SUSTAINABLE DEVELOPMENT AND ROLE OF URBAN CENTRES

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ABSTRACT:

Due to the detrimental effects of urban activity, cities have started to display rising indicators of environmental issues recently. Natural resource degradation and deterioration, as well as pressure from climate change on green spaces, have emerged as key issues for cities. To address these issues Cities have started developing new strategies for enhancing the quality of the urban ecology as urban planning policies have switched to a sustainable focus. In order to limit energy consumption, reduce pollution, and protect natural areas and arable land, sustainable urban development and urban centres would require policies that are significantly more ambitious than those currently in place, according to the discourse on sustainable development based on the "Brundt land Commission's report and the procedures in the UN Committee on Environment and Development". There are two workable strategies: better-utilizing development sites and reusing urban regions. The continued increase of the building stock, however, will make it more difficult to keep urban growth in wealthy countries within the parameters of what is ecologically sustainable and fair from a global perspective. Providing a healthy and sustainable environment for both natural systems and communities is one of an urban ecosystem's most crucial functions. As a result, ecological planning is a necessary component in the creation of a sustainable built environment. Planning for sustainable urban development must be founded on means-ends logic, but it must also consider long-term objectives and make use of knowledge about the environmental effects of various solutions. Planning for sustainability should help those population groups form alliances that can support the fundamental equity and environmental goals of sustain able development, rather than looking for consensus among all stakeholder groups. We have included the most important obstacles to sustainable development and their impact on urban centers in this document. Our research comprises fact analysis and forecasting work done on pertinent records and data relevant to our research purpose that have helped us come to conclusions about sustainable development and the role of urban centres, as well as potential opportunities and potential challenges.

***Keywords:** Sustainable Urban Development, Sustainability, Urban centres, India.*

INTRODUCTION

Due to the fact that more than half of the world's population now resides in cities an d towns, the twenty-first century has been dubbed the "urban century." However, the demographic change to a predominately urban state is not anticipated to occur in Africa until 2030, while it is anticipated to occur in the South before 2020 (WUP 2005). The trend, however, is obvious as "the urban" continues to outgrow "the rural." 95% of urban expansion will occur in cities in the developing countries during the next 20 years (UNHabitat, 2006). Furthermore, megacities with populations over 10 million have grown in developing nations as a result of the rapid rates of urbanization.

India, a vast, densely populated, and impoverished nation must develop in a way that is environmentally sustainable; doing otherwise is not an option. India is dealing with environmental deterioration brought on by poverty and population pressures on the one hand, and pollution from increased activity brought on by economic expansion and the ensuing shift in consumer patterns on the other. While the impoverished rely on the environment for their survival, economic progress depends on harnessing natural resources to provide commodities and services. These commodities and services production and consumption generate garbage, which is then discharged into the environment and has an adverse effect on it. For both current and future generations, the environment is a source of security. It is also economically advantageous for nations to prevent environmental deterioration because the environment's health is intimately linked to human health. Therefore, the problem in

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ensuring that development is environmentally friendly is to restructure the economic system such that it won't harm the environment as economic growth continues.

Sustainable development entails striking a balance between economic expansion, environmental protection, and the needs of the present and the future. It speaks about equity in sectoral actions and growth over time and space. The blending of economic, social, and environmental viewpoints on development is necessary. Sustainable urban development refers to preserving social justice and the environment while limiting the expenses of urbanisation to a minimum. Over the past few decades, the built environment has undergone substantial progress. Increased industrialisation and urbanisation have had a negative impact on the climate, biodiversity, and natural resources. The demand from development on green space causes urban green patches to contract, disperse, and get contaminated. Energy use, air pollution emissions, and traffic congestion that degrades the quality of life for the populace are all adverse repercussions of the expansion of the transportation network. Given the root causes of these environmental problems, the current urban development strategies need to be altered. Cities need to be well-planned and managed in order to strike a balance between the needs of people and the environment in order to experience sustainable growth. For the environment to be preserved and improved for future generations, urban ecology must be sustainable.

