

BINDUSĀGAR AND THE SACRED GEOMETRY OF BHUBANESWAR: COSMOLOGY, ARCHITECTURE, AND RITUAL

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ABSTRACT

Bhubaneswar, the celebrated “Temple City” of Odisha, exemplifies the integration of sacred cosmology, architecture, and urban planning. At its heart lies the Bindusāgara tank, a ritual and symbolic reservoir that structures the city’s sacred geography. Drawing upon textual sources, archaeological evidence, field observations, and GIS-based spatial analysis, this study examines the cosmological, architectural, and ritual dimensions of Bindusāgara. It demonstrates how the tank and surrounding temples form a living maṇḍala that enacts Śaiva cosmology, mediates ritual practice, and shapes the experience of the sacred city. Comparative perspectives with Kāśī, Puri, and Madurai highlight Bhubaneswar’s unique urban and ritual synthesis.

Keywords: Bhubaneswar, Bindusāgara, maṇḍala, ritual landscape, sacred geography, Śaiva cosmology, temple architecture.

INTRODUCTION

Bhubaneswar, celebrated as the “Temple City” of Odisha, stands as one of South Asia’s remarkable examples of a sacred urban landscape. With over five hundred temples built between the seventh and twelfth centuries CE, the city reflects the architectural and religious efflorescence of the Kalinga region (Donaldson, 1985; Panigrahi, 1961). Its significance lies not merely in the number of temples but in their spatial arrangement, which encodes cosmological symbolism. At the centre of this sacred topography is the Bindusāgara tank — a large ritual reservoir functioning as a source of water, a site of mythic sanctity, and the cosmic nucleus of the *Ekāmra Kṣetra* (Mishra, 2000). The name Bindusāgara (“Ocean of Drops”) derives from the *Ekāmra Purāṇa*, which recounts how drops (*bindu*) from all holy rivers and *tīrthas* of India were gathered here by the gods. In Śaiva cosmology, the *bindu* symbolizes the primordial seed of creation. Thus, Bindusāgara serves as both a physical and metaphysical centre (Stietencron, 1992).

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The spatial organization of Bhubaneswar reflects *maṇḍala* principles, with Bindusāgara as the life-source and the Lingaraja Temple (dedicated to Harihara) as the *axis mundi*. Around this core, a series of shrines, processional paths, and pilgrimage circuits create concentric zones that map theological concepts onto urban space (Boner and Sarma 1966; Meister 1996).

In this sense, Bhubaneswar is more than a city of temples: it is a cosmogram, a terrestrial reflection of the divine order. Rituals such as the Chandan Yatra and Ratha Yatra of Lingaraja dramatise this cosmological vision, transforming movement through the city into a journey across the universe itself (Tripathy 2015). The sacred geography of Bhubaneswar thus represents an extraordinary fusion of urban planning, religious symbolism, and ritual practice, one that continues to structure both the physical landscape and the lived religious experience of its inhabitants.

This paper investigates the Bindusāgara precinct as the nucleus of Bhubaneswar's sacred geography. It explores the interplay between myth, cosmology, and architecture in shaping the city's spatial order, and it situates Bhubaneswar in comparative perspective with other Śaiva sacred cities such as Varanasi and Chidambaram. Through textual analysis, archaeological evidence, and spatial mapping, the study argues that Bhubaneswar represents a uniquely compact and coherent manifestation of cosmological urbanism in South Asia.

SOURCES AND METHODOLOGY

The study of Bhubaneswar's sacred geography requires a multidisciplinary approach that integrates textual traditions, archaeological records, architectural surveys, and spatial analysis. The Bindusāgara precinct, as the ritual and symbolic nucleus of the *Ekāmra Kṣetra*, has been described in classical Sanskrit texts, documented by colonial and post-colonial archaeologists, and continues to be studied through modern techniques such as Geographic Information Systems (GIS).

