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URBANIZATION AND ENVIRONMENTAL PROBLEMS: IN CASE OF MUMBAI

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ABSTRACT:
The relationship between urbanization and associated environmental issues is discussed in this research with particular reference to Mumbai. Cities encounter a variety of environmental issues depending on their economic development stage. Less developed cities struggle with issues including inadequate sanitation, which leads to unsanitary environments and the spread of infectious diseases. These issues are gradually disappearing as cities grow, giving rise to new issues like pollution, i.e. pollution of the air, water, land, and noise. As the rate of expansion increases, environmental issues become more complex issues related to rich lifestyles, such as increased energy consumption, an increase in waste generation and related problems. As public knowledge of the environment and environmental issues grows, it should be feasible to learn from cities that have already faced these issues and address some of the issues that arise while the economy is developing. Urban planners in Mumbai can benefit from such a study for planning purposes. This gives environmental planners and the city the knowledge they need to reduce potential environmental issues that may arise over the course of economic development.

Keywords: - *Urbanization, population, economic growth, environmental problem, Mumbai city.*

INTRODUCTION:

Mumbai, formerly known as Bombay, is situated in latitudes between 18°53' N and 19°16' N and longitudes between 72° E and 72°59' E on India's western coast. Originally made up of seven islands, it was eventually connected to form the current metropolis. The Greater Mumbai Region, called Mumbai in the text, is made up of four islands in the suburbs and seven islands in the city's centre. The contemporary city is divided into two revenue districts: the city of the Mumbai Metropolis District, which is the portion of the city in the south, and Mumbai Suburban District, which comprises the Eastern and Western suburbs. Mumbai is located 42 kilometres to the north and 17 km to the west. It has 468 square kilometres in total size (sq. km.). The entire area is home to a rich heritage of nature consisting of hills, lakes, coastal water, woodlands, and mangroves in addition to inhabited areas. The city's physical, economic, and social characteristics, along with its geographic location, render it especially vulnerable to climate change-related hazards such increasing sea levels, storms, and floods.

Mumbai (previously Bombay) has been the centre of India's economic development and expansion since the country's independence. Mumbai, which is renowned as the nation's commercial hub, is home to the majority of Indian financial institutions, including the national and Bombay stock markets, Indian Marchant Chambers, and RBI. Mumbai's

population has increased multiple times and the city has developed in many ways. Mumbai's manufacturing industry has been the main driver of potential employment and migration. Due to this, there is now more demand for the island's meager infrastructure and public resources to be shared. The population explosion resulted in the development of new east and west suburban areas. While the primary business district has stayed on the island, the majority of growth and development has taken place in a northerly direction. The bulge of the island caused Mumbai to grow. This leads to the development of environmental issues in Mumbai, which we will go into great length about in this paper.

OBJECTIVES:

1. To study the growth of urban population in Mumbai.
2. To find the environmental problems associated with an increasing population in Mumbai.
3. Recommends solutions for solving environmental problems in Mumbai.

RESEARCH METHODOLOGY:

This study is conducted on secondary data available from newspapers, magazines, books, the internet, industry journals, reference books, etc. Significant inputs were found in the subject matter concerning urbanization and environmental problems in case of Mumbai. The environmental problems of Mumbai have been analysed.

POPULATION GROWTH IN MUMBAI METROPOLITAN REGION: -

High rates of urbanization, migration, and expansion place a great deal of strain on available resources. The resources and "common goods" are further stressed by economic activity and per capita income. Due to this occurrence, there is now more room for environmental issues, which are complex and cross-sectoral. The population census wise decadal growth of Mumbai suburban and Mumbai city since 1901 to 2011 has shown in following