Fig1. Sustainable Development

CONCEPT OF SUSTAINABLE URBAN DEVELOPMENT

"In June 1972, the UN General Assembly held a conference on the human environment in Stockholm", which resulted in a set of guiding principles. It underlined that man has a fundamental right to a healthy environment and that he has a duty to preserve it for both the benefit of the present and the welfare of future generations. The earth's natural resources must be preserved for the sake of both current and future generations, it further argued. In 1983, the World Commission on Environment and Development was established in order to address the concerns of ongoing resource depletion and unsustainable development. Sustainable development was defined as *"development that fulfils the requirements of the present without compromising the ability of future generations to satisfy their own needs"* by the "Brundtland Commission (1983)", which is well-known. The UN Conference on "Environment and Development" (commonly known as the "Earth Summit") was held in "Rio de Janeiro in 1992", twenty years after the Stockholm Declaration, and an action plan known as "Agenda 21" was created.

Achieving a balance between urban development and environmental protection while keeping an eye on equity in urban employment, housing, basic services, social infrastructure, and transportation is what is meant particularly by sustainable urban development. Widespread concern about reducing the environmental consequences of urbanization has grown in response to the significant increase in urban population around the world. Environmental harm, non-renewable resource depletion, and

rising urban pollution levels are all causes of concern. Cities have recently developed a reputation for resource waste and urban environmental degradation, which is having a negative impact on both current and future generations. In order to reduce the issue, we must reduce the use of non-renewable resources and turn to ecologically friendly economic growth. However, it must be done in a manner that is acceptable from a social, economic, and political standpoint.

Also, Sustainable Development could therefore be defined as a "Process of enhancement of quality of life through production, provision and utilization of goods and services with peoples and choice and participation ensuring their safety and security and conserving the environment sustaining the whole development process".

Ideas on sustainable development:
a. The natural world and human activity.
b. The sustainability of the human ecology in relation to needs. Health, financial security, and happiness are the three foundational components of a high quality of life for people and children, as is a clean environment.

The concept was developed through a series of meetings and reports in the 1970s and 1980s, such as the Stockholm Conference on the "Human Environment" in 1972 and the World Conservation Strategy prepared by the "International Union for Conservation of Nature" at the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, in 1992. (Earth Summit).
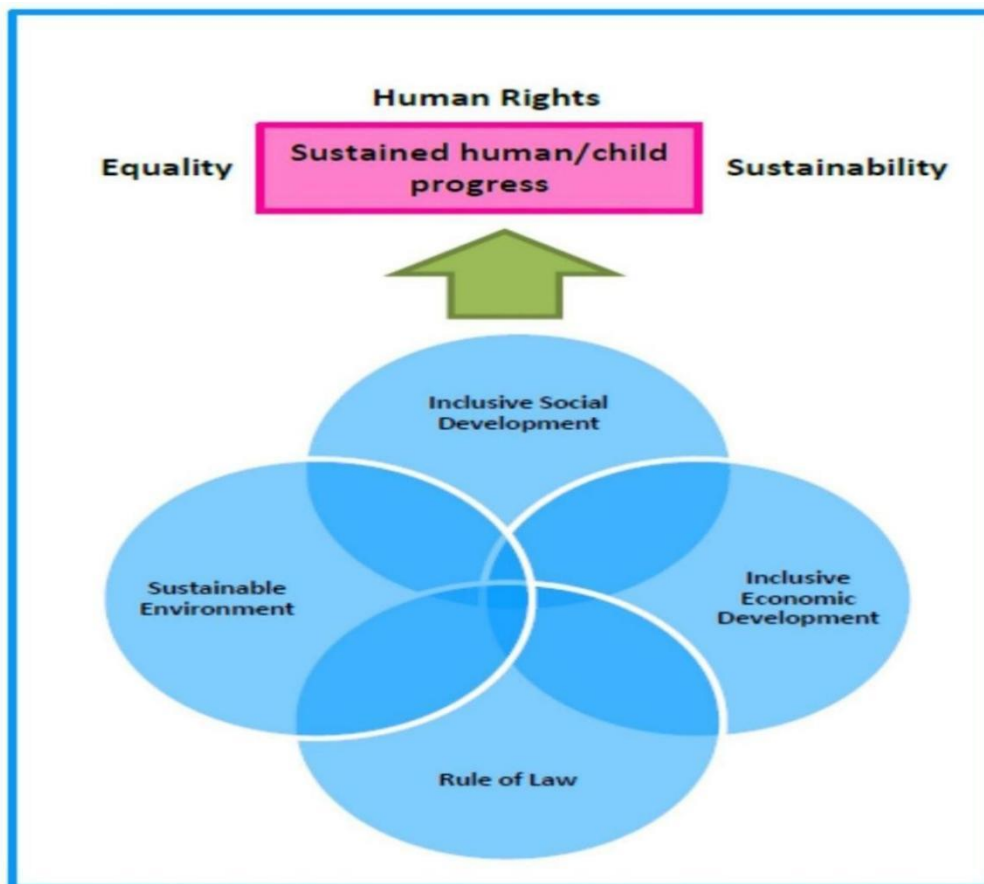

Figure 1: Sustainable Development Framework. Adapted from the UN Task Team Report on the Post-2015 UN Development Agenda, 2012

HOW CAN SUSTAINABLE DEVELOPMENT BE MAINTAINED?

