Chapter 2

Review of Literature: concepts, related studies and theories

2.1 Characteristics of urban land value:

2.1.1 Meaning of land value:

It is usual for something to have several different values at the same moment even though only one of these may be publicized. The term market value we mean “the highest price paid for and asked for other pieces of land in the vicinity at a time when the availability of the land is known widely”.\(^1\) The highest price will often be the actual selling price, but sometimes a purchaser may be ignorant of local prices and ill-advised hence pay more than he would have done if he had been better informed. In this case the selling price in higher than the market value. At other times a land owner will sell without widely advertising his
willingness to do so, and too eagerly accept an offer lower than he would have obtained if he had sounded out the market value.

The market value of a property is referred to as the objective value that is the price at which a willing seller would sell and a willing buyer would buy in full knowledge or market conditions. Real property has all the characteristics of economic resources namely, utility, scarcity, demand and transferability which attribute the element of value to the property. Land in the urban sense is not soil, rather it is space, and that space may be occupied by any number of alternate economic uses during a time span. Land as a scarce resources possesses certain distinctive characteristics, some in common with other exchangeable commodities some unique to land.²

The supply of land is fixed. In economic terms the supply of land is completely inelastic. In the absence of any restriction and given an inelastic supply of land an increase in the demand for that land must result in increase in its price. The purchaser is interested in the land for one reason to maximize his or her satisfaction. This satisfaction might take the form of social or prestige returns to the purchaser of residential urban land, or of return on investment for the

¹ Lewis, parry 1979, Urban Economics a set Approach, Edward Arnlod publishing Ltd, London pp.42
purchaser of commercial or industrial urban land. Almost everywhere different kinds of land values are associated with varying land values which may be related to the types of operations taking place upon the property but also reflect factors of land ownership.\textsuperscript{3}

2.2 Determinants of Residential land values:

The demand for residential land derives from the demand for housing. Housing is actually a bundle of consumer satisfaction that can be characterized in a variety of ways. The factors that a household may consider being important in his choice of a house are some that are essentially concerned with the house itself, rather than with its location. Those may be called accommodation factors. They include environmental factors, the appearance of neighboring property, the apparent behavior of neighbors, residential density and so on. The choice is made by considering among other things, the accessibility of the location to different places or to different activities in which the household is interested. Access to the place of work of members of the household, to transport facilities to shops, to schools and to other places. Since land is fixed, land value in an urban economy is determined by the demand for space.\textsuperscript{4}

\textsuperscript{3} Dange, M. N., 1972, Valuation Highlights, Raj Bhadur Compound Fort, Bombay,,P.19
\textsuperscript{4} Andrew Richard, 1975, Urban land Economics and Public Policy.
The demand function for any site in any given urban area is a function of the site's accessibility, amenities, topography and certain qualitative phenomenon.

**Accessibility values:** Urban land has a value over and above its value in rural uses because it affords relatively easily access to various necessary or desirable activities. Secondly, modern life in urban areas requires the concentration of people in cities; hence urban land takes on a special accessibility value. Thirdly, transportation services vary widely among sites located at some distance from the central Business District (CBD). Areas that offer easier access to bus line arterial way or freeway than other equidistant areas may have an accessibility value that influences land values.

**Amenity value:** Naturally a site having a higher amenity level is more desirable and more valuable than one with fewer amenities, if all else is equal. The amenity level is clearly a qualitative factor determined by different individuals. It is a level at a particular site can not be measured directly, but one could measure its value. Amenity ranking would differ somewhat from person to person.

**Topography:** The term topography means the natural physical characteristics of a particular site. Foremost among these factors are slope. No site's amenity ranking would vary from family depending on their composition and
preference. Besides, its amenity impact, topography also has a bearing on land values through its effect on development cost.

