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Analysis of Urban Growth and Spatial Structure of Heritage Temple Town in Reference to Udupi City

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ABSTRACT: Temple towns play a significant role in the growth of urbanization. The temples serve as bridges across time periods and were designed to enhance kingdoms superiority. Temples were designed to meet the economic and social requirements of people. The urban growth of these temple towns originates from the temple as a core element and sprawls into new developments including the suburbs. The paper aims to analyse the urban growth of the temple town and the understanding of its connectivity and its planning features as Temple town. The towns developed with respect to the character and requirements of the temple. Udupi being a temple town in south India has developed with the temple as a core and urbanization is growing around the temple. The paper discusses how the urban planning of the temple town impacted the growth of the city in these years, where the planning principles play a greater role in structuring the city.

KEYWORDS: Temple Town, Urban Growth, Planning Principles, Udupi, Growth, Development

I. INTRODUCTION

India is the epitome of religion and culture. The spatial organizations changes are based on the environmental, climatic and geographical aspects. The city planning and the spatial organisation of these cities are designed around the temples spreading the urban form around the periphery of the city. Cities in ancient India were hubs of culture, tradition, wealth power and technology. The functionality of the town divided the city establishing the central location for palaces, temples and public buildings. With planned cities the emphasis was given to fortification, water supply and drainage systems which indicated the development in urban planning.

The Indian state of Karnataka's southwest region includes the city of Udupi. Having 3582sq.km as its total area is known for its culture, religion, and tourism aspects. It lies between the Arabian Sea and the Western Ghats with a coastal stretch of 17km. Its Municipal boundary is surrounded by 35 wards and covered with 75.92sq.km area. Udupi also known as temple town is a holistic pilgrim destination for the lord Krishna followers. Krishna temple is surrounded by Astha Mathas.



Figure 1 Udupi Krishna Temple Source: Author.

The temple has its core designed with Krishna Temple and Chandramouleshwara Temple with numerous pilgrim temples spread across the town. During the Paryaya festival which takes place every two years the Swamiji handovers the control of temple responsibility to the other Mathas.

Udupi being situated in the coastal belt is famous and known for its various cuisine, especially the vegetarian food which is inspired by the temple culture. With beautiful destinations like Malpe, Kapu, and the educational hub Manipal it's a blend of religious, cultural, and educational activities.

Udupi temple dedicating to Krishna, who is being worshipped as supreme one the temple is depicted with various mythological stories carved intricately, with the temple established by Sri Madhvacharya in 13th century, the architecture is a blend of Dravidian and Chalukya style.

Udupi in Sanskrit means Udupa, which is an abstract from a mythological story that the ancient Chandramouleshwara temple is where Chandra(moon) performed punishment to healing the curse by da Daksha Prajapati and received grace.

II. THE TEMPLE TOWN

Krishna temple was established in the 13th century by Madhvacharya with eight mathas representing eight villages from the region and dwaitya philosophy was being propagated. These eight Mathas became a segment of the temple square and led to a cultural boost in the city. Along this Astha mathas a lot of commercial settlements are evolved around the temple square. Carts are pulled to encircle the main temple during festivals and hence known as 'cart street' or Rathas beed by the locals.

In India the temple architecture is designed in the east-west direction where deity faces east. but in the case of Udupi Krishna temple, the visitors enter from the east and go around the west direction for the darshan of idol where the lord Krishna is facing.



Figure 2 Sacred Area of Udupi Source: Author

The Paryaya festival is the biggest event for Udupi city. Paryaya means change of traditions. This story defines where Madhvacharya brought his disciples to worship lord Krishna. The methodology of this Paryaya festival is where the 8 mathas in turns takes responsibility to organize and manage the Temple. Those Eight Mathas, Pithas mentioned being Pejavarara, Palimaru, Adamaru, Puttige, Sode, Kaniyooru, Shirur and Krishinapura. During the Paryaya, the head takes the lead to of swamier position for two years. This Paryaya ceremony is held on the 13th -17th of January attracting tourists to Udupi every year.



Figure 3. Udupi Krishna Temple chariot Source: Author

Udupi geographically is a core of religious epitomes. There are 8 religious centres in various districts. People visit all these temples in the loop, as these temples have their own uniqueness and their impact of the city where they are situated.

Gokarna - defines the prana Linga also called Atmalinga.

Yana caves - famous for these two massive rock outcrops are known as the Bhairaveshwara shikara & the Mohini shikara.

Murdeshwara – is popular for the world's second-tallest shiva statue.

Udupi - the mutt area resembles a living ashram, a holy place for daily devotion & living.

Shringeri - it housed a sandalwood statue of Sharadamba in a standing posture

Hornadu - it is known that the sage Agastya established the icon of goddess.

Dharmastala - the uniqueness is that the temple has the priests are Madhav Brahmins & the administration is run by Jain bunt family.

Kukke Subramanya - Murugan is worshipped as Subramanya, lord of serpents.

The Udupi temple originating itself in the 13th century is situated in the core of Udupi city. The temple serves not only as a spiritual centre but also as a connectivity hub. The extensive network of road connectivity, railways waterways facilitate access to various parts of city. With urban development's Udupi evolved as a gateway for pilgrimage centre around the region. Udupi designs as a central node for sacred destinations such as Dharmastala, Gokarna, Karkala, Kukke Subramanya.

III. THE DEVELOPMENT OF MALPE

The entire city of Udupi has grown up around the temple complex. The construction around temples has been influenced by the temple activities from the 13th century. The residential structures in the city expanded into the commercial sectors as it grew, and the city began to spread out as new developments with a modernist aesthetic appeared.