The phrase "sustainable development" has been used to refer to a variety of ideas since its introduction in the 1970s, along with phrases like "sustainable cities" and "sustainable urbanization." Although the word "sustainable development" was initially used to emphasize directly addressing human needs while taking intoaccount how development can affect the environment and the environment, this is not always clear from how the term is used.

OVERVIEW OF CURRENT URBANIZATION TRENDS' REVELATIONS

1. According to the Indian census, India only makes up 2.4% of the world's surface area (135.79 million square kilometres), but it is home to 17.5% of all people.

2. There are now 733 towns and cities, up from 5161 in 2001. 50% of Indians would reside in more than 10,000 metropolitan areas, including more than 100 million cities, by the year 2051. Urbanization will result in a 75% increase in the urban sector's current 40% GDP share by 2030.

3. The populations of India and Maharashtra have grown by 2.83 times during the past 50 years (1961–2011), while their respective urban populations have grown by 18.24% and 31.6% and 28.22%, and 45.23% over the same time periods.

4. The highly skewed distribution of the urban population—70% of it concentrated in class I cities in India and 80% in Maharashtra according to the 2011 census—is yet another unfavourable finding of the urbanization study.

5. If cities with a population of 1 million to 5 million or more are home to the urban population, the percentage is 42%. Maharashtra accounts for 50% of this rate.

6. Due to the following urbanization revelations in the current economic climate of large urban centres providing a variety of employment opportunities and means of subsistence, our nation is predicted to experience sustained population growth and an accelerated process of urbanization in the 21st century.

MULTI-MODAL URBAN REGION

In order to achieve the objectives of urban sustainability, transportation is crucial. Meeting both a city's environmental sustainability goals and economic performance goals at once is one of the problems of a sustainable urban form. To handle the many urban and economic activities, it can be advantageous to create a multimodal urban region and provide transportation. To make this happen, land use and transportation policy will need to take different activities' demand intoaccount. The goal is to build a city that meets environmental sustainability goals while still performing well economically.

The goal is to develop a transportation system that is environmentally friendly and to develop destinations for activities that can be reached in a reasonable amount of time. Locations for activities that can be reached 1) without moving, such as by strolling or cycling, 2) by public transportation, and 3) by vehicles that use less fuel should be established. This has implications for land use and transportation in four ways: 1) developing multifunctional homes and workplaces that do not require travel; 2) developing multifunctional neighbourhoods that can be accessed by walking and cycling; 3) developing nodes with functional concentrations that can be reached by public transportation; and 4) developing multifunctional urban regions that can be reached by energy-efficient cars.

The 2006 National Transport Policy of India supported public transportation and suggested promoting road travel since it is environmentally friendly, economical to operate, and satisfies social needs. It was emphasised that in order to lessen unfavourable externalities like air pollution and traffic, public transportation must be encouraged. It also suggested encouraging non-motorized transportation. The national programme pushed for the creation of new satellite towns along important transportation

routes and advocated "Transit Oriented Development" with high-density zones. Additionally, it prevents sprawl by charging taxes and fees. Similar to the most of developing nations, a sizable portion of the population in India is forced to use bicycles and walk since they cannot afford to use motorised transportation. In India, the number of pedestrians and cyclists is inversely related to city size. However, it differs amongst the big cities.

For instance, walking and cycling are more prevalent in Delhi than they are in Mumbai and Kolkata (Pucher et al, 2005). Perhaps the difference is due to the superior public transportation in Mumbai and Kolkata. The use of private vehicles is a result of Delhi's poor public transportation system. It should be noted that Delhi Transport Corporation (DTC), which recently began offering air-conditioned bus service on some routes, is profitable. Additional choices on other routes might cut down on the use of private vehicles. It is important to remember that low-density sprawling growth makes it impossible for the publictransportation system to survive. This supports the idea of multimodal development in high-density polycentric areas. It would take care of equity as well.

