

Human Settlements Planning

Lecture 6

Case Study of Maharashtra

We will start with the case study of Maharashtra based on the theories proposed by Geddes. So, the Constellation theory was Mumbai, Nashik, Aurangabad, Nagpur and Pune. Mumbai is the Economic and Capital city; Nasik is considered the religious city; Aurangabad, a completely administrative city; Nagpur - a political city and Pune - the Educational importance city. Since, all the five factors necessary for the development of a region, are divided with five different places, the administration of that region has a gradual progressing path, because a certain region doesn't have that. Maharashtra state has gained prime importance for the country in the last few decades in spite of being formed in early 60's, contributing to 15% to the country's industrial output and 1.33% GDP. Production, manufacturing, automobile, thermal electricity projects have played an active path in the growth of the state. The distance between the cities in Maharashtra, ranges mostly in 100 km - 300km making transportation, connectivity, interdependence prosper within the state. Maharashtra is divided into six revenue divisions, which are further divided into thirty-five districts. These thirty-five districts are further divided into 109 sub-divisions of the districts and 357 Talukas in Maharashtra. The six administrative divisions in Maharashtra state are Amaravati Division, Aurangabad Division, Konkan Division, Nagpur Division, Nashik Division and Pune Division. The administrative aspect of Maharashtra is quite a unique factor since six divisions are set up as a network working together to form a well efficient working governance. Now, we move on to the concept of Conservation surgery suggested by Geddes. This was done in Edinburgh in the United Kingdom.

Heritage conservation and Urban conservation. If you look at the process of conservation, it is the process of protecting, the cultural representation of the past. It has a strong connection to time and space. Heritage Conservation is the process of protecting the heritage properties, old buildings, monuments and structures which represent a significant part of the human history. If you look at

the scale of approach, it is holistic. You need to conserve built heritage as a part of the broader vision of 'civic evolution'. Conservative Surgery was a method or planning approach developed by Geddes, take into account of existing physical, social, symbolic landscape of a place in order to allow its most favorable future development.

Evolution is a process of adapting over time to respond to the needs of time, this is the concept of evolution proposed by Charles Darwin. So, what Geddes said was, similarly it happens even for studies and cities as such. So from the stone age, you have the Paleolithic Age and the Neolithic Age. There was a gradual progression of the urban scenario from the Paleolithic to the Neolithic. How man goes from one step of evolution to the next, cities as well do the same and urban scenarios also evolve from one to the next stage. The industrial age - the invention of machinery, railways and markets; manufacturing industries, optimized resource use. All of these were the changes that were occurring and if you look at the consequences we were having decline of life, wasting of energies, trade competitions, war competitions, nature competitions, all of these were happening and at the same time, if you look at the urban scenario, you had industrial towns developing and the use of coalfields were happening. Conurbation was there in the sense of a Modern mining town and Pseudo cities. Pseudo cities are nothing but slums that were created around these industrial towns. So, all the low wage workers could live in that. So, for the first time, the whole character of slum came into being. This is the neo technique city which to the competitor actually gives the glorious part of the history; Carefully economization of national resources, planting trees, housing building, town planning and city designing, Demand and create noble streets of noble house, gardens and parks, Rapidly accumulate both civic and individual wealth, Rational use of resources - better use, Bettering of man and his environment together. So, in this stage you had the growth of a cultural city and a garden city. In the Paleolithic stage or the previous stage in the industrial era, it was completely crowded cities, slum cities, pseudo cities and industrial cities. So, there was obviously a kind of change because they knew how the environment, the air, the water was getting rapidly deteriorated. The town planner should conserve the

evolutionary process of a city to enable civic evolution. What is the difference between them and why does this difference seem to be needed? The community needs, what are they? Aesthetic, Religious, civic, historical, economic needs, political needs?

Geddes's conservation surgery, if you look at it in Edinburgh, UK. Water supply area protection - mountain area. So, number one; Edinburgh was on a raised level, water supply was not an issue because from the mountains, they obviously had water, it was raised at that point of time because of a requirement of defence and the castle was built at a higher level from the sea, leaving unbuilt rustic area in between, growing together, so you could actually have future expansion, placing schools, playgrounds, gardens etc, removing slums, creation of an open space, demolition of unnecessary houses i.e private gardens or stores which only are suitable to a very rich community. Formation of gardens and courts. Value of Opportunities of activity for youth and for citizenship: civic volunteering. The methodology he used was in terms of tools, camera and measuring tools; Exploring the city was the outlook tower that he constructed; compile a record, permanent and temporary elements, static as well as fluid, people as well as places. Sort and classify - 1. examination and criticism of the material he is collecting. 11. Selection - i.e distinguishing the essential from the unessential and 111. Drawing conclusions from this selection.

