

Chapter 13

Cities and Their Role in Promoting Sustainability



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Abstract Cities and metropolitan regions are economic development engines, accounting for around 60% of global GDP. They do, however, contribute for over 70% of global carbon emissions and over 60% of resource usage. Rapid urbanization is leading to an increase in slum residents, insufficient and overcrowded infrastructure and services, increased air pollution, and unplanned urban expansion. Achieving a balance between environmental conservation and human economic growth, as well as between current and future requirements, is what sustainable development entails. It entails equality in development and cross-sectoral initiatives throughout time and space. It necessitates the combination of economic, social, and environmental development techniques. The goal of sustainable urban development is to achieve social fairness and environmental preservation while lowering urbanization expenses. Sustainable cities need to focus on four important areas, integrated urban transportation, urban development and infrastructural accessibility, ecology and climate, and health and economy, in order to generate long-term solutions to urban concerns. Promoting high-quality integrated public transportation networks, an equitable and accessible built environment, and integrated transportation and land-use planning are possible interventions to improve the quality of life in cities. This study tries to examine some of the fundamental concerns connected to sustainable urban form that would lead to sustainable urban growth. This comprises both the actions that are required for cities to grow sustainably and the problems that cities face in terms of future urban development.

Keywords Sustainable Development Goals · Cities · Urban development

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13.1 Introduction

13.1.1 Concept of Sustainability

Sustainability entails addressing our own demands without jeopardizing future generations' ability to meet their own. We require social and economic resources in addition to natural resources. Environmentalism is not the only aspect of sustainability. Sustainable development is also defined as the development that satisfies current demands without jeopardizing future generations' ability to fulfill their own [1]. Sustainability is a comprehensive strategy that takes into account the ecological, social, and economic components, realizing that all three must be taken into account in order to achieve long-term success.

There are three pillars of sustainability [2].

Environmental sustainability: Environmental sustainability revolves around a central idea of improving upon the quality of life of people while respecting the carrying capacities of the natural ecosystems, not to completely degrade or deteriorate them in the pursuit of achieving economic growth.

Economic sustainability: Economic development is arguably the most straightforward type of long-term sustainability. A city must be successful and generate enough money to be economically viable in the long run. The difficulty with this type of sustainability is finding a balance. Rather than earning money at any cost, cities, firms, and individuals need to find ways to generate wealth that is consistent with other aspects of sustainability.

Social sustainability: Social development entails treating people fairly and ensuring that all the residents, stakeholders, and communities within the society are treated responsibly, ethically, and sustainably. Inclusiveness, ensuring social justice, and targeted development approach for vulnerable sections in urban areas could help in achieving social sustainability.

13.1.2 Sustainability and SDG 11

Many development organizations like the United Nations (UN), the World Bank, and the Asian Development Bank share the values of sustainability, which they exhibit in their policies and funded projects. There are both short- and long-term advantages to sustainability. If we do not make more sustainable decisions, it will not be possible to preserve Earth's ecosystems or continue to function harmoniously ahead. If hazardous processes continue unabated, humanity will run out of fossil fuels, and the atmosphere will be irreversibly harmed. Reduced urban poverty, ensured housing for all sections, universal mobility, clean air and nontoxic atmospheric conditions, clean energy, safe drinking water for everyone, and many more are the possible benefits of employing sustainability in urban areas.

The UN explains Sustainable Development Goal 11 as follows: The challenges cities face can be overcome in ways that allow them to continue to thrive and grow, while improving resource use and reducing pollution and poverty. The desired future includes cities of opportunities for all, with access to basic services, energy, housing, transportation, and more.

The UN has defined targets for SDG 11 which are as follows:

Target 11.1: By 2030, ensure adequacy and access of affordable housing to all and basic services and slum upgradation.

Target 11.2: By 2030, provide all people with access to safe, affordable, accessible, and sustainable transportation systems, focusing on improving road safety and paying special attention to the needs of those who are most vulnerable.

Target 11.3: In all nations, by 2030, improve inclusive and sustainable urbanization as well as capacity sustainable human settlement planning and management.

Target 11.4: Strengthen efforts to maintain and safeguard the world's cultural and natural heritage.

