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Biocentrism in Urban Planning: Reimagining Neighbourhood Development with Life at the Centre

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ABSTRACT

The concept of biocentrism is intrinsic in all living entities and the interconnectedness of life and consciousness with the universe. It has profound implications on urban planning and neighbourhood development in the contemporary scenario. The article delves into the fundamentals of biocentrism and contrasts it with the principles of neighbourhood development. Biocentric perspectives on urban planning and development leads to the rise of biocentric people and nature centric strategies that prioritize environmental ethics, animal rights, and the holistic interdependence of the life forms. It explores existing frameworks for neighbourhood development, highlighting both their commonalities and differences. Further, it emphasis how biocentrism can be integrated into these models. Through multiple case studies, it exemplifies a practical application and outcomes of such biocentric strategies. Concluding, chart shows the prospective trajectory for biocentric neighbourhood development, advocating for a more inclusive, sustainable, and life-affirming urban future.

1. Introduction

The evolution of urban planning is on the brink of a significant paradigm shift, heralding a new era where the intrinsic value and interconnectivity of all life forms are placed at the heart of neighborhood development. This emerging ethos, known as biocentrism, challenges the traditional anthropocentric biases that have long dominated urban design, biases which prioritize human needs and desires at the expense of other life forms and the environment (Lanza & Berman, 2010). Biocentrism, with its foundational belief in the inherent worth of all living beings and the intricate links between life, consciousness, and the cosmos, proposes a radical reimagining of our urban landscapes.

In stark contrast to anthropocentric models, biocentric urban planning advocates for the integration of environmental ethics, animal rights, and the recognition of the holistic interdependence of all life forms into the fabric of neighborhood development (Taylor, 2011). This shift is not merely philosophical but is manifesting in tangible strategies that redefine urban spaces to be inclusive of, and beneficial for, the broader spectrum of life. The article at hand delves into the core tenets of

biocentrism, juxtaposing them against conventional neighborhood development practices to highlight the contrasts and the urgent need to move beyond human-centric limitations.

The growing influence of biocentric perspectives is paving the way for innovative urban development strategies that consciously move away from anthropocentric biases, embracing a more inclusive, sustainable, and life-affirming approach (Naess & Rothenberg, 1990). Through explorative case studies, this article will illustrate the practical applications and transformative impacts of biocentric principles in urban planning. These examples will showcase how embracing biocentrism can lead to urban environments that not only cater to human needs but also foster the wellbeing of all life forms, creating a harmonious coexistence within our urban ecosystems. In concluding, the article will envisage the future path for biocentric neighborhood development, advocating for a shift towards urban spaces that are thoughtfully designed to embrace and nurture the diversity of life, marking a departure from the anthropocentric biases that have historically constrained our approach to urban development.

2. Methodology

This research paper adopts an exploratory approach, aiming to explore into the concept of biocentrism and its potential application in neighborhood development. The methodology is structured as outlined in Figure 1.

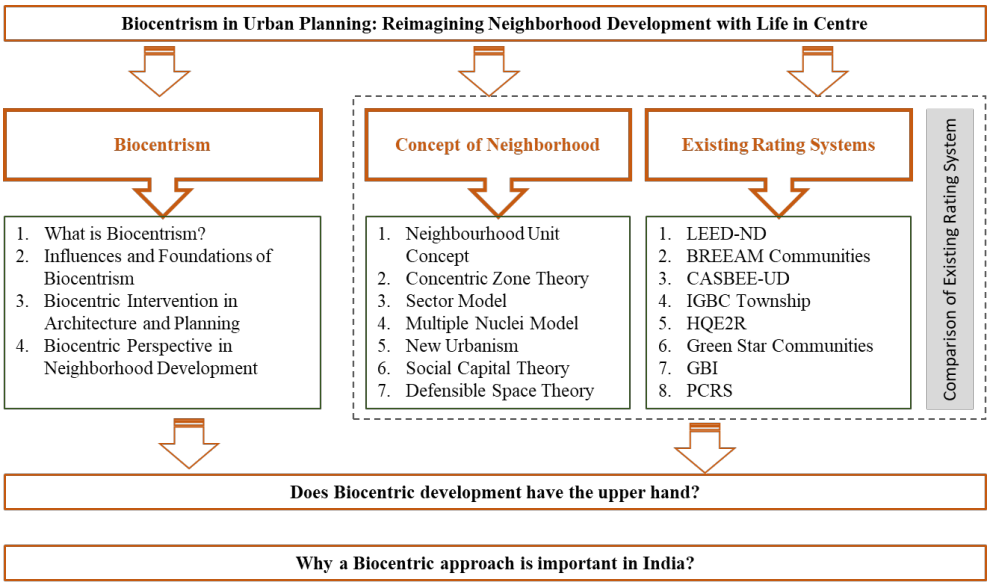

Fig. 1: Research Framework (Source: Authors)