**Historical factors:** In a sense all factors affecting land values are either historical or physical. An historical accident may have a determined the position of a major arterial, hence land values in the area.⁵

2.1.3 Land values in commercial areas:

Theories have shown that the essential difference between the occupation of a house and of a business premise as for as value is concerned, is that while the business occupier tends to choose the location that will allow him in his judgment to maximize his profits. As mentioned earlier the occupier of a house has other consideration in mind. And there is a great difference in land values of commercial belts with road fronts and the land just behind them or in adjoining areas. In the same locality the land which is used for shops has a very high value as compared to the adjacent piece of land which is used. Generally the value at front is almost double of the at the back, but there are exception.

A complex which is the chief commercial center of the city as such it has an influence over the whole of city especially for good quality cloth, up-to-date tailoring, jewellery, surgical equipment and medicines, pathological services and
the stationary. The value of land in such a complex will be higher when compared to other places.⁶

2.1.4 The Central Business District (CBD)

The CBD is yet another concept to be taken note of. Generally the CBD of the chief urban center in an area will have the higher degree of qualities like centrality, tall buildings, heavy vehicular and pedestrian traffic, high land values and ability to draw business from a wide area and from all ethnic groups of people. Central place theory also applies on a different scale. There is a hierarchy of retail area with in cities.

This level, the CBD, is only one of the central place that can be recognized within an urban center. Within the city, the CBD, as the central place of the highest level among these business areas. It is able to offer goods and services superior to these of any business area of lesser order and as the city’s top ranking central place CBD occupies the location of prime accessibility while other business centers are neglected to less advantageous locations.

The CBD is characterized by a concentration of those establishments and the need for maximum accessibility to the entire city and its area. Thus it attracts

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⁶ Hutton, G.H., Devond, A.D.H. 1970. 'Value in Building' London,
specialized retailing, large and other functions that people come from all parts of the urban area and even from smaller neighboring cities to take advantage of them.

Land prices tend to show an inverse relationship to the distance from the core or hub activity. There is declining price or value of land as one radiates from the core. There are however exceptions to this general observation.\(^7\)

2.2 Review of Literature:

Review of literature is an important aspect of research. In this context, the earlier studies conducted in the field of land use pattern and land values are worth reviewing to gain meaningful insights and identify gaps in this realm.

2.2.1 Studies on Factor determining land values:

Brigham (1965) examined the residential land values in Los Angeles and concluded that distance from the central business district and employment are the important determinants of residential land values in the city.

Fanning (1989) tested that the boundary disputes were becoming more frequent nowadays due to rising real estate prices and the growth in secondary mortgagees.

Mc Millen (1989) explored that the railroad was one of the factors determined urban land fringe price in Chicago city. The empirical model fits the

\(^7\) Murphy Rayman., 1980. ' The Central Business Distrtict : A study in urban
data fairly will and suggests, among other factors that the railroad appear to be a strong amenity to residential land uses in the city.

Paris (1987) found out that the urban land values were not determined by the real estate brokers but, the investor determines the urban land prices. They arrived that the urban land values were determined by following factors; location, neighborhood, physical features and size. It is also shown that the price of residential land in Mexico declined significantly in real returns during the 1980.

Pasha (1995) empirically attempted that the land values have increased due to Government regulation of density or rent in the central city or at the periphery.

Rose, and La Croix (1989) empirically tested that the determinants of the supply and demand for land and their influence on Honolulu’s land price, which was higher than any other major US urban area, were examined. The results confirmed that natural and institutional constraints restricting land supply help determine land price in the city

2.2.2 Studies on Trend in Land Value:

Mertzke (1926) concluded the land value and population of Wisconsin cities. The result reveals that the increasing population in progressive region
would tend to increase cost of all types of land. In this connection, population quality is the predominant factor rather than population quantity in the determination of land values. This factor could be applied to the present study; the population quality is one of the predominant factors for determining land values in any cities. The researcher observed that the population quality is very important for constructing houses in a city. A good number of the people came forward to construct the houses in the city. Thus, the land value depends upon the population quality. Population quality envisages educational level, occupation status, culture and lifestyle of people. These qualities generally influence the choice of location which may have a bearing on land values.