If you look at the concept from an outlook tower, what Patrick Geddes did was in Scotland, he built this huge tower and actually put up a camera on the top of it which captured images 360 degrees at every point of the day and night. So, if you look at within this concept, that actually helped him come up with the concept of conservative surgery, the superstructure if you look at it in a city, it should number one be a mixed use community. He promoted that, the poor and the rich should always live together and not be segregated by any elements of built environment or even social strategies that were happening to not segregate these communities. So, if you look at the super structure you have; spiritual, educational, cultural, as well as place. So, here you have an extra element to the Geddesian Patrick Geddes's triad which is education. Yes, that was also an element

of place, what could happen in that place; three different uses can happen. Spiritual use, educational use and cultural use. So, all of these uses, put together, come up and work together in harmony to create a sensible city or an urban fabric. This was in the past, James Court. These were pleasant homes and gradually when time changed, the bureaucracy changed and all these rich people were removed, they started becoming student residences for universities. This is the Ramsay Gardens and lodge, this is a mix of student accommodation as well as an art's school. This was initially a huge residence for a person. Professors, intellectuals and artists. Similarly, Mound place in the late 18th Century, this was a tenement i.e poor people lived there. Now, it has again become student residences. Mylne's court - again student accommodation, community of cooperative living and for learning and intellectual interaction. Lady Stairs Close - 19th Century, this is actually considered ready for demolition by the city council. This is like before and after of what he suggested as conservative surgery. Instead of going ahead and demolition it, if the building is in good use, you can just repair it and make sure it is given some purpose or use in the current urban fabric such that you take a part of history to the future, number 2 you actually save a lot of money by not constructing a new building or by demolishing a building and number 3, most importantly, that building is given a new life and people can continue identifying with that building even in the future. This is the Blackie house, what he did to this was, he just changed a few element, made sure, bright light and air was brought into the old tenements, remodelled the north side as a hall for the university. This is St. Giles's house - this is again been made into a student accommodation. This is the Old Assembly Close, this has completely been pedestrianized and only used for pedestrian use and not vehicular movement. You can see the network of open space and the importance given to green spaces and even pedestrian activity over automobile activity. What Geddes thought of, Conservative surgery vs the Gridiron plan. Geddes championed a mode of planning that sought to consider 'primary human needs' in every intervention engaging in 'constructive and conservative surgery' rather than the 'heroic, all of a piece schemes' popular in the 19th and early 20th Centuries. In and around this, Geddes commenced upon a project of 'conservative surgery', Geddes and his wife actually bought tenement where a lot of these poor families lived. He

reconstructed or performed conservative surgery upon this project. What he actually did was, he weeded out the worst of the houses that surrounded them, widened the narrow closes into courtyards and thereby, improving the quality of both air as well as light. So by simple measures, he decided that, the building is actually not a completely bad structure, the best of the houses were kept and restored. Geddes believed that this approach was both more economical as well as more humane. In this way, Geddes consciously worked against the tradition of the 'gridiron plan', resurgent in colonial town design in the 19th Century. The heritage of the gridiron plan goes back at least to the Roman Camps. The basis for the grid as an enduring and appealing urban form rests on five main characteristics: order and regulatory, orientation in space and to elements, simplicity and ease of navigation, speed of layout and adaptability to circumstance. However, he wished that this policy of sweeping clearances to be recognized for what it was. One of the most disastrous blunders in the chequered history of sanitation. Geddes criticised this tradition as much for its "dreary conventionality" as for its failure to address in the long term the very problems it purposed to solve. So what he mainly thought of the gridiron plan was; it was monotonous, it did not actually create any of the solutions that it was supposed to create. In the Roman camps, the purpose of having an urban plan like that was entirely different but at this point of time, as cities were changing and as people were changing and their requirements were changing, he felt the grid iron plan was very stringent, monotonous and not suited and could not organically grow such that you could have conservative surgery and other such theories performed on this grid iron plan. So, he wanted to make sure the grid iron plan was something that was not taken into the future and would stop with the 19th Century or the early 20th Century. This approach was not only unsparing to the old homes and the old neighbourhood life in the area but also in living fewer housing sites and these mostly narrower than before, expelling a larger population that would 'again as usual, be driven to create worse congestion in other quarters'. So, what happens when the grid iron layout is? When someone doesn't fit in that particular, they are driven out and that's what forces them to create slums and other tenements outside this kind of layout. So, it's very

important to ensure all the classes of society are encompassed within the labourhood or within the region such that there is no barricade within them.

