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Ecotopia as an Experimental Field in Architecture: A Socio-Spatial Analysis on Space-Constructing Contextual Frameworks in Auroville

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Abstract

Ecotopia, approached through the lenses of environmental ethics, systems critique, and utopian fiction, has come to define an increasingly recognized field of inquiry within architectural and urban design. It represents a multilayered construct in which ecological transformation, social imagination, cultural restructuring, technological adaptation, and economic alternatives are collectively organize moving beyond a mere environmental ideal. In this context, the study aims to critically evaluate the vision of ecotopia in relation to ecological life practices through the lens of spatial production. It identifies the contextual frameworks that constitute ecotopia, analysing the interrelations among these frameworks and how they influence spatial configurations in practice. In this study, which examines the conception of ecotopia across historical, theoretical, and practical dimensions, the first part explores its historical development and intellectual foundations; the second part defines the space-constructing contextual frameworks that shape space; and the third part examines the Auroville case within these frameworks, assessing its spatial formation with attention to its experimental aspects. Through this approach, ecotopia is repositioned as a critical and operative tool to analyse and construct nature-integrated ways of living in spatial terms. Highlighting the experimental nature of ecotopia, this perspective provides a foundation for developing locally responsive, critical, and creative design approaches, and opens new theoretical and applied research avenues in architecture and urban design.

1. INTRODUCTION

Since the Industrial Revolution, spatial production practices driven by technological advancements—and often lacking a holistic consideration of environmental impacts—have weakened the balance between human biological, psychological, and environmental needs. This has contributed to a significant transformation in the relationship between the built and natural environments. The uncontrolled physical growth of cities has reduced the richness of human experience, especially by weakening meaningful engagement and social interaction (Neutra, 1954; Mumford, 1961). Viewing nature merely as a consumable resource has fostered spatial and social organization models that disregard the limits of biological and ecological integrity (McHarg, 1969). The degradation of natural ecosystems and the unsustainable exploitation of environmental resources have fractured the human-nature relationship, undermining the possibility of managing the interplay between built and natural environments in a sustainable manner. Consequently, urban spatial production has given rise not only to environmental but also to social and cultural crises (Bookchin, 1988). This complex and multi-layered crisis compels a re-evaluation of spatial production—not merely in terms of physical or functional aspects, but in ways that also encompass the multiple dimensions of human life, ecological responsibilities, and emergent forms of socio-spatial cohabitation. It calls for the development of experimental and transformative approaches that critically reimagine human-nature relationships through spatial production.

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In this context, deep ecology and social ecology emerge as two critical theoretical orientations for transforming the human-nature relationship. Deep ecology challenges anthropocentric thinking by asserting that all living beings possess intrinsic value, and it advocates for an ethically grounded relationship with nature (Naess, 1973). Social ecology, by contrast, contends that environmental problems are not merely ethical issues, but systemic ones deeply entangled with social inequalities and hierarchical structures. It argues that living in harmony with nature is only achievable through profound social transformation (Bookchin, 1988). Both approaches underscore the necessity of restructuring the human-nature relationship in a transformative and value-oriented manner, rather than a merely functional one. On the other hand, post-ecological thought, which foregrounds ontological and political pluralism, seeks to establish a more speculative, critical, and diverse foundation for rethinking the ecological crisis. This perspective expands the discourse beyond nature conservation to include resilience, collective futures, and ethical responsibility (Dryzek, 2005; Alberro, 2021). It emphasizes that the relationship with nature must be reconfigured not only ecologically, but also culturally, politically, and ontologically (Haraway, 2016). Moreover, deep ecology, social ecology, and post-ecological thought offer distinct yet complementary perspectives in the ongoing effort to redefine the human-nature relationship. Together, they reveal the complexity and multidimensionality of ecological challenges. Nevertheless, given the specific focus and limitations of each approach— deep ecology does not adequately address social structures, social ecology provides limited space for natural philosophy, and post-ecological thought remains unclear about practical transformation tools —there is a need for a more integrative framework to understand and guide ecological transformation processes. Within this framework, the concept of ecotopia holds the potential to provide a holistic and relational basis for rethinking human-nature relations in architectural and urban design—one that engages not only environmental but also social, cultural, technological, and economic dynamics.

In the context of the search for this holistic approach, utopia emerges as a compelling conceptual framework thanks to its capacity to integrate plural conditions, dynamics, and imaginaries into coherent yet speculative visions of alternative futures. Owing to its capacity for reproduction, the concept of utopia has evolved across a wide intellectual spectrum, from the early definitions of Thomas More (1516) to contemporary speculative theories. Within this historical continuum, Ruth Levitas's (1990; 2013) redefinition of utopia as a method and a field of intellectual inquiry, rather than as a fixed goal, has marked a significant turning point in current theoretical debates. In line with these approaches, the concept of "topia," together with terms such as utopia, dystopia, heterotopia, and ecotopia, offers a conceptual framework with the potential to question different socio-spatial life imaginaries and to generate an infinitely reproducible field of thinking. Positioned within the theoretical scope and intellectual richness offered by the concept of *topia*, this study focuses specifically on the notion of ecotopia, both within the integrity of these broader debates and as part of a comprehensive research series.[1] Ecotopia—traditionally discussed in the literature through the lenses of environmental ethics (Leopold, 1949; Naess, 1973), system critique (Bookchin, 1988a), or utopian fiction (Callenbach, 1975)—is increasingly finding resonance in the fields of architectural and urban design. Rather than simply presenting an environmental ideal, it is now seen as a multi-layered field