People visit Kapu and Malpe regions for the beaches and harbour which is primary source of tourism and economic growth of Udupi. Malpe is a prominent tourist beach of 6km from the Udupi city, functions as a minor fishing harbour in Karnataka. The design of resorts and fishing business along the shore functions as an economic engine. Malpe is a perfect blend of holiday destination which is surrounded with blue water, golden sand and the swinging coconut and palm trees.

Historically Malpe port dates back to attracting the Portuguese and the Western trade to the coastal belt of India. Malpe is a port next to Mangalore where the major Udupi commercial activities are designed. Malpe is known for its tourism to St. Mary Island, various beach activities and includes the commercial activities like fishing and harbor activities. Malpe is the destination where Shri Madhvacharya found the Krishna idol in the 13th century and brought it down to Udupi temple.



Figure 4 Commercial Activity at Malpe Harbour Source: Author

IV. THE DEVELOPMENT OF MANIPAL

Manipal refers to the area surrounded by mud or with muddy lake. This town is widely known as Campus town of Karnataka is 6km from the temple town Udupi. The neighbourhood of this town is primarily populated with university educators and students of Manipal Institution. MAHE was established by Dr.TMA Pai in 1953 with Kasturba medical college as initial step of establishment of education in Dakshin Kannada and now providing programmes in fields like architecture, engineering, hotel management in addition to medical field.



Figure 5 Educational Zone at Manipal Institute Source: Author

V. CONCLUSION

The Cities change in a various way as they expand and experience urban growth. Urban form and footprint change over time. Both the physical arrangement of cities and the utilization of land exhibit distinctive characteristics and patterns. Based on these patterns of urban land use, urban models are created that help to explain why a particular activity or style of land use is situated in a particular location. Every city, for instance, has a centrally located, dense area that is distinguished by a high land value, a thriving economy, and vertical development. Urban studies and urban land use patterns take into account these characteristics.



Figure 6 Developmental of Udipi in terms of religious, educational hub as Manipal and commercial hub as Malpe
Source: Author

As Udipi expands, we can see how the city has been developing around its temple and Vedic planning principles. The city Centre served as centre of focus for all development and transportation projects.

This is considered to be an important pilgrimage site ever since the Chandramouleshwara and Krishna temples were built, and the core area has grown to facilitate the needs of these temples and the mathas by establishing new commercial structures. The city's planning principles and character started to shift in consideration of new developments. These qualities are related Vedic city planning principles, where the temple served as the central location for urban growth from the beginning. Priests and the wealthy class initially occupied the spaces near to temples and the spaces in the outskirts were for the shrudras. commercial developments like Malpe and the educational facility Manipal lure visitors to Udipi. In addition to the temple and the central area, these economically striving factors are also too responsible for Udipi's expansion.

VI. THE DESIGN STATERGY

The temple towns in India have been designed with Vedic planning principles where the core of the town has temples and the developments happen around it. Since ancient times, Udipi city has been one of Dakshin Kannada's primary tourists and religious hubs. The Krishna Temple and Chandramouleshwara Temple, around which the early construction of the city took place, continue to have an impact on the morphology of the city. The significance of the temple continues to this day since it attracts the tourists from all over the world and considerably boosts the local economy, as evidenced by the increased proportion of businesses, hotels, and restaurant in Udipi. Udipi a city steeped in the tradition, flourished around the focus being the Udipi Temple, As the temple developed, the city developed around it enhancing the temple activity.

The development of Udipi is concentrated around the Krishna temple exerting a pressure on the city core. The pressure is observed in various forms such as traffic congestion, overpopulation and major impact on infrastructure due to which the pattern of development should be altered. With urbanization factors like tourism and education the other two towns like Malpe and Manipal also grew making majorly three concentric zones which have developed in Udipi, primarily Udipi as a core with a religious factor, Manipal as a core with educational factor, and Malpe as a core with a tourism and economic driven factor, that draws visitors to Udipi. This shift of development will evenly distribute the population and infrastructure in the region providing the opportunity to plan and design in an efficient and sustainable method.

The design strategy can be given in terms of mobility and green networks and improved transportation where the polices and design guidelines can be implemented for multi nuclei hubs. The morphology of Udipi is being impacted by the overlapping of these cores, paving the path for new technology and advancements with the help of mobility and green network. The connectivity would result in easy accessibility to different parts of the region reducing the pressure on the core city of Udipi. Green spaces would enhance the quality of living, designed recreational and open spaces

contributing to the environmental sustainability of the region. These principles must be taken into account by the Udupi Development Authority and the government when designing new developments.



Figure 7 Zones proposed for Slow Mobility Along with Green Network Source: Author

Improved transportation would result in reduction of the pressure on the core area by providing efficient and convenient mode of transport to people travelling from different parts of the region. The improvisation of public transport system, well designed road connectivity and also sustainable means of design like cycle tracks and pedestrian tracks for short distance zone.



Figure 8 Zones proposed for New Green Network Source: Author

In urban design the green spaces are referred to as the lungs of the city and they play an important role in the urban environment. The design of these green spaces should benefit to the environment and also to the community level. Green spaces should be easily accessible to the public inclusively, ensuring that everyone enjoys and gets benefitted. The green spaces should be considered responding to the climate and context of the place providing important habitat to various forms of wildlife. These green spaces foster to the community cohesion by providing the shared spaces, engaging recreational spaces. Incorporating these strategies the city can enhance the better quality of life and provide more liveable and vibrant urban environments.

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BIOGRAPHY

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