CHAPTER - II
BULANDSHAHR CITY - SITE, SOCIAL AREAS AND INTERNAL STRUCTURE

Site of the City

Historically, a settlement emerged to fulfill the need of the wandering primitive man to relate himself permanently or temporally to any part of the surface of the earth and to manage various activities required for his day to day life. The urban settlements have evolved and developed as the centres of civilization and culture in different parts of the world inclusive of the advancement of the knowledge contemporary people. A cluster of houses evolved as nuclei for the development of the settlement as a town or a city, which is basically an outcome of the spatial requirement of the region to serve it by performing some special services which are generally diffused in the region by transport arteries. Thus, a node developing as a town or a city in any region acquires a piece of land and some other basic resources like water, vegetation etc. and the land occupied by the urban settlement is conceptualized as the site of the city or town by various geographers.
In fact, the site of any settlement refers to the part of land, which provides the base surface for its development. It is the physical base on which the structure of a town rises horizontally and vertically. Site is a controlling factor the importance of which the towns share with villages.¹ Moreover, site represents the surroundings of the town and the places where it is actually located and proceeds towards advancement but site is not stagnant with the passage of time, it undergoes change. Site affects the functional activities of a town.² In other words; it may be asserted that the site plays a vital role in the development of a town from the geographical point of view. A good site is helpful in the development of a town. The site embraces the precise features of the terrain on which it has spread.³

It is generally observed that the site has the sole importance in the evolution process of the town i.e. in the initial stage, sites are most guiding factors to the evolution and development of the town but as the town develops to a large settlement, the relationship of the original site on which the town evolved is often negligible. In other terms, cities become free from the limitation of physiography as they become larger because the increasing demand for land makes it predicable to remove natural obstacles. It means that there are enough people able and willing to pay for sites a price sufficient to more than compensate the cost of removing the obstacles to the site.⁴
The site of the old town of Bulandshahr represents the up heaved land at the right raised bank of river Kali flowing from the eastern part of the present city of Bulandshahr. The site of the city of Bulandshahr at present reveals very typical example of sites as it has extended to the plain land of western side but being limited by Upper Ganga canal in the west of the city. The site of the city appears as resembling to a doll shape. At present it stands partly on level land and partly on raised ground. The eastern and southern part of the city of the Bulandshahr evidences the sharp slop from the upheaved site of old part of the town known as Balai Kot to its east while it is comparatively low slop in the side of western part of the city extending over plain land. To the north of the town, the Kali is crossed by a bridge on the Anupshahr road and from the foot of this bridge on the Anupshahr road, the two principal roads lead to the town, one going straight up to the higher town of Balai Kot and the other being identical with the main road from Anupshahr to Sikandrabad which passes on through Gurusganj and Deputyganj, passed the town Hall and through the civil station on the west. From Gurusganj and Deputyganj, along this road, two roads run nearly at right angles to it through the lower town or Zer Kot, joining one another before they reach the chauk and passing on in one broad road from the Chauk till they meet the road from Balai Kot on the south-west of the town. The newly developed western part occupying a plain site consists of the residential areas like Awas Vikas
Colony, D.M. Colony, Civil Lines, Shanti Niketan, all in the north, Bhoor, Sushila Vihar, Dharma Enclave, Tahsil. Collectorate, Teachers Colony etc. covering the western part old the site while Shastri Nagar, Hydel Colony, Adarsh Nagar etc. occupying the southern part of the city. The site of the city with its regional linkages, river and canal, is depicted by fig. – 3

The site of a city can seldom be studied in isolation without considering its the situation which makes the integral part and plays a vital role in the development of any town or city. In case of the present study, the situation of Bulandshahr city may be pointed out as under -

1. Bulandshahr, the headquarter of the district, is a large town situated on the right bank of the Kali Nadi and the absolute location of Bulandshahr city is 28° 24’ N of latitude and 77° 52’ E of longitudes having situated at 225.5 m. above mean sea level.

2. Bulandshahr city is situated in the plain old alluvial fertile land of river Ganga and the newer alluvial plain i.e. Khader plain of river Kali flowing from north-west to south-east of the city.

3. Bulandshahr city has ample water resources from the ground water sources largely being discharge by boring and pumping as well as the hand pumps and the perennial sources of river Kali and the upper Ganga canal a big source of fresh water.
4. The city of Bulandshahr has very strong base of regional connectivity as it is situated on G.T. Road that is N.H. 91, which links this city to various important places of the country like Delhi, Ghaziabad, Aligarh, Kanpur, Kolkata, etc. Moreover, It is linked with other district and state routes connecting the city to Khurja, Anupshahr, Dibai, Narora, Sikandrabad, Siyana, Gulaothi, the important towns of the district as well as to Meerut, Dehradun, Badaun, Faridabad, Greater Noida etc. important places out of the district. It has also the railway connectivity as it is situated at Northern Railway route linking to Khurja, Dehradun, and an other route to Delhi via Hapur.