3. Influences and Foundations of Biocentrism

Biocentrism is a philosophical stance that places life and biological processes at the core of existence, reality, and the cosmos, drawing upon diverse influences from philosophical traditions, environmental and ecological awareness, Eastern philosophies, the deep ecology movement, advances in quantum physics and relativity, ethical considerations, and the scientific exploration of consciousness (Ghom & George, 2021). Rooted in existentialism, phenomenology, and process philosophy, biocentrism emphasizes the significance of living beings and their experiences. The rise of environmentalism and ecological understanding in the 20th century, along with the teachings of Eastern religions and Arne Naess's deep ecology, underscore the interconnectedness and intrinsic value of all life forms. Meanwhile, modern physics challenges conventional views of separation and time, aligning with biocentric views that life is central to the universe's structure. Ethical debates around the

treatment of other species and ecosystems, coupled with investigations into consciousness, further shape biocentrism. This perspective counters anthropocentrism, advocating for a revised comprehension of biology, life, and the cosmos, where all life is valued, in a continuously evolving dialogue influenced by new scientific insights, environmental crises, and philosophical discussions (Fig. 2).

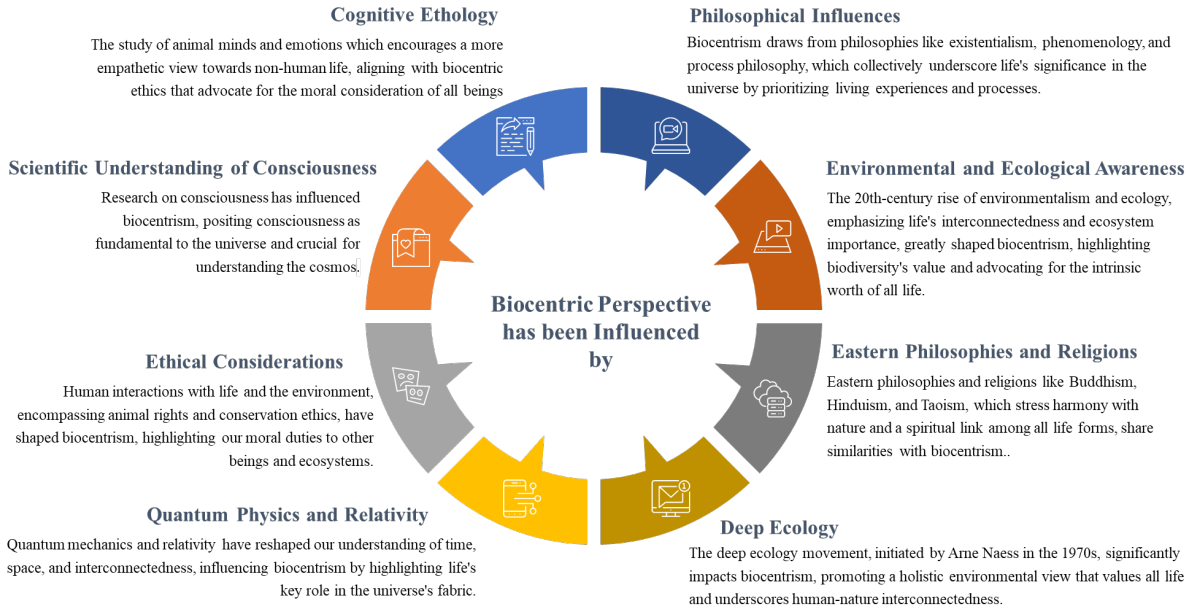

Fig. 2: Mind map specifying influences and foundations of biocentrism (Source: Authors)

4. The Concept of Neighbourhood

The concept of the neighbourhood encompasses a specific geographic area and its social fabric, marked by the residents' sense of community and shared identity. In urban planning, it's viewed as a vital element in city organization, promoting vibrant, cohesive communities through mixed-use development and walkable streets (Jacobs, 2016). Sociology considers it a social construct where networks and social capital are formed, influencing social cohesion and community efficacy (Putnam, 2001). Geographically, neighbourhoods are shaped by both natural and human-made boundaries, with their formation and evolution affected by processes like segregation and gentrification (Massey & Denton, 1988). Public health research underscores the neighbourhood's impact on health outcomes, pointing to the importance of accessible services and environments that promote well-being (Diez Roux & Mair, 2010). Thus, the neighbourhood emerges as a multifaceted entity, integral to urban design, social interaction, geographical delineation, and health outcomes.

