Impact of Urban Developments on the Historic Character of Temple Towns: Insights from Ekamra Kshetra, Odisha, India

Gayatri Mukherjee[1], Sourovee Dutta[2] & Madhumita Roy[3]
Research Scholar, Jadavpur University, Kolkata, India[1],
Assistant Professor, National Institute of Technology Hamirpur, Hamirpur, India[2],
Professor, Jadavpur University, Kolkata, India[3]
Email: sourovee@nith.ac.in

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Abstract

The world is becoming increasingly urbanized. Today, more than half of the global population lives in urban areas, up from around one-third in the 1950s and projected to increase up to about two-third in 2050. Following the trend, urbanization is happening in the developing countries like India at an unprecedented rate. Undeniably, this poses a threat to many historical settlements of immense cultural significance. They are part of the heritage known for their unique characteristics, building forms and architectural spaces and define their identity. In the absence of proper planning regulations and urban design guidelines, such rapid urbanizations specifically affect the historical temple towns in India, causing significant changes to their built environments insensitive to their historical and cultural values and significance. In this context, this research examines the impact of urbanization on the transformations of the historic character of the temple towns in India.

The research focuses on the historic core of the Ekamra Kshetra: a town in Odisha, as a case study, revealing the changes in its character. It employs field survey as a technique of gathering data which involves a visual survey and documentations. Over 450 structures have been observed and documented over a three month period identifying specific built-environmental parameters; transformations have been identified and the trends mapped.

It is found that, although few in numbers, the old houses in the town still maintain their traditional character. However, the recent developments produce strikingly different structures disturbing the homogeneous character of this heritage precinct. The paper concludes that Ekamra Kshetra has lost its unique character. It recommends a declaration of heritage zones in India and proper urban design guidelines to sustain the character in any new developments in such historic places. If ignored, it could cause immense damage to the historic character of many places.

Keywords: Urbanization, Urban growth, Historic character, Temple towns, Visual survey, Ekamra Kshetra – India.

Introduction

UNESCO (2023) emphasizes that urban heritage is a social, cultural, and economic asset of any country. while planning in Historic Urban Landscapes (HUL), urban planning should take a comprehensive approach towards the identification, conservation, and management of the historic cores. Assari, Mahesh & Assari (2012) point out that this approach should consider the physical characteristics as well as the socio-cultural and economic values particularly in historic settings. In the context of rapid urbanizations in Asia, the built heritage of the historic environments is often at risk of decline. However, some tourism and associated commercial markets are keeping the conservation of heritage sites alive and well. Despite this, many Asian countries face the pressure of urbanization and must work to protect the identity and continuity of their rich heritage (Chahardowli, Sajadzadeh, Aram & Mosavi, 2020).

According to the Census (2011), in India, the number of cities with a population of one million or more has risen from 18 in 2001 to 65 in 2024 . It revealed that between 1991 and 2011, urban population of India has increased from 100 million to 200 million due to widespread urbanization.

It is known that each Indian town has unique characteristics, qualities as well as patterns of land-use. However, uncontrolled developments and increasing urban populations with different needs and aspirations are drastically changing the character of such areas. These changes can destroy the individuality particularly of the historic urban fabric, making all the towns seem similar, eliminating their identities. This is a great decline. In response, some cities have initiated conservation strategies in their master plans for developments. However, as NIUA (2022) points out, most efforts to protect the built heritage and its characteristics in historic areas are weak and limited.

Therefore, we need to identify the factors that hinder the continuity of heritage values in preserving the heritage buildings. The study of Ekamra Khestra, as an example of urbanization strategies that encompass historical as well as modern factors, proposes a conceptual framework to analyze the impact of urbanization on the built heritage and provide empirical guidelines for prohibiting unplanned, haphazard and unwanted changes in heritage buildings in the historic parts of the town. In fact, it is crucial to revive the discontinued heritage essence and identity of the urban fabric in the historic centers from the effects of urbanization.

Building cities that “work” – green, resilient, and inclusive– requires intensive policy coordination and investment choices. Here, the national and local governments have an important role to play to act and shape the future of their developments. Significant increases in population in cities and subsequently developments, and growth in physical footprints are inevitable but policymakers and planners need to develop new guidelines for planning, development and implementations, considering the factors like cultural and architectural heritage.

As Cohen (1999) says “urban planning and conservation should, therefore, be viewed as symbiotic, neither quite complete without the other”. Historic sites are not merely relics of the past; they are living testaments to our shared heritage and identity. They provide a tangible connection to our ancestors, allowing us to understand and appreciate the struggles, triumphs, and cultural achievements that have shaped our society (Zeayter, Mansour & Mansour, 2018).