Simpson and Burton (1931) identified the valuation of vacant land in suburban areas of Chicago area. Generally, land values have fluctuated over a period of time, depending on boom and depression periods. Further, prevalence of speculation during 1923 and 1928 was the predominant factor in the determination of land values in the city.

Hoyt (1933) "One Hundred Years of Land Values in Chicago", points out land values of Chicago and identified that the price of land fluctuates in relation to distance. It records that price of land near business center is high compared with lands located at a distance. During the period 1836-1928, the land price recorded a
more than two fold increase, contrasting the land value registered a steep fall in relation to the increase in distance from the city center.

**Clonts (1970)** identified that the urban influences are present in peripheral land values and capital gains are important in the determination of land values on the basis of empirical study.

**Downing (1973)** employed data on the actual selling price of vacant commercial land as the dependent variable in a regression analysis of factor affecting that value. Its result indicates the various neighborhood factors such as the percentage of non-whites and structure conditions that have been significant with reference to constraints on land use and medium income that were not found to be significant.

**Edelstein (1974)** observed the housing market in the sub urban Philadelphia during 1967-69. The findings reveal that property taxes are capitalized into value and the accessibility to the central city is a determinant of market value. Further, local taxes assessment policies possess significant vertical and horizontal inequality.

**George (1974)** examined the price effects of zoning in a Fair Tax country, Virginia, Boston and Massachusetts. In this study, it is found that land values are influenced by density.
Ottensmann (1977) analyzed the variation across US metropolitan areas in terms of growing at different rates both and values and the densities of new residential development, explaining in favor of residential development process. This study had identified the land owners expectation regarding the future growth in land value in an urban area.

Gleeson (1979) found that land values are influenced by the development boundary that separates urban land from agricultural land.

Jud (1980) evaluated the effect of urban zoning on the price of single family residential property in the city of Charlotte, North Carolina. The results of the study suggest that residential zoning classification has a strong positive effect on the price of single family residential property. Zoning reduces the cost of single family homes and neighborhood land use patterns affects residential property values.

Kan and Sirmans (1981) estimated into urban variation of 31 urban areas in the United States during 1966-1978. The analysis indicates an inelastic demand for residential sites in all housing areas for all time periods and concludes that price elasticity is significantly different across the city size and region.

Asabere (1981) elaborated the determinants of land value in an African city. In this regard the factors related to access to "A" class roads, distances to the
sea, distance from CBD city, Government zoning number of transactions, time of sale and size plot have been the determinants of land values.

Amato (1981) focused on population density, land values and socio-economic class in four Latin American countries. Based on the economic status of people, it is concluded that the middle income group occupies to greater land value, the upper income group occupies the area with least density and lower income group occupies the area between the above two groups. Hence, urban land values are determined by socio-economic factors in the city.

Gupta (1985) argued that the increase in land price is not simply due to marked increase in demand for land and general price. The price of residential land is related to construction activity and general economic conditions in the city.

Geisse and Kainen (1988) attempted to explain that the urban land price is greater than house price and other commodities. By the average price of a plot has jumped 418% since 1973. Thus the urban land values have increased faster than any other commodities in the world. This is true in the present study area that urban land price is greater than housing price. For example, a person could like land location but he may not like the architecture of the houses model, because the person would like to construct houses with his own architecture. This may be one of the main reasons for increasing the urban land value in the city.
Walter (1989) studied on the real estate market has boomed in the late 1970's. Hence, the urban land price is faster than the rate of inflation.

Thibodeau (1990) arrived that the relationship between high rise employment center and land value. The high rise employment center has introduced both positive and negative externalizes may be altered into traffic congestion for residential land between 1000-2500 meters, land value decline with increasing distance. The higher property values may be due to either household's willingness to pay more to live close to work or land values may be bid in anticipation of future development.

Barlow (1993) empirically examined that a major problem in producing low cost housing in U.K is the continued lack of control over the market for housing land, there is little debate on ways of controlling land prices.

