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**ROLE OF LAW IN ACHIEVING SUSTAINABLE DEVELOPMENT:
URBANIZATION**

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Abstract

Urbanization refers to the phenomenon where increasing numbers of people start moving from countryside areas to urban areas, leading to the growth and development of cities. Economic reasons, industrialization, improvements in healthcare and education, and better quality of life are some of its major factors. However, the rapid and often unplanned growth of cities has also resulted in significant environmental challenges that threaten public health, ecological balance, and the long-term sustainability of urban areas. In cities all around the world, issues including air and water pollution, poor solid waste and sewage management, loss of green spaces, traffic jams, urban heat islands, and the negative effects of climate change are becoming more prevalent. Vulnerable populations are disproportionately affected by environmental deterioration, which is made worse by poor urban governance, poor infrastructure, and socioeconomic disparities.

Apart from evaluating the role of law in promoting sustainable urban development, this research will also focus on some of the major environmental challenges facing the process of urbanization. For instance, the report will evaluate the constitutional provisions, environmental regulations, governance structure, and procedure to ensure minimal pollution and conservation of resources for responsible urban development. The report also discusses the constraints that limit implementation of effective environmental policies such as weak enforcement mechanisms, lack of funds and technical expertise, ineffective institutional structures, and low levels of citizen involvement and awareness. Lastly, the report will evaluate the impact of environmental risks in urban areas on different socioeconomic groups

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as a form of environmental justice. As per the findings, sustainable urban development requires integrated governance, proper law enforcement, climate-resilient planning, and public participation aside from adequate legislation and policies. To build cleaner, safer, and more resilient cities capable of addressing existing and future environmental problems, there should be a push towards improving environmental laws and agencies while promoting participatory and transparent governance.

Keywords - Urbanization, Environment, Impact, Climate, Regulation

Introduction

The process by which a growing percentage of people move from rural to urban regions, leading to the development and extension of towns and cities, is known as urbanization. One of the biggest socioeconomic changes of the modern era, it has altered how people live, work, and engage with their environment. Urbanization encompasses not just the physical rise of cities but also the accompanying changes in the economy, society, technology, and culture. As cities grow, they become hubs for public services, business, industry, government, and innovation, drawing a diverse population and opening up new development prospects. More than half of the world's population is estimated to be living in cities, and this ratio will increase even further in the coming few decades. The process of urbanization has become prominent in developing countries, particularly in India, because of rapid industrialization, economic development, and population growth. The urban population of India has been growing at one of the highest rates globally, with the growth rate ranging from 1.7% to 1.8% per year.² Nearly 555 million, which constitutes 37.6% of the total Indian population, will live in cities till 2026; this number will reach 600 million by 2030.³ The pace of urban growth is particularly evident in metropolitan cities, with Mumbai alone estimated to absorb nearly 1,000 new residents every day, reflecting the continuous migration of people seeking better employment opportunities and improved living standards.⁴ While urbanization has contributed significantly to national progress by improving access to education, healthcare, transportation, employment, and modern infrastructure, it has also transformed natural

² Macrotrends (2024). *India Urban Population 1960-2024*. [online] Macrotrends.net. Available at: <https://www.macrotrends.net/global-metrics/countries/IND/india/urban-population> [Accessed 18 July 2026].

³ Worldometer (2025). *India Population (2024) - Worldometers*. [online] Worldometers.info. Available at: <https://www.worldometers.info/world-population/india-population/> [Accessed 18 July 2026].

⁴ Keshvani-Ham, A. (2026). *India's city of billionaires is buzzing, but it comes at a price*. [online] Thetimes.com. Available at: <https://www.thetimes.com/world/asia/article/mumbai-india-city-billionaires-55t87jcwh> [Accessed 18 July 2026].

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landscapes and intensified pressure on environmental resources. Consequently, urbanization has become both a symbol of development and a major challenge for achieving environmental sustainability.

Urbanization occurs due to a combination of economic, demographic, social, technological, and political factors that collectively encourage the movement of people from rural to urban areas. The pursuit of greater job possibilities is the most important of these. Cities provide a greater variety of occupations and relatively higher salaries than rural areas because they are hubs for industrial production, trade, commerce, finance, information technology, and service-based businesses. Many rural individuals move to metropolitan areas in pursuit of steady work and more financial stability as agriculture becomes less economical due to land fragmentation, mechanization, climate change, and decreased productivity. One of the traits that distinguishes developing economies is this phenomenon, which is sometimes referred to as rural-to-urban migration. Apart from employment opportunities, availability of quality health care and education plays a big role in urbanization. High-ranking universities, research centers, specialized hospitals and other health care institutions which do not exist or are few in number in rural areas can be found in urbanized areas. Some people move to cities in order to give better health care and educational opportunities for their children. Moreover, better infrastructure like electricity, pipe lines for water, sanitation, internet connection, transport and communication facilities improve quality of life in cities.

