

CERTIFICATE

This is to certify that Akshay Gururaj Ankalgi has successfully completed his design dissertation (part 1) on the topic 'Revival of Heritage village, Hampi' under the guidance of Ar. Mandar Parab.

The dissertation is undertaken as a part of the academic study based on the curriculum for Bachelors of Architecture program conducted by the University of Mumbai, through L.S. Raheja School of Architecture, Mumbai.

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DECLARATION

I hereby declare that this written submission entitled **“Revival of Heritage Village, Hampi”** represents my ideas in my own words and has not been taken from the work of others (as from books, articles, essays, dissertations, other media and online); and where others' ideas or words have been included, I have adequately cited and referenced the original sources. Direct quotations from books, journal articles, internet sources, other texts, or any other source whatsoever are acknowledged and the source cited are identified in the dissertation references.

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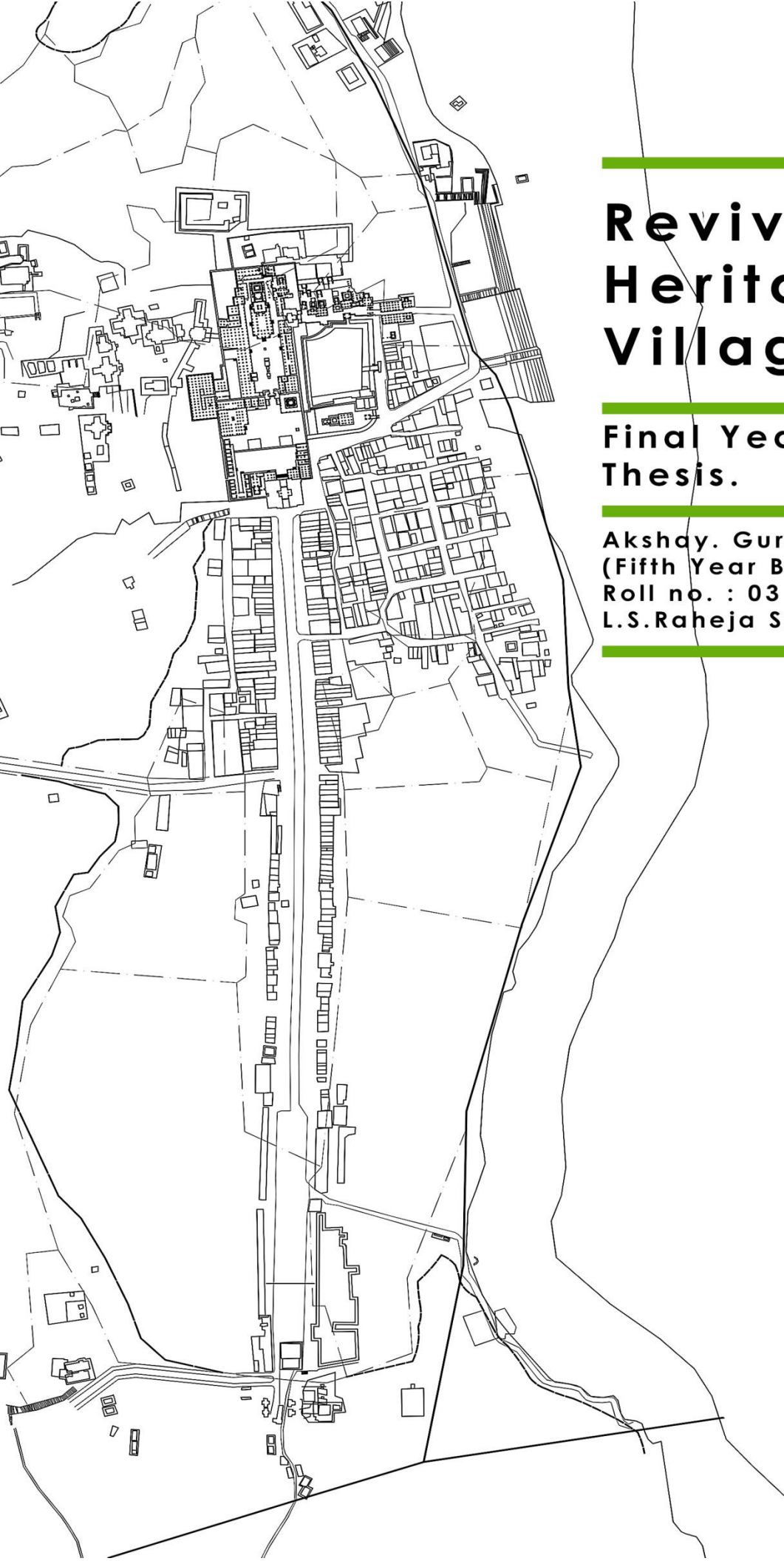
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Revival of Heritage Village, Hampi

Final Year Architectural
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Revival of Heritage Village, Hampi

Final Year Architectural Thesis

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Preface

India is an exquisite country, which has a wonderful blend of all the resources essential to make it a golden star on the tourism map of the world. This thesis research not only focuses on understanding tourism, but also experiments the concept of amalgamating history with tourism and provide feasible solutions that uplifts the vernacular architecture through innovation.

Thus, the research concentrates on how tourism activities can be transformed into architectural forms and spaces; how the concept of heritage village can be utilized to generate employment in the rural sector.

Hampi is the perfect melting pot of nature, culture and architecture. It is blessed with many wonderful creations of nature and history. It is famous for its unique temples, bazaars and nature. Its welcoming and refreshing vernacular architecture is a great attraction amongst the tourists. Preserving the past heritage and showcasing it in present is very essential today, without hampering the heritage value. Hence the topic – “REVIVAL OF HERITAGE VILLAGE, HAMPI” which intends to every aspect of Hampi in its pure native form.

Abstract

Tourism is a fast growing industry in India, contributes largely to the nation's GDP. It is also considered as a major aspect for social integration, thus creating both opportunities and responsibilities on the people. It can benefit the local communities but only if additional income or sustainable livelihoods, employment or additional incomes are adopted. However, in recent times, encroachments in the name of tourism have endangered the heritage monuments. Increasing tourism along with preserving the heritage in its authentic form and beauty is needed for a peek into the glorious history. Growing tourist population demands facilities that not only caters the need of the tourist but also amalgamate the architecture and spaces from past into the present. Such programs are widely known as tourist villages which incorporate facilities, clubbing them with local village activities and spaces. Such facilities help tourist to understand the life in the village and relate to the past.

The purpose of this topic is to understand the importance of heritage and how we can preserve and sustain it along with gaining advantages of tourism. India has a gift of beautiful heritage sites, comprising of heritage monuments, ruins, temples, palaces, forts etc. which makes it a famous tourist destination.

"Strengthen the rural areas and you will find less people migrating to urban areas. You give them opportunity, self-respect and self-confidence, they can create wonders!!"¹

Tourism may also solve the problem of migration, which is one of the serious issues India is facing at the moment. Tourism will provide job opportunities to the youth of the rural India. Tourism also involves betterment of the local people living in the area. It will increase the standard of living of the local people along with preserving their culture and the heritage.

Hampi "Land of ruins and boulders" is blessed with many tourist destinations full of historic wonders. From magnificent monuments to giant mystic boulders the land is full of natural treasures. This region is very popular amongst tourist, visiting and exploring the scenic beauty of Hampi in all seasons of the year. Reviving tourism will be conducive in ensuring sustainable development of this region.

¹ Quote by Bunker Roy, Social Activist.

Aim:

The aim of the project is to revive a heritage village at Hampi which focuses on the principles of space in traditional Indian architecture that caters to the growing requirements of tourism and also sustains the heritage value of that place.

Objective:

1. To amalgamate the architecture and spaces from the past into the present through architecture.
2. To study, document and analyse characteristics of the existing settlements, as they provide an opportunity for better understanding of the historical development of the entire heritage precinct.
3. To bring back the lost connection of man with the environment.
4. To protect the natural characteristics of the site.
5. To preserve the heritage value of the surrounding.
6. To make people realise the responsibilities towards heritage site and value the importance of the history through architecture.
7. To provide tourists with a holistic space where they can spend their time leisurely, while providing them with an opportunity to educate themselves.
8. To help tourism become an income generating industry for the youth of rural India.
9. To understand the inhabitants relation with the heritage.

Need of study:

1. Tourism is a thriving industry especially for developing countries like India.
2. Tourism has generated INR 14.1 trillion or 9.6% of the nation's Gross Domestic Product (GDP) in 2016. India ranks seventh among countries with the fastest growing tourism industry in the next decade. However, the increasing tourism is leading to exploitation of resources in order to provide lavish facilities to the tourists.
3. Tourist village is one of the optimal solutions to develop tourism along with preserving nature and heritage.

4. It also benefits the local people who are actually the backbone of the tourism industry.
5. Tourism should encourage 2 things – providing leisure spaces for tourists and protecting the nature.
6. There is a need to explore sustainable techniques for development, so that the next generation can enjoy the same beauty of nature.

Methodology:

1. To study the present condition of tourism in India.
2. To study the history, condition and tourism.
3. To study the present condition of tourism in Hampi
4. To study the current tourism projects and its success and failures.
5. To study the sustainable techniques for developing self-sustaining projects.
6. Visiting Hampi in person and analysing the problems and needs of the village.
7. To study the proposed developmental programmes, schemes and policies by the Government and the effective utilization of the same.
8. To conduct visits for case studies of model tourist villages and to study various developmental measures.

I. TOURISM IN INDIA

The Indian tourism and hospitality industry have been emerging as one of the key drivers of growth in the services sector in India. Indian Tourism has significant potential considering the rich historical and cultural heritage, ecological diversity, terrains and places of natural beauty spread across the country. Tourism also is a potentially large generator for employment, besides being an invaluable source of foreign exchange for the country. 25 travel circuits and destinations have already been identified for development through joint efforts of the Central government, the State government, and the private sector State Government of Karnataka, Kerala, Tamil Nadu, Orissa and Maharashtra. Refurbishment of Archaeological Survey of India monuments has been taken up to boost heritage tourism involving local authorities, trusts etc., restoration, the maintenance of the surroundings, preservation of tourist attractions and providing world class tourist amenities, facilities and landscaping of area around important monuments in a phased manner.

Today tourism is the one of the largest service industries in India, owing a contribution of 6.23% to the national Gross Domestic Product (GDP) and providing 8.78% to the total employment. India witnesses over 5 million foreign tourist arrivals and 562 million domestic tourism visits annually.²

According to the 2009 tourism satellite accounting research, released by the World Travel and Tourism council. There are some future prospects catering to the tourism of India.

- The demand for tourism in India is expected to grow by 8.2 percent between 2010 and 2019 and will place India at the third position in the world.
- India's tourism sector is expected to be the second largest employer in the world.
- Capital investment in India's tourism sector is expected to grow at 8.8 percent between 2010 and 2019.

² 1. <http://trcollege.edu.in/articles/74-development-and-impact-of-tourism-industry-in-india>

2. www.ibef.org/industry/tourismhospitality.aspx

The major constraint in the development of tourism in India is the lack of adequate infrastructure including optimum air seat capacity, accommodation, accessibility to tourist destinations, and trained manpower in sufficient number.

Every year there is a tremendous growth in the number of tourist traveling within India. The top five states with maximum number of tourists visits are Tamil Nadu, Rajasthan, Uttar Pradesh and Andhra Pradesh in the year 2015.³

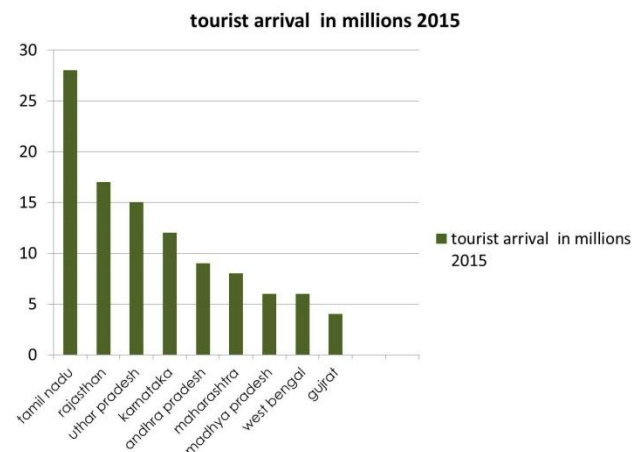


Figure I-1 Tourist arrival within India, 2015

1. Tourism in Karnataka

Karnataka is the fastest growing state in India; Karnataka has been ranked as the 4th preferred destination among domestic tourists and 3rd preferred destination for investments in the tourism sector.⁴ Karnataka is home to several architectural marvels and is blessed with a rich cultural heritage. Other diverse tourist attractions include pilgrimage sites, coastal landscape and wildlife / national parks. It's the location for 507 of the 3600 centrally protected monuments in India, the largest number after Uttar Pradesh.

Inclusion in UNESCO's World Heritage list brings international recognition and tourist traffic. Currently Karnataka has heritage sites in Hampi and Pattadakal. While the process for listing new sites is tedious, it is worth pursuing applications for the Hoysala region, Srirangapatna and the Deccan Sultanate architecture.

³ 1. <http://senthil-studynotes.blogspot.in/2016/07/ca-tourism-arrivals-in-indian-states.html>

⁴ <http://www.investkarnataka.co.in/assets/downloads/tourism.pdf>

2. HISTORY

India has a bounty of heritage sites and monuments dating from before pre-historic days to modern times. These lifeless symbols stand witness to the country's magnificent past and give a glimpse of its diverse heritage and culture. Architectural styles, cultures and traditions are the rich mixture of heritage, where the influence of various reigns and dynasties is connected to present. With the Islamic style concentrating only on monuments, Portuguese style on palaces, castles, and the Hindu style being more religious, India boasts of a countless of architectural delights. The recorded history of Karnataka goes back to than two millennia. Karnataka was ruled by several great dynasties that have also contributed to the history, culture and development of Karnataka namely, the Mauryas, the Satavahana, the Kadamba, the Rashtrakuta, the Cholas, the Hoysala and lastly the Vijayanagara dynasty in the early 14th century.

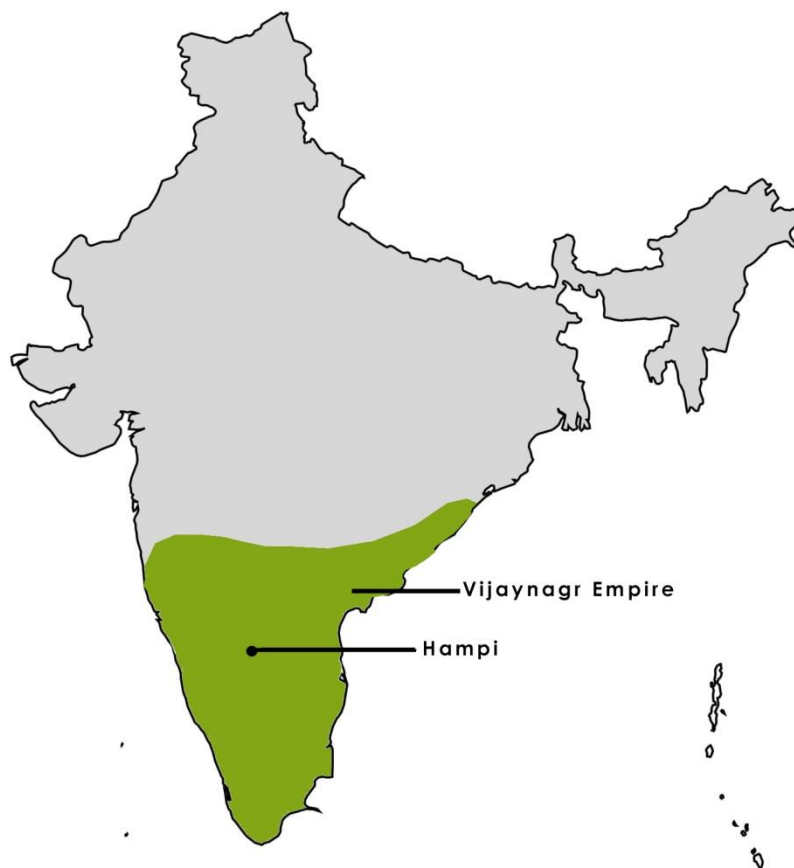


Figure 2-1 Map showing Vijayanagar Empire
<http://exampariksha.com/vijayanagar-empire-history-study-material-notes/>

Source:

If legendary history and local traditions were credited, there was a town many centuries ago before the Vijayanagar Empire. Some of the most pivotal plot points in the great epic of the Ramayana occurred at a place called Kiskindha. Pampa kshetra, Kiskindha Kshetra and Bhaskara Kshetra is the other name for Hampi. These names are derived from famous Tungabhadra River which flows through this region. Hampi in 14th century was the capital city of the last great Hindu Kingdom of Vijayanagara, founded in 1336 by two princes Hakka and Bukka. Hampi was ruled by four dynasties.

1. Sangama dynasty, A.D. 1336-1478
2. Saluva dynasty, A.D. 1478-1496
3. Tulava dynasty, A.D. 1505- 1570
4. Araveedu dynasty, A.D 1570-1644

Since Vijayanagar had been an imperial capital for over two centuries, Krishnadevaraya who ruled the kingdom of Vijayanagara in between 1509-1529 was one of the greatest rulers of medieval South India. Krishnadevaraya was the son of Tuluva Narasayanaka and post the death of his brother Vira Narasimha ascended the throne of Vijayanagara in 1509.

After the death of Krishnadevaraya in 1529, his younger brother AchyutaRaya succeeded him. However under his reign Vijayanagar wasn't as glorious as it was under Krishnadevaraya. SadasivaRaya succeeded AchyutaRaya in 1542. The battle of Talikota was fought between Sultanates of Decan and Vijayanagar kingdom in 1565 AD. The Vijayanagar kingdom suffered a defeat in the battle. The Decan army destroyed all the civil, military and some religious buildings of Hampi.

3. ARCHITECTURE

The mountains in the ruined city of Vijayanagar and its environs have a particular attraction towards architecture. Since Vijayanagar had been a royal capital for over two centuries it is no surprise that some of the finest specimens of the period are found, though in a ruinous state, in the heart of the city. With the liberal support of Krishnadeva Raya, the proportion of the buildings in the city range from the times of early rules like Harihara II to that of Sadasiva.

Hampi was also lush in art and architecture. The rulers who ruled the region were greatly fond of religion and art, hence most kings put in a lot of efforts to set up a glorious empire using one of the best architecture strategies. Hampi was known as a dominant trading centre with rich markets. The mountains consist of only civil, religious and military buildings.

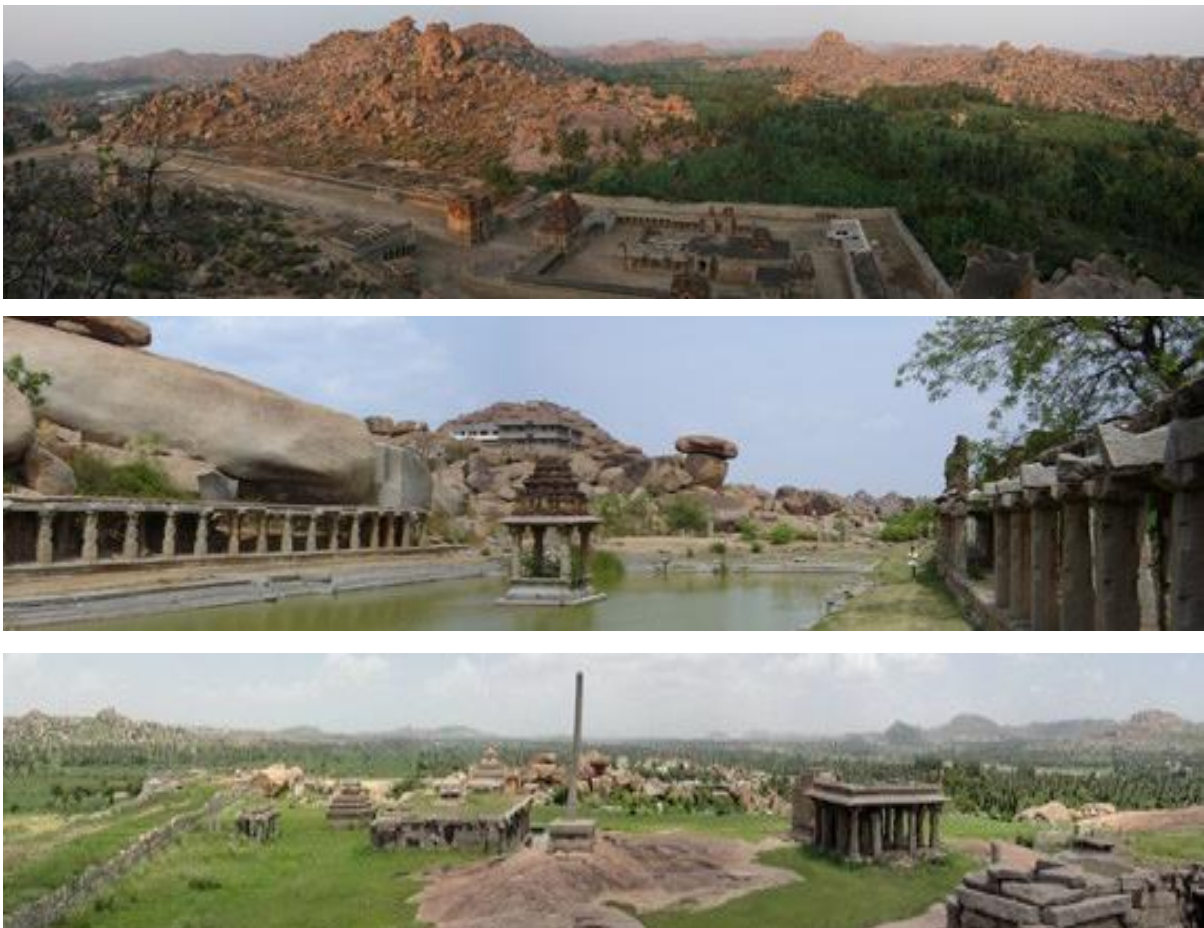


Figure 3-1 Different architectural buildings of Vijayanagar period

Source : Author

1. Religious Architecture

i. Pre-Vijayanagar period:

The majority of the historical buildings belong to the Vijayanagar period and style, while small proportion buildings belong to pre-Vijayanagar times. These buildings are found in or near the village of Hampi. The so-called Jaina temple on Hemakutam hill, the two Devi shrines and numerous other structures in the Virupaksha are few of the structures assignable to the pre-Vijayanagar period. Most of these monuments are of the Chalukyan style.

The neat looking stone temples on the Hemakutam hills, their stepped pyramidal Vimana's form a class in its own style of architecture. An interesting aspect of all the structures of this type are also found in and around the Hampi village, further on the southern bank of the Tungabhadra is the Vaishnava shrine, and those in the southern eastern part of the city are all Jaina shrines.

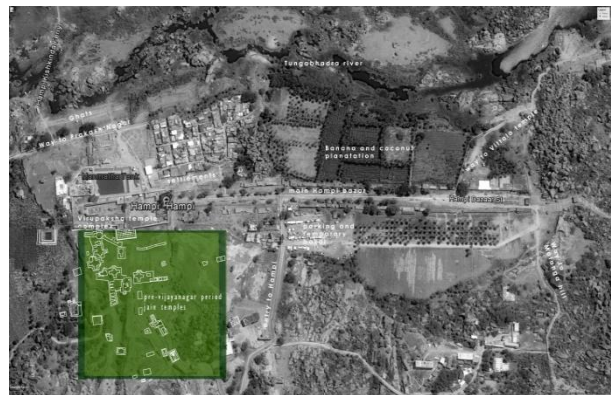


Figure 3-2 Map showing temples of pre-Vijayanagar period
Source: Author



Figure 3-3 Jain temples at Hemakuta hill, Source : Author

ii. Vijayanagar period:

In the empire of fine arts, Vijayanagar made an outstanding contribution by the development of a peculiar style of temple-architecture. This style was more or less having same character with the history of the dynasty. The plan of the typical Vijayanagar temple shows most of the characteristic features of the temples of the Tamil Nadu. For example, there are separate shrines for the goddess to the rear of the main shrine of the God and also sub shrine. Most of the Vijayanagar temples at Hampi have covered and pillared pradakshina-pralara round the Garbhagirha and Antarala.

The Kalyana-mandapa is a prime characteristic of the Vijayanagar style. This is usually an open pillared mandapa with raised platform in the center. The ceiling was also carved. It is the most decorative of the structures in the temple complex.



Figure 3-4 Shrines and Mandapa of Vijayanagar period, Source : Author

2. Civil Architecture

Most of the civil buildings at Hampi are constructed in the sacred and royal zone area. Unfortunately they are mostly ruins of the elegant multi storied structures with the mansions of the Vijayanagar. To the class of the monuments also be added some of the long and broad ancient bazaar of the city. For civil architecture, stone was used for the basic material. Like stone, wood, metal and brick were used in superstructure. The pillars were timber or stone. Sometimes pillars with a stone core



Figure 3-5 Pavilions of old Hampi bazaar , Source : Author



were covered with brick and mortar and finished with plaster.

3. Military Architecture

The architecture of Vijayanagar utilise natural resources optimally, linking itself with the perennial river Tungabhadra, and to the gigantic boulders and mountains by using massive lines of fortification. The most prominent and interesting feature are the massive walls and the strong gateways. The walls are built using blocks of stone without any binding material. All the gateways were high enough to facilitate



Figure 3-6 Fortification and gateways, Source : Author

passage of elephants, flanked by shrines to the respective guardian deities.

4. GEOGRAPHY AND LOCATION

1. Geographical condition

Hampi is located right in the heart of great Decan plateau, towards the foothills of the Western Ghats. This region comprises of hill ranges, some of which are branches of the Central Sahyadris, like the Sandur hill range to the west and southwest of Hampi.

The average elevation of Hampi is about 400 to 540 metres above mean sea level. The highest hills in the area are elevated at 542 metres above MSL (Anjanadri Hill) and 515 metres above sea level (Matanga Hill). The most spellbinding physical and natural features of the site are the rocky hillocks characterized by granite boulders which are spread over the entire site.



Figure 4-2 Section showing highest point (Matanga hill) above mean sea level, Source : google earth



Figure 4-2 Section showing highest point (Anjanadri hill) above mean sea level, Source : google earth

Besides their natural characters, Hills and boulder formations should be considered as a larger picture that includes both natural (geological history) and man-made interventions (temples, mandapas, caves...). Protection measures should hence address both natural and built heritage developed within these areas. This mature topography is

provided with a well-established drainage pattern which is dendritic in character.



