

OPEN SPACE RENAISSANCE

The 'ebb' & the 'throb' in Chennai City

Open spaces and the urban fabric – the crucial nexus between the built and the open, the solid and the void needs to be debated as an integral dialogue with nature. Unbridled urbanisation, scramble for potential urban land have spread their reins onto engulfing the most vulnerable – “open spaces”. These open spaces have outlined growth, dictated urban morphology and have been an onus to sustaining urban life.

Public open realm termed as the 'lung spaces' and 'buffer spaces', compliments a sustainable urban canvas. Having consciously pumped life and activity into cities, the decline and decay of such spaces clamour for the need to address the issue contextually. The entire process being non-cyclic, mapping the potential, identifying the vulnerable and conserving the near brink open spaces has been the largely adopted methodology.

This paper presents a case study on the city of Chennai in India, with a focus on the landmark value of open spaces, death and life of open spaces, strategies and planning imperatives adopted. The resuscitative mechanisms that have become a precursor to conserving open spaces in the city of Chennai have been discussed with specific reference to the regional context.

This paper discusses the inbuilt eco networks (on lines of pattern language of sustainability, Tippet. J.) in the city of Chennai where the waterways had been -the pulse of the urbanscape, the system of tanks – the arterial circulation and the green cover – the lung spaces.

Open Spaces: “as a way of life”

Open spaces, the pulse of any urban fabric reveal a complex network in trust not only with nature but with the people and their life. The open spaces forming the underlying ecological links have been an integral component of the design of cities from the past. The organisational foundation of human settlements has been habitat based as in the ancient river valley civilisations. Public spaces have held domain over people, power and politics. The agora of the Greeks, the forum of the Romans, the plazas of the Renaissance, the open spaces have authored the '*axiom of people – activity – sense of place*'.

Water and spaces have etched images to the city - London and the Thames, Venice, Ganges and India. Parks and plazas have created history – Reagent's, Bryant's, Vistas of Versailles, the garden city of Bangalore in India are just a few illustrations of open spaces and imageability. In the contemporary era, open spaces exude a brand value spelling, health, ambience and lifestyle of the neighbourhoods

In the Indian context, a diverse panorama of functional shades can be attributed to the open spaces. Though open spaces have been defined religiously on the lines of huge open spaces reminiscent of the western examples, its parallels can be drawn critical to every regional context.

The '*ghats*' (bathing spaces near the river) of Benares, '*the kunds and vavs*' (step wells) of Gujarat, the '*theppa kulams*' (temple tanks) of Tamil Nadu are a selective few illustrations of water based open spaces (blue grids) – generators of human activity and catalysts to community living – 'the Indian way of life'. The '*nandavanams*' (gardens) and the '*kaavus*'

(serpent groves) of Kerala have been remarkable examples of life, religion and cultural celebrating nature and its green spaces (green grids). The socio cultural facets and the religious context that has greatly shaped the country have strongly been in congruence with nature.

Case Study – Chennai City

Profile

Chennai city – capital to the state of Tamil Nadu is the fourth largest metropolitan city in India. With a strong historical background, a rich cultural legacy and an explicit architecture the city of Chennai boasts of the second longest beach in the world (Marina Beach) spread over an area of 176 square kilometers. Richly endowed with 3 major waterways, colloquially termed as the 'ABC' (*Adyar River, Buckingham Canal, Cooum River*) of Chennai, the city has also been naturally gifted with sprawling marshlands of Pallikaranai – habitat to a variety of flora and fauna.

The city being popular as the '*gateway to South India*' unfolds a transition phase from being a port town to a traditional village and under the British colonial rule, its development with the advent of global changes and technological advancements. Hailed as the "Detroit of South Asia", the city is on the threshold of adopting, incorporating the axioms of globalization and simultaneously making attempts to adapt the inputs to the regional context.

With nearly 230 parks, 102 tanks, an inbuilt natural system of 3 waterways, wetlands and marsh and reserve forest areas, the city holds potential that needs to be sustained and fostered.

Parallel to addressing the eco assets, on the development front, the city of Chennai, has the maximum number of green buildings in the country which accounts for 67.3 per cent of the total green building space in India.(as per 2008) stands testimony to the fact that the rising concerns on sustainability have become a precursor to future urbanization.

Open Space Hierarchy

A study of the open spaces reveals the fact that the city of Chennai places its blue grids as the basic lifeline – the Marina and the waterways. This can be attributed to the strong historical background of the blue axis where Chennai was a port, a fishing hamlet and then merged to form a city with trading routes on the blue axis.

The memorials set within the ambience of parklands form the next significant open space relating to the political fervor and leadership of the regimes that steered the city to limelight. These open spaces have ranked high in the order of priority where the local flavor has been the focus and the space combines nature, activity and socio – political attributes.

The green spaces as in the parks of the city have become significant after the restoration efforts that focused on security of public spaces which was identified to be the highest priority in terms of functional usage of public open space.

The aspect of interest is that the creek and wetlands have been rated last as these spaces appeals only to the nature lovers, and researchers and the city is yet to present them to the larger public as user friendly open spaces.