4.1 Neighborhood Development Theories

Neighbourhood development theories provide frameworks for understanding how neighbourhoods evolve and how they can be effectively planned and managed to improve residents' quality of life. Here's a brief overview of some key theories (Fig. 3):

Neighbourhood Unit Concept: It was introduced by Clarence A. Perry in the 1920s, is a foundational principle in urban planning that aims to create self-contained communities within larger cities. Perry's vision cantered on designing neighbourhoods that would function as individual units, featuring essential amenities such as schools, shops, and parks within walking distances to foster a strong sense of community (Perry, 2020). This design approach emphasizes accessibility, safety, and community cohesion, suggesting that a well-planned neighbourhood layout can significantly improve

residents' quality of life (Lawhon, 2014). Perry's concept also highlighted the importance of limiting through traffic to ensure safer, more serene living environments, which has influenced numerous urban development projects worldwide.

Concentric Zone Theory: In the 1920s, Ernest Burgess introduced the Concentric Zone Theory, which depicted how cities expand. According to the theory, a commercial centre is at the centre of a city, and the city grows outwards in layers like rings in a pond. Each of these rings represents a different neighbourhood, ranging from affluent suburbs to more modest, working-class areas. The theory highlights the profound ways in which social and economic influences shape urban life, determining where and how people live within the city's dynamics (Burgess, 2008).

Sector Model: Homer Hoyt's Sector Model, conceived in 1939, suggests that cities expand in pie-slice-shaped sectors radiating from the city centre, along major transportation arteries. According to this theory, neighbourhoods grow within these sectors, their development influenced by nearby industrial and commercial corridors (Hoyt, 1939).

Multiple Nuclei Model: Harris and Ullman introduced this theory in 1945, arguing that cities do not grow from a single core but from several development nodes. These nodes give rise to distinct neighbourhoods, each with its character, influenced by industry, commerce, and housing types. This model acknowledges the complexity of urban growth and the diversity of neighbourhoods (Harris & Ullman, 1945).

New Urbanism: New Urbanism, a movement that began in the 1980s, promotes the creation of neighbourhoods that are walkable and integrate various housing and employment opportunities. This approach highlights the significance of public spaces and designs that prioritize pedestrian access. Moreover, New Urbanism encourages the blending of various functions—residential, commercial, and leisure—within compact areas to cultivate lively and sustainable communities (Dutton, 2024; Grant, 2005; Kopylova, 2023).

Social Capital Theory, as articulated by Putnam, emphasizes the role of networks, norms, and trust in fostering cooperative and coordinated actions for communal benefits (Putnam, 2001). The theory posits that neighbourhoods rich in social capital tend to exhibit robust community bonds, effective governance, and enhanced overall quality of life (Putnam, 2009). This framework highlights the critical nature of social networks and active community participation in the development of neighbourhoods (Bourdieu, 2018; Coleman, 1988). Research further indicates that such social resources are integral for societal well-being, influencing everything from educational success to economic development (Francis Fukuyama, 2001; Lin, 2001). These insights suggest that fostering social capital can be a vital strategy in urban planning and community development

Defensible Space Theory: Defensible Space Theory, initially introduced by Newman in the 1970s, centres on reducing crime through strategic urban design. This theory posits that the architectural and spatial configuration of neighbourhoods can significantly affect crime rates and enhance residents' feelings of safety (Newman, 1996). Fundamental aspects of this theory, such as territoriality, natural surveillance, and community cohesion, underscore the notion that thoughtfully planned environments can foster safer and more unified communities (Schneider, 2005). Research has shown that when areas are designed to promote visibility and foster social interaction, they naturally deter crime and promote a collective sense of security (Jacobs, 2016).

Each of these neighbourhood development theories offers unique insights into urban planning. However, when viewed through a biocentric lens, these theories can be reimagined to better align with the principles of ecological sustainability and the intrinsic value of all life forms.

