

Original Article

Reviving the Collective Memory of Vijayawada City through Historical Sketch Maps

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Abstract - A see-through of any urban site with the support of sequenced memories of historical maps will reveal its exclusive identity by determining its tangible and intangible attributes. To step onward for such an exercise, one should be conscious of three aspects from which date to start. Where to accumulate the evidence? And how to establish those collected memories? The historical mapping methodology must be inimitable and appropriate to those circumstances to understand, analyze and assess any settlement origin and growth pattern without losing their deeply rooted identities. With a long journey of exploring the history of Vijayawada city, it is enlightenment about the role of dynamic nature in the human habitat's origin and development. This article documented and presented the Chronological maps of Vijayawada's history from the 1st Century A.D. to the date. The import of the historical sketch mapping technique was highlighted with the current exercise in the perception of appearing it in conserving the cultural and natural features and relative decision makings in the forthcoming spatial planning aspects of the city. The revived urban history will rediscover the joy of historical travel, with one eye on the living practices forgotten in different periods.

Keywords - Collective memory, Historical sketch maps, Place identity, Tangible attributes, Urban history.

1. Introduction

Barry Curtis conveys to us the composition of the past from the lost future in the words of influential nostalgia. Settlement planning and design are always added off the time artifice with advent identity and tangible attributes. The exercise of reviving the past is enthused by the determination to interrupt a continuum to revive the future. [42]. In an attempt to study the past of Vijayawada city adopted a process to carry all the collected memories from different bases such as archives, archaeological, architectural, geographical, sociological, and urban planning, revealing the past into an organized direction to bring the exclusive identity and relation of the developed settlement and the natural setting into the limelight. The silent lessons were cultured from the photo evidence, archival maps, artistical illustrations, and articles put up with cognitive flashes of present imagery together as a base in the framework of the place's history.

1.1. Looking back on the future

This article discusses the detailed process of historical mapping, adapting selective analytical tool time layered mapping. The maps shown in this article were prepared with solid pieces of evidence reviving its past from the beginning stage. To reference the overlooked past, we should recollect essential concepts implied to realize the pertinence here.

2. The Significance of the Collective Memory and Historical Sketch Maps Reviving the Place Identity in Urban History

2.1. The History and Collective Memory

A modernist always symbolizes the relationship between the past and memory, specifically representing the

embodiment of a historical nightmare. [41]. Initially, the collective memory concept evolved from sociology's theories and works. A familiar French sociologist Maurice Halbwachs extended his contributions to bringing out the concept of the collective memory and its application to space and time. He precisely explained the framework of restructuring the past related to the individual and society. He distinguished history and collective memory. Collective memory is formed by sharing common memories by an individual or group or numerous activities of collective views and ideologies. Precisely it is recollecting in common. History is one only and is memorized and framed by the available set of outward information, such as photos, dates, events, and pieces of literature related to the place, with a tag of authenticity. To his thesis theories, historical memory can be created by integrating history into their subjective framework, which was followed in this article. [23].

2.2. The Collective Memory and Historical Sketch Maps

The principal essentiality in any study of settlement development is the availability of maps sufficiently accurate to be used for detailed restructuring of the last stages of the growth.[6]. Historical maps can be considered equal to the documentary evidence in urban history, beginning its methodology from locational analysis to adopting the most sophisticated approaches for analyzing distribution patterns. [18]. A Sketch map is defined in British English as a map drawn from observations rather than exact scale dimensions and also represents an area's significant natural and cultural features. [10]. In the words of Mumford, the habitable environment has been designed into a customarily derivative shape, and cultural characteristics have been 'naturalized' or made tangible on



an urban layout map.[25]. He explained the practice of historical maps in three features as follows;

2.2.1. Map as a Historical Document

The accessibility, accurateness, and usage of ancient maps of urban areas as a significant historical document;

2.2.2. Map in Historical Analysis

The thought of involving the past period urban maps as a part of historical analysis while restructuring the urban plans as they exist;

2.2.3. Mapped Evidence

To revive the structure of cities from their intra-urban evolution, mapping of historical data can be used as an analytical and technical tool. It throws light on the path leading to deriving inferences from mapped evidence.

In this article, the historical sketch mapping technique has been preferred and customized as a framework to map historical data and the collective memory of Vijayawada city's existence. Even though deriving inferences and conclusions from historical sketch maps is nevertheless a challenging exercise universally, this effort allows the importance of forgotten attributes into the light, which may support the future perspective plans of a suffocating river and its city.

2.3. Place Identity

A Space is converted into a "place" when people create boundaries and trust it has value. The place is created and recreated over a while by diverse societies. [5]. End to end, with time, the identity of the place also keeps altering. In the dynamic contemporary society, experiencing the relationship between mobility and place identity is constantly becoming more complex. Recognizing the place identity is an approach to meeting the stage where time and space merge.[40] [8].

In the face of growing urbanization, a serious necessity is seen to be aware among the public regarding the concept of Place identity and its importance today. It helps preserve and sustain a place's attachment, heritage values, cultural diversity, social life, and economic development in the public life of any urbanized area. [7]. The concept of 'Place Identity' mostly elaborates on the integrated characteristics of the public and the physical setting consisting of natural and built environments. Many professionals are exploring, discussing, and implementing a few interrelated concepts such as Place Attachment[16], Sense of Place[25], Place dependence[8], Place meaning, and Placelessness[29], which have different degrees of overlapping. These ideologies are being seen as successively applicative in disciplines like Urban Planning and Design, Environmental Psychology, Archaeology, Geography, and Earth Sciences. This study followed a contextualized approach to take out the lost place identities of Vijayawada with the technique of Historical sketch mapping.



Fig. 1 Aerial view of Vijayawada City – 2021

Source:[15].

2.4. Tangible and Intangible Attributes

The historic urban layers expose shreds of evidence about the authenticities of the inhabitants of a dynamic-natured city.[42]. As stated by UNESCO, the tangible and intangible attributes are integrated heritage dimensions for a settlement conceptively for its cultural significance.[38]. The tangible attributes refer to the physical presence of the cultural heritage, which is created, preserved, and intergenerationally in human society. It includes the buildings, monuments, and objects of a certain culture's archaeological, architectural, science, and technology attached to the specific place.[42].

Intangible attributes may not have a physical presence. They refer to the inherited traditions or living expressions, depictions, and knowledge skills from our ancestors to our descendants, such as rituals and events, arts, social practices, traditional food and crafts making, and medicine in response to the specific nature of the living environment. In some cases, it may include the cultural spaces recognized and accepted by the communities, groups, and individuals as a part of cultural heritage that provides them with a place identity and continuousness. [12].[13].

3. Methodology

The process of Historical sketch mapping of Vijayawada city is telling it like it is. Based on the qualitative research approach. The Collective Memory information demonstrated in this article was obtained through the collection of data from personal interviews with the Andhra Pradesh Government Archeological Department officials, a few pictures of inscriptions found in ancient sites, and maps obtained from the Library of Tamil Nādu Archives and Historical Research, Government of Tamilnadu, Chennai. The site visits and observations strengthened further documentation. The complete process followed was planned in four stages background research, Site visits and observations, Classification and dating of the collected data, and sketch mapping.[9].

3.1. Background Research

The background research was organized into further sub-stages such as;

3.1.1. General Background Information

Before commencing the mapping work, a general background study was made with accessible documents of Vijayawada's history to understand where to begin.

3.1.2. Sources of Secondary Data Collection

The historical records were found, and data procured from the Tamil Nādu Archives (in the rule of British times, Vijayawada was under the jurisdiction of Madras Presidency), Local Municipality – Planning Wing, Vijayawada Municipal Corporation, Water Resource Department, Government of Andhra Pradesh, Museum - Victoria Jubilee Museum, Department of Archeology and Museums, Govt. of A.P, State Library – Krishna district Writer's Association, Institutions - Krishna University, Machilipatnam.

3.1.3. Segregation of Acquired Data

The obtained data were classified into Maps, historical documents, reports, photographs, and literary descriptions of life, festival events, and ownerships.