2.2.3 Studies on spatial variation in land value:

Brazer (1967) in a study entitled, "Economic and social disparities between central cities and their suburbs", identified that the disparities between central cities and sub urban with reference to SMAs based on multiple regression analysis. In this regard, variable related to 41 socio-economic characteristics of metropolitan have been examined. The results indicate that the stereo type of low
economic and social status is central cities and high status in the suburbs are found to be valid only for the largest SMAs and those located in the Northeast.

Brodsky (1970) focused the different types of residential land use in Columbia district. It has been graphically represented that land and improvement values are associated depending on extension from the central city. The results indicate that the most low income families are located near the center of the city with the growing possibility of suburban location.

A study by Los Angeles Time (1972) revealed that the plot of land in the center place fetched a price per square foot 412 times higher than that for the piece of land located a few miles away from the central business district.

Witte (1973) focused on the standard metropolitan areas for the 1966-1969 time period to determine interurban residential site price differences. The result reveals that the size of site, value per acre of agriculture land, population density, family income and the rate of population have determined the price of residential site.

Sanyal (1979) empirically analyzed that the land holding pattern in the state of Punjab, Haryana, Gujarat, Andhra Pradesh, Bihar and West Bengal on the basis of NSS data 18th round 17th round and 26th round. This study identifies the trends in the pattern distribution of land ownership and operation holdings.
Mills and Song (1979) found that in Korean cities, commercial land values were always higher than residential value in the CBD, as well as in the rest of the city at equidistant points from the center.

Chaudheri (1984) explained that over the past two decades, the land prices in the urban areas in the country have increased by about 40 to 60 times. A survey was conducted and the result which indicated the minimum percentage increase. The survey reveals the price of land in Gauhati rose about 4900 per cent. The remainings are Hyderabad, Tiruchur, Cuttack and Calcutta where the percentage increase was between 900 and 1900 per cent.

Sebastain (1986) argued that the land value is steeply rising. This is because of the increasing of industries, road facilities and growth of population in Tamil Nadu cities. The consequence of the rising land have been converting for human habitation around Tamil Nadu cities.

Mohan and Villamizer (1980) conducted study on the land prices which increased in real terms on the periphery, but absent they have remained contrast in the center. A detailed examination of land value and density patterns in Bogota and Cali has revealed that the evaluation of these patterns has neither chaotic nor unpredictable. Land values have responded to the rapid growth of these cities much they might be expected to in market economy growth and land values have
been the greatest at the periphery of these cities and least at the center. Furthermore, land values in poor areas have increased as faster, if not faster than, those in rich areas. According to their results land prices in cities have been growing in recent times at undesirable high and inwaranted rate.

Mitra (1990) statistically explored that the exorbitant increase in variation land prices and construction cost has restricted accessibility to land and housing. The increasing the land values and housing cost lead to the proliferation of the slums in the Indian cities.

Rao (1990) empirically explored that the urban land value has been a steady increase for last 15 years in Madras City. He had compared Gold, construction cost, and automobiles, while the increase in cost of Gold is about 8 times, cost of construction 5 times, automobiles about 4 to 5 times, in case of urban land, it was more than 40 times.

Wadhava (1983) empirically focused on the urban fringe land market and he also pointed out that the urban fringe land market was a highly fragmented. The fragmentation arises from various characteristics relatively to the land but also government rules and regulation which may not apply to the all land in the urban fringe area uniformly. The speculators, operate in an Oligopolistic land market, and have been able to manipulate the provisions of the various Acts to their own
advantage. Thus, the urban land policy has not only been ineffective but has in fact led to a worsening of the situation in the land market.

**Dowall and Leaf (1991)**, "The price of land for housing in Jakarta", puts forth the urban land have been increased consistently greater in suburban areas and informal sector plots in Jakarta city. Nevertheless, there were arising from the massive demand from low-income households for affordable housing in Jakarta city.

**Mukherji (1992)** discussed the growth of land market in India who stated that, there exists no land market before the British rule in India, as there did not exist right of alienation in soil. It furnished the supply of land market in India. In India the transfer of land takes place in the forms of lease, sales and mortgage.

