CHAPTER II

URBAN INFRASTRUCTURAL DEVELOPMENT:
A CONCEPTUAL FRAMEWORK

The seeds of urbanization germinated in the Indus valley around 2500 B.C, but the actual sequence of this event has remained a great mystery till date. One should first of all consider the early village settlements for more positive clues for better understanding of successive urban developments.

It was during the late Stone Age, that the people started to live in permanent shelters, in caves and in rock shelters. Hunting and gathering were the main occupations of the people. Flourishing village culture be considered as the first step towards later urbanization, but it does not appear as the direct result of the process of transition from food gathering to the food production. The excavations of sites reveal no data about existence of any pre-agricultural stage with hunting and gathering as the primary bases of living. Although it all happened on the Indian soil but it parenthood is doubtful, on the contrary evidences of cultural similarity in these settlement and those of West Asia speaks of foreign influence on the origin of Indian settlements.

Evidences are lacking which may point out the gradual transformation of villages into the urban centers. Hence, it may be quoted that the urban culture did not directly evolve out of rural environment, but its ancestry lies in this direction.

A) First Phase of Urban Development in India

In the middle of third millennium B.C. urban life in India was on its full expression and the Indus valley was considered to be the first place from where the urban planning started. The urban development designated by archeologists as the Harappan Culture found its zenith in the metropolitan cities like Mohanjodaro and Harppa in northwest India, both the cities have confirmed certain distinctive principles of urban planning, which provides the first example of planned city culture in the world. These cities had solid towers, large buildings, the Great Bath, the State Granary and Citadels, the religious headquarters of the empire, planned streets with underground drainage system well connected to the drains of houses by pipes and city drainage finally found in soak pits which were emptied into the rivers. All these signify the existence of strict municipal bodies in these cities. Buildings and houses were made
up of bricks and water was taken from wells constructed in most of the big buildings and houses, these in turn were equipped with drains, bathrooms. This gives us an idea about the social status of human societies in earlier times.

Copper and bronze were used for the manufacture of utensils, blade-axes, knives; fish hooks etc. Metallurgy also had a significant place in the industrial activities. The most important feature of that civilization was the same pattern of the urban planning which was followed all through the centuries of city rebuilding.

Urban development in this phase was at its zenith and had a very strong impression. The light of urban civilization went out of India during the period of 1500-1600 B.C. with the fall of Indus civilization due to natural calamities and some other reasons. But this is not doubtful that the Indus people were the founders of urban development in India.

B) Second Phase of Urban Development

Indus civilization ended in around 1500 B.C., and it left a vacuum for about five centuries during which urban development appears to be completely halted, a fresh beginning of development took place around 1st millennium B.C., by the Aryans. Epics like Mahabharta and Ramyana throw some light on Aryan cities. These cities provide many evidences of an urban civilization, which emerged at about 1000 B.C. and extended its influence up to the area of middle Ganga plain. Aryan civilization is regarded as the most important turning point in the urban history of India. Urban development at that period gradually acquired a momentum; they build many large cities.

They were the first who introduced iron ploughs with the help of them they brought improvements in agriculture. Many specialized industries were established producing the objects like wool, leather and fur.

Many Roman and Greek scholars like Strabo and Arrain had given an account of urban development in India. Quite a number of urban functions provided a base for the development of many big cities. Some of them were really great, but their records were more concentrated to the position of physical characteristics. Claudios Ptolemy (90-168 A.D) had given some comprehensive details of the urban development at that time.
Hiuen Tsang, a Chinese traveller has given accurate details of towns and cities of that time. According to him, “the towns have inner gates, with very high walls, the streets and lanes were quite wide. The thoroughfares were dirty and slats were arranged on both sides of roads with appropriate signs. The walls of cities were mostly built up of the bricks and tiles. The towers on the walls were constructed with help of woods and bamboos, the houses had balconies and belvederes which were made up of woods. The walls were covered with lime and mud.” From this account one can conclude, that urban development at the time of Aryans was expanding and improving, but the cities were lacking in meticulous planning, central part was occupied by royal palaces, houses developed around these palaces gave a compact look, basic amenities with municipal vigilance were completely lacking in cities. So we can say that, Aryan civilization was far behind the Harappa culture in terms of urban development and quality of life.

C) Urban Development in South India

Urban development in south India is attributed to Dravidian culture, two states of Tamil Nadu and Kerala show high level of urban development at that time. A distinctive feature of the urban development in these areas was the existence of two capital cities for each kingdom, Madurai and Kanchipuram, which were most important.

The cities comprised of the King’s palaces, the temples which were surrounded by many walls, but the common people have to live outside the walls.

D) Factors Contributing to the Urban Development Since Early Historic Period

Agriculture, industry and efficient communication systems were some of the major sectors without which urban development could have not taken place on such a wide and prosperous manner. Hence, it would be worthwhile to review the situation and conditions of these sectors.

i. Agriculture

Agriculture was the principle means of livelihood. There were lands belonging to states, government employys, besides this there were some lands to belonging to farmers. Megasthenes, has presented a very bright picture of India in his work. According to him, “fertile soil, efficient irrigation used to give two crops a year supplemented by sufficient rainfall. Food supply was so abundant that no famine death
were reported in the country till date. State maintained a large number of cattle and other animals in the charge of separate officials”.

Agriculture constituted the back bone of the Indian economy. A reference is found in the writings of Eratosthenes, who pointed out the striking regularity of copious rainfall guaranteeing double crops. Among the crops mentioned by him are: rice, flax, wheat, pulses, jowar, bajra etc.

