SPATIAL DATA MODELING IN GIS FOR HISTORICAL RESTORATION AND CONSERVATION OF CULTURAL HERITAGE OF SEVEN CITIES OF DELHI

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Commission V, WG V/4

KEY WORDS: History, Human Settlement, Change, Structure, Cultural Heritage, GIS, Integration, Reconstruction

ABSTRACT

Delhi is one of the ancient historical and greatest cultural cities of the World. Delhi's two monuments the Qutb Minar and Humayun's Tomb have been declared the World Cultural Heritage sites. Delhi was built and rebuilt seven times on different sites through out the history within a triangular area of about 142.20 sq. kms. lying between the last ridge of the Aravalli Range and the River Yamuna. The remains of the seven cities of Delhi can still be seen across the landscape from the Tomar city of Lal-Kot to Siri, Tughluqabad, Jahanpanah and Firuzabad of the Sultans and then Purana-Qila and Shahjahanabad of the Mughals. Moreover, the New Delhi is historically the 'eighth city' built by the Britishers. The present Delhi is a complex agglomeration of built fabric which exists as evidence in the form of layers of various historic time periods. It is noteworthy to mention that the vertical and horizontal expansions have adversely been affected the historical areas as well as several cultural heritage sites particularly during the post-independence period in Delhi. Therefore, the widened role is not only to meet the challenges of development, but also to preserve and protect the different facets of the Delhi's personality. In lieu of this, the Archaeological Survey of India (ASI) has been started a search for hitherto unknown areas of historical importance on the one hand and is also entrusted with the restoration and conservation of known historical monuments and cultural heritage sites in Delhi on the other.

1. INTRODUCTION

Delhi has rich history of cultural heritage and historical monuments sites of the World. On reviewing the magnitude of cultural heritage of the Delhi, one would find that historically it commenced with the habitation by 736 A.D. It has remained been a centre of socio-cultural, economic and political activities and is now functioning as a centre of innovation and diffusion of these activities in the country, India. Delhi is one of the greatest and oldest capital cities of the World. It is situated on the west bank of the River Yamuna. It was built seven times on different sites throughout the history (Hearn, 1974). The previous seven cities do not exist anymore, except as remnants of historical ruins of the Lal-Kot (10th Century), Siri (1303), Tughluqabad (1321), Jahanpanah (1327), Firuzabad (1354), Purana-Qila (1533) and Shahjahanabad (1639). Reasons for their demise range speculatively from lack of sufficient water, to epidemics, to migrations, to poor governance and to land encroachment etc. In addition, presently formed New Delhi (1911), of course, is eighth one situated on the bank of the River Yamuna. All these cities shifted from one site to another over a time within the triangular area of about 142.20 sq. kms. lying between the last ridge of the Aravalli Range and the River Yamuna to the east. From the earliest records, it is known Indraparastha, the capital of the Pandavas of Mahabharata. Presently, Indraparastha estate evokes the old memories. The British built New Delhi south of Shahjahanabad, and shifted the capital city from Kolkota (Calcutta) in 1911. The capital city of India, after independence, has grown in size and density - engulfing all the ancient cities, and overflowing across the River Yamuna and the Northern Ridge. According to the urban sociologists and historians (Mumford, 1966) all cities are "living entities", which go through a life-cycle: birth, growth, consolidation, expansion, decline, and quite often some kind of end, or state of decay, unless they are "turned-around" and "revived" by combined human effort.

1.1 Urban Culture Heritage

Delhi has more layers of culture, civilisation, history and built fabric extant in it than any other city in the World. It cradled and nurtured seven cities, and was built and rebuilt to meet the demands of different emperors and the people of each of those times. It is the enthralling and enigmatic feature of this ancient modern city, that today it is a complex agglomeration of built fabric which exists as evidence in the form of layers of various historic time periods. These layers can be easily distinguished on the basis of their design, construction techniques, materials and architectural elements that add diversity to the basic typology. These range from domes, brackets, chhajjas, columns, plinths, finishes, etc. So, Delhi is one of the most historic capitals of the World and two of its monuments the Qutb Minar and Humayun's Tomb have been declared the World Cultural Heritage sites.

In Delhi, the developmental activities during the post-independence period adversely affected several historical and cultural heritage sites. It also diluted the ambience of the Delhi. So, the Delhi Development Authority (DDA) widened its role not only to meet the challenges of development, but also to preserve and protect the different facets of the Delhi's personality. The Archaeological Survey of India (ASI) has been entrusted with the preservation and protection of known monuments as well as started a search for hitherto unknown areas of historical importance in Delhi.