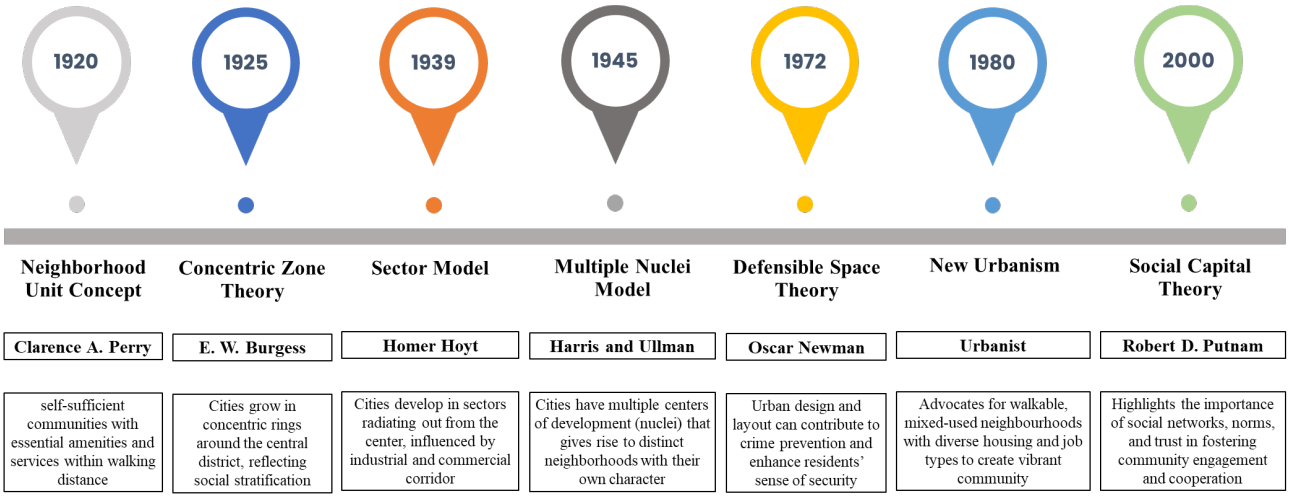

Fig. 3: Timeline of Key Neighbourhood Development Theories

5. Biocentric Intervention in Architecture and Planning

Biocentric intervention in architecture and planning represents a significant shift towards sustainable and healthy urban environments by integrating natural forms and principles directly into design (Fig. 4). Bioinspired and biomimetic approaches enhance building stability and foster innovative solutions by leveraging structural topology optimization and biological growth strategies. Projects like 'Biornametics' and 'Growing as Building (GrAB)' exemplify this, promoting sustainability and deeper cross-disciplinary collaboration (Gruber & Imhof, 2017; Mizobuti & Vieira Junior, 2020). Additionally, biocentric networking enhances landscape planning by emphasizing ecological balance and functionality (Austin et al., 2020; Söderlund, 2015), while biophilic architecture focuses on fulfilling the human need for natural connections within built environments, thereby reducing stress and improving overall well-being (Browning et al., 2014; Zhong et al., 2022). These integrated approaches collectively advance the creation of harmoniously designed spaces that are both environmentally attuned and beneficial to human health.