As the industries, multinational companies, financial institutions, and business activities are concentrated in the metropolitan areas, industrialization and globalization have caused the urbanization rate to go even higher. In order to attract businesses and people, various initiatives of the government such as the creation of industrial belts, Special Economic Zones (SEZs), the Smart Cities program, metro rail initiatives, and large investments on infrastructure are being taken. The advancement of technology at a fast pace is making the city a hub of entrepreneurship and innovative ventures, which are attracting skilled labor from all around the country. Demography is yet another important aspect, because with the growing population of India, there will definitely be the need for more public services, accommodation, employment, healthcare, and education. Geographical barriers have been further lowered by improved transportation and digital connectivity, facilitating migration and allowing firms to function more effectively in metropolitan areas. The phenomenon of urbanization has become inevitable because of various factors including economics,

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technology, and policies. While urbanization has certainly been very helpful for the growth and development of the economy and the nation, it has created unprecedented pressure on environment, resources, and urban facilities, making sustainable urban planning inevitable.

Problems caused because of Urbanization

There are numerous environmental concerns caused by the continual development of metropolitan cities, which have harmful impacts on public health, ecological balance, and sustainable development. One of the most negative impacts of urbanization is air pollution, which is largely caused by emissions from vehicles, industries, thermal power stations, construction activities, and the burning of garbage in the open. Examples of air pollutants such as particulate matter (PM_{2.5} and PM₁₀), nitrogen oxides, sulfur dioxide, carbon monoxide, and ground-level ozone contribute significantly to poor air quality, causing lung infections, respiratory diseases, heart complications, and premature deaths. The major public health concern in the metropolis is air pollution, especially affecting children, older people, and those suffering from respiratory diseases.

The degradation of water resources is another significant effect of urbanization. In addition to raising the demand for clean water, rapid population growth has increased the amount of untreated sewage, chemical waste, and industrial effluents that are dumped into rivers, lakes, and groundwater. Water pollution increases the spread of water-borne illnesses, endangers aquatic ecosystems, and decreases the supply of safe drinking water. In addition to pollution, excessive groundwater extraction, water distribution system leaks, unequal access to water resources, and growing population demand all contribute to acute water scarcity in many cities. Without proper water management and regulatory procedures, these challenges are likely to grow and produce social and economic disputes over limited water resources.

Sewage and solid waste production have both sharply increased as a result of urbanization. Municipal authorities frequently find it difficult to gather, separate, recycle, and securely dispose of the massive amounts of waste generated daily as cities grow and consumption habits shift. Sewage and solid wastes are incinerated outdoors or are dumped into open garbage dumps in urban areas, thus affecting the groundwater and soil around such sites and releasing toxic substances into the air. Likewise, sewage water is continuously discharged into rivers and lakes owing to inefficient sewage systems, which cause environmental degradation and the onset of infectious diseases. Along with environmental degradation,

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inefficient management of wastes and sewage poses a great economic burden on municipalities and public health systems.

Forests, swamps, lakes, farmland, and other natural habitats have all been seriously degraded due to the expansion of cities. Concrete constructions like roads, offices, housing, etc., are taking the place of these natural green spaces. Deforestation not only means the loss of ecosystem services provided by forests and wetlands but also means the loss of natural habitat of flora and fauna, thereby reducing biodiversity. Green spaces play an essential role in absorbing carbon dioxide, improving air quality, regulating temperatures locally, maintaining water table levels, and reducing flood risks. Increased temperatures in urban areas, poor environmental conditions, increased vulnerability to natural disasters are some of the effects of their absence. In India, the loss of urban green spaces is especially noticeable. The percentage of green space in many Indian cities under observation is less than 12%, which is much below national urban planning requirements.⁵ The scarcity is most acute in large cities like Mumbai, where there is only 1.08 square metres of accessible open green space per person—much less than both India's URDPFI Guidelines, which recommend 10–12 square metres per capita, and the World Health Organization's recommended minimum of 9 square metres. Inadequate green areas have negative effects on human health in addition to environmental damage. According to research, a city like Bengaluru could avoid about 875 premature deaths every year by increasing green cover by just 1%. This highlights the critical role that urban greenery plays in improving air quality, lowering heat stress, and boosting the general health and resilience of urban populations.⁶ Closely associated with the loss of vegetation and extensive construction is the phenomenon known as the Urban Heat Island effect. Cities tend to retain much more heat than their surrounding rural areas since the materials in the construction such as concrete surfaces store heat during the day and slowly give out heat during the night. The absence of vegetation increases the heating of the environment since the process of shading and evapotranspiration that helps in the natural cooling process is inhibited. High temperatures in cities result in an increased need for the use of air conditioning, hence increasing power consumption and the amount of carbon dioxide emitted into the atmosphere.

⁵ Niua.in. (2022). *CSCAF in Monitoring Urban Green Spaces | C-cube*. [online] Available at: <https://niua.in/c-cube/blog/content/cscaf-monitoring-urban-green-spaces> [Accessed 18 July 2026].

⁶ Tandon, A. (2025). *Urban green spaces can save more lives if placed right*. [online] Mongabay India. Available at: <https://india.mongabay.com/2025/06/urban-green-spaces-can-save-more-lives-if-placed-right/amp/> [Accessed 18 July 2026].