"Delhi, is a city of incredible contrasts combining the ancient and the modern, Old and New Delhi each reflecting the images

of the past and the reality of the present" (Fanshawe, 1902; Duncan, 1906). In lieu of this, the Delhi has a multifaceted personality. On the one hand it is an ancient city with traditions centuries old and on the other a modern city with the pressure of ever increasing population resulting into the hyper-urbanisation (Mohan, 2003). Within Delhi, there exists one of the best planned cities of the World, Shahjahanabad (Spear, 1951). One can find the earliest examples of skyscraper (Qutb Minar), the monument that inspired the Taj Mahal (Humayun's Tomb) and a solid iron pillar (Mehrauli Pillar) which has defied rust for over 1,500 years (Sharp, 1928).

1.2 Delhi - A Historical Perspective

Delhi is one of the most ancient and historic cities of India. The earliest reference to its settlement is to be found in the famous epic 'Mahabharata' which mentions about the city called Indraparastha built along the bank of the River Yamuna. The first medieval city of Delhi believed to have been founded by the Tomars, the Tunvar Rajputs in 736 A.D. It was called Dilli or Dhillika (Chopra, 1976; IGOI, 1989). Evidently, Delhi was an important town, and perhaps also the capital of Haryana. The name 'Delhi' is derived from the legend of Raja 'Dillu' who is believed to have founded Delhi near the Qutb Minar. Its roots can be traced to the 10th Century, the era of the Pandavas, when Mai Danav built the capital of Indraparastha. Since then, this site has been the capital of many kingdoms. Many cities have risen and fallen here as is evidented by the Table 1.

City Order	City Name	Year Estb.	Founder
I	Lal-Kot	1000	Anangpal
II	Siri	1303	Alau'd-Din Khilji
III	Tughluqabad	1321	Ghiyathu'd-Din Tughluq
IV	Jahanpanah	1327	Muhammad-bin Tughluq
V	Firuzabad	1354	Firuz Shah Tughluq
VI	Purana-Qila	1533	Humayun
VII	Shahjahanabad	1639	Shah Jahan
VIII	New Delhi	1911	Britishers

Table 1. Historical ancient cities of Delhi

Archaeologists also claim that Delhi was a famous capital even before the reign of Alexander the Great in the 4th Century B.C. Delhi as a place name seems to have been referred to, for the first time, during the First and Second Centuries A.D. Ptolemy,

the celebrated Alexandrine Geographer, who visited India during Second Century A.D., had marked in his map 'Daidala' close to Indraparastha and in between Mathura and Thaneswar (Spear, 1945). So, as regards origin of the name, Delhi derived its name from Raja Dillu or Dhillu. The name of Delhi seems to have been finally evolved from Daidala, Dhillika and Delhi. The modern name Delhi is derived from Dihli or Dilli, the Hindi equivalent of Dhilli of the inscriptions. To read in it Dehali, the Hindi word for 'threshold', and to assert that Delhi signifies the threshold of the country, is only fanciful. However, there are various views as to how Delhi, the capital of India derived its name. It may have come from Raja Dillu's Dilli (1st Century B.C.) which was sited just east of Lal-Kot or from Dhilba founded by the Tomar Rajputs in 736 A.D. And some say it came from the medieval town of Dhillika located near present date Mehrauli.

2. OBJECTIVES AND HYPOTHESES

The main objectives of the study were as follows:

i   to analyse the pre- and post-historical scenario of seven cities;
ii to assess the process of historical restoration of the cities;
iii to examine the urbanisation impact on the cultural heritage sites; and
iv to explore the suitable strategies for restoration and conservation of the cities.

This study has also attempted to test the following hypotheses:

i   Increasing pressure of population in urban areas is responsible for destruction and removal of the historical and cultural heritage sites.

ii Unplanned urban sprawl is thus leading to engulfing of historical sites in disregard of its impact on their restoration and conservation.

3. DATABASE AND METHODOLOGY

This study is based on the primary as well as the secondary sources of data collected and computed while keeping in view the specific objectives of the study. The data for the pre-historical periods have been collected from the Gazetteers of India. The post-historical periods data have been collected from the different volumes of the Archaeological Survey of India. There are number of implications of urbanisation on the historical monuments such as the landscape's physiological destruction, illegal land encroachment and shrinkage of open spaces around them and occupancy of land etc., attributes have also been gathered from the various secondary sources. Thus, the present study has been supported by the secondary sources of data generated through the extensive field and literature survey of the records of Archaeological Survey of India, Land and Development, Department of Urban Development Ministry, Revenue Department, Forest Department and Delhi Development Authority, etc. for the Delhi State. Whereas the GIS software's like the Arc/Info, ArcView and GeoMedia have been used for geographical analysis, integration, and presentation of the spatial and non-spatial data. These tools are more effective for monitoring and modeling as well as restoration and conservation of the cultural heritage sites of Delhi.