Target 11.5: By 2030, significantly reduce the number of deaths and people affected by disasters, including water-related disasters, and significantly reduce direct economic losses with a focus on protecting the poor and people in vulnerable situations.

Target 11.6: Reduce the negative environmental effect of cities per capita by 2030 by paying attention to air quality and other waste management.

Target 11.7: Ensure accessibility to green and public spaces by 2030 with a focus on women and children, the elderly, and people with disabilities.

Target 11.a: Strengthen national and regional development planning to support beneficial economic, social, and environmental ties between urban, peri-urban, and rural regions.

Target 11.b: By 2020, significantly increase the number of cities and human settlements adopting and implementing integrated policies for resource efficiency and climate change mitigation and adaptation; develop and implement holistic disaster risk management at all levels [3].

13.1.3 Cities and Their Role in Sustainability

The notion of sustainable cities is inextricably linked to the environment and economics, as well as the preservation of natural resources, which leads to a minimum acceptable standard of living. Air pollution, human population density, and the availability of open, green places are all continual battlegrounds. Cities that are strong, healthy, and livable rely on a healthy environment, a strong economy, and a plenty of job opportunities for their residents.

A city's vision has never been more critical than it is now. Cities now home more than half of the world's population, and this tendency is anticipated to continue. Over the next 35 years, India alone is predicted to double the population of city

inhabitants by adding 404 million more people to cities [4]. This is why SDG 11 is so important: Make cities and human settlements inclusive, safe, resilient, and sustainable. The achievement of SDG 11 targets paves the way for the achievement of targets in many other SDG goals.

As an example, let's look at two of the objectives. Target 11.2 is critical for achieving secure, resilient, and sustainable cities since transportation is a crucial development problem. However, meeting Goal 11.2 will be required if we are to meet any of the SDG 3 (ensure healthy lives) targets, such as lowering noncommunicable diseases (NCDs). By providing safe, pleasant, and attractive areas to walk and cycle, active transportation can assist to meet the NCD objective. City people can get the essential physical exercise to minimize their risk of NCDs by walking or cycling to their destinations. Furthermore, active transportation can help to meet the goal of halving the number of deaths and injuries caused by road traffic crashes throughout the world [5]. While the health advantages are evident, sustainable modes of transportation will also affect how simple it is to access other important services in the city, such as education and employment, and is therefore indirectly linked to SDG 1 (eliminate poverty) and SDG 4 (promote gender equality) (ensure inclusive and equitable quality education). Finally, effective transportation systems may help achieve SDG 5 (gender equality) by ensuring that they are tailored to women's specific requirements. Unfortunately, city transportation networks are frequently designed to meet the requirements of males with little regard for the needs of women. Women travel throughout cities at various times, for different reasons, and in different ways than males and often have lower financial means, making many of the transportation choices accessible to them unaffordable [6].

A well-designed transportation system that encourages people to walk, bike, and take public transportation allows everyone to fully engage in community life while also helping in making areas safer, cleaner, healthier, and more sociable. It matters how we accomplish Goal 11.2 in the first place. The objective is on developing public transportation. Public transportation is an important part of getting people around a city. However, it is regrettable that the two most environmentally friendly, healthful, economical, and accessible modes of transportation, walking and cycling, are still neglected due to numerous reasons.

For all city dwellers, public and green areas provide possibilities to improve health and quality of life. Some of the advantages include improving our physical and mental health, strengthening our communities, and making our cities and neighborhoods more appealing places to live and work. Cities are experiencing greater temperatures than the surrounding countryside as a result of increased hard surface and reduced green area. By cooling the air, providing shade, and absorbing air pollutants, green spaces assist to counteract this effect [7]. Finally, green and public areas offer the physical locations needed for the poor to earn a living by selling goods and services, which helps to achieve SDG 8 (economic growth). Despite the critical function that green and public areas play, they are frequently endangered by unplanned urbanization. Green and public places are being transformed to residential homes and enterprises as land becomes increasingly valuable. This is why Goal 11.7, which focuses on green and public places, is so critical. These areas will be

lost forever unless governments make a clear commitment to maintain, defend, and respect them.

