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**The Practice of Tree Worship and  
the Territorial Production of Urban Space  
in the Indian Neighbourhoods**

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## The Practice of Tree Worship and the Territorial Production of Urban Space in the Indian Neighbourhood

### INTRODUCTION

In urban India, there are religious practices intersecting with the process of urbanization at various levels. This paper<sup>1</sup> looks at the practice of tree worship which continues to be a part of the everyday culture of the people (Haberman, 2013). Specifically, it looks at how the Peepul tree (*Ficus Religiosa*) shrine with its serpent stones and the raised platform around it, locally called the *katte*, contributes to the production of urban space in the city of Bangalore (Fig.1).

**Figure 1. The Peepul Tree & the Platform around It Locally Called The *Katte***



Source: Author.

In Bangalore, as in several other Indian cities, one finds that while the Administrators imagine a city that meets global standards of urban form and infrastructure, at the neighbourhood level, people continue to pray at the local tree shrines making the spaces around them into places of memory and cultural value. With the growth of the IT industry and the onset of economic liberalisation in the early 1990s, Bangalore has grown substantially both economically and spatially. This has led to tremendous pressure on infrastructure and resources such as water supply, energy, public transportation, land, etc. The demand for real estate has also affected the city's public open spaces. Several lakes have been converted to residential layouts, bus-stands and stadiums through formal sanctions from the government. The traffic congestion in the city is an outcome of random changes in land use from residential to commercial and industrial, changes that do not reflect what is proposed in the master plan. The city's planning authorities address mobility issues through increased road-widening and the construction of flyovers and underpasses. In trying to ease the congestion on roads, the felling of trees by the government has been rampant (Sudhira et al, 2007). However, in the midst of this government-driven urban planning, the *katte* as an urban space seems to have sustained as a response to people's religious and social lives and emerges therefore as an alternative process of city-making.

<sup>1</sup> This paper was first presented at the conference 'The Resilience of Vernacular Heritage in Asian Cities' held at the Asia Research Institute, NUS in Nov 2014.

Although the *katte* exists as a part of the urban neighbourhood, its origin lies in the rural setting of India. The rural population in India according to the 2011 census is 68.84% and the urban population is 31.16%<sup>2</sup>. In Bangalore, the city has been absorbing many villages into the urban fabric. From 1901-1971, the city area increased from 20.7 sq. miles to 60 sq. miles and absorbed around 100 villages into the city structure (Prakasa Rao & Tewari, 1979). In 2001, the proposed metropolitan area was 124 sq. miles with an additional 218 villages located within it (Nair, 2005). Nair points out that even as the city engulfs the villages as it expands, the rural street patterns sometimes survive in the middle of a geometrical grid of the new layout. She notices that one of the elements that has survived the rapid urbanization is the temple of the village goddess with the peepul tree and its platform or *katte*. These distinctive elements of a rural past seem to have survived more due to the efforts of the local communities than that of the authorities, especially because, the integration of these streets, temples or the *kattes* into the city layout have never been attempted in the formal planning exercises. The dominance of private over public interests, zoning policies or changes in land use in the inner city are some of the reasons why traditional urban space is gradually being eroded resulting in what Trancik (1986) referred to as 'lost space' or the unstructured urban spaces that fail to connect with each other in a coherent way.

### The *Katte* as an Ordering Principle of Urban Design

There is at present no mechanism to resolve the conflict between the urban planning criteria that the government relies on and community urban life. According to Ravindra (2010), the Master Plan as the instrument used for urban spatial planning has proved inadequate for the city of Bangalore and one of the factors he cites for this failure is the lack of citizen participation. Through recent participation in a Citizen-led tree festival in the city, I became aware that people continue to worship trees and what was interesting from an urban design perspective was that they informally generate community space as they do this<sup>3</sup>. I find that these urban spaces belong either to a process of territorialisation by the local community or its de-territorialisation by the government. I study how the territorialisation of a *katte* occurs as people gradually create a community space around the tree through its everyday worship (Section 4.1). I look at the process of deterritorialisation that takes place when the government widens a road or builds a flyover and the *katte* is partially or completely encroached upon (Section 4.2).

The question I try to answer in this paper is 'How do people territorialise the *katte*?' Hall (1969) defines 'Territoriality' as behaviour by which an organism lays claim to an area, creating a tangible or intangible boundary and defending it against members of its own species. Territoriality can also be understood as a spatial strategy to affect, influence, or control resources and people, by appropriating area around them (Sack, 1986). It is important to study this because as people territorialise the *katte*, they not only informally generate urban space but are often able to sustain it. I further explore how such a study can help formulate a new way to understand urban design at the neighbourhood level.

In order to develop a successful urban design, Salingaros (1998) proposed the theory of the urban web – a complex organising structure which comprised of human activity nodes and the interconnections between them. A 'human activity node' is an urban space that harbours human activity and points of encounter between people. In this research, I look at ten *kattes* across multiple locations in the city. I study one specific *katte* in greater detail in order to understand the process of territorialisation and then attempt to build a theoretical argument for how the *katte* as a 'human activity node' contributes to an 'urban web' (Salingaros, 1998) or the physical layer and how the peepul tree seen as an 'actant' contributes to a network of relations (Kärrholm, 2007) or the social layer and how the two overlapping layers can help generate an ordering principle of urban design (Section 5). To understand the social layer,

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<sup>2</sup> [www.censusindia.gov.in](http://www.censusindia.gov.in)

<sup>3</sup> The idea for this research came from participating in *Neralu*, a citizen-led tree festival ([www.neralu.in](http://www.neralu.in)) that was held in Bangalore in February 2014.