The study reveals the fact that open space and people have varied dimensions of history, regional flavor, cultural relevance, space – activity nexus as attributes against the largely accepted and recognized fact of being significant nature's assets.

“The Triad”- Blue, Green and Brown spaces

Blue Spaces

The content of open spaces in Chennai city can be visualized as an interesting triad of blue (water bodies), green (parklands) and brown (wetland) spaces. Though the 3 elements do not etch a visually discernable urban pattern or a physical form at macro level, they etch and render the image to the city. As Kevin Lynch describes the “edge” in his seminal work on imageability, the coastline forms the naturally constructed edge to the city, while the 3 waterways forms sectors with natural boundaries. Cullen describes “advantage” as a townscape element which can be extended to Chennai with its advantage to the coast translated to a space as a “promenade” – the Marina Beach.

The blue spaces have triggered developments, created space and siphoned movements recorded in history o the making of Chennai.

The Marina has been the largest open space to house several political demonstrations that has shaped and reshaped the power play in the city. The power of the public realm that hols domain over people and their activities are resonant at this space – transformed to a ‘place’ of the people, for the people and by the people.

The promenade has seen several additions in terms of public spaces as in a lining up of memorials of chief ministers who were doyens of the political scenario of Chennai city. Designed as public parks enclosing the memorial, the judicious transfer of space to place and the political fervour and sentiment being rekindled in the public realm is symbolic to the socio political aspect specific to this city.

Protective Strategies

The Marina has stood the ravages of time and urbanization due to several reasons – coastal zone regulations on developments, largest open space and its proximity to the sea. The issues faced by this large blue space was largely bordered on the range of varied use of the space, compatibility of the uses and a sense of security at a public open space. The strategy that has been analyzed was the public fervor in locating the memorials (respect to power in a place), default by design based on the cultural context. The legislative mechanism on developments has curbed waterfront building activity to conserve the coastline.

The “*Singara Chennai*” (City Beautification Scheme) project demarcated the Marina as a promenade and implemented space- people – activity based design. The activity based allotment of spaces integral with landscape features has greatly enhanced the protective measures which a legal document alone cannot provide.

The Marina is a classic example of freezing history and politics and showcasing the space for the public. The sustainable planning strategies mooted by a multitude of actors – “human integration in ecology” (Alberti M.) can be largely understood in the strategies adopted to conserve spaces in Chennai.

Waterways – ‘The city’s ebbing woes’

Hailed once as the city’s productive links, the waterways were trade routes for water based markets (eg, Thaneerthurai market). Recreational activities galore, the waterways were the pulse of early Chennai. Urbanisation with its ravages spelt trouble in the form of developments close to the waterways, dumping of garbage, releasing the effluents choking the city of its life.

The Chennai City River Conservation Programme, formed as a part of the National River Conservation Programme was drafted to address revival strategies while the Union Surface Transport had announced a massive restoration plan for the Buckingham Canal to transform it into a major waterway. Several attempts have addressed cleaning, desilting of the River Cooum which has been revived yet to be restored. Technical interventions have spurred the revival, but restoration seems a distant dream.

The rapid decline in the number of tanks at a rate of 3.6 per year, encroached tank lands at the rate of 15%, decrease in the quantum of open space to less than 5% and problems of frequent flooding turned the attention onto the natural and manmade tanks (‘eris’). Shrinking water catchment areas, unauthorized developments on tank lands encroachment on the water course boundaries were identified as the factors for the dwindling water bodies. The ebbing truth was the use of major tanks / lakes (Ambattur lake, Velachery lake) for the sighting of Government based housing projects though technically solved had its ripple effect.

Restoration efforts were then fashioned on the lines of public participatory measures (eg. Pammal lake), wherein the lake was conserved and compatible recreational facilities were designed (with physical & functional attributes)

Creek Restoration – ‘Surge of new life’

Chennai is one of the few Indian cities having an estuarine ecosystem. The Adyar creek is of a tidal type and a part of the natural estuarine ecosystem which at its mouth (the estuary), the river takes a bend forming the creek.

The Adyar Poonga Project (Eco Park) extent was increased from 58 acres to 358 acres to include the ecological restoration of the edges of the Creek and Estuary. The design envisaged not just conservation of the estuary’s ecosystem but deciphered an integral development plan. It included transformation of the nearby Srinivaspuram area, the fish ponds in the CIBA lands, a green centre in the adjacent lands and educational learning centre for children to propagate the idea of learning the concept of sustainability. The project has been implemented through a multi pronged approach addressing space – nature links – neighboring environment.

Brown spaces

Wetland Restoration

Pallikaranai wetland is a fresh water swamp adjacent to the Bay of Bengal situated about 20 km south of Chennai city with a geographical area of 80 km². In 2007, a major portion of the Pallikaranai marshland was declared a reserve forest area, as it is one of the natural ecosystems that recharge the aquifers of the city.

The topography of the swamp is such that it always retains some storage, thus forming an aquatic ecosystem. It has been a home for naturally occurring plants (61

species), fish (46 species), birds (106 species), butterflies (7 species), reptiles (21 species) and some exotic floating vegetation such as water hyacinth and water lettuce.