Hieun Tsang, visited India in the middle of the 7th century A.D had made a copious reference to agricultural conditions. Major crops as he mentioned were rice, wheat, corn, fruits, mustard seeds etc, milk products, which were widely used by the natives.

ii. Industry

Industries played a vital role in social life, and industrial development gave a push to urban development. On the other hand industries developed on the basis of urban markets and market facilities played an important role in industrial expansion. All of these had a direct impact on the urbanization of the country where the growing stature of non-agricultural activities boosted up the rate of urban development.

iii. Trade commerce and transport

Trade and commerce were having a well defined place in the country’s economy since the early time. This fact is proved by the existence of the people belonging to merchant class in the society and the large scale movement of goods irrespective of physical as well as political barriers. Trade was highly expensive at that time due to the huge taxes and entry fees.

Thus India maintained a unique position in the commerce as the main supplier of luxury goods to other nations. Trade and commerce also pushed up urban development, merchant class people paid attention for the provision of civic amenities in their locality, and thus the cities with good infrastructural facilities sprung up all over the country.

A mention of internal roads operating as the main trade route is found for the first time in the Buddhist literature; well established trade routes both land and water covered most part of the northern India in 300 B.C. The Mauryan Empire extended then further to south India. The most important road was Imperial Highway or Royal Road,
running for about 16,000 Km traversing the entire Great Plains and continued to Central Asia.

The main rivers like the Ganga, Indus, and those in the south constituted the principle commercial arteries of the country to carry both goods and passengers.

E) Urban Development During the Medieval Period

Medieval period in the history of India is dominated by Muslim rulers. They invaded India in 11th century before their arrival, Rajputs and Cholas were the rulers in Western and Central parts of the country. Their invasions played a havoc with already declining urban phase. These invaders razed the cities to dust and imposed their rule in India by the 1526 A.D. Mughals decided to live permanently in India and set up their great empire.

Mughals realized that the urban prosperity is the only way which could enrich the royal exchequers and this could be done only by the stable and efficient administration.

India attained a high level prosperity and economic development during the Mughals rule. They constructed many beautiful buildings and very excellent network of roads like the presently known as Grand Trunk Road, they connected far of places of the country with this a transport network.

In spite of widespread nature of urban development, the material standard of the urban centers in respect of their houses, streets, were not of very high standard, besides the capital cities of Delhi, Agra and Hyderabad, these cities were having palaces surrounded by number of buildings, good houses and better street conditions. There were big market places with innumerable shops. Various mosques, public baths, squares and gardens with all civic amenities were found, but they were only in big cities. On the other hand small cities do not have planned network of roads and streets, there was a haphazard overlapping of residential, commercial and industrial land uses and civic amenities were lacking in cities.

The over all picture that emerges pointedly refers that, almost all the cities of that period have pre-industrial slums providing residences for the poor urban dwellers. The cities were divided into two sections: the smaller sections were having royal
palaces, and the large sections formed by low and poorly built, and congested houses on narrow lanes.

Regardless of all this, Mughals contributed a lot in the urban development, which is evident from the work of many scholars who visited India during that period.

Ibn-e-Batuta a muslim traveller, visited India in 14th century and has written about the cities and towns of India in his travel account, and he made a special mention about Delhi as one of the greatest city of the world with respect to architecture, urban development and planning.

According to Barni, “at that time there was safety on roads in all directions. Agriculture received special encouragement during the muslim rule, many big canals were constructed for irrigation, gardens were laid with beautiful flowery plants and trees and huge forts buildings were built for providing shelter to the people.

Abul Fazal a courtier of the Emperor Akbar during 1542-1605A.D in his work Ain-e-Akbari and Akbarnama brought forward that urbanization was no longer remained as an isolated phenomenon, but had diffused throughout the country. He also considered agriculture, industries and trade as the main contributing factors in the field of urban development during Mughal’s reign.

F) Urban Development During the British Period

British period is the most important part of the Indian history in which lies the roots of modern urban development in India.

In 17th century Europeans came in India as traders. The East India Company after receiving the permission from Mughal emperor started a factory at Surat and slowly spread throughout the country by the end of 17th century. Indian goods were excluded from the list of export items by the Britishers and they planned to crush Indian industry by bringing their goods at a very low price, which had created a vacuum, and a modern colonial economy was created in India. Thus India was reduced to an agricultural colony of industrial England supplying raw material and providing large and cheap market for their products. As a result a deep root feeling was developed in Europe that India should remain as an agricultural and rural economy for their selfish interests.
Nehru, former Prime Minister of India expressed in 1960 that, “India was far more advanced and had higher civilization in the later part of 18th century; literacy in India was very high with better civic amenities”.

G) Construction of Railways

Railways brought a new revolution in India, it was considered as the most active step towards the urban development in the country. East India Company during 1843-53 gave the first proposal to construct railways in India, with the aim to carry raw material to the ports easily. They were least concerned with the development of the hinterlands. Large ports like Bombay, Calcutta and Madaras were connected by railway tracks; this led to the development of textile industries in these cities. Although railways laid the foundation of the large scale industries, but this facility was confined to ports only.

Though British rule introduced “Industrial Age” in India, but under sever restrictions. According to Brahama, Pore and Pore in 1975, “in British reign the Indian economy came into the fold of the international market in a big way. It served as the supplier of the raw material to the British industry and a captive market for their products. The process of commercialization and modernization however did not bring in its wake subsequent development of the economy”.

Pathak (1975) explained that, “independent India inherited what may be called a semi-urbanized and semi-industrialized pattern centered on the big metropolis mainly the Bombay (Mumbai) and Calcutta (Kolkata)”.

Later in the half of the 19th century British power extended to the interior and several other cities like Kanpur, Ahmadabad, Hubli, Barielly and Nagpur, sprang up as centers of communication and trade.

Britishers also developed many hill stations for the recreational purpose to escape away from the intensive heat during the summer months in the north India like Simla, Mussoorie and Nainital. They opened up missionary schools for the promotion of western education and culture in these areas.