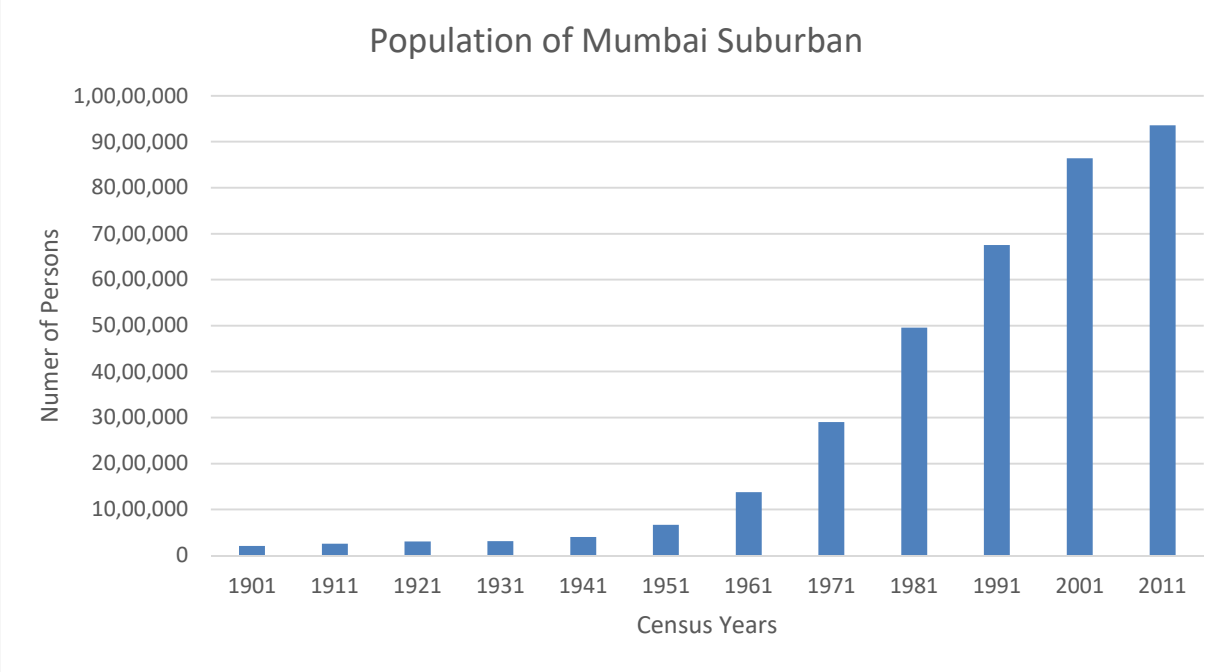


Chart 1, Growth of the population in Mumbai Suburban

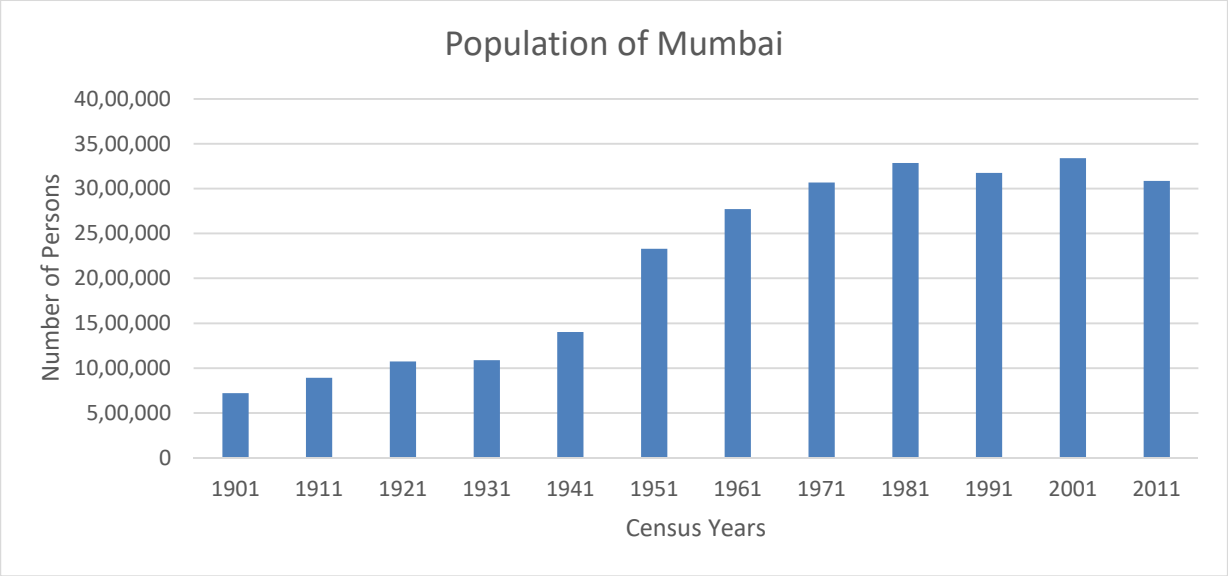
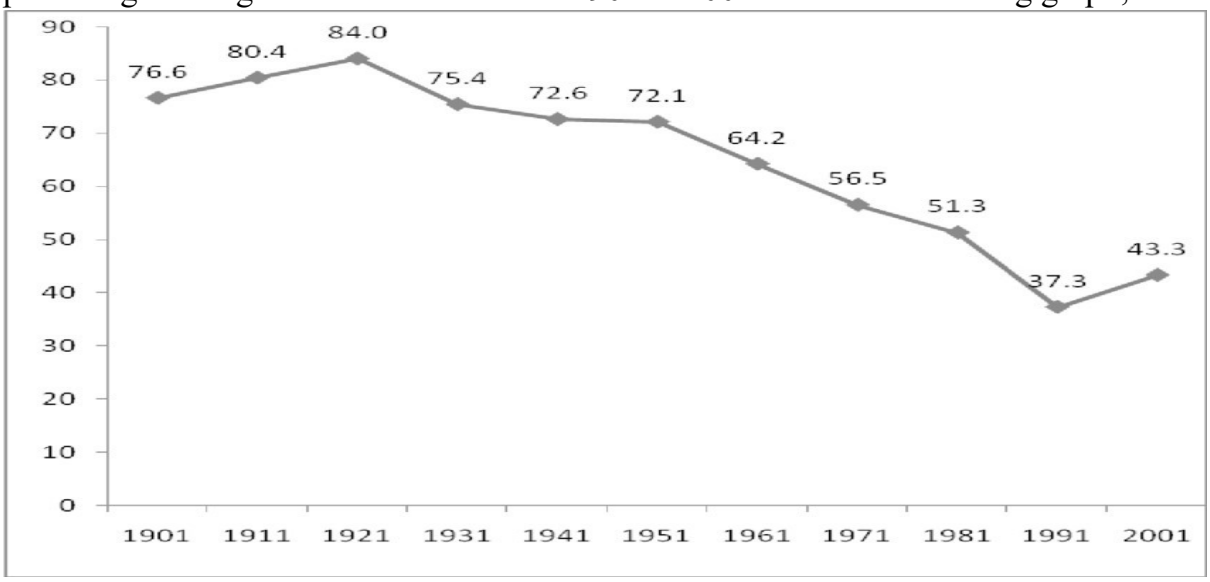