Figure 4-4 Granite boulders at Hampi and surrounding, Source : Author

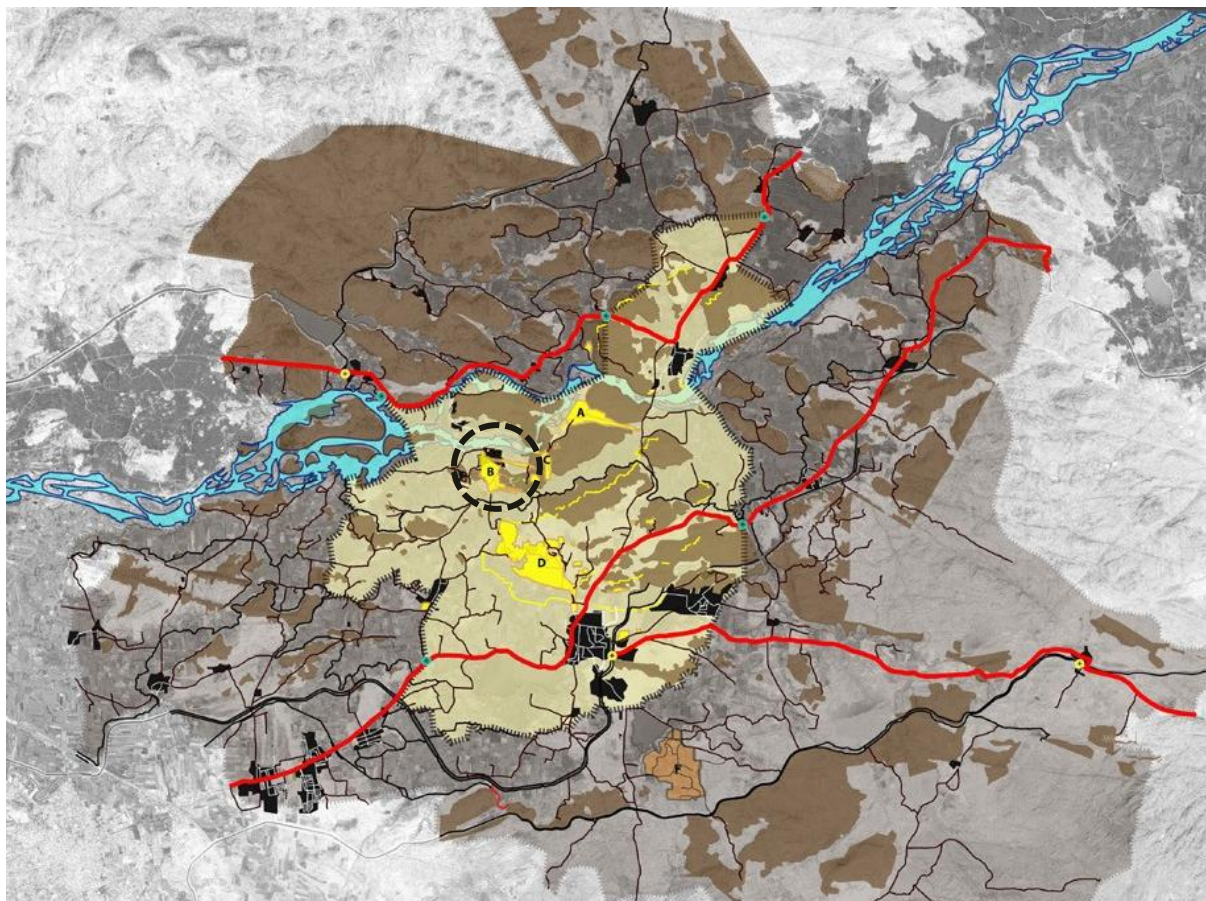


Figure 4-3 Map showing the hilly area near hampi ,

Source : FILLIOZAT V., "Hampi Vijayanagar, Histoires et Legendes", Editions Agamat, 2004



i. Soil character

The most prevalent soil in the area is reddish sandy loam found on the banks of river Tungabhadra, while reddish brown soil occurs at the fringes of hills due to the decomposition of rocks. However black cotton soil also occurs in the area. The black soils of the Tungabhadra region are 0.6 -1.2 metre deep, heavy in texture with 45 to 50% clay and contain free calcium carbonate throughout the profile. There is generally a zone of salt concentration in the soil profile at a depth of 0.4 -0.9 metre, the principal salt being gypsum. Below the gypsum layer occurs 'murrum' which is practically impermeable to water.⁵

ii. Climate

Hampi's climate is generally dry & hot. March to early June is the summer. Monsoon brings some wet weather that typically lasts from late June to early August. The colder period of the year is from November to February.⁶

Temperature

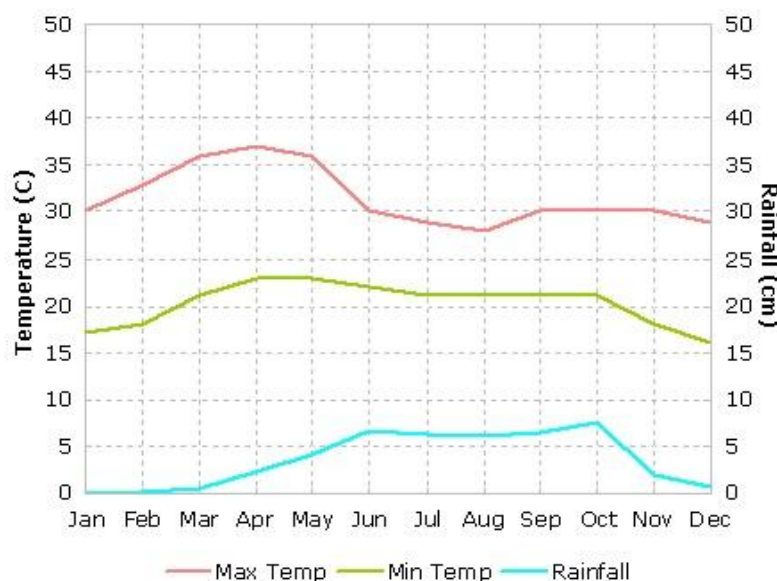


Figure 4-5 Graphs shows the climatic condition of Hampi

Source :

https://www.meteoblue.com/en/weather/forecast/modelclimate/hampi_india_1270448

⁵ 1.THAKUR N. for the Archaeological Survey of India,

2. RAM SINGH S., "Agro diversity and cropping pattern", 2009,

3. VENKATEESWARAN P.A., "Agriculture in South India",

⁶ https://www.meteoblue.com/en/weather/forecast/modelclimate/hampi_india_1270448

The graph shows the monthly number of sunny, cloudy, overcast and precipitation days. It is seen that from the month of January till mid of May the temperature is 35 degree and is sunny all day. Gradually the temperature decreases up to 21 degree in monsoon.⁷

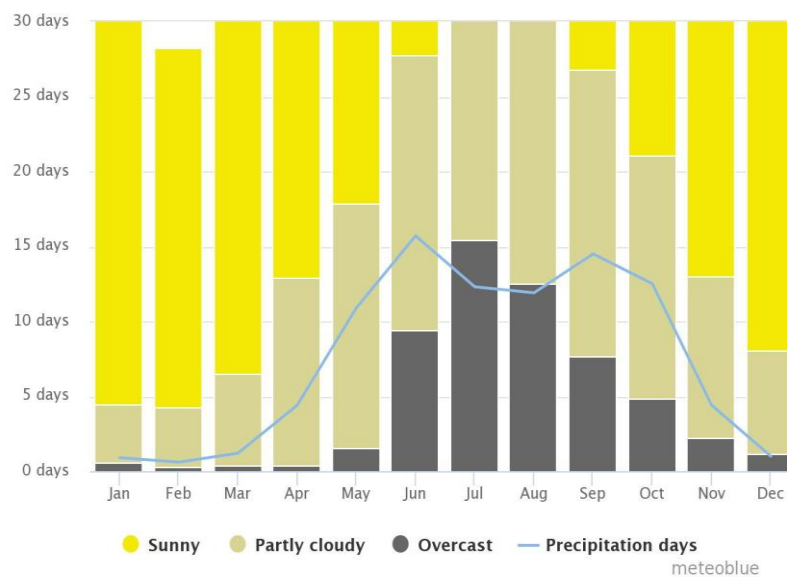


Figure 4-6 Graph showing sunny, cloudy and overcast precipitation

Source :

www.meteoblue.com/en/weather/forecast/modelclimate/hampi_india_127044

Wind direction

The wind rose for Hampi from South West (SW) to north east. This graph shows how many hours per year the wind blows from the indicated direction.

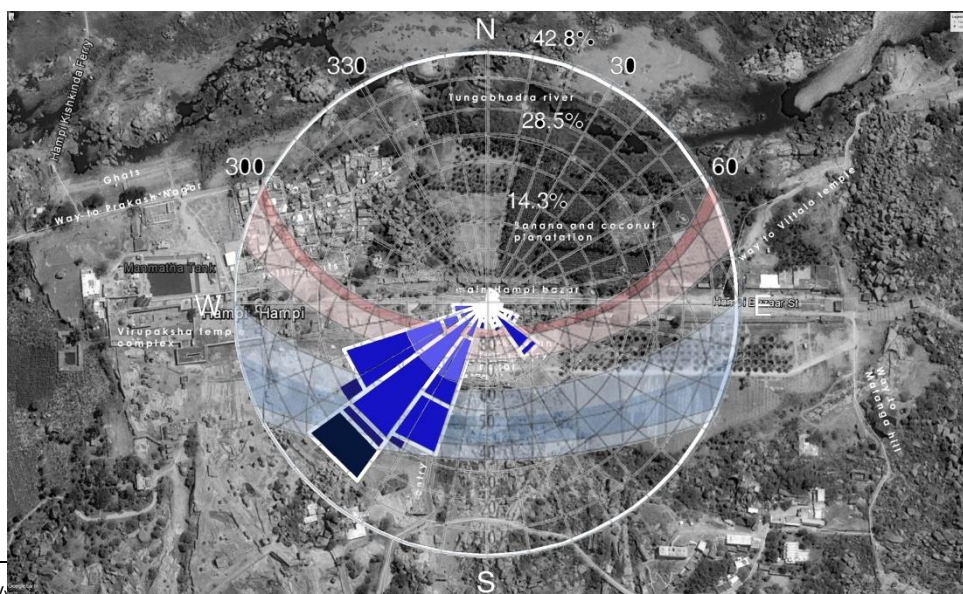


Figure 4-7 Wind direction at hampi

Source : www.meteoblue.com/en/weather/forecast/modelclimate/hampi_india_1270448.

⁷ <https://>

2. Evolution of Vijayanagar from 14th century⁸



Generic land condition- 6th century



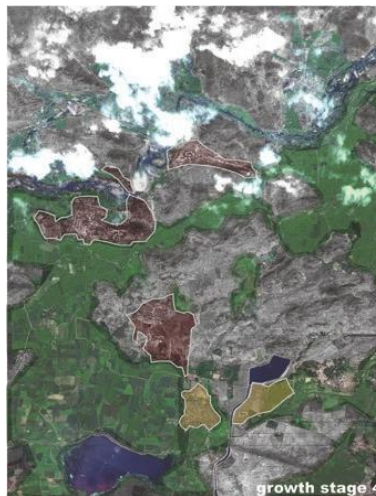
Hemakuta hill-7th century AD



Virupaksha Temple - 10th century AD



Royal Enclosure- 14th century AD



Krishna and Vittala temple- 15th century 1



Achyutaraya temple- 15th-16th century AD 1

To the southern valley lies the urban core, clearly identified by a complete ring of massive fortifications containing the Royal centre, which comprises of small palaces, leisure place, temples, stables etc. Sub urban core contains the agricultural and vegetation area and small villages

⁸ FILLIOZAT V., "Hampi Vijayanagar, Histoires et Legendes", Editions Agamat, 2004

The early developments of the region were around the Manmatha tank and Hemakuta Hill, towards the northern areas of the site during Chalukyan Empire (689-690 A.D).

These expansions are distinguished into three zones:

- The sacred centre beside Tungabhadra River.
- Urban core contains the Royal centre in the limited area.
- Sub urban centre in the plain

This sacred centre was considered holy even before establishment of the kingdom, as it witnessed powerful religious activity with several temples and settlements being erected along the Tungabhadra River.

3. Spatial Organisation at Hampi

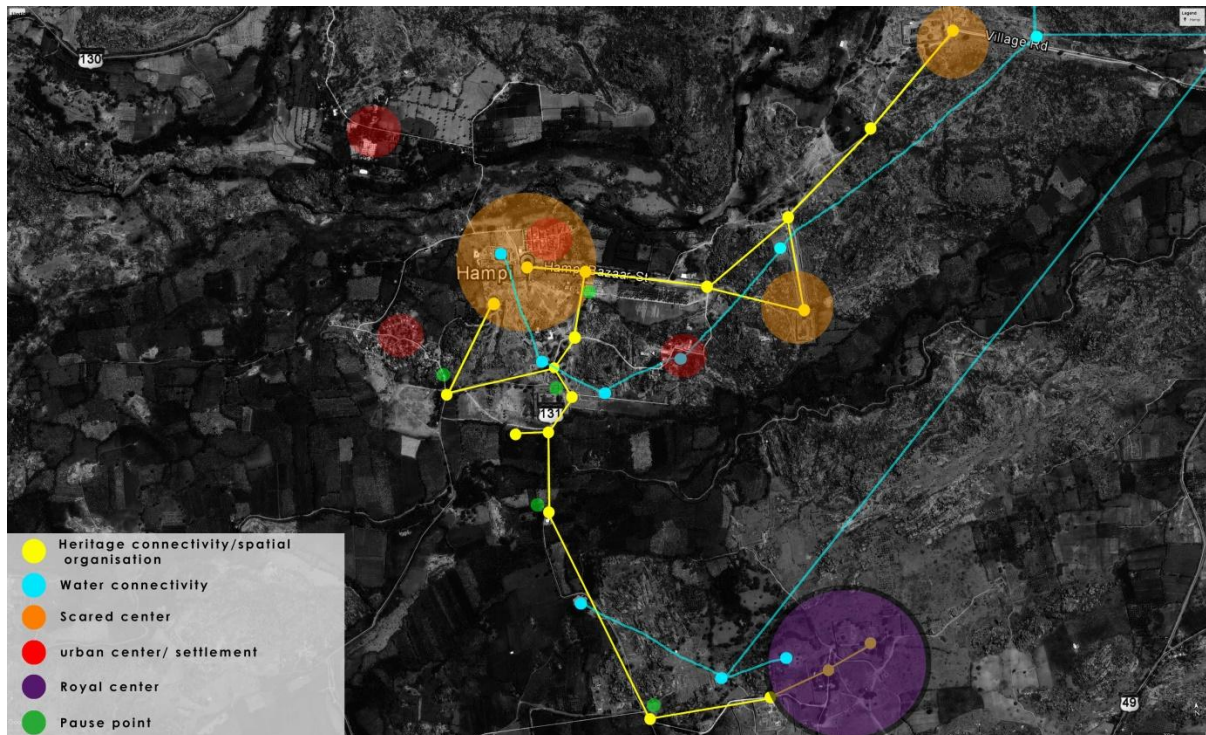


Figure 4-8 Plan showing spatial organisation and connectivity of Hampi Source: Author

Spatial organisation refers to the arrangement of physical objects and settlements within a specific area. For the purpose of this study, the analysis of spatial organisation focuses on the built fabric and its relationship to the natural environment.

The analysis of the physical organisation and orientation of major precincts developed during Vijaynagar Period enables us to examine the linkages between natural and built environment. Understanding historical development and its inter-dependent with the natural environment is vital in arriving at a framework that effectively addresses current requirements and challenges.

Sacred centre



Figure 4-9 Plan of spatial organisation of virupaksha ,krishnapura, achyutraya temple Source : Author

Virupaksha temple has had uninterrupted function since its inception in the 7th century AD. The original place of worship was a few separate unornate shrines (believed to be as old as 7th Century) that house the image of the god and the goddesses.

This area in general has been an important pilgrimage centre for the worshipers of Lord Siva. It is indeed the most ancient, most sacred and most lavishly planned spot at Hampi and the best preserved of the Vijayanagara Period.

This region gained popularity as Hampi by the beginning of the 13th century, which indicates either the rise of a new township or an extension of an existing settlement under new names. Records states that this hub was established in 1534. The Krishnapura, Achyutapura and dozens of various other temples complexes were getting established.



Figure 4-10 Plan showing spatial organisation of Royal Enclosure Source: Author

Royal centre

The fortified area had been the seat of power of the Vijayanagara Empire. Sprawling over a hundred square metres, this fortified area is scattered with a interesting ruins. The Royal Centre occupies the western end of the Urban Core. The roughly oval zone, narrower to the Southwest and opening to northeast is contained within its own arc of fort walls, though these are no longer complete.

Large gateways leading into the Royal Centre stand to the east, now abandoned in the middle of the fields. Royal Centre is where the Vijayanagara kings and their private house helps lived and conducted the daily business of ceremony and government. A good deal of the zone is subdivided into irregular interlocked compounds by tall slender walls built of tightly fitted granite blocks that face a rubble core.



Figure 4-11 Map showing all spatial connections within heritage structure.

4. Tourism resources of Hampi

Natural Tourism Resources	Cultural Tourism Resources	Social Tourism Resources
<ul style="list-style-type: none"> Moderate climate 	<ul style="list-style-type: none"> Heritage 	<ul style="list-style-type: none"> Rural image
<ul style="list-style-type: none"> Rocky terrain with magnificent landscape 	<ul style="list-style-type: none"> Religious 	<ul style="list-style-type: none"> Entertainment
<ul style="list-style-type: none"> Flora and fauna 	<ul style="list-style-type: none"> Rituals and culture 	<ul style="list-style-type: none"> Agriculture
<ul style="list-style-type: none"> Rivers and lake 	<ul style="list-style-type: none"> Art and craft 	<ul style="list-style-type: none"> Tourism guidance

i. SWOT analysis of tourism sector in Hampi

STRENGTHS

- Rich culture and heritage.
- Variety of landscapes.
- Lifestyles and cuisines.
- Rich tradition in handicrafts.
- Colour full fairs and festivals.

WEAKNESSES

- Lack of tourist infrastructure facilities and basic amenities at many tourist destinations.
- Lack of information about various tourist destinations.
- Unfavourable brand image as a tourist Friendly destination.

OPPORTUNITIES

- Global trend towards exotic destinations.
- Tourism potential unexploited.
- Generation of employment.
- Migration can be reduced.

THREATS

- Exploiting natural landscape.
- Disproportionate use of land.
- Losses may be severe due to overdependence on tourism.
- No proper maintenance of the area.

5. SITE ANALYSIS

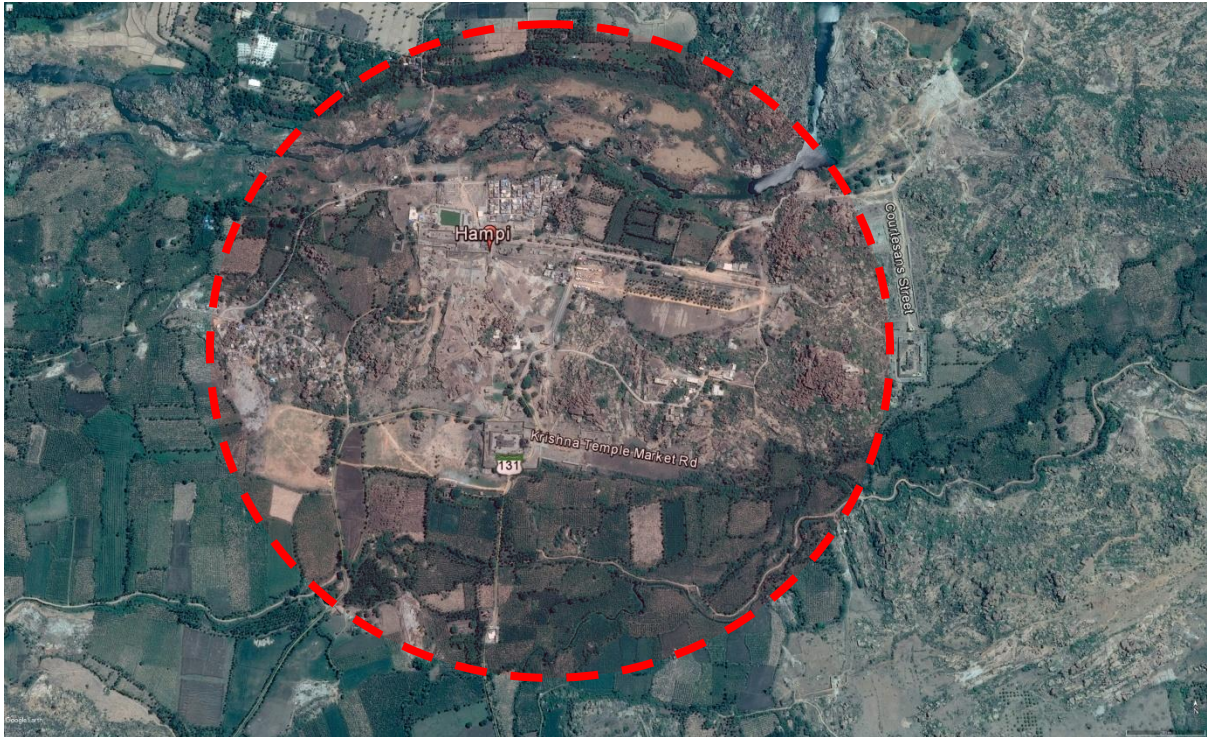


Figure 5-1 Site map with radius of 3km from the hampi, Source : google earth

⁹Hampi world Heritage Site (HWHS) now encompasses a total of 236 sq.km including core, buffer and peripheral zones.

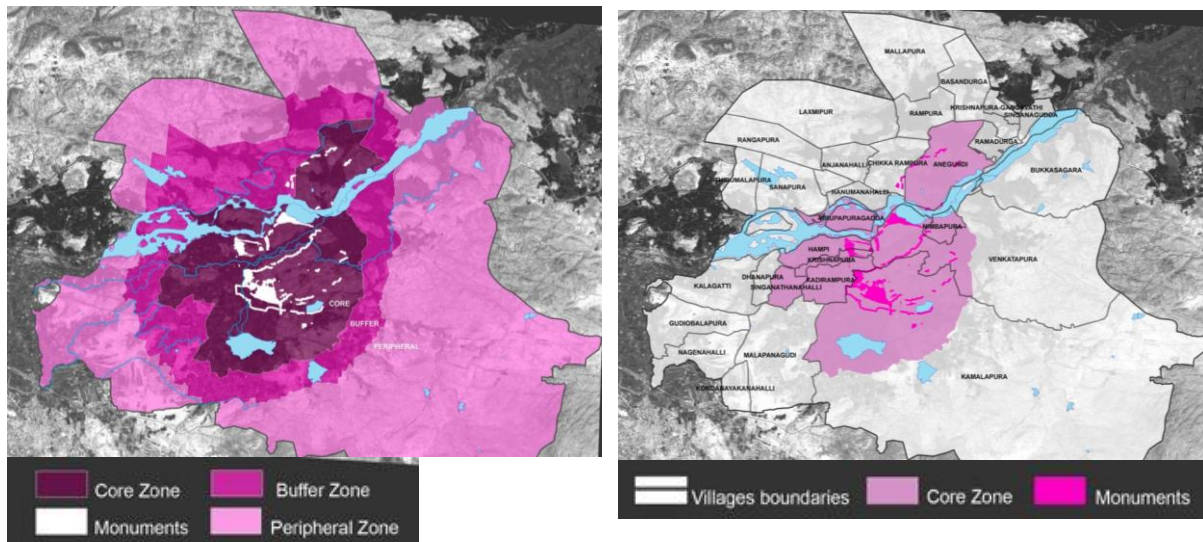


Figure 5-2 Map showing the core, buffer and peripheral zones ,
Source : FILLIOZAT V., "Hampi Vijayanagar, Histoires et Legendes", Editions Agamat, 2004

⁹ FILLIOZAT V., "Hampi Vijayanagar, Histoires et Legendes", Editions Agamat, 2004

Hampi is a large village located in Hospet of Bellary district, Hampi is 15 km north from Hospet. Hospet is the nearest town to Hampi. Kamlapura and Kaddirampur are the two villages that connect Hampi further.

However, as a complex site covering a vast living zone with much more monuments, the fact that only few monuments in the area of Hampi were designated World Heritage or National Heritage, without including the natural and living settlements has led to serious site issues due to growing urbanization, unplanned development and pressures from tourism. A group of 56 monuments were included in the UNESCO World Heritage list in 1986, which comes under the protection of the Archaeological Survey of India (ASI), almost 500 more are remaining under the protection of the State Department of Archaeology and Museum.¹⁰

56 monuments which comes under the protection of ASI

Sasvikalu Ganesha	Noblemen's Quarters
Vishnupada Temple	Pan-Supari Bazaar
Kadalekalu Ganesha	Pattanada Yellamma Temple
Hemkuta Temples	Zanana Enclosure
Virupaksha Temple	Water pavilion
Monolithic Bull	Lotus Mahal
Veerbhadrar Temple	Ranga Temple
Achyutaraya Temple	Guard's Quarters
Yantrodhara Anjaneya Temple	Elephants Stable
Kodandhara Temple	Parswanatha Temple
Narasimha Temple	Jaina Temple
Purandara Mandapa	Hazararama Temple
Vitthala Temple	Stone Aqueduct
Shiv Temple	Royal Enclosure
Krishna Temple	Stone Door
Badavilinga Temple	King's Audience Hall
Sarasvati Temple	Queen's Bath
Chandikesvara Temple	Bhojana sala

¹⁰ http://asi.nic.in/asi_monu_whs_hampi.asp

Water Tank	Octagonal Water Pavilion
Chandrasekhara Temple	Ranghunatha Temple
Sarasvati Temple	Mohammadan Tomb and Darga
Octogonal Bath	Anantashayana Temple
Bhima's Gateway	Treasuray Building
Domed Gateway	Varaha Temple
Stepped Tank	Vishnu Temple 1
Ganigitti Jaina Temple	Vishnu Temple 2
Public Bath	Ruined Gateway
Mahanavami Dibba	Underground Shiva Temple

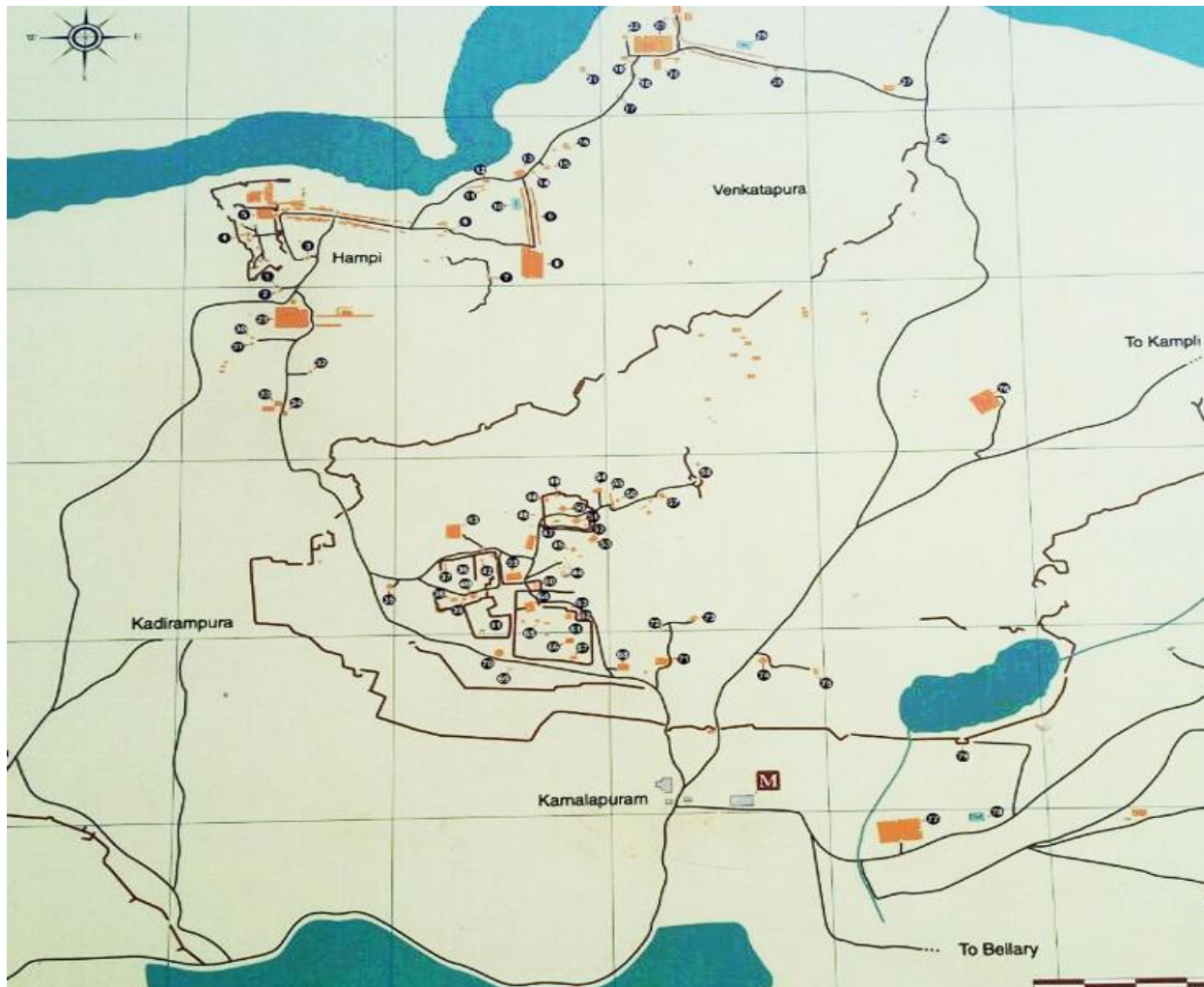


Figure 5-3 Map showing all monuments under ASI Source: Author

i. Landuse

The presence of these human settlements makes Hampi a living heritage site. It implies that people living in these settlements are an essential part of the site and therefore anything and everything rooted by local communities add to the cultural significance of the place. In other words, apart the tangible heritage, the oral

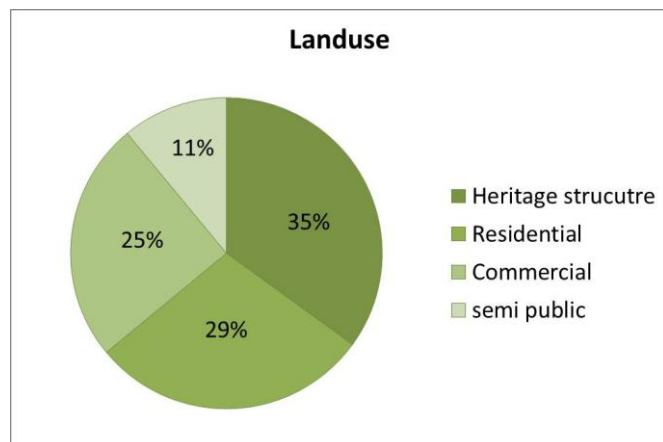
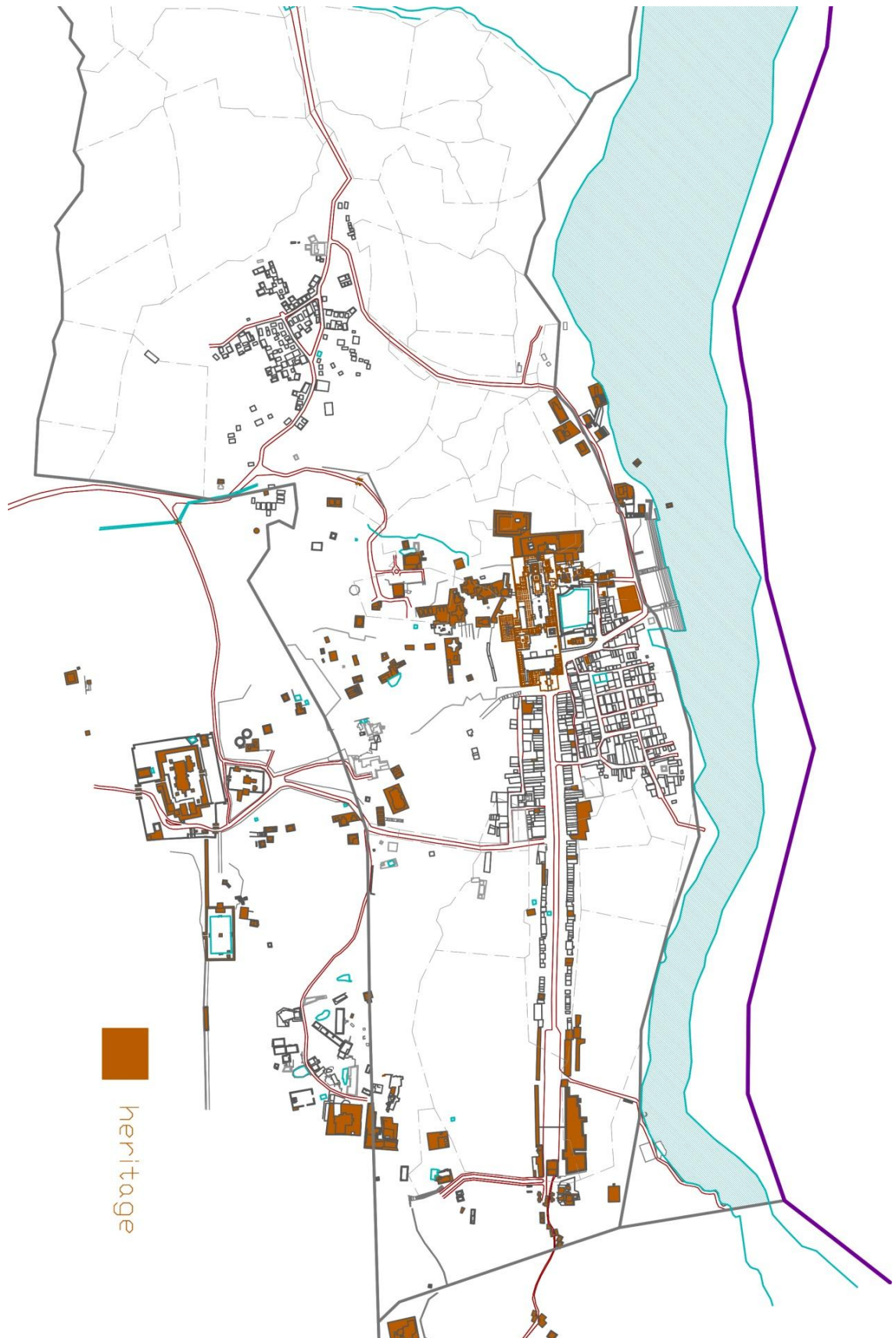


Figure 5-4 Graph showing Landuse of Hampi, source : Author

traditions and expressions including language of the building, land-use, character of the lane, It is the presence of this local population and the settlements that adds life to these silent monuments. Local communities are the means to maintain the 'soul' of the area by revealing the intrinsic values of a living heritage place.