Textual Sources

The most important textual source for understanding the sanctity of Bhubaneswar is the *Ekāmra Purāṇa* (c. 13th century CE), a regional Śaiva text which narrates the mythic foundation of the city and describes its temples, tirthas, and rituals (*Ekāmra Purāṇa*, chs. 5–20). It portrays Bindusāgara as the cosmic reservoir into which drops of all holy rivers were gathered, thus equating it with the centre of the universe. Other Śaiva Āgamas and Purāṇic texts, such as the *Liṅga Purāṇa* and *Skanda Purāṇa*, provide cosmological frameworks that illuminate the symbolism of the *bindu* and the *axis mundi* concept (Stietencron 1992). Inscriptions from the Somavaṃśi and Ganga dynasties, recorded on temple walls and copper plates, also shed light on patronage, ritual practice, and the integration of water bodies into temple complexes (Panigrahi 1961).

Archaeological and Historical Records

Archaeological Survey of India (ASI) reports, particularly those from the early twentieth century, remain critical for documenting the temples around Bindusāgara and their stylistic features (Mitra 1958; Banerji 1931). Scholars such as K.C. Panigrahi (1961) and Alice Boner

together with Sadasiva Rath Sarma (1966) have analyzed the architectural grammar of Kalinga temples, providing insights into how spatial arrangements express cosmological principles. More recent works by Donaldson (1985) and Meister (1996) have situated Bhubaneswar within broader South and Southeast Asian patterns of sacred architecture.

Field Observation and Ethnographic Accounts

The living ritual context of Bhubaneswar makes ethnographic observation essential. Studies of the Chandan Yatra, Ratha Yatra, and temple bathing ceremonies reveal how Bindusāgara continues to serve as a ritual hub (Tripathy 2015). Oral traditions recorded among temple priests and devotees supplement textual accounts, especially in explaining the symbolic linkages between processional routes and cosmic journeys.

Spatial and GIS-Based Analysis

To move beyond descriptive accounts, this study employs spatial mapping methods. Using GIS technology, the relative positions of Bindusāgara, the Lingaraja Temple, Ananta Vasudeva Temple, and surrounding shrines are plotted. This allows for the analysis of alignments along cardinal and inter-cardinal axes, as well as the identification of concentric pilgrimage zones. These visualisations (Figures 1) highlight the *maṇḍala* -like structure of the precinct, demonstrating how Bhubaneswar encodes theological concepts into its urban plan.

Methodological Approach

By combining textual exegesis, architectural analysis, and spatial mapping, this paper treats Bhubaneswar as both a historical construct and a living religious landscape. The methodology recognizes the importance of integrating cosmological symbolism with material evidence and ritual performance. This triangulated approach ensures that the Bindusāgara precinct is studied not only as a relic of the past but as a dynamic and ongoing articulation of sacred space.

MYTHIC FOUNDATIONS: BINDUSĀGARA IN PURĀṆIC LORE AND ŚAIVA COSMOLOGY

The sanctity of Bindusāgara is grounded in a web of myths preserved in Purāṇic and regional Śaiva traditions. Far from being regarded merely as a utilitarian water reservoir, Bindusāgara is conceptualized as a cosmic centre, the point from which divine energy radiates into the surrounding sacred landscape of *Ekāmra Kṣetra*.

The *Ekāmra Purāṇa* and the Sacred Waters

The *Ekāmra Purāṇa*, a Śaiva text composed around the thirteenth century CE, provides the earliest comprehensive narrative of Bhubaneswar's sacred geography. It describes how the gods, seeking to sanctify *Ekāmra Kṣetra* as a suitable abode for Śiva, brought drops (*bindu*) of water from all major rivers and *tirthas* of India and poured them into the Bindusāgara tank (*Ekāmra Purāṇa*, ch. 12). This myth places Bindusāgara in symbolic equivalence with the cosmic ocean and establishes it as a microcosm of the sacred geography of the subcontinent. The act of convergence also signals Bhubaneswar's claim to universality, elevating it to a pan-Indian centre of pilgrimage (Stietencron 1992).

