Original Article

Cultural Heritage as a Driver of Sustainable Development in Deep Rooted Traditional Cities -The City-Festivity Nexus

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Abstract - Inclusive Sustainable Development involves culture as an approach that includes heritage's tangible and intangible aspects. While the monuments, sites, and objects form the tangible heritage, the traditions, festivals, and living expressions form part of the intangible heritage. Intangible heritage makes the tradition continue through its string of continuity. Goal 11 of Sustainable Development Goals (SDG) emphasises protecting and safeguarding cultural heritage under its goals and articles. This tangible and intangible heritage nexus could be well demonstrated through the interaction of city forms and festive events. While the city acts as a setting for the set of events, these events contemplate and effectively use the urban fabric. Indian cities are known for the year-round festive events that make use of the typical layout of the towns. The urban morphology is well-tailored to fit the festivals and events, thus enhancing the city's place-making characteristics. Further, the nexus of this tangible and intangible heritage creates a stronger perception level in the observer's minds. The paper addresses how the city form and festive events contemplate the intangible aspects of heritage that could be integrated with the Sustainable Development Goals (SDG) for sustainable urban growth, considering the urban spaces' perception level.

Keywords - Indian towns, Festivals, Ritualistic spaces, Processions, Placemaking, Urban morphology.

1. Introduction

Traditional Indian towns are often structured in a way that reflects the aspirations of society with a remarkable string of continuity of the past. The relationship between the architecture of the city and its socio-cultural dimensions is not just symbiotic but highly intertwined and multi-layered. These towns are known for their living traditions, in which festive events play a major role in the perception of spaces and placemaking. The vibrancy of the towns is often manifested through their spatio-temporal dimensions, with festivals serving as the main factor of placemaking. The perception of Indian towns in terms of their legibility increases during festive events, as these celebrations transform and amplify the spatial manifestation of the urban environment.

Festivals have consistently played a crucial role in fostering social sustainability throughout history. They serve as a means of revitalizing the life force within a community. They are instrumental in preserving and passing down collective memories while rejuvenating traditions and practices through continuous reinvention [1, 2]. Over time, these ritualistic spaces have become important constituents of cultural heritage, making their conservation essential for preserving the identity of these towns. The concept of "festivalisation" refers to how festivals influence beyond their temporal and spatial boundaries. This phenomenon demonstrates the collective understanding of space, time, and agency and, in turn, how these elements shape communal notions of identity and belonging [3,4]. Historical examples, such as the ritualistic processions of ancient Greece, illustrate how public ceremonies and rituals were deeply intertwined with urban life [5].

In contemporary settings, festivals often originate in historical religious celebrations and cultural practices. The historic urban form serves as a setting for the visual choreography of these events, which makes the time and space unique from routine life [6]. Such festive events attract both devotees and tourists. While devotees maintain age-old traditions, tourists experience the authenticity of these celebrations. These historic towns form a nexus between social hegemony and cultural practices, creating a strong communal bond with the physical fabric of the urban environment.

Festivals and ritualistic events hold significant relevance to urban form and collective memory. The visual and spatial narratives of rituals act as strong mnemonic devices for urban form. During festive events, public and semi-public spaces transform to accommodate larger crowds, creating powerful urban imagery [7]. Urban regeneration through the use of culture and art has become a focal point in many studies involving historic urban centers. These studies highlight the role of culture and art in fostering community participation and reinforcing the vitality of urban spaces [8].

Historic urban settlements often exhibit compactness, energy efficiency, and social cohesiveness. However, these traditional pockets undergo numerous transformations, making it necessary to integrate them with contemporary development plans [9]. Festivals, often derived from or continuing religious celebrations, serve as extraordinary events that bind people through participation. These events connect communities geographically and construct specific cultural landscapes. Traditional cultural practices associated with religious celebrations, such as sowing, harvesting, and maintaining the earth's fertility, involve elaborate ritualistic practices tied to specific times and places [10]. Festivals thus serve to connect social and spatial relations, forging a strong sense of identity. The historic urban form becomes the setting for social gatherings and celebrations, acting as a framework for various overlapping networks. Festive events formalize space, time, and behavior, distinguishing them from routine life while maintaining connections to everyday rhythms. These events bring communities together and incorporate religious, socio-political, and historical components, establishing explicit relationships between people and places [11]. They communicate coherent ideas about societal order and cultural ethos, further reinforcing the bond between the urban form and its inhabitants.