SUSTAINABLE URBAN BASIC SERVICES MANAGEMENT

- Management of Water supply: Water from Sewage Treatment Plants (STP) in factories is used for gardening and landscaping in India. However, in developing nations, the key problem is to supply all urban dwellers with clean drinking water while implementing sustainable water management methods. There are ways to somewhat manage the water supply by collecting rainwater. For a more plentiful and sustainable water supply, it is possible to save historic water bodies like lakes and ponds. Under India's Jawaharlal Nehru National Urban Renewal Mission (JNNURM), it has been viewed as a change that is elective. The Jahangirpuri marshland is the most recent victim of the conversion of marshes and other water bodies into residential neighbourhoods, landfills, gas stations, and other uses in Delhi (Hindusthan Times, 2008). Groundwater is significantly recharged by marshes. In India, there is still a lot of work to be done. You might look into other environmentally friendly techniques.

- Management of Waste: Utilizing reuse and recycling, waste management procedures should be implemented from the production and distribution phases of economic activity. Metals, glass, paper, plastic, textiles, organic waste, and water can all be reused to cut down on the need for energy, raw materials, fertilisers, and freshwater supplies (Pinderhughes, 2008). Care should be made to ensure that hazardous waste does not go into recycling. The use of plastic ought to decline.

Each day in Delhi, more than 5000 tonnes of municipal solid garbage are produced and dumped in landfills. Groundwater contamination is a risk because to the excessive land use required for disposal. As a result, the government of India's department of environment advised that more "best practises" for waste management be implemented widely. Vermiculture, pelletization, aerobic composting, and other techniques are included.

- Management of energy: Building and city planning should promote the use of energy management techniques. It is important to think about designing cities and structures that employ renewable energy sources like solar and wind. In India, there exist traces of towns that used solar energy, water recycling methods, and trash management systems. However, in general, urban regions have not yet adopted environmentally friendly practises, particularly in big cities where the differences would be noticeable. The design of cities should favour the use of energy-efficient transportation. On the subject of financing, it may be claimed that policies should support energy-efficient activities. Loans must to be simple to obtain, and tax benefits for such actions ought to be offered.

Reduction in inequality: It should be possible to lessen the gap between rich and poor in terms of access to essential services in urban areas. Social services are not always seen to be commercially viable. Social factors should also be considered while designing cities. India's urban poor would

continue to have limited financial resources to cover the whole cost of water provision. As a result, cutting back on government funding and bringing in the private sector are likely to worsen the issue. It is also well known that historically, the majority of the subsidised programmes have benefited middle- and high-income neighbourhoods (Kundu and Thakur, 2006).

OBJECTIVE

Examining India's urban centres' role in sustainable development is the goal of this study.

METHODOLOGY

In order to obtain the necessary information and conduct the investigation and give the necessary resources of sufficient facts and analytical "Sustainable Development and the Role of Urban Centres" Literature Review First, researchers in this subject interacted to acquire concepts and expertise. The literature review serves as thefoundation for the design of this work. Based on those specifics and suggestions, materials from journal papers and government programmes, among other sources, were gathered in order to broaden the scope of our review on the subject.

RELATED WORK

Cruz et al., (2007), "Sustainable development entails striking a balance between the objectives of environmental preservation and economic growth for people as well as between immediate and long-term needs. It entails the integration of sectoral actions across place and time and equity in addressing people's needs".

Satterthwaite D. (2002), For three reasons, urban centres are particularly pertinent to any discussion of sustainable development. The first is that the globe is becoming more and more urbanised; now, nearly half of humanity lives in urban areas, and that number is certain to keep rising as more and more of the world's economic activity is concentrated there. The second reason is that the majority of economic activity in the world, including industrial production, is concentrated in urban areas. As a result, these areas also have the highest concentrations of both the demand for the natural resources required for industrial production as well as the production of industrial waste. The third is that the majority of middle- and upper-class people live and work in urban areas, and it is these people's needs for products and services that drive the majority of global resource demands (both rural and urban) and waste outputs from production.

MacLaren (1996), explains the essential elements of urban sustainability: Intergenerational equity, intragenerational equity (including social equity, geographical equity, and equity in governance), protection of the environment (doing so within its carrying capacity), minimal use of non-renewable resources, economic vitality and diversity, community self-reliance, individual well-being, and satisfaction of basic human needs are all important.