3.1.4. Decisions on the Scope and Structures of Historical Sketch Mapping

Based on the background research and data collection, the required site visits and interview schedules were planned, determining the most appropriate level and scope for the required purpose.

Site Visits and Observations

This data collection phase was based on the visits to the tangible attributes noticed in the previous stages. It involves photo documentation, interactive discussions with the stakeholders, and observations.

Classification and Dating of Collected Data

Comparing the data acquired in different forms were analyzed and dated sequentially. It helped to frame the Chronological maps of Vijayawada.

Sketch Mapping

Ensuring the fundamentals of the geographical and topographical features, the base map was established at its suitable scale by accurately showing the natural and man-made features concerning the coordinate system. Then the accumulated evidence was transmitted to chronological maps of Vijayawada city, highlighting the tangible and intangible attributes of their specific periods.[17]. Kevin Lynch's mind-mapping techniques were partially combined to interpret the visuality of living experiences attached to this place in the past. This study was concluded by identifying the sense of the places at different ages by reviving the collective memory. This study recognizes the lost identities and gaps to be fulfilled in maintaining the

place identity to revive living in the city's cultural and natural balance.

4. Vijayawada, At A Glance From A Historical Perspective

A City named after its historical stories with an expression of its tangible attributes such as the monumental structure Prakasam Barrage, historical temples, natural caves, Buddhist sites, and the natural entity Krishna river. (Fig. 1). It is located in east-central Andhra Pradesh in India, with geographical coordinates 16.5062⁰ North and 80.6480⁰ East. The city is a veritable paradise for people to know more about the region's history and culture. The river ghats represent its intangible attributes - festive events and societal ritual practices.[34]. The city's tropical climate is dominated by its outstanding geographical features, such as multiple canals passing through the city and the hills. A well-sophisticated city with upgrading infrastructure and services meeting the demands of its dynamic nature of holding a population of more than 10 lakhs in 2011, with an extent of 61.88 sq. km municipal area, is in a solid need to contemplate its natural and man-made assets circumstances embracing with its ignored past that began before 1st century A.D.[36].

5. Reviving the Collective Memory

5.1. 100 B.C - 1st Century A.D.

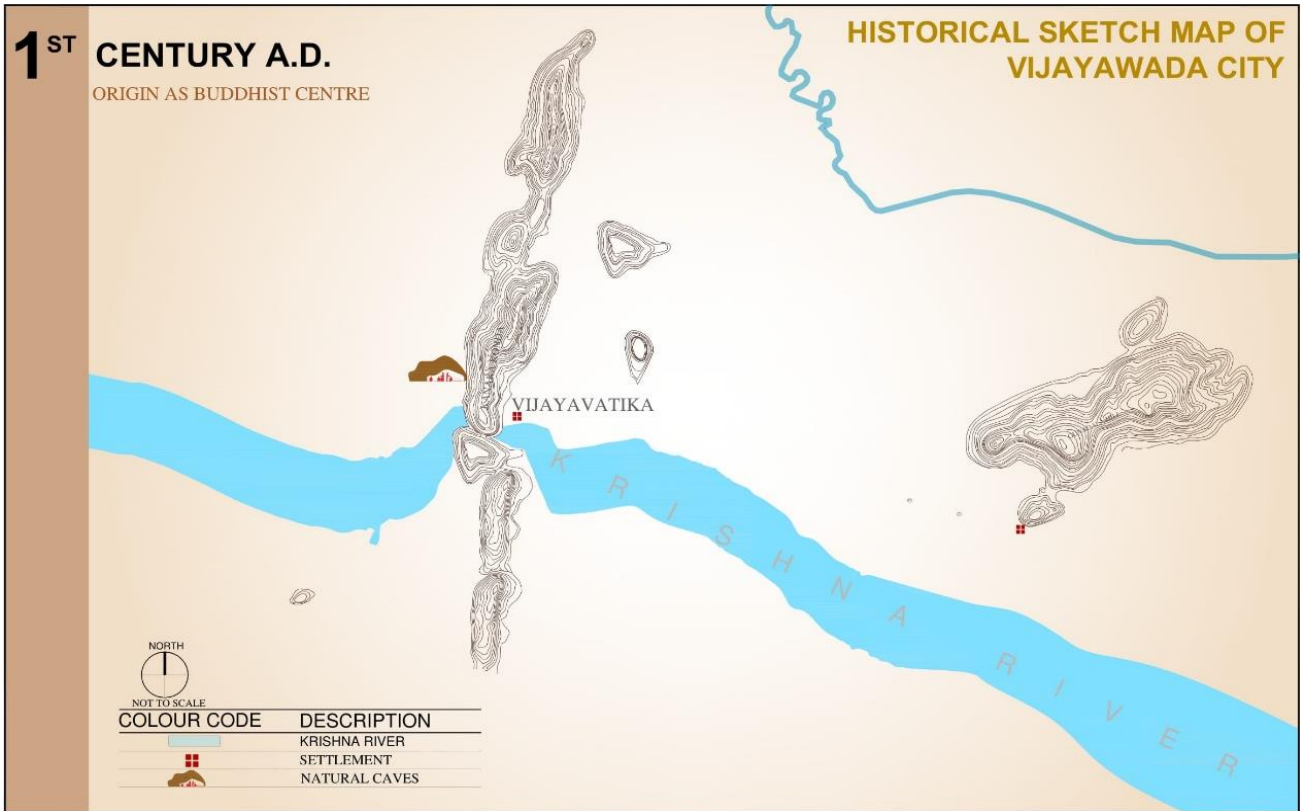
There is credence to the existence of the settlement named Vijayavatika before 100 B.C. by the Buddhists along the banks of the Krishna River and in the natural caves. Natural caves (Fig. 2) exist today on the western side of present-day Indrakeeladri hill. [1].The Kings Nagulu ruled it in the 1st Century A.D. (Map 2).

5.2. 2nd - 3rd Century A.D.

According to the Prakit inscriptions, which belong to the 2nd and 3rd centuries found in Ghantasala, Jaggayapeta, and Alluri in Krishna District, the settlement Vijavatika had been ruled by Ikshavas, Sathavahanas, Bruhatpalayanas, Salamkayanas, and Pallavas. The inscriptions of the 2nd century, ruled by the king Satavahana Goutami Putra Yagna Sri Satakarni, discovered at Chinaganjam in the Guntur district, make known the rich history of the regularity of river and coastal navigation. During this period, Vijayavatika was a hoarding and trading bank.[26]. (Map 1).

