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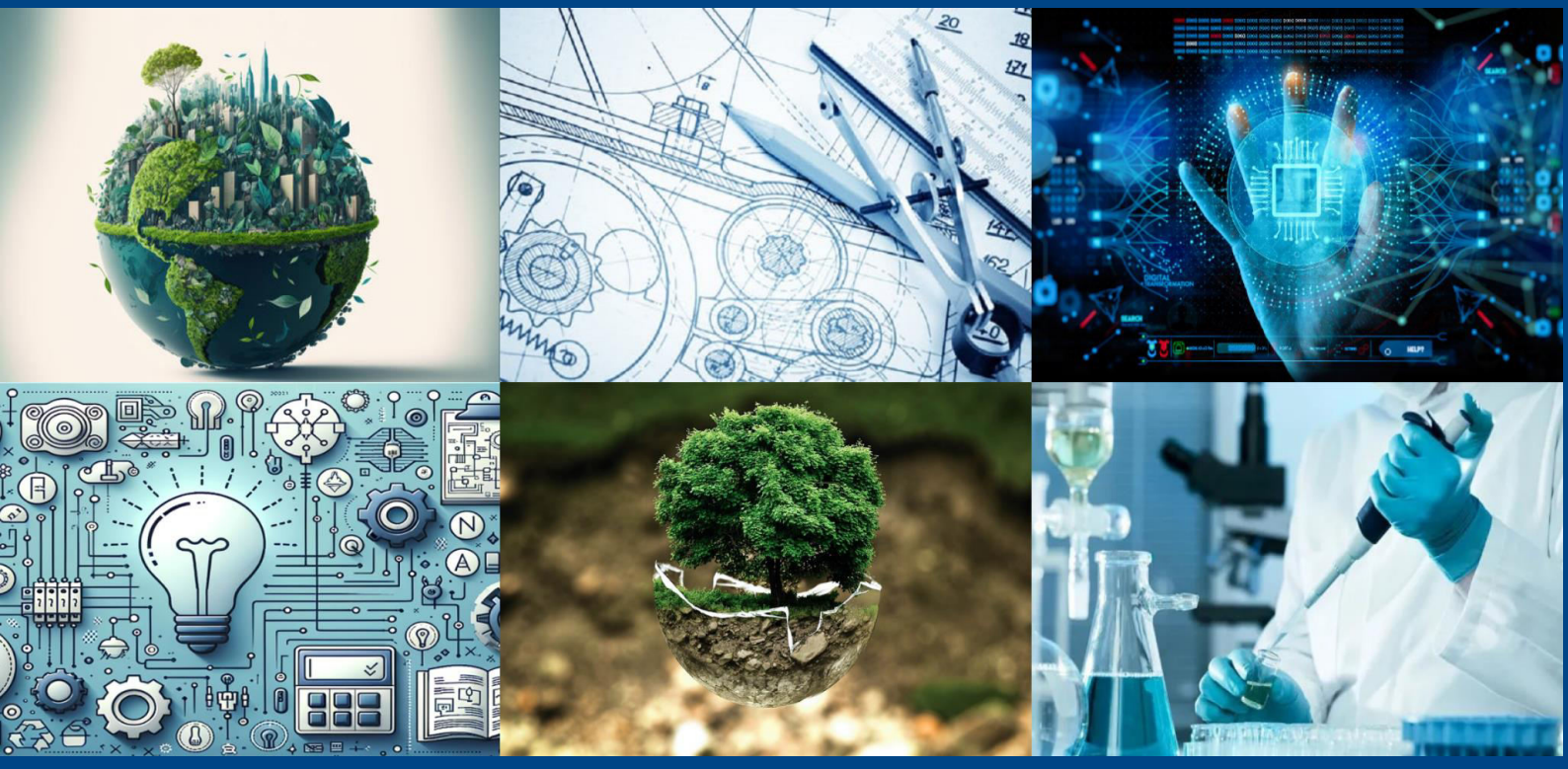

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International Seminar on Green Trends-Pioneering Environmental Sustainability (ISGTPES – 2025)

Organized by

Department of Botany, Babu Jagjivan Ram Government Degree College (Autonomous), Hyderabad, Telangana, India

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Green Urbanism: A Key to Sustainable Development and enhancing quality of life in Urban India

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ABSTRACT: India has made significant economic progress in recent years. However, it still lags behind developed countries in several parameters, including GNI per capita, HDI, Industrialization and economic diversification. Developing urban areas in India sustainably is crucial to achieving developed country status. As India continues to urbanize at a rapid pace, the need for sustainable development has become increasingly important. Green Urbanism is a holistic approach to urban planning and design that prioritizes environmental sustainability, economic viability and social equity (World Bank,2019). According to United Nations Sustainable Development Goals (SDGs), particularly goal 11 (Sustainable Cities and communities) sustainable urban planning and Green infrastructure is essential. Implementing Green Urbanism practices is essential for India to address environmental, social and economic challenges. However, there are challenges to be addressed, including the need for increased awareness, capacity building, and Institutional support.