Chart 2, Population of Mumbai

PERCENTAGE OF MIGRANTS IN MUMBAI:

Migration is the most important factor for increasing population in any city. The percentage of migrants in Mumbai since 1901 to 2001 shown in following graph,



Mumbai, India's percentage of migrants, 1801–2001 Source: The definition of a migrant depends on their birthplace. Zachariah (1968: 45) provides figures up to 1961. For information on the census years after 1961, refer to the pertinent Migration Tables from the Census of India, 1971–2001.

Source: R. B. Bhagat and Gavin W. Jones's chart, "Demographic Dynamics of Mega-Urban Regions: The Case of Mumbai," was added to their article.

ENVIRONMENTAL PROBLEMS OF MUMBAI:

It is customary to divide environmental issues into distinct categories in order to facilitate simple and effective environmental management. There are other categories of environmental difficulties, such as solid waste problems, noise pollution, water pollution, and air pollution. Most towns use this segmented approach to environmental

management since it is simple to handle and implement countermeasures. Traditional urban environmental management systems, however, often ignore the external effects of numerous environmental challenges, which are not only cross-sectoral but also exist elsewhere. As a result, there is no longer any opportunity for industries concerned with environmental challenges to collaborate effectively.

According to the literature and criteria used by other studies, environmental concerns in Mumbai are classified into four categories. These categories include difficulties relating to poverty, rapid industrialization and urbanization, quick economic expansion, and luxurious lifestyles. Table 1 outlines environmental issues by area, along with their principal consequences and the extent of influence.

Category	Environmental problems	Causes	Impacts	Extant of impacts
1. Poverty related problems	Limited availability to safe and drinkable fresh water.	Challenges include inadequate infrastructure, rapid population increase, and income disparities.	A rise in the number of infant deaths and health problems linked to poor sanitation, including cholera and diarrhea	Local
2. Industrialization And urbanization related problems	Industrial solid waste, air pollution, water pollution, and inadequate urban sanitation	Low rates of emission treatment, quick industrialization, and ineffective administration	Air pollution can cause industrial disasters, ecosystem disruption, and health issues such as tuberculosis. Examples include the Bhopal disaster in India.	Local, regional
3. Problems relating to fast economic expansion	CO2 emissions, NOx emissions, noise pollution, and municipal solid waste.	Increased mobility; more emphasis on economic activities; lower importance on the environment	Global warming, acid rains, mounds of rubbish, and sewer blockages	Local, regional
4. Wealthy lifestyle related problems	Overburdening energy resources with dioxins	High consumption, affluent lifestyle, and little motivation to improve	Chemical component and dioxin-induced disorders; excessive resource extraction	Regional, global

The environmental problems associated with poverty are represented by the first set of indicators. It includes the following indicators: rates of infant mortality, infectious disease deaths, illiteracy, per capita medical expenses, infrastructure and environmental pollution, nutrition, health and welfare issues, income levels, which include information about per capita income; and incidence of diseases like cholera and diarrhea. Population dynamics includes detailed information about the overall population and population growth rates. The second group includes the "measure of rapid industrialization and urbanization". It also covers the patterns of urbanization and employment, including employment trends, unemployment rates, and urbanization ratios. It covers the industrial growth pattern of Mumbai, including the number of units and employment generation history, as well as the industrial sector's GDP contribution. levels of migration, resource use, and pollution, as measured by things like industrial power consumption, SPM concentrations, SOx trends, and water contamination.