With 35% of the site has Heritage structures, 29% with residential unit, 25% with commercial unit and 11% with semi-public structures.

Figure 5-5 map showing 56 monuments under ASI, source : Author



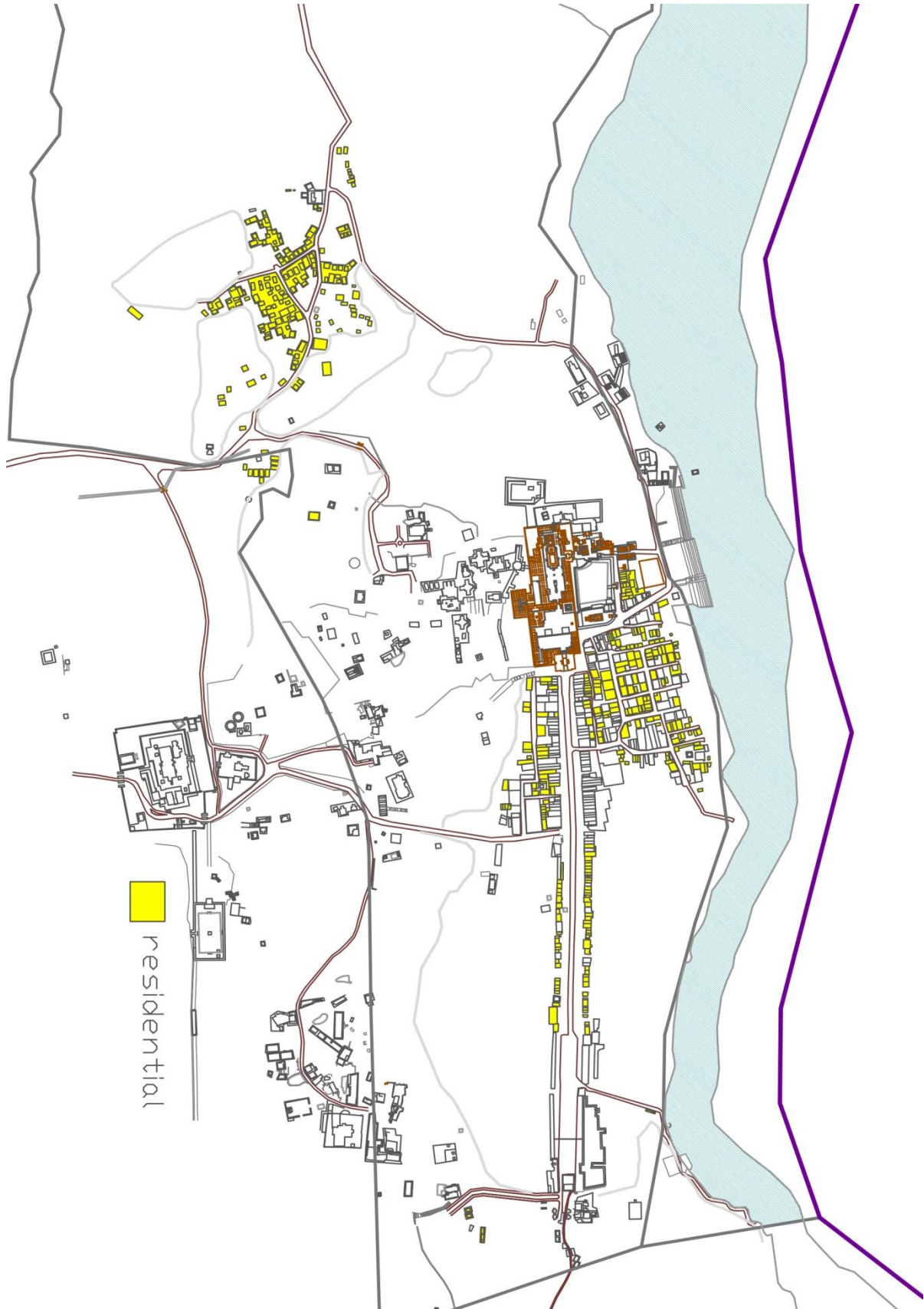


Figure 5-6 Map showing the residential units in Hampi

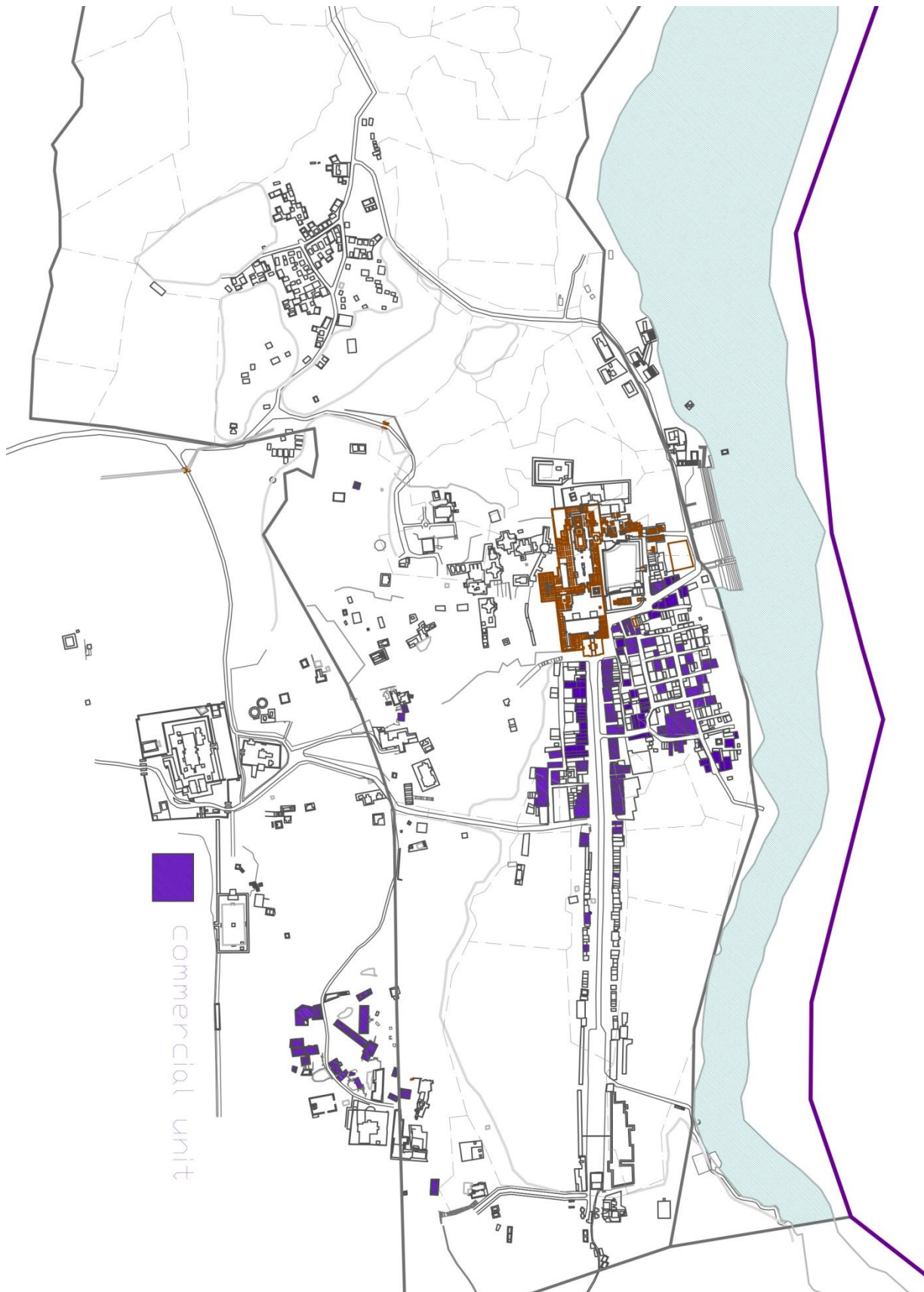


Figure 5-7 Map showing commercial unit in Hampi

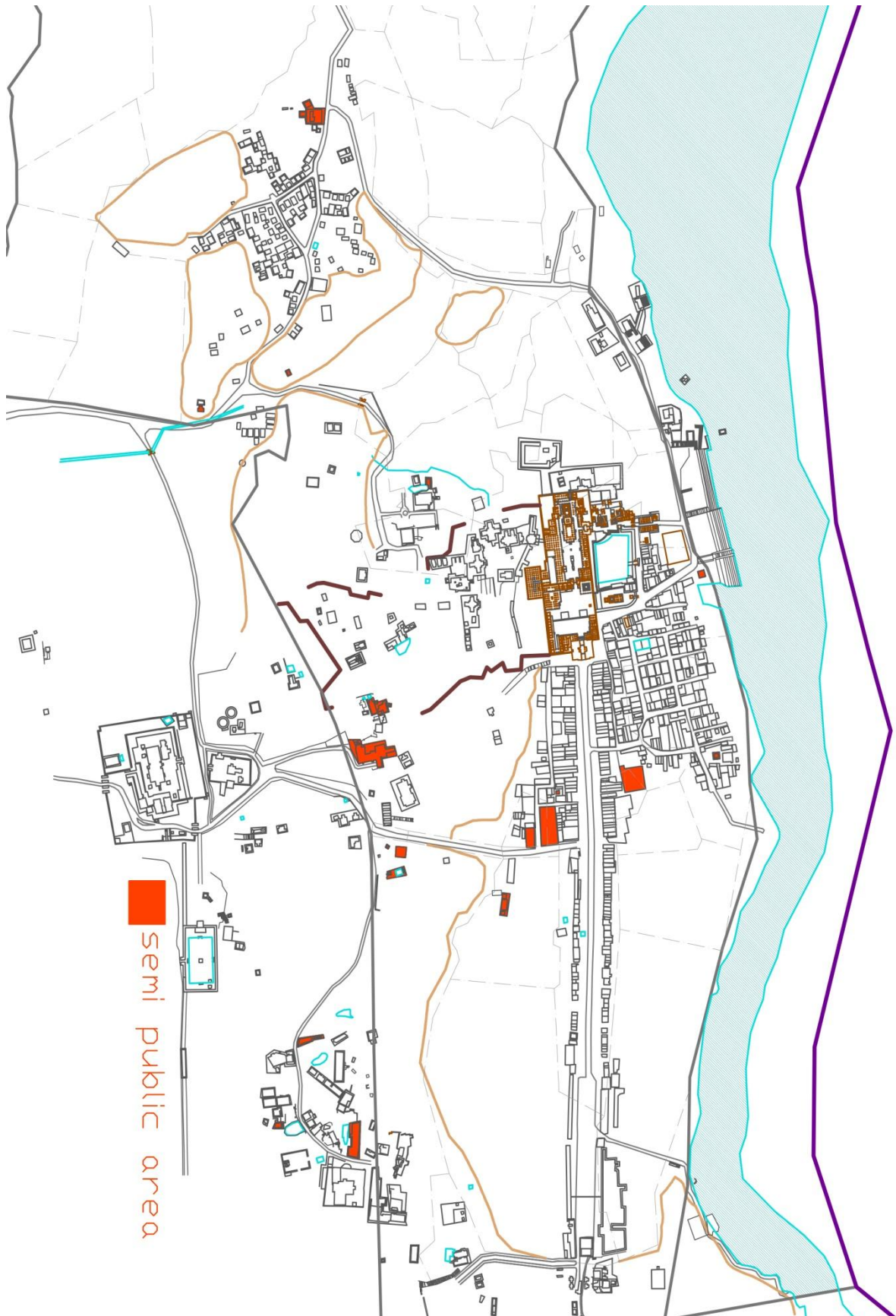


Figure 5-8 Map showing Semi-public area in Hampi

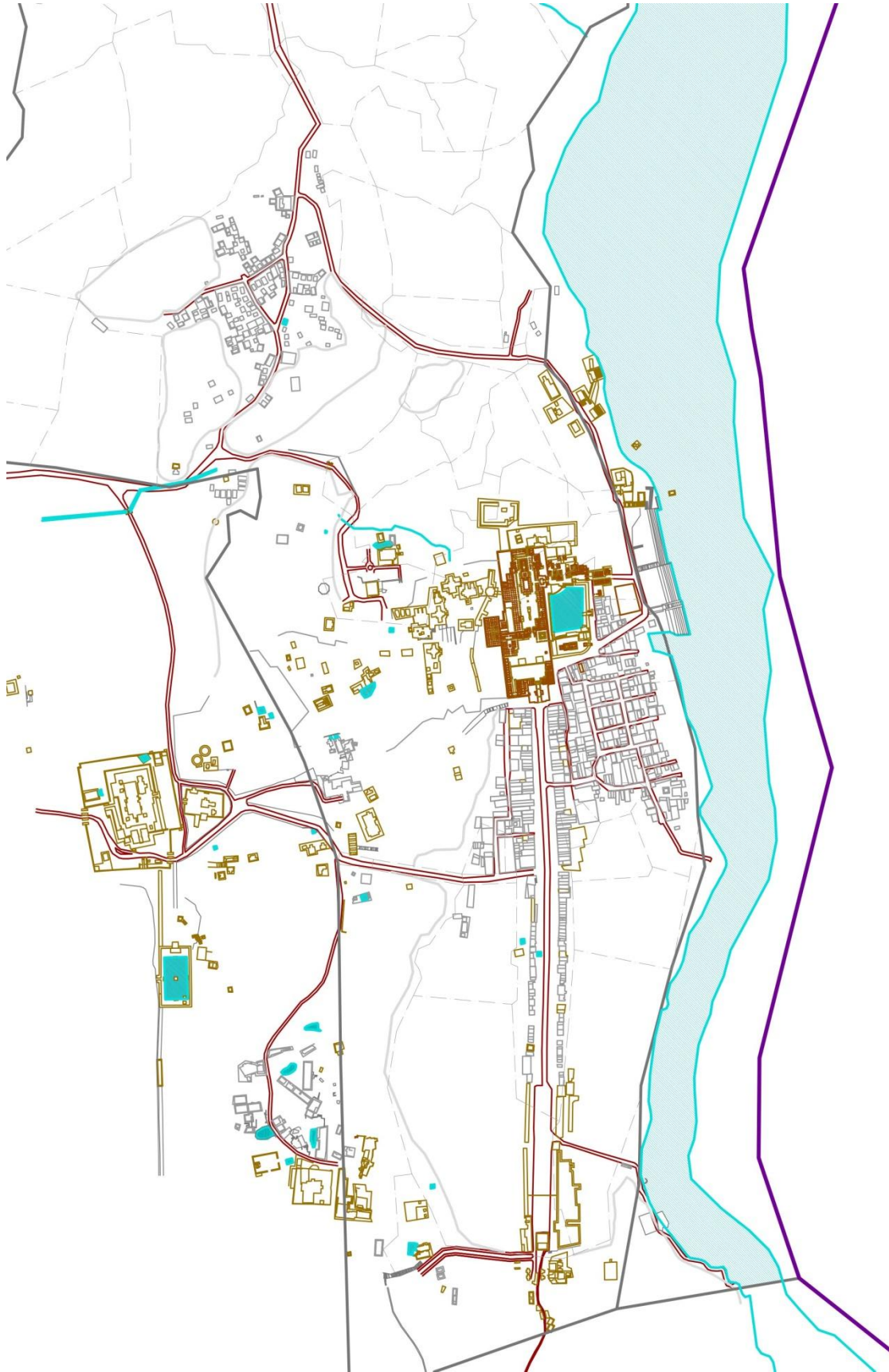


Figure 5-9 Map showing water bodies and tanks in Hampi

ii. Evolution of Hampi (Virupaksha temple)

The main residential core of Hampi was the Virupaksha temple complex, with a population of 2777 from 351 families residing at Hampi. People started encroaching within the heritage structures for their livelihood.

2007

People residing in Hampi started encroaching the old pavilion (Heritage structures from Vijayanagar period) for their commercial activities from decades which was illegal. These pavilions acted as bazar space from centuries.



VIRUPAKSHA AREA 2007, Source : google earth

2011

Year after year encroaching increased due to which the State Government of Karnataka and Archaeological survey of India (ASI) took strict action of demolishing the encroached structure in short notice. This demolition took in phase wise stages. In 2011, the southern part of the stretch was demolished.



2011, Source : google earth

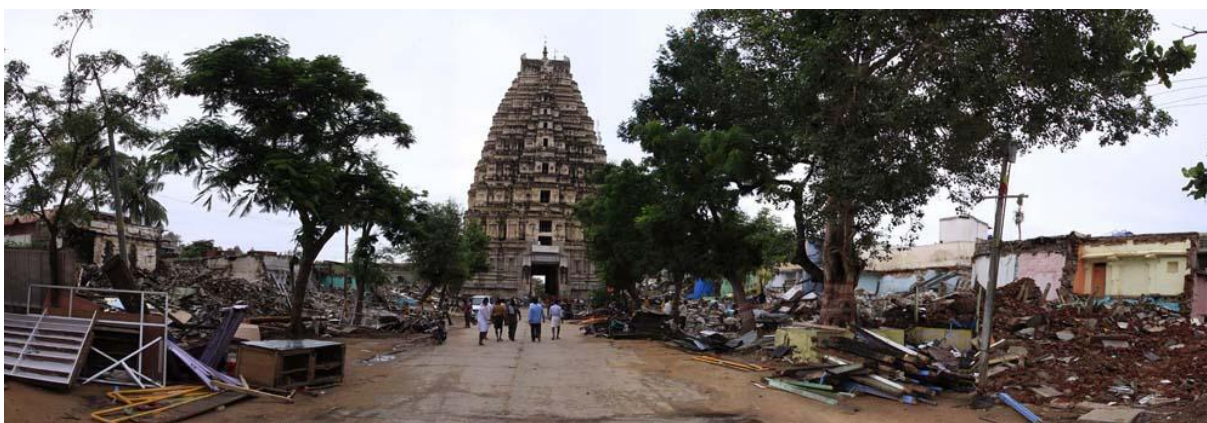




Figure 5-10 2011, southern and bazaar was demolished by state govt. and ASI in short notice
Source : <http://www.missjessrose.com/blog/welcome-to-hampi-india>

2012

Further the demolishing process continued with almost half of the settlements on the northern part of the temple. During this process some of the heritage structure like old pavilions and mandapa was hampered, affecting the heritage importance.



2012, Source : google earth

2015

After demolition half of the village was under ruins, within 2 years people were rehabilitated in other area. Later on remaining residents started encroaching the parking area for trading purposes. In 2015 ASI took initiatives of restoring the old heritage structures which were under ruins at Virupaksha temple stretch.



2015, Source :google earth

2017

Out of 351 units, 151 units are currently residing next to Virupaksha temple complex. This settlement includes facilities like tourist accommodation, information centre, internet café, restaurants, commercial shops etc. This settlement serves tourist who come to visit Hampi with various need facilities.



2017, Source : google earth

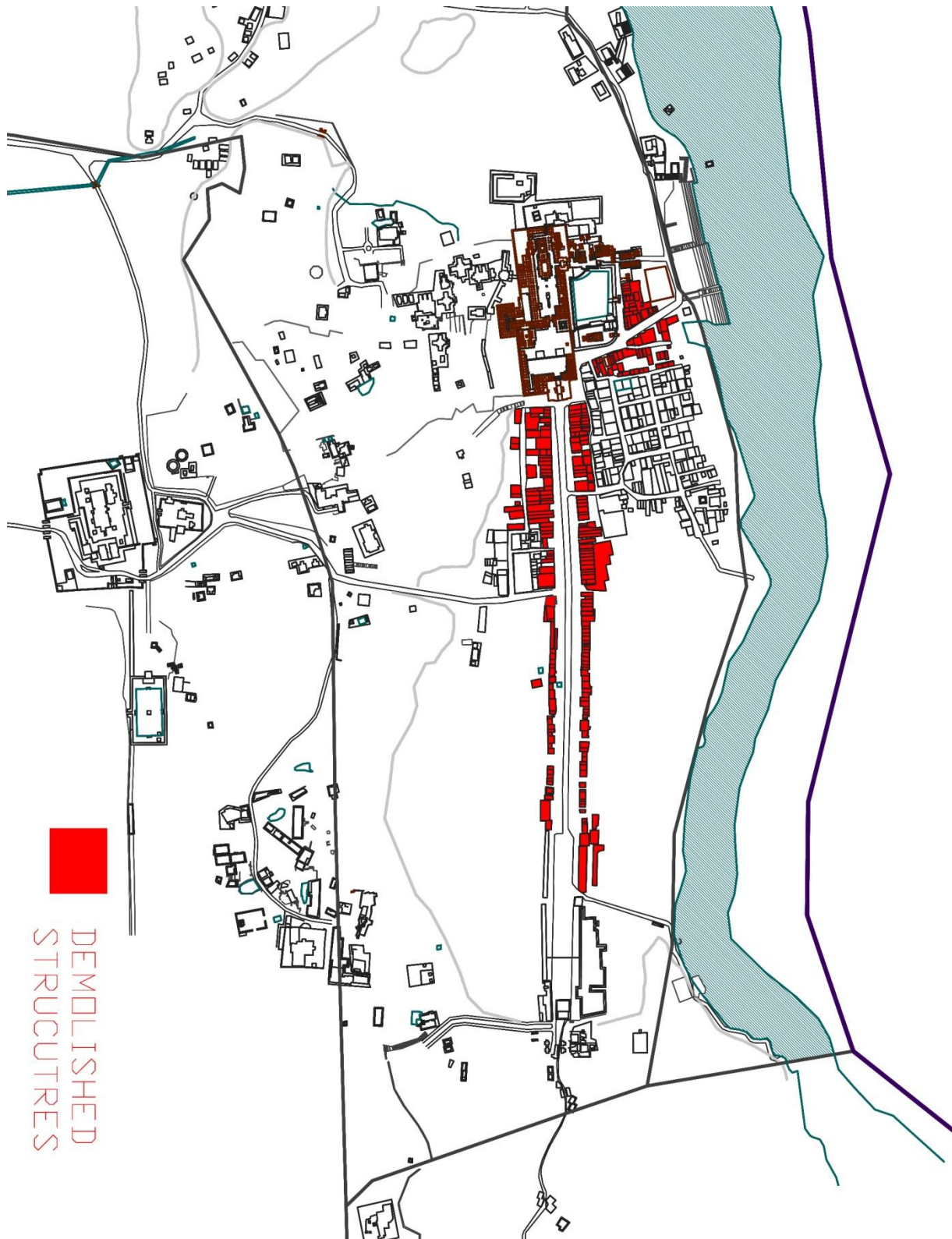


Figure 5-11 Map showing the demolished structures in 2011-2012, Source : Author

i. Report of Housing & Rehabilitation Plan for people of Hampi Bazaar by HWHAMA (Hampi World Heritage Area Management Authority) ¹¹¹

The Hon'ble High Court of Karnataka in W.P.No:29843/2009 (GM-PIL) has order to take initiative to remove illegal encroachments near Virupaksha temple impacting the integrity of the monuments at Hampi. Demolition of encroachments was taken up on 29-07-2011 and 30-07-2011. Joint survey of encroachers was conducted by ASI and HWHAMA (Hampi World Heritage Area Management Authority) and the list of 327 families was prepared and submitted to Hon'ble High Court. After resurvey 14 rehabilitants were included as per the directions of the Hon'ble High court.

Rehabilitation programme by HWHAMA. The Govt. of Karnataka allotted 15.80 acres of Govt., land near Kaddirampura Village for rehabilitation purpose. 335 Nos plots measuring 6m x 9 m size have been allotted to rehabilitant and allotment letters are also issued. Out of Rs.1,30,000/- cash compensation (As per specified allocation in Government Urban Housing Guidelines) towards construction of buildings 1st instalment of Rs.65,000/- each to the 305 rehabilitants were paid and after completion lintel level 2nd instalment of Rs.65,000/- each paid to the 211 persons. Work entrusted to Nirmiti Kendra Bellary for providing infrastructure facilities at rehabilitation layout and work is nearing completion.

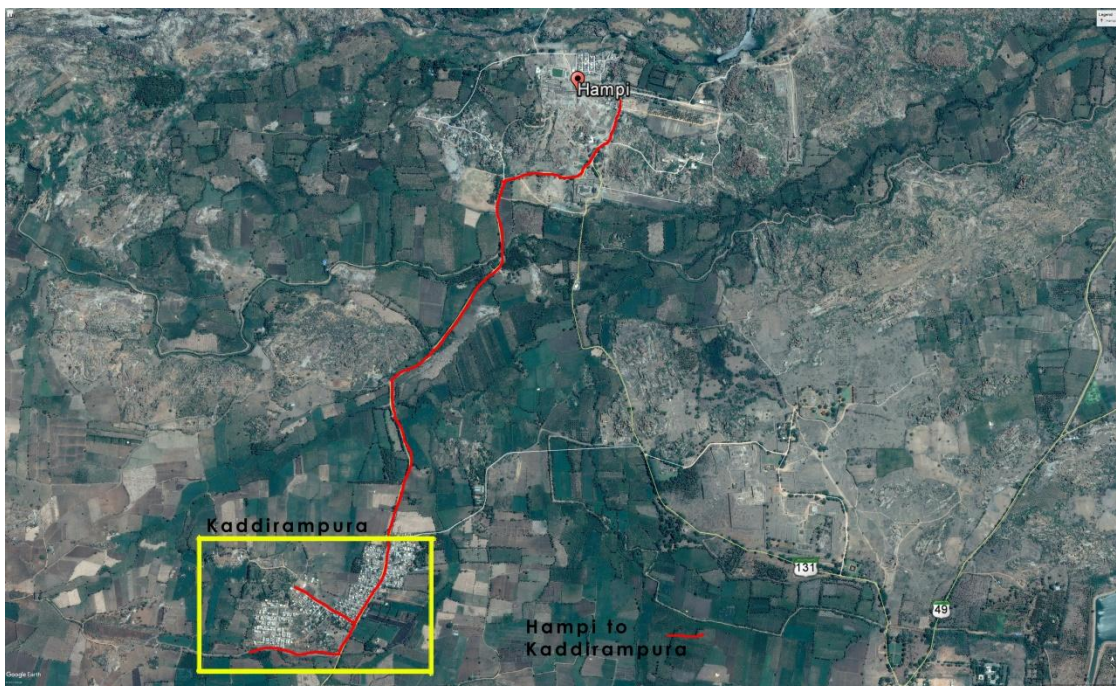


Figure 5-12 Site allotted to rehabilitated people Source: Author

¹¹¹¹ <http://202.138.105.9/hwhama/images/IMP/Hampi%20Resettlement%20Plan.pdf>

Entitlement**1) Residential**

- Training for self-employment will be provided to one adult per family as per their skills.
- Compensation at current PWD scheduled rates without depreciation and 30% solarium.
- Alternative houses will be provided in resettlement colony – (minimum size of plot 1200sqft)
- Shifting assistance of Rs. 10,000
- People can salvage their material

2) Commercial

- Alternative shop of 100 sq.ft OR assistance for
- income generation asset valued upto Rs. 30,000;
- Subsistence allowance of Rs.15,000;
- Shifting Allowance of Rs.5000.

3) Residential cum Commercial

For commercial activity (2) will apply for residential (1) will apply.