City Order	City Name	Area Kms2	Dist. from Qutb(Kms)	Real World Coordinates Long.(D:M:S)	Latit.(D:M:S)
I	Lal-Kot	3.40	0.00	77:10:58.799	28:31:51.817
II	Siri	1.70	4.40	77:13:00.306	28:34:21.913
III	Tughluqabad	2.20	7.70	77:15:37.550	28:31:33.227
IV	Jahanpanah	0.20	4.40	77:14:04.633	28:33:17.586
V	Firuzabad	0.10	13.10	77:14:18.928	28:39:07.811
VI	Purana-Qila	0.20	10.70	77:14:26.075	28:36:44.862
VII	Shahjahanabad	4.90	14.80	77:13:00.306	28:42:22.792
VIII	New Delhi	12.20	10.50	77:12:38.864	28:37:13.452

Table 2. Spatial data for historical cities of Delhi

4. HISTORICITY OF ANCIENT CITIES OF DELHI

The earliest known capital city of Indraparastha was founded by the Pandavas in 1450 B.C. Maya; the Danava architect built a splendid palace and court for them. Recent finds support the view that it was located in the Purana Qila area. Other cities recorded are Surajpal's Surajkund, Qila Lal-Kot which was built by Anangpal and Qila Rai Pithora of the brave and daring king Prithviraj Chauhan. Sometimes in the first century B.C., Raja Dillu built a city near about the present Qutb Minar. It was named Dilli or Delhi.
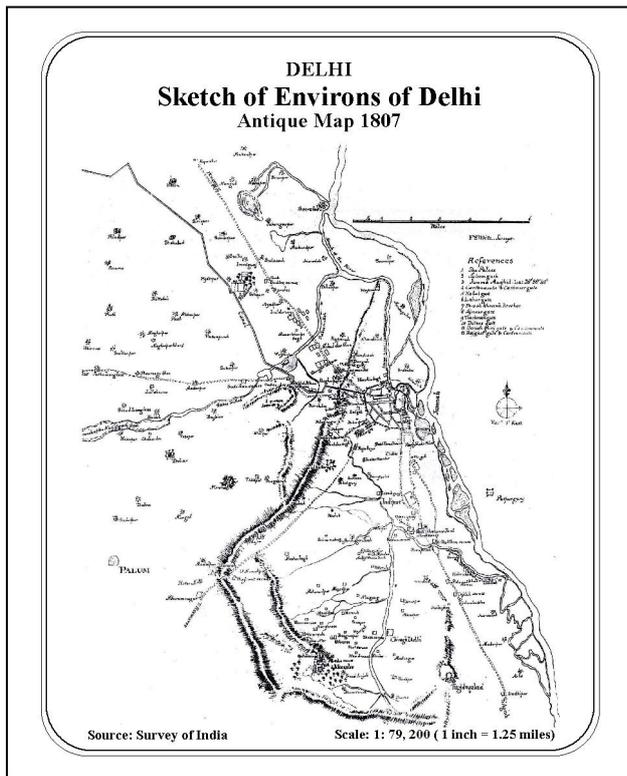
Figure 1. Sketch of ancient historical Delhi

Thereafter, historical records are not available for the next 10 Centuries. Somewhere in the middle of the 11th Century A.D., the Rajput king Anangpal founded another city on the old ruins of the city built by Raja Dillu. It was built in red stones with a fort in it and was called as 'Lal-Kot'. The city of Delhi in the 12th Century was the capital of Prithvi Raj Chauhan. He was the last Hindu Emperor of India. The city was situated near Mehrauli (Qutb) had the well-known fort Qila Rai Pithora in it. At the end of 12th Century in 1192, Prithvi Raj Chauhan was defeated by Muhammad Ghori. Then Delhi passed into the hand of Muslim Conquerors. Qutbu'b-Din reconstructed the city and called it Qutb. He gave to the World the Qutb Minar. Moreover, the remains of seven cities can still be seen across the landscape from the Tomar city of Lal-Kot to Siri, Tughluqabad, Jahanpanah and Firuzabad of the Sultans and then Purana-Qila and Shahjahanabad of the Mughals as is shown in the Figure 1, 2 and 3 and evidenced by the Table 1. Every empire enriched the culture of the city, their remains stand as mute witnesses to their days of glory. Later on, the Delhi became the seat of power when the British decided to shift their capital here in 1911. Around the area of the Raisina hills of the Northern Ridge a new city came up. An imperial city designed by Sir Edwin Lutyens and Sir Herbert Baker (Spear, 1945). Today, Delhi is a lively, thriving capital city, grown tremendously since