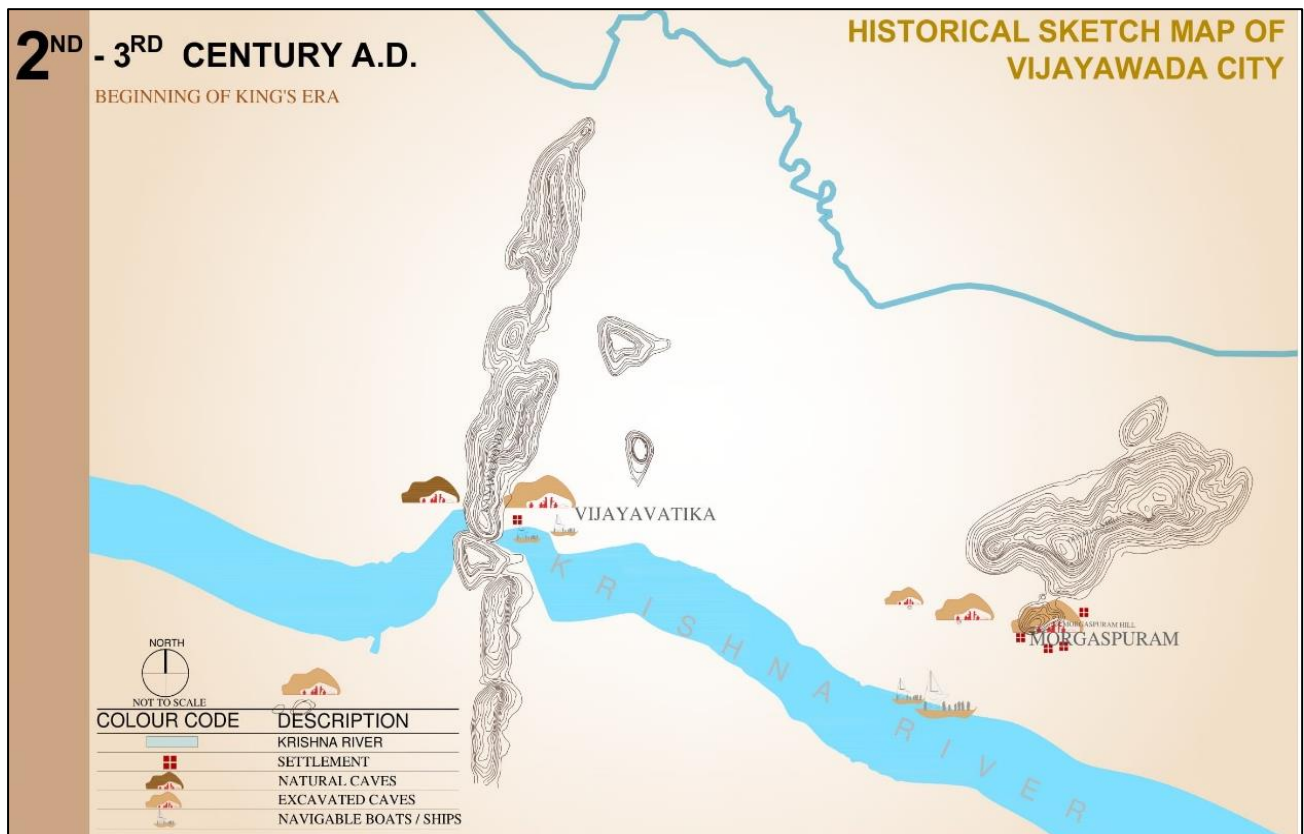
5.3. 4th- 6th Century A.D.

After the Ikshavakus disappearance from ancient Andhra Desa, Mahayana Buddhism became popular. The Madhyamika philosophy of this Buddhism dominated the Brahmanical doctrines and rituals. During this period, the Brahmanical dynasties of Andhra Desa and Mahayana Buddhism had a fusion of Gods and Goddesses.



Map 2. 1st Century A.D. – Historical Sketch Map of Vijayawada City.

Source: [2], Prepared by the Author.



Map 1. 2nd and 3rd Century A.D. – Historical Sketch Map of Vijayawada City.

Source:[27], Prepared by the Author.

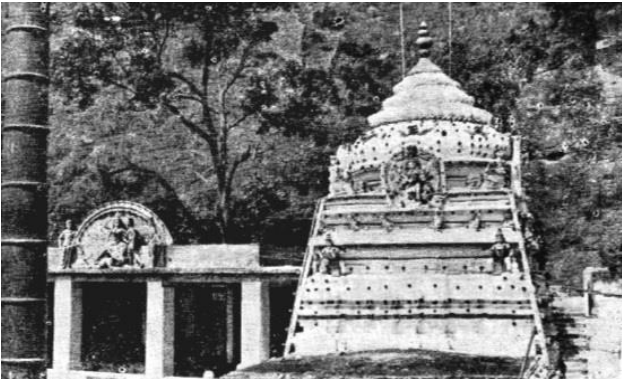


Fig. 3 Old Picture of Kanaka Durga Temple on Indrakeeladri Hill, Vijayawada

Source:[33].

An Eksila Statue of Goddess was discovered on a hill on the northern banks of the Krishna river. The Tantric Goddess named Tara transformed into the Brahmanical Goddess Durga, the consort of Siva, wherever she was worshipped. Hence the hill was named (Durga Konda), the Hill of Durga. [33].(Fig. 3). (Map 4).

The Eastern Chalukyas also ruled this region during this period. In this transformation, there were two monasteries built up. The Eastern Monastery is located on the east side of the city, which was called Moghulrajpuram Caves at this time. The Moghulrajpuram Caves were operated as Educational Centre for Buddhism. (Fig. 5).

The other one is Western Monastery, which consists of the Natural Caves located on the west side of Goddess Durga deity and one at the foothills of Dura Konda named Akkanna Madanna Caves. (Fig. 4). Throughout this period, these monasteries were developed as Chaitya Grihas. The same was enriched with the great sculpting art that established the deities of Brahmanical gods, Lord Siva Parvathi, by Eastern Chalukyas. [4][30].

5.4. 6th- 8th Century A.D.

In the period between the 6th to 8th Centuries, A.D. Bezawada was ruled by the King dynasties, namely Vishnukundinus and Vengi Chalukyas, as a Capital. (King names - VishnuVardhana – I, Jayasimha, Vishnu vardhana-II, Magi Yuva raju, Vijaya Aditya, Vishnu Vardhana- V).



Fig. 4 Akkanna Madanna Caves, Vijayawada

Source: Capture by the author in December 2021.

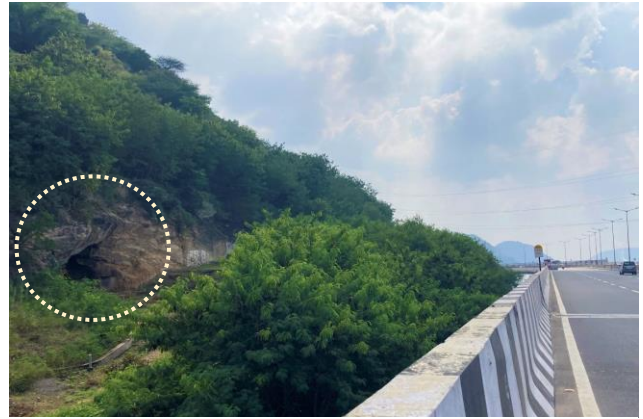


Fig. 2 Natural Caves – Part of Western Monasteries in 4th Century A.D., Vijayawada

Source: Capture by the author in December 2021.

According to the Kaviraja Siromani Astavadhani Pandit Divi Narsimhacharyulu, this place had multiple names such as Beezapuram, Kanakaprabha, Kanakapuram, Kanakawada, Jayapuri, Vijayapuri, and Phalgunakshetram.

It was known for its ferry service across the Krishna river, which led to an early settlement in this region. A Chinese pilgrim Hiouen Tsang visited the Eastern and Western monasteries in Bezawada in 639 A.D. (Map 3). The cave temples of the Buddhist period were educational centers at that time. A river course along the mountain was boring and constructed a road connecting Chaityas' chambers through a Cavern.[31].

