Site Analysis and Planning
Lecture 12
Welcome to UGC lecture series for B.architecture. Today's topic is Site analysis and planning. Subject code - AR 6512. Unit 4 - Site context. Lecture 12.

Presentation outline - presentation has been divided into three major divisions; first Introduction, then we are going to move into Site selection criteria for housing. What are the different criterias one has to consider while choosing a site for housing development. Then we are going to see, different criterias while selecting a site for commercial purposes.

Site Selection Criteria for Housing development, commercial and institutional projects - in this presentation, we are going to summarize different aspects that have to be considered by architects, planners and developers to make a housing project or an institutional commercial project completely successful.

Site Selection Criteria for Housing Development
Now let's see about what are the criterias a site has to satisfy while making a housing development. Overview - Site search and selection is a major element of the process of creating a supportive housing project in which units of housing are being developed. With some exceptions, it is impossible to seek permanent financing and community support until the site is identified and site control has been secured. A selection of sites, where it is located and what type of benefits it has on the future is the main important aspect while you are going to choose your site. When you choose your site, you need to be sensitive towards the future development and population growth and what the future housing typologies might need, the amenities and services that go along with its development, all have to be considered.

Prior to initiating a site search, it is important to first develop the project concept, including defining the size and configuration requirements for the proposed supportive housing project. When you choose a site, you have to be sensitive towards the project concept i.e why are we going to develop this and what is the architectural language that we are going to follow throughout the project so that the development looks very rhythmic and it does not have some haphazard development that is hard to control. While making a development, concept evolution is very important.

The site selection process is most successful when it is a methodical search for the site that best meets established criteria, including size, location, proximity to services and price factors that will help ensure the project fulfills the needs of the future tenants. However, in many

situations, a thorough and careful site search may not be possible. The circumstances that can impact a site search include -

An inadequate inventory of available and appropriate sites in the community. When you are going to make a development, you must understand what is the size of project you are going to address. If you need a thousand residential units to be proposed, you need a space which can be adequate for such proposals to happen. You must understand what is their requirement and how many uses you need the design development to be made. What is the size of the site to much such a huge development? First is size and its location. How far is it located from the present main roads, pedestrian movements. Proximity to the services. It doesn't make sense if there are no services or your services are being offered far away, people are not going to get attracted to buy the plot or make a development in the future. For example, you might need your social infrastructure, economic infrastructure and other growth elements to be present around the site so that the people who are going to be the end users, enjoy these amenities and services on an everyday basis and they do not have a hard time in commuting or procuring these services to their plot. A very hot real estate market and competition from for-profit developers with large amounts of upfront capital. When you satisfy all these services and what the housing might need, you have a good real estate market which will increase the cost of the plot and people will be more interested to get the plot and start their own development within the project. We need to understand what is the cost that can be spent for this development and within what time it can be completed and where is it located. These three are important ruling factors when you are going to choose a site. When you going to spend a lot of money on a piece of land, you must make sure it is effectively planned and systematically followed and the location is beneficial for the users to perform their everyday activity. A limited funding opportunity that doesn't provide adequate time to conduct a thorough site search. When you have limited funding, you might get restricted to which zone you can buy a plot. For example, when you need to buy a residence within the main city centre, the cost is very high when compared to the site that is present outside the city. It is because of the location.

Client has to be sensitive towards choosing where the development of the site is going to happen. A site becomes available that offers cost efficiency, political expediency and/or other factors that outweigh its deficiencies. All the sites have a lot of pros as well as cons. We need to analyze the pros and cons, we need to make sure the pros outweigh what the efficiency of the site is. So that the site becomes much more valuable. Even though you have a site at the city centre and say it is very close to, say for example sewage treatment plan. The importance or the value of your site becomes very less. You must be sensitive while choosing your site so that it is more beneficial and it does not project its deficiencies. Regardless of the challenging circumstances that can influence the site search and selection process. Even though we have a

lot of challenges we are going to face while choosing a site for development, we must make sure there are other opportunities that can be compensated. For example, you are going to choose a site that's a little far away from the city, even then you can have a good public transportation that connects your site to the main city centre, although it's pretty far away, people will still be interested because it is a much more peaceful environment. Also, they can commute to work and their college and schools on an everyday basis.

Establishing Site Selection Criteria

First we need to understand the scale, the housing type and construction. How big your site is that comes under the scale and then we need to analyze what type of residential unit are we going to develop. For example if it's going to be a single storey house, multiple storey houses, apartments or condominiums, we need to define what type of development is going to happen. Location - where is it located. If you are going to make a development, within the city centre, it is ideal to accommodate as many units as possible or go in for a condominium or apartment type so that the developer gets maximum benefit out of the development.