[1]atelierz, one of the vertical architectural design studios operating within the Faculty of Architecture at Gazi University, conceives the architectural design studio as a research laboratory structured around experimental content and carries out the design process through a series of thematic research explorations. The 'Topiagram' series, developed in line with this approach, is derived from the combination of the concepts of "*topia*" and "*gram*", and presents a series of design investigations that question the spatial fictions shaping the construction of space—fictions that can emerge infinitely from the contextual dynamics that constitute place—and examines these fictions in relation to the media through which they are designed, expressed, recorded, and transmitted. In the first phase of the series, spatial design experiments were conducted through various types of "topias" developed in different urban contexts in Turkey. In the second phase, the collective production of a farm topiary was explored at the Atatürk Forest Farm under the theme 'Living Spaces for All of Us'. In the next stage, titled 'Challenging Geographies, Extraordinary Cultures', context-specific topiary fictions were developed by problematizing diverse settlements across the world. This study, in turn, focuses on the concept of ecotopia as a theoretical investigation that supports the experimental design research conducted within atelierz, and aims to open up new theoretical and practical research possibilities in the fields of architecture and urban design.

of projection where ecological transformation, social imagination, cultural restructuring, technological adaptation, and economic alternatives are interwoven.

2. METHOD

This study adopts a qualitative research methodology, questioning the vision offered by the concept of ecotopia in the context of spatial production experiments. It investigates how ecotopia has been conceptualized in spatial thought, identifies the contextual frameworks that contribute to the formation of ecotopian space, and critically examines the practical possibilities and limitations encountered in practice.

In the first part of this three-part study, the historical development and intellectual foundations of the concept of ecotopia are examined through a method of conceptual analysis; the relationships between this concept and spatial production are explored through theoretical approaches that have emerged across different periods.

In the second part, a descriptive analysis of relevant literature and precedents informs a conceptual modelling through which the key contextual frameworks of ecotopian space-making are systematically defined and discussed.

In the third part, the concept of ecotopia is analysed through the case of Auroville, India, which is selected through purposive sampling for its capacity to comprehensively reflect and embody the proposed contextual frameworks. Auroville provides a rich empirical setting in which all identified frameworks can be critically examined in relation to spatial practices. The settlement's experimental nature, socio-spatial complexity, and the extensive availability of publicly accessible documentation, archival records, and academic studies further reinforce its relevance and accessibility as a case study. Accordingly, a critical analysis of its spatial structure is conducted, revealing its socio-spatial characteristics and experimental dimensions.

This multi-layered methodological structure is designed to facilitate a comprehensive understanding of ecotopia as both a conceptual and spatial phenomenon. The combination of conceptual analysis, descriptive analysis and modelling, and critical context-specific case study analysis enables the study to trace theoretical developments, construct an analytical framework, and test its applicability in a real-world setting. The qualitative orientation of the study aligns with the complex, interdisciplinary nature of ecotopia, allowing for an in-depth and interpretative exploration rather than quantification. By structuring the research in three interconnected parts, the study not only captures the evolution of ecotopian thought but also demonstrates how this concept materializes through spatial practices. This approach ensures that the findings are both theoretically grounded and empirically supported, offering a robust foundation for future investigations into alternative spatial imaginaries.

3. ECOTOPIA, THEORETICAL FOUNDATIONS AND CONTEMPORARY DEBATES

The concept of ecotopia is etymologically derived from a combination of two Greek-origin words: 'oikos' (home, environment) and 'topos' (place, space). This etymological fusion offers a rich semantic framework for rethinking life practices established in relation to nature within spatial organizations. Ecotopia was first introduced by Ernest Callenbach in his novel Ecotopia: The Notebooks and Reports of William Weston (1975). The fiction aimed to raise public awareness about the ecological consequences of technological developments, particularly considering the civil society movements that emerged in response to government policies during the late Cold War periods. At the same time, it sought to present a critical alternative to the consumer culture that became dominant after World War II. Callenbach constructed ecotopia as an idealized metaphor for a new form of social life—one that is integrated with nature, libertarian, and collective (Callenbach, 1975). His vision opened discussions on a wide range of issues, including ecological sustainability, gender roles, international relations, and cultural representations. Although ecotopia initially emerged in a fictional context, the concept has since been adopted across various intellectual traditions and reshaped around themes such as systemic critique, social transformation, ethical lifestyles, spatial organization, and post-ecological imaginaries. In this context, the conceptual groundwork laid by Callenbach has been further developed and enriched by a variety of theorists, including Aldo

Leopold, Arne Naess, Murray Bookchin, André Gorz, Félix Guattari, Donna Haraway, Bruno Latour, David Holmgren, Rob Hopkins, Timothy Morton, and Heather Alberro.

One of the first theoretical contributions that put the human relationship with nature on an ethical ground belongs to Aldo Leopold. Leopold positions human beings as part of the natural environment and argues that society should view nature not merely as a resource but toward which it holds ethical responsibility. In his approach known as 'earth ethics', he highlights the importance of establishing a sensory and emotional connection with nature (Leopold, 1949). Arne Naess, who developed the Deep Ecology approach, argues that human intervention in nature is both damaging and destructive, and emphasizes the need to cultivate an ecological consciousness that recognizes the intrinsic value of all living beings, rather than adhering to anthropocentric frameworks. According to Naess, we must explore ways of building systems that do not allow the exploitation of other species for human needs (Naess, 1973, pp. 95–100). André Gorz, a key figure in the ecosocialist tradition, critiques the unsustainability of the capitalist model of production and consumption. He asserts that addressing ecological crises is only possible through a socialist transformation (Gorz, 1980) Social theorist Murray Bookchin, a critic of deep ecology, opposes its tendency to overlook the creative and transformative potential of human beings in their interaction with nature. He contends that environmental problems are rooted in social hierarchies and structures of domination. Bookchin argues that the production-oriented systems that emerged during the Industrial Revolution disrupted natural cycles and triggered a global ecological crisis. He emphasizes that centralization in domains such as urbanization, industrial agriculture, and energy use has led humans to form a dissonant relationship with both nature and themselves, contributing to the degradation of ecological balance. Accordingly, Bookchin develops the concept of social ecology, maintaining that ecological problems arise not only from environmental factors but also from deeply embedded social and political structures. He considers the separation between nature and society to be artificial, and argues that the solution lies in constructing non-hierarchical, participatory, and ecological forms of social organization. He underscores that human capacity to intervene in nature can be exercised in ecological, rational, and sustainable ways (Bookchin, 1987). For Bookchin, the path to addressing the accelerating environmental degradation and ecological crisis involves building egalitarian social structures that are in harmony with nature and integrated with local ecosystems. In this direction, he proposes ecocommunes powered by renewable energy, using sustainable technologies, and supported by decentralized systems of local energy and agriculture (Bookchin, 1988b). In a complementary analysis, Félix Guattari argues that environmental, social, and mental ecologies are inseparably linked, and that ecological problems must be approached through a multidimensional framework. He stresses the necessity of addressing these issues not only through environmental regulation but also through transformations in social relations and individual consciousness (Guattari, 1989).

