

Evolution of Human settlements

Lecture 12

Planning of Delhi

If you look at Delhi as a city, it has obviously not cropped up overnight. It has a lot of chronological events that support the spine of what it is today. So, between 1638 and 1648, you had Shahjahanabad where Shah Jahan was the emperor, the important constructions during that period of time were the Red Fort and the Jama Masjid. In 1803, you had the British East India Company invasion. Between 1911-1931, Sir Edwin Lutyens designed New Delhi. 1912, the capital shifted from Kolkata to New Delhi. 1931 - New Delhi Capital inaugurated and Delhi improvement Trust was constituted. 1947 - Independence and partition of the country, immigration of half million population to Delhi, 1948 - Rehabilitation townships planned. 1957 - DDA was constituted. 1962 - the First Delhi Master Plan was passed. Now, we shall start studying Lutyens Delhi which was in 1914, because this was the first time, the city was planned as such. Before this, when we see Shahjahanabad, Red Fort and all of those areas, they were organically developed settlements vs Sir.Edmund Lutyens came about designing the city and that's what we shall be discussing now. If you look at Lutyens Delhi, in order to understand the imageability of Lutyens Delhi, it is imperative to know its history and why the site was chosen. The primary concern for the transfer of capital from Calcutta to Delhi was to locate a more durable and subtle public opinion, the intention was to express the achievements possible under the British Raj and as a stamp of the autocratic rule. So what was the criteria for site selection? Number one, it was well drained. It constituted of slopes and plains between the ridge and the river. Its Eastern and Southern margins were studded with monuments of vanished empires. It was a broad crescent from Shahjahanabad and Kotla Firoz Shah, south to Tughlaqabad and the Qutub with tombs of Safdarjung and Lodhis as well as Jantar Mantar in the foreground could be viewed from the site. So, if you look at the site location over here, you have a lot of history on the site. Usually when you choose a site, they prefer it, when there is nothing in it. But why did the British choose this site? They wanted it such that, it should be a part of history. They didn't want to stamp themselves as autocratic rulers away from history, they wanted to show that we can be a part of history like what you people have been till

now and we shall rule the country like this. So, it was a combination of the old and new, is what was very important. Shahjahanabad was towards the north. On the west of the site, you have the natural limit which was the ridge. The river formed the Eastern limit. On south a line, drawn from a point on the ridge, west of Talkatora to Safdarjung tomb and then due east to the river marks the Southern limit. The tract between the line and the Qutub is designated for further expansion. So, here again we have seen the timeline that we have just discussed, 1911 - the British government shifts capital to New Delhi from Calcutta. 1914, Edmund Lutyen was the chief architect of New Delhi. 1916 - secretariat buildings designed by Herbert Baker, then you have 1933 - Connaught place was designed by Sir. Robert Curjel, 1947 - India gains independence with Delhi as its capital. This is the growth of Modern Delhi, initially it was just the important monumental first phase which was there. He just wanted the capital building, the federal buildings to be designed. That's what was Modern Delhi, only federal buildings. Then, in the second phase, when the secretariat came into being and people actually came in. That is besides the British dominance, you had imperial power present at that point of time in 1916, around that period, this happened. You can see how it has expanded and later, at independence time, because of the immigration of people from Pakistan, it grew exponentially.

The foundation stone for New Delhi and Delhi Darbar. On December 15th, 1911, King George V and Queen Mary laid the foundation stone for New Delhi, at a Darbar under a purposely built Shah Jahani dome. The message was clear, the British were the legitimate successors of the Mughals and their new capital was intended to express the power of the Raj, just as Shah Jahan's capital had expressed the authority of the Mughals. So, the initial design of New Delhi. Lutyens has designed Delhi such that the streets were crossing each other only at right angles, much like that was in New York. However, Hardinge told him of the dust storms that sweep the landscape would not work for this kind of situation. So, he insisted on having roundabouts located giving in the plans of Rome, Washington to study, such that to apply it in Delhi. Instead of having direct intersections, include roundabouts. What was the intentions of the layout. It was planned in the most spacious garden city lines with great avenues decorated with classical buildings with lush landscape. The layout of Lutyens Delhi was governed by three major visual corridors. You have the Jama Masjid, Indraprastha and Safdarjung's Tomb. These were the three important monuments along this area and this is the line of