H) Urban Local Bodies During the British Period

Britishers introduced municipal bodies in the cities and town for more effective urban growth and development.
The history of the local municipal governments in the country is divided into four different phases: (i) First Phase (1833-1882), (ii) Second Phase (1882-1919), (iii) Third Phase (1919-1935) and (iv) Fourth Phase (1935-1945).

(i) First Phase (1833-1882)

The first local government was introduced with a power to levy house tax and a responsibility to provide civic amenities. In 1870 Lord Mayo’s resolution brought a change in the administration. A scheme of decentralization of administration was introduced with facilities like education, health and roads, the provisional governments for these purposes were given some grants.

(ii) Second Phase (1882-1919)

On 18th May 1882 Lord Ripon’s resolution laid the foundation of the system as it exists today. The principles include, the provision to have at least two-third members of municipalities as non-officials. System of elections was introduced for the selection of the Chairman or Head of the municipality.

Several taxes such as octroi, house tax and property tax were introduced. Lighting of roads, public health and primary education were included within the responsibilities of municipality.

(iii) Third Phase (1919-1935)

This period was influenced by the recommendations of the Royal Commission on the decentralization in 1907-1908, which led to the formulation of resolution of 1915 of the Government of India. The reforms incorporated during 1919 made a clear cut demarcation of tax collection power of the local bodies. The local taxes were collected on land values, on buildings, vehicles and on animal trade.

(iv) Fourth Phase (1935-1945)

This phase was started with the inauguration of provincial autonomy in 1935. Further decentralization was made in respect of local bodies. Though functions were enlarged, but the revenue collections were decreased, thus the local bodies became more dependent on the grants and aids.
I) Urban Development After Independence

In the post-independence era, urban development achievements were desired through planning. Independent India embarked on a national programme of over all development. In this endeavor, ‘planning for urban development’ occupied a prime place. Planning encompassed policies for various aspects of city progress to bring about the necessary changes. In 1950, the Planning Commission was set up by the Government of India with Jawaharlal Nehru bring the Chairman of Planning Commission and was given the task to further articulate and implement programmes through Five Year Plans, the national policy directives and development objectives. The setting of Planning Commission enabled the central government to take the initiatives for policy making through the formulation of Five Year Plans.

Thus, the central government’s statement on the urban development and policy as expressed in the national development five-year plans reflect the general policies being followed by the central and state governments.

The national policy issues were incorporated by the Government of India, which also allocate the resources to the state governments through variously sponsored schemes and assistance programme for the housing and urban development in the country as a whole. Ministry of Urban Development an apex authority of Government of India at the national level formulates policies, whereas central ministries, state government and the local bodies are given the task to monitor the issue of urban development in the country.

According to the Indian Constitution, urban development is a state subject. Without a constitutional amendment, the central government does not have a power to pass legislation on urbanization, urban development and urban planning. However, urban development as the state subject has received a scanty attention in almost all the states. Thus, what exists as the urban policy for urban development, has estimated more often than the central government. Hence five year plans were made as the policy proposals for the urban development.

J) Government’s Role in Urban Development in India

Urban development activities are concerned on three levels of governments—centre, state and local, and also among civil society organizations. Though urban
development policies are related to the state government, but the central government has played a much important role in this field since after the independence.

In towns and cities local governments were established for the purpose of urban administration and development. Since urban local bodies have only those powers which are given to them by the state government, this prevents them from effectively achieving their goals, they have been ill equipped in terms of resource, skills and infrastructure.

After independence many ambitious measures were taken in order to transform the socio-economic scene of urban areas in India, through a number of five year plans.

**First-Five Year Plan (1951-56)**

This plan was mainly concerned with the problems of agricultural sector because soon after independence these problems required urgent national attention. Moreover, with limited resources the government gave top priorities to achieve goals pertaining to agriculture. Therefore, the matters related to urban development occupied low position with the list of First Five Year priorities.

**Second Five-Year Plan (1956-61)**

Central scheme was initiated to provide financial assistance to the states and local bodies for clearing the squatter settlements and big slums in big cities. In this plan an attempt was made to operationalise the Modernisation Theory. There was a belief that, the underdevelopment could be overcome by the technical and organizational structure that would made development possible in the industrialized countries.

**Third Five-Year Plan (1961-66)**

In this plan more attention was paid to urban planning in India. Through this plan government for the first time, formulated an urban planning and land policy. The main objective of this policy was to achieve a balanced development in different urban areas of India by establishing large, medium and small scale industries.

The most important contribution of planning in this plan period was the diffusion of the ideas of town planning, from the centre to the states. Master Plans were made for the capital towns and other growing cities.
This plan recognized the role of industrialization in the urban development. It implemented a policy aimed at the establishment of heavy industries away from the big cities. It is also important to stress here that this plan also took note of urban community development schemes in selected cities to solve the problems related with the slums. The plan also emphasized the need to strengthen municipal administration for initiating new development policy.

**Fourth Five-Year Plan (1969-74)**

This plan stressed the need for the regional approach to the issue of the urban development, decongestion of cities, dispersal of urban population, adoption of the community development programme for the cities as well as the environment improvement in urban slums. During this plan government recognized the urgent need to check population growth of big cities like Calcutta (Kolkata) and Bombay (Mumbai) and also to initiate population dispersal to reduce pressure on the big cities.

Towards the end of this plan an agency Housing and Urban Development Corporation (HUDCO) was established to provide funds for the metropolitan authorities, state housing boards and other urban institutions to finance scheme for the construction of houses in the urban areas were set by the state and central government.

Certain state governments during this period took serious steps to disperse industries in cities like Ahmadnagar, Aurangabad, Nagpur, Nasik and Tarapur, which are intermediate cities of the states concerned.