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The environmental issues resulting from urbanization have been exacerbated due to climate change. Extreme weather conditions like heatwaves, heavy rainfalls, urban floods, droughts, cyclones, and rise in sea level near coastal regions are some of the examples of such extreme weather events. Urbanization often results in conversion of permeable land into impermeable land due to rapid growth of urbanization. This makes the urban area susceptible to urban floods due to heavy rains because the natural drainage process gets hindered due to this phenomenon. Climate-induced disasters not only affect infrastructure but economic activities, health care, transport, and water supply systems as well. Crucially, not all societal segments are equally affected by the environmental effects of urbanization. Despite making the least contribution to pollution, poor and underprivileged populations frequently face the brunt of environmental degradation. Residents of low-income neighborhoods and informal settlements are often exposed to disproportionately high levels of air and water pollution because they are often situated close to industrial regions, major highways, garbage disposal sites, or contaminated water bodies. Such communities are also highly prone to disease epidemics and environmental hazards due to the fact that these communities generally lack basic facilities such as access to clean drinking water, sanitation facilities, proper disposal of garbage, medical facilities, and proper housing facilities. In poor communities, the absence of recreational areas creates environmental and social disparity, leading to higher temperatures and poor air quality.

Environmental justice is significantly influenced by socioeconomic conditions. Wealthier families can afford to invest in technologies such as water filters, air conditioners, insurances, improved housing conditions, and preparation for catastrophes. Conversely, economically deprived populations occupy unstable and poor-quality housing structures that are particularly susceptible to climatic phenomena including heat waves, flooding, and severe weather conditions. This means that economically deprived populations suffer greatly due to climatic disasters as these phenomena demolish their homes, disrupt their work routines, and limit access to essentials. It is clear how relevant the concept of environmental justice is, especially when it guarantees equal environmental protection for every individual irrespective of their financial status and social class.

Role of Law in Managing Urban Environmental Challenges

Constitution

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The Indian Constitution itself provides the Framework through the integration of the Directive Principles of State Policy (DPSPs), Fundamental Duties, and Fundamental Rights. While it is true that the concepts of environmental conservation and sustainability development have never been explicitly incorporated into the Constitution of India as drafted in 1950, constitutional law has greatly evolved since then. As a result of legislative amendments and judicial interpretation, environmental protection has become an important part of the Constitution. The existing constitutional framework of environmental administration in India is provided under Articles 21, 48A, and 51A(g) as interpreted in the context of the Forty-Second Constitutional Amendment. All three articles clearly illustrate that environmental protection is a constitutional responsibility of the state, its institution, and all its citizens, and not simply an objective of the government's policy.

Article 21: Right to Life and the Emergence of Environmental Rights

Article 21 of the Constitution states that:

"No person shall be deprived of his life or personal liberty except according to procedure established by law."⁷

The Article 21 provision is mostly seen as a right to life and liberty provision when the Constitution was originally framed. But the Supreme Court of India has taken a very expansive view of this Article from the late 20th century onwards. However, it was recognized by the Court that existence with dignity, health, safety, and a safe environment constitute aspects of "life" under the constitution and extend well beyond mere physical existence. Article 21 has become the bedrock of environmental jurisprudence in India due to this judicial expansion. The right to life has been interpreted by the Supreme Court in many instances to imply the right to clean air, potable water, unpolluted environment, and ecological balance. The right to these environmental essentials is crucial for preserving human dignity and ensuring a worthy life.

⁷ THE CONSTITUTION OF INDIA GOVERNMENT OF INDIA MINISTRY OF LAW AND JUSTICE LEGISLATIVE DEPARTMENT. (n.d.). [online] Available at: <https://www.legislative.gov.in/static/uploads/2025/07/c9fe9c9b6840524844316f74bb1c556c.pdf> [Accessed 9 July 2026].

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Rapid urbanization makes Article 21 relevant for many reasons. Over emission of vehicles, industry-related pollution, poor sanitary facilities, insufficient sewage disposal, wrong dumping of solid municipal waste, decreasing green cover, and noise pollution are some of the environmental problems facing the modern city. All these problems pose an immediate threat to people's health. As Article 21 is interpreted by the Supreme Court, the authorities are recommended to plan the growth of cities in such a manner that it is environmentally sustainable since the Article considers the quality of environment as a vital aspect of the right to life. The process of urban planning needs to ensure that it ensures ecological preservation and pollution control along with public health, and does not just focus on economic and infrastructural development.

Moreover, when deterioration of the environment affects fundamental rights, the courts are allowed to intervene under Article 21. To seek court action to stop unsustainable urban practices, people, environmental groups, and concerned citizens have sought recourse to Public Interest Litigation (PIL), which is a very important constitutional tool. Hence, today, one of the most useful tools for promoting sustainable development within the constitutional framework in India is Article 21.

*The Forty-Second Constitutional Amendment Act, 1976*⁸

The Forty-Second Constitutional Amendment Act of 1976 further extended the recognition of environment conservation within the constitution. This amendment is widely regarded by many as one of the most important landmarks in the history of India's environmental constitution. The amendment was enacted during a period when the UN Conference on the Human Environment held in Stockholm in 1972 had drawn attention towards environmental degradation around the world. The Stockholm Declaration stressed the need to incorporate environmental conservation into development plans of nations. Being one of the active attendees at the conference, India adopted environmental responsibilities within its constitution. Even though the whole amendment was not directly and wholly for the environmental laws, India added provisions that showed a huge advancement in the environmental sector and the environmental laws.

