Evolution of Human Settlements- AR6004
Unit 4
Human Settlements as Political Expression
Lecture 9

Contributions of Patrick Geddes

His main contribution was the Geddesian Triad, he was referred to as the Father of Modern town planning. He was the first to link sociological links into town planning. Survey before plan i.e diagnosis before treatment. Before we decide to plan any town, we have to discuss and find out what are the problems currently existing in a town. It is only once we understand the problems that we can find a cure for these solutions. If you look at the important dates, it was between 1854 and 1932, in 1886 he settled in the city of Edinburgh. In 1892, the Outlook tower - the world's first sociological observatory. In 1911, exhibition on cities and town planning. In 1915, published cities in Evolution, then he visited India, 1920 - 23, Professor of Civics and Sociology in University of Mumbai. 1924 - Settled in Montpellier, France. So, Patrick Geddes has a lot of influence in the history of town planning because it was the first time there was a link of sociological relevance to that of town planning. This is the Geddisian Triad, here you have the folk Organism, Work function, Place Environment.Organic relationship between Social, Physical and Economical environment. Now, if you look at this; Place, Place of work, Place-folk; Work place, Work Economics, Anthropology. So, there is a sense of link between who we really are, what is the work we do and the place we live in. So, this is the main trade or the three components that we deal with. So, there is a sense and experience and a feeling. These three and again; place, work and folk which is nothing but anthropology. His planning concepts were; Rural development, urban planning and city design are not the same and adopting a common planning process is disastrous. Conurbation i.e waves of population inflow to large cities, followed by overcrowding and slum formation and then the wave of backflow i.e the whole process results in a amorphosis sprawl, waste and unnecessary obsolescence. The sequence of planning is to be; first regional survey, two rural development, three town planning and finally City design. These are to be kept constantly up to date. He gave his expert advice for the improvement of 18 major towns in India. This is the outlook tower which is very important, this actually took over the 'Short's observatory' in 1892, spectacular views in the surrounding city region, Positioned at the top is the Camera Obscura, which reflects an image onto the white table within for study and survey. Here you have the world, Europe, English speaking countries, Scotland, Edinburgh, then the circular white table, darkened room, the Camera obscura which is the lens and the mirror which both revolve. We actually derive images in 360 degrees. Another concept he came about is the neighbourhood unit, the neighbourhood is the planning unit of the town, this evolved due to the advent of industrial revolution and degradation of the city environment caused due to; high congestion, heavy traffic movement throughout the city,

insecurity to school going children, distant location of shopping and recreational activities etc. So, you should see these are the cartoon images that you can see over here in response to how a town is actually growing. A lot of industries were growing at one point of time but man wasn't happy with that kind of growth because he was like, I am not able to go, there is no kind of growth there for me. You can see the over congested by cars, then there is this sense of sprawl, I have to leave the city and travel so far just to go to the supermarket and then you to build a town to just support that. It is the neighbourhood unit that became a very important classification of what a city should be. It should have a number of such units which makes the social element of the cities acceptable. You have to create a safely healthy physical environment in which children will have no traffic streets to cross. So they can go to school without their parents dropping them off or picking them up. An environment in which women can have an easy walk to the shopping center, where they can have access to daily household goods. Employed people may find convenient transportation to and from work. Well-equipped playground is located near the house where children may play safely with their friends, which ensures healthy development of not only their mind and spirit but also their bodies. If you look at the principles of a neighborhood unit; Unit of urban planning, you need to have the unit of urban planning. There should be an adequate street system. You can see the street grid over here, an Arterial street, a main highway, certain roads leading only to the community, some of these are completely pedestrian not allowing automobiles and this about a radius of 3/4th of a mile. So, this considered a walking radius, then you have certain facilities, population, Sector - this is considered to be the sector size. What is the size and the density of the sector? Neighbourhood walkways, all of these are neighbourhood walkways and protective strips. Protective strips are buffer zones basically.