main monumental axis along which the initial design of Lutyens was built upon. Then gradually, the city actually developed. The plan reflects Lutyens' transcendent fervour for geometric symmetry, which is expressed through amazing sequences of triangles and hexagons, through sightlines and axis. So, it is very important to see that axis is given a lot of importance. Orientation was also given a lot of importance because of a lot of sandstorms that blew there and then it is obviously geometrically symmetrical. Lutyens plan is also remarkable for the generous green spaces, lawns, watercourses, flowers and fruit bearing trees and their integration with the parks developed around monuments. So, this was something that happened in Washington D.C and he learnt it from there. The attempt was to include all natural and historical wonders in the new city. The road network was the next thing that was given a lot of importance. Besides the major pathway, there were extremely wide avenues. The original design of the road network was capable of accommodating six thousand avenues. However, these avenues have the potential of increasing their carriageway, the reason why the road layout has survived till date is because of that. You can actually see in both the plans, that we have seen of Washington D.C as well as Delhi, the planners were futuristic in expressing that automobiles were definitely going to rule the world at one point of time and their urban plans for the city reflect that as well. In general, the road network consisted of diagonals and radials at 30 degree to 60 degree angles to the main axis, forming triangles and hexagons. You can see, like it is over here in this picture. This is the Lutyens' Delhi zoning. The entire yellow area that you see along the main avenue is the government complex, the blue area is referred to as the bungalow zone, where you had most of the important people residing and the third, the red area that is demarcated over here, is the commercial district. The government complex was considered to be very important. You can see it is an arrow shaped thing, making sure it is reminiscent of moving ahead or showing that it is going forward. You can see over here, Indo Saracenic Architecture, the features you have are Chhatris, the Buddhist Domes, use of pink and red sandstone, it includes all focal points on the visual axis. The visual axis was given a lot of importance. Like along this particular axis and you can see that in spite of it being designed by Lutyens, he did not completely make it foreign looking buildings for the Indian public because they wanted to show that, even though they have come to rule as an autocratic ruler, they were going to learn and inhabit themselves or ingrain themselves within our society. Henceforth, the use of indo

saracenic architecture. Here you can see the commercial district, this is the multi storey typology that emerged and here you have the g plus one typology, both of them were prevalent. This consists of the Connaught place, the inner circle and the outer circle. Here you can see the radial patterns of the roads for the commercial area. Adjoining areas are the Kasturba Gandhi Marg, Barakhamba Road. So, all of this are the commercial areas you see, the red belt. The yellow nodes that you see are the traffic vehicular nodes. The green nodes are pedestrians as well as vehicular junctions and the black nodes that you see are traffic and railroad junctions. The changing phase of commercial business district. So, it has obviously changed from what Lutyens had initially planned. If you look at the administrative area or the government complex. He laid it out such that the central administrative area of the city. At the heart of the city was the impressive Rashtrapati Bhavan, located on the top of Raisina Hill. The Rajpath connects the India Gate to the Rashtrapati Bhawan, while Janpath which crosses it at a right angle, connects south end with Connaught place. This is the secretariat Building, which houses various ministries of the Government of India including the Prime Minister's office and this is beside the Rashtrapati Bhawan and it was designed by Herbert Baker. Also, designed by Baker was the Parliament house located on the Sansad Marg, which runs parallel with the Rajpath.

The Rashtrapati Bhawan, a very important building again, obviously. This actually was a government house at that point of time, this was located on Raisina Hill and it is one of New Delhi's major thoroughfares, Rajpath connects it to the Purana Qila, which is the old fort. Hardinge chose the Raisina Hill for locating the Viceroy's palace which is now the President's house. It was well drained, number one it was on top of a hill. Constituted of slopes and plains between the ridge and the river. It gave an impression that, the is presiding over the city or looking over the city. It started with monuments of vanished empires. A broad crescent from Shahjahanabad and Kotla Firoz Shah, south to Tughlaqabad and the Qutub with the tombs of Safdarjung and Lodhis as well as Jantar Mantar in the foreground could be viewed from the site. You can see the layout over here, clearly. The common features; you have a thick band, the use of Jalis, the Buddhist Dome, again a very thick band over here, the Buddhist dome and again. So, whatever building that was built; the Rashtrapati Bhawan, the secretariat, the other common houses of ministries, everything the same elements were repeated from Indian architecture.