**Hossain (1994)** elaborated the real price of land in both the rural and urban areas of Bangladesh have considerably increased during the past two decades. Importantly, the price of urban land has increased at a higher rate than the price of rural land with the result that most middle income households are priced out of the urban land market. And also resulted that an increase in real income is found to increase the real price of both rural and urban land. Another expected and important findings are that an increase in the relative price of forced lowers of the
land values in rural areas. He has also found that an increase in the real price of urban land lowers the rate of private saving.

Ravindra (1995) "Urban land policy: Metropolitan perspective", pointed out that the changes in land values in Bangalore city. The average land price increased about 300 per cent between 1975-76 and 1986-87. For certain localities the increase varied between 100-1200 per cent with reference to base year's 1950-57, 1960-61 and 1970-71, the percentage increase in the price levels was 4,215, 2159 and 1257 respectfully. The spatial distribution of land values shows that the values in the central parts of the cities are higher compared to other areas.


The increases in land values have been attributed to inflation, population growth, land legislation, and inefficiency of the concerned public organization and above all the speculative factors. These studies were observed by Wadhva (1983); Bose (1970); Abraham (1982); Ammukutty (1980) and Arun Kumar (1987). The present study also carries these factors for increasing the urban land values in the city.
Even though the absence of statistics from secondary source's micro-level studies have been conducted using primary data attempting to explain the variation in the land price in Indian cities. These studies by Wishwakarama (1977) on Delhi, Krishna Kumar (1982) on Bangalore, Ganeshware (1983) on Hyderabad, Lakshmipathy (1983) on Visakapandian, Amitab (1994) on Lucknow. The prices of land and construction materials in Indian cities have increased sharply in the recent years (Kumar Arun, 1989).

The value of a particular piece of land gets determined by its accessibility to economical activities, neighborhood amenities, topography, present and future use including the historic factors (Wishwakarama, 1980).

In order to achieve a better understanding on land market dynamics, we believe that new methodological framework and approaches are required for this purpose. The researcher has studied various methods to study urban land values which adopted by many economists in the world. The urban land economists have classified marco-methodology and micro methodology.

2.2.3 Studies conducted using macro-methodology:

The Trend Surface Analysis was used to establish the surface at different levels in geography, by an application of trend surface analysis to rural -urban land market. It is a method for investigation of population density gradients and their
spatial characteristics. It is shown to directly reflect this framework in its application as a form of analysis complementary to conventional regression analysis. The emphasis of this spatial analysis is on the interdependence of spatial phenomena and distance.

Hansen and Kristensen (1991). "Price profiles for land in Danish urban areas", pointed out the methodology for collecting data from urban land price collected from to Danish public assessment of taxes on real property from 1977 which had latest assessment for which detailed maps land prices were available for a number of selected towns. The primary data had been collected for urban land price, as following ways. The center of the town is defined as the Town Hall; from the center, rays are drawn in the map in direction N. NE. SE. S. S.W. WW and the land price were registered on these rays at certain distances from the center by concentric circles drawn around the center. This gives in principle eight observations for each distance from the center. The purpose of the study was twofold. First, the so called rent gradients for land were estimated for 48 Danish towns to show the price profile for urban land as a function of distance from the center of the town. Secondly, a more general model was estimated which includes all towns and in which the parameters of the individual towns characterizing the
particular rent gradient are function the population size and the income level of the town.

Dowall (1995) had contributed a methodology for collecting land market information which can be used to improve the efficiency and effectiveness of urban land markets. The Land Market Assessment (LMA) technique is a structured survey and analytical protocol that collects, organizes and analyses information in about local market operations. It incorporates surveys overtime of land use and urban -developments. It was also grounded in the principles of the neo-classical traditions.