There are several obstacles in the way of attaining SDG 11. To meet the goals, cities will require effective implementation strategies and assistance. The city needs to work toward developing master plans that incorporate the targets of the Sustainable Development Goals. SDG 11, if implemented effectively, has the potential to make a significant contribution toward making urban areas sustainable. The specified targets, like many other goals, hence must be tangible, specific, and quantifiable to assess the current progress of cities [8]. The value of sustainability in the urban environment cannot be overstated. When it comes to a city's basic survival, healthy cities contribute to a healthy nation. Ecological preservation and economic growth go hand in hand, resulting in a thriving community that sees itself as stakeholders in all facets of everyday life. In addition, there are a number of benefits:

- A city that offers every fundamental amenity for a reasonable standard of living to its residents.
- Resources utilized are regenerated and sustained without depletion.
- A society that participates in effective governance and the distribution of economic resources for the well-being of its members.
- A society in which citizens are law-abiding and aware of their role and contribute to the city's overall growth [9].

13.2 Prospects of Cities

13.2.1 *Economic and Social Prospects of Cities*

Professor Mario Polèse has identified five principles of urban economics that influence a city's outcomes:

- Size and placement are important considerations. Once a city becomes the largest in a country, it is likely to continue that way, growing and gaining more resources.
- Change is sparked by external events. When things drastically alter, it is usually due to major political, economic, or technical upheavals.
- Cities that are well connected expand quicker because they can more effectively transport commodities and people to where they are most needed.
- Economic success in cities can be ensured by having a variety of sectors. Every industry has an influence, whether positive or negative. Cities where a single industry grows to dominate the economy will most likely struggle in the future.
- Policies do have an impact. Places with good governance will attract new firms and opportunities [10].

Cities promote economies of scale, resulting in efficiency and economic development. Greater economies are promoted by higher densities, but longer distances

between activities are detrimental to such economies. It is no coincidence that the globally acknowledged cities have exceptionally high commercial and residential densities. In emerging and transition nations like India, the major cities account for a disproportionate amount of national GDP, while countries with higher levels of urbanization create greater Gross Domestic Product (GDP) per capita. The top 100 cities in the world account for approximately a quarter of global GDP.

India is one of the world's fastest growing economies, and its cities are driving that growth. According to studies, Indian cities are expected to account for 70% of the country's GDP by 2030. All of these discoveries are mirrored in the country's exponential rate of urbanization. While this is a positive step toward increased economic growth, it also poses a number of issues in terms of livability.

The Economist Intelligence Unit's Global Liveability Index 2019 put New Delhi and Mumbai 118th and 119th, respectively, out of 140 cities. One of the key promoters in the execution of all urban development programs is the enforcement of the 74th Constitutional Amendment Act, 1992. The amendment established urban local bodies (ULBs) as the third tier of government, allowing for decentralization of administration at the local level. However, the act's provisions concentrate a great deal of authority in the hands of the state government, robbing local governments of the autonomy they need to fulfill their mandate. This problem lies at the basis of many of the problems that afflict existing programs, such as operational challenges and underfunding [11].

13.2.2 Economic Development Leading to Social Distress

Urbanization brings with it a unique set of advantages and disadvantages. Economic development and industrialization, as well as substantial alterations in social structure and family life patterns, all contribute to population shift. As a result of urbanization, increased pressures and components such as an overcrowded infrastructure and polluted environment and a lack of effective sociopolitical support have an influence on overall health of the city. All these factors can lead to higher stress exposure and susceptibility to the vulnerable sections of the urban areas. The most important element in the increased incidence of mental problems in metropolitan locations may be social stress. Because the environment becomes less manageable for the person, living in crowded locations is linked to higher social stress. In cities, social differences become considerably more visible and might cause individual stress. The urban population has a higher stress reaction and more cognitive impairment when they are stressed [12].