Social Structure

The society is made up of elements drawn from diverse origins. Within the population of India are subsumed tribes – no less than three hundred ethnically differentiated communities – caste groups, language and religious groups, displaying striking differences in social organization and cultural patterns, even material cultures. There are differences in racial strands and ethnic and cultural identities are strongly defined. Almost all religions from tribal forms of animism and totemism to Hinduism, Buddhism, Christianity, Islam and Sikhism have their followers in different proportions. The social diversity is perhaps the most powerful manifestation of Indian identity.⁶
Although, through long period of evolution, the higher castes have appropriated to themselves a major part of power, wealth and prestige, it is a lower caste who played the negative roles of friction and drag in the overall development of society in particular regions, notwithstanding their supplementary contributions to the social economy. Not less intriguing and anomalous is the correspondence of many areas of high levels of agricultural prosperity and productivity and all the high proportion of scheduled caste population. The creators of wealth are themselves the poorest in the areas of riches. Scheduled caste members had been made use of for the economic uplift and well – being of higher castes in society. The Scheduled Castes constitute about one-sixth of the total population of India with spatio-temporal variations ranging from almost negligible to as high as 29 per cent of the total population of the states. Prior to independence and even later, they had been the poorest of the country. In spite of many socio-economic securities provided to them in the constitution and by the government, they are still comparatively less educated and backward in the dilemma of privilege and exploitation. All these could be attributed to a variety of reasons such as illiteracy, social evils like gambling, liquor, litigation and superstitions, dominance of higher castes, deprivation from socio-economic status, inferiority complex against other castes and misuse of rights and privileges constitutionally provided to them.
The spatial patterns of scheduled castes are shown by table 2.1 and figure- 4 and may be studied in spatial context of the study area as under –

(i) **Areas of Low Ratio of Scheduled Caste**

This category includes the old settled part of the city included the residential areas like Sarai Lodhgan, Kotiyat, Shekh sarai, Enta Rodi, Rukan Sarai, Narsal Ghat, Maniharan, Mirchu Tola, Sarai Kaji, Guruganj etc. as the settling of scheduled caste in the olden town was rare as per the requirement of the higher castes for various types of social services.

**Table – 2.1 : Bulandshahr City : Spatial Patterns of Social Structure based on the Wardwise ratio of Scheduled Castes, 2001**

<table>
<thead>
<tr>
<th>S.C. population (%)</th>
<th>No. of Wards</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5.0</td>
<td>10</td>
<td>38.47</td>
</tr>
<tr>
<td>5.0 – 10.0</td>
<td>5</td>
<td>19.23</td>
</tr>
<tr>
<td>10.0 &amp; above</td>
<td>11</td>
<td>42.30</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(ii) **Areas of Medium Ratio of Scheduled Castes**

This category covers the centre part of the newly developed areas of the city inclusive of the residential wards like Civil Line, Awas Vikas-I, Devipura-I etc.

(iii) **Areas of High Ratio of Scheduled Castes**

The scheduled castes have moved to dwell in the city to get the benefit of the urban life after independence for various purposes. But it is also
to be conceived that the settling of this social group confined mostly to the outer wards where the cost of the land is comparatively low. This category consists of the wards like Bhood, Chandpur Nayagaon, Teachers Colony, Harischandra Nagar, Devipura-II, Munshipara, Bazaar, Satha, Radha Nagar, Tanda etc. as revealed by the fig.– 4.

Further, wardwise concentration index of scheduled castes social and economically backward group after Hindus have been depicted by the figures- 5.

Beginning from the early history of the region, Bulandshahr city has being accommodating the groups of the people of various origins with different faiths and religions having different occupations as well as their own way of life. Thus, the city during its process of long historical evolution and development has got a diversified social and religious structure matching to the diversified society of India in its ideal form. It reveals a good amalgam of the people of various religions. Wardwise concentration index of scheduled castes and the other backward castes- the major important social group of Hindus and other religions also suffering comparatively low literacy and social backwardness and barring some exception of some well to do castes of this group, economically backward, have been depicted by the figures- 6.

**Internal Structure and its Dynamic Patterns**
Internal structure of a town consists of its street, built up area, parks, playground, factories and open space, in general which form the structure of the town. It is perceived that most of the Indian towns developed either in ancient or medieval periods as well as in modern periods represent both old and new building structures, art and architecture as well as the zig-zag plan with ever changing and moving patterns of the streets with narrow and changing width along with the planned and comparatively street and roads of modern times. Thus, the internal structure not only includes the form or morphology but also various types of uses of its buildings with their mode of arrangements.9

The internal structure inclusive of the layout of the city of Bulandshahr with the setting of buildings, their sized, the patterns and width of various streets and roads forming the circulatory part of the city as well as the large buildings of various industrial units and offices of the Government and private bodies, the view of green belt here and there between the residential areas, along road sides and in the form of agricultural fields and the gardens of mangoes around the city which may be discussed as under-

1. The Central or Inner Zone

This zone mainly represent the highly congested unplanned areas of the inner part of the olden city of Bulandshahr which covers the Balai Kot and surrounding areas of its upheaved site like Kothiyat, some parts of
Munshipara, Shekh Sarai, Bazaar, Enta Rodi, Mirchu Tola, Narsal Ghat, Sarai Kaji, Gurus Ganj and some parts of Satha etc. The main characteristics of the inner part of the city of Bulandshahr have been surveyed and observed as under:

(i) The central part of the city of Bulandshahr occupies the upheaved mount at the right bank of river Kali and the slopes all around facilitate the drainage pattern in this zone.