The Symbolism of the *Bindu*

In Śaiva cosmology, the *bindu* represents the primordial, undifferentiated point of energy from which the universe originates. It is the concentrated seed of creation that expands into the manifest cosmos through Śiva's dynamic power (*śakti*) (Sanderson 2009). The naming of Bindusāgara thus invokes this metaphysical principle: the tank is both a reservoir of water and a reservoir of cosmic potential. The placement of Bindusāgara to the north of the Lingaraja Temple reflects ritual geography, since water is considered the source of life and is auspicious when positioned in relation to the deity's abode (Boner and Sarma 1966).

Ekāmra Kṣetra as Śiva's Abode

The Purāṇic narratives link Bhubaneswar with Śiva's cosmic dwelling. The *Ekāmra Purāṇa* identifies *Ekāmra Kṣetra* as a divine orchard (*amra-vana*, grove of mango trees) where Śiva resided with Pārvaṭī. The presence of Bindusāgara within this landscape symbolizes the union of Śiva and Śakti, as water (Śakti) sustains and mirrors the cosmic *liṅga* (Śiva) enshrined in the Lingaraja Temple. In this sense, the sacred tank operates as the "life-source" of the *kṣetra*, comparable to the Gaṅgā in Varanasi or the Śvetagaṅgā tank in Puri (Panigrahi 1961).

Ritual and Mythic Centrality

The cosmological significance of Bindusāgara is ritually enacted during festivals. During the Chandan Yatra, the Lingaraja deity is taken to Bindusāgar for ceremonial bathing, a ritual known as *jalābhiṣeka*. This act not only refreshes the deity but symbolizes the rejuvenation of cosmic energy within the sacred city (Tripathy 2015). The myth of the "Ocean of Drops" is thus continuously reinforced through ritual performance, ensuring that Bindusāgara remains a living embodiment of Purāṇic cosmology rather than a static mythic memory.

Cosmic Mapping

The convergence of sacred rivers into Bindusāgara and the symbolic function of the *bindu* together provide the foundation for Bhubaneswar's spatial logic. The city is conceived as a cosmic diagram, with Bindusāgara as the navel (*nābhi*) of the *kṣetra*, from which ritual and spatial order radiates. This mythic framework underpins the *maṇḍala*-like arrangement of temples, which will be explored in the following section on sacred geometry and spatial planning.

SACRED GEOMETRY AND SPATIAL PLANNING

The spatial organization of Bhubaneswar around the Bindusāgara tank reflects a conscious embodiment of cosmological principles. Rather than being the outcome of haphazard growth, the city's sacred core appears to have been planned in accordance with ideas of the *maṇḍala*, the cosmic diagram central to Hindu and Tantric thought. This geometry translates metaphysical concepts into an urban plan, turning Bhubaneswar into a living cosmogram.

The *Maṇḍala* Framework

In Indic religious traditions, the *maṇḍala* functions as a symbolic representation of the universe. It organizes sacred space into a centre, axial connections, and concentric zones, each associated with deities, guardians, and cosmic functions (Meister 1996). Bindusāgara

serves as the central life-source of this *maṇḍala*, while the towering Lingaraja Temple represents the *axis mundi*—the vertical link between the earthly realm and the divine. Around these two focal points, temples are distributed along cardinal and inter-cardinal lines, forming a spatial arrangement that mirrors the organization of the cosmos (Boner and Sarma 1966).

Cardinal Orientation

The placement of temples around Bindusāgara follows a striking cardinal logic:

- To the **south**, the Lingaraja Temple dominates as the principal shrine dedicated to Harihara, the composite form of Śiva and Viṣṇu.
- To the **east**, the Ananta Vasudeva Temple, dedicated to Viṣṇu, anchors the sacred precinct, highlighting the syncretic inclusion of Vaiṣṇava elements.
- To the **north and west**, a series of Śiva shrines, including those of Gokaṛṇeśvara, Siddheśvara, and Bhairava, mark protective and directional guardianship roles.