Urbanization and industrialization have generated massive wealth and opportunities but also have attracted ill effects of migration and numerous other social evils. The migrating population often is found to be deprived of safe and affordable housing, and hence, the slums and squatters are increasing in urban areas. Slum inhabitants must contend with a lack of work possibilities and money. They also confront issues such as a shortage of housing, a lack of infrastructure, an unsanitary

environment, a lack of social security, and insufficient health and educational chances and facilities. Housing is a major issue that slum inhabitants must deal with. In slums, structural quality, housing durability, and the building of temporary shelters are all major issues. Another key issue is slum dwellers' lack of access to upgraded sanitation facilities and pure water. Impure water causes a variety of waterborne ailments, which wreak havoc on slum inhabitants' overall health. Slum dwellers frequently experience sanitary issues, and as a result, the majority of slum inhabitants suffer from a variety of health issues. The majority of slum inhabitants do not own their homes on a long-term basis. The qualities of one's life and one's health are inextricably intertwined. Slum inhabitants typically have poor health, which is caused by a lack of various vital utilities. Slum residents are often located distant from institutions and social infrastructure and hence do not have easy access to high-quality education, healthcare, and parks. Slum inhabitants are primarily employed in the informal economy and are mostly employed in low-wage jobs.

13.2.3 Environmental Prospects of Cities

The 2021 World Environment Day comes at a tough moment for India, which is fighting on two fronts: the second wave of Covid-19 has wreaked havoc, and evidence reveals that the government is finding it hard to meet the environmental standards. As India seeks to recover its economy, its water and air remain dirty, and forest devastation continues. Urbanization has numerous social and economic benefits, but it also has environmental consequences. Cities make up less than 3% of the Earth's area, yet they have a disproportionately high concentration of people, industry, and energy use, resulting in huge pollution and environmental deterioration. Human activities account for over 78% of carbon emissions in cities. Cities' ecological footprints extend well beyond their urban bounds (via emissions, consumption, and other human activities) to forests, farmland, water, and other surfaces that support their population, having a huge influence on the surrounding rural, regional, and global ecology. Cities are thus hubs of consumption (energy, resources, etc.), greenhouse gas production, waste, and pollution emissions into the water and air. Cities' ecological and social footprints have spread over ever-larger regions, resulting in an urban-rural continuum of communities with comparable characteristics of individual lifestyles.

Inadequate water supply, wastewater, solid waste, energy, loss of green and natural areas, urban sprawl, contamination of soil, air, traffic, and noise are the most common urban environmental issues. All of these issues are especially problematic in developing nations and countries in transition, when there is a clash between a short-term economic goal and environmental conservation. The status of the air, noise, and congestion are the most pressing concerns. Environmental concerns connected to industrial production, accommodation, and basic infrastructure have decreased in cities of economically developed countries, while consumption (growing waste) and traffic difficulties have grown. Cities are consuming more natural

resources, producing more trash and pollutants, and all of this has an influence on the regional and global environment. The processes linked with the combustion of fossil fuels are the fundamental causes of city's air pollution (production and consumption of energy for heating buildings, industrial activities, traffic). Noise pollution is a unique type of pollution that affects the urban population. Urbanization has a variety of consequences on water resources, including changes in hydrology, water quality, and aquatic habitat availability. The quality of groundwater and river water in cities is deteriorating mostly owing to population and industry water usage. Contamination is mainly caused by industrial activities as well as trash disposal; therefore, water contamination from municipal and industrial wastewater dominates in cities. Massive inputs of energy, water, food, and a variety of raw materials characterize the city, resulting in large amounts of commodities and garbage, implying a significant loss of natural resources in the form of raw materials and energy. As a result, there are landscape degradations that have a negative impact on the quality of water resources and urban air [13].

One of the issues faced by hill towns due to high urbanization is that natural disasters such as landslides, earthquakes, floods, cloudbursts, and fire may all affect hill communities. The majority of buildings already built are built without following safety precautions against natural hazards, making them vulnerable to severe damage in the case of a natural disaster [14].