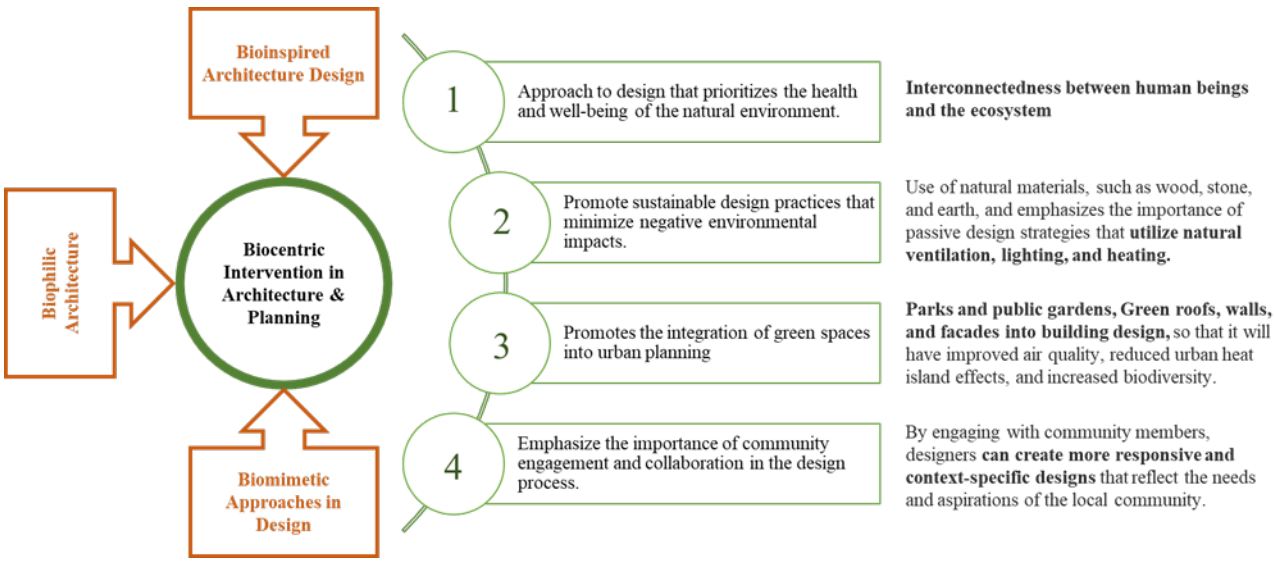

Fig. 4: Biocentric Intervention in Architecture and Planning (Source: Authors)

5.1 Biocentric Perspective in Neighborhood Development

Biocentric perspectives have notably influenced neighbourhoods' development by promoting the incorporation of natural elements and sustainability into urban design. This approach has led to the creation of communities that prioritize green spaces, fostering social interaction and community cohesion, thereby improving mental health and well-being (Bellair, 1997; Chaski, 1997; Leyden, 2003). Moreover, biocentric design emphasizes walkability and access to amenities, enhancing both physical health and environmental benefits (Urban et al., 2009). Economic advantages also emerge from these sustainable designs, as they can lead to increased property values and lower environmental management costs (Minh et al., 2017). Adaptation strategies inherent in biocentric planning, such as climate-resilient infrastructure, further ensure neighbourhood longevity and quality of life (Villanueva et al., 2016). Collectively, these principles contribute to the development of neighbourhoods that are environmentally considerate and supportive of their residents' holistic development.

5.2 Existing Rating Systems for Neighborhood

In the quest for more sustainable urban living, a variety of neighbourhood development frameworks have been established around the world, each designed to guide and assess the environmental performance of urban development. These frameworks serve as benchmarks for creating communities that are not only environmentally friendly but also economically viable and socially equitable. For instance, the United States has developed LEED for Neighbourhood Development (LEED-ND), which integrates principles of smart growth, urbanism, and green building. In the UK, the Building Research Establishment Environmental Assessment Method (BREEAM) for Communities is employed to improve, measure, and certify the social, environmental and economic sustainability of neighbourhood developments. Japan's CASBEE for Urban Development is another comprehensive system focusing on assessing and improving the environmental efficiency of urban and built environments. In India, the Indian Green Building Council's (IGBC) Township rating system is tailored to the subcontinent's specific climate, culture, and construction practices. Similarly, France's High Quality Environmental approach (HQE2R), Australia's Green Star Communities, Malaysia's Green Building Index (GBI), and the United Arab Emirates' Pearl Community Rating System (PCRS) each provide tailored assessments that encourage sustainable community development, reflecting the ecological, social, and economic contexts of their respective regions. These frameworks are pivotal in steering global urban development towards sustainability, with each system catering to local needs while contributing to a collective effort in addressing global environmental challenges.

5.3 Comparison of Existing Framework Rating Systems

Neighbourhood development frameworks, such as LEED-ND, BREEAM Communities, CASBEE-UD, IGBC Township, HQE2R, Green Star Communities, GBI, and PCRS, are inherently shaped by the unique regional contexts from which they originate. These systems are designed to tackle environmental, social, and regulatory conditions that are distinctive to their countries or regions. They are deeply influenced by local building codes, prevalent climatic conditions, cultural norms, and specific sustainability priorities. In terms of focus and scope, systems like LEED-ND, BREEAM Communities, and Green Star Communities adopt broad sustainable development principles, striving to cover an extensive range of sustainability issues. CASBEE UD and GBI, on the other hand, are more narrowly targeted toward urban and neighbourhood development, while IGBC Township and PCRS are specialized systems that focus on township and community development, respectively. When it comes to cultural and social considerations, each framework mirrors the cultural, social, and economic realities of its environment. They respond to distinct regional challenges, such as extreme weather conditions, the need to preserve cultural heritage, the pursuit of social equity, and localized economic development priorities. These differentiations not only underscore the diversity of

approaches to sustainable neighbourhood development but also highlight the complexities involved in applying these systems outside of their original contexts.

LEED-ND (Leadership in Energy and Environmental Design for Neighbourhood Development) Originating in the United States, LEED-ND emphasizes sustainable site development, water savings, energy efficiency, material selection, and indoor environmental quality. It is a collaborative effort by the U.S. Green Building Council, Congress for the New Urbanism, and the Natural Resources Défense Council.