Contributions of C.A.Doxiadis

His main concept was dimensions increase and will continue to increase for a few generations and that is the most probable future in definable terms will mean a very large increase of population and energy in the city of Anthropos which is nothing but man. This is the city where the whole mankind will live or tend to live. So, one thing that is constant is change. So change will be there, there will be an increase in population, there will be an increase in size, there will be an increase in the supporting elements that is required to support the increase in population, that will never change. Eventually we have to come up with a design of the city which will support and help us live. So, if you look at C.A.Doxiadis, he comes from a family that played a very important role in the settlement of the Greek war refugees in between the two world wars. He was a chief town planning officer in the Greater Athens Area between 1937 and 1938, he was the head, department of regional and town planning, Ministry of Public works, Greece. The major projects in the application of his theories on Ekistics, C.A Doxiadis studied programmed, planned and designed in collaboration with his colleagues, a great number of

human settlements and other development projects. These projects cover several fields like rural settlements, agriculture, irrigation, industrial settlements, manufacturing, power and public works, commerce and tourism, transportation and communications, housing, urban renewal and development of new cities. So, we will discuss his theory of Ekistics, which was his contribution towards planning. If you look at the Ekistics framework, he positioned a lenient way of organizing information and mapping out the components and relationships of elements within the human settlements realm. He suggested to have a classificatory system which will be a methodology to establish a hierarchical structure and links among elements of a system. Ekistics is the science of human settlements. This characteristic refers to functions expressed in space by area of certain dimensions. In practice, Ekistics has the set of goals of human happiness. His two classificatory dimensions are; first dimension is relative to scale, Lower end you have the individual, the room, and the dwelling unit and then it increases in size all the way into the other extreme which is the city. The urban continent and the world-wide city, which is nothing but the entire city you come to know as 'Ecumenopolis'. The second dimension is 'Man's five environmental elements', you have nature, society, shells, Networks and culture. The first principle is maximization of man's potential contacts with the elements of nature (such as water and trees) with other people and the with the works of man such as buildings and roads. The second principle is; minimization of the effort required for the achievement of man's action and potential contacts. The third principle is; Optimization of man's protective space, which means the selection of such a distance from other people, animals, or objects that he can keep his contacts with them that is the first principle, without any kind of sensory or psychological discomfort. The fourth principle is; Optimization of the quality of man's relationship with his environment, which consists of nature, society, shells. Shells are nothing but buildings, houses of all sorts and Networks range from roads for telecommunication purposes. This is the principle that leads to order, physiological and aesthetic and that influences architecture and in many respects art as well. So, man cannot distinguish or clearly say that, I will only do this. I don't need nature, I don't need society. These elements always have co-existed and we should realize that the elements will tend to co-exist and we shouldn't remove nature from us. We should make sure nature is a part of society, our shells are in cohesion with the society we are living in, the networks that are around connecting our shells to the other parts of the society are part of our culture and nature. So it is this kind of realm that we need to create for ourselves that is self-contained. If you look at this, you have nature, society, shells and then you have networks and then you have our main culture that is man. What is it that we do? Man only defines culture. It is only because of that, that we are able to have these interconnected elements. None of these elements exist by themselves. They have to have an interconnected relationship and for us to have a well-being in the city or town, we have make sure these five elements always go hand in hand. Finally in the fifth principle, man organizes his settlements in an attempt to achieve optimum synthesis of the other four

