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Hello, Today we will discuss about the land its supply and management for housing development, you know we have already talked about the land how important it is to create large amount of housing so it is very important to have a discussion on the its process for supply its simply disposal so for the subject we start from the discussion where we identified the key barriers or the key problems which were the reason for not achieving the housing for all.

These are the major consults out of that we discussed that housing affordability, availability of the land, speedier technology and system, institutional and policy framework which we discussed last day and building materials.
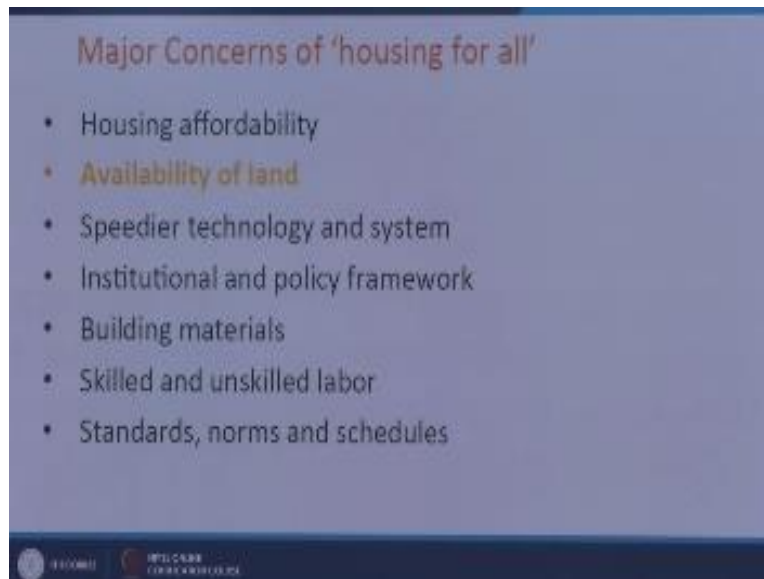
Skilled and unskilled labor and standards, norms and schedules. So out of that this particular item we discussed last day that policy and legal framework and institutional framework we have already discussed. So today we are going to discuss the issue of land so for this these are the essential elements to cover to discuss about the land and its supply so first it the concept of land cover and land use.
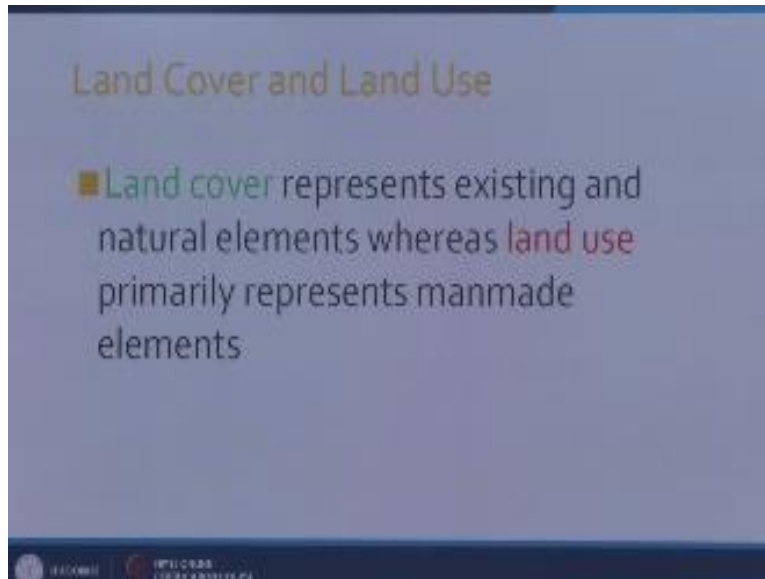
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Second is the how the land value works what is the dynamics of land value in a urban system or urban areas and then some ideas about the land tenure and rights and lastly how the land supply and its managements are cover.