Independence. Retaining the glory of its past while developing it into a planned city was the new challenge. However, the seven cities of Delhi with their geographical dimensions and their attributes have been presented in the Table 2. It also provides spatial info for the present New Delhi, the eight city of Delhi. All these historical cities spatio-temporal features and characteristics have been discussed here in the following text.
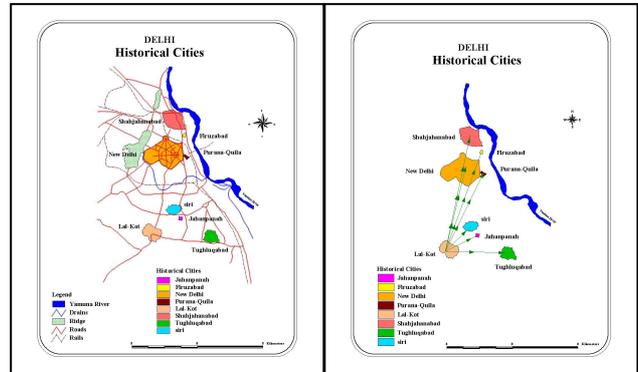

Figure 2 & 3. Historical cities and location from Qutb Minar

4.1 Lal-Kot

The Lal-Kot was the first city of Delhi. Later on, it was extended and known as the Qila Rai Pithora. The city was expanded over an area of about 3.40 sq. kms. The Tomar Rajputs had established themselves in the Aravalli Hills south of the present Delhi, at least from the closing years of the 10th Century, if not earlier. The bare and barren hills south of Delhi which were isolated and difficult to access were selected by the Tomars as a royal resort in preference to the plains; because of its safe shelter and less exposed to the onslaughts of the hostile Rajput clans (Cunningham, 1871). In these hills close to Delhi but within the present boundaries of Haryana, a large reservoir known as Suraj-Kund built by Surajpal. Nearby the village of Arangpur or Anangpur, is a dam ascribed to Anangpal of the same dynasty. Its close vicinity is dotted with ruins of pavilions and fortifications. It is a popular belief that Arangpur is the successor of Anangpal.
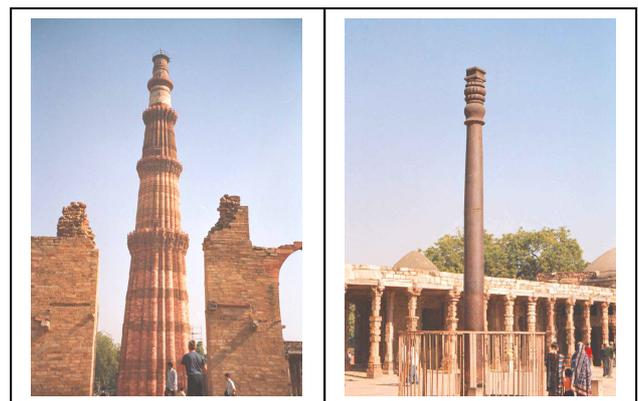

Figure 4 & 5. Qutb Minar and Ashok's iron pillar

Anangpal is, however, known as the founder of Delhi. It is believed that the first known regular defense-work in form of the Lal-Kot was built in Delhi. It may be regarded as the core of the so-called first city of Delhi. The Iron Pillar originally formed as early as 4th Century may have also brought to Delhi by Anangpal and now standing along with the Qutb Minar as shown in the Figure 4 and 5. Prithviraja III, also known as Rai

Pithora, the popular hero of the stories of Hindus, extended the Lal-Kot by throwing up around it massive stone ramparts and gates. Now known as the Qila Rai Pithora, which was the first city of Delhi. As evidenced that several temples were built within the Lal-Kot, which were all pulled down by the later rulers of Delhi.

4.2 Siri

The Siri was the second city of Delhi. It is situated about 4.4 kms. in the north-east of Qutb Minar. And it is approachable from the southern tip of Hauz Khas Enclave and from Panch Sheel Road which leads towards east to Siri. It is lying spread over an area of about 1.70 sq. kms. Its foundation was laid by Sultan Alau'd-Din Khilji in 1303. It was the first city to be originally built by the Muslims. Siri was a circular city. In other words, its rubble-built high city-wall is roughly oval on plan. The eastern portion of Siri is cut across by the wide road connecting Moolchand Hospital and Chiragh Delhi. Siri is said to have possessed seven gates out of which one may be seen even now towards the south-east. It had a palace of a thousand pillars saw many triumphs and tragedies, but has since completely gone to ruins. So, no remains of palaces have come to light here except the relics of the city walls as is shown in the Figure 6 and 7.