While all these intellectual approaches reveal that the ecological crisis has multilayered causes not only on environmental but also on social, political, and cultural levels, Donna Haraway extends this framework by incorporating interspecies relationships. In her ecofeminist philosophy, she argues that dichotomies such as nature/culture and human/animal must be overcome, and instead, complex relational networks in which these binaries are entangled should be acknowledged. She contends that ecological solutions are not merely technological or socio-political but require an ontological shift. According to Haraway, imagining a sustainable and just future depends on recognizing the interdependence between the human species and other living beings (Haraway, 1991). This call for ontological transformation becomes even more radical in Timothy Morton's concept of 'dark ecology'. Morton argues that focusing solely on the peaceful, harmonious, and aesthetic aspects of ecological relations is misleading. For him, our relationship with nature also entails uncertainty, contradiction, and discomfort; therefore, ecological awareness must include an engagement with the dark and unsettling dimensions of nature (Morton, 2016). This invitation to existential confrontation highlights that ecological awareness must be reshaped not only at the scientific or political level but also along ethical and affective dimensions. At this point, the disturbing consciousness presented by Timothy Morton's dark ecology enables the utopian imaginary to be considered not merely as an idealized vision of the future, but also as a mode of resistance against the prevailing order. Similarly, Bruno Latour questions the artificiality of the nature-culture divide through his notion of an 'actor network', in which human and non-human actors (actants) are deeply interconnected. According to Latour, responding to the ecological crisis is not only a technical or political matter, but also involves establishing a new regime of representation, responsibility, and partnership between humans and other beings (Latour,

2004). This approach resonates with the Gaia hypothesis developed by James Lovelock and Lynn Margulis, which conceptualizes Earth as a self-regulating living system and emphasizes that humans are merely one component of this larger whole (Lovelock, 1979; Margulis & Sagan, 1995). Thus, both Latour's actor-network theory and the Gaia perspective reveal that ecological awareness is not only a scientific or political concern, but also an existential, relational, and cosmopolitical one. These ontological and relational approaches open up space for rethinking ecological futures through critical and creative frameworks such as ecotopia. In this context, Heather Alberro considers the concept of ecotopia not only as a theoretical construct but also as a pragmatic tool for contemporary radical environmentalist movements in their pursuit of alternative lifeways and social structures that are ecologically integrated, sustainable, and intersectionally just. She emphasizes that utopian thinking provides a space for critical practice that resists dominant socio-political regimes and holds transformative potential for reconstructing ecological futures (Alberro, 2020, 2021).

In this framework, ecotopia refers not only to aspirations for social transformation, but also to a tangible design vision of how this transformation can take shape in space. It informs new design approaches grounded in the principles of sustainability, locality, circularity, and participation. The pursuit of symbiotic relationships with nature in urban spatial configurations; the creation of structures that are resilient to climate change; the development of participatory and inclusive planning strategies that uphold the principles of spatial justice; the integration of diverse cultural and belief systems into spatial experience; the use of technology as a tool for reconstructing ecological ways of living and the promotion of economic systems rooted in cooperation, regeneration, and local resilience—all demonstrate that the concept of ecotopia is gaining traction within contemporary spatial design and planning practices. The conceptual ground shaped by these tendencies engages with multi-layered themes, including environmental sustainability, social equity, cultural and belief diversity, technology-enabled ecological transformation, and solidarity-based economic models. In this context, studies such as Alan Marshall's utopian urban scenarios (2016), MVRDV's zero-carbon planning vision (2021), and Andrew Gingerich's research on sacred spatial experiences (2012) demonstrate that the idea of ecotopia is increasingly investigated through project-based architectural and urban practices engaging with alternative spatial imaginaries. While these efforts reflect a growing interest in ecological thinking within spatial design, they also underscore the need to move beyond fragmented visions toward more cohesive and context-sensitive frameworks. This indicates that a mature, open, relational, and pluralistic research framework in the field of architecture and urban design, which support the development of a more integrated understanding of ecotopia as a framework for experimental spatial practices, has not yet been fully established. Therefore, advancing context-based spatial approaches that define ecotopia not as a fixed or finalized design model but as a dynamic framework for spatial thinking and production is emerging as a critical research priority. This framework should evolve through interactions with ecological, social, cultural, technological, economic, and other relevant contextual parameters, and cultivate ecological spatial production practices.

4. SPACE-CONSTRUCTING CONTEXTUAL FRAMEWORKS IN ECOTOPIA

The understanding of ecotopia is discussed through multi-layered dynamics that include, but are not limited to, geographical structures, forms of social organization, belief systems, technological practices, and economic functioning (Leopold, 1949; Bookchin, 1988; Alberro, 2021; Callenbach, 2006; Taylor, 2009; Gingerich, 2012; Spash and Guisan, 2023). Accordingly, this study examines how these contextual dynamics influence the development and formation of ecological spatial constructs, conceptualizing them as space-constructing frameworks that vary depending on context. Through mutual interaction, these frameworks generate layered interdependencies that shape a flexible system offering a generative basis for understanding and reimagining ecotopian imaginaries in diverse contexts.