Pinderhughes (2008), explains the basic services that damage the environment are not adequately provided in cities in underdeveloped nations. Although there are some variations across cities and between wealthy and less wealthy countries, it is important to highlight that, generally speaking, urban infrastructure systems are not developed with much thought given to their effects on the environment and society. The majority of the energy used for the supply of services like water, energy, garbage removal, and transportation comes from non-renewable sources.
Future urban forms for cities may include, according to **Dempsey and Jenks (2005),** "polycentric urban forms, closely linked to good public transportation systems; a development that is directly related to transport; culturally appropriate increases in the density of development, responsive to the urban context; urban forms and buildings that take advantage of solar energy, and that take account of the life cycle of the development; forms that interact with new technology.

Kundu and Thakur, (2006) In India, the ability of the urban poor to cover the entire cost of water delivery would continue to be limited. Thus, a drop in government funding and the entry of the private sector are likely to worsen the situation. Additionally, it is well known that historically, high- and middle-income neighbourhoods have benefited greatly from subsidised programmes.

ADDITIONAL URBAN DEVELOPMENT INITIATIVES INTRODUCED BY THE INDIAN GOVERNMENT'S URBAN DEVELOPMENT MINISTRY INCLUDE:

1. **Swatch Bharat Mission:** P.M. Narendra Modi launched the scheme on 2nd Oct.

   2014 making India free from Open Defecation and Targets: -
   Construction of 66.42 lakh. Household toilets.
   Construction of 2.52 lakh. Community toilets.
Public toilets -2.56 lakh. iv. Achieving 100% scientific management of Municipal solid waste in 4041 statutory towns to be achieved by 2nd Oct. 2019.

2. **HRIDAY:**
On January 21, 2015, the Ministry of U.D. officially launched the National Heritage City Development and Augmentation Yojna. concentrating on heritage cities' holistic development. (Preservation, Conservation, Protection and Management) as well as the revival of the historic city's spirit by promoting an environment that is visually pleasing, accessible, educational, and secure (12 cities designated schemes completed in March 2017 Rs. 500 crore sanction).

3. **URBAN TRANSPORT:**

   Urban development ministry's division of urban transport is a nodal division responsible for the coordination, evaluation, and approval of urban transportation issues, including metro rail projects ("M.R.T. PROJECTS AT CENTRAL LEVEL). Bus rapid transit (B.R.T.") and other urban transit infrastructure interventions are part of urban transportation intervention plans.

          i.   "The 2006 National Urban Transportation Policy (NUTP).

         ii.   Project for Sustainable Urban Transportation (SUTP)
Mass Rapid Transit System (MRT), comprising feeder bus services, Urban Transport Planning (UTP), and the Delhi-Mumbai Road Corridor (DMRC)".

FINDINGS AND CONCLUSION

We now know that, if sustainable development is the goal, India cannot afford to ignore the environment. Reduced population pressure, increased literacy, campaigns to raise environmental consciousness, and poverty alleviation initiatives are all necessary to less en environmental pressures. When infrastructure and living conditions do not keep up with population growth, the poor are both victims of and contributors to environmental deterioration. Instead, it is necessary to empower the underprivileged to act as agents for environmental restoration by including them in activities like recycling, waste disposal, and forest management in ways that encourage sustainable resource use.

Urban centres provide a variety of purposes that improve the quality of life for residents. Therefore, there is general agreement regarding the significance and worth of urban centres in cities when it comes to developing sustainable or eco-cities for the twenty-first century. The ecological benefits provided by urban areas, which vary from preserving biodiversity to assisting in climate mitigation,cannot be disregarded in today's sustainable design. Green areas within cities have a particularly significant role in enhancing air quality by absorbing the gases and particles that cause respiratory diseases. The social and psychological advantages of green places are, however, what people in cities seek out the most. Public parks and gardens, particularly in urban centres, offer resources for leisure. Ideally, this promotes physical rest and emotional recovery.

SUGGESTIONS

Economic incentives against pollution, law enforcement, technological solutions including cleaner technologies, institutional processes, poverty alleviation initiatives, and public engagement are the six tactics that must be used in combination for environmental sustainability in development. This section looks at the effectiveness of these tactics.

- Law enforcement and other controls
    - Consolidate pollution control laws
    - Introduce full liability laws
    - Make clean technologies mandatory in new industries
    - Make functioning treatment facilities mandatory
    - Require environmental audits for industry
    - Provide effective right to information
- Economic Incentives
    - Appropriate pricing
    - Tax based on pollution load
    - Higher credit rating for green industries
    - Reduce subsidies on fertilizers and pesticides
- Technological interventions
    - Cleaner technologies
    - Integrated pest management
    - Vermiculture and organic manures

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