BREEAM Communities (UK): This method focuses on the sustainable design and construction of the broader location and infrastructure aspects of community development. It offers a flexible, phased approach, is adapted to align with UK planning systems, and can be applied internationally with some modification.

CASBEE-UD (Japan) - CASBEE (Comprehensive Assessment System for Built Environment Efficiency) for Urban Development provides a comprehensive assessment of city districts and larger-scale developments. It includes unique elements relevant to Japan's context, such as disaster prevention and mitigation in the assessment.

IGBC Township (India): This rating system caters to the Indian context, emphasizing not only sustainable development but also aspects relevant to the Indian climate, culture, and economy. It includes factors like local biodiversity, water conservation suitable to the region's weather patterns, and use of traditional building strategies.

Table 1: Comparison of Existing Framework

	Criteria	Indicators	LEED-ND	BREEAM C	CASBEE UD	IGBC Township	HQE^{2}R	Green Star Communities	Green Bldg. Index	PCRS
Location and Transportation	Location and Transportation	Smart Location/ Access to Services	✓	✓						
		Access to quality transit/ Accessibility and connectivity/ Public Transportation Access	✓	✓	✓	✓		✓	✓	✓
		Bicycle and pedestrian infrastructure/ Sustainable transport/ Non-Motorized Transport Infrastructure	✓	✓					✓	✓
		Transportation Planning/ Active Transport Infrastructure				✓		✓		
		Electric Mobility				✓				
		Car Parking Management						✓	✓	✓
Sustainable Site Planning and Management	Sustainable Sites/ Site Selection and Planning/ Sustainable Site Development	Site Selection and analysis/ Location Analysis	✓		✓	✓			✓	✓
		Stormwater Management	✓	✓						
		Open Space/ Amenities	✓	✓						
		Land Use Planning			✓	✓				
		Density and Connectedness/ Land Use and development density			✓	✓			✓	
		Sustainable Urban Planning/ Sustainable development Strategy					✓			✓
		Mixed-use Development					✓			✓
	Green Infrastructure and Biodiversity	Green Spaces			✓		✓	✓		
		Biodiversity Protection			✓		✓	✓		
		Urban Heat Island Effect			✓			✓		
		Ecological Protection and Restoration			✓			✓	✓	
Environmental Impact and Resource Efficiency	Energy and Atmosphere /Environmental Quality/	Energy Performance/ Energy Efficiency	✓	✓	✓			✓	✓	
		Green Gas Emissions	✓		✓					
		Low Carbon Design		✓	✓				✓	
		Lighting Efficiency				✓			✓	
		HVAC Efficiency				✓			✓	
		Indoor Air Quality					✓			
		Thermal Comfort					✓			

		Renewable Energy			✓			✓	✓	✓
	Water Conservation and Management	Water Conservation/ Sustainable Water Management/ Water Efficiency	✓	✓	✓	✓	✓	✓	✓	✓
		Rainwater Harvesting			✓	✓	✓		✓	
		Water Recycling and Reuse				✓			✓	
Building and Infrastructure	Material and Resources	Sustainable Materials	✓			✓			✓	✓
		Construction and demolition waste management	✓	✓	✓	✓	✓		✓	✓
		Responsible Sourcing/ Resource Efficiency / Smart Technology		✓		✓	✓			✓
	Building and Infrastructure	Building Design and Performance			✓					
		Infrastructure Design and Performance			✓					
Quality of Life	Health and well-being/ Community and Social Well-being	Walkability	✓					✓		
		Community Engagement/ Community Participation	✓	✓				✓	✓	✓
		Health and Wellness – Physical and Mental well-being of residents	✓	✓	✓				✓	
		Acoustic Comfort/ Minimizing noise pollution	✓				✓			
		Visual Comfort/ natural light, views, and the quality of indoor and outdoor spaces	✓				✓			
		Social Equity and Inclusion						✓		
		Education and Awareness								✓
		Safety and Resilience			✓					✓
Context specific	Innovation and Design Process	Innovation/ Recognition of innovative strategies and practices not covered by framework	✓	✓						
		Regional Priority/ region-specific environmental priorities and incentives	✓							
	Life Cycle Assessment	Environmental Impact Assessment					✓			

HQE2R (France): Standing for High Environmental Quality of Redevelopment Operations, this approach is tailored to European and French standards and emphasizes preserving the existing urban fabric, enhancing social cohesion, and achieving environmental quality in redevelopment projects.

Green Star Communities (Australia) An initiative of the Green Building Council of Australia, this framework considers Australia's unique environment, including its biodiversity and water scarcity issues. It is comprehensive in scope, covering livability, economic prosperity, environment, design, governance, and innovation.