principles, and this optimization is dependent on time and space, on actual conditions, and on man's ability to create a synthesis. So, if you look at Ekistics and other disciplines, in the first five volumes, it is interesting to note that out of 105 papers, sixty six are papers in Economics, mainly regional economic analysis. Six papers are on geography, and 16 on regional science in general. Physical planning is represented by 6.7% political aspects by 3.8%, sociology by 3.8% and transportation by a merge 1.9%. It is quite clear where the centre of gravity lies. Mainly it is only with economics, Ekistics and sciences, directly contributing with, you have maximum economics, cultural disciplines not so much, social science again not so much but the main driving force is economics. Political sciences and administration, technical disciplines, but Ekistics as such has to have a combination of all these five elements, all these five volumes but it is completely driven by Economics because that is the spine of any city or town planning. If you come to the analysis, to achieve this, we must clarify what do we mean by cities. We might have the wrong conception, for example; that cities are "all like the City of London, densely built, small, traditional central parts of urban areas, or like the city of New York, multimillion people agglomerations with many skyscrapers.", we cannot go far. We should not have any preconceptions of what a city looks like. We have to only think about the components of the city, which can exist in any form. In all the cases, we will fail because cities of the future may not be like these prototypes but because we approach the subject with preconceived ideas, about number of people, physical size, buildings, size in which those buildings are going to be built, these are a major hindrance to the conception of cities of the future. What is that we are going to talk about in Ekistics? Ekistics doesn't even talk about architecture, what kind of building is it? Population. What kind of a city are we looking at? What kind of economics is the city driven by? What kind of social life does that city want to have? We have to attack town planning from another direction completely and not base it on cities that have already been built and with problems with them. According to Doxiadis, the greatest problem facing cities is the problem of managing growth. He proposed several solutions to leave room for the expansion of the city core. So, some of his proposals include; limiting all buildings to three levels or less with permission to build higher, separating automobile and pedestrian traffic completely, constructing cities as a beehive of cells no bigger than 2 by 2 kilometers, the maximum comfortable distance for walking. So it should be like a cluster of nodules. If suppose, a hundred nodules are insufficient, these nodules can be made 150 or 200. Doxiadis has basically limited the number of roads on campus. All the educational buildings are interconnected to permit people to walk from one to the other. Courtyards provide places for people to discuss. So, let's remove the automobile element completely and make it pedestrian friendly. Now, if you look at this, in the development of human settlements, this is the village in Pre urban area, now you can see the city in Beginning Urban, the spots. Early dynapolis, where it is a little more dynamic, it is moving, dots are getting bigger and here you can see the Industrial area, a lot of larger black spots, demarcating the growth of people as well as facilities.

Then you have the Metropolis, which is how you see today, based on these industries, large towns emerge around these to support both the industries and vice versa i.e people move from here, the urban areas to the main cities, then they go back and forth. Currently what you see over here Megalopolis, which is the large political unit of the country's nodes and it is more segregated, it is not like the industrial area where it is sprawled, where it is even more contained and even more dense. Here you have Ecumenopolis which is the settlement of the future. The Dead city where nothing else can happen and this is the city of life with the corrections in it. So if you think of one of the major problems and the great confusion that is created by mixing two elements, man and machine. Within the cities of the present. This confusion is what brings conflict in most of the urban areas which is now be resolved satisfactorily and if it does get resolved, it is always in the favor of the machinery, only for major lines of transportation where man is a free agent and he is completely separated from the machine but has been confined within it in an element. Now, what are the other questions, rather arguments that arise from this? Our dimensions are actually increasing. Is population growth a boon or a taboo to the society? Do we really need control measures to curtail this growth or rather use our intellect which puts us at par with animals and other life forms? Why then cities still live without succumbing to this devastating growth? So, when you actually look at it, dimensions are increasing, in a way, yes. Without our proper planning requirement, when man doesn't have place he automatically goes to the closest open space that he can see. No committee has to come and decide and say that this is going to become a part of this city. It is only after a period of time, when man has moved into these areas, does the committee get together and say, "see, our people have moved into this area, let's move into this area also, a part of this city." Population growth can never be treated as a boon or a taboo, because it is going to happen whether it is good or bad. It is not something that can be curtailed overnight. Control issues, we can have in terms of growth, such that it can be sustained development, sustained growth and cities will continue to live however devastating the growth because man is what makes the cities and man will never give up easily and decide a city is going to die. He will try reviving it to the best possible. As technological advances happen, he will bring in a lot of elements to support his life there and it will not be a dead end and he will not decide, "Ok, the city has reached saturation, let's move out." We have lived on Earth for so many years. So many cities, a hundred years old but still even those cities are still thriving, people still live in them, people still got to them for commercial activities, cultural activities and many such other relevant activities. If you look at the main lack in any of these things is; Long term planning is required, only then can we decide what is it that we can look at. We have to have green field projects, we have to make sure that greenery is given a lot of importance, we have to make sure that it is a part our culture, it is a part of the way we grow. We cannot decide, greenery is not required, we can just give a small landscape. We are not talking about something that is done because of certain rules and regulations. We have to realize that it is a part of way of