I draw upon the work of Mattias Kärrholm (2007) and his understanding of territory as being an ‘actant’ that can bring about a certain effect in a certain situation or place (the network). The term ‘actant’ comes from the actantial model in narrative theory. This model defines the structural roles typically performed in story telling; such as hero, villain (opponent of hero), object (of quest) and so on. Each of these roles fulfil an integral component of the story. So, the actant is not simply a character in a story, but an integral structural element upon which the narrative revolves (Greimas, 1966). The reason I draw upon Salingaros work is because in his research the forces governing the growth of cities are studied in terms of relationships and movements. His intent is to work towards how we can plan better neighbourhoods or revitalise existing ones through focusing on connective processes.

Further, I differentiate the ‘katte as human activity node’ from the concept of ‘loose space’ proposed by Franck & Stevens (2007) who suggest that through people’s activities in public spaces, those that may be intended for those locations or those that may have never existed at all (as next to a railroad track), spaces become “loose”. The katte is different in that although it has no official sanction as a public space and is accessible to all, citizens can neither use it for any purpose nor appropriate its physical elements because at a katte there are unwritten rules of social behaviour that are linked to it being a space around a sacred tree and a temple shrine. In the 1980s, the urban design movement called New Urbanism or ‘neotraditional planning’ emerged in the U.S. as an alternative to patterns of land development that were dominated by the automobile. It emphasised the need for social interaction where such human activity nodes and their interconnections were seen as being important (Ellis, 2002)

Today, there is an emerging group of research scholars who believe that to understand urbanism in the contemporary context, there is a need to study the processes of city-making generated by communities at the local level (Hou et al, 2014). The concept of *Now Urbanism* that they propose suggests an approach that responds to the ecological, political and social complexity of the present city. The katte is one such community generated urban process occurring both at the social and physical level and one that is present in almost every neighbourhood. Unlike urban spaces that have location-specific characteristics resulting from social activities within a given neighbourhood, the katte seems to be a repetitive element in the urban fabric existing in several neighbourhoods across the city with the Peepul tree as its common feature. Janaki Nair (2000) points out that in Bangalore, the Town Planners want to follow the Singapore model to take the city forward. However, the city needs to find its own relevant and local solutions to the problems of urban growth. This paper attempts to develop an urban design model through understanding the everyday practices of the community such as tree worship and how people come together at the neighbourhood katte.

## THE PRACTICE OF TREE WORSHIP

Henry Whitehead (1921) points out that in India, the people of the villages worshipped nature as well as their local deities, who were seen to either inflict or ward off diseases and other calamities. It was considered a religion of ignorant people whose thoughts did not travel beyond their own surroundings and personal needs. He adds that, on the other hand, the Brahmans worshipped Siva and Vishnu who represented a philosophic conception of universal forces of destruction and preservation and that this worship was seen as a religion that could only have originated among men accustomed to philosophic reflection. Whitehead notes that the worship of the village deity, or *grama-devata*, as it is called in Sanskrit is found to be related to the harvest and finds that these shrines were less imposing than the Brahmanical temples in the neighbourhood. In many villages, he found the shrine to be simply a platform under a tree, with a stone or an iron spear stuck on it to represent the deity. Often, the boundary stone of the village lands was regarded as a habitation of a local deity. In agricultural communities, the presiding deities are mainly goddesses because the idea of fertility and reproduction is connected with women.

In a study on neighbourhood temples in Bangalore, Tulasi Srinivas (2004) points out that with increasing modernization one would expect that India would become more secular. However, in Bangalore, this has not happened. He suggests that the anxieties of the growing middle class have led to rituals being performed with increasing frequency and extravagance. He finds that temples continue to be filled with devotees performing rituals, the priests' calendars are crammed with requests for *pujas* or worship. It is perhaps for this reason that in many neighbourhoods, you can still find roadside shrines at the base of a peepul tree where people come to pray. The Peepul tree also known as the *Ashvattha* in Sanskrit literature, as well as the Bo or Bodhi tree in the Buddhist context is a type of Fig tree. In several neighbourhoods, a Mariamma shrine and an *ashwath katte*, as it is locally called, together form a religious and community space.

The Peepul tree is also important from an ecological perspective. Ecologists consider the Peepul or the *Ficus Religiosa* as one of the 'keystone' species (Colding & Folke, 1997). The keystone species are crucial in maintaining the diversity of their ecological communities (Paine, 1969) and a species whose loss can precipitate many further extinctions (Mills et al, 1993). The ecological significance of the peepul tree is embedded in the daily rituals that both men and women perform in the mornings and during religious ceremonies or cultural festivals. In India, cultural traditions and social restraints seem to have helped the society maintain its needs in balance with the natural environment. Some of the limits that these traditions specify are the territory over which humans may exploit plants and animals, the season in which the exploitation may be permitted and the method of exploitation (Gadgil, 1987).