With this background overview, this study aims to identify the issues and challenges appearing as an impact of urbanization in the historic core of Ekamra Khestra, Odisha, India. The objectives of the study are:

1) To conduct a detailed survey over the buildings of the selected study area to understand the changes as impact of urban growth.
2) To analyze the issues and challenges appearing due to such urbanization.

Theoretical Framework

This paper deals with two significant concepts: Historic Character and Temple Towns. Historic Character refers to both the visible and invisible traits of a building structure as well as its spatial ensemble. However, more often than not, character refers to the visible aspects of the outer appearances of buildings. Taken

together, characteristics of individual buildings produce the character of an urban space.

In this sense, in as much as all cities have one kind of character or the other, historic cities exhibit what is popularly referred to as 'historic character'. This means that the buildings possess in their buildings such as doors, windows, and other embellishments, that have been created in them on the basis of cultural and building practices of a previous period. Indeed, they not only represent that period but also record nuances of values, attitudes, materials, skills and symbolic meanings associated with those elements during those periods. In other words, they signify the identity of that building or a the city as well as the people who occupied them. Such buildings are often referred to as 'heritage' because they have been inherited by the present generation from the past.

Patrick Geddes, a renowned city planner of the 19th century argued against the demolition of heritage buildings in the historic town of Madurai, India after conducting a detailed physical and visual survey and an analytical appraisal of the history of the town (Rao-Cavale, 2017). Building on Geddes' ideas, Cohen (1999) advocated a contemporary style adapted to the built heritage of the historical town. He argues that the preservation of the architectural, aesthetic, historical, and cultural significance of built heritage is crucial in urban planning for the current as well as the future generations.

The unique character of a city is largely dependent on the conservation of existing built heritage and limiting new interventions in architecture and public spaces. Haddad (2024) points out that it is recommended to thoroughly document the heritage attributes of houses in historic towns to enumerate their features and monitor changes due to modernization. However, many historical-heritage towns are currently facing pressure for urbanization and development, which may lead to discontinuity in architectural style and loss of the harmonious relationship between the old and the newly built environments. In fact, Orbasli (2008) argues that urbanization poses a threat to both the physical and socio-cultural aspects of heritage towns. Interestingly, Beatriz and Francisco (2018) expands on research related to historic cities by examining various factors, including socio-cultural, economic, historical, and physical. The key performance indicators so identified are as follows.

Table 1: The Identified Key Performance Indicators
Source: Authors

Sl. No.	Key Performance Indicators	Sources
1	Height of the building	(Lourenco, 2013)
2	Existing treatment of the façade	(Menon, 2014)
3	Category (use) of the building	(Mekonnen, Bires & Berhanu, 2022)
4	Material used for construction	(Abdul Huq, Puthuvayi, 2024)
5	Construction technology used (RCC or Load bearing structure)	(Menon, 2014)
6	Footprint of the structure	(Attarian, Safar Ali Najar & Khaksefidi, 2022)
7	Tentative year of construction	(Chen, Ludwig & Sykes, 2020)
8	Floor to floor height as visible	(Attarian, Safar Ali Najar & Khaksefidi, 2022)
9	Approximate size of the plot	(Lourenco, 2013)
10	Aspect ratio of the building (front width : side depth)	(Abdul Huq, Puthuvayi, 2024)
11	Any other significant observation	(Mekonnen, Bires & Berhanu, 2022)

Review of Literature

Research into the impact of contemporary urban developments on the historic character of cities are in abundance. However, those specific to the temple towns and more specifically Ekamra Kshetra, in Odisha, India are rare. For example,

Kiruthiga and Thirumaran (2019) investigate the effect of urbanization on the historical buildings in the context of Kumbakonam, India using an ordinal regression model. They reveal physical, socio-economic and cultural factors due to which significant transformations can be observed in the historic characteristics of the place studied. They argue that there should be Local Development Plans (LDP) in place for immediate implementation to restrict the unplanned growth and to preserve the historic character of this town.

Similarly, Gowthami (2023) presents south Indian temple towns as socially and culturally rich unique built fabric and how such historic cores are affected by urbanization and under development pressures. He has examined the visual influence of south Indian temples on the built environment and has adopted a statistical approach using a regression model.

Sasidhar, Jayanthi and Nallusamy (2021) present transformations of historic character at settlement level as well as street level in Kachipuram in India. They present changes of land use due to commercial tourism, introduction of new commercial establishments, appearance of new building types, abundant historic structures, pollution, wastage of natural resources, unplanned slum-like growth etc. observed as transformations. At the street level, change of skyline is observed. Previously it has been distinct with the glorious presence of Gopurams. However that is broken by the new high-rise structures.

In comparison, Kapoor, Sehgal and Mathur (2022) note the spatial transformations in Vrindavan in India. They observe the transfromations due to urbanization. They argue how to modernize the historic fabric while preserving its historic essence and integrity. They reveal that an increase in religious tourism has caused such transformations in the built fabric due to increased accessibility, movement, and increased modes of transportation.