Geographical structure constitutes a contextual framework for understanding ecotopian spatial configurations evolution across different geographical contexts. Within the social ecology approach, the relationship between geographical structure and ecotopia is explained through the reciprocal interaction of nature and social life (Bookchin, 1988). Physical-morphological (topography, slope, geological composition), hydrological (surface and groundwater resources, drainage systems), climatic (temperature, duration of sunlight, wind direction, microclimate), biological-ecological (vegetation, biodiversity,

susceptibility to erosion), and geodynamic (earthquake, landslide, flood risk) factors that constitute geographical structure all play a significant role in shaping spatial constructs and functions. Rather than serving merely as physical data, geographical structure actively guides the physical, cultural, and functional organization of space through a sensitive interaction with local specificities and environmental conditions.

Social organisation constitutes a contextual framework for understanding the production, use, and distribution of space, based on how individuals associate and act collectively within ecotopian imaginaries. It shapes the norms and structures of collective life in space, including relations of production and consumption, access to resources, decision-making processes, and the pursuit of spatial justice and social equality (Bookchin, 1988; Alberro, 2021). Social organisation is shaped through its interaction with geographical settlement patterns, natural resource use, ritual practices, technological management, production-consumption operations, and property regimes. Shaping everyday life practices, it holds the potential not only to transform existing spatial systems but also to construct entirely new forms of life.

Belief systems constitute a contextual framework that shapes the relationship between nature and socio-ethical values in ecotopian imaginaries. Beyond traditional religious structures, this framework expands to include secular worldviews shaped by environmental sensitivity, offering a pluralistic foundation (Taylor, 2009). The sanctity and moral responsibility attributed to nature guide how communities engage with their environment and articulate spatial values (Leopold, 1949). Practices such as the sacralization of nature, participatory hierarchies, technological orientations, and solidarity economies develop in interaction with belief systems. This framework informs not only the symbolic meaning of space but also its material formation, use, and communal life through an ecological-spiritual sensibility.

Technology use practices constitute a contextual framework that shapes the cyclical systems and operational structures involved in spatial construction, production-consumption relations, and core functions like information flow, transportation, and energy management in ecotopian imaginaries. The transformation of technology's destructive impacts into tools for ecological sustainability remains central to these imaginaries (Callenbach, 2006). Within this framework, practices such as renewable energy systems, closed-loop waste and water management, and environmentally responsive construction shape the physical spatial infrastructure, while technologies and tools for communication, resource sharing, and participatory governance configure collective organization and social interaction in the spatial realm. Technology use thus informs not only the spatial layout but also the social dynamics of ecotopian communities.

Economic functioning constitutes a contextual framework for understanding how economic systems and processes form and evolve to shape the spatial organisation of ecotopian settlements. This framework enables ecotopias to be evaluated not only in terms of environmental and social aspects but also through the lens of economic sustainability. The structural limits and operational dynamics of ecosystems play a determining role in how economic processes unfold and influence spatial and social sustainability (Spash & Guisan, 2023). Accordingly, this framework encompasses land use patterns, ownership structures, production and consumption models, resource distribution mechanisms, and infrastructural choices, ultimately configuring the spatial logic, labour organisation, and everyday viability of ecotopian life.

5. SOCIO-SPATIAL PERSPECTIVES OF ECOTOPIA THROUGH THE CASE OF AUROVILLE

India offers a compelling context for exploring how the concept of ecotopia can inform approaches to urban spatial production. The convergence of ecological ideas and nature-based



Figure 1. *Layout and Spatial Configuration of the Auroville Settlement (https://auroville.org/page/vision-of-the-city)*

philosophies supports the creation of sustainable living practices[2]. As one of these practices, the Auroville Ecovillage offers a distinctive ecotopian experience through its community-based way of life shaped by its unique ecological, social, and spiritual understandings. Analysing the socio-spatial perspective introduced by the Auroville as an ecotopian practice—through its geographical structure, forms of social organisation, belief systems, technological practices and economic model—provides a critical basis for understanding how ecotopian spatial imaginaries are materialised in practice and for reassessing them within multiple contextual frameworks.

Auroville was founded on February 28, 1968, by Mira Alfassa in the Viluppuram District of Tamil Nadu, located in the southeastern region of the Indian subcontinent. Although the initial design was carried out by architect Roger Anger, the ongoing spatial development of the settlement is shaped through the contributions of a team of architects actively involved in design and planning processes. The settlement was symbolically established around a central banyan tree, where representatives from 124 nations gathered—marking the beginning of an experimental initiative based on international understanding, human unity, and the transformation of consciousness. Auroville, meaning "City of Dawn," was inspired by the teachings of Sri Aurobindo's[3] community. Although rooted in spiritual philosophy, it was envisioned as an experimental, universal township grounded in harmony, peace, and the temporality of human existence—articulated through a vision of "the city of the future." UNESCO has recognized Auroville as a project of international significance for the future of humanity. The settlement is based on the integrated and mutually beneficial development of urban and rural areas. It adopts a planning approach that encompasses both the city and its surrounding environments—not limited to the central urban core but inclusive of adjacent rural settlements. Contrary to the prevailing urbanization model, where expanding cities often marginalize rural areas into pockets of poverty with limited access to infrastructure and quality of life, Auroville aims to distribute urban resources—such as human capital and economic opportunities—equitably between the urban core and the surrounding

[2] In *Hind Swaraj* (1909), Mahatma Gandhi emphasizes local and self-sufficient communities and decentralised ways of living, thereby promoting a vision grounded in the principles of localism and self-reliance. In her work *Staying Alive: Women, Ecology, and Survival in India* (1988), Vandana Shiva highlights traditional agriculture, community-based ecological movements, and the role of women in ecological sustainability, aligning with community-driven and gender-sensitive approaches. In addition, Ramachandra Guha, in *Environmentalism: A Global History* (2000) and *How Much Should a Person Consume?* (2006), explores the interaction between local ecological movements in India and global environmental thought, offering a comprehensive discussion on the formation of ecotopian imaginaries within both local and global contexts. Furthermore, the Chipko Movement—established to protect forests and promote harmonious living with nature—stands as a concrete example of how communities in India engage with the environment and enact ecological resistance.