(ii) The central zone consists of the old city of Bulandshahr representing the highly congested residential areas of the city having the old structure of houses built of Kakaiya bricks, limestone, wooden structure etc with poor ventilation and having traditional plan of housing.

(iii) The pattern of streets in the central zone of the city is amorphous having no marked geometrical shape with continuously moving thus shaping a zig-zag street pattern as shown by figure- 5. The streets in the inner zone have changing widths often ranging from three feet to eight or ten feet at most of the places.

(iv) The average size of houses in the inner zone is very low which ranges between 20m² to 125m².

(iv) The most of the houses represents business and residential or small industrial units and residential uses and the short spacing has been compensated by the vertical extension of the buildings and thus the buildings are generally multi-storied.
(v) Some of the buildings in the inner zone are deteriorating and the new constructions appear to replace the old structures here and there.

2. The Middle or Intermediate Zone

This zone mainly occupies the residential areas of the city consisting of the colonies of the inhabitants of the people of different social and economic status. The housing conditions in this zone represents both the areas of advanced residential as well as some colonies of middle and lower middle class residences. The characteristics of the internal structure of the intermediate zone may be pointed out as under –

(i) The middle zone represents various types of residential colonies inclusive of both low to high socio-economic groups such as the colonies and wards like Devipura, Prem Nagar, Gandhi Park, Luxmi Nagar, Teachers Colony, Kotiyat and some parts of Sarai Lodhiyan, Munshipara etc.

(ii) This zone has both old and new structures and it also represent the transitional zone of housing between the central part and the outer zone of the city.

(iii) This zone comprises many planned colonies with modern architecture of houses given an advanced look of residences with suitable and hygienic living conditions. Some such colonies may be named as D.M. Colony, Awas Vikas, Civil Lines, Luxmi Nagar, Judge Compound,
Shivpuri, Gandhi Park, Adarsh Nagar etc. On the other hand, some of the colonies like MustafaGarh, Gurusganj, Pheslabad, Islamabad, Devipura, Munshipara etc. have depicted unplanned layout of residential and other types of housing.

(iv) This zone includes not only the buildings for residential purposes but also for other various types of central functions like administrative, cultural, religious, parks, bus stand, business and industrial enterprises, education, health and other civic amenities.

(v) At some places undeveloped areas in the form of low-lying land and small agricultural land also appear especially at the outer parts of this zone and these areas may be utilized for the future development of the city.

3. The Outer Zone

This zone consists of the outer parts of the city which may be characterized as under –

(i) This zone is the zone of the development of the city and the buildings are not in continuous form. The size of the buildings with their open areas is comparatively larger than other areas.

(ii) The land of this zone has been taken into use for various purposes like open spaces, agricultural land, parks, garden, industrial units, godowns, railway station, cold storage, petrol pumps, tanks etc.
(iii) This zone represents the buildings of modern types and are developed mainly either by the elite class of the city or by the rich people moving from villages to the urban areas to seek for the betterment of their life or to deal their new occupations. Some such families also manage their farms in their villages having residence of their families in the city.

(iv) This zone have the large sized institutional buildings like schools, mills, cold storage, collactorate, bus stand and railway station, exhibition ground etc. with fair size of buildings with planned and good width street patterns having low density of population and houses and a good proportion of half-built open space and agricultural land for the future development of the town. This zone finally mingles in the outer agricultural land and rural areas at the boundary of the city and thus it is the threshold of rural-urban fringe areas.

The internal structure of the city has been depicted by the fig.-7. Further the internal structure of the city of Bulandshahr has been examined by distribution and density of houses as shown by figures – 8 and 9 which makes some of the following points clear-

1. The distribution of house as depicted by the figure-8 is very uneven in different parts of the city which is evidenced by the wards like Gurusganj, Devipura-II, Kotiyat, Shekh Sarai, Enta Rori, Narsal Ghat,
while the outer wards like Bhoor, Chandpur Nayagaon, Sarai Lodhiyan and Tanda etc. have shown sparse distribution of houses.

2. The density of houses as shown by figure-9 ranges between 637 houses per km$^2$ in Chandpur Nayagaon ward and 9433 houses per km$^2$ in Satha ward. The wardswise situation of house density has been depicted by table 2.2 and figure-9.