At the same time, Chandan and Kumar (2019) outlines the issues and challenges faced by the pilgrim cities based on a literature review and a case study. They especially examine the core areas of the temple and how the character of these places have been affected over the past decades. They argue that heritage conservation should be taken as a key theme in urban planning and it should be dealt through master plans of the cities. They analyze various existing schemes and policies of heritage conservation and recommend strengthening the capacities of planning agencies, especially the involvement of the local stakeholders.

Adding to these, Vinod, Kumar and Agrawal (2023) propose that there is a need to revitalize the temple towns of India to ensure planned conservations of heritage and development in an organized manner. They adopt UNESCO's HUL approach to find out indicators and assessment techniques for the revitalization of the temple cities.

Moreover, Kashkari and Brar (2023) evaluate the relationship between historic urban form and sustainability parameters and reveal how the traditional urban form is affected by the transformations of the urban fabric. It can be seen that urbanization plays a significant role in these developments. As Shrestha and Tiwari (2021) examining the urbanization scenario of Tokha, a traditional town of Nepal and assess the transformations in this town due to urbanization. They use both qualitative and quantitative methodologies and reveal specific physical, economic and socio-cultural factors that cause noticeable transformations in this historic town. They recommend the implementation of a Local Development Plan (LDP) to restrict such growth and promote cultural preservation. Thus the direct impact of urban developments on heritage cities is clear. As Potdar, Namrata and Sami (2018) narrate how the development pressure in Chamba, a historic town in the Himalayas has a direct impact on traditional practices and cultural landscapes, they change the character of heritage cities. They argue that there is an urgent need to balance transformations due to urbanization and promote the preservation of heritage.

Gupta and Gahalot (2023) investigates the impact of globalization on religious tourism and how it transforms the city's landscape. Taking a case of Vrindavan, India they explain how globalization has changed the essence of religious tourism in the city. They recommend for the sincere implementation of modern regulatory framework for the historic precincts in order to preserve its sacredness.

An exploratory study is conducted by Vishaliny and Kaur (2024) on Srirangam town, India which delves into the challenges faced by the town which led towards changes in the temple landscape and its immediate surroundings. They discuss on several retrofitting strategies which can help into conserving the cultural, ecological and historical significance of the town and can promote sustainable urban development. They infer that similar challenges are faced by the temple towns across the country and highlights the need for innovative strategies to safeguard cultural heritage.

Udeaja et al. (2020) in their study on Surat, India highlights the challenges faced by the historic precincts of the town due to rapid urbanization, increasing housing demand and socio-cultural and climate changes. With the help of in-depth semi-structured interviews and focus group discussions they reveal that there is inadequacy of conservation policies in the country. The study recommends that heritage policies need to be integrated with planning domain. The regulations need to be in place to preserve the cultural assets.

Research Methods

This research employs a case study method. It adopts a visual survey as a technique to gather data on the building characteristics of the case study. The detailed visual survey has been conducted for over 3 months ensuring that each street has been visited and all the abutting houses in the selected case study have been documented. In fact, Over 450 structures have been surveyed over this period of time. The survey is conducted by taking photographs of each building, which are then analyzed to understand the visual character of the place as a whole. According to Watson (2003), visual survey is a popular method in urban design to gather data pertaining to built-environments.

> "A visual survey in urban design is an examination of the form, appearance, and composition of a city, an evaluation of its assets and liabilities. A visual survey also enables the urban designer to see where the city needs reshaping….. In the case of a city, the analysis is a diagnosis of the city's component pieces, to see the relations between these pieces and to assess their condition,"
>
> Badita, 2012: 212

The research analyzed the current status on the basis of identified physical parameters, as elaborated in the theoretical framework. The key performance indicators / parameters have been identified using secondary resources, as elaborated in the Table 1 presented before. Based on these parameters, the buildings have been surveyed in detail and analyzed to understand their transformations as an impact of urbanization.

The Case Study

Ekamra Khestra is a historic town located in the Indian state of Odisha and has been chosen as the study area. Ekamra Kshetra is a temple town famous for its historic architecture and cultural heritage, which has been ruled by legendary kings for centuries. According to Seymour (1980), these kings have left their mark on the town by building grand palaces, residences, and religious buildings. Until the British colonial period, Ekamra Kshetra maintained its unique style and individual character of the urban fabric. Many temples in the town exhibit the architectural styles of the period during which the kings ruled, while the residential and commercial buildings

showcase the vernacular and colonial architecture styles, respectively (Sarangi, 2017). Even after India's independence in 1947, the town has been able to strike a balance between development sand preserving its rich heritage character.