Doebele (1994) brought up the concept of urban land and macro economic development. He had introduced on a two party paradigm and under estimation of the complexity of the actors involved in urban land markets. An emphasis on the importance of security of legal tenure. He has stated four methods to adopt for studying the land market, as indicated below: (a) a two party paradigm and underestimation of the complexity of the actors involved in urban land markets (b) an emphasis on the importance of security of legal tenure as opposed to the security of "a claim on the system" (c) giving more attention to understanding the role of "the entrepreneurs of the urban land boom" (d) achieving a greater
understanding of the second hand housing markets of developing country cities and (e) understanding and the settlement of land disputes.

Alain Durand -Lasserve (1994) introduced the concept of the relationship between economic liberalization and changes to land markets and land prices. He empirically tested Conakry and Guinea. As he concluded that the land price was influenced by social and political as well as economic factors. He identified four methods to study the land market, as indicated below: (a) who supplies the land (b) using which logic,(c) under which conditions and (d)the relative interaction of middlemen.

Rakodi (1994) propounded the relationship between political economy approach to land and housing markets. These information may be collected from the in the city council’s valuation rolls, the deeds registry, information from the development control system, advertised prices and information from individual and corporate factors in the land and property developed process.

Garcia and Jiménez (1994) contributed for studying the land values in the city. The analysis of land market based on social agents need to specify those agents whose actions influence city growth. Identification can be related to the amount of land developed and whether this had a specific impact upon the direction of urban expansion. Through semi-structured interviews with key agents
such as property appraisers, real estate dealers, land owners, high ranking public officials in planning and urban works department and politicians, including governors, municipal presidents and party leaders, one can begin to identify the links between land market agents and other areas of investment (circuits of capital), such as the financial sector, industry and agriculture, and ties to various groups in the public sector. A systematic review is the way to place the principal land and real estate developers studied into a social, political and historical context, showing links with local and national elite groups.

2.2.4 Studies conducted using micro-level methodologies:

Amitab (1994) empirically set forth that if one considers that the land - registration data includes information on the year of plot size, plot size, the purchase price and the location of the plot, at face value, a face value, a rich data set, and he had empirically tested Lucknow city (India).

Siembieda (1994) introduced two methodology issues:(a) the establishment of land price trends over a long period, and (b) estimation of the sources of land supply. The methodological issues of data collection can be grouped as follows; coverage, time series, conversion to constant prices, reliability, comparability, and the appropriate spatial unit of analysis and documentary data sources.
2.3 Theoretical concepts:

Urban land use has been studied by various scholars of different disciplines from their perspectives. Economists, geographers, sociologists, and town planners have analyzed this problem in the social as well as a spatial context. Thus, there have been attempts to derive general theories of the spatial distribution of land use in metropolitan area or town, or city.

The concentric Zone model developed by Burgess in 1925 theorized a land use pattern comprised several concentric zones of undermined width. He derived from the observation of American Cities in general and Chicago in particular, and contributed the spatial expression of the ecological principles of competition, segregation, dominance, inversion and succession. He represents ideal construction of the town or city expand radically from its central business district- on the map "The Loop" (I) encircling the downtown area there is normally and area in transition, which is being invaded by business and light manufacture (II). A third area (III) is inhabited by the workers in industries who have escaped town the area of deterioration (IV) but who desire to live within easy access of their work. Beyond this zone is the "residential area" (V) of high class apartment buildings or of exclusive "restricted" districts of single family dwellings. Still farther, out beyond the city limits, in the commuters' zone - suburban areas -
minute ride of the central business district. This model is also considered too limited historically and culturally to enable a clear understanding of land use pattern of modern metropolitan cities. However, thus pioneering effort provided a generalized view of organization of land uses in urban areas, based on certain well articulated principles of urban spatial polices. It is very useful for clear understanding about present study area land use pattern and constituted the spatial development in the study.

The Sector Model of model of urban land use structure was developed by Homer Hoyt in 1939. He has accessed to be detailed housing data for 142 American cities and therefore the critical elements in his model are high rent and low rent residential neighbourhood. The model has stated that high rent residential neighbourhoods are instrumental in shaping the land use structure of the city, is primarily concerned with residential uses and showed that the location of high status areas determined much of the other land use patterns with the city. Regarding the location of high rent neighbourhoods, several general factor were found to apply.