**Table 2.2: Bulandshahr City: Patterns of House Density, 2001**

<table>
<thead>
<tr>
<th>Houses/km$^2$</th>
<th>Category</th>
<th>Wards of the city</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>3500 &gt;</td>
<td>Low</td>
<td>6</td>
</tr>
<tr>
<td>3500-6000</td>
<td>Medium</td>
<td>9</td>
</tr>
<tr>
<td>6000 &lt;</td>
<td>High</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>26</td>
</tr>
</tbody>
</table>

The internal structure of Bulandshahr city has been analyzed by drawing the trends of density of houses and population from the centre of the city i.e. the Shaheed chawck to the outer areas in all the four directions as shown by the figures 10 and 11 which makes the following facts clear –

1. The density of population as depicted by fig.-10 goes up in the intermediate zone and then sharply declines in the outer zone in the east and north from the centre of the city. In the west from the centre of the city, it goes on declining while the southward density trend of
population from the centre of the city to the outer areas marks no change.

2. The trends of the house density as traced at ward level from the centre to the outer limit of the city in all the four directions confirm the same trend as of population density only except the trend of the density to the south from the centre. It is showing a sharp decline in its initial stage from the centre but goes straight after 0.5 km distance from the centre of the city up to 2 km of distance.

**Land-use Characteristics**

The primary function of a town or city is to provide goods and services to the people in rural areas. As the settlement grows larger and larger, this aspect of central place function diminishes. The supply of goods and services to the local population becomes increasingly more important. To perform the urban functions and services, the land of a town or a city is utilized as per the requirement which is usually characterized by the mode, civilization and advancement of society as well as the requirement of its internal and regional population. The land of a town is also utilized for various purposes as per the design, internal structure and internal layout. The land-use of a town may be study in different zones beginning from the centre of the town to the outer limits. Four basis types of land-use can be identified as central business, industrial, residential and open areas.
The land use of various towns and cities have been studied by various geographers. In this context, the studies of Burgess (1925)\textsuperscript{12}, Bartholomew (1955)\textsuperscript{13}, Rannellns (1956)\textsuperscript{14}, American Institute of Planners (1960)\textsuperscript{15}, Manuel (1968)\textsuperscript{16}, Harvey (1989)\textsuperscript{17}, Knox (1991)\textsuperscript{18} are remarkable. The studies of the land use and the internal structure of different sized cities in different parts of India have been worked out by Indian geographer like Singh, R. L. (1953)\textsuperscript{19}, Chatterjee (1967)\textsuperscript{20}, Singh, O.P. (1973)\textsuperscript{21}, Prabha, K. (1979)\textsuperscript{22}, Chaturvedi (1988)\textsuperscript{23} Kumar Kamesh (2004)\textsuperscript{24}.

Burgees has suggested a model scheme for the urban land-use as the land of a town is used in an ideal construction of the tendencies to expanding radially from its central business district…. Encircling the town area there is normally an area of transition, which is being invaded by business and light manufacture, a third area is inhabited by the workers in industries who have escaped from the area of deterioration but who desire to live within easy access of their work. Beyond this zone is the residential area of high-class apartment buildings or of exclusive restricted districts of single-family dwellings. Still further out beyond the city limits, is the commuters zone-suburban areas or satellite cities.\textsuperscript{25} The land of an urban settlement has been broadly categorized under two uses as developed area and vacant area. Further, the developed land is classified as privately developed and publicly developed. Privately developed land is further divided in six uses like –
(i) Single family dwellings,
(ii) Two family dwellings,
(iii) Multi family dwellings,
(vi) Commercial centres,
(v) Light industry and
(vi) Heavy industry

Moreover, publicly developed areas of an urban settlement may be put in 4 categories as streets, rail road property, parks and playgrounds, public and semi-public property.  

Functional morphology and land use of Bulandshahr has been depicted by fig.-12 which may be elucidated as under –

(1) Residential Areas

The city of Bulandshahr occupies both upheaved part of the site along the right bank of river Kali as well as the plain land in the north-west part of the present modern development of the city extending over 336.8 hectares of land, about 35.90% of the total municipal area. The residential area of the olden town is highly congested marked by high density of houses accounting for a maximum of 12933.3 houses per km² in Gurusganj ward in 2001.

Table – 2.3: Bulandshahr City: Patterns of Present Land use

<table>
<thead>
<tr>
<th>Land use categories</th>
<th>Area in Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residential areas</td>
<td>336.8</td>
<td>35.85</td>
</tr>
</tbody>
</table>
2. Commercial areas & 14 & 1.45 \\
3. Industries areas & 30 & 3.19 \\
4. Govt. offices and other services & 87 & 9.26 \\
5. Transport Services & 147 & 15.65 \\
6. Agricultural area and open space & 140 & 14.90 \\
7. Parks and Gardens & 95 & 10.11 \\
8. River and ponds & 19 & 2.02 \\
9. Other uses & 81 & 8.62 \\

Source: Planning division and Bulandshahr Municipality records.