Today, the town is facing the growing pressure of urbanization causing the loss of its historical character. The rampant growth and modernization in the historic center of the town are replacing its heritage characteristics with contemporary designs (Praharaj, 2012). The physical settings, especially the buildings, are being irreversibly altered, and with their passing, the overall fabric and essence of the place will soon only be a memory preserved in a few remaining structures and photographs (Mishra, 2011). The visual aspects of the town, such as the appearance of its buildings against the skyline, the materials used in their construction, and the architectural elements, are a part of its tangible value and heritage (Mishra, 1989).

Moreover, the urbanization process with the development pressure is increasing the occupancy rate and land value, leading to a change in the building use and modification of the buildings. This intervention in global trends results in the loss of the built heritage settings of the town. It is known for its businesses that have been passed down through generations. While some shops maintain the traditional style, others have been modified to follow the current trends. In recent decades, land values have increased, which has led to the building owners partitioning their buildings and renting them for commercial purposes. As a result, the streetscapes and skylines have been significantly impacted. In order to preserve the significant built heritage of the town, we must identify the factors that cause these changes and take measures to balance urbanization with historical heritage settings. Undeniably, the careless disregard of the potential adverse effects of the new interventions due to urbanization threatens the existing urban fabric.

The town comprises a number of municipal administrative wards and a certain number of streets. It covers an area of a 4.55 sq. k.m., with a total of 70 percentage of land used for residential and commercial purposes. Moreover, the municipal administration area houses over 100 temples– both small and large. The emperors of Ekamra Khestra Town have designed a distinctive style of architecture for the temples and urban landscape. This unique style adds to the divine and magnificent composition of the town, which is manifested in its temples and sacred water tanks. As a result, the town has become an important native settlement with a rich historical significance (Jha, 2018).

The study area comprises several streets located in the historic center of Ekamra Khestra. These streets are home to numerous buildings, sacred water tanks, and key temples (Fig. 1). The Sahasralinga water tank retains a significant religious importance. During the festival, the key temples follow a processional route that connects the sacred water tanks. The major city road, Lewis Road that runs through this stretch of the town is also its major commercial corridor. As a result, most of the land-use changes and developments have occurred along this road. It is important to note that the selected study area has several heritage features that are at risk of disruption due to commercial developments.

To delve deep into the impact of urbanization in Ekamra Kshetra, a specific area was chosen to carry out a detailed physical, social and morphological survey and analysis. An area covering around 3,24,837 square meters has been selected with major access roads defining the boundary of the survey area. As per the Bhubaneswar CDP map, the municipal map and the imposition of google images, the area was mapped. The selected area contained the significant temples of Lingaraj, Chitrakarini, Suresvara and Mohini. This area was chosen to ensure that at least one temple is protected by the Archaeological Survey of India (ASI) and at least one temple was protected under the State Department of Archaeology.

While, Lingaraj and Chitrakarini are listed as protected structures with the ASI, Surveswara and Mohini are listed with the State Archaeology. In the selected

area, the Lingaraj & Chitrakarini cover an area of 26,618 square meters, Suresvara temple with its tank covers 12,336 square meters and the Mohini Temple covers 354 square meters. A total of 33,716 square meters is covered by the approach roads and the pathways.

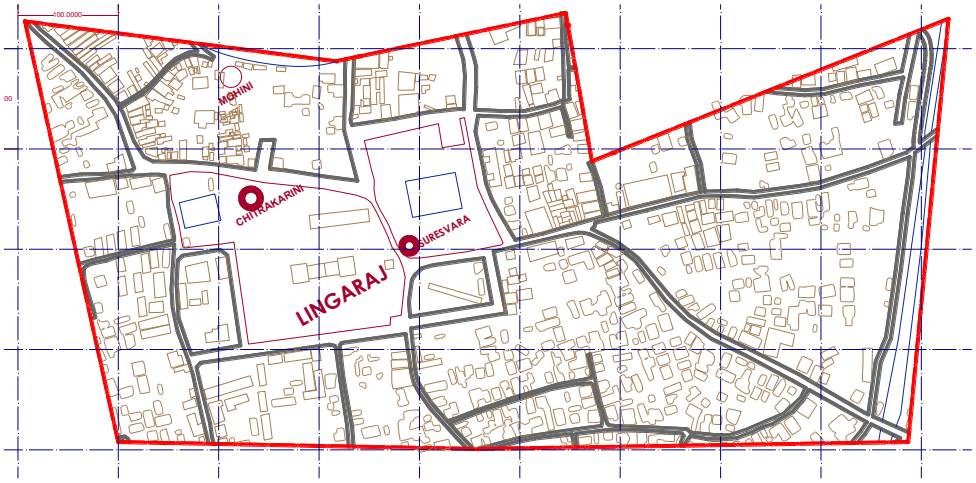

Fig. 1: The Case Study Area: The Historic Core of Ekamra Kshetra
Source: Authors

Data Analysis and the Findings

Survey data is presented for one stretch of the area (Fig. 2-4, Table 2), likewise, other streets and the abutting buildings have been documented and analyzed with respect to the selected parameters. From the survey and analysis, followings outcomes / findings are made.