It is found that people have two attitudes towards the worship of the Peepul tree. On one hand, there is the belief of appreciation which is based on the religious text, the *Matsya Purana* 59. 17-20 that says "Planting just one tree, people can obtain all their desires, liberate their ancestors and achieve heaven". On the other hand, there is a belief of fear based on – the *Padma Purana* 58. 26-28 that says "A person who cuts an ashvattha tree will suffer for a long time in hell and then be reborn in a very low state" (Haberman, 2013). These texts ensure that the Peepul tree in any neighbourhood is both respected and feared thereby ensuring its survival. The ritual practices that are linked to this sacred tree ensure that the urban space generated around it is also nurtured by the community.

### The Spatial & Ritual Practices of Tree Worship

The starting point for a *katte* is a Peepul tree, however, there are rituals linked to tree worship that generate the need for physical space around the tree. These rituals such as the *pradakshina* or circumambulation (Fig.2), the tying of the sacred thread, serpent stone worship and worshipping the *nava graha* (nine planets) require the movement of people around and next to the tree. Initially, the worship of the tree begins with the *pradakshina* and the tying of the sacred thread. Gradually, the community adds serpent stones to the space and sometimes the representation of the *nava graha*<sup>4</sup>. It is believed that the roots of the Peepul tree are Brahma, the trunk is Vishnu and its upper part is Shiva and that if the *pradakshina* is done 108 times around the tree, one is granted a blissful married life. The tying of the sacred thread to the trunk is significant because it suggests making a cloth offering or *vastra-dan* to Vishnu and asking in return for his protection (Haberman, 2013). People worship the Peepul tree also to dispel the negative effects of the nine planets or the *nava graha*<sup>5</sup>. Of these, *Shani* (Saturn), as the younger brother of Yama, God of Death determines the length of one's life (Burgess, 1904).

<sup>4</sup> Interview with Trustee of the Mariamma Grama Seva Sangha, the Temple trust at Dodda Mavalli *katte*.

<sup>5</sup> The nine heavenly bodies (*navagraha*) are the sun (*surya*), moon (*chandra*), Mars (*mangala*), Mercury (*budha*), Jupiter (*brihaspati*), Venus (*sukra*), Saturn (*shani*), the ascending node (*riihu*), and the descending node of the moon (*ketu*).

**Figure 2. The *Pradakshina* or Circumambulation around the Peepul tree**

Source: Author.

The *Nagakkals* or Serpent stones are the snake divinities who bring fertility to women and are considered by some people to represent their departed ancestors (Simoons, 1998). It is a common practice for people to celebrate the 'marriage' of the Peepul tree with the Neem tree (*Azadirachta indica*) by planting them side by side. While the Peepul represents a male god, Neem represents the female deity (Chandrakanth et al, 1990). Sometimes you find a platform that envelops two peepul trees and a neem tree making the *katte* into a substantial urban element and generator of community space.

## STUDY AREA & METHODS

The *kattes* included in this study are mainly from the neighbourhoods of Bannerghatta road and Gottigere in South Bangalore; the Mavalli and Sampangiramnagar neighbourhoods in Central Bangalore and from Avenue road that belongs to the oldest part of Bangalore, the *Pete* (Fort-settlement). The Bannerghatta and Gottigere neighbourhoods are representative of rural hinterland of Bangalore that was absorbed into the main city less than 20 years ago. The people who resided in the old Mavalli neighbourhood were the gardeners who served Lalbagh, the botanical garden adjoining it that was established by the ruler Hyder Ali in the second half of the eighteenth century. The Sampangiramnagar neighbourhood is historically important in the context of this study because the *Tigalas* or the gardener community of Bangalore resided in this region. As Smriti Srinivas (2004) points out, most of the lands were gardens or cultivated rice fields that belonged to the Tigalas until 1940s when these lands began to be converted into housing layouts. The Pete area is the old fort town established by the ruler Kempegowda I in 1537 AD. The town had two main streets, the Chickpete street, that ran east to west and the Doddapete street (the present Avenue road) that ran north to south. There is no documented evidence available on the location of *kattes* in the city. In order to identify the *kattes* for this study, I walked through these neighbourhoods and was guided by local residents on where the more significant *kattes* could be found.

The research method has comprised of an analysis of the *katte* through spatial mapping, participant observation, conducting interviews and the collecting of secondary data from books, historical accounts and newspaper articles. The interviews were conducted with temple officials, residents of neighbourhoods, members of citizen action groups who were involved with protests against the felling of



trees, officials of BBMP (Bangalore Municipal Corporation) and the local political leaders. The field investigations were carried out over a six-month period from April to September 2014<sup>6</sup>.

### THE TERRITORIAL PRODUCTION OF URBAN SPACE

In order to understand the everyday use of the urban space, this paper attempts to look at how the processes of territorialisation and deterritorialisation occur as a result of the independent actions of the government and the community. I later discuss how the urban space is transformed on the basis of the human interactions that take place (Section 5). I begin with identifying the *katte* based on the activities that generate these interactions. I find that the *katte* is used sometimes only for religious activities or for both religious and non-religious activities. This results in three categories: *katte* as religious spaces; *katte* as religious + social spaces; and *katte* as religious + economic spaces. One also finds several ‘*katte* as roadside shrine’ throughout the city, where the Peepul tree is being worshipped and may have serpent stones next to it but has not generated an urban space around it.