13.2.4 Vulnerability to Hazards in Urban Areas

Because urbanization might lead to the development of low-lying areas, natural drainage paths and catchments, which have increased the risk of raised flood peaks from 1.8 to 8 times and flood volumes by up to 6 times, thus making urban flooding significantly distinct from rural flooding. As a result of the quicker flow times, flooding occurs extremely quickly. Urban regions are densely inhabited, and individuals who live in flood-prone areas suffer due to the aftereffects of floods, which also end in death. It is not only the occurrence of flooding that causes human pain but also the secondary consequence of infection, which results in loss of livelihood and, in severe circumstances, death. Urban regions are also hubs of economic activity, with critical infrastructure that must be safeguarded. Damage to essential infrastructure in most cities has ramifications not just for the state and country but also for the entire world. In India's major cities, there has been a loss of life and property, as well as disruptions in transportation and power, as well as the occurrence of illnesses. As a result, managing urban floods must be given high importance [15].

Fires are the man-made disasters which can occur as a consequence of a natural disaster like earthquake or as an individual disaster. Urban issues like high-concentrated population, overcrowding, misusing developmental regulations, and unregulated commercial activities are frequently responsible for urban fires. Maintenance of fire service is a municipal function, but the center provides funds and training to improve the infrastructure and quality of manpower needed to tackle

fire accidents. In slums closely packed constructions, construction with inflammable materials, narrow lanes inhibiting access to fire engines, and unauthorized electrical connections increase the impact of fires [16, 17].

13.3 Challenges Toward Future Urban Development

13.3.1 Urbanization Trends

Future growth in the world's urban population, according to the UN Department of Economic and Social Affairs (UN DESA), will be concentrated in only a few nations. India, China, and Nigeria are estimated to account for 35% of the projected rise in the world's urban population through 2050; among the three, India is forecast to have the biggest absolute growth in urban population. In terms of raw numbers, India is undergoing the biggest urban change of the twenty-first century, and the Indian real estate and infrastructure business is a major contributor to this expansion. By 2025, India's real estate sector is estimated to contribute 13% of the country's GDP, with a market worth \$1 trillion by 2030. However, the Indian real estate industry's environmental footprint is growing [18]. Currently, 54% of the world's population lives in cities, with that percentage anticipated to rise to 66% by 2050. India is expected to add 404 million new urban residents by 2050 [19].

This trend reflects a clear picture of the future pressure Indian cities are going to experience in terms of absolute growth. The governments, administration, and ULBs need to be prepared for this daunting challenge. The projected population increments in urban areas are going to hamper the existing infrastructural capacities and force urban expansions. Hence, it becomes crucial to implement sustainable policies and strategies to accommodate this growth and augment the ever-increasing needs and demands in sustainable manner to ensure comprehensive and planned urban development (Table 13.1).

Indian cities are frequently described as sprawling. They do, however, frequently defy global urban sprawl metrics. Instead of low-density development in the

Table 13.1 Population growth rates of eight prime Indian cities

Cities (UA)	Population	Average annual growth rate of population (%)		
	2011 (million)	2001–2011	1991–2001	1981–1991
Greater Mumbai	18.41	1.25	2.99	2.62
Kolkata	14.11	0.68	1.99	1.82
Delhi	16.19	2.66	5.19	4.18
Chennai	8.69	3.53	1.85	1.7
Bangalore	8.49	4.73	3.77	3.2
Hyderabad	7.74	4.01	2.74	2.42
Ahmedabad	6.35	4.06	3.64	3.11

Source: Census of India [20–23]

suburbs, Indian cities' centers are becoming increasingly crowded, and population growth is evenly spread between the center and the periphery. Indian cities tend to expand horizontally, randomly, and informally. This haphazard urbanization has resulted in a slew of socioeconomic difficulties that are also important public policy concerns. Housing, sustainable transportation, and public service delivery all contribute to the benefits of urban density, and all have suffered as a result of bad planning and unplanned urban expansion.

13.3.2 Urban Infrastructure and Municipal Finance

Infrastructure should be viewed as more than just physical structures; it should also provide services to individuals and society. Greater infrastructure investment and the ability to effectively manage such investment are required for India to achieve a sustainable future. The success of the government's urban infrastructure development efforts will be judged not by the amount of money spent but by how well infrastructure contributes to the attainment of economic, social, and environmental goals in urban areas.