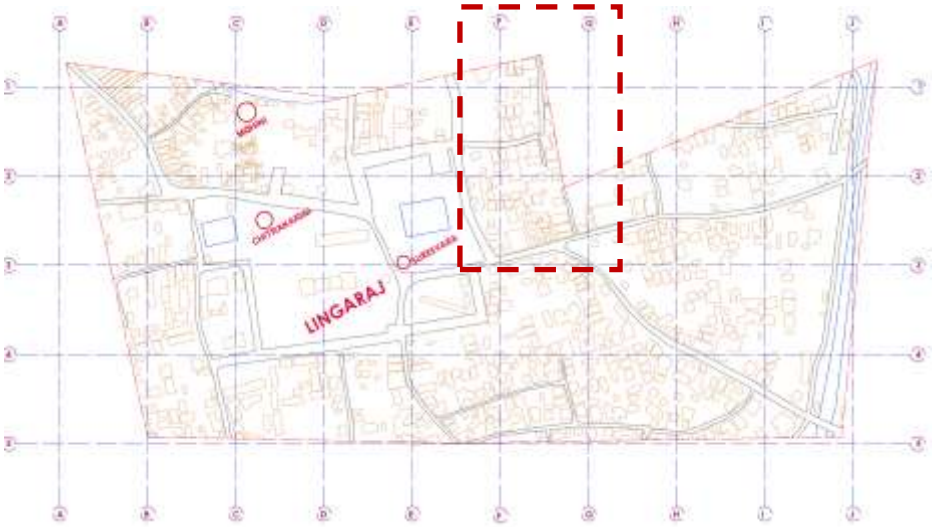

Fig. 2: Key Plan of the Sample Survey Area
Source: Authors

Fig. 3: Detailed Plan of the Sample Survey Area
Source: Authors

Fig. 4: Pictures of Buildings in the Survey Area
Source: Authors

Table 2: Analysis of the Buildings on the basis of the Identified Key Performance Indicators
Source: Authors

Parameters	C-1	R-61	R-62	R-63	R-64	R-65	R-66	R-67	R-68	R-69	R-70	R-71	R-72
1. Building Ht.	15'0"	10'0"	10'0"	20'0"	10'0"	22'0"	8'0"	20'0"	30'0"	10'0"	30'0"	9'0"	40'0"
2. Facade Treatment	Stones,	cement, plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering	Concrete, Cement, Plastering
3. Building Use	Commercial	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential
4. Materials Used	Stone, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement	Brick, Sand, Cement
5. Technology used (Load Bearing or Column structure)	Load bearing	Column Structure	Column Structure	Column Structure	Column Structure	Column Structure	Load Bearing	Column Structure	Column Structure	Column Structure	Column Structure	Load Bearing	Load Bearing
6. Footprint	200 sqm	90 sqm	120 sqm	120 sqm	120 sqm	120 sqm	NA	120 sqm	120 sqm	NA	120 sqm	150 sqm	120 sqm
7. Year of Constructio n	2015-16	2019-20	2018-19	2009-10	2009-10	2018-19	2012-13	2010-11	2011-12	2011-12	2008-09	2007-08	2019=20
8. Floor to Floor Ht.	14'	15'	11'	10'	10'	12'	NA	10'	10'	NA	10'	10'	10'
9. Plot size	80' x 30'	30'x 30'	30' x 40'	30' x 40'	30' x 40'	40' x 30'	NA	30' x 40'	40' x 30'	30' x 50'	30' x 40'	50' x 30'	30' x 40'
10. Aspect Ratio (front width: side depth)	2.67:1	1:1	1:1.33	1:1.33	1:1.33	1.33:1	NA due to temporary nature	1:1.33	1.33:1	NA due to ongoing work	1:1.33	1.67:1	1:1.33

Nature of the Houses

As found from the survey analysis (Fig. 5), the old houses in the vicinity still maintain their traditional character. However, the houses built in the last two decades are mostly RCC structures with no use of traditional materials and character on facades. The most recent developments / the upcoming buildings have also used modern materials. Therefore, no traditional character can be noticed in their facades. It is evident that there is no regulation on the use of traditional building materials for such a heritage precinct. This needs to be augmented on an urgent basis to create certain homogeneity in the character of the buildings.

Building Height

As found from the survey analysis (Fig. 6), majority of the buildings in the vicinity are G+1 or G+2 structures. No structure with more than 6 stories is observed in the area. It is evident that there are some height restrictions for the area. However, with respect to the street width, the structure should not be more than G+2. All the recently constructed buildings have utilized the maximum FAR and have risen up to G+5, which violates the distinct skyline of the heritage structures.