So today we will just mention the land supply whereas next lecture we will discuss more about the land supply. So land cover and land use both are used frequently land cover basically is the natural cover over the hard surface it maybe water it maybe vegetation, green area, agricultural area. So these are land cover and land use basically represents the manmade elements for example when we build townships when we build infrastructure or housing the all those become the manmade elements which we called it land use.

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So land cover is existing and land use is kind of futuristic so that is the basic different.
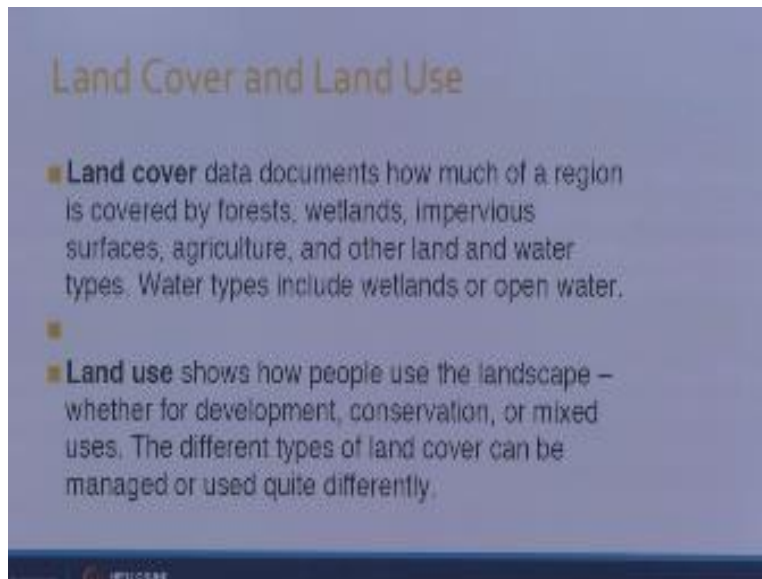
So land cover did a document how much region is covered by forest, wetlands, impervious surfaces, agriculture and other land and water types everything and land use shows how people use the landscape use the land for their development conservation and also mixed uses. So land cover and land uses typologies can be different based on the context and based of the geographical region. Now how we define land, basically land is the most important resources which is limited it cannot be created.
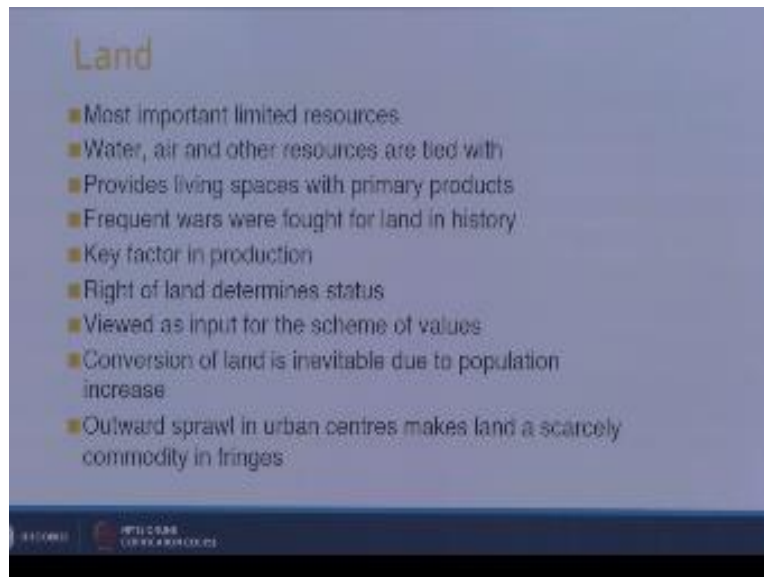
We basically cannot create land in a bulk scale except few a percale of land which is which is reclaim from some sea land or some river banks, but those are not a substantial substitute for land as required for the urbanization so by enlarge land cannot be created it is limited resourced and very very important recourse then not only that the water, air and other resources like green vegetation which is tied with the land that is another important feature. The land provides the living spaces with primary products like agriculture or mining. These are the resources which a land percale offers.