Figure 6 & 7. Remains of rubble-built high city walls of Siri

It is noteworthy to mention that some derelict structures in the village of Shahpur Jat situated inside it on the west. Alau'd-Din Khilji had built the magnificent great royal tank called the Hauz Khas, for providing water to Siri. It was originally known as Hauz-i-Ala'i. At that time it had enough water to meet the needs of the city. However, at present, the city is a mass of ruins. It is represented now only by stretches of its thick stone walls provided with 'flame-shaped' battlements which appeared here for the first time. The site of this city is partially occupied by the village of Shahpur Jat. At present, Siri is situated where the Siri Fort and the modern day Asiad Village Complex are located.

4.3 Tughluqabad

The Tughluqabad was the third city of Delhi. It was built on the rocky southern ridge with architectural ambitions. It has massive bastions and walls. Tughluqabad was built by Ghiyathu'd-Din Tughluq (1321-25) in 1321. It was constructed on the Badarpur-Qutb road at a distance of about 7.70 kms. away from the Qutb Minar. The city Tughluqabad was a huge
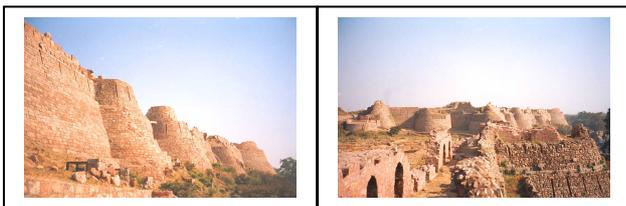

Figure 8 & 9. Remains of Tughlaquabad City

complex comprising a palace, fort and town which spread over an area of around 2.20 sq. kms. as is shown in the Figures 8, 9, 10 and 11. It is interesting to know that there was lack of water.

Figure 10 & 11. Relicts of Tughlaquabad and Adilabad Forts

So, for its water supply, the palace had a large and deep stone-laid reservoir. Due to water shortage, the city was never fully occupied and deserted within 5 years. Most of the population preferred to remain in the old city because there was ample water supply. Adilabad, subsidiary fort to the south of Tughluqabad (Figure 11) was built by Ghiyathu'd-Din's son and successor, Muhammad-bin-Tughluq (1325-51). It is architecturally resembled to Tughluqabad fort. The walls of the embankment connecting it with Tughluqabad are carried over the hills as the outer walls of the city. The fortress is also known as the Muhammadabad. Muhammad-bin-Tughluq soon abandoned Adilabad.

4.4 Jahanpanah

The Jahanpanah was the fourth city of Delhi. Jahanpanah was built in 1327 by Muhammad-bin-Tughluq (1325-51). It was built by enclosing the then inhabited area between Qila Rai Pithora and Siri, the finest two cities of Delhi. The stone-built walls of the city cross the Delhi-Mehrauli road. The relicts of the walls still traceable at several places such as to the north of Indian Institute of Technology (IIT), to the north of Begampur and south of the Khirki mosque, to the north of Chirag Delhi at Satpula, and close to the Hauz-Rani gate of Qila Rai Pithora.

Figure 12 & 13. Relicts of Jahanpanah city and Satpula walls

Earlier, he shifted the city to his new capital which he had named Daulatabad. Later on, he came back to Delhi. The city Jahanpanah was located between Qutb and Siri at a distance of nearly 4.40 kms. from the Qutb Minar. The main aim behind the establishment of this city was to join the two walls to provide protection to the inhabitants from the outside invaders. For that reason, the city was named Jahanpanah that literally means "Shelter of the World". Using the fortification of the older cities, the city had thirteen gates in all - six on the north and seven on the south (Yamamoto et. al., 1970). Inside it laid the palaces. Very little of this city has survived as shown in figure 12 and 13. Today its surroundings are usually known as Chirag Delhi.

4.5 Firuzabad

The Firuzabad was the fifth city of Delhi. Muhammad-bin-Tughlaq's son Firoz shah Tughluq did not want to be left behind, so, he created his own city Firuzabad. The citadel-quadrangles of the city are now known as Kotla Firoz Shah. According to contemporary historians, Firuzabad was built in 1354 by Firuz Shah Tughlaq (1351-88). He transferred his capital from Jahanpanah and constructed the new capital about 13.10 kms. north of the Qutb Minar. It was extended from Hauz-Khas to Pir-Ghaib in the north over an area of around 0.10 sq. kms. Kotla Firuz Shah is a large enclosure of high walls, along which then flowed the River Yamuna. Now it is situated on the Mathura road outside the Delhi Gate of Shahjahanabad. With an entrance through a barbican main gate on the west as is shown in the Figure 14, it contained palaces, pillared halls, mosques, a pigeon-tower and baoli, some of which are still in good condition. Among these, the tall pyramidal structure supporting the Asokan Column (Pillar) as is shown in the Figure 15 and Jami-Masjid were famed far and wide in the contemporary times.