Cultural heritage represents a social and cultural phenomenon that holds a significant position and potentially contributes to sustainable development [12]. The interconnectedness of tangible and intangible heritage makes cultural heritage progressive and dynamic. Tangible heritage includes physical sites, buildings, and artifacts, while intangible heritage encompasses practices, representations, and expressions that communities identify as integral. Global initiatives like the New Urban Agenda and Sustainable Development Goals acknowledge the importance of cultural heritage in promoting urban sustainability [13]. Festivals should be valued for their intrinsic significance to urban populations rather than merely as tools for placemaking strategies. The concept of "Cultural Heritage Entanglements" further explores the interconnectedness of tangible and intangible heritage [14]

UNESCO's "Convention on Safeguarding of Intangible Cultural Heritage" (2003) emphasized the value of community involvement in heritage preservation. Similarly, the United Cities and Local Governments recognized culture as a fourth pillar of sustainable development in their "Agenda 21 for Culture." The Historic Urban Landscape (HUL) approach, introduced in 2011, incorporates intangible traditions and social values into heritage management. This community-based approach links cultural heritage to creative industries and recognizes its socio-cultural and economic value. SDG 11 emphasizes the importance of preserving cultural heritage in the context of global urbanization, promoting sustainable development through tourism, enhanced city image, and inclusive growth.

In India, the government has initiated heritage-development programs like HRIDAY and PRASAD, which aim to integrate historic heritage cities with sustainable development goals. These programs seek to transform cities into vibrant and livable centers that promote global harmony and spiritual awakening. Traditional Indian city forms are known for their constant juxtaposition of space and time, with year-round rituals and celebrations marking the vibrancy of urban spaces [15]. Most traditional Indian cities are associated with historical religious celebrations and cultural ethos. Pilgrimage, religious tourism, and ritualistic practices remain integral to Indian traditions, with certain geographic locations and routes holding significant religious importance [9]. The spatio-temporal dimensions of these cities are dynamic, with rituals and festivals strongly connected to the town's form, streets, movement, landscape, and overall functioning.

Indian temple towns exhibit a strong relationship between tangible and intangible heritage, owing to their cultural antiquity. The temple complex forms the tangible heritage, while year-round rituals and festive events constitute the intangible heritage. This nexus creates a unique phenomenon deeply rooted in indigenous practices with environmental sustainability implications. Temple towns are structured based on sacred texts and cosmic diagrams, with the temple core occupying a dominant position. The temple layout, guided by the concept of the cosmic mandala, adheres to Indian philosophical principles that describe the eternal (purusha) assuming a form (vaastu) [16]. This form becomes the generator of the town's basic layout.

Traditional streets in temple towns play a crucial role in defining spatial characteristics and fostering a sense of identity and belonging [17]. Processional routes, often concentric around the temple core, form the heart of ritualistic practices [10]. These routes, known as Maada veedi or Ratha veedhi, are used to circumambulate moving deities during festivals. The frequent processions along these routes are choreographed precisely, creating a sacred environment distinct from the profane outside world. The perception of these routes reveals a higher level of legibility and cultural significance [15, 16]. Temple towns in Tamil Nadu exemplify the intricate interplay between tangible and intangible heritage [18]. The temple complex, with its towering gopurams, walled

enclosures, and temple tanks, serves as the nucleus of urban morphology. Concentric streets surrounding the temple facilitate ritualistic processions and celebrations, further enriching the town's cultural fabric. These towns also host traditional commercial micro-clusters that trade native crafts, attracting pilgrims and tourists alike. The urban pattern, centred around the temple core, highlights the deep connection between religious practices and urban design. The frequent circumambulation of deities in celestial vehicles during festivals transforms public spaces into vibrant arenas of cultural expression, reinforcing the unique identity of Tamil Nadu's temple towns.

2. Materials and Methods

Religion and urban development were always found supplementary and symbiotic in the case of the temple towns of Tamilnadu. Temple towns had religious-centred urbanism [19]. The urban form of the temple towns is shaped and formed by the cosmic mandala. It has its own antiquity regarding space planning in dispersing various elements like temple complexes, streets, residential quarters, man-made water bodies, markets, open spaces, etc. The important rituals are linked together in a specific way along certain routes following the agamic tradition. The town form, the routes, the location of significant elements, ritual topography, sacred water bodies, specific events, and festivals are highly integrated.

Temples have moving deities (utsavar)that come circumambulating in a specific route [20]. Spatio-temporal dimensions are quite spectacular in these temple towns. The festive events bring in a lot of secondary sets of activities such as traditional commercial and recreational activities, performing arts and theatrical performances, informal commercial activities, trading of traditional crafts, and so on. These sorts of festival-based events have been recorded in many epigraphical notes. There is evidence of tax-free trading during festive events in medieval Tamilnadu [21].

To understand and explore the significance of festivals and their role in sustaining the living heritage of the traditional temple towns that have a long associated history with the temple, its rituals, and festive events. The selected temple towns were taken and studied as academic exercises in Urban Design Studio for a few consecutive years by the Rajalakshmi School of Architecture. Detailed studies and documentation were done for its physical layout, festive routes, movement patterns, temporal aspects, and spatial dynamics.

Study Areas: The primary focus of the research is on two temple cores, namely Meenakshi Amman temple in Madurai and Varadharajar temple in Kancheepuram.

