INTRODUCTION

Mumbai, the economic capital of India, covers a total of 437.71 sq. kms and is an aggregation of seven islands 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 most worrisome aspect of the evolution of the Mumbai region into the country’s most important economic centre of the country is the current set of irreversible modification it has undergone due to the changing landuse pattern. The ever-increasing population due to in-migration of skilled as well un-skilled manpower from within and outside the state of Maharashtra has definitely added to the woes of the city.

The environmental stress is increasing as population increases and more people are competing for the limited resources. This is clearly manifested in the expanse of the slums in Mumbai as well in the heaps of garbage lying across the city waiting to be collected by the civic authorities and to be disposed off in a manner which keeps the ecological balance maintained.

Another very important aspect that is responsible for disrupting the ecological balance is the transport sector; which includes the increasing number of vehicles that are added to Mumbai streets everyday as well as the necessity of development of infrastructural amenities to cater to the increasing number of vehicles. The only highways that exist in Mumbai are the Eastern and the Western Highways that run North/South along the Eastern and Western coasts of the island. The city’s transport system was modelled after the London Transportation System with the exception of the Underground Metro. Mumbai’s lack of subway system has been severely detrimental to the commuting congestion that the city experiences on a daily basis.

Environmental problems such as pollution of land, water, air and noise have increased considerably. This is a consequence of population explosion, industrialization, urbanization, fast-changing lifestyle and living patterns, food habits and the culture of over-consumerism, which has given rise to disposable patterns of solid waste.
Urban waste poses a major problem which the city is unable to cope. According to the Solid Waste Management Department of the metropolitan city of Greater Mumbai, the amount of waste generated in the city is approximately 8000 MT per day.

The urban air quality has also declined due to the vehicular emissions, construction activity and other pollutants which contribute to the total suspended particulate matter (TSPM).

The levels of SO$_2$ in the city are well within the limit but the level of NO$_x$ are marginally high and increasing probably due to the continuous increase in the number of vehicles in the city streets. The SPM levels are exceeding all over the city and need to be curbed drastically.

The reclamation process had a very damaging impact not only on the mangroves in Mumbai but on the overall modification of landscape of the coastal city. According to a study, between 1995 and 2000, approximately 45% of mangroves were destroyed as a result of unchecked dumping and illegal reclamation.

All these issues apart from those related to tourism, unplanned urbanization, Migration, industrialization, growth of slum areas, 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.

Though it is a well known fact that urbanization is closely followed by an array of social and environmental problems, this study mainly focuses on the major environmental issues that have cropped in the study region. The cause of most of the environmental problems in this metropolitan city is unplanned urbanization as well as various other human interventions which man has undertaken in order to achieve economic growth. But the truth is that man himself is going to be at the receiving end of natural calamities that are initiated by him in the name of progress and prosperity. The outcome of constantly interfering with the ecological balance is visible in the form of various air-borne, water-borne and food-borne diseases apart from the problem of water-logging during the monsoons, disruption of the transport network, decline in the quality of fish catch, disappearance of the vegetative cover, an overall impact on human life, etc.
Swelling urban populations and increased concentration of industry and automotive traffic in cities has resulted in severe air pollution. Emissions from automobiles and factories, domestic heating, cooking and refuse-burning are threatening the well being of city dwellers, imposing not just a direct economic cost on human health but threatening long-term productivity.

Approximately 50% of the total population residing in Mumbai lives in slums which lack basic hygiene and possess the bare minimum civic amenities.

All these issues acquire added significance in urban centres which generate immense quantities of waste due to concentration of population and economic activities.

A study of some of the major issues in context of the environmental problems faced in Mumbai city will help in identifying the causative factors of the chaotic situation that has arisen due to various human activities. The main focus of this study is to find the causes of land degradation in the city.

The outcome of the study can also serve as a basis for future planning of the city as well as in providing precedence for other coastal cities to follow.