C.A. Perry and his Contributions

We will move on to C.A Perry and his contributions. Clarence Arthur Perry was an American Planner, sociologist, author, and an educator. He was born in New York, he later worked in the New York city planning department, where he became a strong advocate of the neighbourhood unit. He was an early promoter of neighbourhood community and recreation centers. As a staff member of the New York regional plan and the city recreation committee, Perry formulated his early ideas about the neighbourhood unit and community life. In 1909, he became associated with Russell Sage foundation as associate director of recreation until 1937. His ideas were realized in neighbourhoods like Radburn through the work of Clarence Stein. Clarence Perry's Neighbourhood unit diagram from 1929, this was in continuation of what Patrick Geddes suggested as a region, his theory was still too big, we need to bring it down further and create something called a neighbourhood unit. What he decided by a neighbourhood unit is that the radius should be $\frac{1}{4}$ th of a mile, so it should be completely pedestrian friendly. It needs to have a community centre that is shared by all of the people in that neighbourhood. It should be abutting an arterial street or a main highway, such that you can easily connect to the next neighbourhood and all schools, markets, all of that is in a walking distance, thereby reducing the concept of using automobiles. He basically suggested that 10% of any neighbourhood should be recreation or park space which created an adequate green space or a lung space.

The next important thing are the shopping districts that are within this neighbourhood, should be bunched together and should again be pedestrian friendly such that people could walk to the shops. His intentions were calibrated to the human foot and not the automobile. Of Course we should keep in mind that Perry's neighbourhood unit was conceptualized in the 1920's way before cars were a common phenomenon. His notes on the plan above referred to walking distances, narrow streets and a mix of uses. We should also make sure we see that there is a fairly connected network of streets, another modern-day casualty

from the road classification system. You do not see cul-de-sacs in the diagram and in fact a lot of intersecting streets on highways and arterials.

A neighbourhood unit, if you look at it, it is the planning unit of a town. It evolved due to the advent of industrial revolution and degradation of the city environment. The degradation mainly was caused due to high congestion, heavy traffic movement through the city, insecurity to school going children, distant location of shopping and recreation activities. A neighbourhood unit was mainly said to create a safe healthy physical environment in which children will not have to cross very busy streets to go to their schools or go back to their homes. So, they can actually walk by themselves in a safe environment. An environment in which women may have an easy walk up to shops to buy their everyday requirements, without again, the use of an automobile. Employed people may find convenient transportation to and from work. A well equipped playground is located near houses where children can play again, within the safety of their houses and friends for a healthy development of their mind and spirit.

The principles of neighbourhood Unit -

Unit of Urban planning; Street system - facilities were supposed to be in walking or pedestrian friendly facilities; Population was such that all of these elements would satisfy the population; A sector or a kind of wedge was created in the city - so this was like a sector; Size and Density was controlled; Neighbourhood Walkways again to concentrate on the pedestrian friendliness and protective strips. Protective strips were basically buffer zones that were created such that the neighbourhood unit was protected from the arterial road or the main highways.

Clarence Stein's conception - He pretty much took this concept and applied it to a layout. He decided that the walking distance radius can be up to 1 mile. So, if you look at this figure over here, elementary school is actually in the centre of the unit and within one half mile radius, you have all the residences. In the other half, you have the local shopping centres located near the school. So, maximum when you

have half mile and half mile, the entire distance you would have to walk is one. Residential streets are suggested as Cul-de-Sacs or otherwise known as Dead Ends. To eliminate through traffic and parking space which flows into the neighbourhood. So if you actually allow through traffic, that reduces the security of the neighbourhood. So, he suggested that, let's introduce Cul-de-sacs, such that people cannot pass through the neighbourhood to get in somewhere else. Compact in Size, Mix of uses, Network of streets, Public open spaces, Building typologies, Parking strategies, Transit opportunities, Compatibility and Predictability. This is the updated neighbourhood unit with respect to today's scenario because now we have a lot of automobiles going in, but still let's not bring that into the neighbourhood. A neighbourhood could still be self-sustained, still be pedestrian friendly, the only thing is that, to go to work instead of suggesting an automobile movement, we can have transit points and suggest the route of railways or other trans or any other such routes that connect to the arterial road or the highways. So, as such, we do need to suggest that the neighbourhood unit is one of the best units that have come upon the history of planning that promote a sustainable healthy kind of living because of pedestrian friendliness and the factor that, the children can go from their home to their school as well as local shopping centres are required and available for everyday shopping requirements. These are some examples; this is the city of West Palm Beach, again the neighbourhood how it has come about, but as time progressed, the green belt has completely reduced and it is starting to get more congested. The 5 minute radius still exists but the five minute radius is no more a five minute walking radius but it's become a driving radius. Still that one mile of distance has become too much of a distance for people to walk because of the advent of the automobiles, it has made people lazy. Like, if I have to walk one mile, if I just drive that one mile, I am going to reach in 5 minutes. So, it has led to a lot of congestion.