**Fifth Five-Year Plan (1974-79)**

This plan emphasized the need for the environmental improvement in big cities. There was an increased concern and recognition of urban problems, among these urban poverty was most important. Many development programmes were launched during this plan and Urban Development Authorities were set up by the state government in big cities.

Small and medium towns were given special attention to highlight the urban growth and to check the population pressure in big cities. In 1976 The Urban Land (ceiling and regulation) Act was introduced as a part of this plan, it put a ceiling on the ownership of the vacant lands in the urban agglomerations and thereby sought to secure more land for public use, including provision for social housing.
Sixth Five-Year Plan (1980-85)

This plan stressed more emphasis on the integrated development of small and medium towns, as initiated in previous plans. This was done with the view of promoting development of not only small towns but the rural areas as well, by their functioning as the growth centers.

The National Policy on Urbanization highlighted the urban problems and indicated that in each region urban development should be viewed in relation to the surrounding areas. As far as making provision for urban development there was a specific mention for slums. This was primarily in response to alarming problems of slum settlements in large cities.

Thus Sixth Plan, therefore, made substantially a larger provision for the environmental improvement of the slums.

Seventh Five-Year Plan (1985-90)

This plan had continued with ongoing programmes initiated in the earlier plan. In this plan government noted the rapid growth of metropolitan cities and the slow growth of small and medium towns, indicated by statistics of 1981 census. As a result, the Seventh Plan stressed the need for the integrated development of small and medium towns and the need for slowing the growth of metropolitan cities.

Main contribution of this plan was the creation of Urban Infrastructure Development Finance Corporation to provide capital for the development of infrastructure in small and medium towns. Beside all this two schemes namely, Urban Basic Services for the Poor (UBSP) and the Nehru Rozgar Yojana (NRY) were initiated with the main objectives of poverty alleviation and the generation of urban employment.

The Seventh Plan laid emphasis the revitalization of civic bodies and greater devolution of funds to the local bodies. This plan stated that “serious efforts will be made to involve voluntary agencies in various development programmes, particularly in the planning and implementation of the programmes of the rural areas”.

During this plan an attempt was made to grant constitutional status to urban local bodies as a precursor to their regeneration. On 7th August 1989, a bill was introduced in the Lok Sabha to strengthen urban municipal bodies. This bill referred to
as 65th Bill, 1989, incorporated some of the major recommendations of the National Commission on Urbanization which submitted its report in August 1989. The bill sought to create a third level of urban government, below the level of the union and the states. But it was failed to pass in the Rajya Sabha in 1989. After the modifications the bill was reintroduced for ratification as 74th Bill in 1992, and the Act came to force on March 1993.

Meanwhile, report of the National Commission clearly pointed out the critical deficiencies in various services of infrastructure, the concentration of poor and deprived people, the acute disparities in the access to the shelter and basic services, deteriorating environmental quality and the impact of poor governance on the productivity and the income of enterprises in the cities.

Urban component was accorded only of secondary importance in previous plans. These plans also suffered from many shortcomings mentioned below:

These plans did not gave any comprehensive appreciation of the India’s urban problems, nor was there any framework for dealing with the increasing problems of urbanization. Though the urban population was one-sixth of the total population in 1951 and over one-fourth in 1991, the outlay for the urban development was less than three per cent in virtually all plans. It was pointed out that, “the central and state governments pursued laissez-faire policies of urban development”.

There has been a strong feeling that urban problems escalated because of that there was not any clear cut policy or even philosophy for the urban development. Ashish Bose (1971) lamented about the “lack of social philosophy for the urban development”. This could be due to the compulsion finding a solution first to the rural problems, therefore, the emphasis on urban development took the back seat.

Another important missing dimension in the plan documents was the element of the people’s participation. Besides this, there was a very wide gap between the promises and performances.

The most important lacuna was in not giving urban development an independent identity. Because urban development was often associated with work, housing, water supply and health. At the state level also urban development responsibilities were diffused.
Above all these weaknesses, one of the most glaring errors was in the fact that there have been policy proposals on the policy of industry, agricultural improvement and population growth but there has been no national urban policy until the Eighth Five year Plan.

Table 2.1 shows that, the plans for the urban sector despite of its increasing importance has declined significantly.

**Table 2.1: Plan Outlays in Housing and Urban Development in India**

<table>
<thead>
<tr>
<th>Plan</th>
<th>Total outlay (in crores of Rs)</th>
<th>Funds allocated in housing and urban development (in crores of Rs)</th>
<th>Share from total (in percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Plan</td>
<td>20,688</td>
<td>488</td>
<td>2.1</td>
</tr>
<tr>
<td>Second Plan</td>
<td>48,000</td>
<td>1,200</td>
<td>2.5</td>
</tr>
<tr>
<td>Third Plan</td>
<td>85,765</td>
<td>1,276</td>
<td>1.5</td>
</tr>
<tr>
<td>Fourth Plan</td>
<td>1,57,788</td>
<td>2,702</td>
<td>1.7</td>
</tr>
<tr>
<td>Fifth Plan</td>
<td>3,94,262</td>
<td>11,500</td>
<td>2.9</td>
</tr>
<tr>
<td>Sixth Plan</td>
<td>9,75,000</td>
<td>24,884</td>
<td>2.6</td>
</tr>
<tr>
<td>Seventh Plan</td>
<td>1,800,000</td>
<td>42,295</td>
<td>2.3</td>
</tr>
<tr>
<td>Eighth Plan</td>
<td>4,341,000</td>
<td>1,05,000</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Source: *Census of India, 2001*

**Eighth Five-Year Plan (1992-97)**

This plan encouraged investments in urban development. It emphasized the government to play a role of creating an environment that would encourage people’s initiatives rather than making them dependent on the government.