Then land is precious resource frequent ward were fought between people in which you have in the history and even right now if you see the major conflicts nationally and internationally the most of the wars occur due to the right for the land. The land takes a very important role in the production it is the key factor it is quality of the land is the key factor in the production so right of land basically determines the social status and the status of the security for any particular person or any community or sometimes the nation.

So it is the basically input for any infrastructure development and township development for creating a values to add a value for a urbanization and conversion of land is inevitable because

population is increasing and it is ever increasing with the increase urbanization we cannot avoid the conversion of the land so conversion of land is inevitable the challenge is how we can convert the land keeping the concept of sustainability, keeping the concept of sustainability of the region and the land cover and the green and these environment that is the challenge that we will deal in the coming lectures and overall sprawl in the urban centre makes land is carefully commodity because the city are growing from small to medium, medium to large, large to very large and now it is like in India we have more than 50 metro cities and many mega cities so it is growing outward and sprawl circle being created and these are happening due to the invasion over the land without any control without any planning intervention that is why this many elements and the factors are very very important to consider before going into further discussion on land assembly.

So we categorize land uses when you make the township or we make a new infrastructure development we categorize the land uses in different category and not only that we have also use specific color combination for different type of land use for example residential it may be very friendly may not be readable it is residential usually we you show it by yellow, industrial by purple and cultural institutional and educational sometimes we write as semi public area which is show by red color.
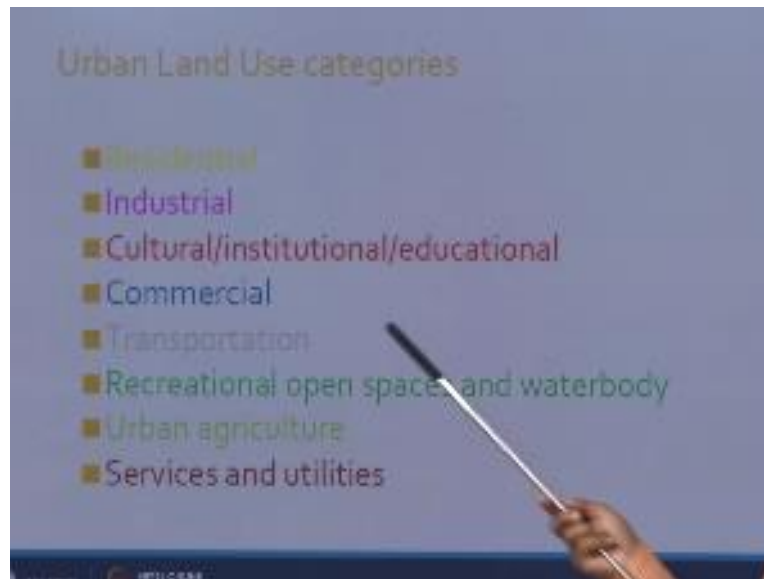
And commercial with blue colors and transportation with grey transportation includes the transportation terminal and roads, railway tracks everything and here the recreational open space and water body like the overall city level recreational open space which can be used for the public purpose so this is shown in dark green where as urban agriculture is shown as in light green and sometimes service and utilities are also shown for the city with the respective color could which is little brownish color. So now this is the urban land use categories. By a large we show the major land use in a city plan I will show the example how we show the land use in a gross land use patterns so there is a concept of gross land use and net land use before I go to the example let me discuss that part also.