⁸ Abhishek Pundir (2024). *42nd Constitutional Amendment Act, 1976*. [online] UPSC Adda247. Available at: <https://www.adda247.com/upsc-exam/42nd-constitutional-amendment-act/> [Accessed 9 July 2026].

The Forty-Second Amendment inserted two landmark provisions directly in relation with the environment:

1. Article 48A under the Directive Principles of State Policy.
2. Article 51A(g) under the Fundamental Duties.

These clauses were a radical departure from the traditional Indian Constitution in terms of its philosophy as they brought into play the concept that the environment is something which needed to be conserved as an act of civic and government duty. The Constitution introduced a joint obligation of the State and its people, rather than considering environmental conservation to be an administrative function only. Consequently, this led to the creation of legal bases for subsequent environmental legislation like the Environment (Protection) Act of 1986 and the Air (Prevention and Control of Pollution) Act of 1981, as well as a number of environmental regulations.

48A. Protection and improvement of environment and safeguarding of forests and wild life

“The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.”⁹

This particular clause is found in Part IV of the Directive Principles of State Policy of the Constitution. Even though they are not legally binding, they play an important role in serving as key principles that must be followed by the state while making any such laws. There is a positive duty of governments at all three tiers—national, state, and local—to put in place policies that promote economic development without upsetting the balance of nature, as per Article 48A.

Article 48A takes on significant significance in the context of urbanization. Unplanned and rapid urban growth often leads to:

1. Deforestation in order to complete infrastructure projects
2. Invasion of riverbanks, wetlands, and lakes

⁹ THE CONSTITUTION OF INDIA GOVERNMENT OF INDIA MINISTRY OF LAW AND JUSTICE LEGISLATIVE DEPARTMENT. (n.d.). [online] Available at: <https://www.legislative.gov.in/static/uploads/2025/07/c9fe9c9b6840524844316f74bb1c556c.pdf> [Accessed 9 July 2026].

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3. High levels of noise and air pollution
4. Production of massive amounts of municipal garbage
5. Destruction of biodiversity
6. Growing susceptibility to climate-related calamities like floods.

Such effects on the environment prove that in the absence of environmental considerations within the planning process, urban development can never be sustainable. Thus, there are several initiatives that can be supported by Article 48A of the Constitution, which include environmental impact assessment, pollution control measures, afforestation in urban areas, wetlands preservation, hazardous industries, promotion of renewable energy sources, sustainable transport system, and scientific waste disposal. This clause also encourages governments to adopt approaches for long-range planning rather than approaches that are short term in nature, which pose a risk to ecological sustainability. However, the courts generally rely on Article 48A while interpreting the Fundamental Rights, even though it cannot be said to be justiciable on its own. The Supreme Court has always found it necessary to interpret Directive Principles in such a way that they conform to the provisions of the Fundamental Rights in order to fulfill the constitutional objectives. Article 48A has guided legislative and judicial development of environmental jurisprudence.

*Article 51A(g): Fundamental Duties of Citizens in Respect to Environment*¹⁰

According to the Constitution, it is realized that the protection of the environment is not limited to government intervention alone. Public participation is an essential aspect of sustainable development.

“Article 51A (g) was incorporated in the constitution under the Forty-Second Amendment to achieve this aim, and it states that it is the duty of each citizen to:

To protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures.”¹¹

Article 51A(g) stresses environmental protection as one of the basic duties of the citizens while Article 48A is focused on duties of the state only. Individual consumption of natural

¹⁰ Kumar, P. (2025). *The Fundamental Duty to Protect the Environment: Article 51-A and Citizen Responsibility*. [online] Environmental Studies (EVS) Institute. Available at: <https://evs.institute/environmental-legislations/fundamental-duty-protect-environment-article-51a/> [Accessed 11 July 2026].

¹¹ THE CONSTITUTION OF INDIA. (n.d.). [online] Available at: https://www.indiacode.nic.in/bitstream/123456789/19150/1/constitution_of_india.pdf [Accessed 9 July 2026].

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resources by individuals has been affected by rapid urbanization, and this has caused waste production, energy misuse, plastic pollution, traffic congestion, and destruction of the environment. This means that individual behaviors affect the sustainability of urban ecosystems to a large extent. The Fundamental Duties hold substantial constitutional value even if they do not tend to be enforceable in the court of law. These duties play a key role when it comes to interpretation of laws related to the environment as well as balancing conflicting public interest in courts. Hence, instead of being solely the concern of governmental bodies, 51A(g) emphasizes the principle that conservation of the environment is a shared constitutional obligation.