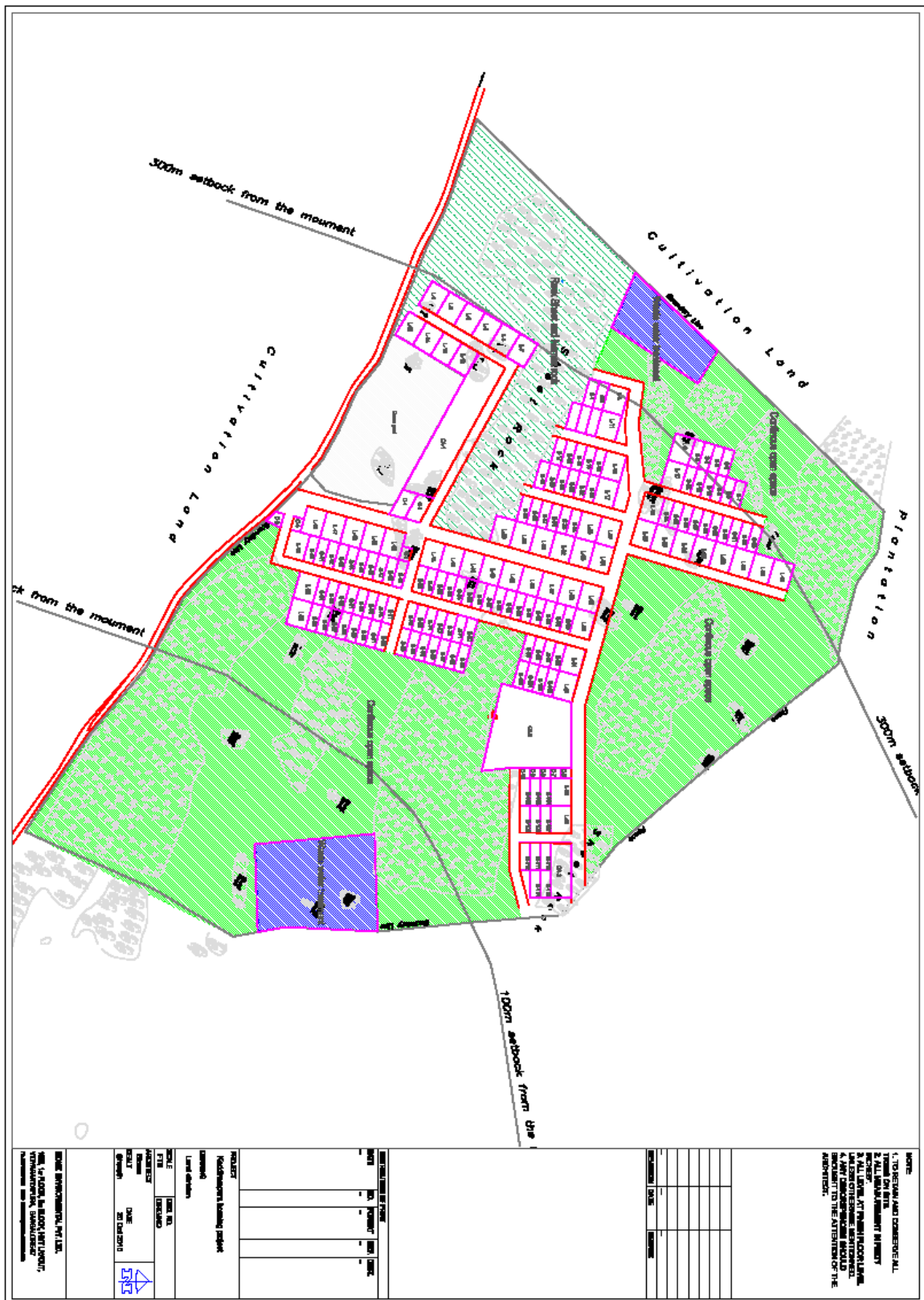
Total area of the land (in acres), provided		18.1			
Description of divided site, area wise					
Sl.No.	Item	Area (in acres)	Percentage of total land area(18.1 acres)	Percentage of land used in developmen	Comments
1	56 sites of 30' x 40' dimensions, marked as "L" in the drawing	1.54	8.51	26.01	
2	114 sites of 15' x 40' dimensions, marked as "S" in the drawing	1.57	8.67	26.52	
3	10 sites of varied sizes for small shops and enterprises,	0.08	0.44	1.35	
4	3 sites of varied sizes for amenities, marked as "CA" in the	0.58	3.2	9.8	
5	Road area	1.35	7.46	22.8	
6	Water treatment zones	0.8	4.42	13.51	Can be used for irrigating

Figure 5-13 Kaddirampura - Area Distribution

[illegible]

Source: <http://202.138.105.9/hwhama/images/IMP/Hampi%20Resettlement%20Plan.pdf>

Akshay Gururaj Ankalgi L.S.Raheja School of Architecture



13

Resettlement plan at KADDIRAMPURA (15.80 acres) of 327 people

¹³ <http://202.138.105.9/hwhama/images/IMP/Hampi%20Resettlement%20Plan.pdf>



Figure 5-16 Formation of Layout for Rehabilitation
source; <http://202.138.105.9/hwhama/images/IMP/Hampi%20Resettlement%20Plan.pdf>

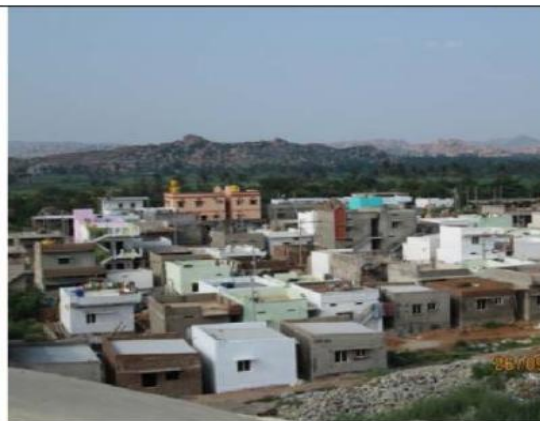


Figure 5-16 Hampi Bazaar Rehabilitation colony

Project cost	Funds released by		Total Funds received	Funds to be released by GOK
	ASI	State Govt., (Tourism)		
1787.39	89369500	50000000	139369500	39369500

¹⁴ <http://202.138.105.9/hwhama/images/IMP/Hampi%20Resettlement%20Plan.pdf>

1. Virupaksha Temple

Owing to the presence of Virupaksha temple, Hampi is considered as an important religious centre for domestic tourists, but is also known to the world as an outstanding heritage destination with magnificent architecture and historic significance. The temple gradually expanded into a sprawling complex with sub-shrines, pillared halls, flag posts, lamp posts, towered gateways and even a large temple kitchen. This temple is located on the southern bank of the river Tungabhadra. It is believed that this temple has been functioning uninterruptedly ever since its inception in the 7th century AD.



Figure 5-17 Virpaksha temple, Source : Author

2. Site

Hampi is located in Hospet of Bellary district, 15 km from Hospet. Kamalapura and Kaddirampura are the two villages that connect Hospet to Hampi. Kamalapura is 4.8 km south from Hampi and Kaddirampura is 3km south-west from Hampi.

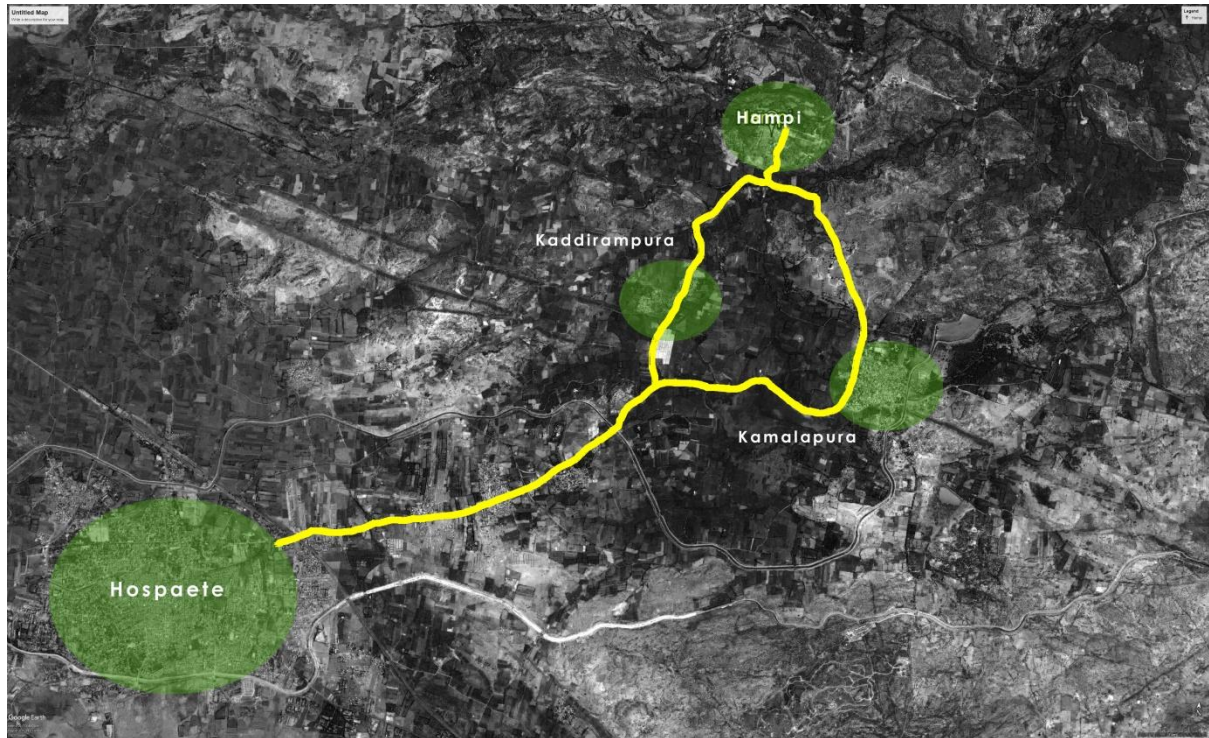


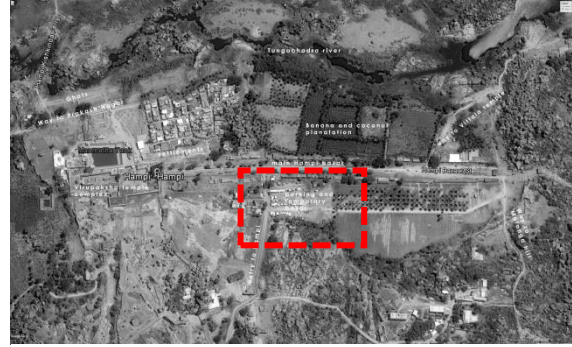
Figure 5-18 Site access map to Hampi from Kamalapura and Kaddirampura

i. Accesses entry to Virupaksha temple complex

Descending towards north from the Hemakuta hill is Virupaksha temple complex. This becomes the main and only access road to the temple complex which is 7.5m wide. At the entrance a T junction is formed, with various activities such as parking, rickshaw stand, bus stop, commercial trading, small souvenir, eatery stalls, public toilet facilities. etc



Access road from Hemakuta hill , source : Author



Key plan



Figure 5-19 Accesses entry point to Virupaksha temple. Source : google map

To the eastern part to the main entrance is the transport and communication zone. Most of the crowd visit Virupaksha via public transport, which is the bus system. The frequency of buses is every 20 min starting from 6am to 8pm. The bus comes from Hospet, which is the nearest bus terminal. There is a rickshaw stand for 10 - 11 rickshaws, which are used by the tourist for sightseeing. A small government primary school from 1st to 8th is at the left of the main entrance road.



Figure 5-20 Section through parking area Source : Author

This parking area also serves the tourists with many facilities such as public toilets and drinking water facilities, small souvenir shops, eatery stalls. These are the temporary stalls and shops which are recognised as illegal by the Government. There are 76 stalls in this area.

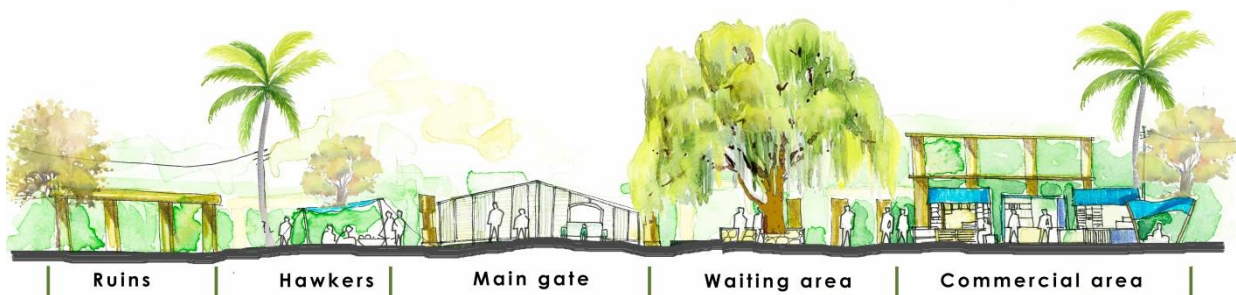


Figure 5-21 Cross section through main gate Source: Author

Along both side of the road there are small stalls or hawking activities which take place during the day time. Temporary commercial stalls have artefacts, bags, hats, metal and wooden sculptures for sale. The stalls also include fruit and vegetable vendors etc.



Figure 5-22 Pictures of transport and communication area, Source : Author

ii. Hampi's living settlements:

Hampi is a large village located in Hospet of Bellary district, Karnataka with total 351 families residing out of which 200 families were rehabilitated 9km away from Hampi because of demolition that took place in 2011 and 2012. The residents living here they started invading the heritage structure for their commercial activities.



Figure 5-23 Key plan

This village serves as a local tourism hub for all the tourists who visit Hampi. This small settlement acts as tourist village. This settlement is developed haphazardly in few years after the demolition.



Figure 5-24 Map showing the settlements area of Hampi Source: Author

In 7th century, the region developed itself into Pampatirtha and Virupakshatirtha respectively and further expanded into a town named as Pampapura by about 11-12th century, which came to be popularly known as Hampi by the beginning of the 13th century. The main residential core of Hampi was the Virupaksha temple complex, with 151 families residing at Hampi.

Total area built-up area of the settlement is 6331 sqm. Out of which 40.9% is purely residential with total area of 2590 sqm, 43.08% commercial with area of 2728 sqm and with the area of 1013 sqm with 16.02% mixed used unit.

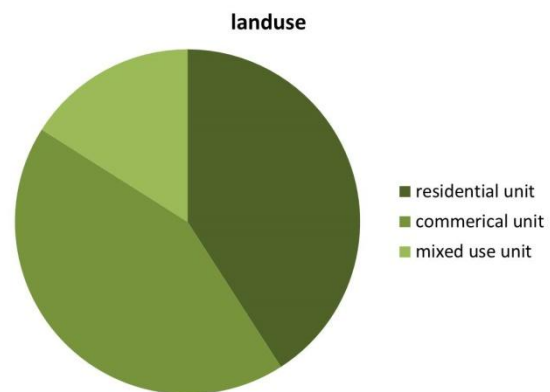


Figure 5-25 Graph showing % of land used in this settlement

With main occupation based on tourism the percentage of commercial sector in this settlement is slightly more as compared to residential and mixed use sector. The commercial unit consist of facilities like information centre, cafe, restaurant, general stores and shops, internet café, providing transport facilities, etc.

Mixed used unit includes residential unit for local people along with tourist accommodation, guest house facilities, commercial unit plus residential unit etc.

Every lane and junction has the same characteristics with similar architectural style, use of material, construction techniques, which relate to the history of Hampi. With maximum ground plus one storied structure. Monotonous character as colour of the structure, door and window as element, locally available material used stone and mud for walls etc.



Figure 5-26 Land use map of the settlement, Source: Auhtor



Figure 5-27 Section showing the massing of the settlement Source: Author

People residing in this settlement are living in the said plots from many centuries. There are more than 30 houses which are almost 45 years old, along with recently constructed houses. The massing of the settlement is in a way that lanes divide the locality after every four blocks, these are ground + one storied structures with mixed, residential and commercial units.



Figure 5-28 Lane within settlement Source : Author



Figure 5-29 Hampi settlements

iii. Demographics¹⁵

Population

The Hampi village has population of 2777 of which 1358 are males while 1419 are females as per Population Census 2011. The population of children with age between 0-6 is 358 which make up 12.89 % of total population of village. Average Sex Ratio of Hampi village is 1045 which is higher than Karnataka state average of 973.

Population of Hampi 2011

Categories	Male	Female	Total
SC	239	278	517
ST	290	287	577
Literatures	151	144	186
Cultivators	185	233	399
Agriculture labours	202	235	418
Tourism based business	291	242	533
Total	1358	1419	2777

After demolition in 2011

categories	Male	Female	Total
SC	87	96	183
ST	95	78	173
Literature	110	107	217
Cultivators	64	32	96
Agriculture labours	16	22	38
Tourism based business	184	143	327
Total	556	478	1034

Figure 5-30 Population of Hampi

In 2011, after the demolition almost more than half of the population was rehabilitated in the nearby area which is 8km away from Virupaksha area. At present the total population at Virupaksha area is 1034 of which 556 are male and 478 are female as per Hampi Grama Panchayat.

¹⁵ District census hand book
Grama Panchayat. Hampi

Literacy

Hampi village has lower literacy rate compared to Karnataka. In 2011, literacy rate of Hampi village was 74.41 % compared to 75.36 % of Karnataka. In Hampi Male literacy stands at 82.66 % while female literacy rate was 66.37 %.

Year	% (Literacy rate)
1971	31.4%
1981	39.05%
1991	52.62%
2001	65.76%
2011	74.41%

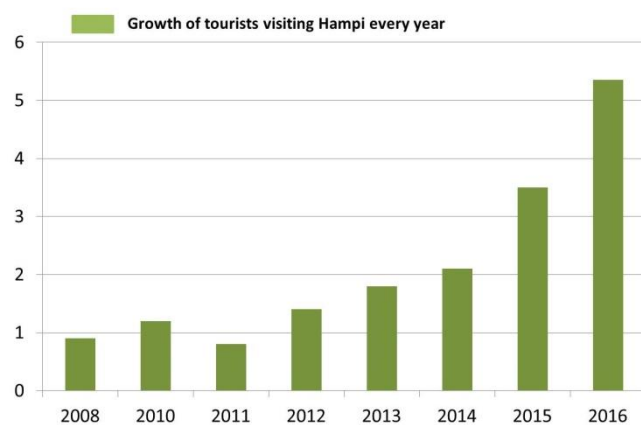
Figure 5-31 literacy rate in Hampi

Occupation

The main occupation of a majority population is business, based on tourism which includes hotels, restaurants, lodges, shops, café, information centre etc. In contrast to other village 40% of population are forced to engage in non-agricultural activities due to lack of rainfall in Hampi. According to the survey conducted by Hampi University, hospitality business is flourishing in this area.

Footfall

From 2008 the tourists count started increasing slowly. But in 2011 because of the demolition at virupaksha area the population reduced suddenly. Later on Year by year the tourist visiting Hampi has increased tremendously.



Footfall growth at Virupaksha

Total of 3.5 lakh tourists of whom

25,419 were foreign nationals, visited Hampi between April 2015 and March 2016.

There has been a consistent growth in the tourist flow since 2012-2013. Nearly 5.35 lakh tourists, including 38,182 foreigners visited the Hampi during 2016-2017 and still counting.

iv. Typology of old houses in Hampi

Construction done recently doesn't reflect the architectural style and historic character of Hampi. Instead, they display the modern technique and materials that are developed as a response to the tourism trade and facilities. More than 80 houses are newly constructed.

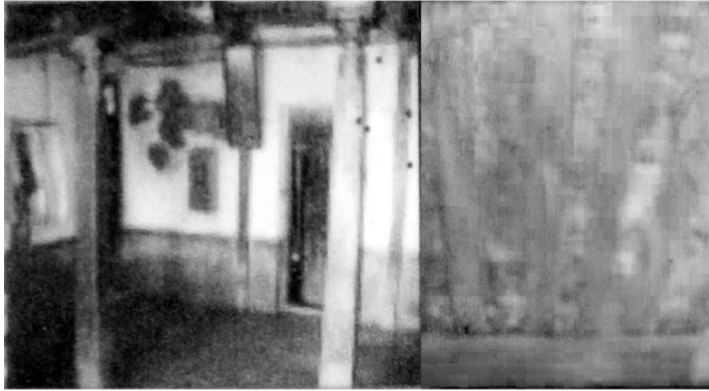
With total 66% of residential and mixed used, this existing settlements has almost 25% of old houses which are almost 60 – 70 years old. There are few houses which are 80-90 years old, which are in bad condition at present. In 2011 more than 150 old houses were destroyed in demolitions.

These different typology have similar character or architectural element such as internal courtyard, veranda, kata, puja room, cattle shed along with houses, multi-purpose room. These all are ground structure or Ground plus one storey structure. Old construction technique is used with stone masonry in walls, timber for supporting members and mud for finishes. There are 4 different type of old structure with different characteristic.

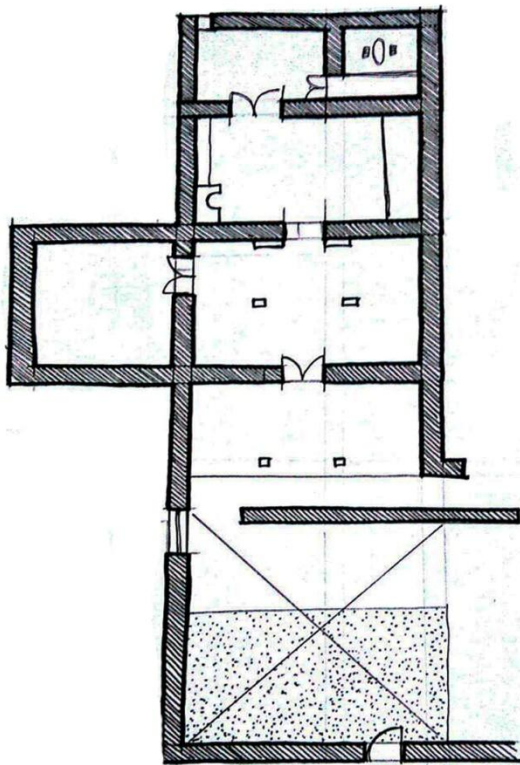


Figure 5-32 Map showing the typology of old house in Hampi Source : Author

ARCHITECTURAL ELEMENTS:



PLAN:



PLANNING SYSTEM, Spatial functional :

Spatial functions

- A multicell unit, sharing walls with adjacent property.
- Front verandah acts as a access to the house.
- Single multipurpose room, additional room- kitchen.
- Internal courtyard not well maintained, not in use.

DESCRIPTION:

One of the oldest hoouses within the settlement, it still retains the original built fabric and key architectural element from old banka to timber work, niches and opening. a typically large house with a bigger multi purpose area and located within the largecourt within one of the oldest streets of the village.

Fondation:

Random masonry rubble is used in the foundation, the depth depends on the earth strata.

Plinth:

Height 0.1mts above street lvl
Finish : Mud

Wall:

thickness 0.30mts
Materials: stone masonry

Spanning:

Load bearing flat arches,
Timber post and brackets.

Roofing:

wooden beams and joists
supporting bamboo mat and
mud plus cow dung layers.

Finishes:

Walls: whitewash + cow dung
layer walls are whitewashed upto
sill lvl. Floor : Mud
Roof : Mud + cow dung + tin
sheets.

TRANSFORMATION:

ADDITOINS

mezannine for storage,
interanal partitions.

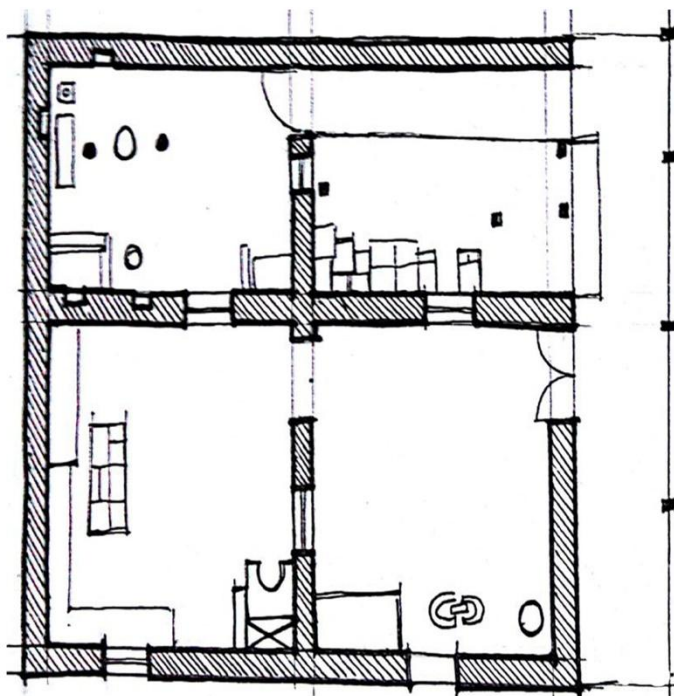
ALTERATIONS:

Gazzing areas are converted
into sleeping place. mangalore
tiles are replaced by tin sheets

ARCHITECTURAL ELEMENTS:



PLAN:



PLANNING SYSTEM, Spatial functional :

- Spatial functions
- An individual single cell unit.
 - Front large banka.
 - Extension rooms and kitchen
 - Multipurpose rooms for daily activities.

DESCRIPTION:

An artisit's house typically charaterised by the traditional timber work and front banka overlooking the village court.It still retains the original built fabric and key architectural element from old banka to timber work, niches and opening.

Fondation:

Random masonry rubble is used in the foundation, the depth depends on the earth strata.

Plinth:

Height 0.2mts above street lvl
Finish : Mud

Wall:

thickness 0.30mts
Materials: stone masonry + Mud

Spanning:

Load bearing flat arches,
Timber post and brackets.

Roofing:

wooden beams and joists
supporting bamboo mat and
mud plus cow dung layers.

Finishes:

Walls: whitewash + cow dung
layer walls are whitewashed upto
sill lvl. Floor : Mud
Roof : Mud + cow dung + Thatch

TRANSFORMATION:

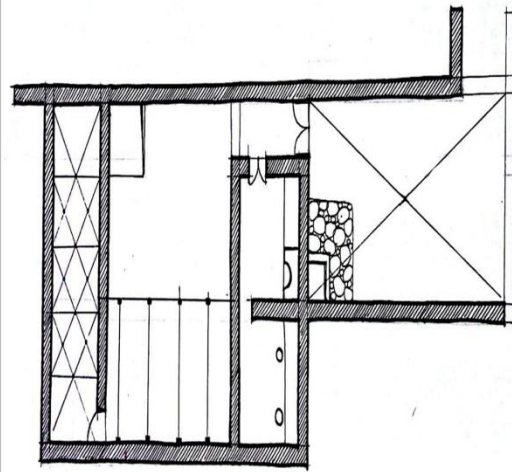
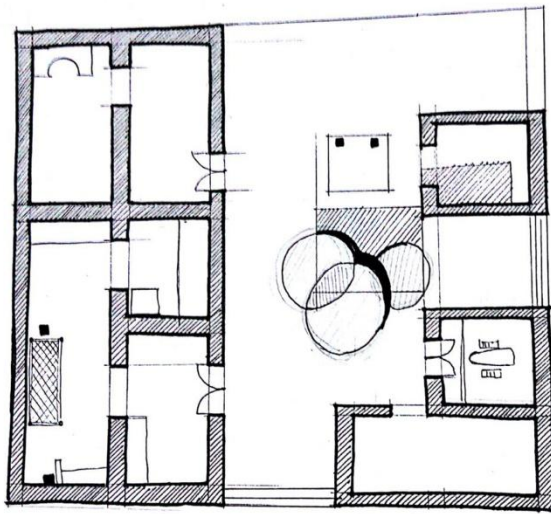
ADDITOINS

side cells with rooms and
kitchen are added later on

ALTERATIONS:

Asbestos sheet replacing
traditoinal roof system in new
house

ARCHITECTURAL ELEMENTS:



PLAN:



PARAMETERS:

TYPOLOGY A:

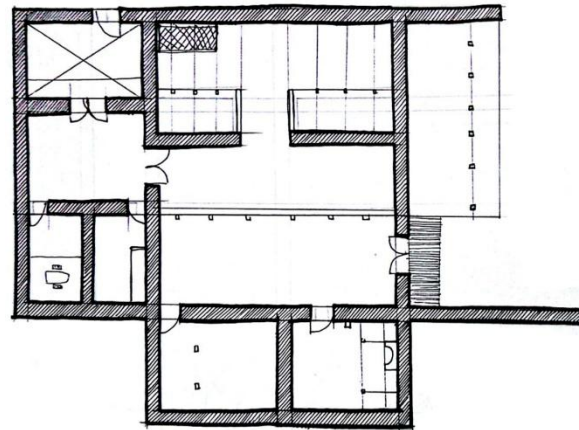
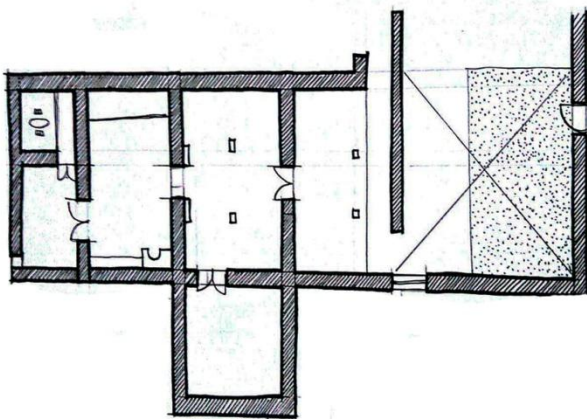
A. PLANNING SYSTEMS:

Physical setting	At a node. within an open court.
Planform	Multiple, with an internal courtyard, individual unit.
Spatial functional	Front open spaces, vernadah/katta, courtyard. Rectangular plan, Multipurpose room, Puja room, Kitchen.
Architectural element	Decorative carved wooden frames, brackets, skylight

A. CONSTRUCTION SYSTEMS AND MATERIALS:

	Walls	stones.	
	Spanning	Timber post and ornamental brackets.	
	Roofing	wooden beams joists, wooden bracing stone titles	
	Finishings	Walls	Walls
		Whitewash cement + Distemper	Kadappa, cement koba-redoxide.