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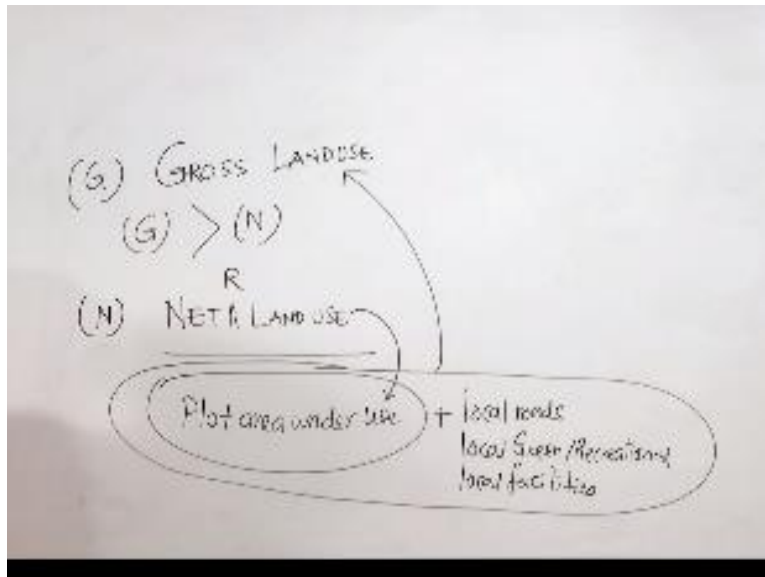
Basically net land use refers to only the specific plot area under use for example if we speak about the residential area. So net residential lands which is utilized for the residential purpose that is called net residential land use okay, here as is we add with this net area like the essential local roads, local green or recreational areas and local facilities so where you add this becomes the gross land use and this becomes the net land use therefore if the net land use if we consider as N and G so G is always greater than N because the gross land use includes the local level facilities like local roads, local green and recreational spaces.

Local facilities like convenient shops and the education and health facility at the local level which is accessible by the people within easy reach by walk able distance so this is the land use category so let us now see a example how land use is represented in a overall city plan. So this is the land use map of city of New Delhi this is taken from Delhi master plan you can see the land use category here.

The yellow represents the gross residential area that means if you take a zoom in of this area we will see that within this area there will be all this local roads, local green areas, local facilities so these are the transportation areas represent the road and everything blue and red the color core mentioned here. Red as commercial where as the color code shown earlier represent basically URD PFI standards that is urban and regional plan formulation guidelines it is by government of India ministry of urban development.

But somehow they have adopted a little different color code so they have adopted red color for the commercial areas and blue color for the public semi public areas here blue color. So whatever, but the basic principle of showing the land use is similar that is the gross land use they have shown in this greens at the city level recreational area.
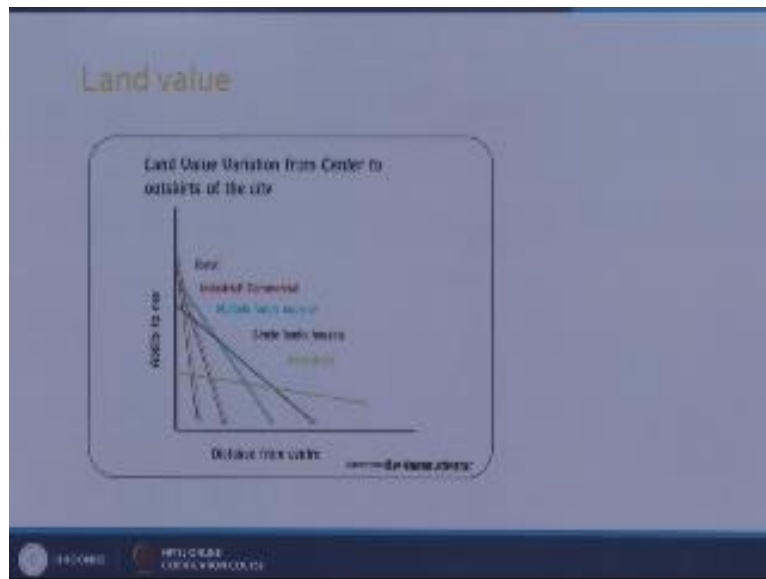
Now if you see this development of this city it was a small city in the centre and slowly, slowly it grew outwards towards west towards south and towards and east and even beyond this boundary there are huge development like Noida and return Noida and all those areas. So with the land use one very important concept is the land value how land value acts with the growth of the city now it has been seen that if this is the city core or the central business district in the city core the land value is highest and more you go towards the city periphery the land value will decrease gradually with the distance.