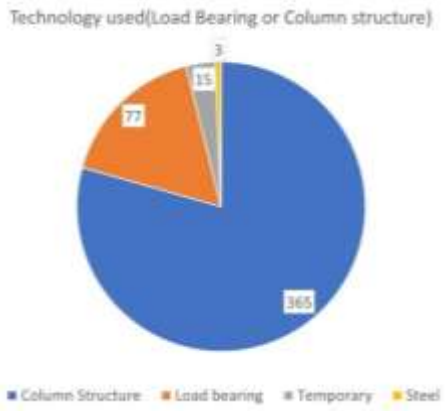

Fig. 5: Nature of House Surveyed
Source: Authors

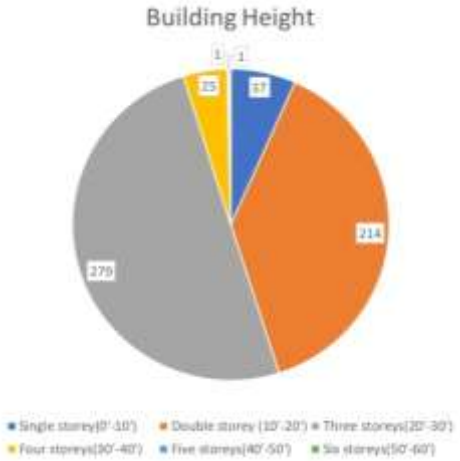

Fig. 6: Building Height Surveyed
Source: Authors

Façade Treatment

As found from the survey analysis (Fig. 7), the facades of the recent developments or the newly developed buildings are coming up with completely a modern appearances with the usage of modern materials and façade treatments. The traditional façade character is totally

absent in the area. The buildings surveyed in the area are largely modern structures with little or no respect for the heritage structures standing nearby and hence are built using all the modern facades without any sense of homogeneity. Nor has there been any special building norms or agency created such as DUAC (Delhi Urban Arts Commission) which can control the building facades and their external appearance to develop some homogeneity in the space while respecting the heritage of land.

Building Footprint

As found from the survey analysis (Fig. 8), although the older buildings are of smaller footprint, the upcoming buildings are of larger footprints. There are no guidelines regarding plot amalgamations in the vicinity. In recent times, developers amalgamate the plots for high-rise developments. Such larger footprints create gigantic developments, violating the skyline of the heritage precinct. They break the homogeneity of the development in the area and along the streets leading to the temples.

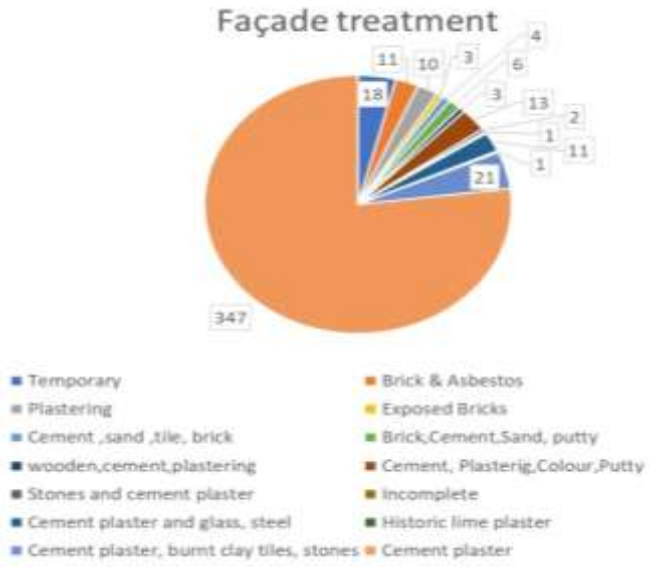

Fig. 7: Façade Treatment Surveyed
Source: Authors

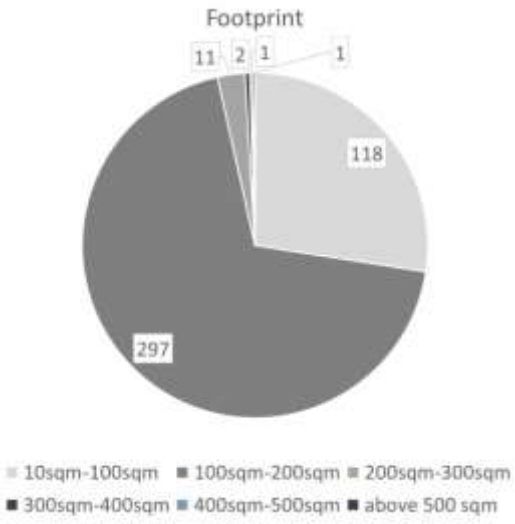

Fig. 8: Building Footprints Surveyed
Source: Authors

Building Use

As found from the survey analysis (Fig. 9), the older houses are of mixed-use in nature, whereas the recently developed buildings are commercial in nature. As mixed-use buildings like commercial and residential mix buildings contribute towards more vibrant street character and public realm, mixed-use could be mandatory through implementation of Local Development Plan.