In the rural areas, the *katte* came to also be just a social space where the village council would hold its meetings. This *katte* would be a wide platform around either the peepul tree or a banyan tree (*Ficus benghalensis*) where people could sit together. In the urban areas, the *katte* as an exclusive social space still exists. In Bangalore, it is locally called the *somberi katte* where *somberi* means an ‘idle person’. It is usually frequented by the men in the neighbourhood, a place where friends run into each other, a place that might have a roadside tea stall next to it. In this research, the ‘*katte* as roadside shrine’ and the ‘*somberi katte*’ are not included.

I have focused primarily on those *kattes* that developed as community spaces with religious, social and economic functions<sup>7</sup>. I describe below the characteristics of these urban spaces and later detail out the process of territorialisation in one specific *katte*.

**Figure 3. The Katte within the Ranganatha Swamy Temple in Chickpete.**



Source: Author.

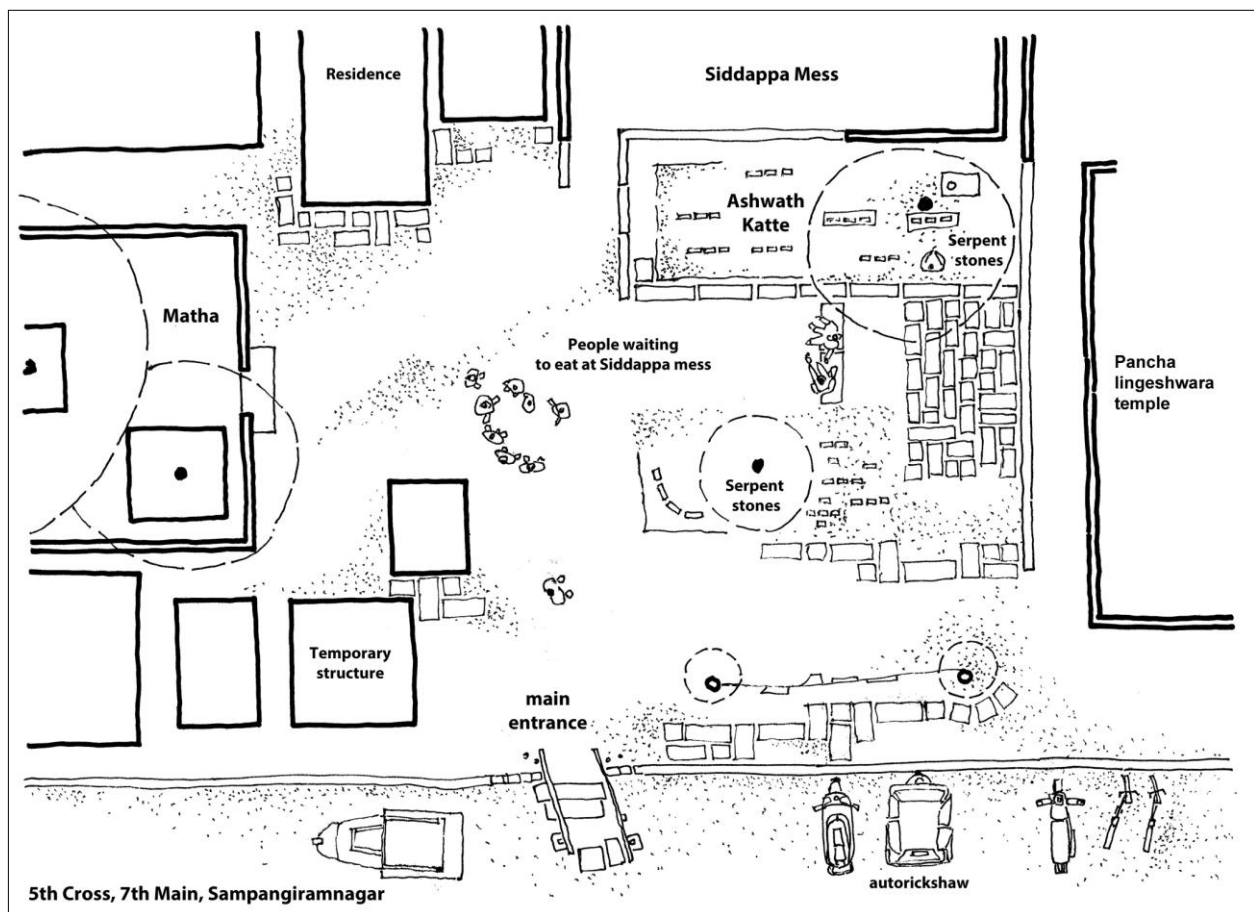
<sup>6</sup> In August 2014, a design workshop on ‘The Katte and the City’ was held at the Srishti School of Art, Design & Technology in Bangalore that I co-taught with Deepak Srinivasan. Some of the artistic explorations and discussions during this workshop have also contributed to the ideas in this paper.

<sup>7</sup> In 2010, an Urban Tree festival (<http://katte-beingathome.blogspot.in/2010/06/around-tree-urban-tree-festival.html>) led by the Art and Media Collectives - 1, *Shanthi Road* and *Maraa* had first initiated community dialogue around the role of trees in the contemporary lives of the city’s inhabitants.