GBI (Malaysia): The Green Building Index in Malaysia addresses the environmental and cultural aspects specific to Malaysia and Southeast Asia, including energy efficiency and the use of local materials and crafts.

PCRS (UAE): The Pearl Community Rating System is part of the Estidama initiative in Abu Dhabi and is geared towards the hot, arid climate of the region. It integrates traditional Arabic architectural principles with modern-day sustainability practices.

Each framework provides valuable insights and tools for sustainable neighbourhood development, with criteria and certification processes that reflect the ecological, social, and economic priorities of their originating regions. While these systems are inherently shaped by their regional contexts, they share a common goal of promoting sustainable urban development. Differences among them lie in the granularity of criteria, assessment processes, and the degree of mandatory versus voluntary measures, along with associated incentives or penalties. By incorporating biocentric principles, these frameworks could evolve to address broader ecological concerns, fostering the development of communities that are not only socially and economically viable but also in harmony with the natural world.

6. Does a biocentric approach have the upper hand?

A biocentric approach to neighbourhood development surely provides an upper hand to the existing sustainability assessment frameworks mentioned earlier. This approach prioritizes ecological integrity and the intrinsic value of all living organisms, not just humans. Here's how a biocentric perspective could enhance these systems:

Comprehensiveness: While most systems focus heavily on built environment efficiency and human-centric sustainability, a biocentric approach would encourage developers to also preserve and enhance biodiversity, which is often overlooked.

Resilience and Adaptation: By valuing the contributions of all forms of life, biocentric principles encourage designs that are resilient to climate change and are adaptable to various ecological contexts. This could lead to the creation of more robust and climate-resilient communities.

Ethical Stewardship: Biocentrism extends the ethical obligation of sustainability beyond human interests, fostering greater responsibility towards land, waterways, and ecosystems, leading to more holistic sustainable development practices.

Innovation in Design: With a focus on nature, developers are encouraged to innovate with green infrastructure, living buildings, and designs that support urban wildlife, which can be a benchmark for sustainable development.

Enhanced Public Perception: Projects developed with a biocentric approach can gain an edge in marketability, as there is a growing public interest in developments that contribute positively to the environment beyond human-centric amenities.

Regulatory Compliance: As environmental regulations become stricter, incorporating biocentric principles may facilitate compliance with both current and future legislation focused on ecological preservation and environmental impact.

Long-term Benefits: Biocentric approaches can lead to sustainable communities that are not just viable economically and socially but are also viable from an ecological perspective. This can ensure the long-term health and success of a development project.

By integrating a biocentric approach, existing frameworks like LEED-ND, BREEAM Communities, and others could potentially become more globally relevant, as they would address a broader range of sustainability concerns that transcend regional and human-centered limitations. This would not only improve the sustainability credentials of these frameworks but also encourage the development of truly sustainable communities that are harmonious with the natural world.

7. Why a biocentric approach is important in India

Biological diversity, or biodiversity, refers to the variety of plant and animal life within a particular habitat. It encompasses genetic variation, the diversity of species, and the range of ecological roles within an ecosystem. The abundance and evenness of species, also known as species richness and equitability, are quantitative indicators of biodiversity. Typically, the richest biodiversity is found in

warm, moist environments like tropical rainforests. However, human activities have been causing significant declines in biodiversity, which undermines ecosystem resilience and reduces the genetic defences against species loss.

India is home to four of the world's 36 recognized biodiversity hotspots: the Himalayas, the Western Ghats, the Indo-Burma region, and *Sundaland*. The Himalayas, spanning northeastern India and neighbouring countries, boast the Earth's highest elevations, including peaks like Everest and K2, and are the origin of major rivers such as the Indus and Ganges. This region is critical for the survival of 163 endangered species, including the one-horned rhinoceros and numerous unique mammals, birds, amphibians, reptiles, invertebrates, and plants.

The Western Ghats, along India's western peninsular edge, benefit from substantial rainfall due to their topography and proximity to the ocean. They are an ecological treasure trove with high endemism, where many amphibians and reptiles are found nowhere else. Additionally, this region shelters a myriad of bird species, mammals, reptiles, and amphibians.

The Indo-Burma region extends over several countries, from northeastern India to Southeast Asia. It is distinguished by its remarkable flora, with about 13,500 plant species, of which a significant proportion are endemic. Despite its rich biodiversity, this area has experienced ecological stress over recent decades.