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Figure 1

Images (a), (b), and (c) show models of spatial patterns of urban land uses, hypothetical cases. (a) Concentric model; (b) Sector model; (c) Multiple-nuclei model. I wholesale-light manufacturing; II low rent residential (multiple-family); III medium rent residential; IV high rent residential; V commercial; VI industrial; VII commuter zone; VIII suburb. Reproduced by permission from the *Annals* of the Association of American Geographers.
1. High rent residential growth tends to provide from the given points of origin, along established line of travel or towards another existing nucleus of buildings or trading centers.

2. The zone of high rent housing tends to progress toward high ground which is free from the risks of floods and ocean fronts, where such water fronts are not or industry.

3. High rent residential district tend to grow toward the section of the city which has free, open country beyond, the edges and away from “dead end” sections which are limited by national or artificial barriers to expansion.

4. The high rent residential neighborhood tends to grow toward the homes of the leaders of the community.

5. Trends of movement of office buildings, banks, and stores, pull the higher rent residential neighborhoods in the same general direction.

6. High rent residential areas tend to develop along the fastest existing transportation lines.

7. Growth of higher rent neighborhoods continues in the same general direct for long period of time.

8. Deluxe high rent apartments areas tended to be established near the buildings center is old residential areas.
9. Real estate promoters may bend the direction of high grade residential growth. Thus, according to Hoyt's model, the high rent residential neighborhood are basic in shaping urban land use structure and contract in a variable manner, other hand use zones are located in accord with location of high rent neighborhood in developing with particular reference to transportation arterials (factor 6), tend to develop a sector or wedge shape zone. This sector is likely, with passage of time, to be modified by the apex of the sector (factor 5). And widening of the sector on the enter periphery (factor 3). There are few factors' applicable to the present study area. Therefore, Hoyt has primarily concerned in the residential uses and showed that the location of high status areas determined much of the other land uses patterning in the city. Therefore, the city structure becomes sectoral in character. Thus, according to Hoyt's model, the high rent residential neighborhoods are basic in shaping urban land use structure.

The *multiple-nuclei* model was developed by Harris and Ullman in 1945. This model states that there is not a single nucleus of the city that shapes the land use pattern, but a number of separate nuclei and land use based on them were said to reflect a combinations of four factors.

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1. Certain activities require specialized facilities, such as maximum
accessibility, water large amounts of land, etc.

2. Certain like activities group together because they profit from Cohesion,
such as financial and office building districts.

3. Certain unlike activities are detrimental to each other, such as industrial
and high rent residential districts.

4. Certain activities are unable to afford the high rents of the most
desirable sites.10

The multiple nuclei model according to which cities do not grow simply
about a central business district but are formed by the enlagration of a number of
separate nuclei the urban fabric. The multiple nuclei model also exemplifies in
the modern city, where there has been a spontaneous or an administratively
imposed segregation land use in specific districts.

2.4 Theories of Urban Land Values:

The concept of land value may be described as the monetary evaluation of
land use. It is dependent upon both the present and future use which in town, is
influenced by the physical and economic characteristics of the site and the social
control of land use (Clark, 1965) Lichfield (1956), has stated that values are
created and changed by the same forces that create and changes uses. Clark has clarified that the value may also change before any change office actively take place. For example, where the site posses value for a future use its potential is reflected in the present price or rent, value may, therefore, be classified an "Current value" i.e. value for the present use of "Potential value", i.e. value for a different and usually more valuable use at some future data. Land value can be considered in two contexts. One is the market value, which in the price of land parcel negotiated at the time of sale of the parcel, and the other is the assessed value, which is the estimated worth of the parcel made by a competent private or public assessor (Northam, 1975:198). Thus, the market value of a price of land they use different from the assessed value. There are may account who have pronounced the land values. Sebastain (1986) has empirically explained to distinguish between market price of land (i) as recorded and (ii) actually paid. He has used term, “official” and actual market prices of land respectively. Amitab (1996) has explained two type data, as there are (a) the circle rates and (b) the household paid prices.