Despite these challenges, the Green Urbanism approach is suitable for India, given the country's rapid urbanization, environmental challenges and government initiatives supporting sustainable development. By promoting Green Urbanism, India can improve the quality of life for its citizens, enhances economic competitiveness, and reduces environmental impacts, ultimately achieving inclusive, sustainable, and equitable development.

KEYWORDS: Green Urbanism, Sustainable development, HDI, Industrialization, Green Infrastructure, Sustainable Cities, Urban planning.

I. INTRODUCTION

Sustainable living and development involves adopting practices that minimize environmental impacts while promoting social and economic well-being. This includes renewable energy,green buildings,sustainable transportation, waste management, sustainable food systems.

Principles of Green Urbanism:
Environmental Sustainability: Preserve and restore natural environments, encourage renewable energy, and minimize waste and pollution**.**

Social Equity & Economic Viability: Provide equal access to resources, services, and opportunities for all citizens, irrespective of income, race, or ethnicity.Support local economies, encourage innovation, and create employment while reducing environmental costs**.**

Community Engagement: Promote citizen involvement, collaboration, and education to foster a sense of community and ownership.Various international agencies have recommended Green Urbanism practices for environmental conservation and sustainable living. The following are a few examples:

New Urban Agenda: This was adopted at the Habitat III conference in 2016 and supports green urbanism practices and sustainable urban development towards sustainable cities.

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Sustainable Urban Planning: The World Bank offers advice on incorporating green urbanism practices, to support environmentally sustainable and resilient cities.

International Council for Local Environmental Initiatives (ICLEI):ICLEI encourages the creation of green infrastructure, such as green roofs, green walls, and urban forests, to reduce the urban heat and to enhance air quality.ICLEI promotes cities to implement sustainable transport systems in order to cut greenhouse gas emissions.

Urban Health: WHO stresses green urbanism practices for ensuring urban health, such as access to green spaces, clean air and water, and physical activity opportunities.

II. BENEFITS OF GREEN URBANISM

Better environmental health: Less air and water pollution, more green areas, and greater biodiversity (World Health Organization, 2018).

Better quality of life: Availability of clean air and water, healthy food, and the ability to engage in physical activity and social interaction (European Commission, 2020**).**

Economic and Social Advantages: Higher property values, lower health expenditure, and green industry job creation (World Bank, 2019).

III. CHALLENGES AND LIMITATIONS

Though Green Urbanism has advantages, there are also challenges and limitations, such as:
Financial limitations: Implementation of Green Urbanism may be expensive, and financial limitations can hinder their implementation (European Commission, 2020).

Institutional barriers: Institutional barriers, e.g., coordination failure among government agencies, may hamper the adoption of Green Urbanism strategies (World Bank, 2019).

Community engagement: Community participation and involvement are essential for the success of Green Urbanism strategies, but are difficult to obtain (UN-Habitat, 2016).

Strategies to Overcome Challenges:
Develop Clear Policies and Regulations: Developing clear policies, regulations,will facilitate a green urbanism-friendly environment.
Build Capacity and Awareness: Offering training and capacity-building programs for government officials,citizens will enhance awareness.
Foster Public-Private Partnerships: Public-private partnership initiatives between government institutions, private sector firms, and civil society organizations can assist in leveraging resources, capabilities, and funding.

IV. OPPORTUNITIES

Government Policies and Initiatives: National and state-level policies, like the Smart Cities Mission and the Green Building Policy, offer opportunities for green urbanism practices to be implemented by cities.

Technological Innovations: Technological innovations, like green technologies in renewable energy systems, green building materials, and energy-efficient appliances, offer opportunities for cities to introduce sustainable solutions**.**

Private Sector Involvement: Growing interest by private sector firms in green urbanism measures, including the development of green infrastructure and green transport systems, offers opportunities for partnership and investment.

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Community Participation and Involvement: Rising awareness and interest among citizens regarding environmental protection and sustainable development offer opportunities for participatory city planning.

Current Scenario of Green Urbanism in India:

Green urbanism in India is expanding with government initiatives, technology, and increasing consumer demand. The Green Building Policy targets sustainable construction by 2030, imposing energy efficiency, water conservation, and waste management.