This distribution reflects the concept of *dikpālas* (directional guardians) found in classical texts such as the *Mānasāra* and *Māyāmatam*, where each direction is associated with specific deities who protect and balance the sacred space (Kramrisch 1946).

Concentric Pilgrimage Zones

The sacred city of Bhubaneswar may be understood in terms of concentric ritual zones radiating out from Bindusāgara:

1. **Inner Circle:** The temples immediately surrounding the tank, including the Ananta Vasudeva and smaller Śiva shrines, symbolize the immediate attendants and aspects of Śiva.
2. **Middle Circle:** Slightly farther afield, temples such as Mukteśvara and Rājarāni expand the sacred geography, integrating architectural brilliance with theological meaning.
3. **Outer Circle:** The wider *Ekāmra Kṣetra* incorporates peripheral shrines, sacred groves, and processional paths that complete the *maṇḍala*, mapping the cosmic periphery.

This concentric ordering mirrors the pilgrim's spiritual progression: from the periphery of worldly existence, through intermediate stages of purification, to the ultimate union with Śiva at the centre.

Spatial Choreography and Ritual Circuits

The arrangement of temples around Bindusāgara is not merely symbolic but actively experienced through ritual movement. The circumambulation (*parikrama*) of the tank and surrounding shrines is equivalent to traversing the universe in miniature. Festivals such as the Chandan Yatra involve carrying the deity in procession around the tank before immersion, a ritual enactment of cosmic renewal (Tripathy 2015). The integration of architecture, water, and ritual movement transforms Bhubaneswar into a three-dimensional yantra—a spatial diagram of the cosmos lived and experienced by devotees.



Figure 1 : Sacred architecture of Bhubaneshwar

GIS and Spatial Analysis

Modern spatial mapping reinforces these observations. GIS plotting of temple coordinates reveals alignments along cardinal axes, with clusters of shrines forming geometric patterns around Bindusāgara (Figure 1). Overlaying processional routes onto this spatial framework highlights how ritual circuits were consciously designed to resonate with cosmological principles. This combination of ancient cosmography and modern spatial analysis underscores the intentionality behind Bhubaneswar's sacred planning.

RITUAL ROLE OF BINDUSĀGAR

While its mythic and cosmological associations provide the symbolic foundation, the sanctity of Bindusāgara is sustained and re-enacted through ritual. The tank is not an inert relic of the past but a living centre of Bhubaneswar's religious life, integral to the annual cycle of Śaiva festivals and processional traditions. Its role as the ritual heart of the city demonstrates how cosmological ideas are materialized and experienced through embodied practice.

Chandan Yatra

One of the most important festivals associated with Bindusāgara is the Chandan Yatra, celebrated in the months of Vaiśākha and Jyeṣṭha (April–June). During this festival, the images of Lingaraja and other deities are taken in procession from the temple to the Bindusāgara tank. Here they are ceremonially anointed with sandalwood paste and ritually bathed (*jalābhiṣeka*) (Tripathy 2015). This act symbolizes both the cooling and rejuvenation of the deities during the hot summer months and the cosmic renewal of divine energy within the sacred city. The movement from the temple sanctum to the waters of Bindusāgara ritually mirrors the cycle of emanation and return in Śaiva cosmology—the outflow of creation and its reintegration into the cosmic source.

Ratha Yatra of Lingaraja

A second major festival is the Ratha Yatra of Lingaraja, held in the month of Caitra (March–April). Unlike the more famous Ratha Yatra of Jagannatha at Puri, this procession culminates at Bindusāgara, where the deity's chariot is stationed on the tank's bank and ritual bathing is performed. The circumambulation of the tank and its shrines symbolizes the traversal of cosmic space, with Bindusāgara functioning as the *nābhi* (navel) of the sacred landscape (Mishra 2000). Through this enactment, the tank is ritually affirmed as the central point of creation, and the pilgrim's journey around it becomes a cosmic pilgrimage in miniature.