living. Today's chaos is mostly visible in cities like Delhi, Mumbai, Ahmedabad, Hyderabad. Serious chaos is probably there in other cities too, but we don't realize it. Our modern day cities can also be planned in such a manner that there is a certain population that is by lot different equal areas given to countryside, equal areas given to the city side. So, we can have a combination of these different concepts that we have discussed about. There's should be equitable land distribution between the city and the village, such that agriculture is not treated as a bad profession and then what is it that we are going to eat? Nothing, cities can't thrive by themselves. Cities thrive because of very strong rural background is required. The rural background is the spine of any country or any city. Mega cities can be interconnected with highways, roadways and everything, but it should not be enforced such that these cities needn't have to always be interconnected and such that, there has be a satellite town, there has to be a town that is connected to it. If a city is thriving by itself with both the elements of residence and commercial aspects, it can continue to thrive like that. Scale is very important. Yes, sometimes cities do grow but it is only when we have a futuristic planning that we can decide how much is it that a city can afford to grow. If you think of cities like Gurgaon,which lacks the basic social facilities but without the infrastructure, they will start developing. Now, as the city has developed, infrastructure has continued to develop and now Gurgaon is one of the best cities to live in and work in. Now, the argument is how is it that we can go about doing it? Garden cities were created outside the built-up area to concentrate on complete green spaces, this considered a bad space but you can't obviously have two elements like that. No one is going to live in a completely rural area, no one wants to live in congested dark urban area either. The centre has to grow within the built up area. First phase yes, second dynamic phase, but the green core has to always be there. The dynamic city will otherwise get choked to death. So, inspite of this continuing surgery, the dynamic city cannot be relieved of pressures. First you have the 'static city', the centre is not sufficient, it grows, then it has to be connected. How do you connect it? You open up highways. When you open up highways, the pressure on the centre is relieved. Then you have cities continuing to grow, more concentric circles get added i.e the centre, the city continues to expand and the new pressure develops on the centre because as new city expands, the certain facilities are available only by the centre and it is this centre that supports these continuing facilities. Then more new highways come about and momentarily the pressure is relieved but then this is a cyclic chain reaction, this will continue to happen again and again. You have to learn to decentralize, if you look at the Ekistic Principles, maximization of potential contacts, each individual's need for access to other people, yes. That is the desirable outcome. Now if you look at this table over here, minimization of effort in terms of energy, time and cost. So, people satisfy their needs without having to expand any time or unnecessary energy. Then you have Optimisation of Anthropos, protective space i.e people live in a human scale neighbourhood which is safe and secure. So, a man has to feel safe and secure for him to concentrate on his other physiological needs. The, quality of the Anthropos

relationship with the system of life. Levels of access to opportunities like how far is he from work, how far is he from entertainment centers and cultural centres. Optimisation in the synthesis of all these principles, human habitat exhibits a sensitive balance in the desirability outcomes where the quality of life and social justice reinforce the desirability to achieve a sustainable environment. So, here if you look at it again. Human scale is re-established within the human community in Iraq, this is meant only for the pedestrians in Pakistan, so, you can see there is a community that does emerge. It is very important, you have to give importance to a neighbourhood unit but you have to realize what is it that as man, we require from the city. The city should respond to a man's needs and man shouldn't come to a position such that we change our needs, such that we are able to adapt ourselves to the city. This Islamabad, is an example of Doxiadis principles of Ekistics. You can see how the sketch has actually changed. It indicates a growth of function and a direction of the city's future expansion. There was a special place given for future expansion, national park has been demarcated, metropolitan area has been divided as three parts; landscape patterns and highway. There is social planning, pedestrian and vehicular planning. To conclude, we come to a place such that, let it Chandigarh or let it be Le Corbusier's theory, it is all a continuation of Ekistics. In this way, we have come to stage where, national human community can be immensely enlarged to a human city. We have to make sure with proper organization of transportation and telecommunication network, extra human scale of the large city can be turned into a human one and the inhuman conditions now existing in many part of the city can be eliminated. The fact that the frame is extra human does not mean, that we cannot create a human scale within it. Man will have to create a human scale once more, such that he can live and we can remove the inhuman parts. So, decentralization is the main way to go. You need to have more centres , so that the stress and pressure on one centre will reduce, economopoulos, the unique city of man will form a continuous, differentiated different cells, different cities can follow, such that we can avoid all problems of abnormal growth. Cities will always continue to live because of this, man will always find a way to make sure that understanding, communicating, inventing all of this will continue to happen but within his realm.