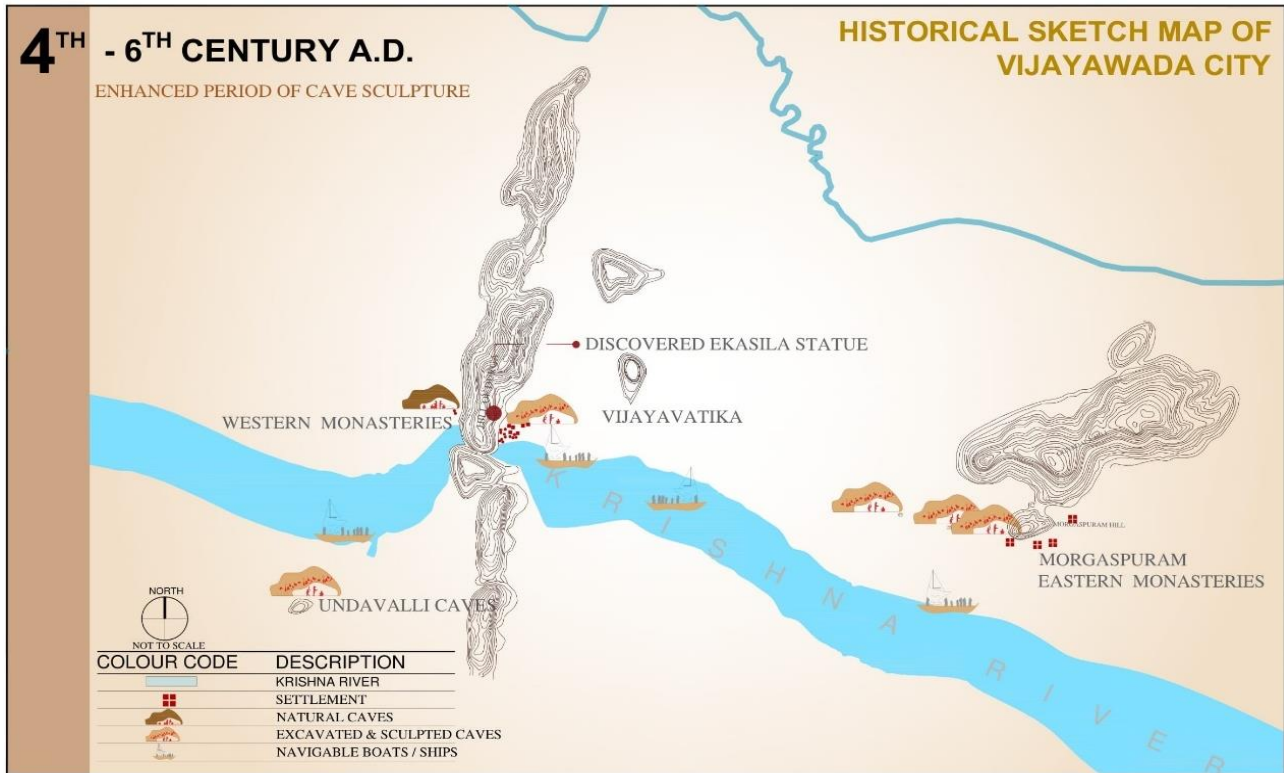
5.5. 8th Century A.D. – 12th Century A.D.

The banks of the sacred river Krishna had witnessed terrific battles at Bezawada. It was ruled by the Chalukyas (the kings are Narendra Mrugaraju, Vishnuvardhana - V, Vijaya Aditya - III, Chalukya Bheemudu, Ammaraju Vijaya Aditya, Shakthi Varma, Vimal Aditya and Raja Raja Narendra). Among these kings, Vijaya Aditya was fond of wars. During his regime, it was known that he fought in 108 wars in pitched battles. As reparation for this act, he established many Lord Siva temples in the name of Lord Narendreshawara. Hence the Vengi Chalukyas spread Saiva monasticism throughout the region.[28].



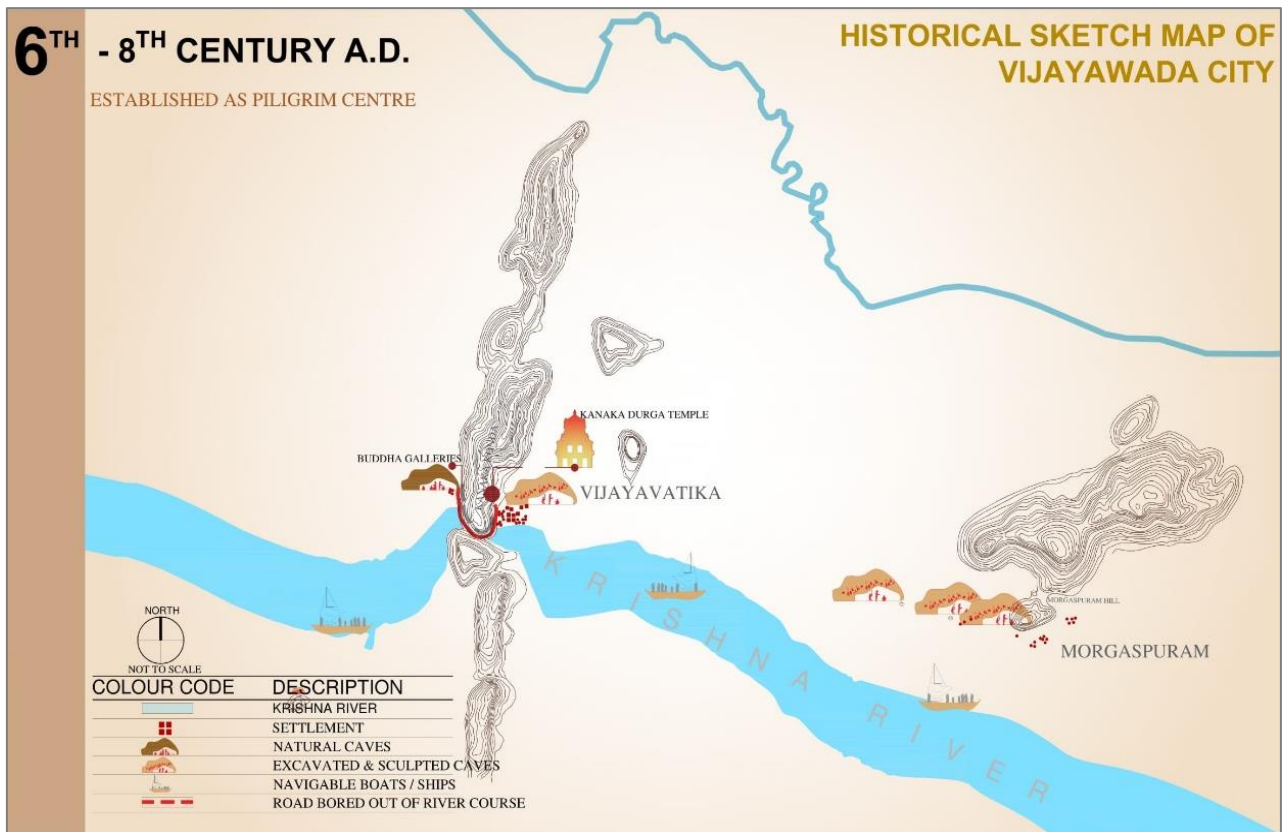
Fig. 5 Moghulrajpuram Caves, Vijayawada

Source: Capture by the author in January 2020.



Map 4. 4th – 6th Century A.D. – Historical sketch map of Vijayawada city

Source:[28][27], Prepared by the author.



Map 3. 6th – 8th Century A.D. – Historical sketch map of Vijayawada city

Source: [4][3]Analysis by the author.

It brought a path to the practice of ritual activities near river banks close to those temples. Later this became a tradition. Short inscriptions in Tamil and Kannada found at Kottasivaram in Anantapur District dated 1022 A.D. reveal the history of Krishna riverbanks at Bezawada. It was a constant halting place for the armies from 1023 A.D. These inscriptions also mentioned the terrific battle fought near Vijayawada on the banks of the Krishna River between the Chalukyas and Cholas. During that time, a huge army was commanded by Jananatha. Later in the 12th century, this settlement was named after him as Jananthapura. (Map 5). (Map 6).

According to the A. Chandra Sekhar's literature, Bezawada, was considered a well-established town with a flourished fortress with the facilities of ferry support to the navigation and trading facilities along the river line. The Jain origin in this place was confirmed by the two stone images on the Western hill and one of the Eastern hills. The 47 inscriptions with dates from the 11th century of the Cholas era illustrate the settlement setting situated with the convenience of a river ferry and surrounded by natural hill locks as a defense. Later during the battles, the complete town and Bezawada Fortress were erased.[33].

Two remarkable incidents related to the river's current impact on the settlement came to light. During this period, this locality was aware of the hills and the river surrounding it. Among those hills, Sitanagaram hill (located in Sitanagaram village) was more important than Kanak Durga hill. The spinning currents of the river carried and sown the seeds (Beeja in Telugu) of several herbs and plants on the hills, which made the hills boost bio-diversity. Hence the place was named "Beejawada."