This plan also emphasized on the ‘Human Development’. Thus the Eighth Plan was qualitatively different from the previous plans in its aims, because, only through this plan a clear cut progress was expected in urban governance.

The Eighth Five Year Plan, for instance, emphasized human development as the core for all developmental efforts. The plan recognized for the greater involvement of the voluntary agencies that have the ability to demonstrate and innovate and act as support mechanisms to local level institutions. It also recognized the role of the
government in facilitating the process of the people’s involvement by creating the right type of institutional infrastructure.

**Ninth Five-Year Plan (1997-2002)**

The main objectives of this plan were for “ushering a new era of people oriented participative planning, in which people at large and especially poor can participate”.

This plan envisaged for the expansion and improvement in social infrastructure like health care, education, housing, water supply and sanitation in urban areas. For some sectors like housing, it was emphasized to achieve specific targets within a defined time frame for other sectors such as health and education. Efforts were made to achieve substantial expansion and improvement in the quality of services. Thus, urban domains got the recognition it deserved in this plan.

**Tenth Five-Year Plan (2002-2007)**

In this plan the priority was given to the development of decentralized Urban Local Bodies (ULBs) structure to cope with the demand for basic infrastructural facilities needed in cities for their proper growth. The role of the ULBs was very important for the urban development. They should improve their capabilities by equipping themselves to undertake their tasks in resource raising, services provision and poverty alleviation.

As the previous reports emphasized, “the feeling that urban planning ignores the needs of the urban poor”, have been dispelled through “effective actions to meet these needs” in this plan. In this connection it was stated that, the urban development authorities that acquires the growth of cities should reserves a major part of such lands to meet the requirements of the weaker sections. An outlay of Rs 29,719 crore was allotted to the Ministry of Urban Development and Poverty Alleviation.

This plan also stressed more on the proper availability of infrastructural facilities like roads, sanitation, housing, education, health and recreation for the improvement of quality of life of the people living in urban areas.

After examining these plans we can easily say that, despite having very positive and promising goals, these measures really did not benefit people living in cities, nor helped in improving their social welfare. A main reason for this situation is the uneven
and tremendous growth of urban population which has laid an enormous pressure on present civic amenities in cities.

In India the urban population living in during pre-independence years in 1941 was 13.9 per cent in 1941, which rose to 17.3 per cent in 1951 after the independence. Before independence nearly 15 per cent of people were living in towns and now their share has become just double. The reasons for an increase in urban population are many, but the main reason has been a continues flow of rural population to urban areas.

The growth of urban areas in India is related with a shift of a significant proportion of population from villages to urban areas in search of better livelihood. During the period of 1961-71 about 24 million people migrated from rural to urban areas. Each year on an average about 4 million people migrate to cities like Mumbai, Delhi and Kolkata. McGee (1995) has described this type of migration in the Third World Countries as ‘pseudo-urbanization’, because it is not a consequence of industrialization or other allied causes but is the product of failure to reform the agricultural structure which has resulted in rural poverty. The reality is that because of the sick urban phenomenon in million cities of India unemployment has risen, earnings have gone down which also have degraded the quality of life in cities.

### Table 2.2  Trends of Urbanization in India-1901-2001

<table>
<thead>
<tr>
<th>Census year</th>
<th>Total population (in lakhs)</th>
<th>Urban population (in lakhs)</th>
<th>Rate of urbanization (in per cent)</th>
<th>Decadal increase (in per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901</td>
<td>2384.0</td>
<td>259</td>
<td>10.8</td>
<td></td>
</tr>
<tr>
<td>1911</td>
<td>2520.9</td>
<td>254</td>
<td>10.3</td>
<td>0.35</td>
</tr>
<tr>
<td>1921</td>
<td>2513.3</td>
<td>281</td>
<td>11.2</td>
<td>8.22</td>
</tr>
<tr>
<td>1931</td>
<td>2789.8</td>
<td>335</td>
<td>12.0</td>
<td>19.14</td>
</tr>
<tr>
<td>1941</td>
<td>3186.6</td>
<td>441</td>
<td>13.9</td>
<td>31.97</td>
</tr>
<tr>
<td>1951</td>
<td>3610.9</td>
<td>624</td>
<td>17.9</td>
<td>41.38</td>
</tr>
<tr>
<td>1961</td>
<td>4392.3</td>
<td>789</td>
<td>18.0</td>
<td>26.41</td>
</tr>
<tr>
<td>1971</td>
<td>5481.6</td>
<td>1091</td>
<td>19.9</td>
<td>38.28</td>
</tr>
<tr>
<td>1981</td>
<td>6833.3</td>
<td>1597</td>
<td>23.2</td>
<td>46.02</td>
</tr>
<tr>
<td>1991</td>
<td>8443.2</td>
<td>2171</td>
<td>25.7</td>
<td>36.19</td>
</tr>
<tr>
<td>2001</td>
<td>10270.2</td>
<td>2853</td>
<td>27.7</td>
<td>31.39</td>
</tr>
</tbody>
</table>