Figure 14 & 15. Firuzabad main gate and Ashoka's Column

The Asokan Column was brought from Topra near Ambala and erected, an 8 mts. tall 27 ton glittering golden monolith, in his new capital. Encased in reeds and raw skins it was transported on a carriage of 42 wheels, with 200 men pulling each wheel with ropes. This was emperor Ashoka's pillar with his edicts inscribed on it (Joshi and Pande, 1967). It still stands in Kotla Firoz Shah. The Jami-Masjid was one of the largest mosques in the Tughluq times. Timur mentions having visited it to say his prayers. It was an open, large and well-populated city without a wall around it. However, it had a hundred gardens, several palaces and more than half a dozen great mosques. Today Firuzabad is known as Kotla. The ground near the Kotla is the meeting place of international cricket teams and sports events.

4.6 Purana-Qila

The Purana-Qila was the sixth city of Delhi. A fort construction was begun in 1533 by Humayun (1530-40 and 1555-56). It is located in the north about 10.70 kms. away from the Qutb Minar. Humayun called his new city Dinapanah – Protection of the Faith. Purana Qila meaning 'Old Fort' stands on the site that is believed to be Indraparastha, the capital of the Pandavas in the Mahabharata epic. Through the evacuation from the Purana-Qila evidences have been turned up and collected pieces of the painted grey ware, relics and remains of later periods through the Archeological Surveys. Such characteristics of wares had been associated with the Mahabharata epic which had been dated to around 1000 B.C. However, its occurrence here seemed to support the tradition of Purana-Qila being the site of Indraparastha which was the capital of the Pandavas, heroes of the Mahabharata. Moreover, the fort construction was begun by Humayun on the old site of Indraparastha. Purana-Qila originally situated on the bank of the River Yamuna. It was completed within the short period of ten months. Later on, Sher Shah Suri (1538-45) demolished the city of Dinapanah and on the same site raised his citadel. Sher Shah completed the fortress palace in 1545. Its ramparts spread over an area of nearly 0.20 sq. kms. It has three main gates which were double-storied, built with red sand stone and surmounted by chhatris as is clearly evidenced by the Figure 16 and 17.
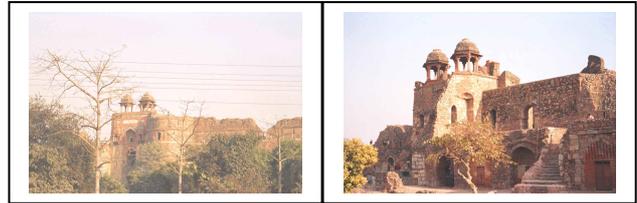
Figure 16 & 17. Relict walls of Purana-Qila

Among the three main gates, the northern gate is called the Talaqi-Darwaza meaning 'Forbidden Gate'. The southern gate is known as the Humayun-Darwaza. The eastern side was having a 'Water Gate'. It is believed that Sher Shah Suri left the Purana-Qila unfinished and it was completed by Humayun. The Sher-Mondal in Purana-Qila is believed to have been used by Humayun as his Library.

4.7 Shahjahanabad

The Shahjahanabad was the seventh city of Delhi. Shahjahanabad was built by the Mughal emperor Shah Jahan (1628-58) between 1639 and 1649. It was huge well carved out city spread over an area of around 4.90 sq. kms. And it is located in the north at a distance of about 14.80 kms. from the Qutb Minar. The Lal-Qila (Red Fort) is one of the famous citadels which were begun in 1639. Once it was situated at the city's eastern end on the right bank of the River Yamuna. It is an irregular octagon with two long sides on the east and west as is shown in the Figure 18 and 19.

Figure 18 & 19. Red Fort and its wall

It has two main gates the Lahori Gate on the west and the Delhi Gate on the south. The Lal-Qila is mainly constructed by red sand stone while the marble has been used in palaces. It was completed after nine years. The city had 14 gates of which some have already been demolished and many of which still exists (Spear, 1951).
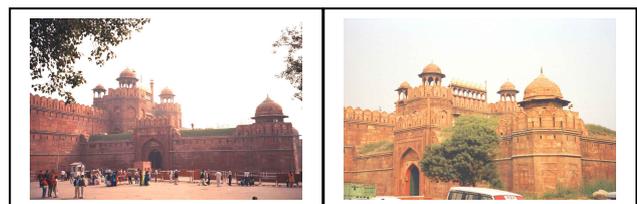