The 'Katte as Religious space' could either be a katte within large temple grounds or it could be a katte next to a small temple. For instance, one finds kattes inside the Ranganathaswamy temple in the *pete* or inner city core of Bangalore (Fig.3). The temple was established in 1628 and there are two peepul trees within the temple complex. This traditional neighbourhood was originally a conglomeration of different artisan-trader communities and each community built its own shrine which often had an ashwath katte next to it. Here, the nature of human interactions is different from other kattes in that the women groups in the neighbourhood find the serenity of the temple and the katte to be a conducive environment for their weekly meetings. Another example of a 'Katte as Religious space' is the one adjoining the Mahabaleeshwara Swamy Devasthanam located at Subaiah circle. This katte continues as a place of worship in the midst of the city's dense traffic. It is almost a trapezoidal traffic island with vehicular roads on all sides. To the north of the katte is the dense urban fabric that makes the Sampangiramnagar neighbourhood. It is in the vicinity of the area where the historical Sampangi tank once stood.

**Figure 4. PLAN of the katte next to Siddappa Mess at Sampangiramnagar**



Source: Author.

The katte adjoining the Panchalingeshwara temple in Sampangiramnagar (Fig.4) is an example of a 'Katte as Religious + Social space' because right next to it is the Siddappa Mess, a popular breakfast place. The mess is run from the house where the owner Siddappa and his family live. The entrance to this house is from a public open space where a peepul tree has been worshipped for many years. It is used both for public consumption (the katte) and for private consumption (the Siddappa mess). There is minimal interaction between the people who come to eat at the mess and those who come to pray at the katte. However, the queues to the Mess are always long and whilst people wait outside, they interact within their own small groups and sometimes with other groups making it into a social space as well. In the

Mavalli neighbourhood of Bangalore, one finds a *katte* which is part of an urban space that is both a marketplace and a religious space (Fig 5). This is an example of a 'Katte as Religious + Economic' space that is explained in greater detail in the next Section.

### **The Process of Territorialisation**

In the process of territorialisation, the stages that occur may be: the planting of a peepul tree; worshipping of the tree and tying of the sacred thread; the installing of serpent stones; constructing a brick/stone platform and building a temple shrine. It is important to understand how the community creates through this process of territorialisation opportunities to come together both on an everyday basis and on a periodic basis. As Talen (1999) points out, physical design may not in itself create a sense of community but it can increase its probability.

### ***The History of the Mariamma Shrine and the Katte***

The origin of this ashwath *katte* goes back to the time when the Mariamma temple was established here more than 150 years ago. At that time, Mavalli was an area covered with Mango orchards with a village settlement within it. In 1898, a Plague hit the city of Bangalore and the government proposed a new layout as a model hygienic suburb at Basavanagudi adjoining Mavalli (Nair, 2005). While these new plans were being drawn up by the ruling authorities, the local communities began to set up Mariamma temples in almost every neighbourhood to appease the Plague goddess<sup>8</sup>.

**Figure 5. The open market that takes place everyday next to the Mariamma temple and *katte* in Mavalli.**



Source: Author.

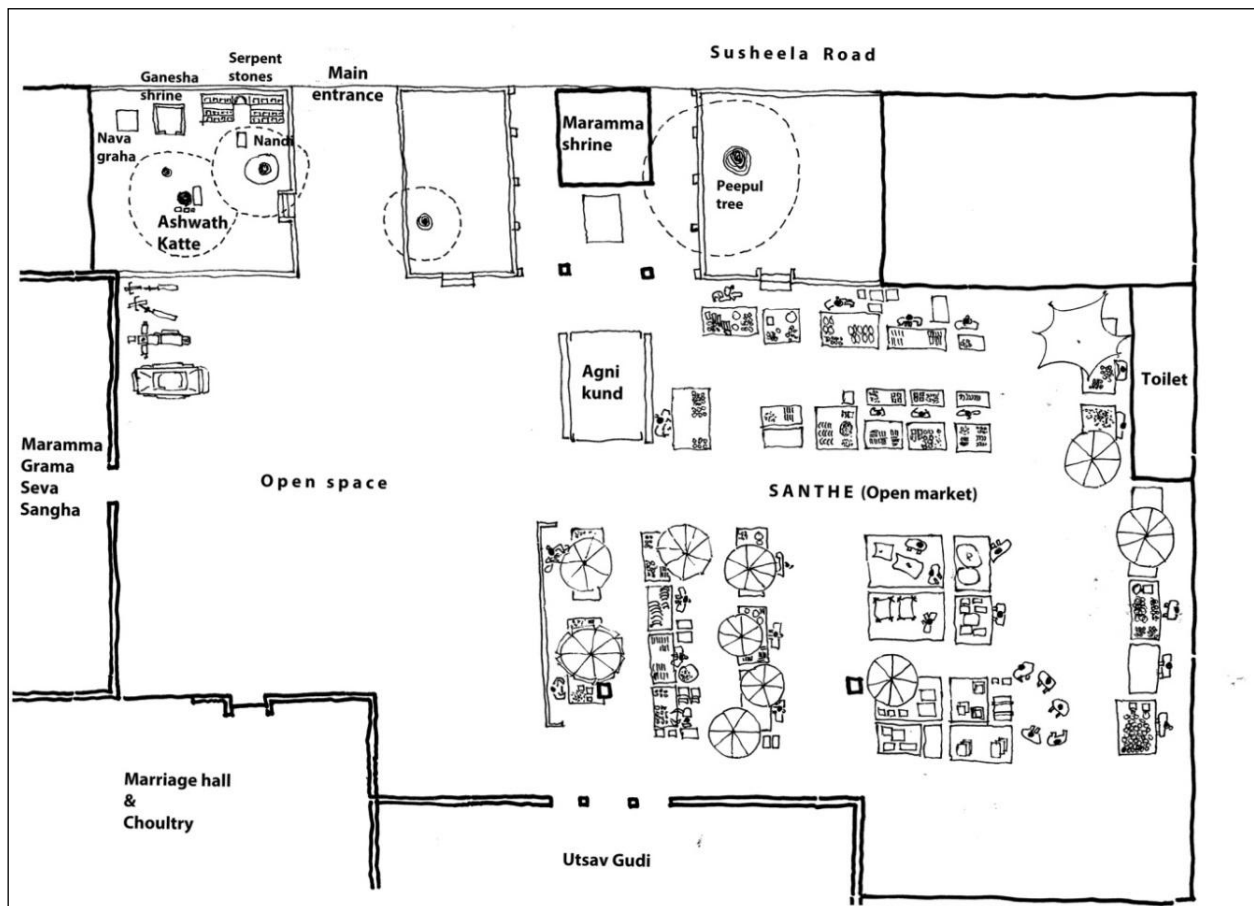
<sup>8</sup> Interview with Trustee of the Mariamma Grama Seva Sangha, the Temple trust at Dodda Mavalli *katte*.