Source: Census of India, 2001
Massive urban growth has led to complex problems of inadequacy of basic urban services. About 21 per cent of urban population is living in squatter settlements where access to the basic services are very poor or of very substandard. About 80 per cent of population leaving in urban areas though has access to safe drinking water but there are severe deficiencies with regard to equitable distribution of water. As per estimates available about 46 per cent of households have water borne toilets whereas only 36 per cent are connected with public sewerage system. Almost half of the solid waste generated in towns and cities remains uncollected. The town roads are inadequate to meet the growing traffic demand which in turn leads to traffic congestion. Inadequacy of minimum basic services in urban areas have resulted in deterioration of quality of life. The infrastructure development could not keep pace with rate of urbanization. The Urban Local Bodies (ULB) and Municipal Corporations are primarily responsible for providing minimum basic services to the inhabitants. The ULBs/Municipal Corporations are unable to cope up with the increasing demand of providing quality urban services in towns and cities due to lack of resources. From time to time Government of India has provided central assistance through number of centrally sponsored schemes like Accelerated Urban Water Supply Programme, Low Cost Sanitation Programme, and Mega City Scheme National Slum Development Prorgramme, Swarna Jayanthi Shahari Rozgar Yojana, Valmiki Ambedkar Awas Yojna and Scheme for Integrated Development of Small and Medium Towns have been initiated for the improvement of infrastructure in towns and cities. In order to bridge the resource gap that towns and cities are facing today. The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) was lunched. It is a Mission mode approach that integrates the two pressing needs-massive investments/resource required for infrastructure development and at the same time urban reforms those are required to sustain big investments. JNNURM is a reform oriented assistance fund which would be provided as a grant to 63 identified large cities in the country and will cover all other towns under Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT), a component of JNNURM. The Mission aims to encourage reforms and fast track infrastructure development. The focus is on efficiency in urban infrastructure and service delivery mechanism, community participation, accountability of ULBs / Parastatal agency towards citizens. Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) subsumed the existing schemes of Integrated
Development of Small and Medium Towns (IDSMT) and Accelerated Urban Water Supply Programme (AUWSP). The objectives of the schemes are:

- To improve infrastructural facilities and help create durable public assets and quality oriented services in cities & towns,
- To enhance public-private-partnership in infrastructural development and
- To promote planned integrated development of towns and cities.

There is a need to evolve a strategy to address the problems of urbanizing areas for the stipulation of infrastructural services. Large investments for urban infrastructure development like roads, rails, power, sanitation, sewerages and telecommunication are required for accelerating the growth in economy and upliftment of social welfare.

K) Infrastructural Facilities in Aligarh City

The level of urban infrastructure and services in the city present a grim picture with regard to availability of basic services like water supply, sanitation, solid waste management, health care and education.

Only 23.86 sq. km. of the area is covered by the water distribution network with a length of 612 km. Total number of water connections in the city amounts to 47263, the duration of water supply is about 4 hrs per day, and during the summer months people face a serious problem as the water supply more of the remains absent for the entire day.

The city has a underground sewer line with a total length of 45 km, out of which 6 km is trunk line. These lines have completed their term of usability and are in very bad condition. There are 50 large drains in total with a total length of 68.33 km and with a length of 1276.92 km of small drains. The waste water generated amounts to 65.84 MLD. Out of the total water consumption of 82.3MLD from the ULB and non-ULB sources, the waste water generated is calculated on the basis of sewerage return factor taken as 0.8 MLD which indicates that 80 per cent of water supply returns as sewerage. The drainage in the city depends totally on pumping of the water. There are five pumping stations and ten pumping sets, and half of them are outdated and in bad condition.
Aligarh city has been divided into seven sanitary wards, each ward is looked after by a Sanitary Inspector for streamlining the cleansing work. About 400 m.t. solid waste is generated in city each day. A new pilot project of A-Z as a part of infrastructure improvement has been started door to door garbage and waste collection. Around 2940 households are served by this project. Arrangements have been made for the collection of waste from the main residential areas and market places, for this purpose 3 tractors have been put for work at night. The waste is disposed in open dump sites, the total quantity of waste disposed off is 12000 m.t./month. More than 2007 workers are engaged to handle solid waste collection and disposal.

Health care provided by public sector include Department of Medical. Health and Family Welfare and by the private sectors. Primary health care in city is provided through 11 urban health posts and seven health and family welfare sub centers. In Aligarh there are only three government run secondary/tertiary hospitals. The J.N Medical College is run by the Aligarh Muslim University with the financial assistance received from central government and rest of three comes under the direct management of state government.

Aligarh has inadequacy in basic infrastructural facilities in terms of quality and quantity both. These problems are increasing day by day due to the high rate of population growth which puts enormous pressure on limited civic amenities. The rate of land use for urban purposes was substantially moderate until the 1980’s, but the 1990’s witnessed sharp increase in land uses. The land use for urban development during the last 15 years has been estimated to be 1.43 km/year. According to District Urban Development Authority (DUDA), there are about 128 registered slums with total population of 380,776. Over a period of a decade, most of the slums have been converted into colonies. In order to improve housing conditions and quality of life of people in Aligarh, DUDA has implemented several schemes like, Swarn Jayanti Seheri, Rojgar Yojna, Thrift and Credit Yojna and Valmiki Ambedkar Awas Yojna, for the vulnerable population and infrastructural improvement.

**Urban Development: Review of Literature**

Urban geographers have examined patterns and trends of urbanization and development in regional settings at macro and micro levels. Social consciousness about
the attainment of civic amenities and variations therein have attracted attention of urban geographers and planners.

Scholars working in this field, and in different countries including India have carried out research on a wide spectrum of urban development. They have taken a number of aspects and problems of towns and cities, and suggested a wide range of measures to improve infrastructural facilities for social welfare.

a) Studies related to countries of the world

One of the earliest attempts on this aspect was made by Taylor (1946) on urbanization, urban development and urbanism in his work. He has mentioned some important aspects related to towns and cities.

Snails (1953) provided the basic outlines for the study of towns in which he considered significance of growth of urban population, housing conditions and other amenities.

Jones (1966) worked on different towns and cities of the world and mentioned the problems associated with infrastructural facilities, and discussed the impact of civic amenities on the social welfare.

Mayer and Kohn (1967) also contributed much to urban geography. According to them, urban development is very important as far as the development of cities is concerned.