[3] Sri Aurobindo (1872–1950) was an Indian yogi, spiritual philosopher, and nationalist leader.

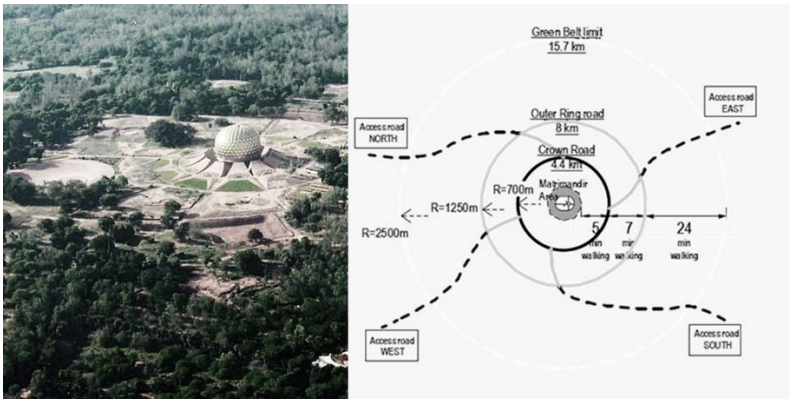


Figure 2. *Main Transportation Network of the Auroville Settlement (https://auroville.org/page/the-galaxy-a-pedestrian-based-city-1968-2003-5-2015-762, https://auroville.org/page/land-and--nature)*

villages. This approach represents a planning strategy oriented toward building a holistic, equitable, and sustainable social structure—challenging the typically imbalanced and exclusionary nature of contemporary cities. In this sense, Auroville not only seeks to establish an ecological and collective way of life within its own boundaries, but also to transform urban–rural relationships by enhancing the welfare and infrastructure of nearby rural settlements, offering a model of experimental urbanism (Auroville, 2025). Developed collectively on previously vacant land, Auroville has embraced a sustainable way of life grounded in the principle of zero ecological footprint, aiming to minimize its environmental impact. Its spatial planning emphasizes the coexistence of diverse lifestyles and the accommodation of cultural diversity. The spatial organization includes elements that reflect different national and cultural approaches to space-making (such as country pavilions), alongside experimental constructions and spatial layouts designed to foster collective life and enable interactive communal activities (Majumdar, 2017).

Planned to accommodate 50,000 residents from various nations, Auroville's urban design extends beyond the creation of a physical settlement layout to envision an integrated living environment encompassing social, environmental, and spiritual dimensions. At the heart of the city lies the Matrimandir—an oval, lake-encircled space designed for individual silent concentration—which symbolizes the "soul of the city." Surrounding this central area, the settlement is organized radially in accordance with a galaxy-based master plan, composed of four main zones: the Industrial Zone (north), which hosts production infrastructure; the Cultural Zone (northeast), dedicated to artistic and intellectual activities; the Residential Zone (south/southwest), which contains housing clusters; and the International Zone (west), where national pavilions represent various countries. These zones are connected by a secondary circular road encircling the center, referred to as the Crown. Extending outward from this circular road are twelve radial axes—referred to as Lines of Force—which form the city's structural skeleton. These axes not only organize the spatial structure but also facilitate connectivity between the central core and the peripheral areas through a series of prominent buildings. They are considered fundamental to the spatial coherence and urban integrity of Auroville. Despite this formal structural framework, Auroville is not conceived as a static or finalized urban model. Instead, its spatial configuration is envisioned as an open-ended, flexible, and participatory system—one that evolves through the everyday experiences, collective rhythms, and changing needs of its residents. In alignment with this philosophy, all spatial components beyond the Lines of Force are designed to be adaptable and transformable. This spatial flexibility is also reflected in Auroville's transportation policies. The city is largely free of motorized traffic and is equipped with pedestrian and bicycle pathways. Public transport is supported by electric vehicles and low-speed alternative systems, aiming to reduce environmental impact, enhance energy efficiency, and promote social interaction. At the city's periphery, a green belt has been planned, consisting of forests, agricultural lands, and ecological



Figure 3. *Auroville Yerleşkesinin Merkezinde Bulunan Banyan Ağacı (https://auroville.org/page/the-banyan-tree)*

conservation zones. This belt functions as a spatial manifestation of Auroville's symbiotic relationship with the natural environment and reinforces the ecological dimension of its sustainable living vision. In the general master plan of the settlement, the central point symbolizes unity and transcendence; the surrounding inner circle represents the generative idea of the city's creation. The leaf-shaped extensions radiating from this centre express the outward realization and lived manifestation of this conceptual foundation, embodying Auroville's holistic design philosophy (Auroville, 2025) (Figures 1–2).

