

Human Settlements

Lecture 5

Town Planning

Before we delve into planning concepts, let's take a quick overview about what is exactly a town or urban planning.

According Aristotle, 'A city should be built to give its inhabitants security and happiness.' People have their right to the city. 'A place where men had a common life for a noble end'. This was said by Plato and town planning is a mediation of space, making of a place. So, what exactly is town planning? It is a combination of both an Art and Science of ordering the use of land and siting of buildings and communication routes so as to secure the maximum practicable degree of economy, convenience and beauty. An attempt to formulate the principles that should guide us in creating a civilized physical background for human life whose main impetus is thus, foreseeing and guiding change. It is an art of shaping and guiding the physical growth of town, creating buildings and environments to meet various needs such as; social, cultural, economic, recreational, etc and as well as, to provide healthy conditions for both the rich and the poor to live, work, to play or relax. Thus, bringing about the social and economic well-being for the majority of mankind. So, if you look at the different components of town planning, you have a well-balanced social and economic development, there should be an improvement in the quality of life, Responsible administration of resources, as well as environmental protection and Rational use of land. It is very important that we give importance to the protection of the environment because if that does not take place, later that will be the main cause of decay of any town or urban scenario. It is a combination of physical, social and economic plan of an urban environment. It encompasses many different disciplines and brings them all under a single umbrella. The simplest definition of urban planning is that, 'it is the organization of all elements of a town or other urban environment.' So, if you look at the other components within town planning, you have 'Physical' which is nothing but the built environment. 'Social' which is man's environment behaviour, everything with respect to his needs. 'Cultural' - it is both spiritual environment, as well as entertainment. 'Economic' - Financial Environment. 'Political' - it is ideological, in the sense that would give the spine of support of a good well developed urban scenario. 'Ecological' - Natural environment, very crucial but mostly ignored.

What happens if planning were not there? You would have an even chaotic development, contrasting urban scenario. If you look at this, this is a completely not planned environment. It is just slums built over a period of time inorganically settled in. Mixed Land use - Industries springing up in residential zones which again leads to unhealthy living and other such problems. Congested Transportation network - overflowing traffic than expected. That usually happens in most cases because the projected population and the current population are never the same. It is always exponentially larger and when the infrastructure is not there to support this population explosion, there is always congestion caused in the streets and other transportation networks.

What is the role of planners? First, is to Consider. "human communities are always in the process of changing.". Second, to Recognize - "the complexity of communities" and finally the Concern about the future. The growth of a city before when it was just a basic settlement, then gradually how it can grow. This could be considered a rural living and finally, when there are industries and other such ancillary support, how does a city actually grow? It is to consider, recognize as well as having concern about the future, is the main category of what a planner would bring forward.

Garden City Concept

We will start with discussing the 'Garden City' concept. This was put forward by Sir. Ebenezer Howard, it was one of the potent planning model in Western urban planning scenario. It was created in 1898 to solve the problems both urban as well as rural. It was the source of many key planning ideas during the 20th Century. If you look at the main timeline and the important dates, this was put forward in 1888 and then about 1899, it was published as the Garden city of tomorrow. The Garden city association was formed and the first town that was designed based on this was Letchworth in 1903 and then 1920, Welwyn was another town that was designed. 1947 - we studied the concept, of how it grew over a period of time in both Letchworth and Welwyn and then gradually it moved to other parts of the world. The Garden city is basically an impressive concept of having three different magnets, you have the town magnet, the the country magnet and the town-country