Multidimensional Analysis: The analysis of festivals is conducted through a structured approach that examines multiple dimensions of urban space, including:

- Physical dimension: Investigating the physical elements of the urban space, such as temple complexes, streets, residential areas, markets, and waterbodies.
- Social dimension: Understanding the social aspects influenced by festivals.
- Cultural dimension: Examining the cultural significance and impact of festivals.
- Metaphysical dimension: Analyzing the metaphysical interpretations and meanings of spaces.
- Temporal dimension: Studying how festivals enhance the temporal quality of urban space.
- Functional dimension: Analyzing the functional aspects of the urban space, including activities and rituals.

1. Documentation and Survey: The tangible cultural heritage is documented and surveyed, which includes collecting data on physical elements like temple structures, streets, markets, and more.
2. Levels of Study: The research is conducted at three levels: the temple level, the temple precinct level, and the temple town level.
3. Interconnected Elements: The research aims to understand the interconnections between the built environment, culture, and society. It explicitly explores how these elements influence the behaviour of people in the urban space.
4. Social and Cultural Dimensions: Festivals, ritualistic events, and performing arts are explored as part of the social and cultural dimensions of the urban space. The study delves into the metaphysical interpretations and meanings of spaces, which are often deeply rooted in oral traditions.
5. Festive Routes: The analysis of festive routes in Madurai and Kancheepuram is conducted in two ways: examining the impact of ritual traditions on social and sacred spaces and exploring how festivals contribute to the temporal quality of the urban space.
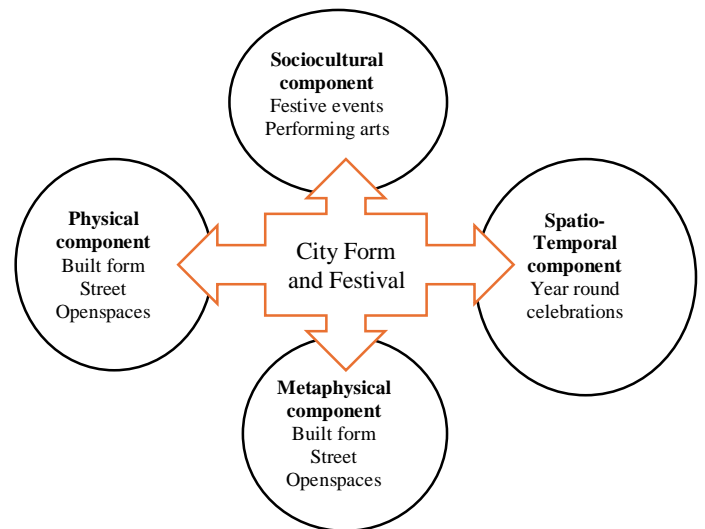

Fig. 1 Components that connect the city form and festival

The approach (Figure 1) combines physical, cultural, social, and metaphysical perspectives to comprehensively understand the urban space in and around the temple cores in Madurai and Kancheepuram, with a particular focus on the role of festivals in shaping these spaces.

2.1. Case Studies 1- Urban form and Streets of Madurai

Case studies are taken around the Meenakshi Amman temple core in Madurai and the Varadharajar temple core in Kancheepuram. The analysis of festivals is done in a structured way that examines the physical, social, cultural, metaphysical, temporal and functional dimensions of the urban space. The physical and functional dimensions are analysed through its Urban Morphology, where the temple complex, the concentric circumambulatory streets, traditional residential quarters, shopping areas, markets and bazaars, micro clusters, and waterbodies are surveyed and analysed. This forms the tangible cultural heritage that gets accentuated by the festivals that form the intangible heritage. Studies are done at three levels, namely temple, temple precinct and temple town. The overall form is decoded into simpler physical elements, and the associated activities are documented and analysed. The importance of the physical element in terms of religious, metaphysical, social, cultural and commercial significance is then analysed. This structuring of elements and examining their significance helps understand the intertwined relationship of the built form, culture and society. It further narrates the behavioural patterns of the users. Festivals, ritualistic events, and various performing arts form the social and cultural dimensions. The city form, rites and rituals, processional routes and sacred spaces are highly interconnected and have grammar behind the setting, citing, functioning and sequencing through oral traditions. This forms the metaphysical interpretations and meanings of spaces. The analysis of festive routes in Madurai and Kancheepuram was done in two ways - the impact of ritual traditions in social places and sacred places and how the festivals enhance the temporal quality of the urban space - thus making the place-making tradition highly spectacular.

The study of the town both in Madurai and Kancheepuram is done at three levels, namely the level of the temple core, the level of the temple precinct and the level of the temple town, to understand the relationship between the physical elements associated with activities and its significance as shown in Table .

The case study focuses on the urban morphology of the Meenakshi Amman temple in Madurai and the Varadharajar temple in Kancheepuram. The research examines the space's physical, social, cultural, and metaphysical aspects, analyzing both tangible and intangible cultural heritage through festivals. The study is conducted at three spatial levels: temple, temple precinct, and temple town, decoding urban forms and their associated activities. The analytical framework is given in Table 2.