ARCHITECTURAL ELEMENTS:



PLAN:



PARAMETERS:

TYPOLOGY B:

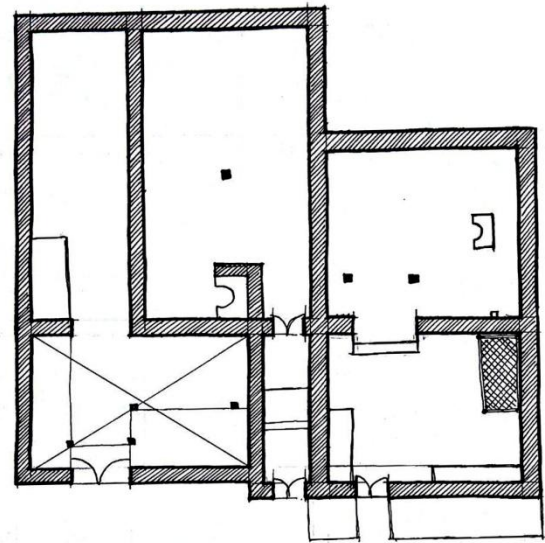
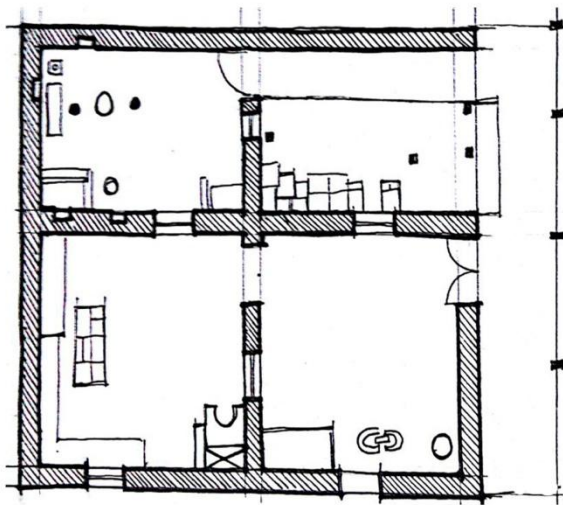
A. PLANNING SYSTEMS:

Physical setting	Street front, At a node.
Planform	Multiple, individual/ sharing walls with adjacent property.
Spatial functional	Banka, Cattle shed for grazing, vernadah/ katta. Rectangular plan, Multipurpose room, Puja room, Kitchen.
Architectural element	Decorative carved wooden frames, brackets, skylight

A. CONSTRUCTION SYSTEMS AND MATERIALS:

	Walls	stones.	
	Spanning	Timber post and ornamental brackets.	
	Roofing	wooden beams joists, wooden bracing stone tiles	
	Finishings	Walls	Walls
		Whitewash mud + cow dung	Kadappa/ mud.

ARCHITECTURAL ELEMENTS:



PARAMETERS:

TYPOLOGY C:

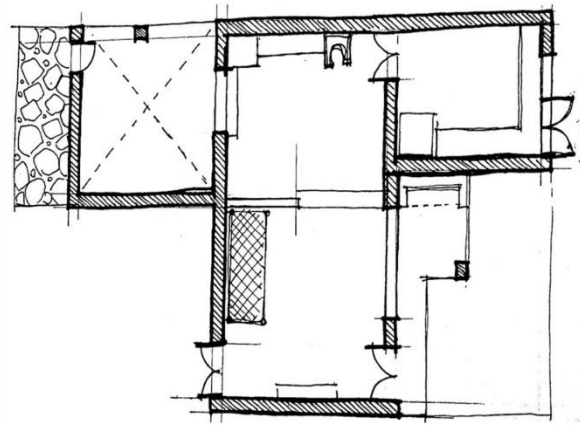
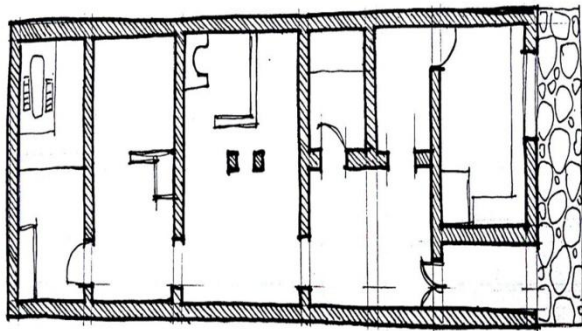
A. PLANNING SYSTEMS:

Physical setting	Street front, within an open court/village open space.
Planform	Single cell/Two cell, sharing walls with adjacent property.
Spatial functional	Front open court, backyard, vernadah/ katta. Square plan, Multipurpose room, Puja room, Kitchen.
Architectural element	Small doors and windows, niches for storage, skylights.

A. CONSTRUCTION SYSTEMS AND MATERIALS:

Walls	Mud/ stones.	
Spanning	Palm trunk posts, and simple brackets	
Roofing	wooden beams joists, Bamboo mat, Mud + Cowdung	
Finishings	Walls	Walls
	Whitewash mud + cow dung	Kadappa/ mud.

ARCHITECTURAL ELEMENTS:



PLAN:



PARAMETERS:

TYPOLOGY D:

A. PLANNING SYSTEMS:

Physical setting	Street front.
Planform	Single cell/Two cell, sharing walls with adjacent property.
Spatial functional	Front shop, backyard, vernadah/ katta. Square/ Rectangular plan, Multipurpose room.
Architectural element	Wooden battened removable shutter, niches-storage

A. CONSTRUCTION SYSTEMS AND MATERIALS:

	Walls	Mud/ stones.	
	Spanning	Palm trunk posts, and simple brackets	
	Roofing	wooden beams joists, Bamboo mat, Mud + Cowdung	
	Finishings	Walls	Walls
		Whitewash mud + cow dung	Kadappa/ mud.

v. River front (Ghats)

Tungabhadra is the major river in southern Indian peninsula region. River Tunga and river Bhadra are two different rivers that meet at Koodli near Shivmoga and they flow towards south. In this region the river takes number of twists and turn owing the rocky terrain, on the southern banks in the middle of this river's path comes Hampi. It has immense significance in the form of religious history of Hampi. The other name for Tungabhadra is Pampa.



Figure 5-33 Map showing the flow of river Tungabhadra river Source : Author



Figure 5-34 Key plan showing the Ghats at Hampi

Important changes which compromise the authenticity of the World Heritage Site have occurred recently along the Tungabhadra River bank. For instance, the steps leading down to the bank of the river developed at Hampi Bazaar do not follow the traditional design of the region. In the Hampi area, the presence of boulders located on the river edge drive and contains the river flow naturally. The constructed Ghats is a built tradition typically rooted in northern India where they define and contain the river's edge in flats sedimentary plains, in contrast to the peninsular landscape defines by strong relief and rocky strata.

Thus, the large scale construction of the Ghats within the protected area visually dominates the extraordinary natural environment and historical setting, compromising the very authenticity of the site.

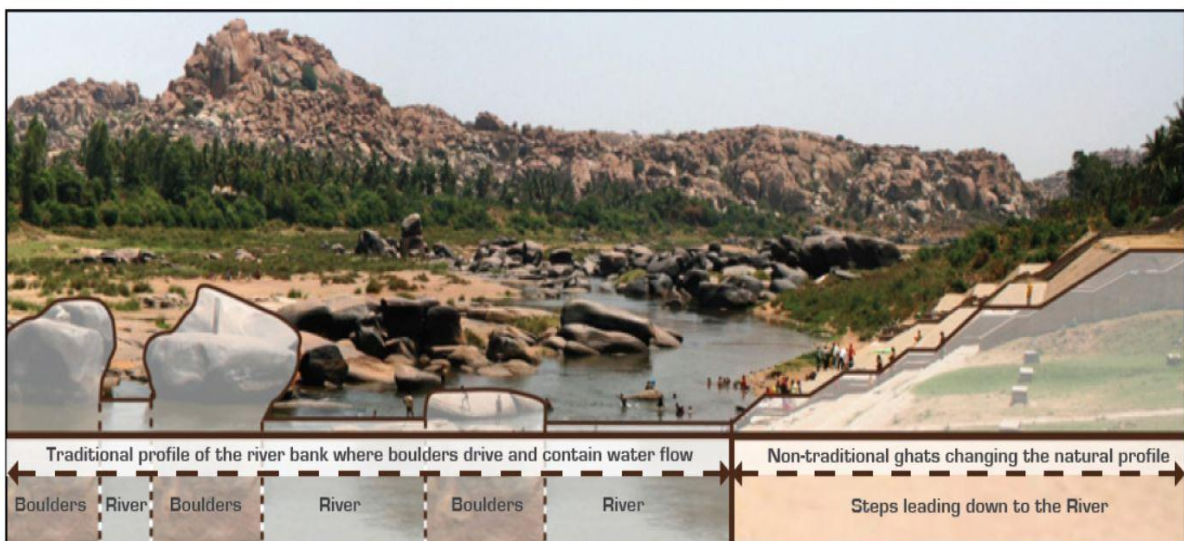




Figure 5-35 Images of Ghats Source: Author

3. Socio cultural background

i. Daily activities on site

The site is completely animated by the various activities. Priests and pilgrims alike conduct their rituals all day, bathing and drying clothes. Small shops, coconut water sellers, fruit seller, chai shops, traditional breakfast stalls selling idlis or rice, little shops catering to tourists selling trinkets, handicrafts and bags, jewellery and the odd curio, musical instrument shops, leather articles, temple related shops selling incense, flowers, colour, idols, etc.

The panchayat, the police station and within the ruins themselves, along with a small archaeology exhibit museum. The leisurely tourist sitting around enjoying the shade of the canopies of rain trees. Several plantations exist along the site. Tourist guides many of whom are illiterate but speak fluent English, Hindi, German, French, or Russian, Patrol the streets looking for new clients.

Evenly distributed throughout site are activities new and old. The market and the temple being the largest catalysts for them. It is through a study of these along with a study of stakeholders, rituals and desires that the programmes arose.

ii. Art and craft

The Vijayanagara Empire was renowned for its prowess in architecture, art and crafts during its era. Even today in its current state of ruin, the Hampi region is brimming with temples and monuments that stand testimony to the skills of the artisans who constructed centuries ago. Most studies conducted with respect to Hampi appear to focus on architectural typology, historical accounts, or archaeology, and not on its living heritage.

People in Hampi whose ancestors worked in the establishment of the great monuments in Hampi, till now follow their artistic work. In Hampi, many art and handicraft were on sale; the number increases during the major festivals in Hampi like Hampi utsav or temple festivals etc. Hampi has been put on a pedestal not only as a tourism destination, also has a unique and interesting innovation of Arts and Crafts.

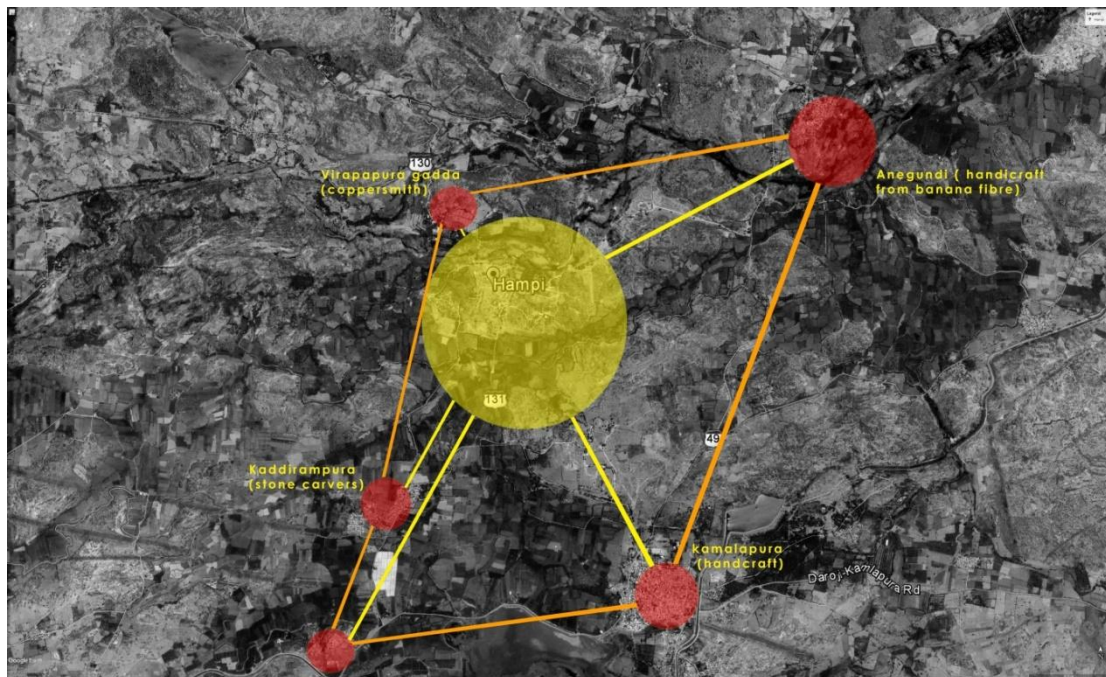


Figure 5-36 Map showing the art and craft near HAmPi area Source: Author

Shilpis (stone carvers)

Shilpis of Hampi region were stone carvers who, were responsible for the intricate stonework of the various monuments. Hampi is filled with intricate sculptures, ancient temple and the other stone carved historical monuments. This art form is receiving a lot of recognition today because of its religious and historical relevance.



Figure 5-37 Shilpis craving idols from stones



Kanchugara (copper smith)

Kanchugara represent the element of fire or Tavshtra, within Vishwakarma clan. Copper smith artefacts for religious and everyday purpose. The Kanchugara undertake the crafting of metal idols, armour and backdrop of temple within the Hampi region.



Figure 5-38 Coppersmith from virrupagaddi area



Chitragara (Mural painting)

Chitragara community of artisans is responsible for painting elaborate murals depicting the lines of god and religious legends on the walls of temple complexes and village shrines. Artistic murals adorn the stone ceiling and walls of the ancient Virupaksha temple in Hampi, with advent of computer-aided design and cheap flex banner printing, murals artistic no longer find employment.



Artefacts from banana fibre

Anegundi near Hampi, it is believed to be older than Hampi, with historical and mythological significance. Anegundi preserves in its culture of a unique art of weaving banana fibre. Banana fibre craft has been initiated in Anegundi. The artisans of Anegundi are experts in crafting baskets, purses, hats and bags, from this natural fibre. It is a source of employment to the local people.



Figure 5-40 Artefacts made from banana fibre. Source: Author



Figure 5-40 Women weaving basket out of banana fibre Source: Author

iii. Festivals at Hampi World heritage site

Hampi in Karnataka was once the flourishing capital of the magnificent Vijayanagar Empire. The city, now almost in ruins comes alive with a lot of colour, music and dance once a year, during the Hampi Festivals.

Hampi has a set of annual festivals. Some are religious festivals having an association with the temples, others are cultural festivals. Many of them usually attracts huge crowd.

Hampi Festival (November/December): This is the largest festival at Hampi. Generally they are scheduled for 3 days during the first week of November or December. The celebrations typically packed with shows of music, dance puppet shows fireworks and a pomp procession as the grand finale showcasing the cultural richness of the place. Of late items like rock climbing, water sports and rural sports also has been included in the schedule. It is also known as Hampi Utsav.

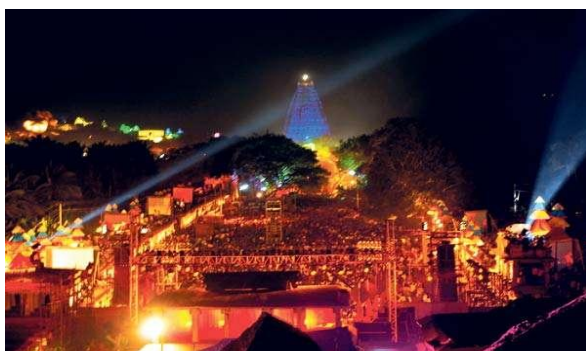


Figure 5-41 Hampi utsav Source : google images

Purandaradasa Aradhana (January/February): This is principally a classical musical festival. The festival is held every year to honour the birthday of the ancient poet Purandaradasa who lived in Hampi. The 2-3 days long program is scheduled during the months of January or February. Though not as grandeur as The Hampi Festival, Purandaradasa Aradhana is a feast to the classical music enthusiasts. The venue is typically centred on the Purandaradasa Mantapa located near the Vittala Temple.



Diwali (October): Diwali is celebrated in Hampi with pomp, noisy events with firecrackers are the hallmark. Hampi Bazaar area is the focal point of the celebrations. Visiting Virupaksha temple to witness some special ceremonial functions during the evening is eventful. That includes a local procession where the temple elephant too participate.



Figure 5-42 Celebration of diwali at Virupaksha temple. Source resident from hampi

Phalapuja Festival (December): This again is held at the Virupaksha temple to mark the ceremonial engagement of the divine couple. Here hundreds of villagers and pilgrims celebrate Hindu holy night commemorating the marriage of the gods Shiva and Pampa, *Phalapuja*, by placing oil lamps in the courtyard of the Virupashka Temple (pictured). Priests, carrying images of the god and goddess, then lead the assembled throng in procession around the village and along the banks of the Tungabhadra River.

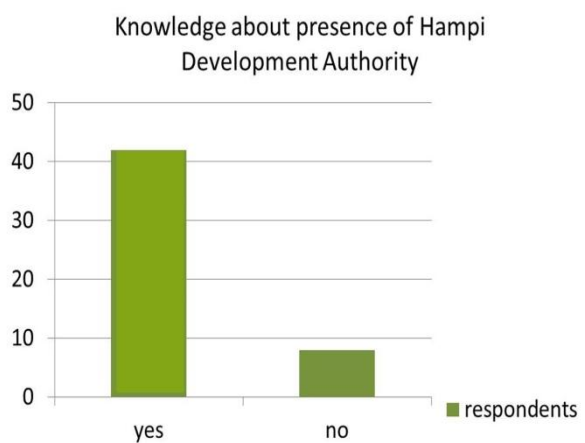
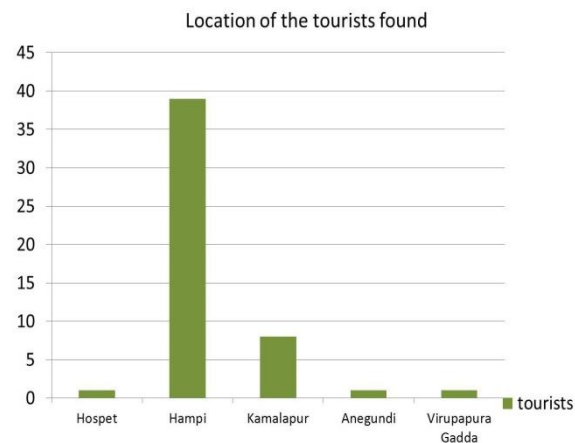
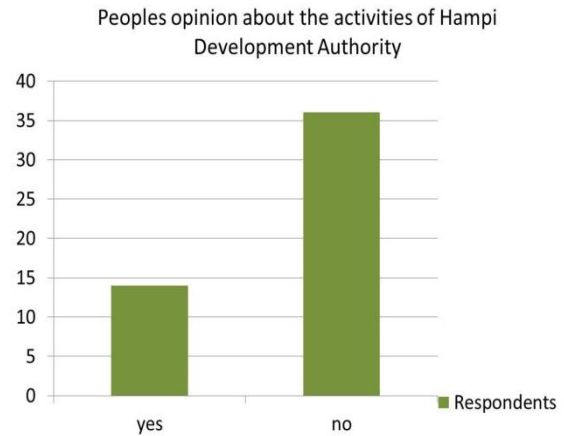
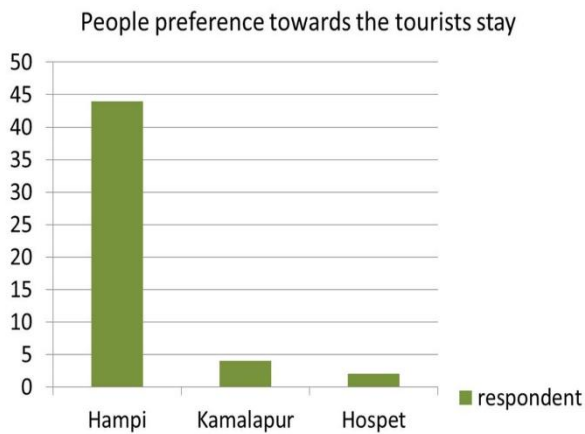
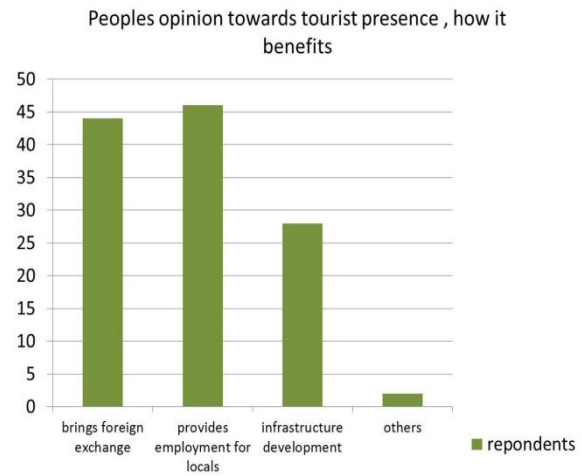
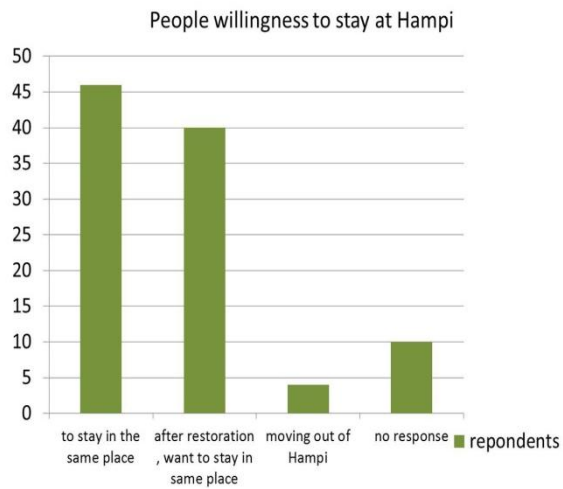


Figure 5-43 Chariot procession at Virupaksha temple



Sivaratri (February/March): This is a special festival earmarked for all Siva Temples in general. This nightlong religious offering is held at Virupaksha Temple.

iv. Perspective of tourists and locals on tourism in Hampi



6. CASE STUDY1

1. Bhaktapur, Nepal

Location: Bhaktapur, Kathmandu valley, Nepal

Area: 119 sq.km .



Figure 6-3 Nepal map

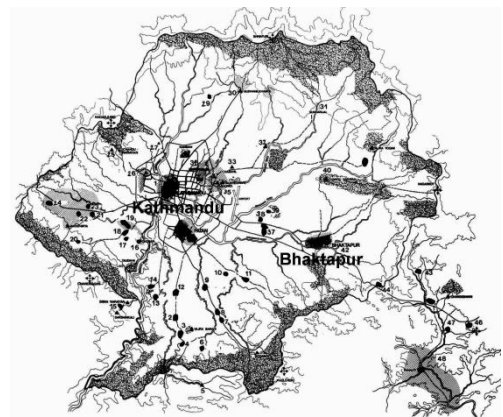


Figure 6-3 map showing the locaion of Bhaktapur from kathmandu



Figure 6-3 Bhaktapur durbar square,source : google earth

i. Location and History:

Located 1320 m above sea level on the eastern rim of Kathmandu Valley, Bhaktapur is 12 km east of Kathmandu, capital of Nepal. This royal kingdom known as Bhadgaon or 'the city of devotees'. The main road through Bhaktapur still coincides with the city's historical trade route between India and Tibet. Though today it is the smallest royal kingdoms in Kathmandu



Figure 6-6 areial view of Bhaktapur durbar square, source : www.digitalarchaeologyfoundation.com



Figure 6-5 dattatrya square near durbar square, bhktapur, source:www.digitalarchaeologyfoundation.com

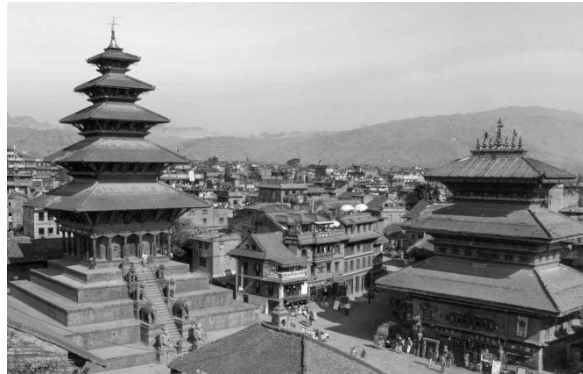


Figure 6-5 Taumadhi Square, bhaktapur, source: www.digitalarchaeologyfoundation.com



ii. Architecture and background

Traditional architecture of Bhaktapur also represents her ancient and still living convention, a visible geographical setting and shape, religion and culture, crafts and industries and functional creations. The patis (way-farers rest house/simplest Dharma Salas), sattals (a larger pati where pilgrims may stay for a few days), dwellings etc. are in general the best instances of traditional architecture which is secular.

The location, layout and orientation of towns, villages, temples, and dwellings in Nepal have traditionally been determined by ancient architectural manuals (Vastu-sastras). These were said to have been written by sages drawing inspiration by Visvakarman, one of the fourth divine architects manifested in the faces of Brahma. These manuals contain instructions for a wide spectrum of architectural issues that contain magic formulas and detailed procedures for laying out towns and villages and settlement constructing, dwellings, temples, shrines, and other buildings.

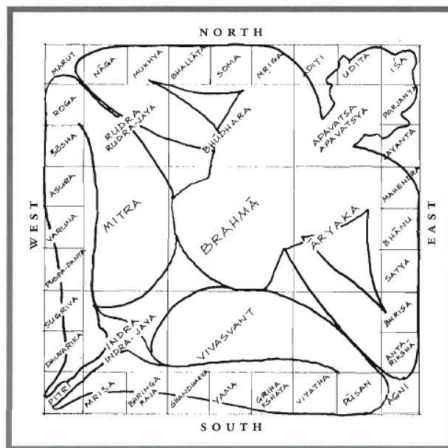


Figure 6-8 vastu mandala based on 81 squares

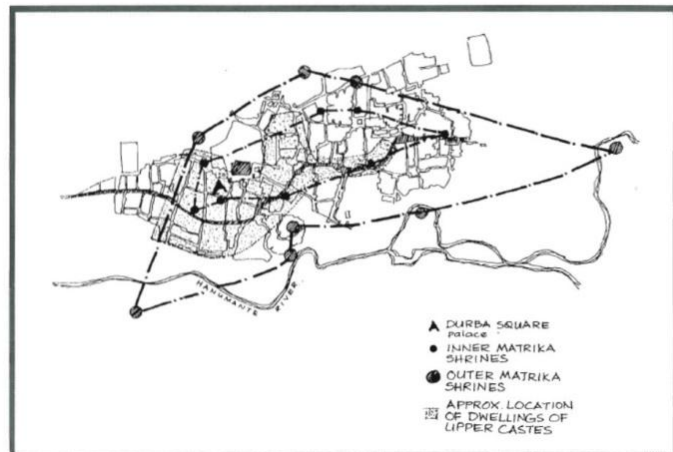
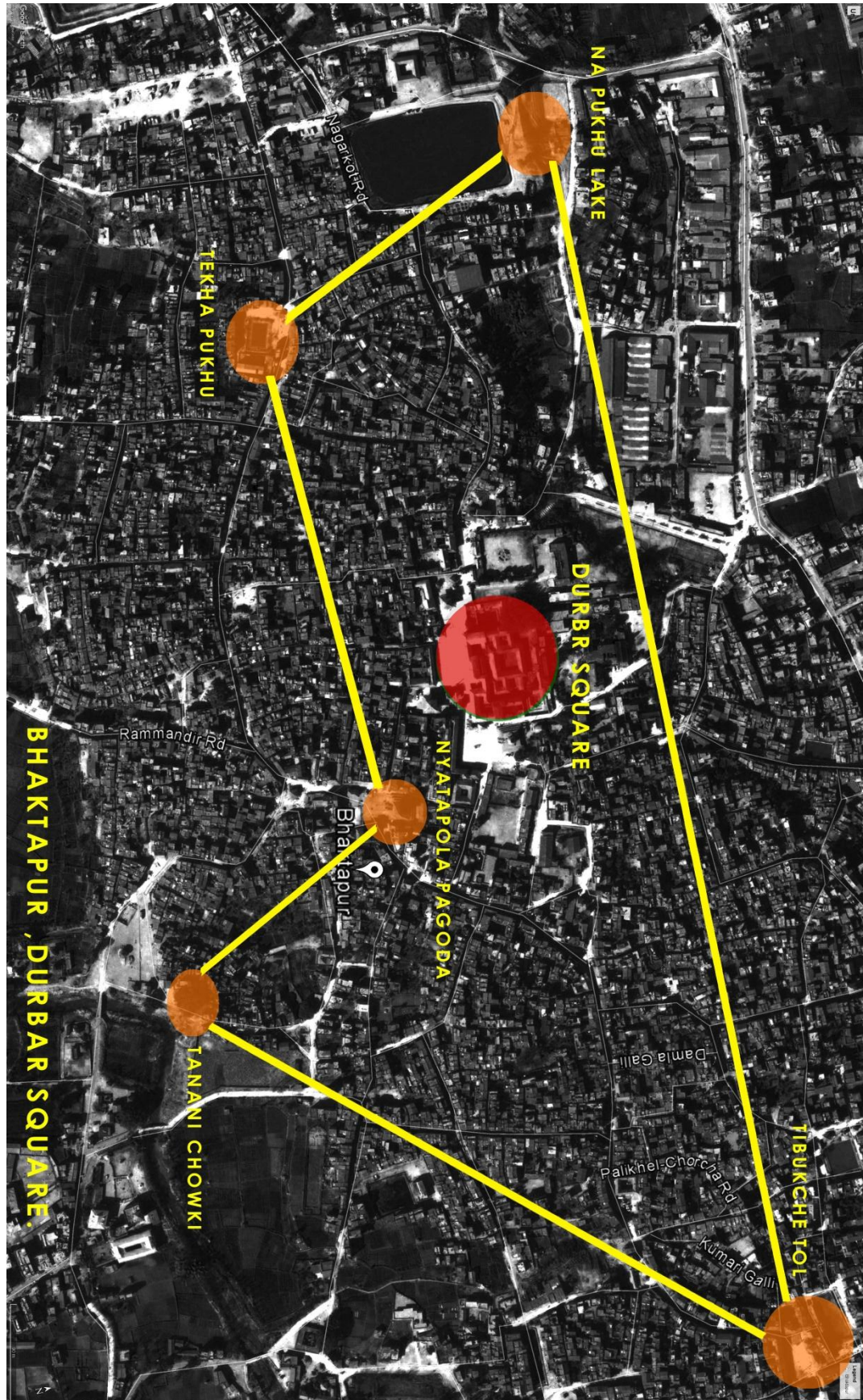
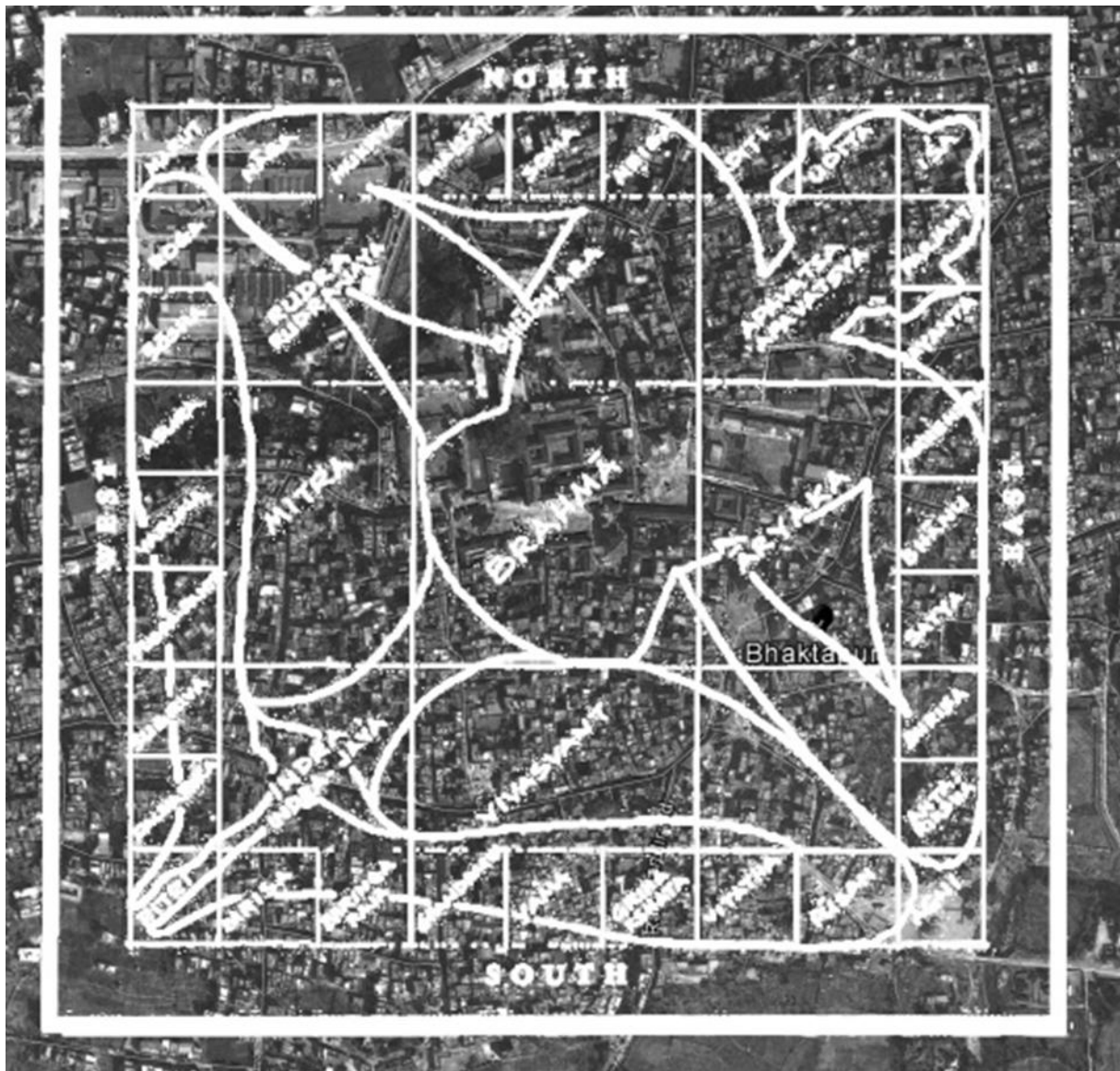


Figure 6-8 spatial connection with vastu mandalas



The vastu-sastras contain the mandala based on 81 squares. The cosmic man lies in yogic pose, face down, with his head in the northeast corner.