Today's infrastructure approaches are prone to becoming unsustainable, as environmental and social considerations are not taken into account. Governments must include these factors into decision-making and design eco-efficient and long-term infrastructure. Horizontal integration (sectors such as transportation and communication, water supply and services, solid waste management, and others to identify issues) and vertical integration (government agencies, private sectors, and citizens to develop schemes and strategies) are both required when planning and building urban infrastructure for the benefit of the society, economy, and environment. In infrastructure development, integrating environmental and social aims with economic goals has become critical. Any urban development project must combine environmental aims as well as social and economic considerations. These elements are critical to the success of any endeavor. Some of the factors such as environmental friendliness, economic feasibility, socially achievable, finance affordability, citizen interest, and approval by various authorities should be achieved for better infrastructure performance that has a positive impact on the environment and less negative impacts [24].

The infrastructure and delivery of public services in the cities are the responsibilities of municipalities and other ULBs. Local taxes like as octroi, entrance tax, local body tax, and advertising tax were integrated by the goods and services tax (GST) in 2017, although municipal corporations did not get a portion of GST earnings. Municipal corporations' bad financial status and inadequate governance have a negative influence on their creditworthiness, preventing them from borrowing to fund capital investments. In addition, the lack of a revenue model deters private partners from participating in public-private partnerships (PPPs) in municipal initiatives. To overcome the problem of state governments losing access to octroi, entrance tax, advertisement tax, local body tax, and other consumption-related taxes

under the GST regime, state governments must enhance transfers to municipal corporations. They must establish the State Finance Commissions on a regular basis, with eminent and competent members. Municipal corporations must also be assigned an entertainment tax, and a percentage of money from the motor vehicles tax and stamp duty must be shared with them. In turn, the federal government must significantly raise grants-in-aid to all metropolitan local governments. When presenting recommendations to the central government, the Finance Commission must take into account the impact of GST on municipal finances as well as the expanding demands of municipal corporations in metropolitan areas. The horizontal distribution of these awards must guarantee that municipal corporations in metropolitan areas receive enough funding, while also taking into account the economic importance of these quickly increasing areas [25].

13.4 Interventions for Sustainable Development of Cities

13.4.1 Government Schemes Targeted Toward Urban Development

Smart Cities Mission: The Indian government's ambitious initiative intends to create 100 smart cities across the country, with an emphasis on planned urbanization and sustainable development as a support system for neighboring cities.

Jawaharlal Nehru National Urban Renewal Mission (JNNURM): The project aimed to increase investment in urban infrastructure, provide civic amenities, assure universal access to essential utilities, and provide cheap housing for the urban poor, slum dwellers, and those from economically disadvantaged groups.

Atal Mission for Rejuvenation and Urban Transformation (AMRUT): Water supply, sewerage networks, stormwater drainage, urban transportation, and open and green areas are all included in the program, which is being implemented in 500 Indian cities.

National Urban Sanitation Policy (NUSP): It was created to offer sanitary and cheap sanitation facilities for the urban poor, particularly women, as well as to solve issues with efficient city sanitation programs.

Heritage City Development and Augmentation Yojana (HRIDAY): The scheme focuses on protecting and revitalizing the legacy city's spirit, as well as developing key heritage infrastructure projects and revitalizing urban infrastructure in regions around heritage assets.

National Urban Livelihoods Mission (NULM): It is a livelihood development initiative that aims to eliminate poverty and vulnerability among urban poor households by enabling them to engage in productive self-employment and skilled wage work, consequently improving their living conditions.

Pradhan Mantri Awas Yojana (PMAY): By March 2022, the initiative aims to provide 20 million cheap dwellings for the urban poor, including slum inhabitants.

Swachh Bharat Mission: It is a comprehensive sanitation plan that seeks to eliminate open defecation in the country by 2019, ensure 100% collection and scientific processing of municipal solid waste, promote healthy sanitation habits, and equip urban local bodies (ULBs) to design, implement, and manage systems.

National Urban Transport Policy (NUTP): “It focuses on the implementation of intelligent transportation systems, the reduction of pollution levels, and the promotion of public transportation and nonmotorized modes through central financial aid [26].”

