Research Methodology

All the socio economic studies directly linked with the welfare of the human life. So it is essential for the information regarding the population of the area selected for the study. The Indian government has been conducting population census surveys once in a decade since 1871. The Census of India is considered as genuine and reliable and is used in most of the research studies. It is readily available throughout the globe and with the inception of information technology it is available on the fingertips. Information regarding the same in the capital city of Indian Union, Delhi is also readily available.

Selection of the City

Once the decision had been made to focus on a single city, it was decided to select one of the metropolitan cities in India for the study. The urbanization experience of Delhi is same with the developing countries of the world. Many of the states in the Indian Union had reached the national level of urbanization there will be number of cities from which to choose. In addition to this, the proximity to this region to well known places located both in the national as well as international level was one of the big advantages. Some of the important reasons that led us to select Delhi for the proposed study are:-
1. The policy, planning, implementation, monitoring and evaluation climate in the country had to be receptive to such a study. In this connection, we wanted policy makers, researchers, planners, academicians and administrators to be interested in the result and capable of absorbing them. It depends upon the quality and availability of professionals working in the urban issues both in the national and international level as well as regional interest and the development of the city /state as a whole.

2. To carry out the study in a reasonable time framework, it was desirable for the city to have both a rich information base and well-known and dedicated professionals and specialized institutions that could be involved in the work. In addition, the potential usefulness of study would be enhanced if the research capability existed to utilize the results to that the gained knowledge could be transferred to others researchers and academicians when the study was over.

3. The city had to be enough to exhibit adequate variation in land prices, density pattern and the like so that the analysis could be useful to a wide range of situations.
On the basis of these criteria, the choice was to select Delhi, the capital of Indian Union, one of the information technology hub city of India, Regional Film City, highly unusual geographical conditions, population density, slum conditions, etc. From the consultations with the Government officials, consultants, researchers, academicians, planners, it has become apparent that a concern for inter-city problems was wide spread in our nation.

This research study topic does not look in to small topic but dealt with whole system of research items, the way of collection of primary data from the field dependant on the type of data required. Various survey technical methods that have been used include policy analysis, questionnaire surveys, formal and informal discussions, interviews with the key persons involved in the field of real estate business and property developers / dealers etc. For understanding the topics, the Research scholar held discussions with the officials of the Ministry of Urban Development, Government of India, Town and Country Planning Organisation (TCPO), Central Public Health and Environmental Engineering Organisation (CPHEEO), Delhi Development Authority, Planning Department, Urban Development Department of Delhi Government, Delhi Urban Shelter Improvement Board, etc. In addition, Research Scholar held discussions with number of property dealers/ property agents for understanding the topic as well as collected the information regarding the market price of urban land including residential, commercial and industrial
lands in Delhi. Also collected the information regarding the rent rates both commercial and industrial and market value of apartments etc.

The data regarding the historical background of Delhi and those concerning with the formal planning and development policies, implementation, monitoring and evaluation have been primarily collected from the Delhi Development Authority (DDA), Planning Commission, Ministry of Urban Development, Ministry of Housing and Poverty Alleviation, Ministry of Statistics and Programme Implementation, Town and Country Planning Organisation, Government of India, Planning Department, Government of National Capital Territory of Delhi, and other Central and Delhi government urban departments.

The importance, history and maintenance of rich urban heritage have been collected from the Archaeological Survey of India and Tourism Departments of both center and state government. The data regarding public utilities such as water supply, sewerage, transport systems, electricity etc, have been collected from public utility departments of Government of National Capital Territory of Delhi as Delhi Jal Board, Transport Department, Power Department, Industries Department, etc,. Some other requisite information has been acquired through deskwork statistical data on the extent of physical, economic growth and development. Most of the statistical information were available with the Economics and
Statistic Bureau Office, Government of National Capital Territory of Delhi in some way or other and were brought together bit by bit from different desks.

The secondary information regarding the income distribution from various sectors of the economy in India and in particular in Delhi is obtained from the Economic Survey of India published by the Ministry of Finance, Government of India and Economic Survey of Delhi, Government of National Capital Territory of Delhi. The information regarding the Foreign Direct Investment India from WTO member countries, sector-wise and in particular in real estate sector is obtained from the Ministry of Commerce and Industry, Department of Industrial Policy and Promotion. The secondary information regarding housing and other requisite information is obtained from housing statistics by the National Institute of Urban Affairs, National Building Organisation, Ministry of Statistics, Programme Implementation and National Sample Survey Organisation and the Directorate of Economics and Statistics, Government of National Capital Territory of Delhi.