The Role of Geographical Structure and Its Impact on Spatial Configuration and Practices

Auroville was established on an eroded, barren terrain devoid of vegetation. Storms and monsoon rains had carved deep gullies into the land, disrupting its ecological balance and rendering it initially unsuitable for settlement (Auroville, 2025). Selecting such a site reflects an experimental spatial strategy aimed at regenerating a degraded ecosystem, reversing environmental damage through human intervention, and redefining the human–nature relationship through a restorative lens. The community's spiritually rooted understanding of nature has framed its relationship with the environment within an ethical context, encouraging ecologically sensitive design decisions. A key symbol of this worldview is the Banyan tree, the only natural feature present on the site before the settlement was established. Considered sacred in Indian tradition, the tree represents the "soul" or spiritual heart of the future city. Its enduring presence, together with the Matrimandir constructed around it, has formed a powerful focal point in Auroville's spatial organization—expressing a deep integration of ecological, spiritual, and spatial values (Figure 3). Accordingly, Auroville's community—united by ecological awareness and a commitment to collective action—has developed environmentally attuned ways of living through shared resource management and participatory governance. Technology has also played a key role in unlocking the potential of the site. Water management systems have enabled rainwater harvesting and erosion control, improving soil quality and allowing the creation of green areas. Renewable energy systems—wind, biomass, and solar—have been integrated into the infrastructure, influencing spatial configurations in both functional and aesthetic terms. The spatial distribution of productive areas, shaped by the site's geographic conditions, has supported an ecologically grounded economy. Soil regeneration has enabled agriculture, while integrated land, water, and decentralized energy systems reduce external dependency and foster small-scale, community-based production. Together, these geographically informed systems establish a spatial-economic model oriented toward sustainability and resilience. (Auroville, 2025). In this context, Auroville presents a distinctive case that links environmental restoration with the activation of geographical and ecological potentials through a spatial strategy that is both integrative and adaptive. At the same time, it reveals how spatial configurations are shaped by site-specific constraints and socio-economic dynamics, prompting reflection on the tensions and adjustments that arise in translating such visions into practice.



Figure 4. *Community Gathering Area in Auroville (https://auroville.org/page/self-governance)*

The Role of Social Organisation and Its Impact on Spatial Configuration and Practice

All land and assets of Auroville were legally transferred to the Auroville Foundation under the 1988 Auroville Foundation Act, establishing an institutional framework for its community-based and autonomous governance. The Master Plan, approved by the Indian Town and Country Planning Organisation and published in the Government Gazette, provided legal authority for the settlement's spatial development. Within this structure, the Secretary of the Foundation oversees immovable properties, while day-to-day operations are managed by resident-elected working groups. Decision-making follows a participatory and non-hierarchical model based on collective harmony and inner development. This social organisation, grounded in inclusivity and shared responsibility, directly shapes spatial planning. Communal governance supports integrated development, where spatial decisions reflect collective priorities rather than individual ownership. The preference for shared spaces over private property is evident in architectural design: structures are planned to foster community interaction rather than serve individual needs (Figure 4). Public facilities, education, health, and transportation services are organized internally, reinforcing the self-sufficient ethos of the settlement. Nature and belief systems also play a formative role in shaping the community's organisation. Spiritually grounded understandings of the environment have cultivated a sense of ethical responsibility toward nature, influencing both communal values and ecologically sensitive spatial practices. The integration of sacred symbolism—such as the centrality of the Banyan tree and the Matrimandir—reinforces a collective identity tied to ecological consciousness and spiritual inclusivity. Furthermore, Auroville's economy relies on social enterprises that meet internal needs while promoting local development, enriching its communal organisation. Long-term, symbiotic relationships with neighbouring villages further strengthen this integrated socio-spatial model. Culturally, the belief in art as a tool for collective transformation manifests in the integration of music, theatre, and visual arts into daily life, shaping public spaces as platforms for shared expression. Therefore, Auroville's governance model shapes not only administrative functions but also the spatial logic of the community: communal decision-making, ecological ethics, economic interdependence, and cultural expression coalesce in a built environment that embodies egalitarian, sustainable, and participatory values. (Auroville, 2025). In this sense, the Auroville model envisions design as a medium for social transformation and sustainable, value-driven living. However, its emphasis on ethical integration and collective cohesion also reveals structural tensions such as internal conflicts, limited inclusivity and unequal relations with surrounding communities. These challenges expose a core paradox where idealistic spatial visions risk reinforcing exclusion and power imbalances when applied rigidly. Rather than serving as a replicable model, Auroville stands as a critical case that underscores the need for design practices to align ethical ambition with contextual adaptability and pluralism.

The Role of Belief Systems and Their Impact on Spatial Configuration and Practice

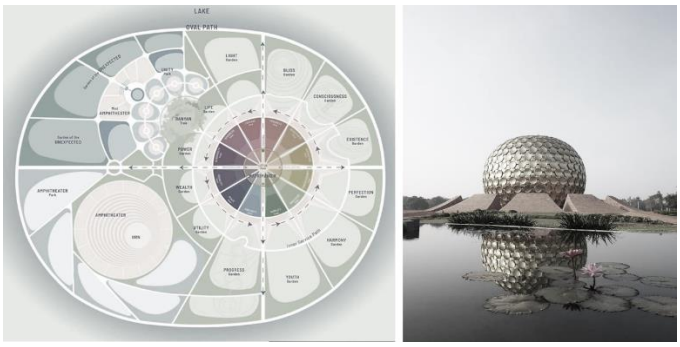


Figure 5. *Matrimandir: The Spiritual Center of Auroville (https://auroville.org/page/matrimandir-and-peace-area)*