For the people in this neighbourhood, this community space has been there as far back as they can remember. It was about 100-120 years ago that this one-acre piece of land was donated to the temple by one of the residents of Mavalli. Earlier, it existed as an informal urban space around the Mariamma shrine. Today, it is a more formal space that belongs to the Temple trust – the Mariamma Grama Seva Sangha, that was set up about 50 years ago. The trustees of the Sangha are residents of the Mavalli neighbourhood mostly belonging to families that have lived here for a few generations.

### ***The Structure of the Mariamma Shrine and the Katte***

This shrine and katte complex is located on Susheela road in Mavalli. It is bounded to the north by Venkatappa street and to the south by Papaiah road. Inside the complex (Fig.6), to the east is the Mariamma shrine.

**Figure 6. PLAN of Katte at the Mariamma Shrine in Dodd Mavalli**



Source: Author.

There is the katte around the peepul tree and next to it are tiers on which serpent stones are laid out, there is a Nandi (Bull) in front of it, a Ganesha shrine and the Nava graha. Within the complex, there is an open market or *santhe* which takes place every day from six in the morning to three in the afternoon. There is also a marriage hall and choultry that was built with an open space in front of it. Next to the marriage hall and opposite the Mariamma shrine is an enclosed temple with the *Utsav murti* (Festival statue). There is a space earmarked for the *Agni kund* (Fire well) which is used for rituals during the village festival.

### The Marking of the Katte Territory

The marking of territory began more than 150 years ago with the consecration of the Mariamma shrine and the Ashwath katte. For so many years, it has been the shrine, the ashwath katte and the open market that have been the primary generators of this community space (Fig.7). It was about 25 years ago, that a separate *Utsav Murti* (Festival statue) was established within another enclosed temple. For many years, a temporary structure next to this enclosed temple functioned as a government-aided school.

**Figure 7. The Process of Territorialisation: Katte at the Mariamma Shrine in Dodda Mavalli**



Source: Author. Diagrammatic representation based on Interviews with the Temple Trustees.

However, in 2011, the marriage hall, the choultry and the administrative offices of the Grama Seva Sangha were constructed and the school moved to another location in the city. The open space in front of the Mariamma shrine that had until then been used entirely for the open market was now divided for two purposes, one, as open market; two, as an open space for the marriage parties. In the evenings, after 4pm, the market activities end and the open space of the market functions as a parking space for the visitors who come to the Marriage hall.

The shrine, the katte, the marriage hall and the open market create opportunities for social interaction at various levels. In addition to this, about twenty years ago, the Banni tree (*Acacia ferruginea*) was planted at the katte which now generates its own set of interactions. The Banni is a tree that represents the planet Saturn and is worshipped on every Saturday and on *Vijayadashami* or the tenth day of the Hindu festival of *Dasara*. According to the Mahabharata, a Hindu epic text, the Pandava brothers who fought the war against the Kauravas are said to have hidden their weapons in the Banni mara (tree).



### The Marking of Village Territory

The history of Mavalli goes back to the time when it was one of the villages outside the historic fort settlement of Bangalore established by the rulers of the Kempegowda dynasty. The village has two parts to it – the Dodda Mavalli (*Dodda* means big) and the Chikka Mavalli (*Chikka* means small). The village of Mavalli was guarded by four goddesses at its outer periphery. Although the village has now become a part of the city, the shrines housing the four goddesses continue to exist and to be worshipped. There is the Dodda Mavalli mariamma temple, the Satyamma temple, the Bisilu maramma temple and the Upparalli maramma temple. In the *Uru Habba* or village festival that continues to be celebrated here once in three years, the goddesses from the four temples are taken out together in a procession around the periphery of the neighbourhood (Fig.8). The processions moves along Papaiah street, Susheela road, the Lalbagh Fort road and the Krumbiegel road which define the extent of the Mavalli village, which is now the urban neighbourhood of Mavalli merging with the rest of the city.