Table 1. Physical elements and associated attributes

Physical Elements	Associated Activities	Significance
Gopuram	Temple based rituals	Metaphysical /Social/Cultural
	Illumination during festivals	
Vimanam	Temple based rituals	Metaphysical /Social/Cultural
	Illumination during festivals	
Mandapam	Concerts	Social/ Cultural
	Religious discourses	
	Vedic classes	
	Socialising	
Nathya Mandapam	Concerts	Social/ Cultural
Garuda Mandapam/ Nandi Mandapam	Religious	
Dwajasthambam	Prostration	Religious
Shrines	Pooja/religious	Religious
Madapalli	Kitchen	Functional
Yagasalai	Rituals	Religious
Stalavriksham	Pooja/religious	Metaphysical

Table 2. Analytical framework for temple core urban spaces in Madurai and Kancheepuram

Level of Study	Dimensions of Analysis	Key Physical Elements	Tangible Cultural Heritage	Intangible Cultural Heritage	Significance
Temple Core	**Physical:** Urban morphology - Functional	Temple complex, concentric circumambulatory streets, sacred water bodies	Temple structures, sacred streets, and religious quarters	Rituals, religious festivals, performing arts, processions	Reflects religious and spiritual importance; central to metaphysical interpretations of space

Temple Precinct	**Social:** Community interactions - Cultural	Traditional residential quarters, shopping areas, bazaars, and micro-clusters	Heritage residential zones, bustling market areas	Festival-related activities, rites, and rituals	Shows interrelation between community life, commerce, and cultural practices, promoting social cohesion
Temple Town	**Metaphysical:** Ritual meanings - Temporal	Processional routes, sacred spaces, ceremonial zones	Town's spatial organization, festival-linked structures	Festival routes, oral traditions, and mythological connections	Highlights the dynamic, evolving relationship between urban form and the town's living cultural traditions
All Levels	**Functional:** Spatial roles - Temporal	Interconnected spaces between temple, precinct, and town core	Holistic urban form, including infrastructure and services	Continuation of oral traditions and festival routes	Festivals enhance the temporal rhythm and vibrancy of urban spaces, creating a spectacular cultural setting

The significance of physical elements is assessed across religious, social, and commercial dimensions, highlighting the interconnection between built forms, culture, and society. Additionally, the analysis explores how festivals influence the temporal and spatial dynamics of these towns, making them vibrant cultural spaces. The survey and analysis are done in the following sequence, as shown in Table 3.

Table 3. Tangible and intangible heritage analyzed for the study

Tangible heritage	Urban morphology	Physical and Functional dimension of the Urban space Built form characters- Urban Fabric, 3D form, built use, pattern , density and grain Street Characters Open Space Characters	Temple Complex as Genius Loci Traditional residential quarters Concentric processional streets Traditional commercial pockets/ Market squares Micro cluster of various crafts/ artisans quarters Pedestrian markets Sacred water bodies
Intangible heritage	Festivals and cultural heritage	Social, cultural and temporal dimensions of the Urban Space Festive events and their routes of movement Year round festive events	Circumambulatory processions and other ritualistic processions Music, dance, Theatrical performances and other performing arts Water based rituals, ablutions and holy dip
Living Traditions Tangible and intangible heritage	Traditions and associated space – time relationship	Metaphysical Interpretation of spaces	Interaction with the various urban elements in the city fabric that has mythological associations and metaphysical meanings Further how these acts, expressions, activities are integrated with their regular routine Role of natural elements like water, trees, sacred grooves, land , open spaces in those metaphysical interpretation

Fig. 2 Map showing the location of Madurai

The origins of Madurai (figure 2) trace back to the Sangam period, during which the city underwent numerous transformations. Historical evidence suggests a close association between the city and the Vaigai Civilization. Known as the "Athens of South India" and one of the oldest cities in the world, Madurai lies in the expansive plains of the Vaigai River valley. It has been a significant cultural and political hub throughout history, renowned as the center of Tamil culture from time immemorial. The cultural history of the Madurai Kingdom closely mirrors that of Tamil Nadu, flourishing under the rule of the Pandyan Kings long before the pre-Christian era, with Madurai as its capital. The enduring legacy of the Madurai Kingdom testifies to its political and cultural importance. *Silapathikaram*, one of the five great epics of Tamil literature, set during the Sangam period, celebrates the glory of four major towns-Uraiyur, Vanji, Puhar, and Madurai, the latter described as a city of towering rampartsUrban morphology and festive routes.

The Meenakshi Temple forms the genius loci of the urban fabric (figure 3). The temple complex, with its tall gopuram or gateways and magnificent praharam or enclosures, typifies the Dravidian architecture. The temple covers an area of approximately 14 acres, and the outer walls of the temple form a rectangle of 847 feet by 792 feet. Adjacent to the temple complex are the Adi streets and running around the temple just outside the wall are the Chithirai streets. Outside the Chithirai streets are the Avani Moola streets and then the Masi streets, which enclose most of the built-up area of the city. These streets form a concentric pattern of development. The outermost Veli streets run along the city's fortified walls, which were demolished in the later period. (Smith, 1976) The basic grid of the city is defined by a set of concentric squares around the great temple at the center, whose axis of orientation lies almost East-west. The sacred geometry is further emphasized by the streets aligned with the temple's four lofty towers or gopuram.