So land value is the very important criteria for to determine the future urbanization land space so technically the value varies with this distance from the centre if this is the centre of the city and more you go towards the periphery of the city the land value decreases so land value is maximum at the city core for retail, commercial, industrial commercial and multiple family house that is group housing and then single family housing then agriculture, but whatever is the category of the land value it will be maximum at the centre and more you go towards the outwards it will gradually decrease.

So that is the dynamics of land value it is very very important because when we make the housing strategy for a city so we have to identify the pockets of the land where the land value is affordable where the new housing can come in a affordable land value so for that reason the land value dynamics is very important to consider in a overall planning paradigm not only the land value the land value and land use is very well connected with the transportation and accessibility and it is inter linked we will see how this is very very important for the housing development to understand to plan a housing project or a housing strategy for a city the concept of land and transportation cycle is very very important.

Now we start from this point we have talked about the land cover and land use when we assign a particular land use for particular land percale so it becomes a land use and land use.

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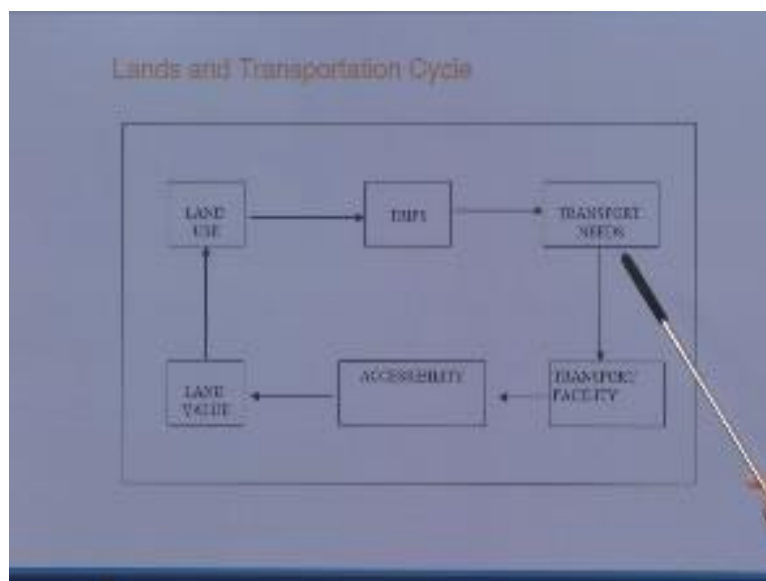

For example it is a residential land use so if it is residential land use with the new housing the trips will be generated. Trips is nothing but the unit of transportation a single movement from one place to another place for example the one trip can be there for the house to job or job to house so once the land use assign and the area is developed as per residential or whatever the

land use the trips are generated when the trips are generated then it generates the transportation needs there will be need for the bus service, train service, local transport service and when we provide those kind of service the transport facility will be improved.

Transport facility will improve the accessibility of this area and this accessibility which increase the land value and when the land value will increase it will add more dense land use, more compact land use and more compact land use will generate more population, more population will generate more trips and vise versa. So this is a very important cycle to understand the dynamic between the land use, the trips and the transportation and the land values so this will help us while we make the strategy for a city when you make the housing strategy for a city that time it will be required.

Now let us have a quick discussion on the property right land is also a considered as a property it is which is immovable property and very important property in terms of development and not only these the property and as it is also ensured the social security for the poor people so who owns the land they are more secure in the society so the property right is the exclusive authority to determine how a reassure is used whether that recourse is owned by the government or by individual so this particular authority to use exclusively have different dimensions.