Wilson (1969) has based his study on the quality of life in cities of the United States. He selected some indictors like domestic goods, economic status of an individual, equality, democratic problems, education, economic growth, living conditions and health to examine the quality of life in urban areas.

Drewnoiski (1970) considered the welfare generation functions in 18 metropolitan cities of U.S.A. Local conditions like housing, health and education are the major indicators for maintaining and planning of the quality of life in urban areas. He investigated the quality of life by selecting 14 indicators to include employment, income, housing, health, public order, racial equality, citizen’s participation, air quality, education and social disintegration. He considered residential quality, health facilities and recreational facilities for determining the social welfare status.
Gilbert (1975) attempted to examine the urban development and planning in developed and developing countries of the world, and concluded the study by pointing out the countries belonging to developed world also suffer from failure in planning. It is a mere assumption, that the planning work is sound in developed countries, if right strategies are undertaken in developing countries they may prove successful.

Knox (1975) suggested that, levels of living in urban areas provides best framework for the development of social life. The levels of living in cities with the given geographic constraints are constituted by the composition of infrastructural facilities like housing, health, employment, education and security.

Harrison and Gibson (1975) have examined the problems people face in urban areas because of inadequate urban infrastructural amenities, and have suggested some measures to improve the quality of life.

de Souza (1978) in his work has evaluated poverty, ecology and urban development and stressed, that the main cause of the urban poverty is due to inadequate civic amenities, specially lack of housing is one of the main reasons for poverty in India.

Smith (1979) evaluated the concept of urban development by selecting ten major indicators pertaining to social welfare. According to him, income, education and health are the most appropriate indicators to measure the quality of life.

Herbert and Johnston (1980) worked to signify the availability of infrastructural facilities in cities, and emphasizing the residential structure and urban environment.

Pietro (1980) evaluated the public services and their effects on the quality of life in towns. Inadequate provision of services in cities is due to the bureaucratic attitude of municipal boards of the cities. He has suggested some measures for the improvement of services in cities.

Kent and Sandoval (1984) with the help of postal survey in 114 districts of Central Sierra of Peru have tried to investigate the state of provision of public infrastructure. They have identified deficiencies in water supply, electricity, drainage, health care and educational facilities in selected areas.

Hillman (1984) attempted to study in historical and geographical framework the planned infrastructural development in London city during the past fifty years.
Eberhard and Bernsten (1984) have presented a conceptual framework for the urban services. According to them, the term infrastructure not only means the physical infrastructure in the form of roads, sanitation, solid waste management, but it defines the changing requirements of modern urban communities, and the capacity of the institution and technology to meet the demand of urban infrastructural facilities.

Patton (1984) has attempted to study the problems of detriations of urban amenities in U.S.A. on the basis of some selected variables: highways, water system, dams and roads, and found variations in the availability of these facilities in different parts of the country.

Kalpan (1984) considered the magnitude of regional disparities in infrastructural services in some parts of U.S.A., and accounted for per capita availability in selected services.

Redclift (1992) discussed numerous aspects of development in urban areas and suggested that, the development should be rational to improve the quality of life of the people.

Hoff and Stenberg (1993) have studied Indonesia’s Integrated Urban Infrastructure Development Programme (IIUIDP). Basically they have evaluated the functioning and performance of IIUIDP.

Fox (1994) has tried to examine the levels of urban facilities, prior to that of making investments on infrastructure development in urban areas. He suggests, that the management of telecommunication, electricity supply, transportation and the solid waste should be carried out on a private basis, so that, the quality of urban life can be improved.

Browder, Bohland and Scarpaci (1995) have attempted to evaluate the status of urban amenities in the fringe areas of some of the developing countries and highlighted their poor status where they are poorly developed.

Azizi (1995) has analyzed the key infrastructural facilities like sanitation, roads, water supply and electricity in his study of Iran. He attempted to show how the government has failed to provide civic amenities in urban areas of Iran. A sizable number of families still live in slums in some parts of the country with no basic facilities.
Bond (1999) has examined the significance of basic infrastructure in socio-economic development and environmental protection. He suggested that, the investment should be made on water and sanitation system, roads, electricity at the municipal level. These facilities should be made accessible to low income groups in South Africa.

Lewin and Strauss (1999) has studied the access to basic services and, variation in the distribution of resources in Capetown district of South Africa among the racial groups during the apartheid period. They have also discussed the initiatives taken by the government to improve the environmental quality and health of people in the district.

Pacione (2001) examined the rate of increase in urban population in third world cities. He has asserted that, how the population residing in the cities is less equipped with infrastructural facilities to cope up with urbanization. He points out that, the process of urbanization in third world cities is consummative rather then generative.

Ribeiro and Srisawan (2005) have discussed the problems of infrastructural development in association with environment in urban areas of Russia. They have asserted, if proper provision of amenities is made in these urban areas can improve the environment.

Swilling (2006) has highlighted the importance of economic sustainability in city infrastructure plans and investments. He has reviewed the South African government’s plans with reference to investments and infrastructural facilities for improving the socio-economic conditions of the people.

**b) Studies related to India**

Some of the studies undertaken on parts of India are reviewed as under:

Singh (1955) studied the pattern of urbanization, urban development and problems related with urban infrastructure in the city of Banaras of Utter Pradesh.

Alam (1965) has presented a systematic account of the urban landscape of twin cities of Hyderabad and Secanderabad of Andhra Pradesh, and also has discussed the infrastructural facilities available with them and their impact on the quality of life of people of the state.
Misra (1972) has attempted to evaluated the relevance of urban infrastructural facilities in the regional planning. He is of the opinion that, infrastructural development is a key factor in urban life and the development of cities. He has suggested various measures in solving the problems related with the quality of life in urban areas.