Streets are a defining element of Madurai's urban landscape, and many are named after Tamil months. Festivals and ritual processions are frequent, occurring almost every month, with durations ranging from a single day to ten days. These festive events follow specific routes through the concentric street pattern. Among the most significant festivals are Chithirai Thiruvizha (a 10-day festival celebrated in the first Tamil month), Theppam (float festivals), Thirukalyanam (celestial weddings), and Alagar Atri Irakkam (immersion of the deity). These large-scale events demonstrate the vibrant cultural and religious life of Madurai and its deep connection to the city's spatial organization.
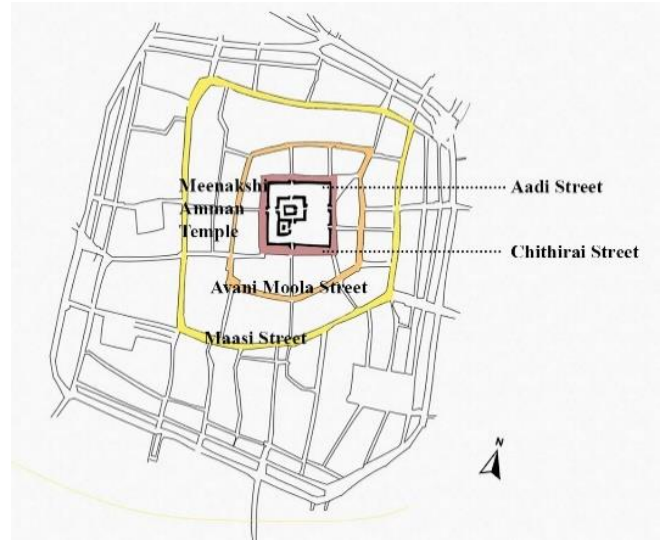

Fig. 3 Spatial organization of Madurai with the concentric patterns of Streets around the Meenakshi Amman temple

2.1.1. Observations from the Case Study - Madurai

The town's layout adheres closely to ancient architectural principles, forming a concentric temple town centered around the Meenakshi Sundareswarar Temple. Classic texts explicitly guide its urban design, including street layout, alignment with cardinal directions, and the presence of water bodies.

This layout also reflects the town's deep-rooted connections with folklore traditions, shaped by socio-economic factors and influenced by the local climate and weather. Festivals and associated economic activities complement each other and are heavily influenced by the prevailing climate. For example, Chithirai Thiruvizha, with its wide-reaching impact, is greatly affected by the warm climate, leading to most events and performances occurring in the evenings and being supported by various fairs and temporary markets.

The symbiotic relationship between the sacred architectural design and the everyday urban landscape is sustained through year-round festive events. The urban layout, festive routes, and street names, which correspond to Tamil months and their associated festivals, demonstrate a clear connection between the city's structure and its cultural celebrations. Notably, as one moves outward from the central core, the streets gradually widen concentrically.

Festivals are closely tied to seasons and often mark the onset of harvest periods, serving as celebrations of and respect for nature. Furthermore, festive routes play a significant role

in shaping the city's identity, as rituals, cultural practices, and a series of events along these routes contribute to a unique sense of place. The interplay between tangible heritage, represented by the physical urban spaces, and intangible heritage, embodied in the choreography of festive events, underscores the rich cultural tapestry of the town. The observations of the Festive events in connection with the Urban Form are given in Table 4. The analysis of festive routes in Madurai and Kancheepuram was done in two ways – the impact of ritual traditions in social places and sacred places. A case study of Madurai and Kancheepuram was done by the author. Festive events in Madurai and Kanchipuram are done as a part of the Urban Design Studio taught by the author, which focuses on perception and imageability.

Table 4. Year-round festive events that mark the celebration of the spaces in Madurai

Tamil Month	Approximate Period (English Calendar)	Climatic Conditions	Key Events and Celebrations	Processional Routes	Significance
Chithirai	April - May	Sunny and dry, with maximum temperatures	Chithirai Thiruvizha - A grand 12-day festival featuring the Meenakshi Sundareswarar celestial wedding	Chithirai and Maasi Streets, Alagar Koil to Vaigai River	A festival of significant cultural importance featuring music, arts, rituals, and performances, connecting several nodes across the city
Vaikasi	May - June	Sunny, moderate precipitation	Deities are installed in the Pudhu Mandapam	Chithirai Street	Regular monthly and weekly Hindu calendar celebrations
Aani	June - July	Sunny, dry	Monthly circumambulation of the deities within the temple	Chithirai Street	Regular monthly and weekly Hindu calendar celebrations
Aadi	July - August	Windy, with some precipitation	Monthly circumambulation of the deities within the temple	Chithirai Street	Regular monthly and weekly Hindu calendar celebrations
Aavani	August - September	Moderate rainfall	Lord Sundareswarar's Coronation, Puttu Thiruvizha- Celebrates Lord Shiva's divine play	Aavani Moola Streets	Festivities tied to the legendary Siva Puranam and Thiruvilayadal – the sacred texts
Purattasi	September - October	Rainy	Navarathri festival	Chithirai Street	Celebrations linked to Navarathri
Ippasi	October - November	Peak rainfall	Circumambulatory movements around the temple's inner core	Chithirai Street	Regular monthly and weekly celebrations
Karthigai	November - December	Peak rainfall	Circumambulatory movements around the temple's inner core	Chithirai Street	Regular monthly and weekly celebrations
Margazhi	December - January	Winter	Meenakshi's shrine in Pudhu Mandapam	Chithirai Street	Known for Bhajans (devotional hymns) recited in the streets
Thai	January - February	Winter with comfortable temperatures	Float Festival at Vandiyur Teppakulam	Chithirai Street	The festival symbolizes the town's fertility and sustainability
Maasi	February - March	Temperate	Circumambulatory movements around the temple's inner core	Chithirai Street	Regular monthly and weekly celebrations
Panguni	March - April	Sunny	Circumambulatory movements around the temple's inner core	Chithirai Street	Regular monthly and weekly celebrations