Year of Construction

As found from the survey analysis (Fig. 10), most of the older houses have been rebuilt / reconstructed using modern materials and construction techniques in the last decade. Such fast change / transformation in the built environment in such heritage precinct has a direct impact on visual character of the place. Strict building guidelines on upcoming developments should be in place.

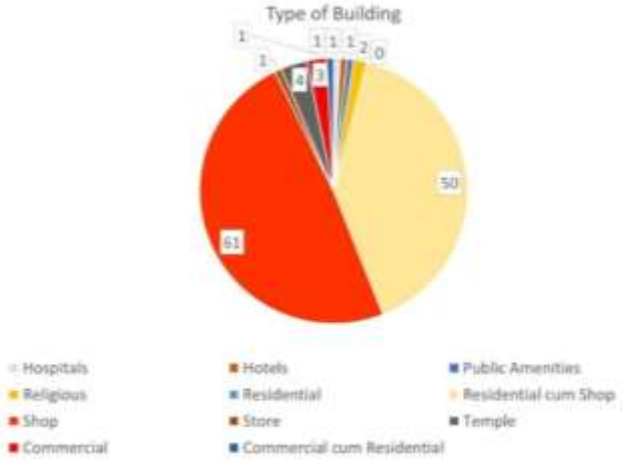

Fig. 9: Building Use Surveyed
Source: Authors

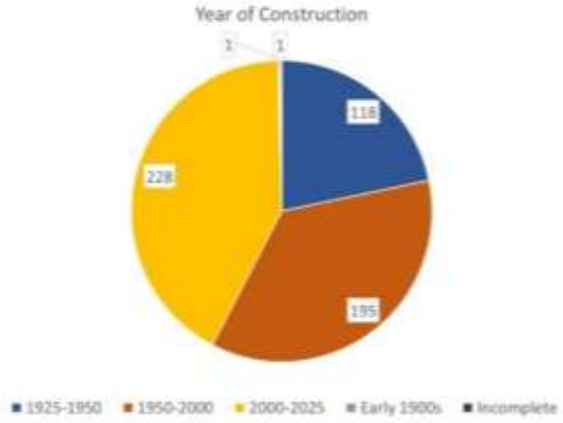

Fig. 10: Year of Construction of the Buildings Surveyed
Source: Authors

Material Used

As found from the survey analysis (Fig. 11), the modern materials used for the façade treatment for the newly constructed buildings has a direct impact over the old, heritage character of the place. It is argued that there should be a list of allowed materials at least for the building facades to maintain the character.

Floor to Floor Height

As found from the survey analysis (Fig. 12), there is no specific guideline regarding the floor to floor heights in the area. While the older buildings maintain a height up to 10', the newer buildings create lower floor to floor height. Sometimes, the newly built commercial buildings create a double height up to 18'. This unevenness in floor to floor heights directly impacts the street character. The visual lines of the streetscape are hampered due to such unevenness in floor to floor height. To create a homogeneous street character, strict guidelines needs to be implemented in this regard.