'The fall and the rise' – Revival Mechanism

The marsh, once spread over 5,000 hectares, got fragmented over the years because of various planned developments that impinged on its borders and periphery. This included the Mass Rapid Transit System, construction of institutional complexes and the setting up of the Sewage Treatment Plant and the dump yard. Reduced to a mere 590 hectares of remaining marshlands, 420 hectares of marsh is considered and declared a prime eco asset. The remaining 170 hectares that is facing threat and is vulnerable to encroachments has been identified for restoration and the entire marsh has been declared a reserve forest.

The strategy of demarcating the remaining portion of the marsh located on the northern end as protected area and cordoning the 420 acres of reserve area on a physical basis was the first step as a checkpoint. This was later followed by revamping the water-flow pattern back to the swamp area and chalking a compatible land use plan was resorted.

Green spaces

Green Revolution

A natural network or a green grid ascertains a higher ecological index that has its positive influence on the micro climate. The city today has only 2% of green cover. An extensive tree mapping programme (initiated by Nizhal, NGO) has been launched involving students that would create the needed database on the existing tree cover, followed by identifying the potential species, varieties that are rare and those that flourish so as to categorise the flora.

The strategy to increase the green cover has been realized through efforts to spruce the traffic islands (117 restored) and the central medians. The open spaces near the canals, bridges and a 2.5km stretch near the beach promenade have been extensively restored to add to the green cover. These proposals have been visualized both at the macro and the micro level.

The Corporation of Chennai has taken over the revamping and also the maintenance (watered with treated sewer water) of 230 parks on a war footing note. A specific proposal to revive the roadside parks has seen 75 new spaces that now align the road and major routes of the city. The parks have been revamped to become barrier free spaces – an attempt to integrate inclusive design paradigms. (eg., Kotturpuram Park)

The paradigm shift from protecting the eco spaces to addressing user needs (Francis. M.) and adaptively conserving with critical emphasis to the regional dynamics defines the new axis to sustainable planning.

Planning imperatives

Open Space Vision - The master plan

“Vision 2026” as per the master plan is to make Chennai a prime metropolis that would be more livable, economically vibrant, environmentally sustainable and with better assets for the future generations” (Source - Second Master Plan for Chennai Metropolitan Area, 2026).

The land use strategy has identified the natural environment such as forests, streams and other water bodies including the numerous tanks, lakes (eries), swamps and water

recharging, recovery areas as lands unsuitable for urban development. The existing open spaces constitute only about 2.09% (366 hectares), but with the available non – urban and other zone category (Vacant, Forest, Hills, Low lying, and areas near water bodies) the extent under prime potential area is 2169 hectares (12.36%).

The Open Space Reservation (OSR) is an innovative tool developed to consciously prevent densification of the built fabric and create voids – lung spaces to relieve the pressure and congestion that the city is facing currently due to pressure on urban land.

Reservation of land for recreational purposes has been made applicable for lands exceeding 3000 sq.m to 10000 sq.m, wherein 10% of the area excluding area of roads is reserved as open space while in macro level projects 10% of layout area excluding roads shall be reserved for ‘public purpose’ for one year if the area of the layout exceeds 10000 sq.m. The introduction of the OSR would help induce green pockets in the developing areas and extended zones of the growing city.OSR, though a legislative mechanism greatly helps in consciously creating a patten – built versus open. The development control rule – OSR aids in the balancing act of avoiding capping the growth but extending the open spaces with development.

Conclusion

The various planning imperatives are regionally specific to the study area and the paradigm shift that is highlighted in this paper is the attempt to reviving the public open spaces in a two pronged approach – “whole to parts” (generic / macro) and “parts to whole” (specifics / micro) which has been translated as the ebb and the throb. The study covers examples where restoration / revival was either a proactive or a reactive stand as any planning exercise greatly swings between both these ends.

The crux in any planning exercise is to apply the tools of conservative surgery (Pallikaranai Marsh), mid course corrections (Park restoration), retrofit (ECO park – Adyar Poonga) and re – grounding (Waterway restoration) either as interventions, interruptions or as integration.

‘Framing a flexible planning inventory: a model with several contextual strategies, a comprehensive ecological outlook (physical-social and economic) within a participatory framework redefines the approach to sustainability as in the case of Chennai city.’ In the case of Chennai, political scenario has played a vital role in understanding role of open spaces.

Urban developments need to be integrated with ecological concerns (compatible development) and must consciously respect, resonate and respond to the city – nature nexus. Proactive measures (master plan) that ensure respecting the laws of nature need to be the underlying current of urban planning imperatives. Urban developments have to echo the need to protect and conserve natural resources and thus foster sustainability as a trend of the current scenario.

A multi dimensional approach relating to the connotations of space, function, user and time has to be relooked at in terms relating to sustainability. Thus reviving public open spaces is to be redefined in today’s context as an ecologically balanced and an environmentally conscious platform that would allow future urban developments in perfect equilibrium and synchrony with nature’s sustenance.

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