The other one is, as mentioned in the mythological history of Bezawada, the hills of Vijayawada continuously obstructed the Krishna river from reaching the sea. There was a belief that due to the divine action of the Hindu Lords located on Vijayawada hills, a tunnel formed and let the water flow to meet the sea. Hence the town was named after the word Bejjam in Telugu means tunnel as Bezawada. During this time only, it was evident that the separation of the hill range was due to the strong river flow currents and settled as separate hill blocks far away at 2 miles from the Vijayawada named Yenamalakuduru hill. There was a village that evolved between those hill locks along the riverbank known as Enamalakuduru. There was a mythological belief that the sage and warrior Parasurama installed a Sivalingam on that hill.[24][26].(Fig. 6).

This hill had another history revealed by one of the four inscriptions found at Mallikarjuna temple at Vijayawada. In the 12th Century A.D., this temple and the village were gifted to Rudrama Devi on the occasion of her marriage by his father, Kakituya Kind Ganapathi Deva.[33] Bezawada was also a familiar settlement for trading agricultural raw products to the Oil producing industries like Mustard, Coconut, and Sesam seeds through a river to various countries across the globe.[35].



Fig. 6 Old photograph of Sri Ramalingeswara Temple on Yenamalakuduru hill, Vijayawada

Source: [27].

The unique character of the river city had come into the light and was enhanced with the more equipped ferry, trading, halting, and navigable conveniences. The kings who ruled during this period were Reddy kings, Gajapathis, Mohammad Shal- II, Krishna Deva Raya (Tuluva Dynasty), and Abdul Hasan Tanisha (Golconda Sultan). The left ruins and inscriptions convey the passion of King Prolaya Vema Reddy towards the architecture of the forts. Only during his era, 84 forts were built in this region, namely the Kondapalli fort, Kondaveedu fort, Vinukonda fort, Bellamkonda fort, Nagarjuna Konda fort, and many more.[31].

Even Vijayawada was administrated from the Kondapalli fort itself. The Kondapalli Fort (Fig. 7) is located within 18 km, approximately on the city's west side and the northern banks of the Krishna river. Even today, this is a picturesque piece for tourists and the public who visit Vijayawada. (Map 5).

5.6. 13th – 18th Century A.D.

In later periods, King Mohammad Shah- II occupied the Kondapalli Fort (Fig. 7). He added the most significant attribute to his legitimate, which is the beautiful freshwater ponds inside the fort. The villages developed during the Gajapathi kings were Pettametta (Patamata in present-day) and Enikepaddi (Enikepadu in the present day). They are part of Vijayawada city today. In the era of Gajapathi ings (1482 – 1530), the villages known as Vidhyadharapuram and Mutyalampadu were named after the king's song Vidhyadhara Gajapathi and daughter's name Mutyalamma respectively. (Map 8).



Fig. 7. Kondapalli Fort, Kondapalli Village

Source: (Department of Archeology & Museums, 2021)



Map 6. 8th – 12th Century A.D. – Historical sketch map of Vijayawada city.

Source:[2], Compiled by the author.



Map 5. Highlights of 12th Century A.D. – Historical sketch map of Vijayawada city.

Source: [1], Compiled by the author.

Later there was an immortal well dug at Ibrahimpatnam, a settlement next to Vijayawada because the freshwater drinking source for the army rested near Kondapalli fort, named after their minister – Timmarsu, in Krishna Deva Raya period (1516-1530). Even today, it is being called Timmarsu well. As a benefit of the natural barrier, the Krishna river was a defense element for the forts of that era.[30].

Later the tombs were constructed for Muslims along the riverbank during Golconda Sultan's Period (1670 – 1687). So, the river bank got a culturally sensitive piece of land. One more influential fragment of this period is the certain developments of architectural elements of the Kondapalli fort. They constructed the western door named Golconda Darwaja and a North-oriented building in the fort premises named Bala Hissar. [33].

5.7. 18th – 19th Century A.D.

A confident hallmark of the Vijayawada settlement for its irrigation cum navigation canals and the reservoir on the Krishna river was developed in this period under the British period. Later the growth and development of Vijayawada from a small village to a census town can be seen as a milestone in its history. The city got boosted by forming a Railway connecting linkages to other settlements in India. All these aspects are discussed in detail here. (Map 7).

5.7.1. History of Krishna Anicut

In 1792, Major Biston, under British rule, gave a proposal plan for constructing Krishna anicut across the Krishna river at Vijayawada. But in 1833, 40% population of the Krishna district was wiped out by a terrible drought, so the proposal got postponed. Later in 1839, an engineer. Captain Chekelle sent the same proposal of Anicut to the East India Company for further progress. The East India Company government finally approved the proposal and constructed a Kistna anicut and canal system to irrigate 5.8 lakh acres. (Fig. 8).

The anicut was designed by Sir Arthur Cotton and constructed by Engineer Captain-General Charles. A. ORR. in the Period 1852 – 1855. The old anicut masonry body wall was (14 feet) 4.26 meters high, founded on a double row of brick wells (4 feet) 1.2 m diameter and (11 feet) 3.3 m deep. In front and rear of this body wall, an enormous quantity of rough stone was dumped from deep bed level to the top of the body wall for nearly (200 feet) 60.96 m downstream and about (50 feet) 15.24 meters upstream; the top portion of this rough stone apron was grouted. (Krishna 2004). This anicut was constructed connecting two hills, Vijayawada hill and Sitanagaram hill, over Kistna river with an overall length of (1045.18 meters) 1.04 km consisting of an anicut body wall with a regulator of 70 spans of 12.9 meters each and 4.39 meters under sluice on either side. It had a cement concrete road along the downstream side. (Fig. 9). This roadway enhanced Vijayawada's locational status by improving its transportation and communication linkages by connecting Vijayawada in the southern direction, namely Guntur, 33



Fig. 8 View of public performing river rituals on a festive event during 19th Century

Source: I & CAD Department Library records, Vijayawada.

km away, and Madras which is 429 km away. Geographically Vijayawada acts as central nuclei to connect the existing cities from Madras to Hyderabad through Vijayawada.[14].

5.7.2. Evolution of Vijayawada Railway Division

The Madras and Southern Mahratta (MSM) Railway were opened to the public on 01-07-1856 with Madras (present Chennai) headquarters. The Bezwada (present Krishna district) was part of the MSM Railway. The MSM Railway was merged with the southern railway in 1951, so the Bezwada district spread from Tondiyarpet to Waltair and the west block cabin of Vijayawada on the Kazipet side. In 1893 first railway bridge constructed over the Krishna river for Broad-Gauge was constructed on the Krishna river for Meter-Gauge (M.G.).

Later in 1897, the second railway bridge was (B.G.). At first, Bezwada had no railway station. From there reached Vijayawada by ferry crossing the river.[31]. Bezwada Railway station was founded with a small shed in the beginning. It had brought a fabulous locational significance as a transportation node connecting the railway route to all other major cities in India. Even though the mode of transportation changed, the identity of Vijayawada city is consistent as a fording and halting point. It brought a vast opportunity for the development of the city. (Fig. 11).[32].