The third category of indicators focuses on environmental challenges during the rapid economic growth stage.

The fourth category of indicators assesses environmental issues coming from an affluent lifestyle. This class of indicators is common in wealthy places such as Mumbai.

The other environmental problems associated with urban growth in Mumbai are as follows,

- Mangrove forests are shrinking, air is toxic, and Powai Lake is "dying."
- Marine creatures are dying.
- The 'Beautification' proposal is opposed.
- Dumping ground fires.
- E-waste 'poisoning'
- Saving Aarey Colony.
- Chocked with plastic.
- Is it a river or a nullah?

RECOMMENDATIONS TO CONTROL ENVIRONMENTAL PROBLEMS:

The most popular remedies for environmental issues are as follows:

- Swap out disposable things with reusable ones

Everything you use and throw away could spend hundreds of years in a landfill. Here are a few simple things you can do to reduce the number of disposable items you use every day.

- Carry a reusable cup or bottle with you at all times.
- Replace sandwich bags and plastic wrap with airtight, reusable food containers.
- Create a waste-free meal by putting your cutlery, containers, and cloth napkin in a reusable lunch bag.
- Take your own bags to the supermarket.
- Consider buying your favourite beverages in bulk containers and filling a reusable bottle instead of buying single packaged drinks.
- Utilize rechargeable batteries

- Avoid using paper whenever possible.

  Despite the fact that we live in a digital world, think about all the paper products you use every day. While switching may take a little longer, these steps are still consistent with recycling and repurposing.

- Invest in a Kindle or join a library instead of buying books.
- Rather than using paper or sticky tape, wrap gifts in cloth and tie with ribbon; both are reusable.
- Reduce the amount of printing you do, and if you must, print on both sides.
- Replace your paper towels with ones that can be washed. void buying wood and paper items that aren't FSC certified.
- Avoid buying products from palm oil corporations that cause deforestation in Malaysia and Indonesia.

➢ Conserve electricity and water.
Though it could take some effort to become more mindful of your unconscious patterns, the advice you see below should seem obvious.

- Water your grass in the morning or evening when the air is cooler to minimize evaporation.
- Turn off the sink water while brushing your teeth.
- When not in use, turn off all electrical appliances, including lights, TVs, PCs, printers, etc.
- Unplug electronics whenever possible; equipment that are turned off can still draw electricity.
- Get rid of chemicals in the house; research companies that produce cleaning products for the home using plant-based ingredients.
- Remove chemicals from outside the house; use environmentally friendly herbicides and insecticides that won't contaminate groundwater;
- Contemplate joining a sustainable energy provider that uses only renewable energy to power houses.

➢ Encourage ecologically sustainable practices.
Here are several justifications for beginning to shop locally:

- Lowers trash produced by plastic and paper;
- Increases cost effectiveness
- Facilitates bulk purchases
- Supports your neighbours
- Preserves farms in the neighbourhood
- Strengthens the local economy
- Requires less chemicals for cultivation and transportation

➢ Recycle waste to conserve natural resources.
Recycling is a great way to reduce the amount of garbage that ends up in landfills, protect habitats, maintain natural resources, reduce pollution, use less energy, and slow down global warming.

- Verify that the recycling services in your area are being followed and that you are using the proper separate containers for your residence.
- Acquire knowledge about which plastic and cardboard can be recycled and which cannot; pizza boxes, for example, cannot be recycled because of their grease content.

- Verify if the garbage bags you use are biodegradable or recyclable.
- In order to keep wildlife from being trapped, always cut up the plastic rings from beer or soda packs.
- Gain understanding of the identification and safe disposal of hazardous waste.

➢ Environmental Acts and Laws should be implemented strictly.

CONCLUSION:

Mumbai has been fast growing city in India since the British empire period. But after independence from 1951, there is found vast development in various sectors particularly economic, social, infrastructural and services etc. This has responsible for tremendous increase in Mumbai population and environmental problems. Now it is suffering from lots of environmental problems. So, everybody has to follow ecofriendly life style which is suitable environment.

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