Aziz (1973) has studied the urban influence of Aligarh city on the literacy of population living in surrounding villages and on functions of trade and commerce, manufacturing, agriculture and other services. The selection of villages was on the basis of distance from city center.

Singh (1978) has studied the problems pertaining to urban development in India. He pointed out that of in bringing, the local governments of the states (municipal bodies) were incapable improvements in conditions of cities due to paucity of resources. He has asserted for the creation of special purpose bodies to undertake specific urban development programmes like, housing, road improvements, provision of health and educational facilities. He has suggested that, government should create small and medium towns with urban facilities around the big cities to check the migration of rural population to urban areas.

Bhattacharya (1979) has attempted to trace the history of urban development in India from quite far back years up to the 20th century, and also identifies the factors which have contributed to the urban development.

Rao (1982) has discussed the problems associated with the dispersal of urban infrastructure. According to him slums, congestion and lack of civic amenities are the major causes for low quality urban environment, which in turn affects the social welfare in the urban areas. He has suggested some effective urban development policies.

Kopardekar (1986) has examined the process of urban growth and development trends in India and other developing countries within the frame of social, economic, environmental and administrative policies.

Verma (1989) has analyzed the patterns of urban growth in India considering the components of regional development and civic amenities, which can help in the healthy process of urbanization and enrichment of standard of living.
Fakhruddin (1991) has attempted to study the quality of life in different residential areas of Lucknow city. For understanding the study he selected 28 variables pertaining to residential patterns, and 31 variables related to the quality of life. He outlined five categories of housing conditions, territorial stress, and civic amenities like, health, education and recreation.

Ahmad (1992) has attempted to ascertain the quality of life in Aligarh city and found that the city lacks in infrastructural facilities. She pointed many problems like, old and unplanned housing conditions, sewage problems, leading to waterlogging, which results in several epidemic diseases.

Mohanty (1993) has undertaken the study on the provision of basic services like water supply and sanitation in three big cities of Delhi, Bhubaneshwar and Raurkela, and suggested an urgent need for improvement and increment of financing for basic amenities in the cities

Ranjan (1997) in his study of some towns and cities in India has commented on unplanned growth of urban centers and stresses on infrastructural facilities like shortage of housing, roads, inadequate medical and educational facilities, less power and many other problems.

Saxena (1997) has critically evaluated the Aligarh Master Plan. She has emphasized that, proper basic amenities and facilities are inadequate in the city for the proper urban development.

Singh and Rehman (1998) have analysed the problems of housing and health in the low income households of the Aligarh city, and suggested for improvements in infrastructural facilities.

Sharma (1999) has tried to underscore the importance of human development in urban society, which in turn leads to economic development. He has presented a comparative picture of the quality of life in different states of India. He has suggested that, the provision of basic infrastructural facilities in backward states can be enhanced with the pace of infrastructural development.

Singh (2001) has critically analyzed the urban development and planning, and a number of socio-economic problems. He pointed out that, the medium, small towns and
cities are the main sufferers in this process because enormous resources are being pumped into big cities leaving very little for small cities.

Majumdar (2003) has examined the regional variations in the availability of infrastructural facilities in a number of urban regions in India. According to him, first step towards the development should be the equal distribution of infrastructural facilities by implementing integrated regional development programmes in urban areas.

Bhakar and Bhargava (2003) have attempted to find out inter-district disparities in infrastructural development in the state of Rajasthan. They have selected seven sectoral indices for evaluating disparities in development processes like education, health, transport, communication, banking, corporate and power indicators.

Dove (2004) attempted to evaluate urban development in the state of Andhra Pradesh in India, and suggested how the sustainable changes can improve the life of poors in cities. He suggested that, the municipalities and other local bodies are bound to provide civic amenities and social welfare in cities of the state.

Dhaliwal (2004) has attempted to analyse some of the major issues pertaining to urban development in Indian cities with special reference to infrastructural facilities. The study deals with existing, emerging and future problems to be faced by local bodies with regard to infrastructural facilities.

Basak (2005) has evaluated the housing development in northeastern regions of India, and found on acute shortage of houses. He has suggested that, the government should provide houses to the people belonging to mainly low income groups for an effective and balanced urban development.

Tyagi (2005) by using GIS and Remote Sensing techniques has suggested that municipal bodies in the cities should made effective allocations of civic amenities in cities.

Majumdar (2005) has analyzed the status of urban development in the state of Jammu and Kashmir, and has highlighted inadequate infrastructural facilities which are hindering the sustainable development He stresses for the initiatives to be undertaken for the waste disposal, provision of safe drinking water and transport.

Siddhartha and Mukherjee (2005) have tried to evaluate the on the cities, their functions and the processes of urbanization in Indian cities. They have confined their
study with the origin of the cities, and accounting factors which have influenced the origin and growth.

Jetli and Sethi (2006) have discussed the infrastructural development in post independence period in India, and suggested some important measures for the improvement in the provision of amenities for the better quality of life.

*India Urban Infrastructure Report (2006)* as published by the Government of India has highlighted the unequal distribution of urban infrastructure facilities in the country like in urban transport, urban water supplies and disposal of waste water, solid waste management and urban health and education. The same report shows disparities in the availability of facilities among different states of the country. The report also incorporates some suggestions for the improvement in the governance, delivery of urban services and better urban planning.

Sultana (2008) has highlighted the issues pertaining to Muslim population and social well-being in Aligarh city. She has computed an index for socio-economic development by assigning score values for each variable, she has selected to illustrate the study.

Patra (2010) has examined the inter-regional variations in infrastructural facilities across 30 districts of the state of Orissa. He has applied ‘Principal Component’ technique to compute a ‘composite index’ of infrastructure by integrating various components of infrastructural services.
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