density of population of the olden residential areas has been recorded to be at the top of 82877 persons per km$^2$ in same ward of Gurusganj and it is above 35000 persons in the highly densed areas of olden city inclusive of the ward like Bazaar, Mirchu tola, Shekh Sarai, Part of Satha, Narsal Ghat, Rukan Sarai and Sarai Kazi etc. areas which is considerably higher that the city mean of 18778 persons per km$^2$ in 2001. On the other hand the other wards like Chandpur Nayagaon has recorded the minimum density of houses \textit{i.e.} 637.03 houses per km$^2$ and is recorded to be the most sparsely populated ward of the city having a minimum population density of 3625 persons per km$^2$ in 2001. The other outer wards which have low house density occupy most of the residential areas of the modern city of Bulandshahr inclusive of Bhoor, Awas Vikas, Civil Lines, Teachers Colony, Sarai Lodhgan, Radha Nagar, Munshipara etc. wards as well as the trans- Kali ward of Tanda in the east of the city.
The average size of houses is a significant indicator to highlight the arrangement of residential houses in different parts of the city which has been calculated at ward levels by involving following formula –

\[
\text{Size of household} = \frac{\text{Area}}{\text{No. of houses}} \times C
\]

Where, C refers to a constant quotient (0.80) which is decided on an average of household occupance in the total area of the ward.

The residential areas of the city may be further analyzed on the basis of the average size of the household as presented by the table 2.4.

**Table 2.4 : Bulandshahr City: Patterns of the Size of Households**

<table>
<thead>
<tr>
<th>Av. Size of H.H. (M²)</th>
<th>Category</th>
<th>Wards of the city</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>100 &gt;</td>
<td>Low</td>
<td>7</td>
<td>26.92</td>
</tr>
<tr>
<td>100-200</td>
<td>Medium</td>
<td>11</td>
<td>42.31</td>
</tr>
<tr>
<td>200 &lt;</td>
<td>High</td>
<td>8</td>
<td>30.77</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>26</td>
<td>100.00</td>
</tr>
</tbody>
</table>

An analysis of the table makes it clear that the 7 wards out of 26 have very low area of residential plots below 100 metres consisting of the wards like Shekh Sarai, Bazaar, Enta Rodi, Mirchu Tola, Rukan Sarai, Gurus Ganj etc. While it is fairly good in 8 wards having considerably good size of the plots of household above 200 metres inclusive of the wards like Civil Lines,
Bhoor, Chandpur Nayagaon, Teachers Colony, Awas Vikas, Tanda, Sarai Lodhgan etc. wards.

(2) Commercial Areas

Marketing has been the prime function of most of the central places, towns or cities by which they not only serve their inhabitants but also integrate the people of the region surrounding a town or a city. A area of inter-relationship between a city and its region extends generally as per the commercial base and capacity of a city centre or a town. Thus, commercial activities in most of the town or cities make the essential part of its land use and a town can seldom exists without performing commercial activities.

The land use in this important category in the city of Bulandshahr may be pointed out as under in different zones, strips, corners or marketing complexes. The types of commercial enterprises as per the municipal records of Bulandshahr city have been given in table 2.5.

Table – 2.5: Bulandshahr City: Commercial Land use Patterns

(Based on Types of Shops)

<table>
<thead>
<tr>
<th>Types of Shops</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Food Products</td>
<td>580</td>
<td>14.83</td>
</tr>
<tr>
<td>2. General Merchants</td>
<td>220</td>
<td>5.62</td>
</tr>
<tr>
<td>3. Cloths and textiles</td>
<td>540</td>
<td>13.81</td>
</tr>
<tr>
<td>4. Fruits and Vegetables</td>
<td>215</td>
<td>5.50</td>
</tr>
<tr>
<td>5. Wooden Products</td>
<td>30</td>
<td>0.77</td>
</tr>
<tr>
<td>6. Medical stores</td>
<td>35</td>
<td>0.90</td>
</tr>
</tbody>
</table>
So far as the commercial activities are concerned, the major commercial areas of Bulandshahr city may be discussed as following –

1. Bulandshahr city is a big center of whole sale marketing. The Mandi Samiti at the right bank of river Kali, the vegetable market, the iron market both along Anupshahr road comprise the whole sale marketing. The godowns are mainly confine to outer areas of Mustafabad, Narsal Ghat, Radha Nagar, Prem Nagar etc.

2. The retail market as depicted by the figure- 12 occupies Saheed Chawk and its out-going road, bus stand to Anupshahr road, Bazaar, Kothiyat, Gurus Ganj etc. areas.

3. Some of the important complexes of shops consisting of general merchants, sweets and other food-products, vegetables and in some cases stationary, medicine and clothes have also developed in residential colonies especially at the crossing of streets or at the triangles of streets. Some such complexes are remarkable in D.M. Colony, Awas Vikas, Teachers Colony, Hari Enclave, Bhoor Choraha, Railway Station, Anupshahr Bus Stand, Islamabad and Radha Nagar triangles etc.
(3) **Industrial Areas**

It includes an area of 30.8 Hectare of land, 3.2% of total area of the municipality of Bulandshahr city. Though, Bulandshahr is not an important industrial city yet the industrial units like sugar-mill, floor mill, agriculture implements and tools, wood products, foot wear and leather products etc. are found to be scattered in the form of small scale industries combinedly with residential or commercial units in the same household in the wards like Mirchu Tola, Sarai kazi, Narsal Ghat, Sekh Sarai, Munshi Para, Satha etc. The large and medium scale industries mainly occupies three sides mainly Munshi Para and southern part of Sarai Lodhgan as well as the Chandpur industrial area near G.T. Road. The number of industrial units in different types of industries are given in table 2.6