In terms of drawbacks, if you look at the plan of Delhi, in this whole process, almost no attention was paid to the problems of old Delhi. Old Delhi was completely neglected. Due to the creation of New Delhi, Old Delhi experienced a 28% surge in population from 1916 - 1926, resulting in the spilling over of the population from inside the walled city to Paharganj area, whose restructuring was later abandoned by Lutyens due to resource constraints. So, even his purview of design was supposed to even extend to the outskirts of Delhi, but that did not fall through. Also, no provision of housing was premeditated for the large number of skilled and unskilled workers which migrated for this large massive construction in New Delhi. This negligence of the planners in Old Delhi, resulted in the transformation to a large slum. The sprawl of rehabilitation townships. So, the partitioning of India brought its own problems. Delhi witnessed one of the largest immigration in human history. Nearly, half a million people sought refuge in Delhi, which was not prepared for doubling of its population in a matter of just 2 months. Every urban planner does foresee a population explosion or expansion over a period of time but this was a sudden surge in increase. A total of 36 rehabilitation townships were planned and developed on all four sides of Delhi, this included Nizamuddin, Lajpat Nagar, Malviya Nagar, Patel Nagar, etc. All of these areas are still very much in prevalence. These townships were planned on the basis of 80 square yards, plots for each family; modest single story asbestos cement sheet roofed houses. So, this was pretty much just a disaster kind of housing. These houses were offered at subsidized prices of Rs.2000 to 10,000 with facilities of long term payments. These were emergency projects with no time available for immaculate planning. A national emergency was met with immediate action. Basic result was no urban planner could deal with this kind of a situation. It was basically a response to a problem which happened overnight. Delhi started expanding in all directions without any overall plan, the congestion continued and the city grew haphazardly. If you look at the sprawl of urban townships, because of all these areas with structures around Delhi, an improvement trust committee was obviously the next step because they knew what was happening was wrong but at that time frame, nothing else was possible. When you had hundreds and thousands of people pouring into the city asking for refuge, it was more important to provide housing for them rather than deciding on a master plan. So, the Delhi improvement trust committee suggested setting up a single planning and controlling authority for the development of Delhi. It also suggested for the development of the city under

the frame of a Master plan. Hence, the Delhi Development Authority was constituted or the DDA was set up by the Government in 1955; its objective being "to promote and secure the development of Delhi according to plan." All of this was definitely done on paper, they had no other choice. But with all of these tenement kind of houses or these slum kind of houses that were emerging across or around this Lutyens Delhi was completely redefining of what image Lutyens wanted for Delhi. If you look at Delhi today, a fundamental premise of the Master plan had been based on the Western concept of 'zoning'. It implied segregation of land uses, physical uniformity and segregation of residential components from undesirable land uses. So, the old city was predominantly marked for residential uses. But another main mistake at this point of time was the old city already had commercial spine of its own, like Chandni Chowk. At that point of time itself, it was commercial hub. So, when New Delhi was built with its own commercial zone, but not particularly demarcated for any residential zone. Yes, there was a bungalow zone marked by Lutyens but at that point of time when Lutyens designed Delhi, the bungalow zone was only meant for the British people and the English men. It was not meant for the local Indians. So, post independence, the bungalows were assigned to the ministries and ministers and all of that. New Delhi as such, did not afford any kind of space or planning for residential sector. So, the whole city was completely demarcated for residential use till that it was ok. But the connectivity between Old Delhi and New Delhi did not happen. Like, we saw in Washington D.C, the first thing, before the suburbs emerged, was the development of a railway line. That did not happen over here. Suburbs emerged, towns around Delhi emerged, around New Delhi emerged but there were no connecting elements. So, even though the main city was the main housing district, it did not have the connectivity that it required to the main spine of the city which was New Delhi. If you look at Delhi today, unlike most cities of the west, the spatial growth of the Indian cities is polynucleated and multifunctional processes. We just saw in Washington D.C, it has an area demarcated for commercial, it has an area demarcated for Federal buildings and things like that. That kind of a master plan has not sustained over a period of time. Now, even amidst all the Federal and government buildings, you will find commercial buildings. So, Delhi today is an amalgamation of historical, modern, traditional as well as contemporary structures. Three distinct cityscapes dominate this metropolis. Number one, the world city of Shahjahanabad which is the traditional organic housing which has been replaced

by apartment blocks. Number 2, we have New Delhi - the Anglo Indian Rome of Sir Edwin Lutyens which was the last phase of British Raj and finally the post-Independence phase i.e. the master plan of Delhi which is showing the currently developing areas.