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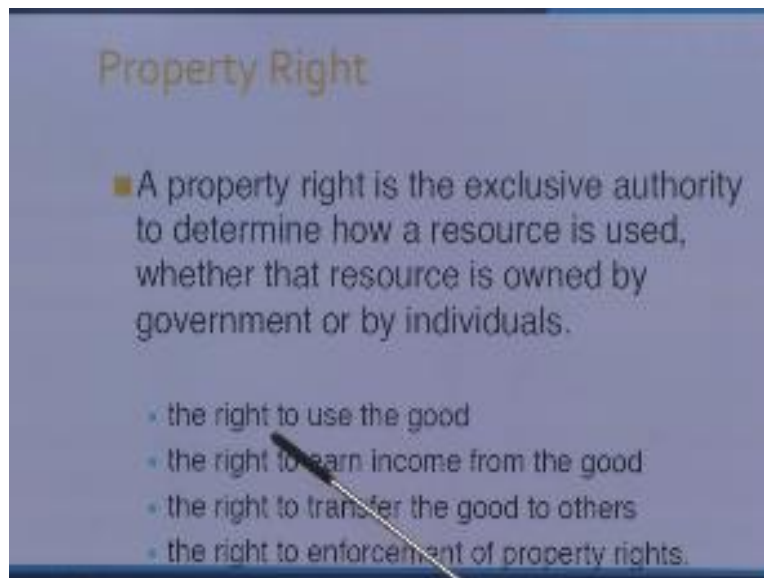
Like the right to use the particular good here the good means land whether you are able to use that or not right to earn income whether you are able to earn income in terms of selling it out or renting it out that is also another important part right to transfer the good to others whether you are able to transfer the good from your ownership to another ownership and also right to enforcement of the property rights whether you are able to enforce any rules regulation associated with the land. Especially while we talk about the land as a property you will see that our objective will be to use to earn income to in terms of the recovery or the benefit to transfer and also to enforce legitimate building regulations control so that a homogeneous and better they develop is ensured.

So now let us see the category of the ownership we have basically various types of ownership private ownership, group or community ownership, public or government ownership and which can be open access it is not own by anybody so in private sectors or private people individual person can own a land here a group or community.

For example let us take the example to understand in better way how a private land so private land can be owned by any private party any private person or any company the group ownership of land can be owned by any housing cooperative or land cooperative or some trustee or some residual association. Public land can be owned by the government likes national park, roads, the city level bigger recreational green areas which is owned by the public authority like either central government, state government or the local government and also there are elements like ocean or the ocean fishery and the common property, common hard surface which is not owned any particular private group or public.

But it is common it is basically owned by the everybody so it is open access property so private property when land is a private property it is control by basically owner the government or any other third person cannot control it, but government has limited power to use those power in terms of occur and to control that land that will come slowly, slowly how it can be controlled, but government it is by a large controlled by the owner it is a group property it is control by the joint owners of the as a group has a owner they control and when it is a national or the state

property government property it is control by the state, state means government any government and it is basically uncontrolled.

Now what are the factors which influence as land supply now these are the factors which influence a land supply why it is very important to discuss because unless we know this we cannot understand the dynamics of land supply and the economics and the science of land supply are how it is generated and assembled at the ground. So let us see one by one the first is the its type and category of the ownership the ownership category and size for example if it is a privately owned land it is a government owned land or group owned land its dealing will be different.

The government owned land government can do any development work anytime. If it is a private owned land either government can occur them for the public purpose or if they cannot occur or the accusation is not required they can impose some control impose some specific rules and regulation over the land so it depends the ownership of the land. If the size is very small likes a 500 square meter or 400 square meter big project cannot be done.