13.4.2 Administrative Interventions and Good Governance

The two are inextricably linked: good urban administration and long-term growth. As a result, good urban governance is seen as a key component of urban resilience. In this context, complicated concerns like trash disposal, housing, low tax bases, unemployment, sanitation and water purification, energy, road building and maintenance, and other difficulties linked with rapid urbanization are faced by urban governance. These service delivery programs are used to carry out most sustainable development actions. As a result, the majority of citizen discontent occurs at this level of government. In general, it is the responsibility of local governments to promote sustainable living and maintain the resilience of urban areas. Good urban administration is a necessary condition for community progress and success. Furthermore, excellent urban government should encourage socioeconomic progress, allowing communities to build more sustainable lives [27].

13.4.3 Proper Urban Planning for Cities

A municipal master plan is a legal necessity as well as an important instrument for socioeconomic growth, enhanced liveability, inclusivity, public involvement, environmental sustainability, and climate change risk mitigation. Planned development is essential for capturing the advantages of urbanization while avoiding negative externalities such as congestion, overcrowding, pollution, and so on. By 2030, every city should strive to become a healthy city for all. This would necessitate the coordination of multi-sectoral initiatives at the crossroads of spatial planning, public health, and socioeconomic development. The five-year central sector program called the 500 Healthy Cities Program incorporates, among other things, incentive mechanisms for (a) states/UTs to prepare a spatial multi-sectoral vision in light of macro-level conditions and plans, budgetary allocations, citizens’ desires, as well as regional challenges and propensities. (b) The Metropolitan Planning Committees and District Planning Committees are formed and functionalized.

Efficient land-use planning and building byelaws are used by local governments to guide and regulate development. The overarching goal of these rules is to protect

people's safety and health. The Ministry of Housing and Urban Affairs has been financing capacity-building events for town planners and urban functionaries on the production of local area plans, town planning schemes, and GIS-based master plans as part of the Integrated Capacity Building Programme.

13.4.4 Improvement of Infrastructure for Better Quality of Life of City Dwellers

Cities that invest in creating connected, inclusive infrastructural capacities fare much better. They make use of infrastructural assets to add value to the surrounding region, sustaining livelihoods and boosting local companies; and they encourage urban renewal and innovation, drawing more enterprises and talent. These cities can also profit economically from well-planned and well-developed areas. Successful infrastructural arrangements also improve city's walkability, public safety, social inclusion, neighborhood vibrancy, urban health, and citizen well-being, all of which contribute to a city's quality of life. By combining infrastructure, urban systems, cultural legacy, and green areas, cities may often improve urban resilience and overall functioning. To unleash the urban potential, cities must act quickly to engage in the cocreation of human-centered, ecologically sustainable, economically thriving, and socially inclusive infrastructure, collaborating with governments, communities, and other public and private partners. They should also use smart and sustainable methods to develop utilities and assets to provide returns on investment that greatly outweigh monetary costs, improving city's livability, resilience, and competitiveness [28].

13.4.5 Environmental-Friendly Approach to Mitigate Ecological Concerns

Because of the energy necessary for electricity, heating, and water, buildings are the most significant producers of greenhouse gas emissions inside cities. Smart heating and cooling systems can allow buildings to adjust the temperature based on the number of people in the building and other variables, resulting in lower energy use. Cities can also reduce greenhouse gas emissions by utilizing public transportation networks. Cities may enhance efficiency while reducing emissions by investing in high-speed railroads, electric bus networks, and upgraded subways.

The urban heat island effect occurs when surfaces absorb and radiate sunlight rather than reflecting or utilizing it for energy, causing the immediate environment to heat up by several degrees. This temperature rise, particularly in the summer, can create health concerns and drive people to need more energy to cool their houses. Cities have discovered that targeting the surfaces that are most exposed to sunlight,

such as roofs, and developing green space over them are one of the approaches to curtail urban heat island effect. Rooftop gardens are considerably more beneficial since they cool the air, give shade, and purify it. Planting trees across communities and extending parks, similar to rooftop gardens, can lessen the urban heat island effect, purify the air, and absorb greenhouse gas emissions.

