Chapter 19
Urbanization and Ownership of Polluting Vehicles: A Study From Urban India

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ABSTRACT

Most Indian cities are experiencing rapid urbanization, and a majority of the country's population is expected to live in cities within a span of the next two decades. The rapid development in urban India has also resulted in a tremendous increase in the number of motor vehicles, and in some cities, this has doubled in the last decade. This is the main source of air pollution and poor ambient air quality impacting millions of dwellers. This chapter presents a review of the vehicular population in urban Indian cities with its pattern and determinants. The transport system is shared by two parts such as public transport as well as private transport system. To reduce the vehicular pollution, we have to emphasize on public transport system rather than private transport. In an underdeveloped country, it is very tough to use public transport. Due to lack of government fund, new technology, proper checking, etc., private cars, buses, and tracks are increased rapidly. We use these randomly for transport purposes. This causes pollution.

INTRODUCTION

It is said that there is no free lunch in this universe. Development and the concomitant urbanization cannot be an exception to this. Pollution is a staple problem of today's world. Rich or poor, planed or market oriented, democratic or autocratic, modern or traditional —— nation all over are steeped in pollution. While the facets of pollution changes from country to country or region to region, it is undeniable that we cannot live without it. In a way, it is the price of the riches that the science and technology bestowed upon us. Like a thrown of a rose or the catered pillar from which the butterfly is brown, pollution is embedded if we are to enjoy the magnificence of human triumph in science and technology. Air pollution is

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one of the very important sources of pollution. It is more prevalent in the cities and urban conglomerates of the developed and developing world. A major source of air pollution in the city proper is the spurt of vehicles. Development is almost synonymous with a movement from mechanical vehicles (such as bicycles or rickshaws) to the fuel consuming two wheelers and four wheelers. Vehicles are necessary for transit of both man and goods across the length and breadth of a city.

However, the vehicular population could have been checked if there would have been an emphasis on efficient public transit system (such as light-railways, metro-railways etc.). However, the problem is accentuated both by and increasing inefficiency of public transport (use of backdated fuel consumption technology) and also the rise in the privately own two wheelers and four wheelers. Added to this inadequate road space, dilapidated and ill- maintained road ways, the increase in number of vehicles per kilometer of roads and the slow average movement of vehicles flare up the problem. In Delhi, the data shows that of the total 3,000 metric tons of pollutants belched out every day, close to two third (66%) is from vehicles. Similarly the contribution of vehicles to urban air pollution is 52% in Bombay and close to one-third in Kolkata.

As the country is rapidly changing to a path of growth and development, increasing urbanization is a necessary outcome. There will be an expansion and development of existing centres with a popping up of a large number of new centre. Actually urbanization is a fact of life in underdeveloped countries. With urbanization comes the problem of urban transport. Urbanization increases the demand for urban transport. This transport system is shared by two parts such as public transport as well as private transport system. People flock to the urban centres to take the advantages of new possibilities emerging there (Lucas 2002). With this increased urbanization, an expansion of ownership of petro-fuel consuming vehicles is almost warranted. City life requires rapid and smooth transit. It saves both time and reduces the exertion resulting from using traditional vehicles. In essence, it expands the efficiency at the workplace. However, this is the main source of air pollution and poor ambient air quality impacting millions of dwellers. These issues of vehicular emission are wide and variegated. There is no meaningful way to undertake a coherent analysis across this mesh of issues. Ecological economics is a melting point of several issues of science. In the name rigour most of the papers over simplified the issues by trying to cut Gordian Knot in a rather abstruse (if not Vulgar way). Such 'rigouras' papers are over simplified and miss the flavor of problems at hand. These papers do not fall into the trap. We deliberately disdain ourselves from empirical analysis. In the present paper, we concentrate on some issues that are relevant to deal this important aspect of developmental dilemma.

REVIEW AND RELEVANT LITERATURE

Different studies have been done in the field of motor vehicular emissions in the different regions of the world, especially to establish the level of air pollution from the operation of motor vehicles and the general urban air quality as a whole. Three of such studies which have relevance to this study are: the vehicle activity study in Nairobi, Kenya, conducted in March 2001 by the U.S. EPA, CE-CERT5, and GSSR6 the evaluation of evaporative emissions from gasoline powered motor vehicles under South African conditions, conducted in 2003 by Van des Westhuisena *et al*. (2004); and the impact of automobile emissions on the level of platinum and lead in Accra, Ghana conducted in 2001 by Kylander *et al*. (2003). All of these find strong correlates between air pollution and vehicular efficiency (in the fuel use).