magnet and obviously, people preferred the third one which is mainly the 'town-country magnet' which offered the benefits of both, the town as well as the rural living. The clean way of living in a rural environment with clean air, water and surroundings, with a lot of greenery and with the advantages of living in an urban scenario with good jobs, good wages and good entertainment sources as well as good social living. So, that was the Garden city concept. If you look at the concept, it provided for a; Strong community, Ordered development and Environmental Quality. So, that were the three benefits of combining the urban as well as the rural scenario. These were achieved by; Unified ownership of land to prevent individual land speculation and maximise community benefit; Careful planning to provide generous living and working space while maintaining natural qualities; Social mix which is of both good community facilities, as well as different social groups; Limits to growth of each garden city; Local participation in decisions about development. So, what usually happened was; individual garden cities were created and an entire network was created such that there would be communication within these garden cities as well as a kind of strong community would come forward. If you look at 'Affordability', he wanted the garden city for all economic groups; for the poor as well as the rich. Most originally it is obviously suited for the middle income or the modest income groups. Their attractiveness as living environments have often made them become more popular because with the middle class, upper middle class, as well as the richer classes. If you look at the examples of modest income group garden cities, you have; Kapyla in Finland; Colonel Light Gardens in Adelaide, Australia and Prague, Czech Republic is another example but because of the combination of both the urban as well as the rural scenario, it is often most preferred by the upper middle class and the richer economic class groups, because it has the best of both worlds and because it is a better suited environment for their kind of living. We will see how this was applied in Letchworth in United Kingdom. This was 35 miles away from London, it is a little away from the city but not completely away, such that you cannot travel to London. It was chosen around a site of 3822 acres. There was a reserved green belt around which is about 1300 acres. Population set aside works for 35000 people and that was an upper limit. So, once that limit reaches, the whole concept was another garden city should come up linking to this. In about 30 years, it actually grew with 15,000 population and 150 shops and industries. So, it was not a very good model as such because the population dropped and people actually preferred living in

London which gave them better resources in terms of jobs and social environment. The next town this was applied in was Welwyn. This is about 24 miles away from London, the site chosen was 2378 acres and the population set aside for this was 40,000 population but this again dwindled to 10000 in 15 years and 50 shops and industries. So, basically it was again not a very successful model because of the drop in population as well as industries occurred. Now, we will discuss of the Garden city concept was applied in India and the relationship ends with.

Garden city principles greatly influenced the design of colonial and post-colonial capitals during the early part of the 20th Century. This is the case for New Delhi and New Delhi was actually designed as the new capital of British India after World War I. Lutyens led a group of architects in laying out the central administrative area of the city, with the charge of retaining one-third of the area as green space which is similar to what Ebenezer Howard put forward. At the heart of the city was the impressive Rashtrapati Bhavan, formerly known as Viceroy's House, located on the top of Raisina Hill.

The Rajpath, also known as King's way, connects India Gate to Rashtrapati Bhawan while Janpath, which crosses it at right angles, connects the South End road with Connaught Place. Connaught place proved to be the commercial district. The Secretariat Building, which houses various ministries of the Government of India including the Prime Minister's Office, is beside the Rashtrapati Bhawan and was designed by Herbert Baker. Also designed by Baker was the Parliament house, the Sansad Marg, running parallel with the Rajpath. So, if you look at the initial design of New Delhi, the streets were all at right angles much like it was seen in other cities in New York which was earlier designed. But Hardinge told him about the dust storms which were very much prevalent in Delhi during the summers, were actually not a healthy atmosphere. So, they actually introduced these roundabouts, so that these angles would change and included a lot of trees and hedges, so as to break the force of resistance of the sandstorms. So, a lot of other plans were referred to, like the plans of Rome, Paris and Washington, such that those plans were applied to that of New Delhi. If you look at the settlement pattern, it was very different, these roundabout were included and within the roundabouts again the roads were at 30 - 60 degrees and what usually happened was, everything was triangular or hexagonal and then you had about the use of the roundabouts.

Because the roundabouts were created, the road angles also, automatically changed creating hexagonal and triangular patterns. What were the intentions of the layout? Number one, it was planned on the most spacious Garden city lines with great avenues decorated with classical buildings with lush landscapes. The layout of Lutyens Delhi was governed by three major visual corridors, linking the government complexes because they wanted this to be portrayal of the British India or the New India under the British rule. So, on one side you have the Jama Masjid, the Indraprastha and the Safdarjung Tomb. These were the three old monuments and keeping these in mind, they wanted this to comply with the new Indian monuments. So, they have the parliament house, the Rashtrapati Bhawan, as well as the India Gate. All of these are the new monuments of the 20th Century, with respect to British India.