Government Initiatives: Tax breaks to green builders, low-interest loans for energy-efficient construction projects, and expedited approvals for projects that comply with sustainability standards.

Technology advancements: Integration of sustainable practices in building plans to facilitate lesser energy usage, reduced environmental footprints, and development of healthier living environments.

Consumer Demand: Growing demand for green buildings from consumers is climate-driven, with middle-class consumers paying 5-10% extra for green homes. The Indian government promotes Green Urbanism through programs such as the National Mission for Sustainable Habitat (NMSH).

Smart Cities Mission: Initiated in 2015, this mission was undertaken to create 100 smart cities in India, with special emphasis on green urban planning, effective management of resources, and application of green technologies.

Pradhan Mantri Awas Yojana (PMAY): This scheme, initiated in 2015, promotes the construction of sustainable and energy-efficient housing with green building practices and minimizing energy usage.

Atal Mission for Rejuvenation and Urban Transformation (AMRUT): Initiated in 2015, this mission focuses on providing essential services like water supply, sewerage, and transport to homes and constructing amenities in cities.

Energy Conservation Building Code (ECBC): This code imposes minimum energy performance requirements on commercial buildings so that new buildings are energy-efficient and eco-friendly.

Telangana's Green Building Policy: The policy rewards developers for using green building methods with higher floor-to-area ratio (FAR) and lower property tax.

Green Building Certifications: India has implemented several green building certificate systems, including:

GRIHA (Green Rating for Integrated Habitat Assessment) Certification: It evaluates buildings at various parameters like energy efficiency, water conservation, and indoor air quality to promote sustainable practices in the building industry.

LEED Certification: An internationally accepted benchmark for green building practice, issued on the basis of the performance of a building in energy conservation, water management.

Indian Green Building Council (IGBC): The council advocates green building practice, training, and certification programs to enable sustainable growth.

Renewable Energy Initiatives

National Solar Mission: Introduced in 2010, the mission is to foster the growth and utilization of solar power in India by 2022 for 100 GW of solar power.

Wind Power Development: The government has aimed for 60 GW of wind power by 2022 and has also framed policies to support wind energy development.

Water Conservation Initiatives:

National Water Policy: This policy is intended to encourage water conservation, proper use of water, and sustainable water resource management.

Atal Bhujal Yojana (ABHY): Started in 2019, the scheme is designed to encourage groundwater conservation and proper utilization of water resources.

Waste Management Initiatives:

Swachh Bharat Abhiyan: Initiated in 2014, this mission is designed to encourage cleanliness, hygiene, and waste management in rural and urban regions.

National Waste Management Policy: This policy aims to promote sustainable waste management practices, including recycling, composting, and proper disposal of waste.

These initiatives demonstrate the Government of India's commitment to promoting Green Urbanism practices, sustainable living, and sustainable utilization of resources.

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Policy and Regulatory Framework:

National Urban Policy: India's National Urban Policy (2018) focuses on sustainable urban development, and it gives a framework for implementing Green Urbanism**.**

Smart City Mission: The Smart City Mission (2015) focuses on developing sustainable and livable cities, and it offers scope for Green Urbanism practices**.**

Community Engagement and Public Awareness Campaigns: Organize public awareness campaigns to inform citizens about the advantages of green urbanism and the need for sustainable living. Involve communities in urban planning to ensure that green urbanism projects address local needs**.**

Green Skills Training: Offer training, capacity building programs for stakeholders, such as architects, engineers, and construction workers, to acquire green skills and expertise.

Technological Innovations

Green Building Technologies: Encourage the use of green building technologies, including energy-efficient systems, renewable energy systems, and green building materials.

Smart City Initiatives: Utilize smart city initiatives, including IoT sensors and data analytics, to enhance energy efficiency, water management, and waste management**.**

Electric Vehicle Infrastructure: Invest in electric vehicle infrastructure, such as charging stations and battery-swapping stations, to facilitate sustainable transportation**.**

Collaborations and Partnerships:

Public-Private Partnerships: Encourage public-private partnerships to leverage funding, resources, and expertise for green urbanism projects**.**

International Collaborations: Partner with international agencies, including the United Nations Environment Programme (UNEP) and the World Bank, to tap into knowledge, resources, and financing for green urbanism projects.

Case Studies:

Agartala's Renewed Riverfront: The city of Agartala, in the state of Tripura, has embarked on a project to renew its riverfront, such as reinforcing embankments, constructing a responsible waste management system, and developing organic gardens. The project is intended to maintain biodiversity, create jobs, and conserve the natural environment.

Amritsar's Smarter Travel: Amritsar, in the state of Punjab, has initiated a plan to modernize its public transport system with e-vehicles, "smart cards," and a feeder system for last-mile connectivity. This scheme is aimed at making public transport more accessible, lowering costs, and helping the environment.