Acquisition or lease costs - when you are going to acquire some land, you must be sensitive towards the cost that's going to get invested and is going to fall directly on the client. Zoning considerations - we must make sure that the plot of land that we are getting for housing development, falls under residential zoning. If you are going to get a commercial zoning land, it might be impossible to develop a housing development in such a type. If you want to develop something that offers a mixed use, you'd have to opt for zone conversions that include a lot of processes, after which the zone can be converted and then the development can happen. Community acceptances - even though you are making a very beautiful masterplan, users of a community who are going to be surrounded a development can stop the project completely if they think the project is not going to reap any benefits or is going to affect one's daily life. We need the support of the public in order to execute the plan in peace.

Scale - The scale or size of the proposed project should relate to the level of need for the housing identified, as well as to the capacity of the organization to develop and/or manage the property. Scale also should be 'contextual' meaning the project should be consistent with the height and density of the surrounding buildings. When you are analyzing the scale of the building, you must analyze not only the scale you are going to build in but you are also going to analyze what the surrounding scale is. Even though your FIR permit is much higher, assuming that your building a low lying space and then you are surrounded by very tall buildings, there are chances that your site might not get any wind movement or the sun during the winter. You need understand the scale present around the neighbourhood and at what scale do you propose. It has to follow a harmony so that you get benefited out of the actual present site

conditions. Determining the number of units also could be based on the degree of community support for the project. If it is a heart real estate point, you can invest money and develop as many units as possible so that the promoter gets the maximum benefit out of it. Also, it can accommodate maximum number of people making it easier for people to commute to their everyday place of work or commercial zones, wherever they need to get to. The project architect can help determine the maximum allowable development area based on zoning and floor area ratios, as well as the appropriate scale for the identified neighbourhood. As clients, they might not be completely aware of what is permissible. As architects, it is our responsibility to understand the codes and regulation of these developments and we need to educate the client in which they can also gain knowledge on what type of development and how far can the development happen.

Housing type and Construction Approach

The type of housing to be built is a key siting criteria and different approaches may lend themselves the best to different neighbourhood locations. For instance, a development model of scattered-site, one- and two- family houses may work best in a low-density neighbourhood whereas larger projects using multi-unit buildings or commercial hotels are generally only available in urban locations. You must understand where your project is going to get located, what the surrounding need is. If it is going to be in a complete residential zone, you might have low-density housing development. Whereas, if it is close to commercial zone, it can go in for a much larger zone to accommodate more number of housing units or even opt for multi-use building typologies.

Location - As with all real estate decisions, location is critical in identifying an appropriate site for a supportive housing development, and each of the following factors must be evaluated - Public transportation - Sites should have good access to public transportation options that serve important destinations for the tenants, such as supportive services providers, employment, health care, shopping and recreation. We must ensure people get good transportation and they can commute from their residence to all basic requirements say school, offices, commercial spaces or hospitals. Many tenants will not be able to afford private transportation, so public transit becomes a necessity. In addition, proximity to good public transportation may be a requirement or provide a competitive edge for funding applications. Even if there are a lot of people who are more reliable on their private transportation systems right now, we have to be sensitive to make sure the plot has good public transportation as well. If you are going to have a good public transportation, people might eventually begin using public transportation more, it is better, more cost effective and fuel saving.

Employment opportunities - Sites should have reasonable access to employment opportunities and job training. While these opportunities may not be available in the immediate neighbourhood, they should be accessible through public transportation and within reasonable commuting distance. You must understand what is the distance between the housing unit and the present commercial zone. Everyday how long is the distance you must travel. It might be convenient for them but overall when you consider the city's growth, it might take a lot of fuel consumption and it might actually deplete the resources we have. As designers we have to be sensitive to each of these elements involved in housing site selection. You must understand how much distance is covered to commute to office spaces from their housing and we should be able to promote public transportation as much as possible.

Neighbourhood amenities - Projects should be located in neighbourhoods that have key residential amenities such as affordable shopping (especially supermarkets), public libraries, post offices, banks, parks, open space and recreational facilities. This usually means sitting housing in traditional residential neighbourhoods and not in commercial manufacturing or warehousing districts that typically lack such amenities. When you are going to make a housing development, you must make sure people get their basic services and basic needs used for everyday living. One should understand what the public needs on an everyday basis and they must address each of these aspects so that it is within a commutable distance and people are attracted to buy or use this type of housing development. Proximity to neighbourhood amenities may be a requirement or provide a competitive edge for funding applications. You need to understand each of these are located. If it is closer, more people will get attracted to get there and purchase. If there is a huge plot of land near a school, hospital, library; people will get more interested to buy it since their amenities are closer. The people who are going to use office buildings, libraries, schools on a daily basis, will be more interested in buying a residence in such type of plots. We must also record what is already present and what type of extra amenities can be given in order to make it much more real estate successful.