The various parts of his anatomy - head, body, and limbs represent the divinities with which they share squares.



The houses in Nepal are identified as Newar. The Newar houses are built around a small square or rectangular courtyard or a quadrangle forming the groups, one house sharing a wall with the other, or sharing common wall. Although courtyard planning is the basic component in the Newar architecture.

The typical Newar house is three to four stories high and maintains a vertical as well as horizontal hierarchy.

The lowest floor (*cheri*) normally serves as a storage place, and sometimes may contain a small shop. The second floor (*matan*) is the private bedroom.

The next level (*chota*) contains the room for public entertaining as well as housework, and usually opens to the street through large, intricately carved windows. The top-most floor (*bhaigah*) serves as the kitchen.

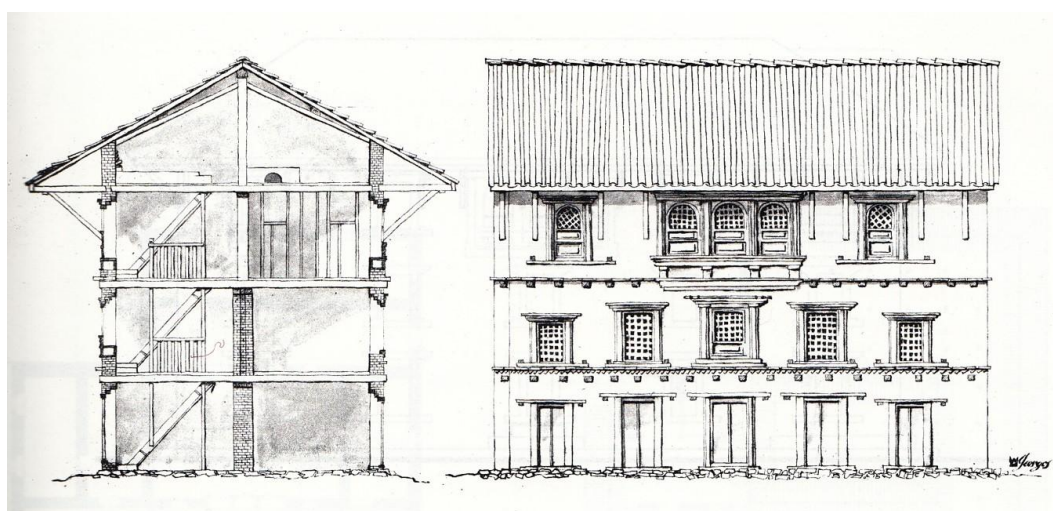
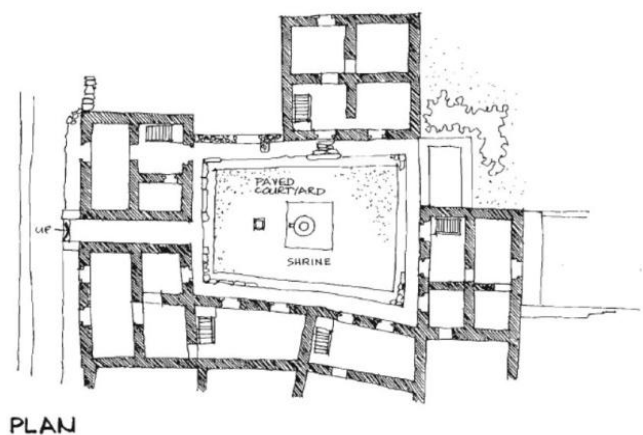
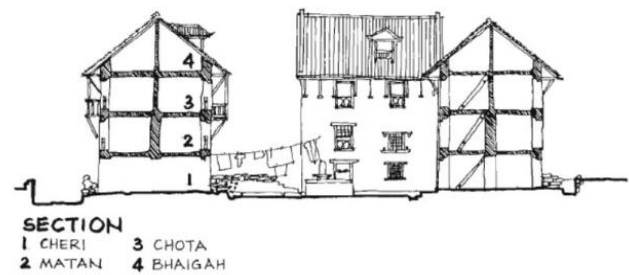


Figure 6-9 section and elevation of Newar house, source: sujanshilpakar.wordpress.com

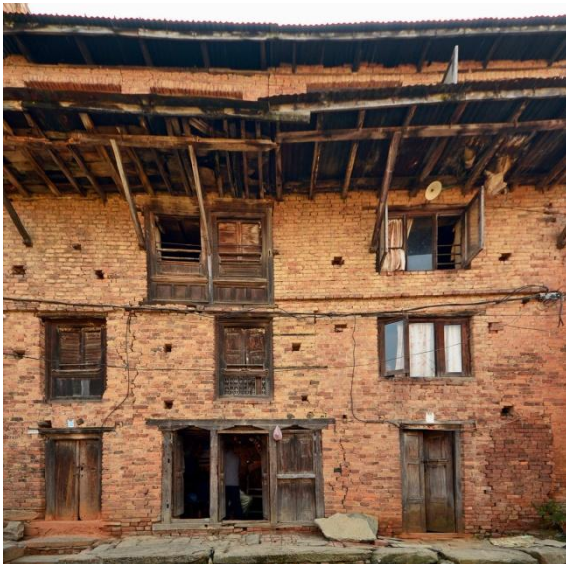


Figure 6-10 different Newar houses at Bhaktapur, source: google

Structure: Unreinforced stone masonry of adobe bricks are used as load bearing structures.

Natural Light: The size of windows varies according to each floor and different daylighting requirements.

Massing: The overall mass of the building is very simple with mostly cuboidal mass with a sloping roof.

Plan to Section/Elevation: Plan to section elevation is proportional. The courtyard provides the opportunity of semi-private space and a common area for people to socialize.

Construction technique

Most often used construction method in traditional Newar building is load - bearing brickwork construction. The foundations generally consists of a few layers of natural stone or compacted brick, this is followed by brickwork. The foundations of one to four- storey buildings are not much deeper than 60-80 cm and wider than 70 cm.

The roof is double- pitched; the ridge is on the line of the central spine wall, and a projecting overhang of about 850 mm at front and back. The structure of timber comprises columns on the central line supporting a ridge beam.

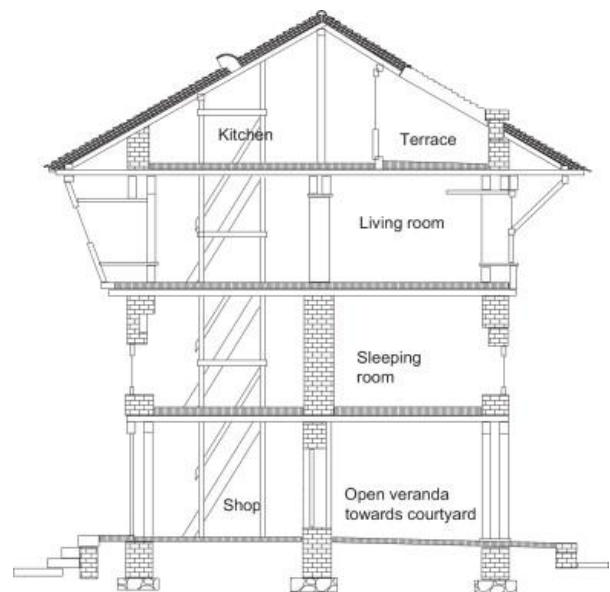


Figure 6-11 section of Newar house, source: <http://www.sciencedirect.com>

Construction Materials:

WOOD: Mainly used as columns, beams, rafters and for construction of doors, windows, and staircase.

METALS: Copper Iron, brass, bronze were commonly used. Extremely expensive building material, it was used on religious and door facings, lattice- works, door latches.

NATURAL STONE: Sedimentary rocks or metamorphic stone gathered from the quarries situated on the north and south sides of mountain slopes.

BRICKS AND TILES: Mud bricks were used for construction of walls. Mud is easily available as a local building material. Clay tiles were extensively used for roof coverings and for courtyard paving and also streets, terrace floors and floor coverings

MORTAR: Grey clay was used as jointing material. Special mastic along with grey clay was used for religious buildings, palaces and other important buildings, always together with conical bricks. Lime-Surkhi, Lime stone was also used.



iii. Conclusion

Bhaktapur merely presents a few of the most important aspects of Nepalese architecture, which serve to explain some of the similarities and differences between complex and fascinating traditional environments. Architecturally, the clusters are well-spaced and the individual dwelling units are spaciouly designed.

The location, layout and orientation of towns, villages, temples, and dwellings in Nepal have traditionally been determined by ancient architectural manuals. These manuals (Vastu-sastras) were used to plan old kingdoms, villages, settlements, clusters or even dwellings. All these planning lead to a spatial connectivity within the spaces. Along with zoning and planning the use of material in Bhaktapur has given a unique character to every space and place within the area. Simple old material such as brick, stone, wood and metals were used.

Hence, the zoning and use of old technique of planning of the Village can be implemented in the design.

7. CASE STUDY2

1. Taj Corridor, Agra

Location: Taj East, West, South corridor, Agra

Area: 11.2 acres.



Figure 7-2 India's map highlighting AGRA



Figure 7-2 Agra map with TAJ CORRIDOR highlighted, source : google map

2. Evolution of Agra



Figure 7-7 Pre Mughal Period



Figure 7-7 Mughal Period



Figure 7-7 colonial period



Figure 7-7 Post colonial period



Figure 7-7 Existing condition

3. Background

Beginning from Purani Mandi Chowk, the Taj Corridor extends from the western edge of Taj Ganj to Kutta Park, forming a central axis connecting East and West Gate entrances to the Taj Mahal, leading directly to the South Gate.

Aligned on axis with the southern entrance gate of the Taj Comple, the Taj Ganj market once served as a vital part of the entire complex. Due to a decline in trade in the 1650s, this bazaar, which used to be a shopping district, declined.

Taj Ganj area leads to the southern gate into the square (Jilaukhana) of the Taj

Mahal complex. Two bazaar streets begin at the east and west gates and lead to the Jilaukhana. In earlier times an integrated part of the complex, these bazaars contributed financially to the maintenance of the mausoleum¹⁶.

Craftsmen camped here during the construction of the Taj Mahal in the 17th century. Settling here after 22 years of working on the Taj Mahal, they settled here and many of the workers' descendants still residing here are the Living Heritage of the Taj Mahal.

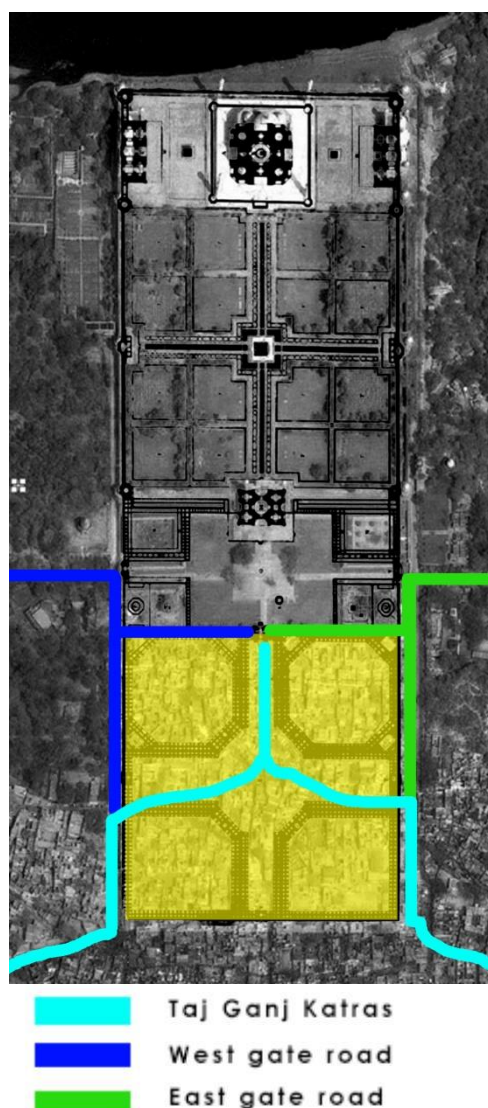


Figure 7-8 image showing connectivity to Taj corridor

¹⁶ Begley, Wayne (1979) "Myth of the Taj and a New Theory of its Symbolic Meaning," Art Bulletin, vol. 6

4. Taj corridor Redevelopment project

Client: Uttar Pradesh Rajkiya Nirman Nigam.

Company: ARCHOHM CONSULTANT.

Architect: Saurabh Gupta

Completion Date: 10/2016.

By providing greener zone with urban infrastructure at intermediate intervals and improving the street facade and street infrastructure of the roads, the proposal achieves an improvement in tourist facilities. A proposal for providing a Taj Ganj visitors centre that hosts a tourist facility centre has been proposed in the close vicinity of the Taj complex. Providing facilities and information for the tourist and activity centre for the local craftsmen is aimed at bridging a gap between the tourists and locals. The erstwhile markets selling luxury goods form an integral part of the monument complex. It was inhabited by Shah Jahan's artisans and their descendent.¹⁷



Figure 7-9 West Gate corridor source: <http://www.archello.com>

¹⁷ www.theplan.it/eng/project_shortlist/1159

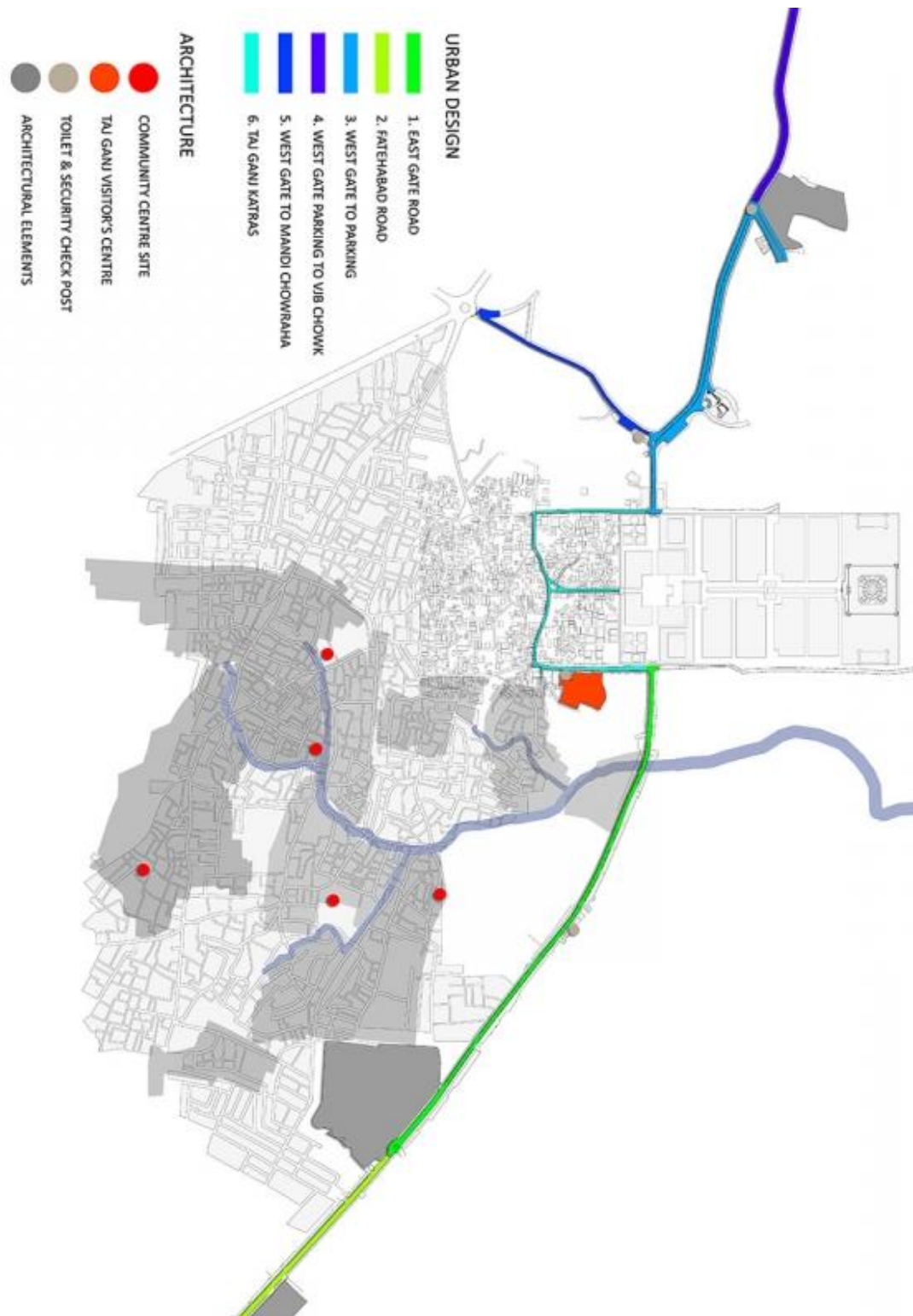


Figure 7-10 image showing major connection at Taj complex source : www.theplan.it/eng/project_shortlist/1159

i. Western Gate Corridor



Figure 7-13 west corridor entrance

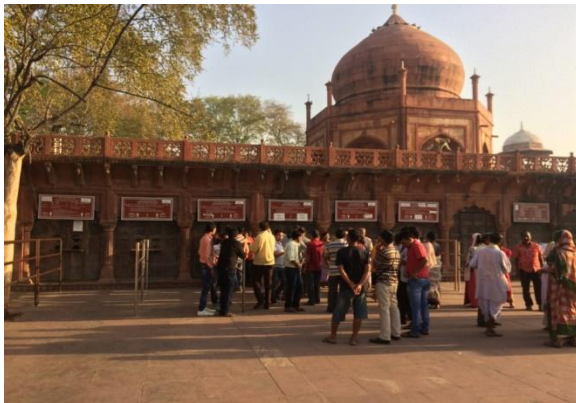


Figure 7-13 ticket counter at western gate

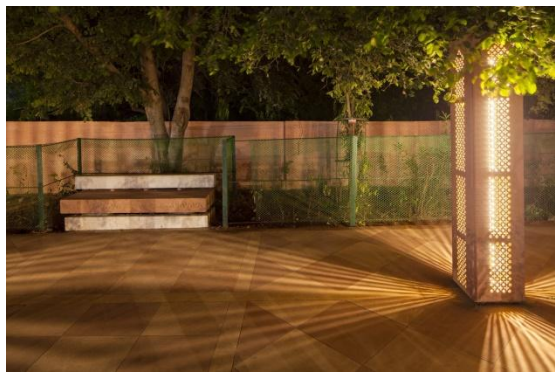


Figure 7-13 entry to taj mahal



The urban scale development of streets by resurfacing the carriage way provision of pedestrian foot paths, cycle tracks, landscape parks, waiting area, ticket counters, and batteries operated car facilities etc. around western gate.

ii. Eastern Gate Corridor

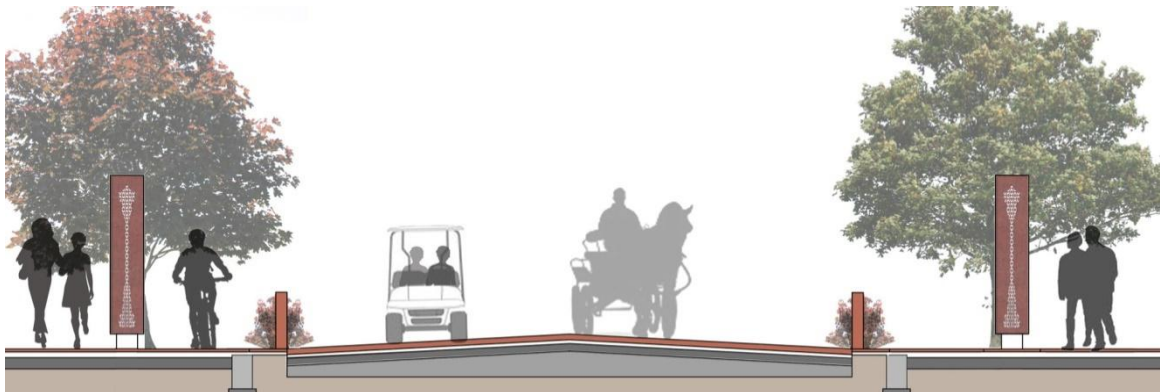


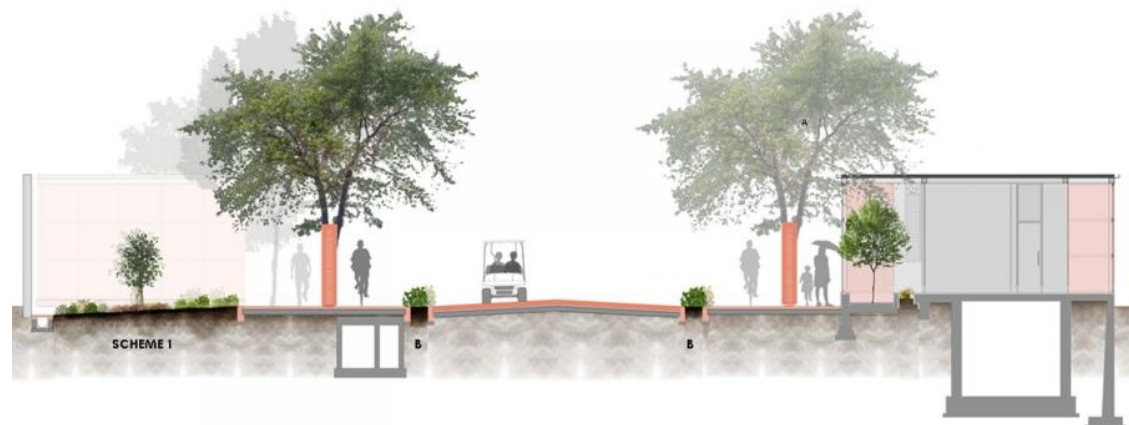
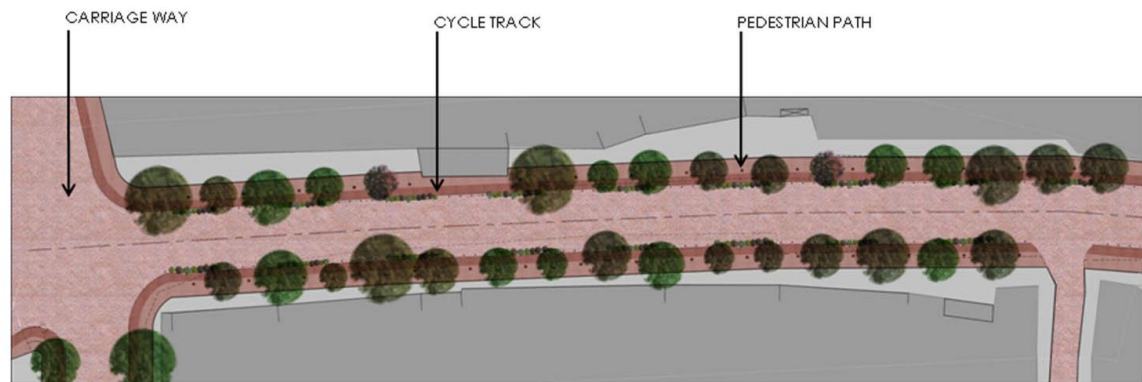
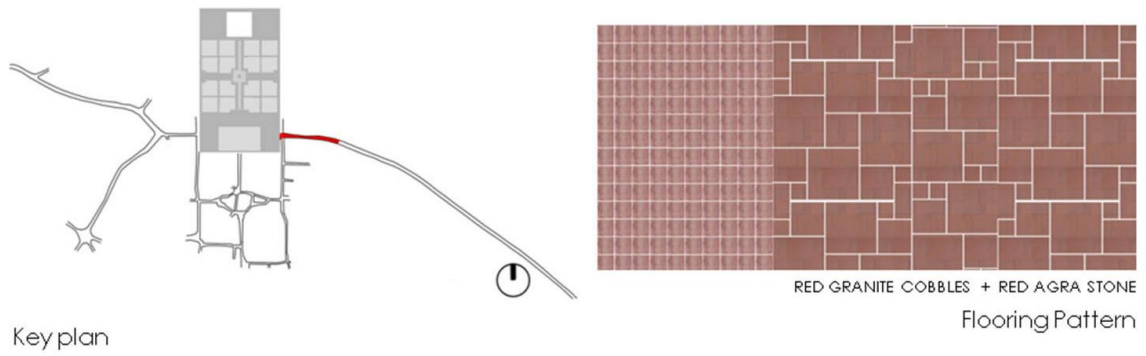
Up to a distance of the 'zero vehicular 500m zone' the street emerging from the East Gate is textured in the cobble of Red Agra. The Booking office and souvenir shop on both sides of the lane impart a very vibrant and pleasant character to the street and the bazaar. A 2-way carriageway of width 7.5 metres flanked by 5 metres wide footpaths and cycle paths extends up to the cobbled zone. The walk along tree-lined path area but is inclusive of shops supplied with public conveniences, seats, kiosks, control rooms etc.

The tree lined path is flanked by shops supplied with public conveniences, seats, kiosk, control rooms, etc. Circulation of tourists and vehicles is eased by dedicated nodes and shelters for drop-offs, pick-ups at transition points.

The Red Agra lamp post is a sculptural element incorporating the proportions of the framing minarets of the Taj and the profile of its graceful dome. They add a measure of romanticism to the street character through the use of Jaali Perforated screens and their play of light.

The bold and clear monochrome of the local and identifiable Red Agra stone and ruby red granite all along the sequential journey is to make visitors move away from the chaos of the disparate buildings littering the city and reorient towards visually cohesive architecture of another time. The street becomes the processional route for a collective event in which the actors and spectators are the same, both influencing and being influenced .A cognitive setting to the wondrous monument is triggered by the street and its furniture, made by a homogeneity of materials. An absorbing continuous and lasting sensorial imprint is left by the proposed dimensions sectional profile, materials and landscape.





Taj Orientation Centre or the Mughal Museum and visitors centre as reference points, in the space- both literally and metaphorically, barriers between the streets and aligned institutions have been removed. The former provides information on how to appropriately experience the Taj Mahal through a program re-imagined within architecture of pavilions and gardens, the latter is dedicated to the architecture of one of the most illustrious empires in Indian history.