*The Environment (Protection) Act, 1986*¹²

The act has been formulated with the purpose of protecting and developing the environment and matters connected with it. The EPA 1986 has been considered to be the umbrella legislation within India's environmental law system. The act was significantly influenced by Bhopal gas tragedy of 1984 which portrayed that there were deficiencies in the existing environmental regulatory regime in India and it became apparent that there should be some complete law that would address any environmental threats due to increasing industrialization and urbanization. Environment protection act was enacted as influenced by the lessons arising from the Bhopal Gas Tragedy. Furthermore, it enhanced India's dedication to conservation of the environment on both a national and international level by ensuring that the nation meets its obligations in line with the United Nations Conference on the Human Environment, Stockholm (1972).¹³ The Environment (Protection) Act is different from the sector-specific legislation such as the Water (Prevention and Control of Pollution) Act of 1974 and Air (Prevention and Control of Pollution) Act of 1981, as it adopts a more holistic approach by empowering the Central Government with the powers to control the pollution from all sources, coordination of environmental management, and ensuring that the development activities are environmentally sustainable. The Act is the primary tool used to establish an equilibrium between economic growth and environmental protection in the face of fast-paced urbanization, which has led to environmental degradation because of higher

¹² India Code (1986). *THE ENVIRONMENT (PROTECTION) ACT, 1986*. [online] Available at: https://www.indiacode.nic.in/bitstream/123456789/4316/1/ep_act_1986.pdf [Accessed 12 July 2026].

¹³ United Nations (1972). *United Nations Conference on the Environment, Stockholm 1972*. [online] United Nations. Available at: <https://www.un.org/en/conferences/environment/stockholm1972> [Accessed 12 July 2026].

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levels of industrialization, infrastructure creation, construction work, population increase, and resource utilization.

Another important provision of the Act is the large power bestowed on the Central Government under Section 3 of taking all necessary steps for the preservation and improvement of the quality of environment and prevention, control, and reduction of environmental pollution. Setting standards of environmental quality, setting permissible levels of discharge of pollutants, controlling the siting of industries, restrictions on industries in ecologically fragile zones, procedures for dealing with hazardous substances, coordination among the activities of various agencies and execution of national programs for environmental protection are some of these powers. Further, Section 5 grants power to the Central Government to give legally binding directions to any person, firm, or organization. The directions may be such as the closure, prohibition, or control of industrial activity as well as the stopping of water, power, or other services if there is non-compliance. Through the exercise of this broad power, the government will be able to implement environmental laws uniformly all over the country and also solve emerging environmental problems due to rapid urbanization and industrialization.

Moreover, the Act also imposes a preventative system of regulation through statutory requirements imposed on businesses and other establishments whose activities may have a potential adverse effect on the environment. Whereby, although Section 8 obligates that any hazardous substance should only be disposed of in line with prescribed precautions, section 7 states that 'No person carrying on industry, operation or process shall discharge pollutants in excess of prescribed standards.' This Act provides the power to the officers designated under Sections 10 and 11 for visiting, examining and studying the industries, taking samples and ensuring compliance with the law for proper implementation. Several subordinate laws of significance, namely the Environmental Impact Assessment (EIA) Notification, Solid Waste Management Rules, 2016, Plastic Waste Management Rules, 2016, Construction and Demolition Waste Management Rules, 2016, and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, have been drafted owing to the powers vested in the enactment for the creation of comprehensive rules regulating various aspects of environmental protection. Such rules are particularly significant in urban centers, where production of hazardous waste, over-development, pollution by industries, and ineffective waste management present a substantial threat to the sustainability of the environment. As a

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result of the provisions laid out in the Environment (Protection) Act, 1986, where all aspects of pollution control, environmental protection, regulation of industries, and sustainable development have been brought together under one statute, the legislation has become the key piece in environmental legislation in India. The broad powers vested in the act make it easy to handle environmental problems which cannot be tackled by individual statutes, and are therefore quite relevant to the effects of urbanization. This Act seeks to ensure that urban development does not compromise ecological balance and public health through the promotion of environmental impact assessment, control of hazardous industries, setting of environmental standards, and the adoption of preventive and remedial measures. In addition, the Act ensures that the constitutional doctrine contained in Articles 21, 48A, and 51A(g) is translated into concrete obligations through its provisions. Therefore, the Environment (Protection) Act, 1986 is still the foundation of the environmental legal system in India and is crucial in ensuring sustainable urban development.

The Air (Prevention and Control of Pollution) Act, 1981¹⁴

The Air (Prevention and Control of Pollution) Act, 1981 was enacted specifically to address air pollution and strengthen India's environmental regulatory framework. Which is based on the resolve of the government of India to improve environmental governance, has been promulgated following the findings that were drawn at the United Nations Conference on the Human Environment, Stockholm (1972). The primary aim of the Act is to ensure the prevention, control, and abatement of air pollution as well as to sustain and improve the quality of air. The Act acknowledges the fact that urbanization and economic growth cannot be achieved through environmental damage within the context of sustainable development. The Act is thus necessary legislation to ensure that urban development is environmentally sound and in accordance with sustainable development concepts, considering the increasing pollution from car emissions, industrial activities, construction dust, combustion of fossil fuels, and waste burning in cities.

Through Section 16 and 17, the CPCB and SPCBs respectively are given powers for the execution and enforcement of the provisions made by the Act. They are expected to advise the government at the federal and state levels on problems relating to air pollution, plan and

¹⁴ THE AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981. (n.d.). [online] Available at: https://www.indiacode.nic.in/bitstream/123456789/21429/1/the_air_%28prevention_and_control_of_pollution%29_act%2c_1981.pdf [Accessed 12 July 2026].