Figure 20 & 21. Lahori and Delhi Gates of the Red Fort

The Shahjanabad is also known as the Old Delhi. The Old Delhi or the walled city served as the capital for many emperors. At present, the remains of this historical city are the gates like the Kashmiri Gate, Ajmeri Gate, Turkman Gate and Delhi Gate. Shah Jahan also built the famous Taj Mahal. He shifted the capital city from Agra to Delhi. This city survives and is now known as the 'Old Delhi' of today. The Lal-Qila (Red Fort), Chandni Chowk and Jama Masjid are some of the most important architectural gifts of Shah Jahan to Delhi (Stephen, 1876). Shah Jahan himself had planned the Lal-Qila (Red Fort). Because of his architectural and artistic glories his fame spread throughout the World.

4.8 New Delhi

Finally, the New Delhi was the eighth city of Delhi. The Britishers built New Delhi, south of Shahjahanabad and shifted their capital from Kolkota (Calcutta) in 1911. It was built over an area of around 12.20 sq. kms. in the north at a distance about 10.50 kms. away from the Qutb Minar. In the six decades since

Figure 22 & 23. Connaught Place and Connaught Circus

the creation of New Delhi as the Capital of British India, the city has undergone a sea change as evidenced by the Figure 22 and 23. Made initially to cater a population of 70,000, the total population of New Delhi now exceeds 1,71,806 (Census, 2001). The city has exploded in all directions beyond the confines of Lutyen's wide, tree-lined avenues, with an exuberance that is characteristically Indian. Several factors have contributed to this breathless pace of growth.

5. URBAN ENGULFING HISTORICAL PLACES

In 1947, the partition of the country resulted into the huge influx of migrants. Many Muslim families of Delhi migrated to Pakistan while many Hindus and Sikhs from west Punjab sought refuge in the city. They were given land west of the Ridge and south of New Delhi. Many of these refugees also built their houses across the River Yamuna and north of Shahjahanabad. Since then, the influx into the city hasn't ceased. The manpower required by the Government in the
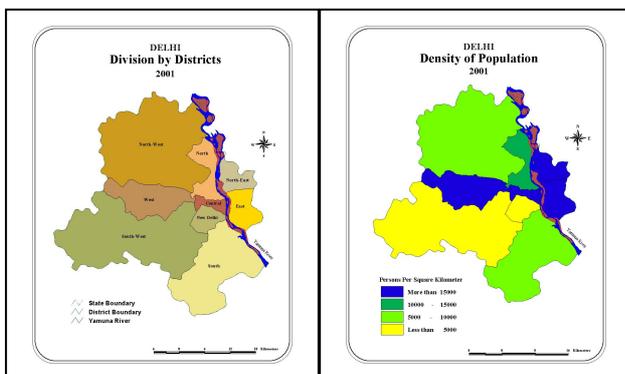
Capital is itself staggering. Industrialists, Entrepreneurs and migrant labourers from all over country have turned to Delhi in search of livelihood and success, and made it a commercial capital as well. The cultivated fields which till recently could be seen on the outskirts of the city have been developed into residential colonies and commercial complexes. High-rise buildings now stand check-by-jowl with Delhi's 1,300 monuments (Sharma, 2001). Villages such as Khirkee, Begumpur, Hauz Khas, Sheikh Sarai and Nizamuddin which grew around medieval Delhi's shifting capital cities have now been engulfed by the urban sprawl. Many of them, however, retain their Old-World characteristics. The line of distinction between Old and New Delhi has begun to blur - north, south, east and west Delhi are more prevalent terms of demarcation as is shown in the Figure 24. The facilities and opportunities available in Delhi have attracted peoples from far-flung corners of the country, making it a melting pot of sorts. So, all these facts prove to test the first hypothesis laid down for the present study.

On the other hand, the presence of diplomatic and trade mission, the growing number of multi-national companies and foreign investors, and the influx of tourists and visiting professionals have given the city, especially its southern and central parts, a
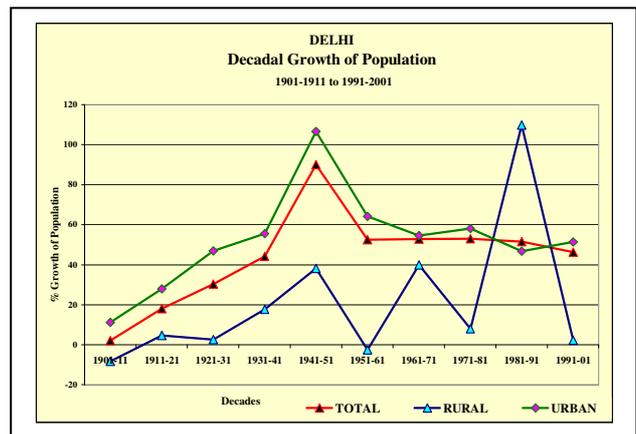