On the one hand, we are able to see the overlaying of a rural settlement structure onto an evolving urban fabric which may be generating a new pattern – one that indicates that while the boundary was a delimiting element in a village, here, embedded within the urban fabric and functioning as an urban interface, it seems to work more as a permeable entity.

**Figure 8. The Path of the Uru Habba or Village Festival of the Mariamma Shrine at Dodda Mavalli**



Source: Author. Sketch overlay on a Google earth image.

On the other hand, the katte as a marker of a village boundary seems to continue to create a sense of community as people come here in the belief that they belong together today as they had in the past although the neighbourhood boundaries have expanded and merged with the rest of the city. As Suttles (1968) points out, it is the sense of 'turf' or bounded neighbourhood which residents identify with that creates social cohesion.

### The Process of De-territorialisation

In the process of deterritorialisation, the stages may include: the elimination of a few serpent stones; a reduction in the extent of the platform around the tree or katte; the acquisition by the government or a private developer of a portion of the land surrounding the katte and the temple and sometimes, the demolition of the tree and the katte. Although there are lesser known instances where the katte has

been completely eliminated, there are times when this has happened<sup>9</sup>. The acquisition of land by the government is mostly for road widening projects and by private developers for building large-scale gated communities. Mumford (1949) has argued that urban planning mechanisms such as zoning and highways reduce the city's capacity to perform its primary function of human exchange. In Bangalore, it has been the infrastructure development that has resulted in a large number of trees being felled at one time. In the last 4-5 years, more than 50,000 trees have been cut in Bangalore<sup>10</sup>. Sometimes, it is in a large residential development project where a substantial number of trees are cut at the same time. In September 2014, a complaint was posted on the Online Complaint Forum of the Tree Cell of the Bangalore Municipal Corporation (BBMP) that over 100 fully grown trees were about to be cut by a private developer without seeking permission from the government authorities<sup>11</sup>. There is no data available on how many of the trees being felled in the city in the last few years due to large land acquisitions could have been peepul trees. In my interviews with residents and members of citizen groups, I found that they did not know of cases in the recent past of a peepul tree that had been cut. Although de-territorialisation of a *katte* does occur, one finds that the government is unable to encroach upon or completely eliminate as many *kattes* as they might have, had they not had religious significance and community support.

## DISCUSSION & IMPLICATIONS

In this research, as I attempt to understand how the *katte* is created informally and how both religious and ecological concerns govern social values that create and sustain the *katte* as an urban space, I propose that the *katte* is one of the human activity nodes (Salingaros, 1998) in a neighbourhood unit and that it is the amalgamation of a physical layer and a social layer.

### The Physical Layer

The research finds that as people frequent *kattes* to and from other spaces in the neighbourhood, an imaginary urban web (Fig.9) is generated. There is a *physical layer* made up of 'connecting paths' that are the movement of people to other human activity nodes within the neighbourhood such as residential spaces, school spaces, work spaces, green open spaces as well as other *kattes*. In the Figure 9 below, the grey shapes are the neighbourhood *kattes* and the white squares are alternative human activity nodes such as a residential open space or a school playing ground, etc. Although the activities in such human activity nodes may be gender-based or age-based, one finds that the *katte* and the other nodes have common users since both women and school-going children are seen to frequent them.

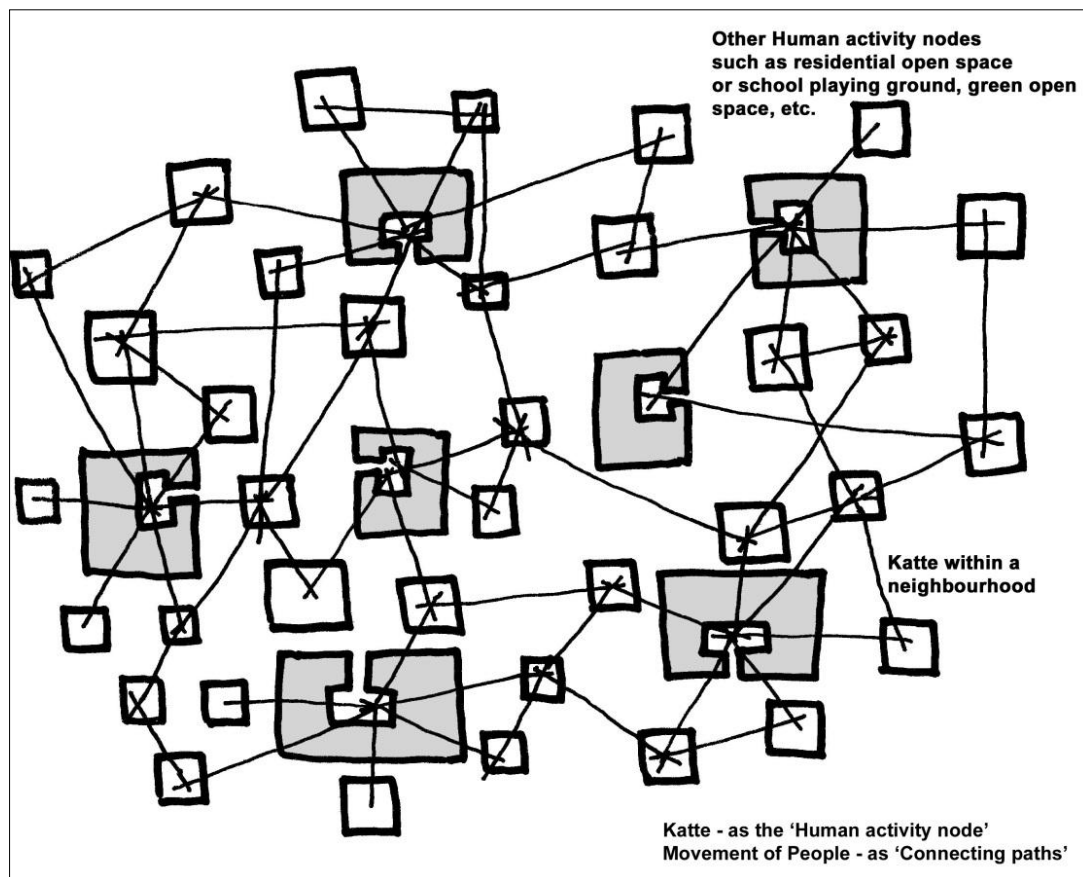
<sup>9</sup> It was reported in 'The Hindu' dated Jan 13, 2014 that "A portion of the Kodandarama temple on Airport Road was demolished in January 2014 to facilitate widening of the national highway. According to Deputy Commissioner of Bangalore Urban District G.C. Prakash, the 'gopura', the compound wall and the 'ashwath *katte*' were removed" (<http://www.thehindu.com/todays-paper/tp-national/tp-karnataka/portion-of-temple-demolished/article5572030.ece>)