If you look at the features of Lutyens Delhi, it reflects the 'transcendent fervour for geometric symmetry', which is expressed through amazing sequences of triangles and hexagons, through sight lines and axes. It's so obvious, the importance he gives to geometry. Even though, including roundabouts, which should have actually created a radial city, he has gone out of his way to ensure that it would only be triangular or hexagonal layouts. It is also remarkable for the generous green spaces, lawns, watercourses, flower and fruit-bearing trees, and their integration with the parks developed around monuments. So he wanted to give an impression of a flourishing Delhi and there is nothing more impressive than showing green luscious trees, fruit bearing trees and flower bearing trees to show a positive atmosphere that yes, this part of India, under the British rule is thriving and going well. The attempt was to include all natural and historical wonders in the new city. The intentions of the layout again, it should be spacious, the city lines were given importance, the axis was given importance, the views were given importance, the visual corridors were given very much importance and the government complex was given most primary importance because that was the reflection of what the city was supposed to put forward as an impression of colonial British India. This is Connaught place, the commercial district, again built a round about here and it was only here, to aid the whole concept of Market trade that the radial patterns of road were introduced because here it was supposed to be more pedestrian friendly where people would walk in and out of markets. So, over here, pedestrian friendly circular roads were introduced. The yellow points you see over here are traffic

nodes and the black points are the main traffic and railroad junctions and finally, the innercircles we see over here with the green nodes are the pedestrian and vehicular junctions and because it is predominantly pedestrian activity, radial roads were chosen because then the layout would be more compact and easier to walk.

With respect to the layout, the drawbacks. In this whole process, almost no attention was paid to the problems of Old Delhi. 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 the Paharganj area, whose restructuring was later abandoned by Lutyens due to resource constraints. Also, no provision of housing was pre meditated for the large number of skilled and unskilled workers, who had immigrated to work on the construction sites of New Delhi. This negligence of the planners towards Old Delhi resulted in its transformation to a large slum area through complete deterioration and dilapidation around New Delhi. So, we could just discuss, these are the main axes lines. Clear importance are given to the views and the vistas. Monumental buildings were given more prominence and you can see there is no shortage of green spaces especially around the monuments. This is again the avenue leading to India Gate and Rashtrapati Bhawan. This was the layout that was wanted. With respect to the plan for Washington, compared to the that of New Delhi, it's very similar in terms of the axes and the kind of layout that was there. Linear plan, Bilaterally symmetrical, Central visual axis and all the roads cut each other at 90 degrees.

Patrick Geddes Theory

Now, moving on to Geddes and the conservative surgery theory proposed by Patrick Geddes. He was a biologist, sociologist, geographer as well as a town planner. If you look into Patrick Geddes, he was a Scottish biologist, sociologist, geographer, philanthropist and was a pioneering town planner. He was actually known for his innovative thinking in the fields of urban planning as well as sociology. He introduced the concept of region to architecture and planning and coined the term, 'conurbation'. Geddes was the founder of the college, College des Ecosais, Scots college, an international teaching establishment in France. He studied at the Royal College of Mines in London under Thomas Henry Huxley between 1874 and 1878. His principles for town planning in Bombay demonstrate his views on the relationship between social processes and spatial form. So, his

involvement with India happened much earlier on, as compared to the other planners from the west and he had intimate and casual connections between the social development of individual and cultural as well as the physical environment. All of his theories are actually part of the Bombay town planning of 1950. Preservation of human life and energy, rather than superficial beautification. Conformity to an orderly development plan carried out in stages. Purchasing land suitable for building. Promoting trade and commerce. Preserving historic buildings and buildings of religious significance. Developing a city worth of civic pride, not an imitation of European cities. Promoting the happiness, health and comfort of all residents, rather than focusing on roads and parks available to the rich. Control over future growth with adequate provision for future requirements. With respect to his concept, he planned an organism's relationship to its environment is always such as follows; 'The environment acts through function, upon the organism and conversely the organism acts, through the function, upon the environment.' He was one of the only few planners to stress from the very beginning even before we started to hamper and destroy the environment that what we were doing was actually going in the wrong path. We have to be more environmental and eco friendly for our urban plans to actually function well and for all the people in the residents living in the cities to have a good comfortable life. In human terms, this can be understood as a place acting through climatic and geographic process upon which people are then shaping these principles. At the same time, people act through economic processes such as farming and construction on a place and thus, shape the place. So both, place and folk are linked through work are in constant transition. So, these three elements are the basic Geddisian Trio Representation.