Cities are altering their energy systems in a variety of ways. Localized energy generation, such as community solar and wind farms, allows towns to fully bypass the regular energy grid. Cities may also campaign for utilities and governments to invest in large-scale renewable energy projects. Electric mobility will help to balance energy consumption, storage, and environmental sustainability. Electric cars, by relying on a diverse range of primary energy sources for power generation, might help diversify the energy required to move people and commodities, considerably boosting energy security [29].

The great majority of plastic waste is discarded rather than recycled. It pollutes ecosystems, harms animals, and contaminates drinking water when it ends up in landfills, seas, green areas, and other places. Plastic ban laws are gaining popularity, leading to nationwide bans and corporate change. Water, land use, ecology, transportation, and the link between society and economics must all be addressed in the development of a new type of urban drainage system from a multi-stakeholder viewpoint. The provision of information about road conditions during floods, the ability to plan evacuation routes, and the verification of the performance of mitigation actions after they are implemented in the context of flood risk mitigation strategies can be put to use in urban areas.

13.4.6 Compact City Approach to Restrict Urban Sprawling and Greenfield Development

A compact city is a densely populated urban area. The contemporary compact city necessitates the rejection of single-purpose development and the car's domination. The following concerns must be addressed: how can cities be designed such that communities thrive and mobility is increased, how to design for personal mobility without enabling the vehicle to undermine communal life, how to plan for and accelerate the adoption of clean transportation systems, and how to rebalance the usage of our streets in favor of pedestrians and communities.

The compact city is made up of a network of small neighborhoods, each having its own parks and public areas and a mix of private and public activities. Most significantly, these neighborhoods bring jobs and amenities closer to the community, reducing the amount of driving required for daily necessities. Mass transit systems in major cities can provide high-speed crosstown travel by connecting one neighborhood center to another, while local distribution is handled by local networks. This minimizes the amount and subsequent impact of driving through traffic, which may be reduced and managed, especially in and around neighborhood public spaces.

Local railways, light rail systems, and electric buses become more efficient, while cycling and walking become more enjoyable. Congestion and pollution in the streets are much decreased, but public space security and conviviality are greatly enhanced [30].

This approach can help the cities curb their expansion with time as the development of efficient networks and rational placing of housing with respect to other urban land uses. The planning framework should hence inculcate the approach along with the SDGs in the development of master plans and promote the path for comprehensive, inclusive, and sustainable cities.

13.5 Conclusion

With a growing population and increased demand to create opportunities, urban India has a formidable issue. With the upswing in the economy, inequality is increasing more than ever, threatening to spiral out of control. Indian cities continue to fall short of their impassioned goal of achieving the Millennium Development Goals (MDGs) as well as Sustainable Development Goals (SDGs) and envisioning “inclusive growth,” thus demonstrating the fragility of Indian urban administration. Democracy thrives and citizens benefit from effective government only when the majority of choices are made close to the people. Continuity and change are at the heart of all democratic transformations. India is prepared to undergo a major transition. Local governments that are empowered and responsible to their citizens are at the core of this shift.

Urban poverty and lack of affordable housing are one of the major concerns in Indian cities. When economic and social progress do not occur and population continues to expand, the environment will surely suffer. The keys to breaking this shackle are grassroots economic and social growth and public involvement. The key categories of sustainability, including poverty eradication, environmental protection, and community involvement, are all dominated by urban government. As a result, now is the moment to take remedial action for a brighter future for India and a more sustainable world in general.

Infrastructural access must be improved, travel must be guided toward decarbonization, urban boundaries must be established, inner-core regions must be redeveloped, smart growth strategies must be supported, density must be increased and compact cities must be created, and the role of local governments and authorities must be strengthened.

Although most of its features are reflected in multiple policies in various domains, India lacks a comprehensive sustainable development strategy or framework. It can be a good idea to have a unified policy or framework. The Clean India (Swachh Bharat Mission), Make in India, and Smart Cities are just a few of the programs and initiatives that the Indian government has introduced, and they are beneficial too in achieving SDG 11. By mainstreaming resource efficiency and sound waste management, efforts should be made to leverage such programs and campaigns to promote

sustainable consumption and production. While finance and technology will play key roles, awareness raising, education, and the promotion of good habits and practices can lead to holistic development of sustainable cities in India.

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