The belief system of Auroville is grounded not in any formal religion, nor does it adopt the exclusivist stance often associated with institutionalized faiths. Instead, it is shaped by an inclusive and affirmative spiritual understanding based on principles of inner exploration, individual and collective transformation, wholeness, and the expansion of consciousness. This conceptual orientation influences not only personal spirituality but also directly informs the spatial programming of the settlement, shaping design principles and patterns of use across the site. The spatial expression of this approach is epitomized by the *Matrimandir*—a spiritual structure located at the heart of Auroville. Deriving its name from the notion of the "Temple of the Mother," Matrimandir is conceived as a symbolic embodiment of a universal maternal figure and is understood as the evolutionary, conscious, and intelligent force behind life itself. It aims to support humanity's progression beyond its current limitations toward a supramental state of awareness. As such, it functions not only as a space for personal inner transformation but also as a guiding symbol of the ethical and spiritual values that inform Auroville's social and spatial organisation (Figure 5). The Matrimandir and its surrounding Peace Area are designed as spaces of silence and concentration, open to individual introspection. Adjacent to the Banyan tree—Auroville's central ecological and symbolic axis—the Matrimandir is encircled by twelve meditation rooms, each associated with a corresponding "garden of virtue." These twelve virtues are inspired by Eastern philosophies and represent essential qualities to be cultivated by individuals: *Ren* (compassion, love), *Yi* (righteousness, justice), *Li* (propriety, appropriateness), *Zhi* (wisdom), *Xin* (trust, honesty), *Xiao* (filial piety), *Chung* (loyalty, devotion), *Yong* (courage), *Jie* (self-discipline, temperance), *Cheng* (forgiveness, tolerance), *Qian* (humility), and *Gong* (diligence). Meditation practices are held in each room in alignment with its corresponding virtue and its spiritual responsibility (Auroville, 2025). This symbolic framework demonstrates that belief systems in Auroville influence spatial organisation not only aesthetically but also conceptually and functionally. While the spiritual character of space fosters a holistic environment that deepens inner experience, it also challenges designers to uphold pluralism and inclusivity in a diverse community. In this light, belief systems act as both a shaping force and a critical lens for understanding ecotopian space. Yet, to what extent can spiritually rooted values inform spatial design without limiting openness, adaptability, or the diversity of lived experiences comes to the fore.

The Role of Technology Use Practices and Their Impact on Spatial Configuration and Applications

In Auroville, architectural and building technologies are shaped by principles of sustainability, reinforcing a symbiotic relationship with nature. Water harvesting systems, renewable energy infrastructures and waste treatment networks are embedded into the spatial logic of the site, influencing the distribution of zones, the relationship between buildings and landscape and the design of circulation and communal activity areas. The use of compressed earth blocks, climate-responsive design and passive cooling strategies has directly informed the spatial configurations. These material and environmental choices affect not only the appearance but also the



Figure 6. *Use of Natural Materials and Experimental Applications in Auroville (https://auroville.org/page/earth-institute)*

orientation, performance and placement of buildings, establishing a spatial rhythm attuned to ecological cycles. Technological solutions have also enabled programmatic innovation. Shared kitchens, open-air gathering spaces and solar-powered public infrastructure reflect a design ethic grounded in collective use and environmental responsibility. The research and education initiatives led by the Auroville Centre for Scientific Research and the Auroville Institute of Applied Technology generate knowledge in sustainable architecture, renewable energy and ecological infrastructure, disseminate it through training programmes and contribute to local development (Auroville, 2025). In Auroville, technology is embedded not only in infrastructure but in the very logic of spatial and social organisation. Its use of climate-responsive design, renewable energy and natural materials illustrates how technological choices shape spatial experience and reinforce ecological ethics. Yet the reliance on site-specific innovations raises critical questions about scalability, cultural fit and long-term maintenance. Auroville thus reframes the role of technology in settlement-making as a socio-technical construct shaped by ethical, environmental and communal priorities, inviting design practices to reconsider how tools, values and spatial forms evolve together.

The Role of Economic Functioning and Its Impact on Spatial Configuration and Applications

Auroville's economic model was developed with the intention of allowing individuals to engage in work aligned with their nature, while also having free time for inner growth. In this context, work is not merely seen as a means of livelihood, but as a process of self-realization, contribution to the community and personal development. Rather than being driven by material gain or social status, this model proposes a way of life in which an individual's value is defined by their contribution and growth. Accordingly, Auroville's economy was designed to minimise the use of money and enable the collective management of resources. Residents receive monthly support in exchange for contributing to the community, while community-run enterprises allocate a portion of their profits to a central fund. Additionally, social enterprises that provide employment opportunities beyond Auroville have established small-scale, non-polluting industries to meet basic community needs. This economic model has also shaped spatial practices by prioritising collective infrastructures over private investment, supporting shared facilities and modest housing types that reflect principles of equality and access. However, the implementation of this model has faced several challenges. External dependency, issues related to property and access and administrative limitations have negatively affected both spatial organisation and daily life in the settlement. Auroville's economic sustainability remains highly dependent on external funding sources, including the Indian government, international donors and visitors. Moreover, although private property is prohibited, new members are required to make substantial financial contributions to settle in the community. This has exacerbated economic inequalities and limited inclusivity. While principles of centralised planning and collective ownership have guided the design of residential areas, financial constraints and governance issues have hindered the full realisation of planning goals. Limited economic resources have slowed infrastructure development and contributed to



Figure 7. *Social Enterprises in Auroville*
(https://auroville.org/page/social-enterprises-of-auroville)

deficiencies in certain services. Economic inequalities and barriers to access have led to social tensions within the community, ultimately weakening the inclusive character that Auroville seeks to maintain (Auroville, 2025). The case of Auroville reveals that economic systems not only determine how resources are distributed, but also who produces space, how it is produced, and to what extent it is accessible. This invites critical reflection on the influence of economic functioning on spatial planning, equitable access, community participation, and spatial sustainability. It also raises a broader issue relevant to ecotopian imaginaries, concerning the ways in which economic structures shape, limit, or enable the production of space.