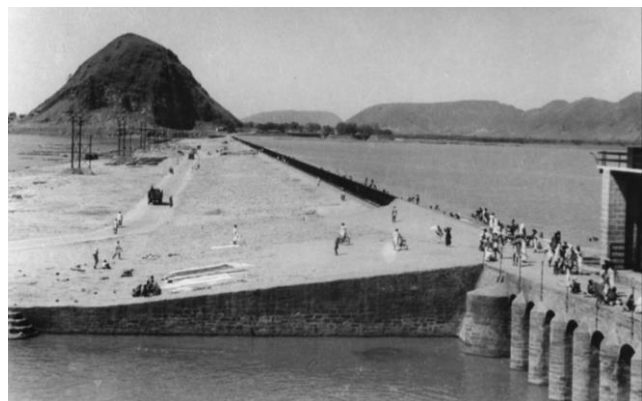
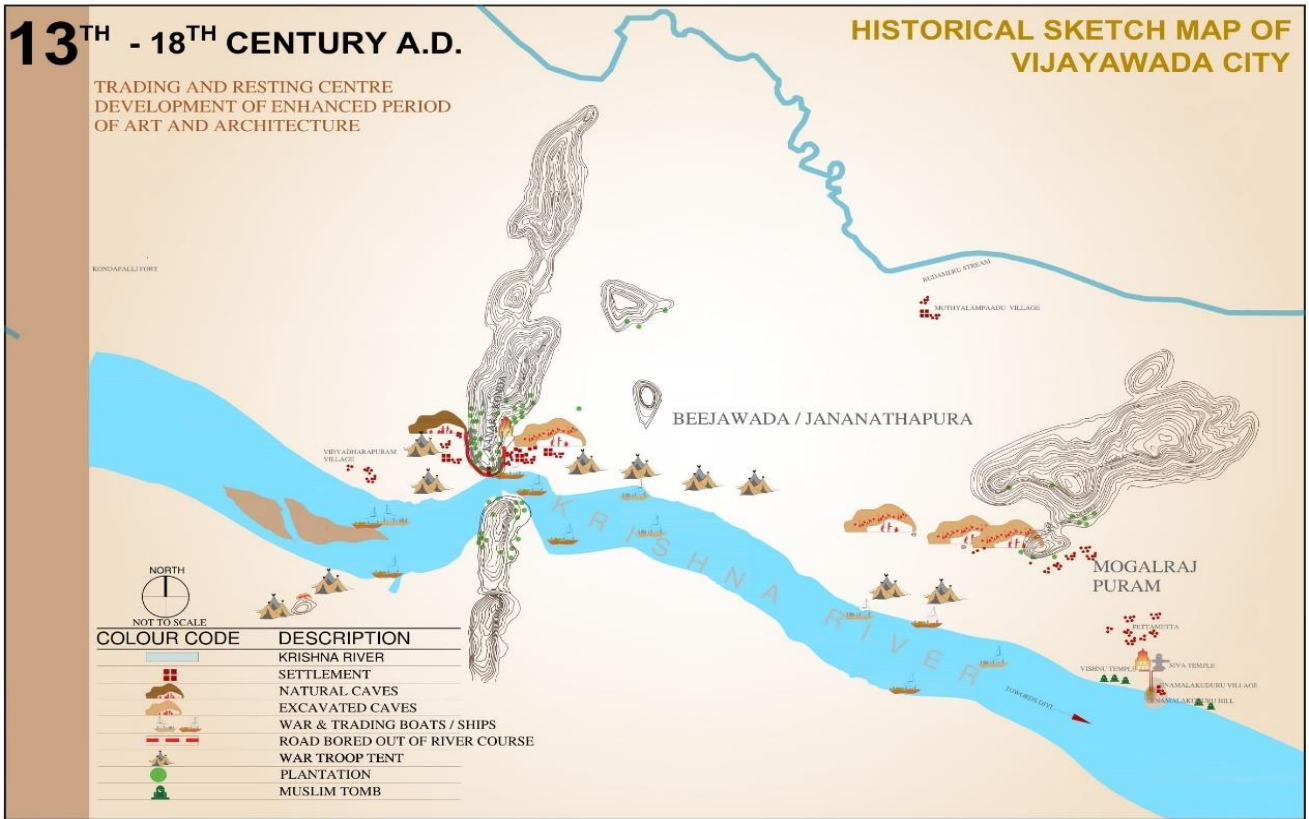


Fig. 9. View of Krishna Anicut constructed in 1855 along with the road on downstream

Source: I & CAD Department Records.



Map 8. 13th – 18th Century A.D – Historical sketch map of Vijayawada City.

Source: Compiled by the author.

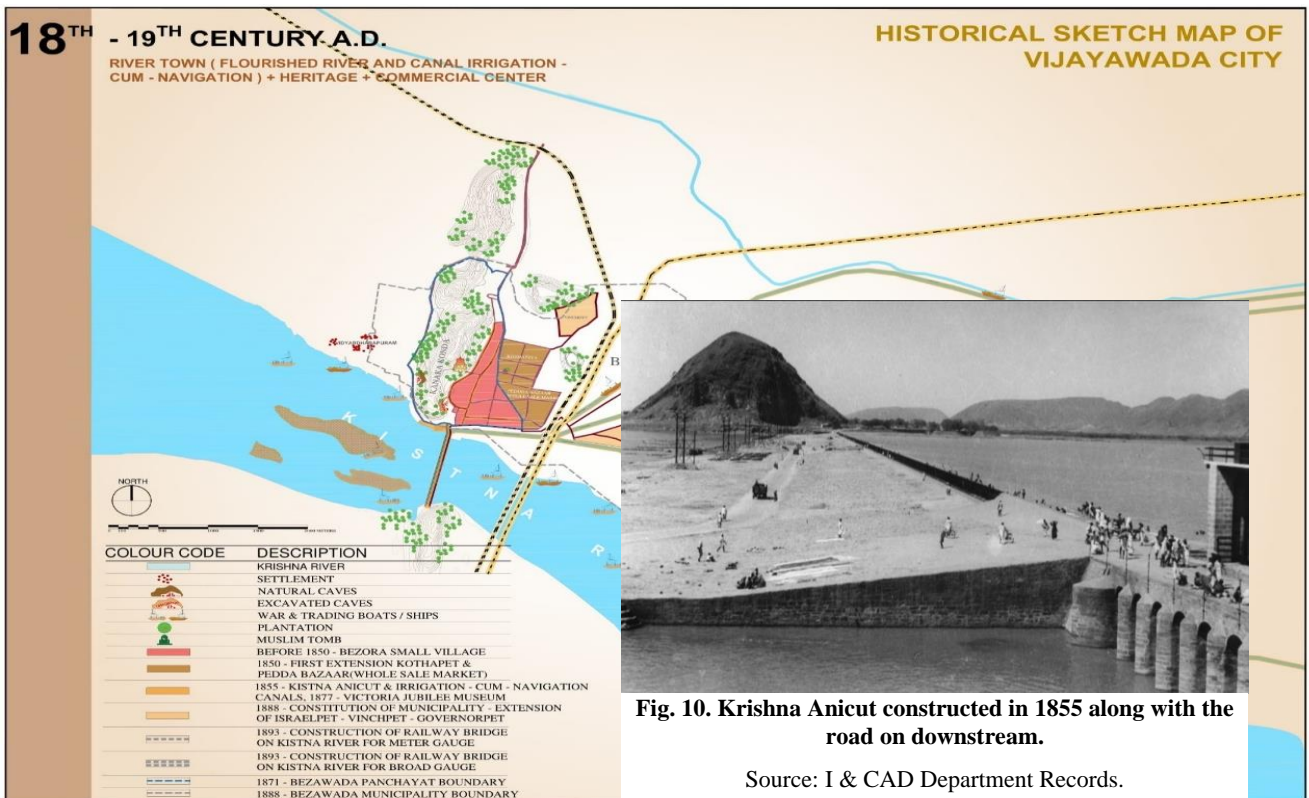
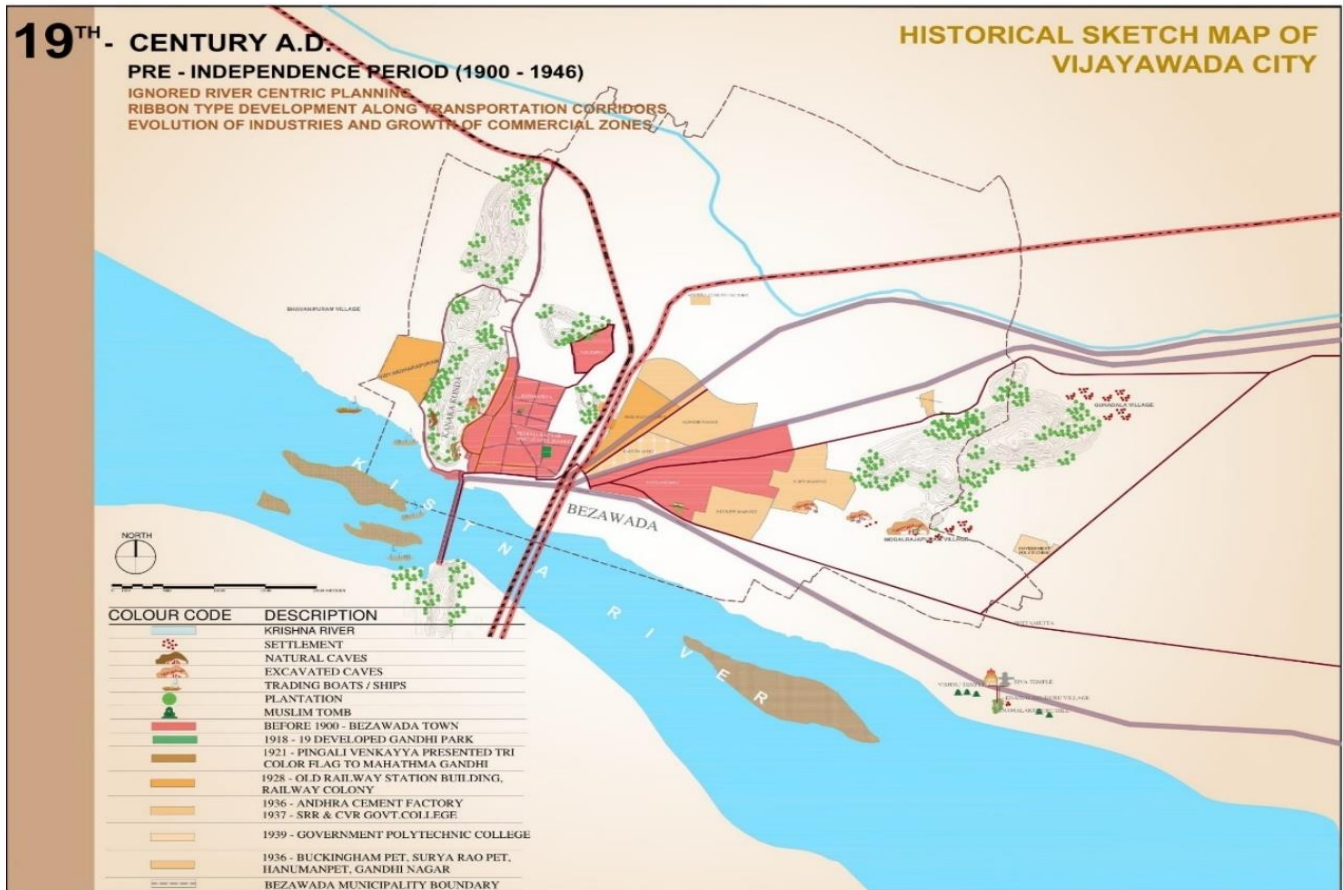