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execute programs of pollution control, fix emission standards, monitor ambient air quality, conduct inspections, collect and analyze air samples, promote research, and make people aware of environmental protection. The Act ensures continuous monitoring of the pollution level and national coordination in enforcing this decentralized system of regulation. In the metropolitan areas where pollution comes from different sources and needs scientific measurement, interdepartmental coordination, and science-based policy making to protect public health and the environment, this institutional mechanism becomes even more crucial. One of the distinctive characteristics of the Act is its emphasis on preventive regulation rather than punitive measures alone. According to Section 19, state governments have the power to declare any zone as an Air Pollution Control Zone in which industries and polluting activities can be strictly regulated. Section 20, which recognizes automobile exhaust as one of the significant sources of urban pollution, provides more powers to State Governments to give out directives for ensuring compliance with the standards of emission from automobiles. In addition, Section 22 prohibits the creation of pollutants beyond those specified, and Section 21 mandates that no industrial establishment should be set up or operated in an Air Pollution Control Area without the prior consent of the State Pollution Control Board. The preventive approach of this act, which seeks to minimize pollution by way of licensing, monitoring, and compliance with regulations instead of dealing with environmental harm only after it has occurred, is evident from these provisions. It is especially relevant in urbanizing cities, where the unchecked development of industries and infrastructure will have irreparable impacts on the quality of the environment and health of the urban population.

This Act also incorporates effective methods for its successful implementation. The section 31A is introduced by the Air (Prevention and Control of Pollution) Amendment Act, 1987, enabling the Pollution Control Boards to give binding orders for closure or regulation of an industry and discontinuation of supply of water or electricity in case of noncompliance on the part of the establishment. All inspections, samples, prosecution of offenders, and imposition of fines and imprisonment of those violating the prohibitions of the Act are all covered by the Act. Apart from its legislative aspect, the Air Act provides for cleaner technology, regulates the growth of industries, reduces risks to the environment and health of people, and helps achieve ecological balance, thus leading towards sustainable urbanization. With the implementation of the right to a healthy environment in terms of enforceable provisions, it becomes stronger in relation to the constitutional provision made in Articles 21, 48A, and

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51A(g). To ensure that the development is inclusive, sustainable, and sensitive to the needs of present and future generations, the Act plays an important role as a legal instrument to strike a balance between urban development and environmental protection.

The Water (Prevention and Control of Pollution) Act, 1974¹⁵

The first environmental legislation enacted in India whose purpose was to control water pollution and ensure the wholesome state of water was the Water (Prevention and Control of Pollution) Act, 1974. This Act was enacted in reaction to the increasing threat to the environment, which had come due to rapid urbanization, industrialization, and population explosion in India that led to the careless disposal of municipal waste, sewage, and untreated effluents from industries into water bodies like rivers, lakes, streams, and groundwater. This Act seeks to regulate activities that affect the water quality and ensure that it is used sustainably for present and future generations by recognizing the need to have access to safe and clean water for public health and socioeconomic development. This act is a crucial legal instrument in ensuring that urban growth does not undermine water security or ecological balance in light of the challenges posed by urbanization, which sees increasing urban populations exerting immense strain on freshwater due to industrial growth, poor sewage facilities, and waste.

The establishment of a specific institutional mechanism in terms of the CPCB through Section 3 and the SPCBs through Section 4 is a key feature of the Act. All the duties of the State Boards are specified in Section 17 and include planning and implementation of programs relating to the prevention and control of water pollution, advising State Governments on environmental matters, inspecting sewage and effluent treatment works, taking and analyzing samples of water, devising techniques for sewage and trade effluents treatment and disposal, doing research, and spreading information regarding water pollution. Such institutions are necessary for maintaining surveillance over water quality and ensuring compliance with environmental regulations besides helping formulate pollution control policies in several industries. In urban regions, where municipal corporations, industries, commercial units, hospitals, and even residential colonies play a significant role in increasing

¹⁵ Pradesh, H., And Kashmir, J., Karnataka, Kerala, M., Pradesh, W. and Bengal (n.d.). *WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974* [Act No. 6 of Year 1974] CHAPTER I PRELIMINARY. [online] Available at: https://www.indiacode.nic.in/bitstream/123456789/12927/1/the_water_%28prevention_and_control_of_pollution%29_act%2C_1974_no._6_of_1974_date_23.03.1974.pdf [Accessed 18 July 2026].

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water pollution, such institutions become particularly important. This requires continuous scientific monitoring and regulatory action. By preventing the pollutants from causing environmental damage, the Act has assumed a largely preventative approach. Under Section 24, it shall be prohibited for anyone to deliberately deposit any substance that is toxic, poisonous, or polluting into a stream or well, or permit pollution beyond what is permissible. Further, for the construction of any outlet or for the conduct of any activity resulting in the discharge of sewage or trade effluents in any stream, well, sewer, or land, the prior consent of the appropriate State Pollution Control Board is necessary as per Section 25 & 26. With the help of this consents system, environmental authorities may be able to undertake pre-planned inspections on the activities and ensure that adequate controls for the pollution have been put in place before the process begins. Under section 23, there is provision made for the inspection of industries by authorized officials of the Pollution Control Boards. The Act seeks to minimize pollution right from the source, rather than just taking action once the environment has been harmed through an effective combination of initial approvals and subsequent inspections and monitoring, and is thus very relevant for areas that are experiencing rapid urbanization and are faced with the dangers of increased amounts of municipal and industrial sewage.