2.2. Case Study- 2 Kancheepuram

Urban form of Vishnu Kanchi. Kanchipuram (figure 4), one of the seven Muktishetras in India, is an ancient center for excellence in religion, literature, architecture, fine arts, and education. Kanchi has a great history associated with it for a longer period. Patanjali, around the 2nd- century BC, gives an interesting narration of Kanchi and the people hailing from Kanchi, namely the Kanchipuraka. The temple town of Kanchi essentially comprises two principal divisions, the "Big Kanchi " or the Siva Kanchi or the "Little Kanchi " or the Vishnu Kanchi. Siva Kanchi is a bigger division comprising more and larger temple complexes such as Kailasanathar, Ekambareswarar, Vaikundaperumal, and Kamakshi Amman temples. On the other hand, Vishnu Kanchi, on the eastern side, is more or less a compact town nucleating around the 20-acre temple site of Sri Varadharaja Swamy.
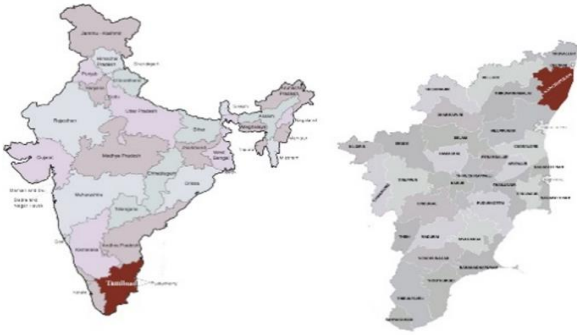

Fig. 4 Map showing the location of Kanchipuram

2.2.1. Urban Morphology and Festive Routes

The temple complex exhibits the typical morphology (Figure 5) of a temple town of Tamilnadu with imposing gateways or gopurams on the eastern and western sides. There are Mada Veedhis, or the circumambulatory streets on all four sides of the temple in a concentric manner and an approaching street or the Sannidhi street to the temple. This Sannidhi street, long and broad, connects the temple with the Siva Kanchi. The

paper focuses on the festive events in the Vishnu Kanchi, or the little Kanchi, which has Sri Varadharaja Swamy temple as the nucleus. Kanchi is an important place for the vaishnavite doctrine, and it houses 18 shines of the 108 holy places. Ramanujacharya, one of the important exponents of Sri Vaishnavism, spent the most formative years in this place. Further, the Varadharajaswami temple was the one to receive the glory of Ramanuja's teachings and reforms pertaining to the form of rites and rituals, worship, the code of religious conduct, procedures regarding festivals, and so on. Thus, the Varadharajaswamy Swamy temple was almost considered the model temple followed by numerous other shrines.

Sri Varadharajaswamy Swamy temple occupies a rectangular plot of land 377m long and 212 m broad, flanked by two entrances, east and west, with the principal being the west. Within the huge massive enclosure is the series of courtyards, or the Praharam, around the central nucleus, which houses the sanctum of the main deity, Varadharajaswamy. There are four courtyards within the temple complex. These four enclosures, together with the circumambulatory streets, form the five enclosures of the built fabric of the temple town.

- The first enclosure, or the Praharam, comprising the Garbhagriha with its antharala and mandapa – vayyamaligai
- The second enclosure is the senayarkontirumutram
- The Third enclosure is the yamunaituraivar –thirumutram
- The Fourth enclosure is the Alwar pradakshinam
- The Fifth enclosure is the concentric street.