Now on to **Radburn Concept**. We did our best to follow Aristotle's recommendation that a city should be built to give its inhabitants security and happiness. The most significant notion in the 20th Century - urban development. The first major advance in the city planning since Venice was Lewis Mumford's

contribution once again. So, it was a concept of social planning, economic planning and urban planning. They knew they had to take the concept of the neighbourhood and apply it number of towns and make sure it actually works as well. So, what Radburn did was; Radburn was created in 1929 for around 25 thousand people over an area of 149 acres. 430 single houses were constructed, 90 of which were row houses, 54 were semi attached units and 93 were apartment units. So, what were the factors that influenced was; rapid industrialization after World War 1, Migration of rural to cities, Dramatic growth of cities, Housing Shortage, The need to provide housing and protect from motorised traffic. So, this is again a continuation of what? C.A Perry told in his neighbourhood. So, it is just a furthering of the same concept.

Henry Wright's Six Planks for a housing platform; Plan Simply but comprehensively, don't stop at an individual property line. You need to adjust paving, sidewalks, sewers and the like to the particular needs of the property dealt with, such that it is not a conventional pattern. Arrange buildings and grounds, so as to give sunlight, air and a tolerable outlook to even the smallest as well as the cheapest houses. The second, provide ample sites in the right places for community use i.e playgrounds, school grounds, gardens, theatres, churches, public buildings and stores. Put factories and other industrial buildings where they can be used without wasteful transportation of goods or people. Cars must be parked and stored, deliveries made, waste collected i.e vehicular movement, plan for such services with a minimum of danger, noise and confusion. So, vehicular pattern movement is very important in any urban layout. Relationship between buildings, develop collectively such services as will add to the comfort of the individual at lower cost than is possible under individual operation. Arrange for the occupancy of houses on a fair basis of cost and service, including the cost of what needs to be done in organizing the building and maintaining the community. If you look into Radburn concept, separation of pedestrian and vehicular traffic. Super block i.e large blocks surrounded by main roads, these blocks are supposed to be self-sufficient and around these blocks you can have your arterial or your main roads. Houses grouped around small Cul-de-Sacs or dead ends, each accessed from the main road. Living, Bedroom faced gardens and parks, service

areas to access roads and remaining any land that was left was known as Park Areas or lung areas. Walkways, were designed such that pedestrians can reach social places without crossing automobile streets. Financial Planning was Parks without additional costs from residents. Savings from minimizing roads, requires less road area; 25% less area gave 12-15% of total park area. The applications where it was used; In the United states it was Baldwin Hills, Los Angeles and Kitimat B.C; In England, post-World War II, you have Coventry, Stevenage, Bracknell and Cumbernauld. Sweden and India, you have our very own Chandigarh; Brazilia - Brazil; Several towns in Russia; Sections of Osaka in Japan; Wellington in New Zealand and within the United States, you even have Reston, Virginia, Columbia and Maryland which were completely built on this concept. There were entire cities built on this Radburn concept.

Le Corbusier and his Contributions

Now, moving on to Le Corbusier and his contributions; Le Corbusier was the founding father of the Modernist movement, he came up with a lot of town planning measures as well as architectural plans of buildings in a very modernist view. He actually came up with the concept of Ciam. A movement that was caused and brought about by Le Corbusier. At the request of a rich patron of architects, this process came about, this organization was hugely influential, it was not only engaged in formalizing the architectural practices of the modern movement. But also saw architecture as an economic and political tool that could be used to improve the world through the design of buildings and through urban planning. It affirmed that town planning is the organizations of functions of collective life - this applies to both rural, as well as urban settlements. Four functions of any settlement; Dwelling, work, Recreation, Transportation which connects the first three with one another. Le Corbusier organized in CIAM, an Assembly of Constructors for an Architectural Renewal which systematically studied the problems of construction, architecture, and city planning. He was one of the very few planners who actually combined urban planning, architecture, as well as construction of individual buildings, he believed that you couldn't completely segregate these three theories.