The Act is very strict with regard to enforcement of its provisions and penalization of any violations in order to ensure proper compliance. According to Section 33A, of the Water (Prevention and Control of Pollution) Amendment Act, 1988, the Pollution Control Boards have the power to issue directions which are binding on law, including directing closure, prohibition, or regulation of industries, operations, or processes, and even suspension of supply of water, electricity, or other facilities where there is a violation. To ensure regulatory accountability and deter any violations of the Act, there are also monetary and custodial punishments provided under the Act for those who violate its provisions. Through promoting proper wastewater treatment, regulation of industrial discharge, conservation of water sources, and protecting the health of people, the Water Act has come to form an important cornerstone of environmental governance in India. Within the context of sustainable urbanization, it is very important to ensure that the expanding cities adopt environmentally friendly approaches towards industrial growth, conservation of water resources, and waste disposal systems. The Act reflects the principle that economic development and urban development should be carried out without affecting the quality and quantity of water

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resources available currently and for the future generations through the statutory embodiment of the value of the constitution present in Articles 21, 48A, and 51A(g). The most significant law for the achievement of environmentally sustainable urban governance and development in India especially for water is the Water (Prevention and Control of Pollution) Act, 1974.

Challenges in implementation of the above mentioned laws

1. Inadequate Institutional Capacity and Weak Enforcement

Even though there have been numerous environmental laws introduced by India, including the Environment (Protection) Act of 1986 and the Air (Prevention and Control of Pollution) Act of 1981, their implementation continues to be patchy due to poor enforcement. To monitor hundreds of enterprises in urban and industrial settings, regulatory agencies, especially the Central and State Pollution Control Boards, often find themselves facing the problem of insufficient finances, inadequate technical skills, out-of-date laboratories, and insufficient manpower. Due to this, inspections become very uncommon, infractions remain undetected for a long period of time and the penalties are levied only after substantial damage to the environment has been caused. The effectiveness of environmental regulation is undermined by the absence of immediate data and constant monitoring technology systems.

2. Conflict Between Environmental Sustainability and Economic Development

Achieving equilibrium in balancing the need for conservation of the environment and the need for fast-paced urban development poses a major challenge to the implementation of environmental laws. Urbanization entails the development of roads, buildings, industries, businesses, and other infrastructure in order to provide for an increasing population. But since development projects have the potential to bring in politics, economics, and jobs, they usually get preference over environmental concerns. These problems include deforestation, encroachment of wetlands, loss of green space in cities, and pollution, which is common due to these projects. Principles of sustainable development can be hindered by economic and political interests, despite environmental laws demanding statutory compliance and environmental clearances.

3. Overlapping Jurisdictions and a Disjointed Institutional Framework

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The Ministry of Environment, Forest, and Climate Change (MoEFCC), the Central Pollution Control Board (CPCB), the State Pollution Control Boards (SPCBs), the municipal corporations, urban development authorities, and other institutions constitute some of the many institutions involved in environmental governance in the urban realm. Fragmentation in decision-making, overlapping jurisdiction, and accountability problems result from the diversity of institutions. Coordinated action is required in the case of solid waste management, pollution in construction activities, sewage treatment and disposal, and urban planning. However, lack of coordination among different departments is one of the main factors that lead to weak implementation and delayed decision-making despite having very effective legal provisions. The effectiveness of environmental protection is compromised by such an uncoordinated structure.

4. *Unplanned Growth and Poor Urban Planning*

The process of urbanization is occurring at a much greater pace than that of building sustainable infrastructure in cities. Illegal construction, occupation of lake areas and river beds, reduction in green belts, lack of proper sewage systems, and improper waste disposal is becoming commonplace in today's rapidly growing cities. Instead of ensuring that these problems do not occur through planning, most often, environmental considerations come into play only after things have spiraled out of control. Environmental considerations do not seem to form an integral part of infrastructure development, zoning regulations, or land use planning in many cities. This makes urban development a significant stress on natural resources and thus makes it increasingly difficult to enforce environmental laws.

5. *Low Citizen Participation and Public Awareness*

The government alone cannot shoulder the responsibility of protecting the environment; it requires the involvement of the masses. The awareness about the rights and responsibilities of the citizens as far as the environment is concerned is very low, despite Section 51A(g) of the Constitution declaring the duty of each citizen to protect and improve the environment. Urban pollution is however intensified by activities such as irresponsible disposal of waste, burning of garbage in the open air, excessive use of personal vehicles, littering, and lack of adherence to waste segregation rules. The poor engagement of local communities in environmental

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surveillance and policymaking also reduces the level of accountability and implementation of environmental laws.