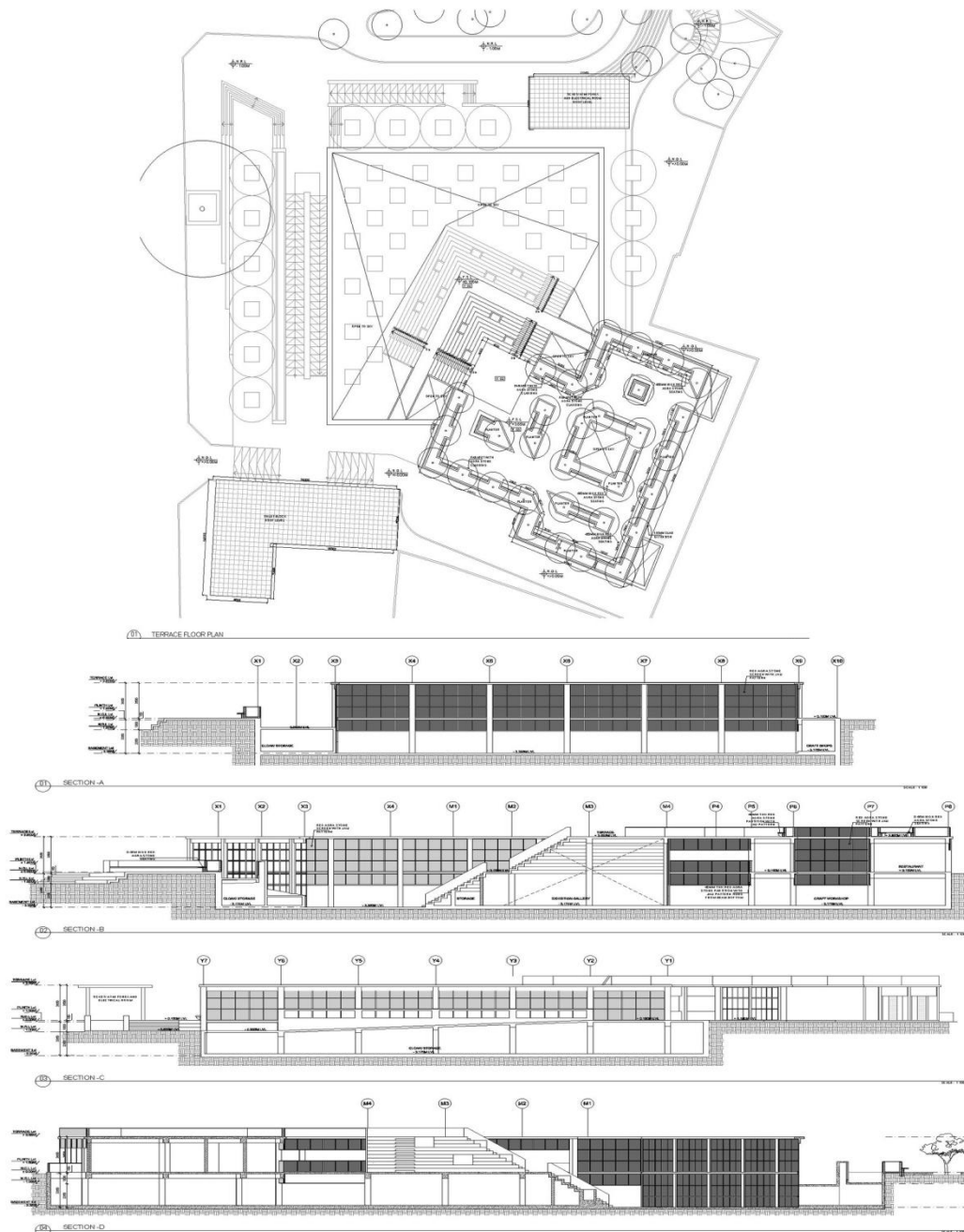


Figure 7-15 plan and section of Taj orientation centre
source : www.theplan.it/eng/project_shortlist/1159



Figure 7-17 taj visitors centre source : www.theplan.it/eng/project_shortlist/1159



Figure 7-17 Taj orientation centre source : www.theplan.it/eng/project_shortlist/1159

iii. Taj Ganj

Taj Ganj is flanked by neighbourhoods, mainly residential, called Bastis (quadrants) or Katras, which house a melange of domestic dwellings, public offices and prominent commercial developments, and many cultural monuments. Taj Ganj exhibits urban decay, yet holds immeasurable vibrancy. Taj Ganj, along with an immeasurable vibrancy, exhibits urban decay. At Taj Ganj exists a smart juxtaposition of a highly dense fabric, its crumbling infrastructure coupled with an acute lack of open spaces, with the richness of cultural life and socio economic ingenuity. Its built environment brings about an expression of amusing resourcefulness of the ordinary people, the innovative and contrived ways of problem solving, however unorthodox or unsanitary.





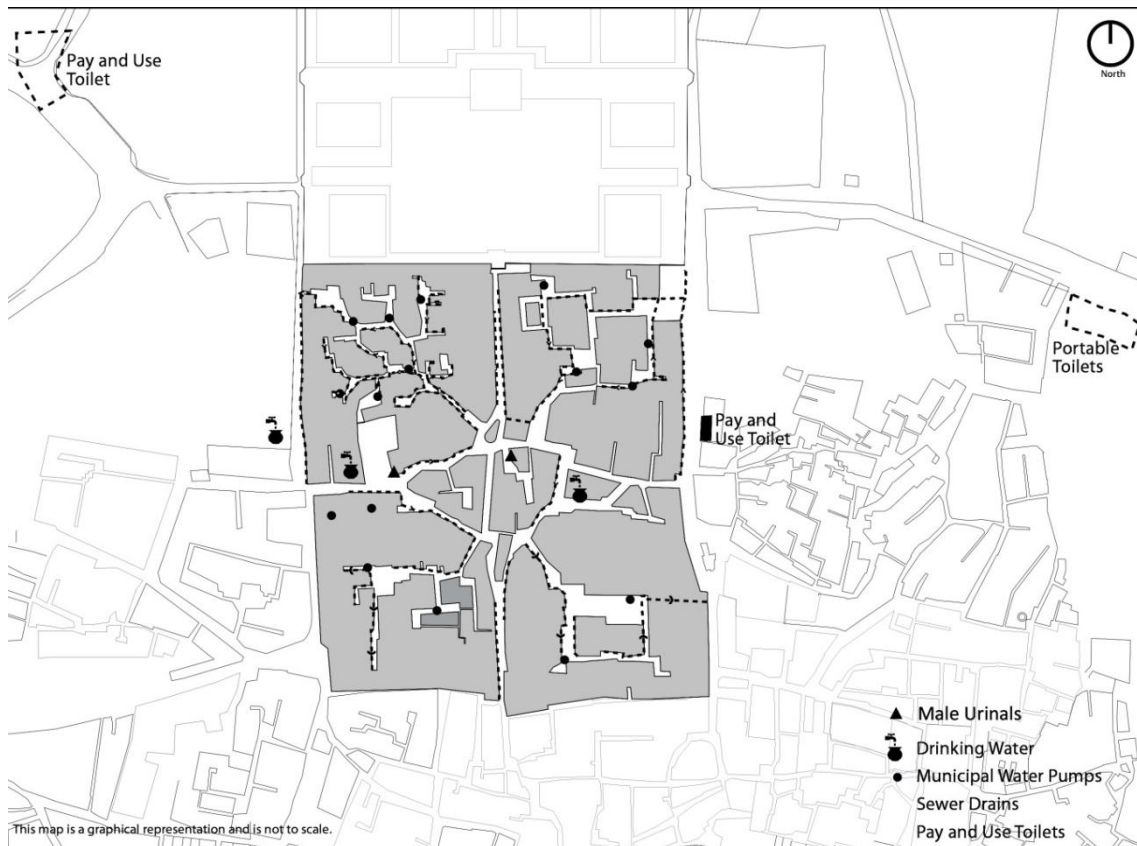


Figure 7-19 Map of the public drinking water and sanitation system in Taj Ganj.

Source : Author

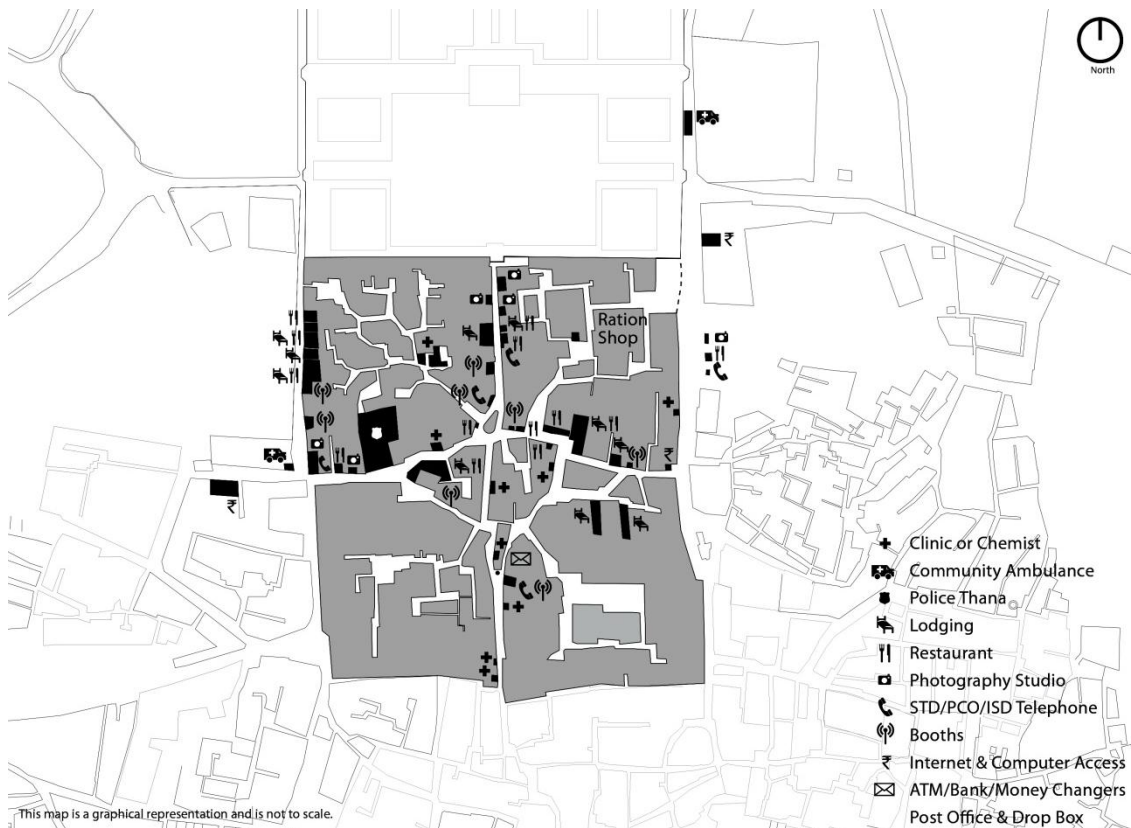


Figure 7-19 Map of tourist facilities at Taj Ganj

source : Author

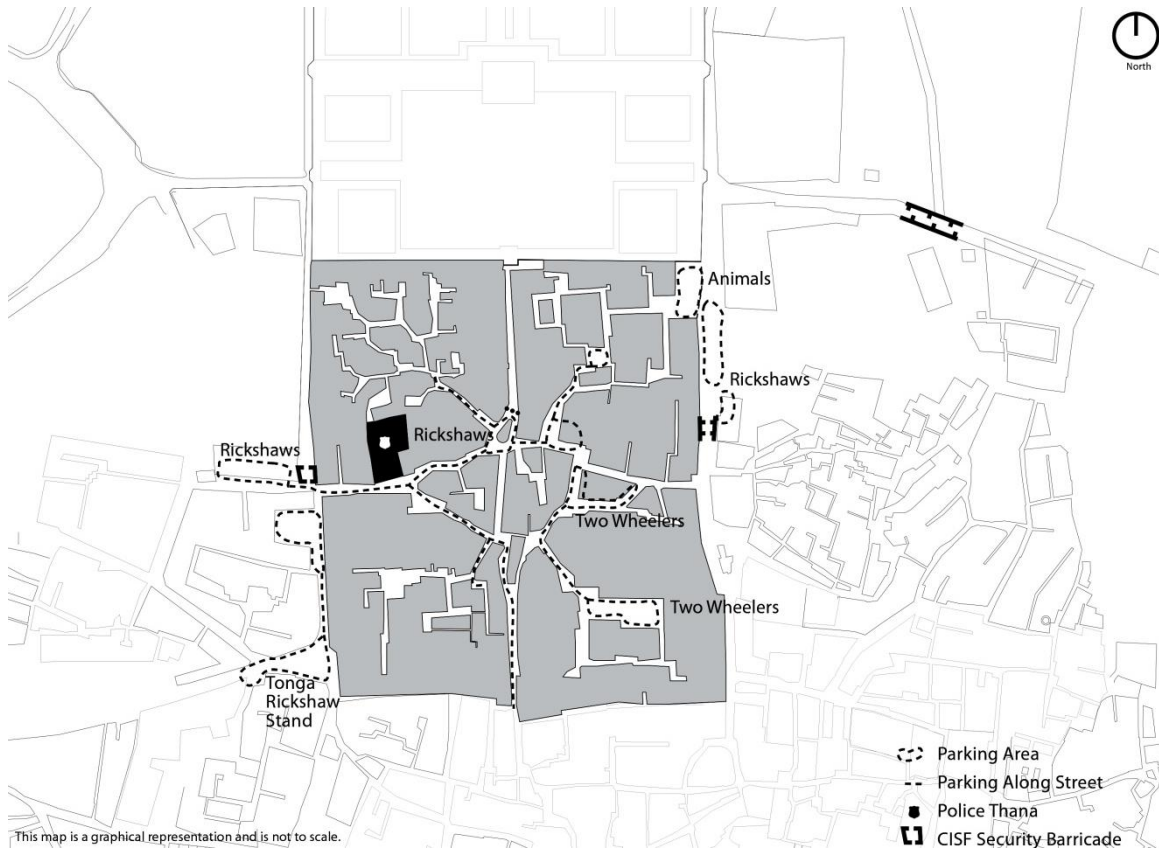


Figure 7-21 Map of Taj ganj showing security barricades, parking and vehicular accesses. Source : Author

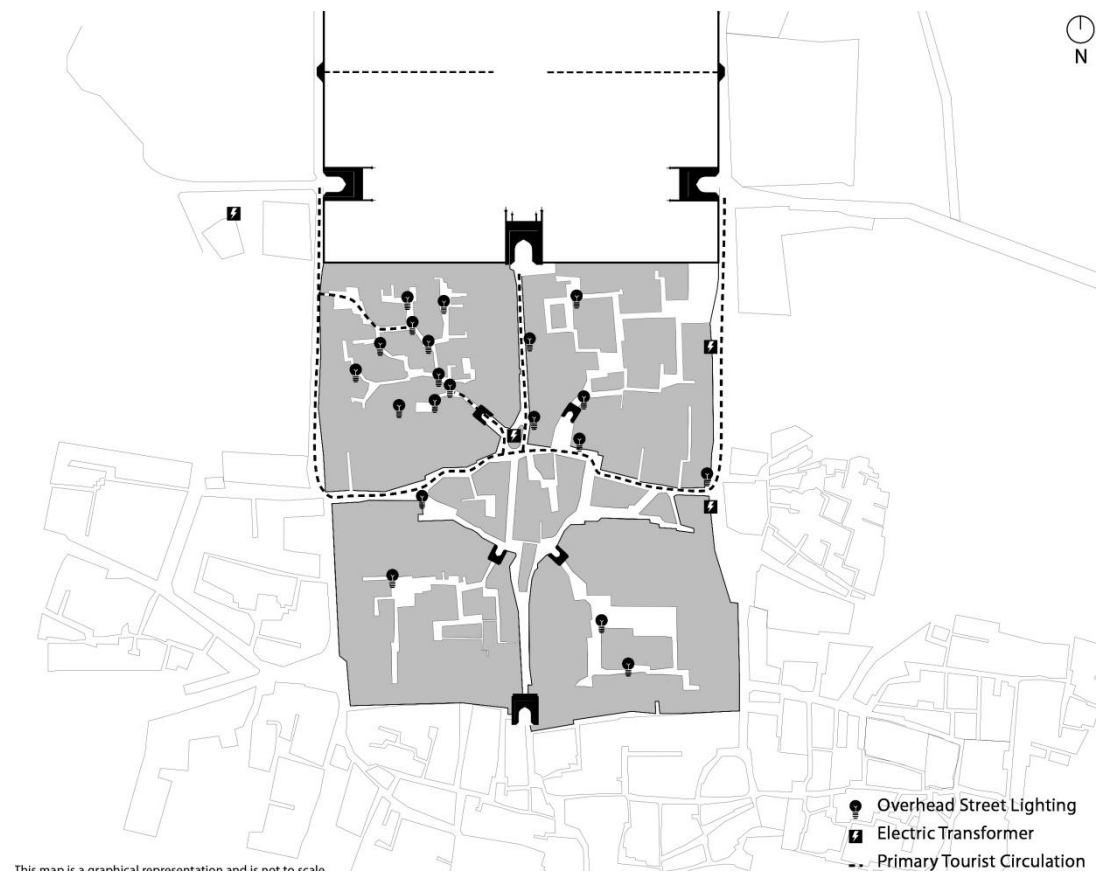


Figure 7-21 map showing the street lights and transformer at Taj ganj
Author

source:

a) Historic spatial configuration

The organic nature and density of the street layouts take after the building of the Taj Mahal and the four Katras. As the needs of the community have developed, this can be seen inside the Katras, and in the recent past (20 years) in the axial streets of the four Katras as a response to the considerable increase in tourist footfall of the Taj Mahal.

The scale of the shop fronts on the cross-axial market streets is related to the original katra structures as most of it is built as incremental additions. However, some of the recent construction of hotels and religious structures is distinctly of a different scale.

Construction done recently doesn't reflect the architectural style and historic character of Taj Ganj. Instead, they display the Rajasthani style and materials that are developed as a response to the tourism trade display and are seen to be popular identity of commercial tourist properties throughout North India



Figure 7-22 Visual representation of the katras source: Author



Figure 7-26 source : Author

Terraces, courtyards and verandahs make the densely packed Taj Ganj area porous.



Figure 7-26 source : Author

Traditional terrace space with kabootar khana. These terraces are used for kabootar baazi everyday.



Figure 7-26 source : Author

Transition of space from the public to the private is marked by courtyards.



Figure 7-26 source : Author

Gallis and koochas are the specific character of the settlements with houses on both sides.

Architectural character

A marked diversity exists in the character of Katra spaces. The residential areas within the Katras retain materials, traditional features and use of spaces. Contradicting that, the cross-axial market streets have vibrant shopfront displays, experiences of street food and sound of traffic that dominates our senses. Parts like the Police Station where the original Katra structure can be observed from the street show the architectural character of the market streets to a large extent.

Architectural Style

The structures can be dated by a distinct layering of architectural styles, which can also be observed in the Katras. European architectural elements like columns and classical arches and regional art deco style ornamentation in some of the residential buildings from the past century are made use of.

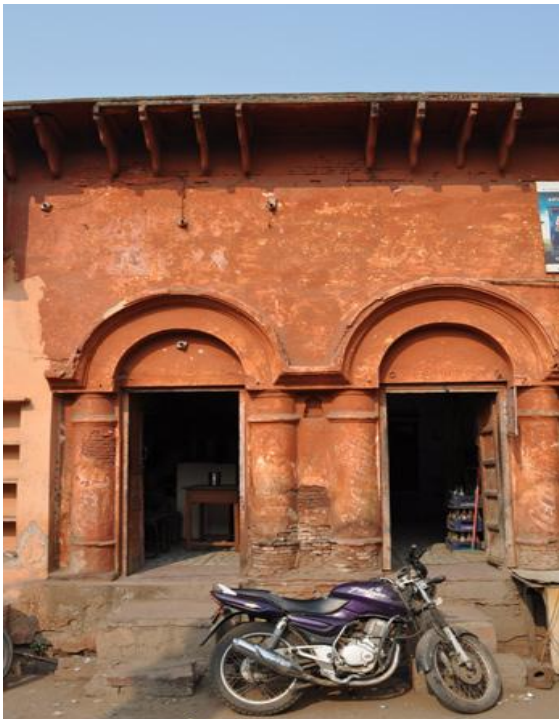


Figure 7-27 small restaurant at Taj ganj

Semi-circular columns and double layered arches form a beautiful shopfront; such built fabric adds to the character of the layered built heritage Taj ganj



Figure 7-28 A old Haveli

A century old 3 storey haveli type structure lends to the heritage character of the place.

Historic Architectural features

The main visual characteristics of the area are,

1. There is a uniform use of brick domes in hujra rooms of the Katras (referred to as Badshahis by the locals).
2. Use of Mughal arches of varying sizes and ornamentation can be seen in the Katra gates, arched barandahs (courtyards), and mihrabs (wall niches).
3. There is a uniform use of Kakkaiya bricks in construction dating back to about 100 years ago. A unique detailing for brick corners is used throughout the Katras. Salvage and re-use of these bricks can also be observed in newer structures.
4. There is a uniform use of red sandstone for chajjas, brackets and street paving. However dominant the chajjas and brackets are, very few large sandstone slab paved streets are now intact.
5. Wood beams used in one of the Badshahi structures, probably not original, adds to the architectural variety and the ability to make optimum use of construction techniques.



Figure 7-30 dome house at Taj ganj

Baked bricks domed hujras are now just a remnant of its earlier self. Most of these sarais are lost, whatever remaining has been added to over the centuries.



Figure 7-30 small café with overhang

Some of the addition date back to over centuries froming an incremental heritage. Distinct character with Jharokas supported on decorative stone brackets



Figure 7-32 use of wooden beam

Wooden beams is unique, and through probably nor original, it add to the architectural variety of the heritage structure.



Figure 7-31a beautiful Mughal arched entrance vault

Mughal arched entranced vault with multi cusped arch front façade frame an entry to the katra residence



Figure 7-33 large sandstone slab street paving,

Large sandstone slab street paving, much of which is replaced with unsympathetic cement surfacing.

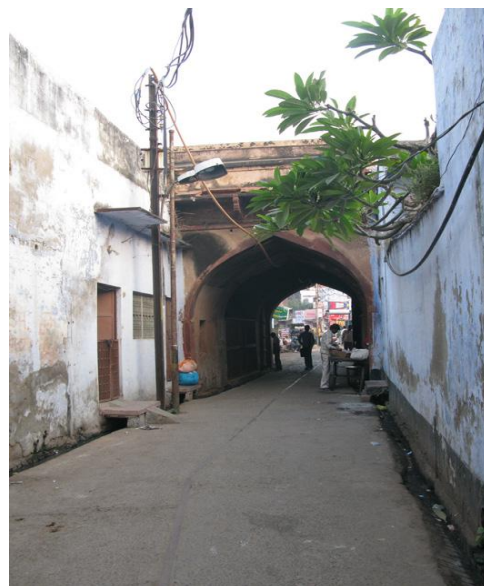
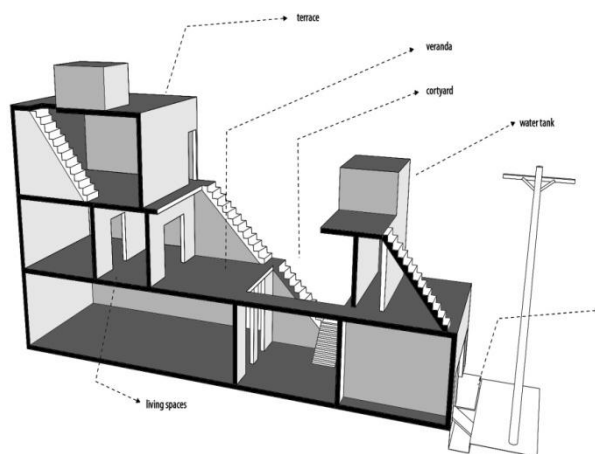
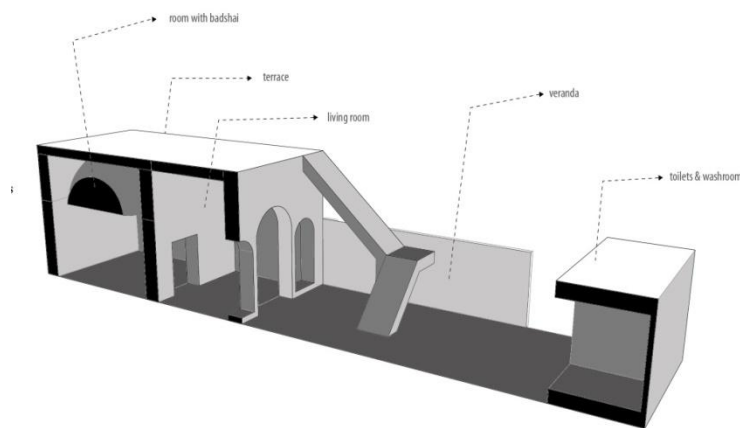


Figure 7-34 katra omar gate source: Author

Katra Omar gate, it is by far the most well-kept gate, it is protected by ASI

The traditional, domestic and commercial activities of the Katra inhabitants led to the development of internal and external barandahs (courtyards) that are part of the original spatial configuration. They also serve as the lungs of the house by promoting cross ventilation of air.

The Chat (terrace) is a space for many activities relating to domestic work like drying of clothes, spices and leisure activities like kabootarbazi (pigeon flying). Many of the terraces even today have kabootarkhanas (pigeon coops). Galli's (internal streets) are extended domestic spaces that link the community and are used for shared activities like festivals, and celebrations, for children to play, as well as domestic animals.



Due to the dense wall to wall development the house mainly derives its light and ventilation from the front facade and internal courts. The courts and terraces also form the main lungs of the house with activity oriented.

Figure 7-35 A sectional view of a typical two storey structure within katras. around these spaces.

A traditional badshahi house. Layers added to the original hujra rooms with the passage of time, and as per the needs of its inhabitants

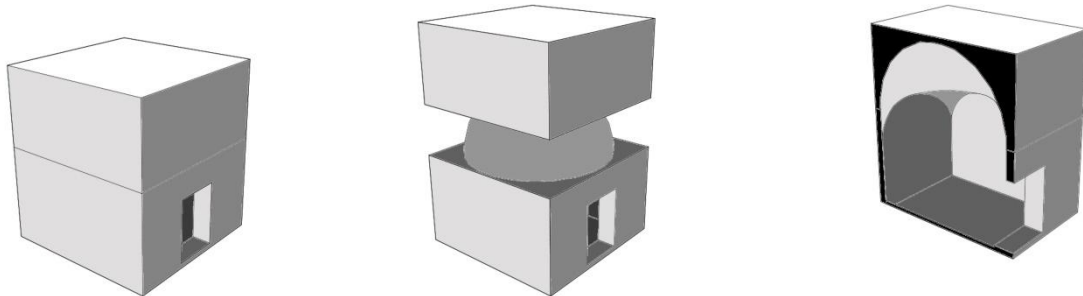


Figure 7-36 typical traditional badshahi house source : Author



Figure 7-37 Hujara room with domed ceiling

A well-kept traditional *badshahi/hujra* room with its domed ceiling.

Issue

- Due to the history of neglect towards heritage, the original katra walls and katra sarais are in poor condition
- The gates of the sarai which are listed structures by ASI are not properly maintained. Visibility to these structures is marred and haphazard constructions are abutting the heritage structures.
- Spaces around the original Katra walls have been densely built up.
- There is no means of information and awareness on Taj Ganj created for visiting tourist to know that this is a historic area and part of the original Taj Mahal complex.
- The incremental architectural proliferation in the area is over a century old. This layering of styles and construction technology has architectural and heritage value, in addition to the value associated with the badshahis. They form an integral part of the built heritage of Taj Ganj.

iv. Conclusion

The Taj corridor efficiently fulfills a critical aspect of the tourist experience of the beautiful monument. With well-planned connectivity between the different parts, there is a smooth flow of activities that does not adversely affect the circulation of the space.

The corridor is well lit which leaves no dark zone or raise any safety concerns. The clearly defined carriageways and footpaths function systematically without affecting the activities of one another. Circulation of tourists and vehicles is eased by dedicated nodes and shelters for drop-offs, pick-ups at transition points. The characteristics of the Taj Mahal can be seen in elements like the Red Agra lamp post or in the use of red Agra stone. This tends to provide a tourist with a good sense of what to expect further.

Providing greener zone within heritage context at intermediate intervals and improving the street facade and its characters, this case study achieves an improvement in tourist facilities. Architectural element, spaces, facilities showcases unique character of past within the settlements.

8. CASE STUDY3

1. HAWA MAHAL STREET AND BAZAAR

Location : Hawa mahal street , Johari bazaar , Jaipur, Rajasthan, India.

