shown in **Table 12** below: -

**Table 12: - Growth of vehicles and population**

Year	Total numbers of Registered Vehicles (In crore)	Population (In crore)	Density of vehicles per sq. km (in ones)
2000-01	0.56	5.07	28.44
2011-12	1.44	6.04	73.53
2018-19	2.52	6.93	128.56
<i>Per cent</i> increase	352	36.86	

(Source: Website of Commissioner of Transport and Census data of Gujarat)

During 2000-01 to 2018-19, Gujarat witnessed 352 *per cent* increase in vehicle growth against a population increase of only 36.86 *per cent*. The increase in vehicle density contributed to the deterioration of ambient air quality, specifically in urban areas due to the higher density of vehicles per square kilometre.

## 8.2 Poor compliance of PUC norms

Section 20 of the Air Act empowers the State Transport Department to control vehicular pollution. The Commissioner of Transport (CoT) is authorized to check emissions of every motor vehicle on six monthly basis to ensure that its emissions are within the prescribed limit and issue Pollution under Control (PUC) Certificates to the vehicle owners. The CoT can take penal action under section 190 (2) of MVA, 1988 if the emission is not within the prescribed limit. The CoT issues licenses to the emission testing stations (PUC centres) for issue of PUC certificates.

Review of compliance with PUC norms revealed the following:

(i) For issuing PUC certificates to 2.52 crore registered vehicles in 2018-19, there were only 1,192 registered PUC centres operating in Gujarat (February 2019). In a drive conducted (February 2019) by the CoT for checking performance of PUC testing centres, the CoT either served notices or suspended/cancelled licenses of 162 centres out of 798 testing centres checked, for not complying with government norms on operation and issue of PUCs. However, Technical Audit of each PUC centre was not regularly conducted by the licensing authority (Regional Transport Offices).

(ii) During 2016-17 to 2018-19, the CoT registered offences for overloading, fitness and not having PUC certificates as shown in **Table 13** below: -

**Table 13: - No. of offence cases against registered vehicle (In lakh)**

Year	Total numbers of registered vehicles			Offences registered for not- having PUC (per cent of total vehicles)
	Transport	Non-Transport	Total	
2016-17	24.21	196.16	220.37	0.53 (0.24)
2017-18	25.66	212.55	238.21	0.54 (0.23)
2018-19	26.81	225.21	252.02	0.56 (0.22)

(Source: Information provided by Commissioner of Transport, Gujarat)

It can be noticed from the above Table that the registered offences for not having PUC, in comparison to number of registered vehicles, were almost negligible. The negligible number of registered offence cases indicate the possibility of ineffective monitoring on overloading, fitness, and PUCs.

(iii) In PUC centres test checked (August 2019) by audit in Gandhinagar and Ahmedabad, it was observed that the register containing information of vehicles and PUCs issued each day, which was to be kept for period of minimum one year, was not maintained.

Thus, the PUC management was not effective and efficient and needs technical interventions like sensor-based PUC certification and data integration with the existing software of the CoT.

### 8.3 *Insufficient inspection of quality of auto fuel*

Vehicular emission is aggravated due to adulterated auto fuel. Fuel adulteration increases the emission of hydrocarbons, carbon monoxide, nitrogen oxides and particulate matter and thereby increases air pollution.

The office of the Director of Food and Civil Supplies (the Directorate, FCS) is responsible to ensure that quality of motor spirit and high-speed diesel conforms to BIS<sup>1</sup> specification IS 2796 and IS 1460, respectively. Food, Civil Supplies and Consumer Affairs Department, GoG circulated (February 2016) norms for inspection of fair price shops, LPG gas stations, dealers of kerosene and petrol pumps. The circular stipulated that every petrol pump is inspected at least once in six months by a joint team of district and taluka level offices.

Audit observed (September 2019) deficiencies in inspection of petrol pumps. The number of petrol pumps functional in the State during 2014-15 to 2018-19 ranged between 2850 and 3845. As per norms, the Directorate, FCS was to carry out at least 33,854 inspections of petrol pumps between 2014-15 and 2018-19. Against this, the Directorate, FCS inspected only 1,506 petrol pumps (excluding 135 inspections carried out based on public complaints) and found 11 petrol pumps selling adulterated fuel. Inadequate monitoring of petrol pumps may lead to sale of adulterated auto fuel thereby aggravating vehicular emissions.

*The State Government may ensure strict implementation of PUC norms to control the emission from automobiles. A mechanism needs to be put in place for regular quality checks of auto fuel sold at petrol pumps.*

#### **Conclusion**

*Vehicular emission is a major source of air pollution in urban areas. Emission from vehicles could be minimized by using good quality fuel and through maintenance of the vehicle in a timely manner. The mechanism developed by the GoG to check vehicular emission and issue of PUC is inadequate. The frequency of checking of quality of auto fuel is also not sufficient.*

---

<sup>1</sup> Bureau of Indian Standards.