**Hurd** (1901) had empirically studied urban land values who has adopted the principles of Ricardo for agriculture land to the urban field. He is often

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regarded as the father of modern land economics. His work recognized the importance of land use. He stated “, the pattern of land uses and land values will be mutually determining”. He emphasized the role of competitive bidding for land in determining urban land use and the influence of accessibility on land values. He summed up his work thus “ Since value depends on economic rent and rent on location and location on convenience and convenience on nearness, we may the intermediate steps and say the value depends on nearness.”

Marshall (1916) has introduced the concepts of "location value”, which expressed in the financial advantage derived from the location of the site. According to time, the site value was equal to the agriculture rental the location value. In other words, the urban land values is determined by adding the location factor to the agricultural land value. One other factor influencing the value of land is the amount of floor space in buildings.

Haig (1926) has stated the 'friction space'. He has fixed to establish a three way relation of rent, transport costs and location which is interdependent. He also stated that rent constructed the change for accessibility or the saving in

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American Academy of Political Science, 242, 7.
transport lost while the occupancy and use of land is determined by a bidding process.

Alonso (1964) had introduced two further variables - the quantity of land which each user would wish to acquire and the amount of disposable income which will be devoted to land and the travel costs on the one hand and all goods and services, including saving on the other. The price of land decreases in the increasing distance from the center. Therefore, the quantity of land that may be bought increases in the distance, since land becoming cheaper. On the other hand, distance enters in the form of community costs and consequently the amount of land that may be purchased decreases. He has stated in his own words, "The price of land decrease with increasing distance from the center. Therefore, the quantity of land that may be bought increases with the distance, since land is becoming cheaper. On the other hand, distance centers in the form of community costs. As distance increase, so do community costs and consequently the amount of land that may be purchased decreases".

Northam (1975) has developed a theory of urban land values based on the concept of 'bid-rent', meaning the amount of capital one is usually to bid or offer for use of a specified land parcel. In the case of urban land, different land

\footnote{Alonso, William. 1964., Location and land use, Cambridge, Mass.}
users have different abilities to pay. The rent paying ability of users depends on a number of factors like the size of the city, the specific use to which the land parcel would be put, individual preference and the land stock available in particular city. He had empirically shown that the bid rent curve for commercial users the greatest level. This would be greatest at the point of greatest desirability, coinciding with the point of maximum value. The willingness to buy location away from this point gradually diminishes and the bid rent curve gradually slopes downward, although it remains higher than those of other potential users.

It must be pointed out here that the user of residential land competes on a different basis than other land users. Thus the value of urban residential land is determined less by the bid rent curve than by the indifference curve. Land values at some distance from the center of the city may be less but those locations may be most desirable for residential purposes. This may again lead to a situation where commercial centers come up to serve this residential population and land values in these places (away from city center) go up. This may lead to local maxima in bid rent curves and in the spatial distribution of land values.

If urban land values are primarily influenced by location, it would suggest there is an optimum location of land. The site or location of the highest value is

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Figure 2

A-A' Land values

A Bid rent curve; commercial high density
A' Bid rent curve; commercial low density and or multifamily residential

Indifference curve

Urban fringe

Distance from city center

Land value

Commercial:
- High density
- Low density and/or multifamily residential
- Single family residential
- Commercial

referred to as the ‘hundred percent location’ or the ‘peak land value intersection’.
From this concept it should logically follow that land values of all other locations
would less than that of the hundred percent location. Studies in American cities
have shown that there is a curvilinear relationship between decrease inland values
and distance from the point of maximum value where land values decrease at a
decreasing rate with greater distance from the peak value. There is a relatively
small area of high land values near the city center surmounted by a single peak of
highest land values. There may be secondary peaks like posh residential areas or
outlying commercial centers. There may also be pockets of substandard housing
(slums) representing a depression in the statistical surface.