**Table – 2.6: Bulandshahr City: Industrial Land-use Patterns (Based on Types of Shops)**

<table>
<thead>
<tr>
<th>Types of Industries</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Machinery</td>
<td>41</td>
<td>58.0</td>
</tr>
<tr>
<td>2. Electrical</td>
<td>20</td>
<td>13.5</td>
</tr>
<tr>
<td>3. Automobiles Parts</td>
<td>4</td>
<td>30.0</td>
</tr>
<tr>
<td>4. Foundry</td>
<td>22</td>
<td>27.5</td>
</tr>
<tr>
<td>5. Agriculture</td>
<td>42</td>
<td>22.0</td>
</tr>
<tr>
<td>6. Glass works</td>
<td>4</td>
<td>4.6</td>
</tr>
<tr>
<td>7. Chemical and Allied Product</td>
<td>14</td>
<td>6.7</td>
</tr>
<tr>
<td>8. Ice candy</td>
<td>4</td>
<td>1.2</td>
</tr>
<tr>
<td>9. Sugar Mills</td>
<td>1</td>
<td>8.45</td>
</tr>
</tbody>
</table>
(4) Transport Network

The vehicular and non-vehicular routes of an urban centre, which may be further sub-divided into two categories, i.e. urban land under transport arteries as streets, roads and railways as well as the transport service places like bus stand, railway station, Transport Nagar transport agencies etc. combinedly comprise the land use under transport network. The transport of Bulandshahr city both consisting of its internal movement of vehicles of different capacities or utilities as well as the circulation of the means of transport from the city to the outside to link it to the other important regional and inter-regional towns and cities are depicted by figure-12, which may be analyzed as under –

1. Bulandshahr city is linked by a Railway Line passing across a city and having a railway station in the western part of the city.

2. Bulandshahr has a good connectivity as it is linked with Delhi and Aligarh by N.H.W.91, from Meerut to Badaun Via Shikarpur, Anupshahr and Narora the important towns of District Bulandshahr by S.H.W.22. It is also link with highway like routes to Jewer, Palwal, Garhmukteswar etc. towns.

3. The internal circulation of transportation as shown by figure 12 mainly consist of the Intra-urban street and roads mainly the roads like

<table>
<thead>
<tr>
<th>10. Textiles and other</th>
<th>97</th>
<th>9.02</th>
</tr>
</thead>
</table>

Source: Planning division and Bulandshahr Municipality records.
exhibition roads having good width of 10 to 20 meters up to the Shaheed Chowk which passes across the Bazaar with changing width between 6 to 15 meters. Other circulatory important roads are bus stand to Radha Nagar colony road, D.M. Colony road, Awas Vikas road, Main Bazaar road, Prem Nagar road, district hospital road, railway road, Dharm enclave road and Bamhanpura roads etc. Besides the vehicular roads, the streets with zigzag pattern and narrow to very narrow ranging between 1 meter to 6 or 8 meters also circulate the small means of circulation mainly consisting of cyclists, pedestrians, bikes, rikshaws, Rehdi, Tongas etc. as per the requirement and width of the streets.

4. Among the non-vehicular service centres of the Bulandshahr, government bus stand and three other private bus stand i.e. Siana, Anupshahr and Jewar bus stand, Tempo stand to provide small trips to Khurja, Sikandrabad, Gulaothi etc. places. Besides these some transport agencies along G.T. road and Anupshahr road also serve non-vehicular services.

5. Public Utility Services

This group of functions in urban settlements covers wide range of activities such as education, health, banking, insurance and other allied activities. Public utility services and infrastructure facilities are essential not
only to fulfill the need of the inhabitants of the town but there are also circulated in the region of the town which secures the interaction and integration between town and its region. It is remarkable that the nature of infrastructural facilities required for social well being in a given region varies according to the general development of the region.28

The community and public utility services of Bulandshahr city has it is the district head quarter are scattered in different part of the city which are depicted by figure 12 and table 2.7 which may be discussed as under-

(i) Government Offices

As Bulandshahr is the district head quarter i.e. is collectrate occupying a sizeble area in the middle of the modern town along Khurja, Meerut railway routes. It also includes civil court, police line, near Shaheed Chowk or Kale Aam Choraha, besides it a number of offices inclusive of P.W.D. district treasury, fire station, municipal board etc. are also occupies about 28 hectares of the land of the city.