Daily and Seasonal Rituals

In addition to these major festivals, Bindusāgara is the site of numerous smaller rituals. Devotees regularly perform ablutions in the tank before entering the Lingaraja Temple, thereby ritually purifying themselves before encountering the deity. Temple priests draw water from Bindusāgara for daily worship (*pūjā*), integrating the sacred reservoir into the cycle of offerings and consecrations. Seasonal rites tied to agriculture and fertility are also connected to the tank, underscoring its role as a source of life and abundance (Panigrahi 1961).

Ritual Movement as Cosmic Journey

The ritual circuits around Bindusāgara embody a distinctive theological vision. Moving around the tank, visiting its surrounding shrines, and finally arriving at the Lingaraja Temple symbolizes the devotee's spiritual progression from the periphery of existence to the ultimate truth embodied in Śiva. This choreography of ritual action effectively turns the city into a *maṇḍala* traversed by devotees, ensuring that cosmological symbolism is continually enacted through lived practice (Meister 1996).

Continuity and Living Tradition

The continued vitality of these rituals demonstrates the endurance of Bhubaneswar's sacred geography. Unlike many historical sacred cities that have declined into archaeological sites, Bhubaneswar retains an unbroken ritual life. Bindusāgara thus represents a rare case where a medieval cosmological vision of urbanism is still sustained by contemporary religious practice, offering scholars a living window into the interplay of myth, ritual, and space.

BINDUSĀGARA AS KṢETRA-NĀBHI (SACRED NAVEL)

In the sacred geography of Bhubaneswar, Bindusāgara is often described as the *nābhi* or "navel" of the *Ekāmra Kṣetra*. The metaphor of the navel carries deep cosmological resonance in Indian religious thought. Just as the navel is the life-centre of the human body, connecting the individual to the source of nourishment in the womb, so too is Bindusāgara conceived as the life-centre of the sacred city, linking the local landscape to the universal order.

The Navel in Hindu Cosmology

The concept of the cosmic navel (*nābhi*) is widespread in Hindu tradition. In Vaiṣṇava mythology, Viṣṇu rests upon the cosmic ocean, and from his navel emerges a lotus that gives birth to Brahmā, the creator (Kramrisch 1946). Similarly, in Śaiva cosmology, the *bindu* represents the primordial seed-point from which creation emanates (Sanderson 2009). By describing Bindusāgara as the *nābhi* of Bhubaneswar, local Śaiva texts situate the tank at the generative centre of the sacred landscape.

Textual References to Kṣetra-Nābhi

The *Ekāmra Purāṇa* explicitly identifies Bindusāgara as the central reservoir from which the life-force of *Ekāmra Kṣetra* flows. The text narrates that by bathing in Bindusāgara or circumambulating its banks, devotees attain the same merit as by visiting all the *tīrthas* of India (Ekamra Purana, ch. 12). This localisation of universal sanctity mirrors similar claims in other major *tīrtha-kṣetras*, such as Kashi, where the Gaṅgā and the *pañcakrośī yātrā* are believed to encompass the entire sacred geography of India (Eck 1982).

Spatial Centrality

Architecturally and ritually, Bindusāgara occupies a pivotal position in the city. Its location directly north of the Lingaraja Temple aligns with the *vāstu-puruṣa maṇḍala* principle, where water is placed in auspicious relation to the deity's abode (Boner and Sarma 1966). The major processional routes of the Chandan Yatra and Ratha Yatra converge at the tank, reaffirming its role as the focal point of ritual movement. In this sense, Bindusāgara acts not only as a

geographical centre but as the ritual and symbolic “umbilicus” of the sacred city.

Comparative Perspectives

The idea of a sacred navel is not unique to Bhubaneswar. At Varanasi, the *Avimukta Kṣetra* is described as the “cosmic navel of the earth,” where Śiva resides eternally (Eck 1982). In Puri, the Śvetagaṅgā tank serves as the ritual navel of the Jagannatha cult (Panigrahi 1961). At Chidambaram in Tamil Nadu, the *Chidambara Rahasya* locates Śiva’s cosmic presence in a subtle space at the temple’s centre, often interpreted as the navel of the universe (Younger 1995). What distinguishes Bhubaneswar, however, is the compactness and coherence with which the sacred navel is spatially expressed through the alignment of Bindusāgara, Lingaraja, and the surrounding *maṇḍala* of temples.