Sundaland covers parts of Southeast Asia, with the Nicobar Islands representing India. Mangroves, seagrass beds, and coral reefs are just a few of the diverse terrestrial and marine ecosystems that make up this area, which UNESCO has designated as a World Biosphere Reserve.
The ongoing loss of biodiversity across these hotspots highlights the urgency of conservation efforts that address the pressures of human exploitation and habitat destruction to maintain ecological balance and ensure the survival of countless species.

7.1 How a biocentric approach can help biodiversity in India

The biocentric approach, which places intrinsic value on all living things regardless of their usefulness to humans, can significantly aid biodiversity conservation in India. By recognizing the inherent worth of all forms of life, this philosophy promotes the preservation of India's rich ecosystems, ranging from the Western Ghats to the Sundarbans.

In practice, adopting a biocentric perspective in India would lead to several tangible outcomes:

- Policy Making: Laws and regulations would prioritize the conservation of all species, leading to more robust protected area networks and wildlife corridors.
- Community Engagement: Local communities would be encouraged to conserve biodiversity, recognizing the intrinsic value of species and ecosystems.
- Sustainable Practices: It would foster sustainable use of resources, reducing habitat destruction and overexploitation of species.
- Education and Awareness: Educational programs would focus on the importance of each species, increasing public support for conservation initiatives.
- Ethical Wildlife Tourism: Wildlife tourism would be more ethical, with practices designed to minimize human impact on natural habitats and wildlife.
- Research and Monitoring: Enhanced research on lesser-known species would be promoted, facilitating better monitoring of biodiversity and ecosystem health.

By focusing on the value of life itself, a biocentric approach can create a strong foundation for the protection and restoration of India's biodiverse landscapes, benefiting both nature and humans. In contrast to the traffic-oriented development, where the needs of the majority of people are ignored, particularly in Indian context as in the case of elevated metro rails separating communities, sensitive planning shall look for better biocentric models.

7.2 Biodiversity laws in India Legislation on Biodiversity in India

There are several pieces of legislation related to biodiversity in India, and these are as follows:

- Fisheries Act 1897: Use of harmful fishing techniques, such as dynamiting and poisoning, is forbidden in upland and coastal waters.
- Indian Forests Act 1927: To codify existing forest-related laws, control the movement of forest products, and impose taxes on wood and other forest products. Reserved, protected, and village woods are the three categories into which the Act divides forests.
- Prevention of cruelty to animals 1960: To outlaw the needless suffering or discomfort of animals
- Biological Diversity Act 2002: To preserve biological variety in India and utilize traditional biological resources and knowledge
- Environment Protection Act 1986: To safeguard and enhance environmental quality, manage, and lessen pollution from all sources
- The Air (Prevention and Control of Pollution) Act 1981 is a comprehensive piece of law that controls air pollution by designating regions as pollution control zones. Pollution Control Boards monitor pollution levels.
- Forest Conservation Act 1980: A law to address concerns related to, incidental to, or connected to the protection of forests, with the intention of preventing further clearing of India's forests.
- Water (prevention and control of pollution) Act 1974: A comprehensive piece of law to prevent, control, and reduce water pollution, maintain or restore the purity of the water, evaluate the amount of contamination, and penalize polluters
- Wildlife Protection Act 1972: To Save Various Plant and Animal Species It covers the entirety of India and offers protection for wild animals, birds, and vegetation.

The rise of biocentric perspectives in urban planning, particularly in the late 20th and early 21st centuries, is deeply rooted in the historical context of environmental awareness and sustainability. This shift reflects a significant change in the way urban environments are designed and managed, prioritizing ecological concerns and the well-being of all living entities over purely human-centred interests.

Conclusion

The biocentric neighbourhood development design approach is essential for Indian neighbourhoods as it integrates nature and sustainability into urban planning. This approach not only enhances aesthetics and liveability by conserving and restoring natural ecosystems but also promotes biodiversity and preserves India’s unique natural heritage. Encouraging sustainable development practices helps reduce resource consumption and carbon emissions. Planning theories like TOD cannot be successful as already proven by the type of metro development in Indian cities, as it divides communities, and hamper co-existence. Sensitive and sensible planning models shall take into consideration of

harmonious life and appropriate sustainability, in achieving people and environmental centric; Biocentric, models. Moreover, residents enjoy an enhanced quality of life with easy access to green spaces and nature, providing recreation, exercise, and community-building opportunities. Addressing the challenges of rapid urbanization and environmental degradation, this approach offers a vision for creating sustainable, resilient, and liveable communities across India, placing nature and life at the centre to benefit all stakeholders including mother nature.

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