2.2.2. Important Festivals and their Significance

The Varadharajaswamy temple is a classic example of the celebration of spaces where the temple is very vibrant throughout the year with lots of Utsavam or festivals. The festivals have been beautifully choreographed with great forethought and planning, with a higher level of adherence to nature, appropriateness to season, and weather conditions.
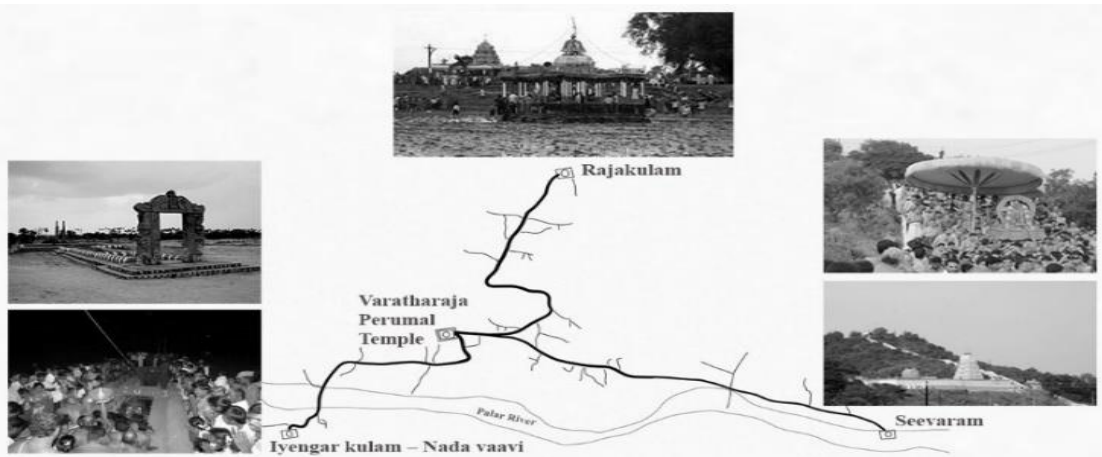

Fig. 5 The celebration of spaces in Kanchipuram temple town

Table 5. Year-round festive events that mark the celebration of the spaces in Kancheepuram

Tamil Month	Festival Name	Duration & Description	Associated Ritual Spaces & Activities
Chithirai (Apr /May)	Thiru Avathara Utsavam	Celebrates the birth star of Lord Varadharaja; includes a holy bath and street processions.	Processions from Varadharaja Swamy Temple to nearby streets.
	Nadavaavi Utsavam	Enactment of Brahma worshipping Lord Vishnu at the stepwells.	Procession from Varadharaja Swamy Temple to the stepwell in Iyengar Kulam.
	Thotta Utsavam	Garden festival held within the temple precinct.	Rituals take place in the temple gardens.
Vaikasi (May/June)	Brahmotsavam	Ten-day festival of spectacular scale with morning and evening processions.	Processions start from Hastagiri and move through the streets.
Aani (June/July)	Kodai Utsavam	Seven-day summer festival with processions along the streets.	Streets around the temple are used for processions.
	Jyeshtabhisheka	Special ritual bathing ceremony.	Conducted within temple premises.
Adi (July/Aug)	Thiruvaadi Pooram Festival	Celebrates the celestial wedding of Andal (divine maiden) and the Lord.	Procession along the streets.
	Gajendra Moksham	Ritual re-enactment of the salvation of Gajendra (elephant) by Lord Vishnu.	Procession along the four streets surrounding the temple.
Avani	Pavitrotsavam	Purification ceremony.	Conducted within the temple premises.
Aug/ Sep	Janmastami	Celebration of the birth anniversary of Sri Krishna.	Activities within the temple premises.
Purattasi	Navarathri	Ten-day festival.	Celebrations within the temple premises.
Sep /Oct	Vanni Tree Festival	Celebrates the sacred tree (Vriksham).	Rituals and processions around the sacred tree.
Aippasi	Festivals for First Alwars	Ten-day celebration honoring Manavala Mamuni.	Processions along the streets.
Oct/Nov	Ankuraarpnanam	Ceremony for the germination of Navadanya (nine pulses) before a religious feast.	Conducted within the temple premises.
Karthigai Nov/Dec	Thirukarthigai Thirunal	Celebration of the Karthika star, with temple premises illuminated by traditional lamps.	Houses and temples are beautifully illuminated with earthen lamps.
Margali Dec/Jan	Adhyayana Utsavam	A 20-day festival is split into two parts: Pagal Patthu (first ten days) and Ira Patthu (second ten days).	Chanting of sacred hymns and participation by local communities.
Thai Jan/Feb	Parivettai Festival	Lord Varadharaja is taken to Seevaram (10 miles east of Kanchi) and stationed uphill, followed by the Float Festival.	Processions lead uphill, followed by the Float Festival at Anathasaras.
Maasi Feb/Mar	Theppotsavam	Float festival on the full moon day.	Held at Rajakulam or Raayaajee Tank (6 miles from Kanchi).
	Davana Utsavam	Three-day garden festival.	Conducted within the temple complex.

2.2.3. Observations from the Case Study - Kancheepuram

Kanchipuram's town plan, rooted in ancient treatises, is structured around multiple temple cores, with the Varadharaja Temple Complex as a focal point. The layout aligns with classic urban principles, including cardinal orientations, street organization, and water bodies. The town's design intertwines the sacred and secular, sustained by year-round festivals like Nadavavi Utsavam (water), Davana Utsavam (temple gardens), and Kodai Utsavam (summer). Around the Varadharajaswamy Complex, Chinna Kanchipuram features hallmark elements of a temple town: the Sannidhi Theru (approach street), Maada Veedi (circumambulatory street), Theradi (Car Shed), Theppakulam (Sacred Pond), and Neerazhi Mandapam (water pavilion).