Ritual Centrality and Devotional Experience

For devotees, Bindusāgara’s status as *kṣetra-nābhi* is not an abstract cosmological idea but a lived reality. Bathing in its waters before entering Lingaraja, circumambulating the tank during festivals, or even simply viewing its reflective surface is experienced as connecting with the life-source of the sacred city. The concept of the navel thus integrates cosmology, architecture, and ritual into a single, unified vision of sacred space.

ARCHITECTURAL EXPRESSION OF COSMOLOGY

The architectural landscape surrounding Bindusāgara demonstrates how the principles of Śaiva cosmology were materially inscribed into stone. The distribution, orientation, and iconographic programmes of temples in the precinct collectively articulate a cosmic order, with the Lingaraja Temple as axis mundi and Bindusāgara as the ritual reservoir that sustains and reflects it.

The Lingaraja as Axis Mundi

At the heart of the Bindusāgara precinct lies the towering Lingaraja Temple (11th century CE), which dominates the skyline of Bhubaneswar. The temple’s vertical elevation, culminating in the *āmalaka* and *kalāśa*, represents the ascent from the earthly plane to the divine (Kramrisch 1946; Donaldson 1985). In Śaiva cosmology, the *liṅga* is both a cosmic pillar (*stambha*) and the seed (*bindu*) of creation (Sanderson 2009). The spatial relationship between Lingaraja and Bindusāgara reflects this symbolism: the temple is the immovable axis, while the tank is the fluid matrix of cosmic energy.

Temple Distribution as Maṇḍala

The temples encircling Bindusāgara —such as Ananta Vasudeva, Mohini, Uttaresvara, and Markandeya—are not randomly placed but form a ritual *maṇḍala* around the sacred tank (Panigrahi 1961). Their orientations correspond with the cardinal and inter-cardinal directions, echoing the *vāstu-puruṣa maṇḍala* used in temple planning (Boner and Sarma 1966). This layout transforms the precinct into a three-dimensional cosmogram, where the devotee’s circumambulation around the tank mirrors the movement of the cosmos itself.

Architectural Symbolism of Water and Reflection

The reflective surface of Bindusāgara has a symbolic role in the architectural experience

of the precinct. The towering spire of Lingaraja mirrored in the water creates a doubled image—one terrestrial, the other celestial. This duality resonates with Purāṇic descriptions of the *prthvī-loka* (earthly realm) and *divya-loka* (heavenly realm) being joined through the sacred medium of water (Ekamra Purana, ch. 9). Thus, the architecture of the tank and temple together materialise the cosmological principle of “as above, so below.”

Processional Pathways and Architectural Alignment

The ritual processions of the Lingaraja, particularly the Chandan Yatra and Ratha Yatra, utilize architectural pathways that radiate outward from the temple to Bindusāgara (Mohanty 2008). Temporary wooden chariots, shrines, and platforms constructed during these festivals extend the architectural fabric of the sacred city into the streets and tank-banks. The alignment of permanent and temporary structures reinforces the sense of Bhubaneswar as a living *maṇḍala*, where cosmology is not only represented but enacted through built form.

Continuities in the Kalinga Style

The temples around Bindusāgara exhibit the defining features of the Kalinga style—*rekha deul* (curvilinear tower), *jagamohana* (assembly hall), and rich sculptural decoration. Each architectural element embodies a cosmological referent: the *rekha deul* as cosmic mountain (*meru*), the *jagamohana* as the earthly dwelling of devotees, and the sculptural programmes as microcosmic narratives of gods, humans, and nature (Mitra 1963; Donaldson 1985). In the Bindusāgara precinct, these stylistic conventions are woven into a spatial *maṇḍala* that visually and ritually enacts Śaiva cosmology.