(ii) Other Civic & Public Utility Services

(A) Educational Services

In modern context, wide diffusion of literacy and education is indispensable to the process of development both in economic and social terms. Though education by itself does not generate socio – economic progress, the lack of it can certainly be an impediment in the developmental
process. A certain minimum level of literacy is therefore a basic requirement for a people to get out of ignorance and backwardness.\textsuperscript{29}

Bulandshahr city has developed as a good center of education from primary to higher levels. The modern educational institutes in the city begins with the Anglo-vernacular school at Bulandshahr was turned into the Zila school in April 1867. There were in 1902, 14 september school in the district, comprising the Bulandshahr Anglo-vernacular school with 215 pupils on its

<table>
<thead>
<tr>
<th>Types of Services</th>
<th>Number of centres</th>
<th>Average city-Population Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Primary Schools</td>
<td>87</td>
<td>2028</td>
</tr>
<tr>
<td>2. Junior High Schools</td>
<td>31</td>
<td>5691</td>
</tr>
<tr>
<td>3. Inter College</td>
<td>24</td>
<td>7351</td>
</tr>
<tr>
<td>4. Higher Education</td>
<td>4</td>
<td>44106</td>
</tr>
<tr>
<td>5. Child Care and family welfare centre</td>
<td>2</td>
<td>88212</td>
</tr>
<tr>
<td>6. Hospitals</td>
<td>4</td>
<td>44106</td>
</tr>
<tr>
<td>7. Post-offices</td>
<td>8</td>
<td>22053</td>
</tr>
<tr>
<td>8. Banks</td>
<td>8</td>
<td>22053</td>
</tr>
<tr>
<td>9. Agriculture service centre</td>
<td>3</td>
<td>58808</td>
</tr>
<tr>
<td>10. Police Station</td>
<td>2</td>
<td>88212</td>
</tr>
<tr>
<td>11. Cinema House</td>
<td>4</td>
<td>44106</td>
</tr>
<tr>
<td>12. Cold Storage</td>
<td>5</td>
<td>35285</td>
</tr>
</tbody>
</table>
63

<table>
<thead>
<tr>
<th>13. Other administrative services</th>
<th>2</th>
<th>88212</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Bus stand</td>
<td>4</td>
<td>44106</td>
</tr>
<tr>
<td>15. Railway station</td>
<td>1</td>
<td>176425</td>
</tr>
<tr>
<td>16. Exhibition &amp; fair Ground</td>
<td>2</td>
<td>88212</td>
</tr>
</tbody>
</table>

Source: Official records and Distt. Statistical Handbook, 2005

The municipality of Bulandshahr introduced free and compulsory primary education within its limits in January 1923. The expansion of English education as rapid between 1914 and 1924. After independence, a number of institutions providing primary education to intermediate education managed by government and private societies, Arya Samaj, Christian and other trust and societies of various sects and religions Vidhya Bharti etc. and a number of 87 primary schools and 24 inter collages were engaged in providing educational facilities. Among higher educational institutions Muslim Girls Degree Collage, near Shivpuri chowk, I.P. Digree Collage along Anupshahr road in mohalla Tanda, D.A.V. Degree Collage in civil lines area and in professional educational institutions, agricultural training collage, along G.T. road, I.T.I. collage are remarkable.

(B) Medical Facility

Health care is one of the most important indicators to measure the state of social well – being of a region. Medical care is no less important in the development because firstly, it meets basic welfare need and secondly, it greatly contributes to the efficiency of the regional labour forces. In early
times, Ojhas and such other agencies played an important part in exercising evil spirits and ghosts, which supposedly caused physical ailments to human beings. With the establishment of British rule, the allopathic system of medicine was introduced in the nineteenth century. The Lady Leslie Porter Female Dispensary at Bulandshahr was established in 1895, and a maternity ward was opened there in 1915. The Prince of Wales Hospital at Bulandshahr was constructed at a cost of Rs 120000 in 1924, with all facilities. This hospital was put under the district board.31

Ayurveda is the area centre study was the service of life from ancient period as Hindu system of medicine and health care while Muslims settled in the town in 13th century introduced Yunani system of education and a crude type of surgery practiced by Jararrah. British Government started allopathic dispensary in 1893.

The present situation of health services in Bulandshahr makes it clear that there are six allopathic and one ayurvedic hospitals and dispensaries, one primary health centre and two child and family welfare centres as per 2001 records. Vinod Chandra Dixit Hospital is situated in civil lines. Presently a number of four hospitals inclusive of district hospitals, Laxmi Bai Woman Hospital and several private clinics serve the medical facilities in the city.

(C) Communication Facilities
About 1830, the postal arrangements in the district were controlled by an inspector of post-offices, posted at Aligarh. The police was entrusted with the distribution of letters. Later on, the district Dak was organized and post-offices were managed by the village school teachers. In 1947, postal services in the district were placed under the divisional office at Meerut. However, in December, 1968, these services were placed under the administrative jurisdiction of the Aligarh division. The development and extension of roads and vehicular traffic has led to the opening of more post-offices in the district in recent years, especially after 1947.\(^{32}\)

Presently a number of 8 branch post offices scattered in different wards of the city under the administration of H.P.O. at Kale Aam Chauraha are serving the traditional communication facilities to the rural areas of the Bulandshahr city region with 3 branches of post and telegraphs, a number of 8 courier services being managed by private enterprises and 37 P.C.Os. providing the services of dialing calls to the public under administration of district telephone exchange and being managed by various agencies like BSNL, Reliance, Airtel, Vodafone etc.