Figure 26. Decadal growth of population in Delhi

cosmopolitan air. The coexistence of the past and the present at many levels characterises Delhi, as it does India. The assimilation of a specific cultural influence is expressed differently by people living in different parts of the city, a fact which offers insights into the social strata (Wirth, 1938; Robson, 1994 and Bradford, 2003). South Delhi is undoubtedly the trend-setter, and the fashions and lifestyle introduced here

Figure 24 & 25. Delhi divisions and population density
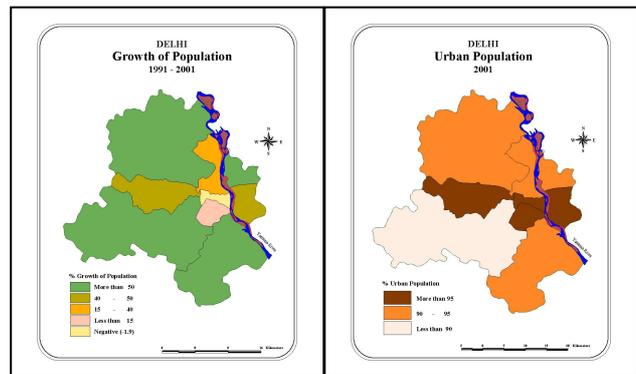
Figure 27 & 28. Population growth and levels of urbanisation

become the aspirations of many. There are however, dramatic differences in localities, standards of living and adherence to traditions. It is one of the greenest capitals. For the visitor, it serves as a perfect introduction to the cultural wealth, the complexities and dynamism of India. The capital city today has grown in terms of population which is clearly evidenced by the Figures 25, 26, 27 and 28. However, it has engulfed all the ancient cities and overflows across the River Yamuna and the Northern Ridge. Therefore, all these facts provides enough evidences to test the second hypothesis laid down for the present study.

6. CONSERVATION OF HISTORICAL PLACES

Delhi's population and area has grown over the periods. There occurred a fast pace of urbanisation which has resulted into the wide spread land use change patterns across the River Yamuna and the Northern Ridge during the 20th Century. Hence, all the ancient historical cities and cultural heritage sites have been engulfed into the concrete jungle of high rise buildings in Delhi. The high-rise buildings now stand check-by-jowl with Delhi's 1,300 historical monuments. Due to the continuous land use changes the line of distinction between Old and New Delhi has begun to blur. The different infrastructure facilities and opportunities available in Delhi have attracted peoples from all over the country, India. The coexistence of the past and the present at many levels characterises Delhi, as diversity in unity in terms of culture and historicity.

Delhi, however, is known as one of the most fascinating modern city with the World renowned ancient architectural and cultural heritage sites. For instance, the Qutb Minar and Humayun's Tomb have been declared the World Cultural Heritage sites in Delhi. Likewise large portions have been well earmarked as archeological sites. Because the rulers of successive dynasties between 10th and 17th Centuries established seven cities in different parts of Delhi. It serves as a perfect introduction to the cultural wealth, the complexities and the dynamism of India. However, the two most important government organisations, the Archeological Survey of India (ASI) and the Delhi Development Authority (DDA) have taken initiative in the direction to restore and conserve the historical ancient cities and monuments of Delhi. The significance of the Delhi's historical monuments were routinely mentioned in heavy words in the Master Plan of Delhi: MPD-1962, MPD-2001 and MPD-2021. Thus, the utmost priority is to restore the crowning glory of the ancient past and to conserve the remaining left over cultural heritage sites through involvement of the government and non-governmental organization as well as the common peoples of Delhi.

7. CONCLUSIONS

Delhi is one of the most historic capitals in the World and two of its monuments - the Qutb Minar and Humayun's Tomb - have been declared the World Cultural Heritage Sites. It is also one of the greenest capitals of the country. For the visitors, it serves as a perfect introduction to the cultural wealth, the complexities and dynamism of India. Urbanisation has engulfed all the ancient seven cities and overflows across the River Yamuna and the Northern Ridge. Sustainable urban development is the most important concern of the present for conservation of the historical monuments in Delhi. In lieu of this, there is a need of an integrated spatial information system with the relevant historical monuments and cultural sites database in order to effectively implement plans and policies of restoration and conservation. The Archaeological Survey of India (ASI) involved in evacuation of historical monuments is an important milestone in the restoration process and their historical database generation, based on which sound decisions can be made for conservation of the Delhi's crowning ancient glory.

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