Community-based services - it is critical that supportive housing tenants have easy access to supportive services available in the community, especially to service programs with established, formal linkages. Depending upon the project's target population, services related to substance use and recovery, case management, crisis intervention, parenting programs and health clinics. Tenants may need health clinics on an ongoing or intermittent basis. If not located in the immediate neighbourhood, such services should be easily accessible by public transportation. When developing a huge community, you must be much more sensitive to cater to these needs, such as; people might need a daycare centre if everyone in the residence goes to work, this is a small aspect that has to be considered. There are a lot of different aspects like this. Another aspect is, hospitals. Even if you do not have a huge multi-speciality hospital close to your

development, there has to at least be a small clinic at which they can do a basic first aid or immediate service. Then they can take their time to go into a proper hospital which might be located at a reasonable distance which can be easily accessible via public transportation.

Day care - If the planned project will house families with young children, day care services must be available in the neighbourhood or easily accessible near major employment centers. As I said earlier, aspects such as daycare must also be considered while you are making site selection criteria. Lack of access to quality day care will frustrate parents who are working, participating in job training or seeking employment. If the site lacks this type of a facility, younger couples or people who have young children are going to eventually move out of the site and are going to move another site that has this type of facility. We need to understand the requirement or what type of age group this site is going to cater to and we need to address each and every requirement.

Schools - Public schools and related programs for projects serving families, the sites should be in close proximity to public education resources such as public schools, public or private preschools or Head start programs, school readiness programs, and after-school enrichment and recreation programs. For all target populations, easy access to community colleges, vocational programs and other higher educational opportunities are important. When you are choosing a site, from the daycare as the child grows, the different programs and the different schooling systems the child might need are all within commutable distance via public transportation. We must ensure all this is available from your site, which will attract more people to your site.

Security - If possible, the site should not be in an area that has a high crime rate, since supportive housing tenants may be especially vulnerable to victimization. We must ensure the site is completely safe for people to live in. It has to be less vulnerable to crime rates, people should feel safe while they are buying the plot, if not they'll eventually move out of the plot and it is going to become an empty plot. When you are going to go for site selection, you must ensure all the surrounding spaces are safe. Sites should also abide by the principle of 'defensible space' which suggest low-rise buildings and open site designs avoid hidden spaces that are conducive to crime. While developing your site you must make sure you do not have corner spaces or dark, dingy narrow spaces in which people might be scared to go through and might not know what is happening at the other end of the site. Even if you have a security, if the security is at one end, he cannot see what is happening at the other end, this causes a lack of security. You must ensure your design caters to all these aspects.

Scale/Impact - the scale of a supportive housing project can have an undue impact on a neighbourhood, and this impact needs to be considered in siting new projects. For example, a large project in a low-density residential area could have an adverse impact and would likely attract opposition from neighbours. You must follow the same scale of development. If it is a residential area, it has to be completely low-density residential area. If it is going to be apartment buildings, all the blocks can be apartments and a piece of land can be segregated for apartment buildings. If you have a low-density building and suddenly you build something high, it is going to disturb the people who are occupying the piece of land. This will eventually make people oppose the development and is going to stop the development completely.

Contextual design - related to scale/impact, the design of supportive housing projects should be sensitive to the neighbourhood context. Largely an architectural issue, designs should respect the scale, historic quality, setback/streetline and architectural styles in the immediate area. Contextual design is to understand what is happening around the site, what is the context around the site, you must make sure it follows a rhythmic pattern so that you can make your design unique but you cannot make something completely awkward to those in the existing area. As designers we must sensitive to address contextual architectural design and style. Residents can more easily reject plans that do not fit into the context of the neighbourhood. If is a completely traditional space and you are building a glass building, it does not match the context at all, it is possible for them to completely reject the development. The design should communicate the goal of integrating the project into the neighbourhood. It should become an integral part of the neighbourhood, it cannot completely stand out or completely out of the existing context.

Let's summarize what we have learnt from this presentation into learning outcomes - Importance of site selection criteria, Various aspects of consideration for selecting a site for housing development.

Questions - Why do we need to analyze a site before its development? How can zoning and land use help in making a sensible master plan? What are the key site selection criteria for a housing project, explain in detail. Thank you!