So it may not be taken as for a bigger public purpose like say industry, but if the land is very big or the small persons can club together to occur likes a big hectares or acres of land that can be occurred for the public purpose if required for the industry or for the future infrastructure development or for the housing projects and government control like land use change of ownership whatever the government controls is prevalent in that particular place it also influences the land supply.

If the government control is very strange end then land supply is very less for the bigger projects. I talked about few lectures back that about the land selling and regulation act those kinds of acts basically makes strange in paradigm where the land conversion and assembly of bigger land percent is very difficult so it is also important that whether government legal setup legal framework is friendly to assemble bigger amount of land or not so it depends on the government control then relative location I talked about the land value which is decreasing when you in the distance from the CBD increases the more you go from the city centre towards the boundary towards the outer the land value decrease cities also important.

But then when effectiveness of systems and processes and land transaction like in the each government I told you last lecture that each government has the land registration department so this the process of land registration take a specific process, specific time, some financial requirement and this process can be long duration, it can be short duration so if a government is very effective and delicates or execute such transaction process transaction in a very quick at time.

So definitely the land transaction and land assembly will be very quicker and in more in number so depends on the effectiveness of the system and then last part not least the regional planning and policies and urban planning and policies is very important the policy related to land specially the zoning of the land for the future urbanization will come and take this and where the future urbanization will not come and will not take this and which are the land which will give conserved for the agricultural purpose so in a regional planning perspective and the policies this will tell us about the specific land use regulation are in a regional conduct so these are the factors which affecting or influencing the land supply in an urban area.

So now let us summarize we discuss the land is a very very important element in housing development without discussing the basics of the land supply we cannot go to the other units like finance or technology or any other planning matter so because of the population increase population is ever increasing.

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Summary

- Urbanisation converts Land cover to specific land use
- Land uses are represented through different categories and colors
- Land value is influenced by the distanced from the CBD
- Land value has direct relation with connectivity and city profile
- Scientific Land Management systems is required to get the benefit of Planning for housing

And because of the population increase, urbanization is inevitable to come and land conversion is inevitable so that urbanization converse the land cover to specific land use. Now the challenge is how we can specify the land use in a sustainable way for the future then the land uses are represented through different categories and colors we discussed like residential, commercial, institutional or public/semi public then industrial then green recreational area including water bodies then agricultural urban agricultural area transportation and the utilities.

So every land use has their color codes and we use by the in color and not only that we discussed about the gross land use and net land use where we discuss the net land use represents only net plot area under the use and when you add the local areas like local roads, local green and recreational area, local facilities with that it becomes the gross land use so gross land use is

always bigger than the net land use and in land use plan for a city we basically show the gross land use not the net land use however when you do the local level plan for making housing development definitely we have to see the net land use so that we can have a estimate of actual land availability at that particular place.

Land value is influenced by the distanced from the CBD more you go towards the periphery toward the outwards the land value decreases and depending on that the pockets generated in the outwards which have better connectivity, but little lower land value is the prospective areas for future urban development or future housing development that we will see in the next lecture how the dynamics occur and what are the prospective land assembly mechanism and not only that land value has the direct relation with the connectivity and city profile.

While so we have seen that land value is increased when the connectivity increases and connectivity increased when the more population and population pressure is increased and more population pressure is increased when the new land use is assigned and housing is developed and when the new land use is assigned when there is a increase of land values and prospective future urbanization. Future the cyclic order by which every element like land value, land use and connectivity is connected then scientific land management systems are require to get the benefit or planning for housing.

So we need specific scientific management of land supply because otherwise the normal tendency of the common people is to develop new housing with or without planning intervention or with without the basic infrastructure so in the lecture we will see that if we do the land management what happens if you do not do the land management and for land management what are the basic categories, basic methods of land management how we can assemble the land what are the methods and what are the pros and cons benefits and advantage and disadvantage of all those methods and which are to be used for our own purpose so next lecture we will discuss that part the land management and land supply for housing specifically in next lecture. Thank you.