Planning of Chandigarh

Now, we come to the planning of Chandigarh. If you actually look at the planning of Chandigarh again, Punjab was divided into two parts because of the partition. Their main capital went on to the side of Pakistan, so there was a need for a new capital. The first master plan for this new capital was given by Albert Mayer, an American planner who is also a friend of Clarence Stein of Radburn theory. So, based on the Radburn theory this was done but due to some unfortunate incident, Le Corbusier had to take over it and Le Corbusier's plan was what was finalized for Chandigarh. So, Maxwell fry, Jane drew and Pierre Jeanneret were also involved as the main architects. But the plan of Chandigarh is always referred to that of Le Corbusier's plan. If you look at Albert Mayer's plan, he was actually not new to India. In December, 1949, when Punjab government approached him for the Chandigarh project, he was already associated with a rural development project for Uttar Pradesh and he was preparing master plans for Greater Bombay and Kanpur. Mayer was thrilled with the prospect of planning a brand new city. Chandigarh was actually planned in such a way that, it was going to be new land, new prospects, it was not like New Delhi where there were already was existing pattern. He accepted this assignment at a modest fee of 30,000 dollars for his standards at that point of time, he took it up because for him it was city plan for a new face of India and new face of Punjab as well. It was a city of about half a million people, showing the location of major roads, areas for residential areas, business areas and industrial areas and all of its uses. He was also to prepare a detailed building plan for the capital complex, the city center and important government facilities and architectural controls for other areas. So, when they actually meant architectural controls, they wanted a kind of a document which said what kind of buildings should this city have. Yes, obviously the architect cannot go about designing every person's house or a particular apartment complex but there was a document to be prepared which mentioned what are the dos and don'ts before any construction took place.

What was the master plan decided by him was, it assumes a fan shaped outline, spreading gently to fill the site between two river beds. At the head of the plan was the Capitol, the seat of the state Government, and the city centre was located in the heart of the city. Two linear Parklands could also be noticed running continuously from the northeast head of the plain to the southwestern tip. A curving network of main roads surrounded the neighbourhoods called super blocks. This is actually very similar to the layout of other cities in the Western Hemisphere. The first phase of the city was developed on the Northeastern side to accommodate one lakh fifty thousand residents and the second phase on the Northwestern side for three lakh, fifty thousand people. So, this is the fan shaped place that was going to happen. The capitol complex, the commercial center and this is a typical layout of a so called super block. Mayer actually liked "the variation of (Indian Streets), where it is not monotonous." One thing definitely about any Indian city is that none of them can be called monotonous. They are all vibrant, constantly changing cities. Some of the roads are wide, then they would narrow and again become wide. They were appropriate for that kind of area, especially with very strong sunlight coming in, narrow roads are preferred. Roads would have shade from both the sides with buildings on either side. His house design involved an inner courtyard for ventilation, with small openings on the street side to protect the privacy, they actually loved the inner courtyard of Indian houses. Indian houses had the inner courtyard as a family gathering space, where women could chat, where women could hang about but they looked at the building advantages of it because in a hot city, that is a way through which air and light could be brought about without a lot of heat. Another element in planning was to place a group of houses around a not very large courtyard with the ends somewhat narrowing, which could serve as a social unit. Basically, a number of houses surrounding a small garden or a park space which could be a social gathering space or it could be a number of relatives who ended up living at the same area but in individual houses. So, this was the neighbourhood unit he envisioned and each neighbourhood unit was to contain schools and local shopping centers as well, to cater to everyday needs. The flatness of this site allowed complete freedom in creating a street layout and it is of interest to note that the overall pattern deliberately avoids a geometric grid in favor of a loosely curving system. Albert Mayer's plan was definitely that. The death of Nowicki necessitated the selection of a new architect and that's when Chandigarh

was passed on to Le Corbusier. At first, Le Corbusier was not very keen on this assignment but later he was persuaded and he had completely different visions from that of Mayer and he wanted to go with Nehru's aspirations as well. So, what Corbusier envisioned for Chandigarh was quite different, he agreed to this as a chief architect. He was to visit India twice a year for a month at a time and he would visit the site around 22 times and he would come and visit the site in such a way that, other young architects were apprentices with him and they were involved in the planning of the city and they took over the planning of the city and Corbusier could basically concentrate on the major buildings of the capitol complex. So, all four of the protagonists were members of the Congress international architecture modern which is CIAM. So, you had Fry and Drew as senior architects. Jeanneret was his wife and Le Corbusier, so that's four of them again. He followed three disciplines in the design of Chandigarh, first the discipline of money. Then, Le Corbusier once remarked that, India has the treasures of proud culture but her coffers are nearly empty. In the sense, we had a lot of history but we were completely plundered and looted. Throughout the project, the desire for this grandness was hampered by the need for a very strict economy. He was working on a strict budget. In working up his designs, Corbusier consulted the program for each and every building as given in the budget and then prepared the initial project. The discipline of technology - available in quantity however, was good clay stone and sand, and above all human labor. The materials of which Chandigarh has been constructed are rough concrete in the capitol complex and the central business district and for most of the city, especially in housing, locally produced brick was used. The discipline of Climate - besides administrative and financial regulations, there was a law of the Sun in India. The architectural problem consists; first to make shade, second to make a current of air (to ventilate), third is to control water or hydraulics.