In addition to the above, the information regarding the circle rate ie. the government fixed minimum land price of circles for land transaction have been collected from the Revenue Department of Government of Delhi. The information regarding the employment pattern, number of employees in the organized sector in Delhi has been obtained from the Labour Department of the Government of National Capital
Territory of Delhi. The information regarding the slum dwellers in Delhi have been collected the Ministry of Statistics and Programme Implementation, Town and Country Planning Organisation, Ministry of Urban Development, etc. The policies for uplifting the development and welfare of the slum dwellers in India and Delhi have been culled out from the Plan Document of Planning Commission, Urban Development Department of Government of India and Government of Delhi especially in the documents of Jawaharlal National Urban Renewal Mission and policies of Delhi Urban Shelter Improvement Board.

The primary data mainly on urban residential land values, commercial land values and industrial land values in Delhi both in minimum and maximum was collected through a pre-tested questionnaire. The questionnaire was prepared after a series of discussions and interviews with the various officials of the Centre, Delhi and Local Governments, academicians, researchers, policy makers, non-governmental organizations, property dealers/developers, subject experts in this field etc.

**Sampling**

For arriving a realistic picture of land prices in Delhi, the entire Delhi has been divided into five different zones namely, Central, North, South, East and West Zones respectively. In each zones, 50 localities included and in total in sample 250 localities land prices have been collected. The study also
examines the trend of land prices in Delhi during the last six years from 2005-10. For comparing the market prices of residential land and circle rates fixed by the Revenue Department the Research Scholar, compared 33 selected localities.

In order to understand the commercial land prices in Delhi, the Research Scholar collected the information pertaining to the same from 50 commercial centers in Delhi. In the price of commercial land also, there is range of price due to the influence of accessibility of various infrastructural facilities, locational importance, speculation among the by property buyers, etc. On the same way, the Research Scholar collected the land prices of 40 industrial localities spread over the entire Delhi.

Thus, the study examines both maximum and minimum prices of urban residential land, commercial land and industrial land by taking into consideration all possible causes mainly locational advantage, proximity to various infrastructural facilities like hospitals, educational institutions, road, water, electricity and the last but the main cause of speculation among the property dealers. In this condition the price of land in a particular locality lies in the range between the highest possible land prices and on the contrary the lowest range of prices called as maximum and minimum land price of a locality. For analyzing the trend of land prices, rent rates and
market price of apartments covers minimum, maximum and average prices of a locality.

**Statistical Techniques Used**

The study analyses the growth rate of land prices of residential, commercial and industrial land, as corresponding the previous year and the same with the initial period covered under the study. The study also examines price range-wise classification of localities for understanding the higher and lower price ranges in zones of Delhi. The study also analyses the land price index of residential, commercial and industrial prices by assuming the initial period as 100.

Various statistical techniques have been used to analyze these data such as average, index number, time series, trend analysis etc., In addition to the above, the study projected the price of land in Delhi including, on the basis of Method of Least Square, and trend analysis by assuming the conditions of the successive period remains the same. For arriving the growth rate of 2010 with respe, the Research Scholar used the following formulae

\[
\text{Growth Rate} = \frac{\text{Price of 2010} - \text{Price of 2009}}{\text{Price of 2009}} \times 100.
\]

For deriving the Annual Growth Rate (AGR) of price of 2010 with respect to the Price 2005, the Research Scholar used the following Formulae
AGR = \frac{\text{Price of 2010} - \text{Price of 2005}}{\text{Price of 2005}} \times 100 / \text{Number of years (5)}.

For fitting the trend the method of Least Square is used and formulae is used

\[ Y = a + bx \]

Where \( a = \frac{\sum Y}{n} \), \( n \) means number of observations

\[ b = \frac{\sum XY}{\sum (X^2)} \]

\( x \) means number of years for fitting trends.

For presenting the thesis in proper and systematic method, the Research Scholar have used various diagrams such as pie diagram, bar diagram both horizontal and vertical, graphs, etc. In addition to all these, interviews with the key persons dealing with this topic from all sectors including government and non-governmental agencies, regular interaction with the local people specialized in this topic have helped significantly to a large extent for gaining a basic insight in this research topic.

The study also mentions the base level data on the basis of market prices of residential, commercial and industrial land of 250 selected localities in spread over five different zones of entire Delhi for a period of last six years i.e. from 2005 to 2010, which can be used as an assessment rate schedule for fixing the government fixed price of land; mainly for reducing the public exchequer to a certain level.