RITUAL PRACTICES AND FESTIVALS AT BINDUSĀGARA

If the architecture of the Bindusāgara precinct materializes cosmology in stone, its ritual calendar enlivens this cosmology through repeated performance. Festivals and daily practices transform the tank and its surrounding temples into a stage where the divine drama of Śiva and his cosmic household unfolds.

Daily Rituals and the Sacred Waters

Bindusāgara functions as an extension of the Lingaraja Temple. Water drawn from the tank is integral to the temple’s ritual cycle, used for ablutions (*abhiṣeka*) and purification (Eschmann *et al.* 1978). Priests and devotees also perform personal rituals on the ghats—ancestral offerings (*piṇḍa-dāna*), *snāna* (ritual bathing), and vow-keeping. These daily practices frame the tank as a liminal space where the devotee enters the purificatory flow of cosmic waters, resonating with Purāṇic imagery of *Bindu-sarovara* as the primordial reservoir (Ekamra Purāṇa, ch. 8).

Chandan Yatra

One of the most significant festivals associated with Bindusāgara is the Chandan Yatra, celebrated in the month of Baisakha (April–May). During this *22-day festival*, images of Lingaraja and his companions are taken in procession from the temple to Bindusāgara, where they are ceremonially anointed with sandalwood paste and floated on decorated boats (*nāuka vihar*) (Mohanty 2008). This ritual dramatizes the movement from the temple-as-Meru to the

tank-as-cosmic ocean, enacting the union of stability and flux central to Śaiva cosmology.

Ratha Yatra and Processional Movement

Though Puri is more famous for its Ratha Yatra, the Lingaraja Temple also observes a chariot festival in which the deity is taken on a procession to Bindusāgara. The chariot routes, carefully aligned with temple gateways and urban pathways, reaffirm the *maṇḍala*-like organisation of the sacred city (Panigrahi 1961). The movement of the deity from temple sanctum to tank represents the expansion of divine presence from microcosm to macrocosm, sacralising the urban landscape in the process.

Ananta Vasudeva's Ritual Role

The Ananta Vasudeva Temple, located on the eastern bank of Bindusāgara, plays a distinct role in ritual life. Its priests prepare the food offerings (*mahāprasāda*) that are distributed during major festivals (Mitra 1963). The proximity of this Vaiṣṇava shrine to the Śaiva centre highlights the syncretic ritual landscape of Bhubaneswar, where Śaiva and Vaiṣṇava practices converge around the shared sacred waters.

Ritual Temporality and the Living Maṇḍala

Festivals such as Chandan Yatra and Ratha Yatra, together with daily worship, animate the cosmological architecture of Bindusāgara. The tank is not merely a static body of water but a living *maṇḍala* activated by movement, sound, and sensory experience—drums, chants, flowers, boats, and lamps reflected on the water's surface (Donaldson 1985). Through these ritual performances, Bhubaneswar becomes what the *Ekamra Purāṇa* envisioned: a cosmic city where every act mirrors divine order.

COMPARATIVE PERSPECTIVES – BHUBANESWAR AND OTHER SACRED CITIES

While Bindusāgara and the Lingaraja Temple precinct represent a unique Odishan expression of sacred urbanism, parallels with other Indian sacred cities reveal shared cosmological principles. By situating Bhubaneswar alongside Kāśī (Varanasi), Puri, and Madurai, we can trace both convergences and distinctiveness in how sacred space is conceived and enacted.

Bhubaneswar and Kāśī

Kāśī, often called the eternal city of Śiva, is similarly defined by a sacred waterbody—the Gaṅgā river—and its surrounding *maṇḍala* of temples (Eck 1982). Just as Bindusāgara anchors the Śaiva cosmology of Bhubaneswar, the Gaṅgā serves as Kāśī's axis of ritual purification. Both cities emphasize the intertwining of water, temple, and cosmological geography. Yet, Bhubaneswar differs in that the sacred tank is artificially created and centrally integrated into urban design, whereas Kāśī's sanctity derives from a natural river, layered with centuries of textual and ritual accretions.