6. *New Issues with Climate Change and Technological Development*

Climate change, the creation of urban heat islands, overproduction of carbon emissions, electronic waste, and rapid increases in pollution from building were all fairly insignificant problems when most of the environmental laws were created. Advanced legislation, innovative technology for monitoring, and adaptable governance are required to deal with the new environmental problems. Environmental impacts resulting from the current state of urbanization, including flooding caused by climate change, heat waves, and increased energy consumption, are often challenging to deal with through current legislation. As a result, for the continued effectiveness of environmental laws towards achieving sustainable development, it is essential to undertake continual legal reform, the establishment of intelligent environmental monitoring systems, and climate-resilient urban governance.

Way Forward

1. *Adaption to Preventive Environmental Governance instead of Reactive Regulation -*

Environmental policies within India have traditionally sought to tackle issues that are the result of environmental damage, as opposed to seeking to prevent the damage from occurring in the first place. A move towards preventive environmental policies, where environmental considerations form an integral part of urban planning instead of a compliance issue alone, will be imperative to adopting a sustainable approach. For land use plans, infrastructure, industries, and housing laws to be formulated based on environmental carrying capacity, the incorporation of environmental studies within the process of city planning will be inevitable. This step will ensure that urban development is sustainable in nature and will prevent future environmental conflicts from arising.

2. *Establish an "Integrated Sustainability Impact Assessment" for Projects in Urban Development*

While performing Environmental Impact Assessments (EIAs), there is a possibility that the impact of increasing urbanization could be ignored, despite the primary objective being that of assessing the impacts on the ecology of each project. For mega

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urban projects, industrial belt formations, smart cities, and metro cities, it would be advisable for India to make Integrated Sustainability Impact Assessments (ISIAs) mandatory. The difference between the two is that while the traditional EIAs tend to assess only the impacts on the environment, ISIAs need to consider the long-term impacts on the environment, society, climate, and health before giving the go-ahead.

3. *Include Environmental Rights in Urban Governance*

Enforceable norms of urban governance must necessarily be based on the constitutional acknowledgment of the right to a healthy environment under Article 21. Every urban local authority must be required by law to prepare an Urban Environmental Performance Report each year that measures performance on aspects such as waste management, green cover, carbon emission, air and water pollution, and compliance with environmental laws. Transparency will be enhanced and data-driven policy making will be encouraged through linking accountability to environmental metrics.

4. *Adopt the "Extended Urban Responsibility" and "Polluter Pays" Principles More Firmly*

The Polluter Pays Principle has been recognized by Indian courts but its implementation is inconsistent. There must be legislation on the use of Environmental Compensation to make large-scale property developers, infrastructural authorities, construction companies, and commercial entities which are responsible for the degradation of urban environment financially accountable, along with the polluters. This money must be used separately for programs such as restoration of rivers, urban forestry, wetlands, and pollution control rather than forming part of normal government expenditure.

5. *Boost Public Involvement with Environmental Democracy*

Government intervention is not the only form of sustainable urbanization. More participation of the citizens in the environmental decisions is required to recognize them as an active participant in environmental governance. Public participation, public availability of environmental information, community-based environmental monitoring, and participatory urban planning all need to be facilitated through legal

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means. Apart from making sure that development decisions are well considered in light of the local ecological considerations and interests of the affected people, environmental democracy will enhance accountability.

Conclusion

Urbanization is today an inevitable result of population growth, industrialization, and development. Despite the fact that urbanization has brought a lot of development to the construction of infrastructures, job opportunities, and improvement of life standards, uncontrolled and unplanned urbanization has resulted in many environmental problems including the contamination of air and water, loss of biodiversity, depletion of natural resources, and increased socio-economic inequalities. This demonstrates the importance of paying attention to environmental sustainability and social welfare during development in addition to economic parameters. A complete legal framework has been put in place in India through the various environmental legislations and provisions in the constitution. As such, Articles 21, 48A, and 51A(g) of the Constitution recognize that there is a constitutional obligation on the part of the State and its citizens to protect the environment. Other legislative measures including The Water (Prevention and Control of Pollution) Act, 1974, The Air (Prevention and Control of Pollution) Act, 1981 and The Environment (Protection) Act, 1986 offer statutory instruments to control pollution, protect natural resources and promote sustainable development apart from the constitutional obligations. Through recognition of the right to a clean and healthy environment as an intrinsic component of the right to life guaranteed in Article 21, and through the development of the principles of sustainable development, the precautionary principle, and polluter pays principle, the interpretation of law by the judiciary has made them even more powerful.

However, effective legislative measures alone may not suffice for environmental conservation purposes. The execution of such measures is, nevertheless, hindered due to poor implementation, dysfunctional institutional framework, poor urban planning, economic and political considerations, and low level of participation from citizens. It is therefore necessary that proactive environmental management, which is characterized by good institutions, scientific policy making, technology, and civic engagement takes the place of pollution prevention policies. Finally, laws need to act as stimuli in sustainable urban development as opposed to being a means to regulate environmental degradation. Sustainable development

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objectives can only be attained through ensuring the protection of the environment at all stages in the planning and administration of Indian urban areas. If a holistic approach to sustainable urban development is adopted, the process of urbanization in India will be inclusive, resilient, and capable of safeguarding the interests of present and future generations.



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