ABSTRACT

Mumbai, originally an aggregation of seven islands was joined together over a period of about five centuries by a constant process of reclamation. The transformation of a group of seven small islands off the shore of coastal Maharashtra into one of the most crowded metropolitan city of island has been through a lot of major and minor changes.

The ever-increasing population due to in-migration of skilled as well un-skilled manpower from within and outside the state of Maharashtra, expanding slum areas, existence of environmentally hazardous industries, increasing number of vehicular population, unending construction and repair works, growing heaps of garbage in the lanes and by-lanes of the city; etc. apart from those related to tourism, unplanned urbanization, depletion and degradation of available resources, diseases, etc turn out to be a lethal combination in wrecking the intricate balance that is much needed between human activities, economic growth and the environment.

Excessive over-crowding of public places and congested roads are a common feature in Mumbai. Apart from the physical stress that people undergo due to the abovementioned factors, air pollutants, too, have a negative impact on the health of the residents. Besides substantial CO$_2$ emissions, significant quantities of CO, HC, NOx, SPM and other pollutants are emitted from these motor vehicles in the atmosphere, causing serious environmental and health impacts. UNEP as well WHOP also noted in 1992 that pollution from motor vehicles is one of the most serious and rapidly growing problems in urban centres of India.

This study focuses on two aspects of environmental degradation: a) air quality in Mumbai and b) the problem of solid wastes management in the city.

While trying to assess the quality of air, an attempt was made to find if the increasing number of vehicles in the city could be responsible for the increasing levels of Suspended Particulate Matter and Respirable Suspended Particulate Matter in the study region.

The findings of this study as well as that of other sources reveal that increasing number of vehicles are causing an increase in the emission load of air pollutants in the metropolitan city. It was found that that the western suburb which leads in the number of vehicles as compared to the
island city and eastern suburb does indicate alarmingly high levels of RSPM as well SPM. On the other hand despite fewer numbers of vehicles in the Eastern suburb, places like Maravali indicate the worst scenario with respect to air quality. This could be mainly due to the industrial zone located at Maravali and also because of its proximity to Chembur which houses many environmentally hazardous industries, and also due the existence of the city’s largest dumping ground Deonar in close vicinity. Another important causative factor could also be due to the huge volume of traffic heading daily towards the Mumbai city from places such as Pune, Nasik, etc which converges at Chembur and causes a severe traffic bottleneck. The idling time of vehicles at such junctions also is known to emit many pollutants in those specific locations.

The second aspect of this study focuses on issues of solid waste management in Greater Mumbai region. A very important observation in this aspect is that the rate of growth of solid wastes does not seem to be directly influenced solely by population growth. The rate of increase of solid waste has been much more rapid than that of population. This implies that it is not only the total population growth that is responsible for the growth of solid waste but the prevalence of other factors such as employment opportunities, etc in certain geographical locations of the study region, that could be responsible for increasing amount of garbage. The concentration index values of solid waste too are indicative of the fact that the increasing amount of solid waste cannot be attributed to population growth alone.

Apart from all such human activities responsible for the problem of solid waste management, infrastructural requirements and logistics too have an important role to play in the management of solid wastes in an urban area.