<sup>10</sup> <http://timesofindia.indiatimes.com/city/bangalore/How-green-was-my-Bangalore-city-once/articleshow/34992463.cms>

<sup>11</sup> <http://www.complaintboard.in/complaints-reviews/bbmp-tree-cell-l230658.html>



Figure 9. Katte as the 'Human activity Node' – the Physical Layer



Source: Author.

In the context of the *katte* next to the Mariamma shrine at Dodda Mavalli, once in three years at the time of the *Uru habba* or Village festival, as the procession moves along its predetermined path it not only contributes to the marking of the village territory (that Mavalli once was) but it also establishes a movement pattern with its own social and religious meaning for the neighbourhood and unlike the everyday movement of people to and from *katte*. Because of the historical nature of the festival, people who have lived in this neighbourhood in the past come back to participate in the festivities and in the process interact with the locals once again.

Salingaros suggests that the processes that create the urban web are based on the three principles of nodes, connections and hierarchy. Here, the movement patterns that make the physical layer are both spatial and temporal in nature (like the *Uru habba*) and reflect the third principle - a hierarchy of connections which helps to self-organise the web and adds complexity to the urban fabric. The boundary of the village territory continues to be the processional path of the village festival in contemporary times and is also the organising principle of an urban web that belongs to the expanding neighbourhood of Mavalli.

### The Social Layer

The social layer is a set of movement patterns which arises not from conscious design efforts of the Planning authorities but is organically generated by the community through continually evolving religious beliefs and social relationships. In the context of my research, I see the Peepul tree as an 'actant' and the social and religious values as the 'network' (Kärrholm, 2007). The Peepul tree as actant creates the possibility for interactions to happen between the people of the neighbourhood. Haberman (2013)

points out that for Hindus, divinity assumes a variety of physical forms and one of the most accessible types of these is a neighbourhood tree. They come here either on a weekday or on religious festivals. The focus of the festivals varies from being centred around the mariamma shrine, the peepul tree, the serpent stones, the ganesha shrine or the Banni tree.

Every ritual attracts visitors who may be either the present residents of the neighbourhood or its earlier residents. These interactions facilitate the creation and development of an information field (Salingaros, 1999). In his work 'Urban space and the Information field', Salingaros suggested that urban space is a complex human experience that depends on an interaction with the visual, acoustical, thermal and tactile information fields. While Salingaros discusses information fields generated from interacting architectural elements and surfaces, I add to this literature by saying that these information fields can also be generated from rituals that are linked to religion and ecology. For instance, the everyday rituals and the seasonal rituals conducted at the katte can be a source of these information fields.

With every additional set of interactions, the information field gets denser. These interactions and the information fields resulting from it also help create collective memory. At the Mariamma temple at Dodda Mavalli, the temple space, the katte space, the open market as selling space and the marriage celebration open space, each with its different user groups and interaction cycles would lead to a dense information field. The greater the density of the information field, the higher the intensity of the collective memory for the people of the neighbourhood. The history of interactions between people who come to the katte also helps them strengthen their social capital over time. As suggested in earlier research (Keswani & Bhagavatula, 2014), collective memory arising out of social capital accrued over generations has helped communities claim urban space as their own. The more the collective memory a community space holds, the more difficult it is for the government or a private developer to dislodge the community space from the urban fabric. Thus, the peepul tree as an 'actant influencing a certain place or situation' generates interactions, information fields, social capital and collective memory that contribute to the social layer in the design process and when combined with the physical layer of katte as 'human activity nodes' can together become an ordering principle in urban design.

Further research on why some kattes are more embedded in collective memory than others and if the extent of the katte and its urban space have a direct influence on collective memory could perhaps help evolve yet another determining factor for the generation and resilience of an urban web.

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