Bhubaneswar and Puri

The sacred geography of Puri centres on the Jagannatha Temple and the ritual axis linking the temple to the ocean (Tripathy 2012). The Ratha Yatra festival in Puri, where Jagannatha's chariot moves along the *Bada Danda* to the Gundicha Temple, mirrors the movement of

Lingaraja's image to Bindusāgara. Both ritual geographies extend divine presence beyond the temple into civic and natural landscapes. However, where Puri emphasizes the ocean as the cosmic reservoir, Bhubaneswar encodes this cosmology in the bounded, architectural form of the tank.

Bhubaneswar and Madurai

In Madurai, the Meenakshi-Sundareswarar Temple complex also integrates a sacred tank—the Potramarai Kulam (Golden Lotus Tank)—within its layout (Michell 1995). Like Bindusāgara, the Madurai tank serves as a ritual reservoir for festivals, symbolizing cosmic waters and reflecting the temple towers. Both sites thus reveal how Dravidian and Kalingan traditions employed tanks as microcosmic oceans. Yet, Madurai's tank is enclosed within the temple compound, while Bindusagar is spatially externalised, functioning as both temple adjunct and civic reservoir.

Shared Cosmological Templates

Across these examples, several shared principles emerge:

1. **Centrality of water** – tanks, rivers, and oceans are construed as cosmic waters.
2. **Maṇḍala-like urbanism** – sacred cities organize temples and pathways around cosmological centres.
3. **Processional enactment** – festivals extend divine presence into the wider landscape.

Bhubaneswar's uniqueness lies in the way it crystallizes these principles through a carefully constructed tank (Bindusāgara) that mediates between Śaiva cosmology, civic life, and urban planning. The sacred city here is neither purely natural (as in Kāśī) nor purely ritual-axis-based (as in Puri), but a hybrid model where water, architecture, and text interweave.

CONCLUSION: BHUBANESWAR AS COSMOLOGICAL URBANISM

The study of Bindusāgara and its surrounding temples reveals Bhubaneswar not simply as a centre of religious practice but as a consciously constructed *cosmological urbanism*. The integration of tank, temple, and processional routes encodes Śaiva cosmology into the very fabric of the city. Through the Bindusāgara tank, Bhubaneswar materializes the concept of the *kṣetra*—a sacred field where divine order manifests in earthly space (Panigrahi 1961).

The *Ekāmra Purāṇa* frames the Bindusāgara as the condensation of cosmic waters, aligning Bhubaneswar's landscape with the primordial act of creation. Field evidence confirms that ritual practices—such as the annual Chandan Yatra—enact this cosmology, extending the temple's sacrality into the civic sphere (Donaldson 1985). Thus, the sacred city is not static but dynamically reproduced through text, ritual, and space.

In comparative perspective, Bhubaneswar shares structural affinities with Kāśī, Puri, and Madurai, where waterbodies serve as cosmological anchors. Yet its uniqueness lies in the architectural centrality of a constructed tank, which mediates between urban life and ritual order. This hybridity of the natural and the built, the civic and the divine, underlines the distinctiveness of the Bhubaneswar model.

From a methodological standpoint, GIS mapping of the Bindusāgara precinct offers a powerful tool to visualize the alignment of temples, tanks, and processional pathways. Such visualization strengthens our understanding of Bhubaneswar as a sacred *maṇḍala* inscribed upon the landscape.

Ultimately, Bhubaneswar exemplifies how cities in early medieval India were not only political or economic centres but also cosmological diagrams in stone and water. Unlike many historical sacred sites reduced to archaeological remains, Bhubaneswar maintains a living ritual tradition. It exemplifies how early medieval Indian cities functioned as terrestrial diagrams of divine order, offering valuable insights into the archaeology of sacred landscapes. Effective integration of text, architecture, ritual, and modern spatial tools highlights the enduring relevance of such sites for understanding South Asian religious urbanism. Survival of Bhubaneswar as a living sacred landscape today—where ritual continues to animate ancient space—makes it a vital case study in the archaeology of sacred cities.

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