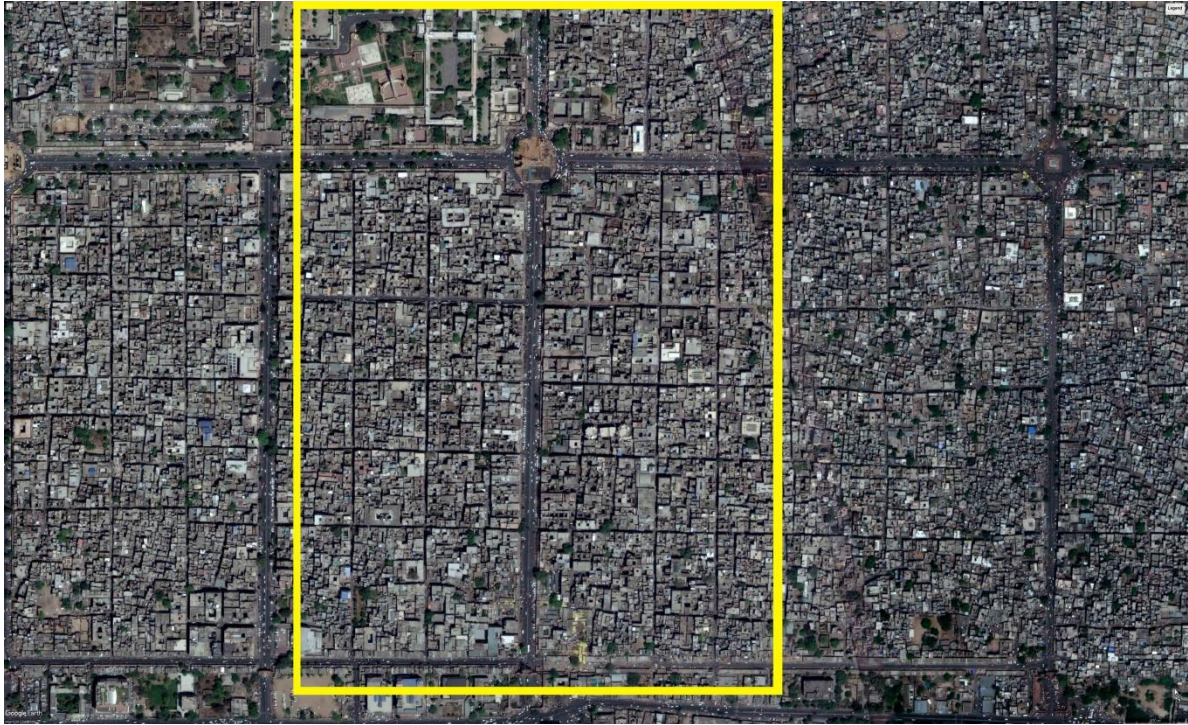
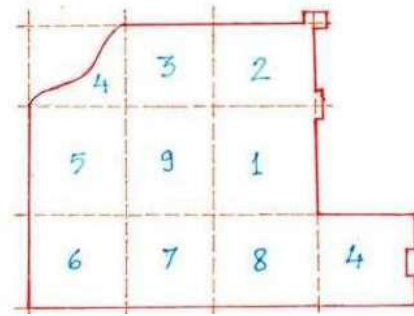


Figure 8-1 Map showing the Johari bazaar stretch from hawa mahal Source: google earth

i. Background

Jaipur, also known as Pink City, is the capital and the largest city of Rajasthan. With alluring forts, large Havelis, stunning edifices, and magnificent palaces this place emulates a beautiful past and a dignified present. The pompousness of turbans, eye popping architecture, textiles and jewellery attract attention of local and global tourists. The excellence of this place can only be experienced by observing it. Being the city of hues, fests and fairs it welcomes a huge crowd throughout the year. Some of the outstanding events enjoyed by visitors, if you plan to come on vacation there are so many events to enjoy such as the Teej festival, Elephant festival, Gangaur festival, Kite festival and Camel festival.



It is a model of town planning and the first planned city in India. It is based on Hindu systems of town planning and followed the principles prescribed in the Shilpa-shastra, an ancient Indian treatise on architecture .according to this shastra the site should be divided into grids or mandalas ranging from 2 x 2 to 10 x 10. Planned according to the Prastara type of layout, which gives prominence to the cardinal directions. Thus plan of jaipur is a grid of 3x3 with grid lines being the city's main streets.



The palace building covered two blocks, the town six and the remaining ninth block was not usable on account of steep hill. So this North-West ward was transferred to the South-East corner of the city, making the shape of the plan as a whole asymmetrical rather than square. The city's division into nine wards was also in conformity with the Hindu caste system, which necessitated the segregation of people belonging to different communities and ranks. Following the directions of the Hindu Shilpa Shastra, width of the main streets and other lanes were fixed. Thus the main streets of the city were 111ft. wide, secondary streets 55 ft. wide and the smaller ones 27 ft. wide.

ii. Bazar

Jaipur has always enjoyed the status of a well-established business centre; various shopping zones like Kishanpole Bazar, M.I road, Babu Bazaar, Johari Bazar, Chaura Rasta have been eternal favorite among national as well as international shopaholics. On the other hand, is quite famous for hand-block painting and handcrafted paper.



Figure 8-5 Plan showing the bazaar area (highlights) Source: Author

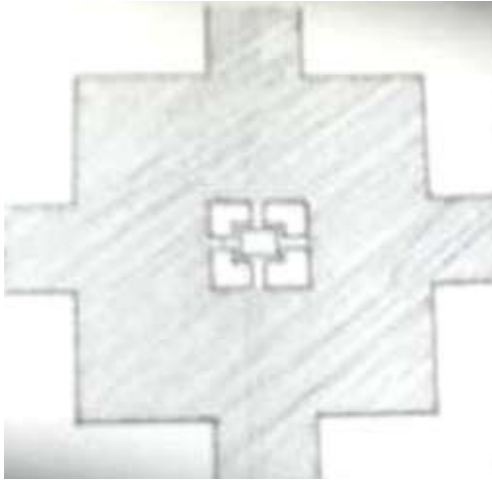


Figure 8-6 Chaupras Source: Author

A square that occurs at intersection of East West roads with three North South Roads (100m x 100m). Used for public gathering on festivals, pedestrian movement.



View of a main bazaar street- the width of the main road was kept 111ft, secondary roads are half the size of main road 54ft, and the tertiary roads are 27 ft.

Junctions of the main axial streets formed the two square civic open spaces called chaupars (badi chaupar and chhoti chaupar). The width of the square chaupars was three time that of the main street.

Original markets in the city include Gangauri bazaar, Johari bazaar, Sireh Deorhi bazaar, Kishanpole bazaar, along the main north-south and east-west axes that intersect at Chhoti and Badi Chaupars. Typical architectural features of the bazaar streets are use of chhajjas (sunshade) resulting in strong horizontal lines, protecting vertical blocks on brackets, a modular system of arches filled with delicate latticed screens to cut direct sun and glare of reflected sun in the street.



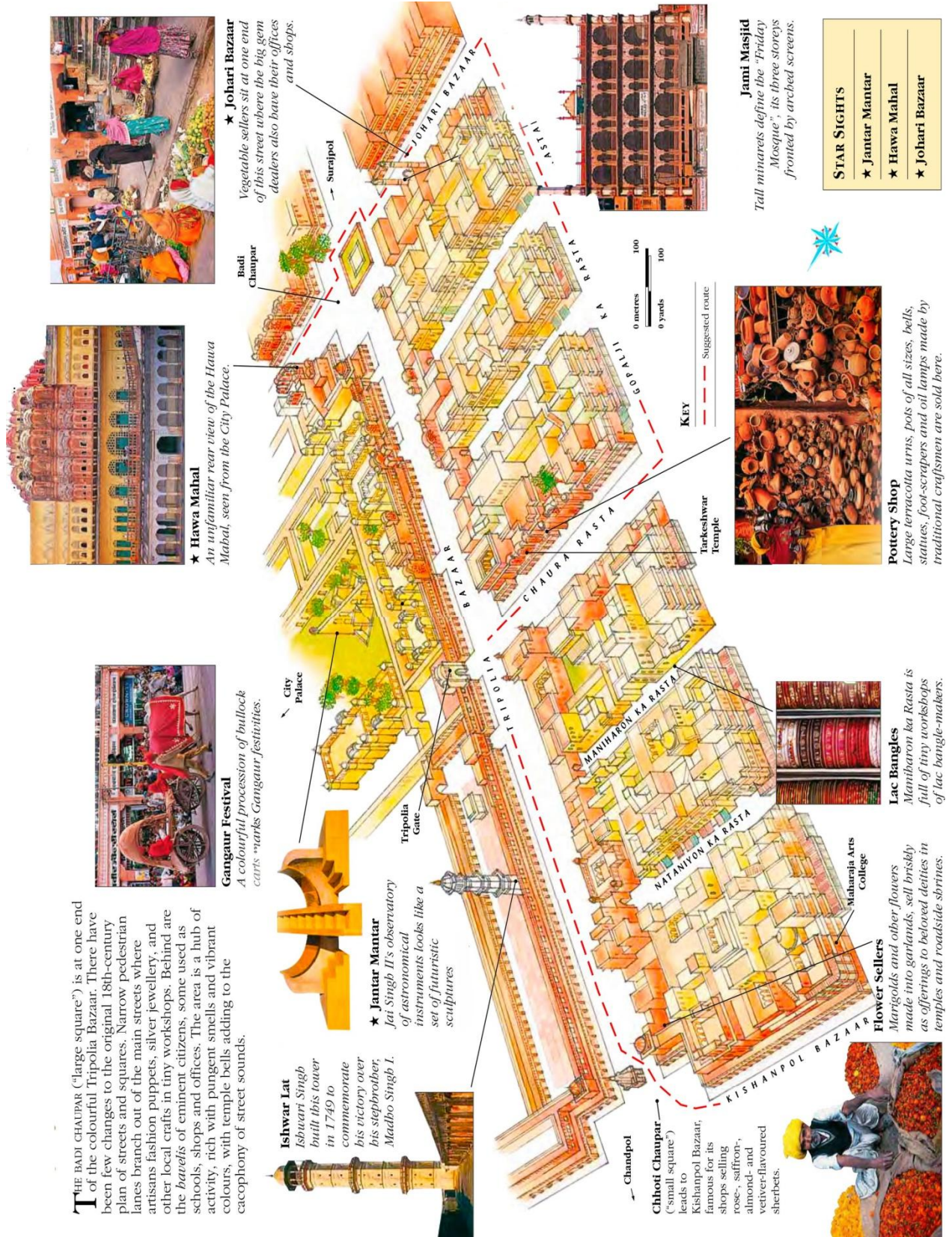


Figure 8-7 Aerial view of all bazaar of Jaipur Source : mapaplan.com



Figure 8-8 Opposite side of hawa mahal Source: Author

The only part of the Hawa Mahal without shops beneath the facade is the famous five-storeyed façade peppered with miniature windows, carved sandstone windows, grills and domes. Distinctive feature of the palace complex is the use of Chattris and Jharokas, which are either not prominent, or absent in the market structures.

Hawa Mahal is situated at a traffic junction of four roads, Manak Chowk that is the converging point for four roads, namely Hawa Mahal Road, Johari Bazar Road, Tripolia Bazaar Road and Ramganj Bazaar Road. Being a prominent tourist spot, the roads have developed as specialty markets. Hawa Mahal is a fusion of Rajput Architecture and Islamic Mughal Architecture. Johari Bazar and Hawa Mahal Bazaar, being in the walled of Jaipur, follow an architectural language adhering to the city heritage. The external facade of every structure that faces the road is 'Pink', i.e. is painted terracotta pink colour, maintaining the colour scheme.



Figure 8-9 Imperial gate of Hawa mahal Source: Author

The elevational treatment given to the external facades of the marketplace is such that, it blends in with the elevation of the historical monument. Pictured here is the entrance to the Hawa Mahal Palace through an Imperial Door. The surroundings merge visually with the scale of the entrance.

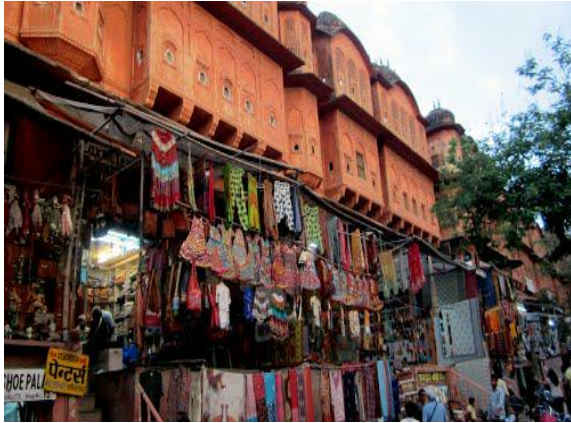


Figure 8-10 Market lane at Hawa mahal source:Author

The market lane at Hawa Mahal Bazaar specializes in clothing (tie-dye fabrics), leather goods and footwear (mojaris, a specialty of Rajasthan).



Figure 8-11 Lane opposite to Hawa Mahal Source: Author

However, the lane opposite Hawa Mahal adheres to restaurants and eateries that offer an authentic Rajasthani cuisine. The market lanes are hence, specialty markets that each function uniquely.

The architecture elements of Hawa Mahal have been adopted by local structures. Apart from the terracotta pink, the structures pick up elements like the miniature windows, intricately carved Jaalis and Islamic arched windows.



Figure 8-12 White paint as architectural element Source: Author

A distinct feature of the elevational treatment is the use of white paint to highlight and add detail to the architectural elements. The window arches are lined with white paint to accentuate its offset from the wall.



Figure 8-13 Elevation treatment on terraces Source: Author

Arched fortification of walls is common on the terraces of the structures, which serves only an elevational purpose.

The use of rectangular offset windows with Rajasthani or Islamic arches highlighted by white paint, and chajjas with floral ornamentation adhere to the street character which continues till the Hawa Mahal. The marketplace in the Johari Bazar caters to the demand for silverware, carpets, mojaris and sanganeris textiles. The street character is different to that of Hawa Mahal bazaar, with a buffer lane between the street and the shops, to prevent encroachment of any kind.

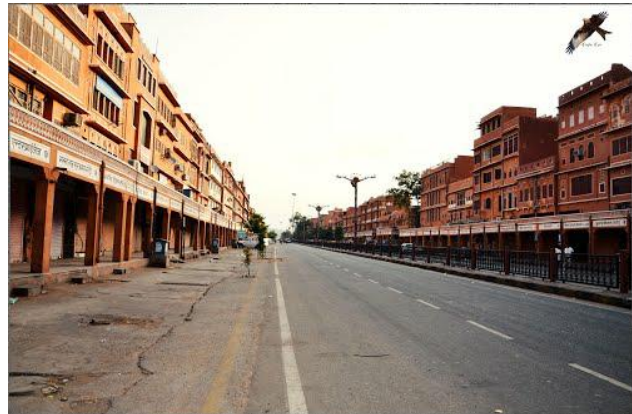
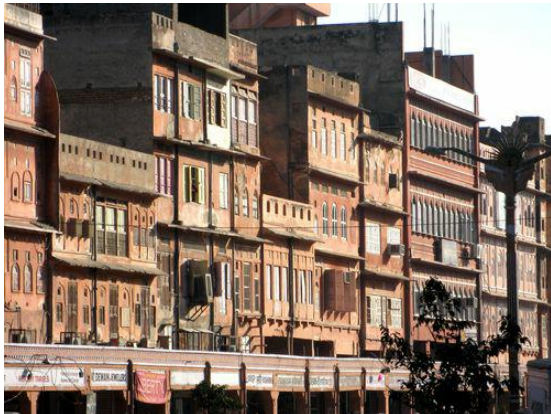


Figure 8-14 Lane - Johari bazaar Source: Author



The street pictured here is the lane opposite to Hawa Mahal. A buffer between the street and the shops is not provided; hence the uniformity in the elevation is lost at the street level. The streets can be potentially encroached upon.



However, despite providing a buffer between the street and shops, Johari Bazaar is prone to traffic jams caused by unregulated parking.

iii. Construction

- Stone for construction is available in abundance in the region. The earlier structure are of masonry in random rubble or dresses from in grey metamorphosed stone, schist from Ramgarh or stone from Ghat ki Guni area. Later in the 19th century, Bansi Paharpur stone was used in Jaipur.
- Stone walls are on an average 1 feet 6 inches thick and plastered with lime. Columns are either assembled with laterite stone or are monolithic with timber type joints. Use of stone in beams, lintels, door and window frames is common.
- Makrana marble is used for decorative component such as carved columns and black marble from Kotputli for inlay work.
- Roofing is usually of stone slab except in a few cases where bricks are arranged in a concentric manner called the Ladoa roof. For thermal insulation, a layer of inverted clay pots used between multiple roofing layers amounting to a total roof thickness of about 1 feet 6 inches.
- Typical finishes of this region includes araish (slaked lime smooth finish) on floor and walls. The havelis, palaces and temples show excellence in stone work of jharokhas (projected balconies), jaalis and parapets. Decorative finishes includes mirror work, stained glass, mother of pearl inlay and silver inlay work frescoes, dakmeena work.

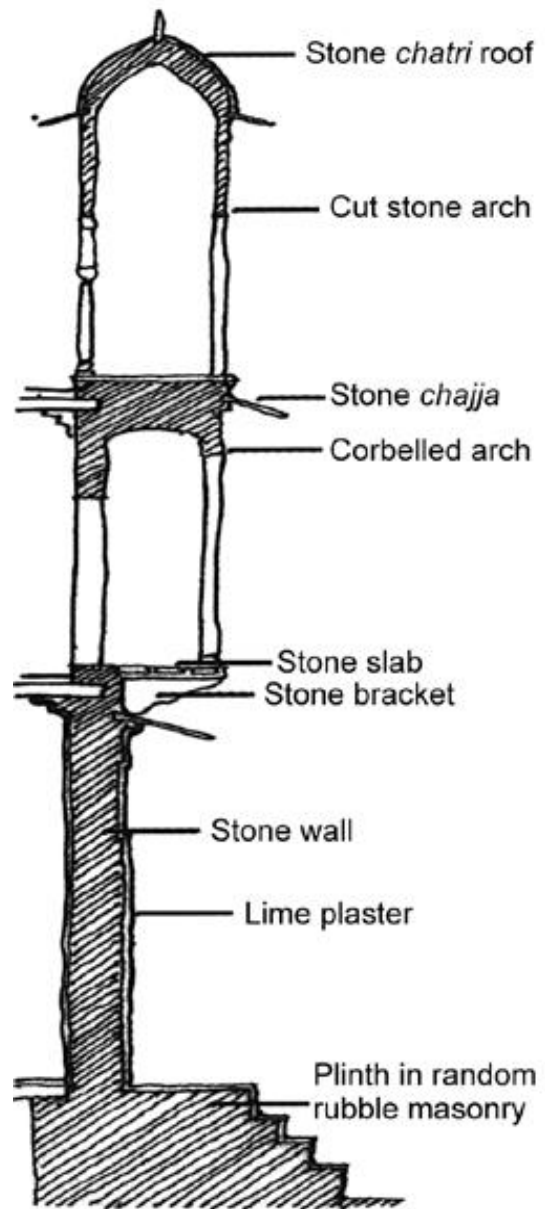


Figure 8-15 Typical wall section source: Author

iv. Conclusion

Well-planned link exists among different parts of the city; where with the flow of activities the circulation of market area is not hampered. The whole bazaar is seen with interesting architectural façade as an element, the architecture elements of Hawa Mahal have been adopted by local structures. From the terracotta pink coloured facade, the structures pick up elements like the miniature windows, intricately carved Jaalis and Islamic arched windows, gives a character to the street.

The elevational treatment given to the external facades of the market place is such that, it blends in with the elevation of the historical monument. The elevation treatment gives the space a unique element that tells the story of the past.

IX. Design programme

Architectural Intention:

This dissertation attempts to evolve a more sensitive approach to the conservation and reviving, one that recognises the mutual interdependence of three elements:

People, Place and Time.

There is a need of preserving the culture and the rituals that is happening in Hampi. The people residing are the main spine of Hampi. The site demands a new definition of Heritage resources, with spectacular landscape, vernacular approach towards the livelihood of the village, traditional understanding of sacred sites which emphasises on the principles of traditional Indian architecture that accommodates to the growing requirements of tourism and sustains the heritage value of that place.

Bringing back the qualities of an architectural element that tells the past stories, to catalyse the change and the growth, inseparable connection of the people towards culture.

Limitation and constraints

- The task of this dissertation would be limited to pure architectural designing based on data collected.
- The design would be cover detail analysis of current status of the village and its activities.
- The research has been restricted to Hampi only.
- The study of Hampi and details gathered are purely based on Author's survey and interviewing the local resident and the local Authorities
- All development would be taken place within ASI regulations, as the development includes under the Archaeological Survey of India (ASI) and Hampi World Heritage Area Management Authority (HWHAMA), not all regulations are considered.
- It would not cover any estimates of quantities.

DESIGN PROGRAMME

***Design programme might change at the stage of design**

Reviving the existing settlement

- Improving the present conditions of the residential unit and commercial unit.
- Providing necessary facilities such as general shops, medical facilities, security check points.
- Relocating the existing police and traffic control unit and Archaeological photo gallery.
- Improve public sanitation facilities.
- Common gathering space for meeting (for Panchayat).

Tourism related facilities

- Tourist accommodation which will include communal cottages, private home or Wada, guest houses.
- Restaurants, cafeteria.
- Sale area : Handicraft, local art, clothes and textile shopping facilities
- Information kiosk, internet cafe.
- Library, language and learning centre.
- Research centre, Archaeological museum and photo gallery
- Sanitation and drinking facilities for tourists at various points

Art and Cultural facilities

- Art and Handcraft workshop
- Art gallery, Exhibition space

River front Development

- Ferry point
- Improving the condition of the existing ghats
- Changing room, Public toilet facilities
- Coracle making and repair shop

Other facilities

- Food court
- Parking area
- Transport facilities: bus and Rickshaw stand.

Relocating the illegal tenants and temporary houses and shops

There are many illegal and temporary houses and shops within the settlements which hampers the heritage value of the place, thus needs to be relocated to the near by location.



Figure IX-1 Encroacher and illegal tenants Source: Author

The people to be relocated based on the illicit activities surrounding the temple and the Hampi heritage area. A number of them also work as labourers, Based on the Survey the following categories of persons will be economically displaced, and will have to be provided with alternate livelihood options and training.

Total number of units in settlement: **151**

Number of units to be relocated: 60

Encroacher

- Purely residential structures : 25
- Purely commercial structures : 13
- Residential and commercial structures : 07

Total: 45

Illegal tenants

- Purely residential : 09
- Purely commercial : 06

Total: 15

- Alternative houses will be provided in resettlement colony – (minimum size of plot 1200sqft).
- Alternative shop of 100 sq.ft.

Relocating to Prakash nagar which is 1.2km from Virupaksha temple, with the population of 105. Prakash nagar is also known as Krishnapura.



Figure IX-2 Map showing Prakash Nagar

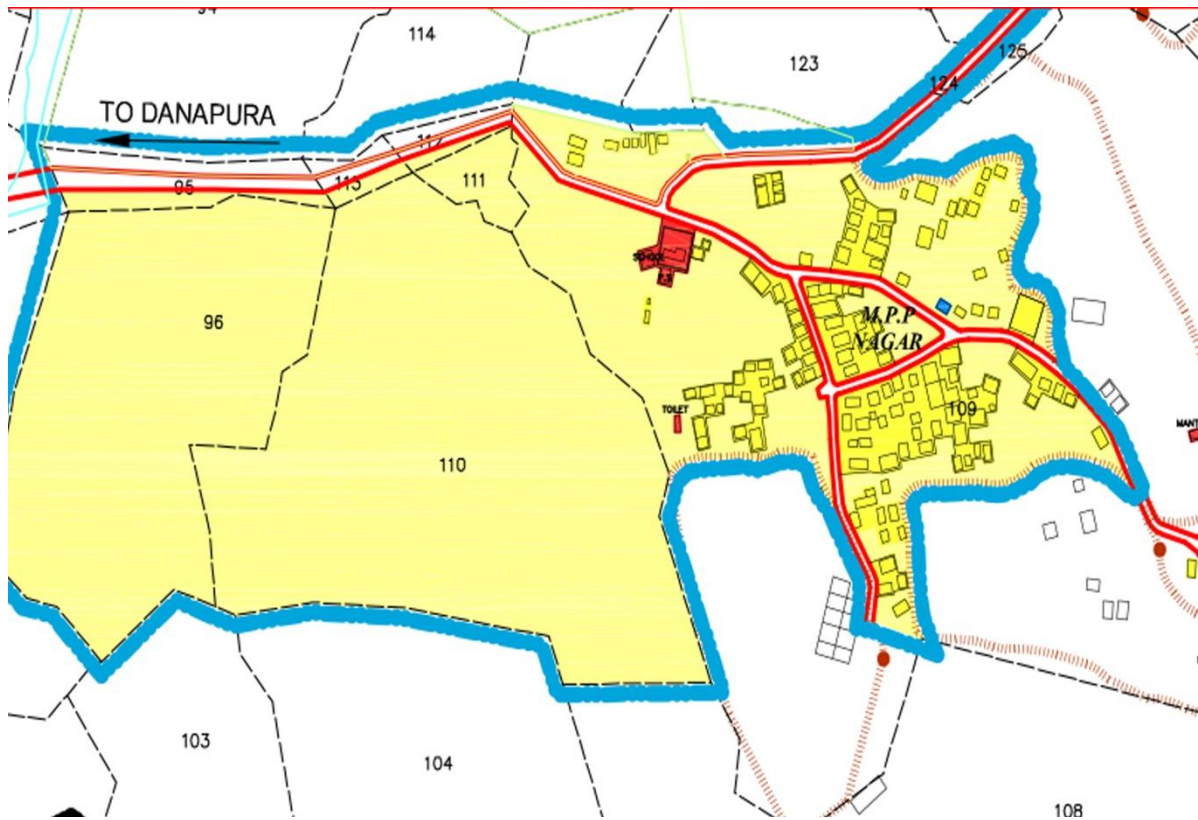


Figure IX-3 Development plan of Prakash Nagar. Source: development plan HWHAMA

Survey plot no.: 96, 110,

Area:

Plot no. 110: Area 14182 sq.m (3.50 acres).

Plot no. 96: Area 8900 sq.m (2.19 acres).

Appendix

- Report of Housing & Rehabilitation Plan for people of Hampi Bazaar by HWHAMA (Hampi World Heritage Area Management Authority)
- **Rules and Regulation unders Archaeological Survey of India (ASI) and Hampi World Heritage Area Management Authority (HWHAMA).**

LOCAL PLANNING AREA

The Local Planning Area for 'HWHAMA' has been first declared on 1-12-2004. It was felt during many discussions with various experts including UNESCO that the revision of the Local Planning Area boundary has to be done by including entire revenue villages. And accordingly it was decided to extend the Local Planning Area by including entire revenue villages and excluding the Kariganuru village and a proposal was sent to the Government for approval. Accordingly the Government has approved the proposal and the Local Planning Area was revised by including entire revenue villages vide Notification No: NaAaE 161 Be Ma Pra 2006 dated 4-1-2007. The Local Planning Area comprises of 29 villages, 14 from Hospet taluka and 15 from Gangavati taluk covering an area of 236.46 Sq kms. Out of which 172.56 Sq Kms of area lies to the south of the River which houses 45908 persons at the rate of 266 persons per Sq Kms and 63.90 Sq Kms of area to the north of the river housing 14033 persons at the rate of 220 persons per Sq km which reveals the densification of villages at the southern part of the river.

The Local Planning Area is divided into following zones under the provisions of HWHAMA Act 2002.
(A) CORE ZONE (B) BUFFER ZONE & PERIPHERAL ZONE

(A) CORE ZONE

1. Residential

Uses permitted:

Dwellings, old age homes, educational hostels, orphanages, anganawadis, nursery schools with a minimum sital area of 500 sq mts, lower primary school with minimum site area of 1000 sq mts, milk booths, STD booths. Convenience Shop, Computer institutes, Internet parlours, doctors consulting room, offices of professionals not exceeding 15 sq mts (with minimum site rea of 200 sq.mtrs. provided applicant himself is a professional).

2. Commercial Hampi Bazaar

Uses permitted:

Trades conforming to the needs of the temple as decided by ASI / Department of Archaeology and museums in consultation with HWHAMA

GENERAL REGULATIONS

1. These regulations are formulated without prejudice to a. Ancient Monuments & Sites & Remains Act, 1958 b. The Karnataka Ancient & Historical Monuments & Archaeological sites & Remains Act, 1961
2. No development, demolition, alteration or repair shall be carried out without prior permission of the authority.
3. In future all service lines shall be put under ground and existing lines in a time bound programme

shall be put under ground. Special care must be taken not destroy archaeology.

4. Except drinking water storage facility (subject to site suitability and location study) no development activities on the rocks, boulders, hillocks and rocky outcrop shall be permitted.

5. The new construction shall be in context with the surroundings and as specified in the architectural guidelines.

6. No signs / or out door display structures shall be permitted without permission of Hampi authority.

7. All roads must be aligned with trees of suitable species with regard to local ecology and landscape.

8. **Staircase:** The minimum width of staircases shall be 1.00 m. The maximum number of risers on a flight shall be limited to 12. Size of treads shall not be less than 30 cm and the height of risers shall not be more than 15cm.

9. **Ramp:** Ramp shall be provided with a minimum width of 3.50 meters and a slope of not steeper than 1 in 8. Ramp shall be provided after leaving a clear gap of minimum 2.0m from the edge of the neighbouring properties.

10. **Cantilever Portico:** A cantilever portico of 3.0 m width (maximum) and 4.5 m length (maximum) may be permitted in the ground floor within the side set back. out. Height of the portico shall be open to sky..

11. **Balcony:** The projection of the balcony shall be measured perpendicular to the building up to the outermost edge of the balcony. No balcony is allowed at the ground floor level. The length of the balcony shall be limited to 1/3 of the length of each side of the building.

Prohibited area: 100 mtrs radius area around the monument is declared as prohibited area zone as per the provisions of archaeological act. **Uses permitted:** Parks, open spaces and play grounds, natural landscaping, planting of saplings, repairs, modifications, alterations, re-construction of existing building, adding toilet and bathing facilities to the existing building subject to the regulations mentioned below.

Sl. No.	Building use or type	Min width of the corridor in mts
1	Residential building	1.0
2	Assembly buildings such as auditorium, Kalyana Mantapas, cinema theatre, religious building, temple, mosque or church and other buildings of public assembly or conference.	2.0
3	Institutional buildings such as:	
a)	Government office	2.0
b)	Government Hospitals	2.4
c)	Educational Buildings such as Schools, Colleges, Research Institutions.	2.0
d)	Commercial buildings such as private office, nursing homes, lodges, etc.	2.0
e)	All other buildings	1.5

Height restrictions to the buildings in Core Zone

Sl. No	Village Name	Height in mtrs
1	Hampi	8.0
2	Anegundi	8.0
3	Kamalapura	8.0
4	Kaddirampura	8.0

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