Fig. 10. Krishna Anicut constructed in 1855 along with the road on downstream.

Source: I & CAD Department Records.

Map 7. 18th – 19th Century A.D. – Historical sketch map of Vijayawada city.

Source:[4], Compiled by the author.



Map 9. 19th Century A.D – Pre Independence period sketch map of Vijayawada city.

Source:[3]. Analysis by the author.

5.7.3. Constitution of Vijayawada Municipality

According to the 1871 first Indian census, Bezwada was a small settlement with a panchayat and had a population of 8026. Under the British government, Vijayawada had constituted its municipality on 01-04-1888 with an extent of 14 sq. km of 10,000 population. An Asst. Dist. Collector L.M.Vinch was appointed as chairman of the Vijayawada municipality, and hence one area of the town was named after him as Vinchpet. During this period, the Governorpet was acquired and developed.[21]. (Map 7).[31].



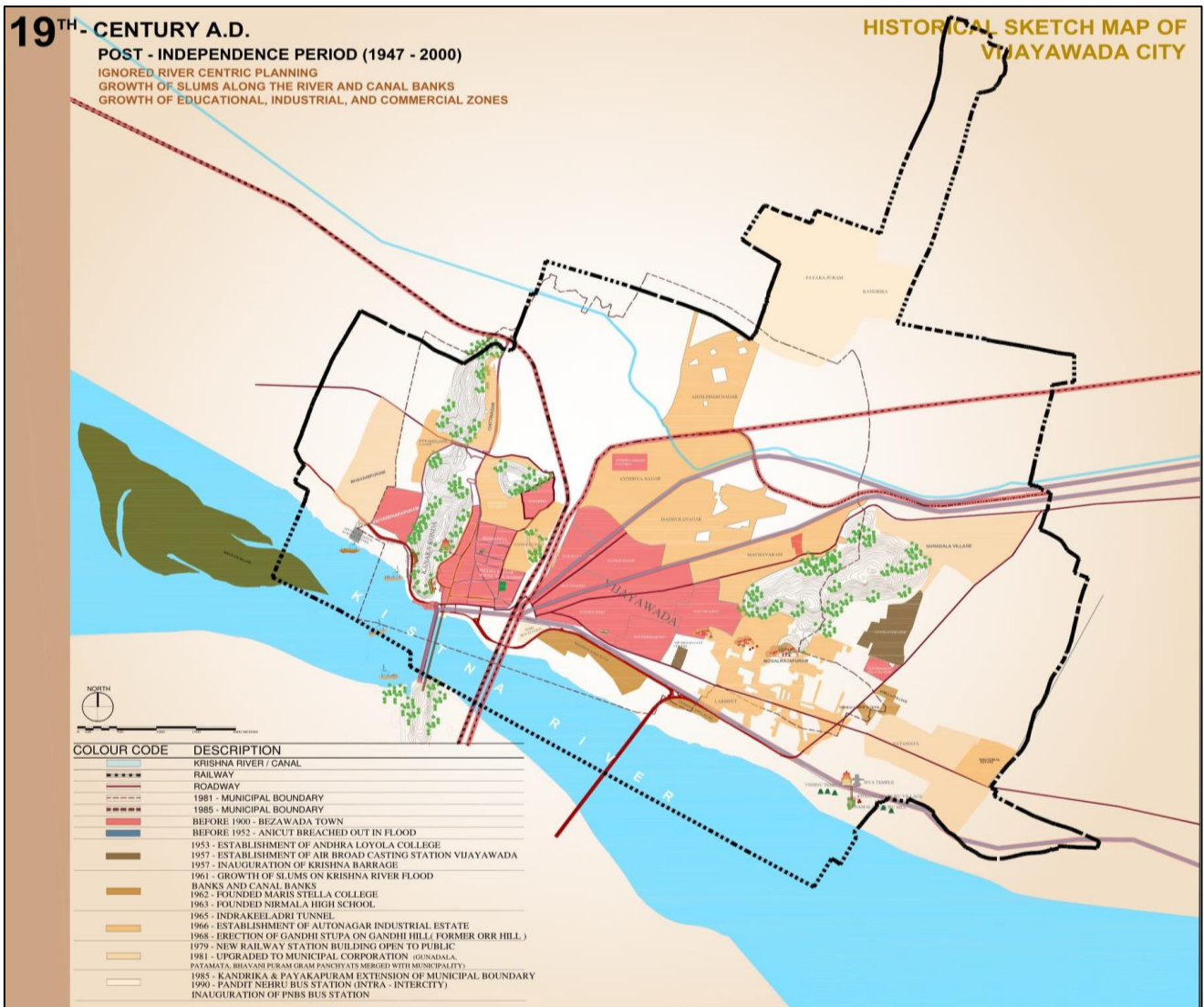
Fig. 11 Bezwada initial Railway Station building

Source:[32].

5.8. 19th Century A.D

5.8.1. Pre-Independence period (1900 – 1946)

In the early 19th century, British rule brought a tremendous change in settlement growth and development with the construction of new transportation and communication linkages across the river to the other regions. The irrigation – cum – navigation projects that came upon the river had developed the agricultural economy and stepped up trade and commerce in Krishna deltaic hinterland. In 1920 – the Madras Town planning Act was evident in some of the town's layout. At that time, Vijayawada was a small town confined to only 7 municipal wards in the old town itself. Mr. Arundel was the collector in that period who examined the unplanned growth of the old town, with highly dense and poor circulation spaces left confined by the barriers such as the Krishna river on the South, Budameru stream on the North, the South Central Railway line on the East, and Indrakeeladri hill on the West which curtailed the spatial growth of the settlement entirely. Mr. Arundel devised certain planning principles and measures to solve those problems in planning a New Town. The government provides a persuasive testimony of his visions for planned and good circulation in the town.[21].(Map 9).