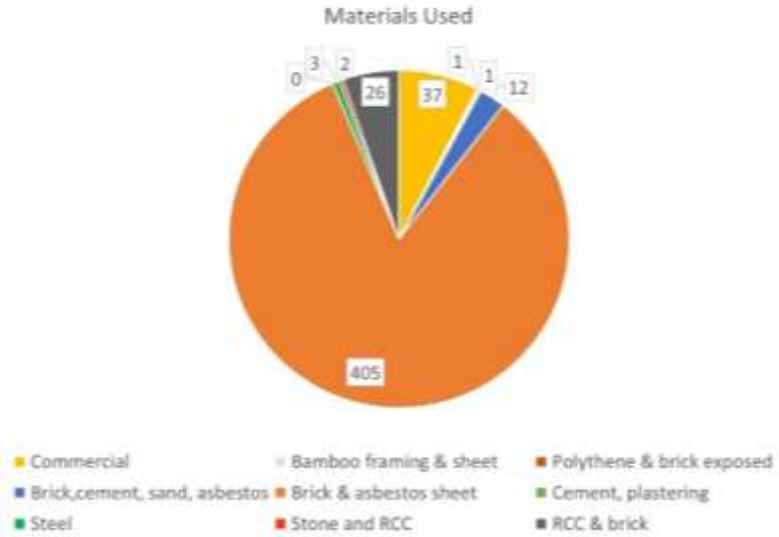

Fig. 11: Materials Used Surveyed
Source: Authors

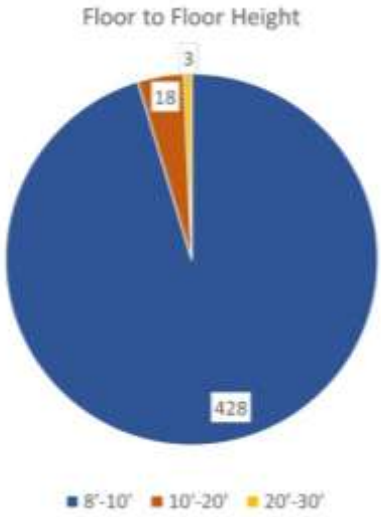

Fig. 12: Floor to Floor Height Surveyed
Source: Authors

Building Aspect Ratio

As found from the survey analysis (Fig. 13), while the older houses have a smaller frontage with a greater depth, the new buildings have huge frontages. This also impacts the street character in terms of homogeneity. Building guidelines should be in place at least in terms of frontage / front façade length to maintain a homogeneous street character in such heritage precinct.

Plot Size

As found from the survey analysis (Fig. 14), the older houses take a small plot, whereas the recently built houses are products of plot amalgamations. They are built in larger plots. This also creates a heterogeneous built environment, which is not desirable as per the sustainable urban form principles.

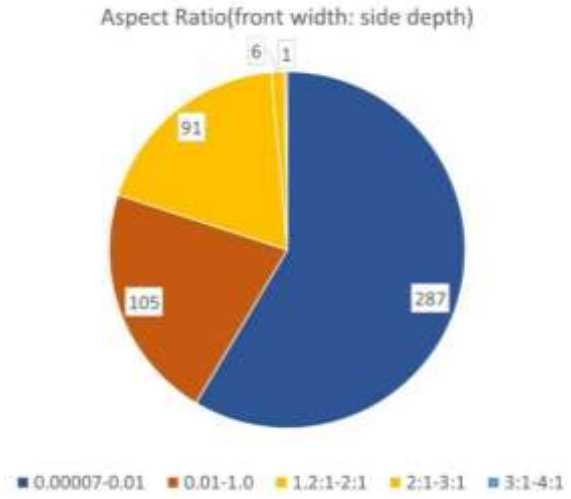

Fig. 13: Building Aspect Ratio Surveyed
Source: Authors

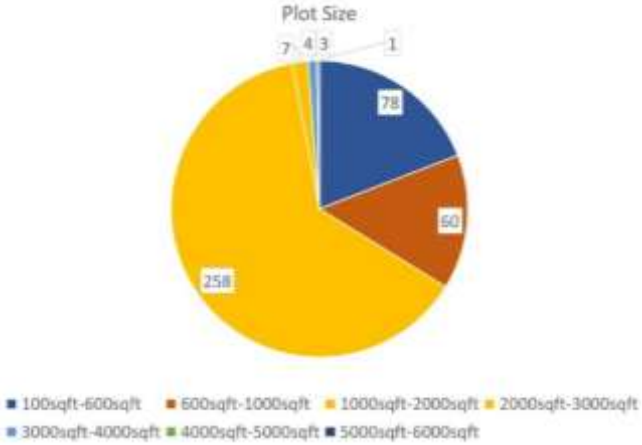

Fig. 14: Plot Size Surveyed
Source: Authors

Conclusions

In this study, the aim was to assess the impact of urbanization on the historic core of the selected study area, i.e. Ekamra Khestra, Odisha. To achieve this, some key performance indicators / physical parameters were identified from the literature review on the basis of secondary resources. Subsequently, a detailed visual survey of over 450 structures have been conducted on the basis of these parameters. Following the completion of the detailed visual survey of over 80 acres of populated area which contains four significant temples – the Lingaraj, Chitrakarini, Mohini and Suresvara, the inputs were carefully studied and outcomes were analyzed to highlight the key issues which needs to be addressed.

It is revealed that the old houses are few in numbers, which still maintain the old, historic character of the place. Majority of the houses, particularly built in the last decade have

been developed using bigger plots with bigger footprints and with greater heights. Their use is also transformed from mixed-use to completely commercial in nature.

The created skyline, façade treatment of these modern buildings do not respond towards the heritage character of the place. Therefore, it is recommended that detailed urban design guidelines need to be developed and implemented which can restrict such unplanned, haphazard, meaningless developments under the pressure of urbanization. Urban growth can be allowed in such heritage precincts, but in a meaningful manner. The guidelines may include building heights, plot sizes, widths of the building frontages, materials to be used, especially for front façades, façade treatments, color schemes etc. to maintain the essence of this heritage precinct.

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