Folk or people, the place in which they work as well as go for recreation and finally, Work. This is the Geddisian Trio that he came up with and these three elements and their relationship with one another is what decides the character of any urban scenario. He was influenced by social theorists such as Herbert Spencer and Frederic Le Play and expanded upon earlier theoretical developments that lead to the concept of regional planning. He actually adopted Spencer's theory that the concept of biological evolution could be applied to explain the evolution of society and drew on Le Play's analysis of the key units of society as constituting "**Lieu, Travail, Famille**" ("**Place, Work, Family**") but what he changed a little bit was, from "family" he made it "folk" because family was constrained to an individual

dwelling unit or an individual person but what he wanted to say is, as an entire community, all members of the community or all people are involved and in this theory, the family is viewed as the central biological unit of human society, so he referred to this as folk. According to Geddes, it is from stable, healthy homes, providing the necessary conditions for mental and moral development that come beautiful and healthy children who are able "to fully participate in life". So, he actually thought of introducing at a very early stage, the environment, sociological reasoning as well as urban planning, are all interconnected and cannot be seen as mutually exclusive elements that don't affect each other at all. The next thing he came about was the Idea of the Valley Section.

He first published his idea of the valley section in 1909 to illustrate his idea of the '**region-city**'. The region is expressed in the city and the city spreads influence of the highest level into the region. So, what he decided was it is not possible physically to plan the entire city and expect it to change overnight. So, he lets bring down the element to regions or zones and once we have a region, it is easier for us to plan and anticipate the changes in that region. As a whole it will affect the city and vice versa. As more and more regions emerge like this in a planned fashion within a city, the city too will get influenced in a better fashion and will inversely and conversely help the development of individual regions as well. Yet, it is said that it takes the whole region to make the city. The valley section illustrates the application of Geddes's trilogy of 'folk/work/place' to analysis of the region. The valley section is a complex model, which combines physical condition i.e geology, geomorphology and their biological associations with so called natural or basic occupations such as miners, hunters, shepherd or fisher and with the human settlements that arise from them. The next term he came about was, 'Conurbation', which is the next level of a city. He decided that city is not the end of the urban settlement classification, there is something more than a city and the term he came up with is conurbation. The term 'Conurbation' was coined in 1915 in his book *Cities in Evolution*. Internationally, the term 'urban agglomeration' is also used to convey a similar meaning to 'conurbation'. He drew attention to the ability of the new technology of electric power and motorised transport. With respect to 1915, these words are obviously new technologies to allow cities to spread and agglomerate together, and gave us examples like 'Midland ton' in England; 'Ruhr' in Germany, 'Ramstad; in Netherlands, 'New York and Boston' in United States,

'Greater Tokyo' in Japan and 'NCR' of Delhi in India. All of these are examples of what he thought of as Conurbation theories.

A conurbation is a region comprising of a number of cities, large towns, and other urban areas that, through population growth and physical expansion have merged to form one continuous urban and industrially developed area. In most cases, a conurbation is a polycentric urban agglomeration, in which transportation has developed to link areas to create a single urban labour market or travel to work area. The term is used in North America, a metropolitan area can be defined by the Census Bureau or it may consist of a central city and its suburbs, while a conurbation consists of adjacent metropolitan areas that are connected with one another by urbanization. So, conurbation was a very important concept that Geddes brought forward.

In India if we look at the examples; Mumbai Metropolitan Region (MMR) is a metropolitan area consisting of the metropolis of Mumbai and its satellite towns. This has been developing over a period of about 20 years and obviously not overnight. It consists of seven municipal corporations and fifteen smaller municipal councils. The region has an area of 4,355 km square and with a population of 20,998,395, it is among the top ten most populated urban agglomeration in the world. It is linked with Mumbai through the Mumbai Suburban Railway system and a large network of roads. The national capital region is another example where NCR is a name for the conurbation, metropolitan area which encompasses the entire National Capital Territory of Delhi as well as urban areas ringing it in neighbouring states of UP, Haryana and Rajasthan. With a total area of about 33,578 sq kilometres, it has an estimated population of more than 21 lakhs and this was in 2007.

The next thing is the, **Constellation Theory** that he came about with, within the state of Maharashtra, how the development pattern would occur and create a kind of zone or constellation that could be compared to that of linking of stars. As well as we saw just now in the map, prominent cities in Maharashtra are shown to be connected forming a 'Constellation' shape. This theory was also coined by Sir Patrick Geddes, such that four or more cities which are not economically,

politically, socially equal come together in developing a whole region. This theory is mostly used for administrative purpose in all countries worldwide. Such a theory is most prominently used because planning cities in a particular shape or pattern is possible in today's times.