3. Results and Discussions

Madurai and Kanchipuram's temple towns are rooted in ancient Indian architecture and urban planning traditions, yet

each reflects unique aspects of their spiritual, cultural, and spatial heritage. Both towns exhibit concentric layouts centered around their respective primary temples, with the Meenakshi Sundareswarar Temple at the core of Madurai and the Sri Varadharaja Swamy Temple as the nucleus in Kanchipuram. This concentric form, featuring progressively widening streets, embodies a physical and symbolic journey towards the divine, structured to accommodate festivals and processions in a manner that enhances community participation and cohesion. Madurai's urban layout is more expansive, with a clear alignment of streets in cardinal directions, providing both functional circulation and symbolic alignment with cosmic principles. Its street names and festive routes reflect Tamil months and are used year-round for rituals and celebrations, integrating daily life with the town's spiritual identity. In Kanchipuram, the spatial hierarchy is similarly organized but is divided into two distinct sections: Siva Kanchi and Vishnu Kanchi. The town's design includes multiple enclosures, or *praharams*, around the Sri Varadharaja Swamy Temple, creating an integrated setting for rituals, processions, and religious activities specific to the Vaishnavite tradition. Both towns feature Sannidhi streets, connecting the temple core with surrounding areas and supporting a flow of movement that extends community activities outward into the town.

The comparative analysis of Madurai and Kanchipuram underscores how these temple towns have been shaped by their respective religious doctrines, influencing not only their urban layouts but also their seasonal and social rhythms. Madurai's urban design, aligned to cardinal directions and incorporating seasonal festivals, highlights a harmonious integration of natural, spiritual, and socio-economic factors, supporting year-round activities that maintain the town's vibrant character. Festivals in Madurai, like Chithirai Thiruvizha, are adapted to climate conditions, with evening events to accommodate warmer temperatures. This integration of environmental adaptability into festival planning demonstrates an approach that emphasizes both community welfare and sustainability.

In contrast, Kanchipuram's layout, particularly in Vishnu Kanchi, focuses on Vaishnavite values, with Ramanujacharya's reforms impacting not only temple practices but also shaping broader cultural behaviors and festival arrangements. The structural organization of enclosures within the Sri Varadharaja Swamy Temple provides dedicated spaces for different ceremonial functions and establishes a hierarchy that aligns with the town's religious customs. The circumambulatory streets (*Mada Veedhis*) and multiple enclosures facilitate seamless movement for festivals while maintaining the sanctity of inner spaces, highlighting a layout that prioritizes both accessibility and reverence. Together, Madurai and Kanchipuram provide a framework for sustainable cultural landscapes where urban design, festival planning, and community welfare are interwoven. The adaptability of these towns to environmental and social factors, along with the durability of their traditional layouts, offers valuable insights into how ancient planning principles can inform contemporary urban design. For modern urban centers, especially those with significant cultural heritage, Madurai and Kanchipuram serve as examples of integrating community identity and sustainable design to foster resilient, cohesive urban communities.

4. Conclusion

Inferences from the case studies of the two temple towns of Tamilnadu reveal the importance of festivals and their role in shaping the urban form. The tangible and the intangible entanglement are well illustrated in both case studies. The urban spaces and pockets act as the setting for the entire choreography. The ceremonial routes that form the major element in the present urban fabric were edging the city once. This phenomenon is very well illustrated in the urban fabric of Madurai on Masi Street. Further, these festivals forge the link between our culture and tradition in the town setting. The spectacular festivals are not just visual retreats but also generate a lot of commercial activities. The place becomes both a magnet and a generator of activities. The spatio-temporal dimensions associated with the festivals are unique and make a stronger impact in terms of their perception. Some festivals are purely ritualistic, some are highly spectacular, and some are highly participatory. The level of perceptions varies according to this phenomenon and increases with a higher level of participation. Also, the increased duration increases the perceptional level.

Glossary of Terms

1. Gopuram – The tower gate of a Hindu Temple
2. Kulam /Theppam/ Theppakulam – Temple Tank
3. Mada Veedhi /Maada Veedhi – circumambulatory streets around the temple core
4. Neerazhi Mandapam- Water pavilion in the Temple Tank
5. Praharam – The massive enclosures of a Hindu Temple
6. Ratha veedhi – streets that are meant for chariot movement of the deities
7. Sannidi Theru – A type of street that gives approach to the temple
8. Sthala Vriksham – temple tree
9. Ther – Temple Car
10. Theradi – Temple car shed
11. Thirukalyanam – celestial wedding
12. Thiruvizha - Festival
13. Utsavam – Festival

Utsavamoorthy – moving deity in the chariots (during the procession or circumambulation)

Acknowledgement

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