Bhubaneswar's Public Spaces Redefined: Bhubaneshwar, Odisha, has embarked on a project to redefine its public spaces, such as streets, parks, and playgrounds. The project aims to build on the city's main strengths, enable citizens to control open spaces, and focus on active recreation, organized sports, and public health**.**

Dehradun's Environment Friendly Commuter Mobility: Dehradun, Uttarakhand, has planned a mobility plan that focuses on sustainable transportation, such as enhancing traffic management, and developing web and mobile applications for commuters.

Tamil Nadu's Sustainable Communities and Cities: The Tamil Nadu Government has initiated programs towards fulfilling the United Nations' Sustainable Development Goals (SDGs), such as providing access to adequate housing, safe transport systems, and sustainable urbanization.

Hyderabad Metro Rail: Hyderabad Metro Rail (HMR) employs green urbanism strategies, and thus, it is a sustainable transportation network. Hyderabad Metro Rail's major highlights are Solar Power, Green Roofs, Rainwater Harvesting, Energy-Efficient Systems, Waste Management, Eco-Friendly Materials, Natural Ventilation, Pedestrian-Friendly Infrastructure.

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Telangana Ku Haritha Haram (TKHH):

Telangana Ku Haritha Haram (TKHH), meaning 'Green necklace to the State of Telangana' is a flagship program which is a large-scale tree-planting program implemented by the Government of Telangana since 2015-16. This program helped to increase the green cover of the State from present 24% to 33% of the total geographical area of the State.

In Hyderabad city massive plantations were taken up under various components like Avenue Plantation, Multi-layered Avenue plantations, Miyawaki plantations, Barren Hill Afforestation, Institutional plantations. Creation of Smrithi vanams, Greenery under flyovers, vertical gardens, Planting in Urban Residential Colonies involving all stakeholders.

V. AWARDS

Telangana won five 'Green Apple Awards' for 'International Beautiful Buildings' from London-based independent non-profit 'The Green Organization'. Telangana's outstanding achievements in building design and restoration are recognized with awards for the Yadagirigutta Temple, Dr. B. R. Ambedkar Telangana Secretariat Building, Durgam Cheruvu Cable Bridge,Telangana State Police Integrated Command Control Centre, and Moazzam Jahi Market. Sri Arvind Kumar, Special Chief Secretary of Municipal Administration and Urban Development Department, received Green Apple awards in London on 16 June, 2023.

Conclusion: Green Urbanism is essential for sustainable development of a nation, as it provides social, economic, and environmental gains. In India, it has resulted in significant environmental benefits,including conservation of energy and reduced water consumption, lower carbon emissions, and improved air quality. With the increasing urbanization, the call for green buildings will increase, which will foster innovation and investment. The integration of Green Urbanism practices will make cities more resilient and sustainable. It ensures a sustainable future for everyone.

REFERENCES

1."Green Urbanism: A New Approach to Sustainable Urban Development" by S. M. Wheeler (2012) in the Proceedings of the 48th ISOCARP Congress, pp. 1-10.
2."Green Urbanism: A New Paradigm for Sustainable Urban Development" by S. M. Wheeler (2013) in the Journal of Urbanism, Vol. 6, No. 1, pp. 1-15.
3.United Nations. (2015). Sustainable Development Goals.
4. "Sustainable Urban Development through Green Urbanism "by M. A. Khan and S. A. Khan (2015) in the Journal of Sustainable Development, Vol. 8, No. 3, pp. 1-12.
5."Sustainable Urban Development through Green Urbanism: A Case Study of Copenhagen" by M. A. Khan and S. A. Khan (2016) in the Proceedings of the 14th International Conference on Sustainable Development, pp. 1-12.
6.UN-Habitat. (2016). Urbanization and Development: Emerging Futures.
7."Green Urbanism and Sustainable Development: A Review of Literature" by J. A. Garcia and A. M. Rodriguez (2017) in the Journal of Environmental Planning and Management, Vol. 60, No. 5, pp. 751-766.
8.World Health Organization. (2018). Urban Health: A Global Perspective.
9.World Bank. (2019). Green Urbanism: A Framework for Sustainable Urban Development.
10."Green Urbanism" by the United Nations Environment Programme (UNEP) (2019) - a report on the significance of Green Urbanism for sustainable development.
11."Sustainable Urban Development" by the World Bank (2020) - a report on the significance of sustainable urban development for attaining the Sustainable Development Goals (SDGs).
12.European Commission (2020). Green Infrastructure: Enhancing Urban Sustainability.

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