The case of Auroville offers a meaningful lens through which to examine the tension between the idealistic ambitions of spatial utopias and the socio-economic and cultural challenges encountered in practice. It also provides fertile ground for critically assessing how ecotopia seeks to organise nature-aligned ways of living, along with the possibilities and limitations inherent in that process. Despite its idealistic approach to spatial organisation, Auroville has been subject to criticism due to various practical difficulties (Parker, 2018; Bhatia, 2014). Internal conflicts, inefficiencies in governance, and cultural integration problems have hindered the settlement's development. Furthermore, although the community has made efforts to maintain economic sustainability, the increasing prioritisation of economic growth over spiritual and community-based values illustrates how utopian ideals, when put into practice, encounter multi-layered dynamics that reshape them over time (Bhatia, 2014; Kundoo, 2007). This situation is often explained within the broader context of the difficulties faced by ecovillages operating within capitalist and growth-oriented systems. Additionally, Auroville's practices of community participation, sustainability initiatives, educational offerings, and economic opportunities have drawn criticism at the regional level for their unintended negative impacts. Critics argue that such settlements must be evaluated not only in terms of their internal functioning but also in relation to their effects on surrounding communities (Venkitaraman&Joshi, 2022). Despite its idealistic rejection of private property, Auroville has faced critiques regarding spatial and social sustainability due to power imbalances with local populations, limited participation, and low population density. These critiques have even led to associations with neo-colonial tendencies (Parker, 2018; Jazeel, 2023). Although the settlement was founded on a vision of collective life, critics argue that individual influence has increasingly shaped its development. Rather than transforming the founding vision through internal community dynamics, the project has been seen as confined to implementing a predetermined ideological design (Bhatia, 2014). Therefore, the Auroville experience should not merely be approached as a replicable model, but as a critical terrain for rethinking ecotopian approaches within plural and situated contexts. All these overlapping contextual layers play a foundational role in shaping spatial constructs and in the development of experimental configurations and practices (Figure 8).



Figure 8. *Diversified Spatial Configurations and Practices in Auroville (https://auroville.org/page/architecture)*

6. CONCLUSION

The body of knowledge and experience built around the concept of "topia" does not frame utopia as a fixed ideal but rather establishes a framework for an experimental design practice that can evolve, multiply, and adapt to changing environmental, social, cultural, technological, and economic conditions. Within this framework, "ecotopia," as a derivative of "topia," should be redefined not only as a utopian imagination but also as a critical and operative conceptual tool for constructing and implementing ecological and socio-spatial configurations, guided by locally responsive, critical, and creative approaches. Explaining its contextual, pluralistic, and evolving nature makes it possible to conceptualize and open up ecotopia as a field of thought and action through which spatial design practices at different scales and contents can emerge. Accordingly, this study addresses ecotopia not merely as a theoretical concept but also as a viable socio-spatial practice. Through a discussion of space-constructing contextual frameworks, it examines ecotopia as both an idea and an implementable model, critically analysing its manifestations through the case of Auroville.

Grounded in the philosophical approaches of deep ecology, social ecology, and post-ecological thought, this study does not treat ecotopia as an idealized vision of the future, but rather as a critical and practice-oriented research field that evolves through interactions with ecological, social, cultural, technological, economical and other contextual dimensions. Spatial configurations developed within the scope of ecotopia are examined through five contextual frameworks: geographical structure, social organisation, belief systems, technological practices, and economic functioning. The critical examination of Auroville reveals that ecotopia-based practices go beyond the production of physical space to present a layered spatial imagination interwoven with speculative visions, critical reflections, and socio-spatial ecological experimentation.

Auroville exemplifies not only the restoration of a degraded ecosystem and the proposal of a nature-aligned spatial production model, but also the construction of a design environment that integrates geographical potentials, ecological ethics, collective values, the transformation of basic techniques through contemporary knowledge, and the search for economic models realizing a spatial experimentation grounded in contextual responsiveness. This holistic structure privileges flexible and evolving systems based on experience over fixed design templates. Strategies that transform and integrate geographic potentials; a horizontal and participatory model of social organisation grounded in spatial justice and collective living; belief systems developed around principles of pluralism, secularism, and inclusivity; technological practices aimed at achieving spatial and social sustainability through symbiosis with nature; and a solidarity-based economy responsive to local needs—together configure space not merely as a physical construct, but as a multilayered domain produced through values, relations, and ways of life. In this way, Auroville opens a field of thought and action for reconsidering ecotopia-inspired design as a vehicle for social transformation and sustainable living.

However, the degree to which the Auroville model can be reinterpreted in different contexts remains open to question. Issues such as how geographical conditions shape settlement patterns, how forms of social organisation influence spatial use and collective life, how belief systems inform design decisions, how technology affects spatial organisation and daily practices, and how economic structures shape community dynamics and spatial programmes together construct a multi-dimensional research agenda for developing plural and open-ended ecotopian design models. Thus, while Auroville presents a powerful reference with its holistic planning and spatial organization strategies, its limitations in practice must be acknowledged. Idealizing this model risks overlooking the contextual variability and critical potentials necessary for ecotopian practices. It is essential to approach Auroville as an experimental field, critically engaging with its spatial design, challenges, mismatches, and processes of transformation. These practical issues foreground the question of how such visions can integrate with local conditions and community dynamics, positioning Auroville as a site for reflecting on the boundaries and potentials of utopian design.

As such, the experiences derived from Auroville offer a foundation for critical thinking on ecotopian design, contributing to the development of multi-dimensional approaches for designing and assessing sustainable ways of living. The Auroville experience presents ecotopia not solely as an environmental utopia but as a site for ontological reconstruction, where values, social relations, and individual transformations are deeply intertwined. In this respect, the study highlights the replicability of ecotopian constructs in plural, relational, and context-sensitive forms. It emphasises the experimental nature of ecotopia and provides a theoretical and practical foundation for developing speculative, critical, and locally responsive spatial design practices. This contribution positions itself within a broad theoretical and applied research field that interrogates the relationship between ecological thought and spatial production, engages with post-ecological theories, and reconceptualizes design research across multiple scales. Investigating how ecotopian constructs can take shape in diverse geographic, social, cultural, technological and economical contexts—and exploring the interplay between experimental spatial practices and processes of social transformation—offers fertile ground for advancing design theory and sustainability-oriented spatial practices.

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