Map 10. 19th Century A.D – Post Independence period sketch map of Vijayawada city.

Source:[3], Compiled by the author.

Other areas, namely Pumanandarapet, Buckinghampet, Hanumanthapet, Gandhinagar, and Suryaraopet, also developed in parallel to the Governorpet as usual turn. The discussion here cannot be completed without mentioning a significant incident in the Victoria Golden Jubilee Museum (known as Bapu Museum), where the honorable freedom fighter Mr. Pingali Venkayya presented the tricolor flag to Mahatma Gandhi in 1921, which is the current Indian national flag. (Fig. 12). The detailed hallmarks of development of this period were mapped.

It was obvious that river and canal navigation was greatly used for transportation, trade and commerce, and agriculture. Later the city developed various Industries and Educational centers. But after a thorough study of all evidence recorded about the town planning of Vijayawada city, it was noticed that even though the settlement was subsequently dependent on the river and hills, there were no river-focused planning principles and strategies framed so far.

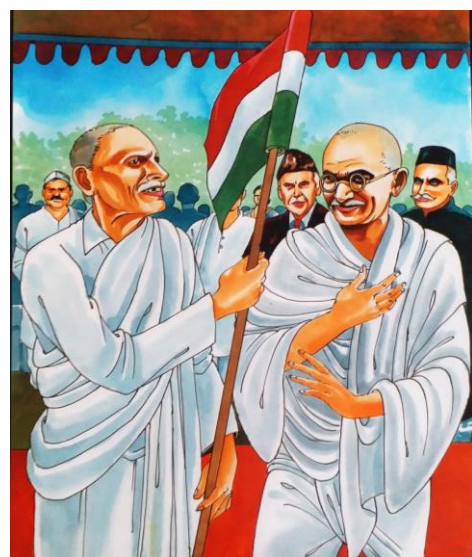


Fig. 12 An Illustration - Pingali Venkayya handing over the Indian National to Mahatma Gandhi on Indian Congress held at Vijayawada on 31st March 1921

Source:[11].



Fig. 14 Krishna riverfront view with navigation facilities at Vijayawada in 1934

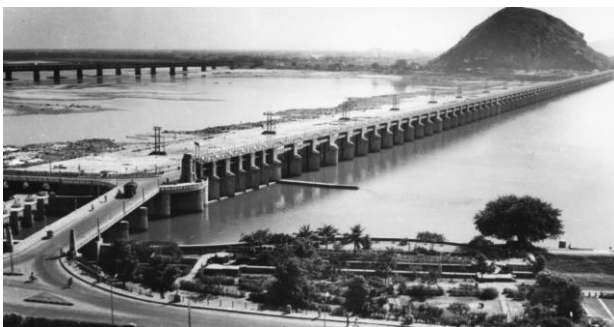
Source:[19].

5.8.2. Post-Independence period (1900 – 1946)

The Krishna anicut has served nearly 100 years. During the severe floods in 1952, there was a massive breach of anicut, and it took two weeks to close the breach. Later, on 13th February 1952, a foundation was laid for a road cum regulator named Krishna Barrage. On 24th December 1957, the road portion of the regulator was inaugurated. The Krishna Barrage holds 12 acres of land with a maximum discharge of 11.9 lakh cusecs. (Map 10).

This opening of the Barrage also boosted the development of waterways linkages. The Kommanuru canal, from the right bank of the Krishna Barrage, was connected to the Buckingham canal, which formed a significant coastal waterway connected to Chennai (former Madras). The Krishna and Godavari delta systems were connected at their heads by the Eluru canal, whereas Ryves and Bandar canals were the other two canals connected from the left bank of the Barrage. Those had significant glory as irrigation – cum navigation canals in the Krishna Delta. Because of the river, the city and its waterfronts act as tranship centers for both the deltaic and hinterlands of the Guntur, Krishna, and West Godavari districts in Andhra Pradesh. Only Vijayawada has a direct axis to the major cities such as Chennai (former Madras), Machilipatnam (former Mausilipatnam, Eluru, Rajahmundry, and Kakinada by waterway, which was declared as the National Waterway – 4 at present.[19].

Vijayawada served as a territory city with the establishment of many industries. The Andhra Cement Company employed 1000 persons with a capacity of annual production of 2 lakh tonnes. Auto Nagar Industrial



View of Command control room, Vijayawada in 1961

Source: I & CAD Department, Govt. of A.P.



Fig. 13 A tunnel through Indrakeeladri Hill at Vijayawada – 1961

Source:[3].

Estate, printing and publishing industries, pharmaceuticals, tobacco, and metal industries came here because of the excellent transportation and communication facilities offered for gathering raw materials and dispensing the finished goods. Educational institutions such as Andhra Loyola College, Maris Stella College for Women, Government Polytechnic, Government Industrial Training Institute, and Nirmala Convent were established and developed. Among all the scenarios of rapid growth and development of the settlement, even though the river stood as a major resource behind the successful settlement growth, the waterfronts were ignored and resulted in the squatters and slums encroaching on the river and canal banks in 1961 itself. During this period, the slums of the Krishna Lanka locality were noticed. As of today, they are well-established residential areas in the river floodplain area, which are critical challenges for future riverfront planning development strategies. The opening of the Indrakeeladri tunnel in 1965 and the new railway station building (1979) also stand in the queue aspects in the list of pull factors for the development in this period.[24].

6. Findings and Conclusion

On the thorough investigation of various historical pieces of evidence about the Vijayawada, the key findings are summarised in specifying the buildings, monuments, streets, urban areas, public spaces, and places to be considered as the utmost priority to bring back the lost glory and historical identity of the Vijayawada city.

6.1. Tangible Attributes

- This settlement was united with its past at every development phase throughout the study. Hence, the narrated evidence can be considered basic knowledge to identify these tangible attributes and focus on conservation and maintenance.
- Their existence can be sensed in both natural and cultural forms. Rivers, streams, and hills were the natural attributes sensitive to the settlements. The cultural attributes include caves, pilgrim structures, Engineering structures, museums, and libraries.
- The old town area and the streets leading to the temple, mentioned in map 9 earlier, were in a vulnerable condition with unplanned growth and control. The old town area must be revived to bring it

alive as ages glory. There has to be further investigated site-specific to develop contextual sensitive development planning and strategies without losing their heritage and cultural values.

6.2. Intangible Attributes

- Krishna river is a prominent intangible attribute for its familiar river rituals connected with a wide range of social and cultural activities performed for generations in this city. Here it is very sensitively needed to be considered while developing riverfront areas enhancement.
- Beginning from the King's Era, this city played its role in many political and administrative-related activities. Many artists, literates, politicians, and socialists who came up from here contributed remarkable services to social empowerment since the pre-independence period. The places attached to such past, such as their residences, institution, libraries, and protesting areas, must be identified and given special focus for development. The development of these places will bring an opportunity to the present and future generations of society to bring awareness about the inspirational stories born in this city.

- Marketing and trading through river navigation were the key identities of this city. In this concern, a traditional marketing system and navigable facilities must build up.
- Events must be planned and conducted to bring awareness to the public and educate them about the local-born arts and culture, such as Kondapalli toys, Kalamkari fabric arts, and Kuchipudi performing arts.

To conclude, a multifunctional city like Vijayawada should sustain its heritage and cultural values along with the fastest contemporary developments and lifestyles. The involvement of concerned professional experts such as archaeologists, conservation architects, urban designers, spatial planners, and social activists, along with the stakeholders, is strongly recommended in developing strategies, policy framing, and decision-making. Here, the historical sketch map is utilized as a tool to document the collective memory of the city. To transfer knowledge and consciousness about the collective memory of the city's birth and growth is a serious responsibility to be considered by the concerned official authorities of town planning, tourism, and archaeological departments.[41].

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