(D) Financial Services – Banks and Co-operatives

A number of 8 branches of nationalized banks are providing financial services to the people of Bulandshahr city and its region working in different parts of the city under administration of Reserve Bank of India inclusive of
the commercialized banks like State Bank, Union Bank, Central Bank, Co-operative Bank, Gramin Bank etc.

A network of co-operative societies under the Assistant Registrar co-operative are providing various financial facilities to the co-operative stores, salary earners, industries and the farmers working within the limits of the city of Bulandshahr and also circulating the co-operatives to the villages of the city region being cash-credited by District Co-operative Bank, Bulandshahr.

(E) Other Public Utility Services

The offices of various public utility services mainly running in public building of civil lines and D.M. colony, as well as in different residential area of the city of Bulandshahr consist of various facilities like 2 police stations, fire station, 4 cinema halls, railway station, 4 bus stands inclusive of govt. bus stand and private bus stands like Dhamera Adda, Anupshahr Adda, Siana Adda. Moreover, the agriculture training centre situated at Upper Ganga canal’s right bank, district veterinary hospital in Bhoor ward, collectrate and district court, in civil lines near Kale Aam Chauraha presently named as Shaheed Chauk are remarkable.

Rural – Urban Fringe
Urban fringe is defined as the area lying outside the boundary of an urban area. In a stagnant city with no economic and/or population growth the land beyond the urban area will (continue to) be used for agricultural purposes only. The land utilization pattern of this fringe land would be determined by the revenue yielding capacity of each use. The rural – urban fringe is the most potential zone for the future expansion of a growing metropolis. The modern metropolis is such as explosive giant that it spreads ruthlessly causing a mixture of urban and rural land use and cultural patterns on the broader areas and giving no clear-cut boundary. The delineation of a borderline between the city and fringe area is a difficult task since both are dynamic in character. The fringe of today is the city of tomorrow and the fringe takes over the new rural land in this process of expansion. As the economic activities in the urban area increase, the demand for space for housing these activities and people increases. There is an increasing demand for land for industrial, commercial, residential, recreational, educational and other uses. The pressure of demand for land in urban areas manifests itself in the form of higher prices, more intensive use of land and spill out of demand to fringe areas. Thus, both agricultural uses and urban uses now compete for the uses of lands in the fringe areas. The land in the fringe area now takes the character of marginal land. This marginality derives not so much fro any intrinsic qualities of the land as such but from what is known as situation or position as distinct
from location$^{35}$. Thus, the marginality originates from the characteristic of accessibility of this land to some centre of transportation. This area is now more accurately defined as the area of transition between well-recognized urban land uses and the area devoted to agriculture.$^{36}$

A survey of the rural-urban fringes have been worked out by a researcher in four villages of rural-urban continuum where the development of Bulandshahr city is presently taken place like Malak Mahosan Garh between Anupshahr road and Garhmukteshwar road, Saujapur Mirpur along Shikarpur road, Tatarpur along the bye pass road connecting Meerut road to Garhmukteshwar road and Chandpur along G.T. road. The findings of the survey of fringe areas of Bulandshahr city in view of various attributes and indicators of fringe areas have been tabulated in table 2.8 which may be pointed out as under –

**Table-2.8 : Bulandshahr and Attributes of Its Rural-Urban Fringe Areas.**

<table>
<thead>
<tr>
<th>Attributes/indicators</th>
<th>Malak Mahosan Garh</th>
<th>Saujapur Mirpur</th>
<th>Tatarpur</th>
<th>Chandpur</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cost of land (Rs./Yard)</td>
<td>1200-1800</td>
<td>1200-1600</td>
<td>1000-2000</td>
<td>1500-2500</td>
</tr>
<tr>
<td>2. % of built-up area</td>
<td>28</td>
<td>22</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>3. % of semi-built-up area</td>
<td>46</td>
<td>42</td>
<td>46</td>
<td>28</td>
</tr>
<tr>
<td>4. % of open area</td>
<td>26</td>
<td>34</td>
<td>36</td>
<td>48</td>
</tr>
</tbody>
</table>
1. The value of the land for development in the fringe areas of Bulandshahr city has been surveyed to be highest in village Chandpur along G.T. road ranging between Rs. 1500-2500/ yard which also declines from the distance of the city and the transport routes both.

2. The value of land is lowest in the fringe areas of village Tatarpur along Shikarpur road beginning with Rs. 1000/yard and in some places near the road sides up to Rs. 2000/yard.

3. The built-up area has been recorded to be occupying a maximum of 28% in Malak Mahosan Garh village while it is the lowest in Tatarpur village which also reduces in accordance with distance from the city.

4. The semi built-up area with new colonies being developed by colonizers is having a maximum of 46% in Malak Mahosan Garh and Tatarpur village while it is the lowest of 18% in Chandpur village because of the hindrance of be two canals and their distributaries.

5. The agricultural land and open spaces as well as the groves and gardens around a city of Bulandshahr are being occupied for development. Presently a maximum of 48% of land in Chandpur and a minimum of 26% in Malak Mahosan Garh village reveal the open spaces.

6. The other villages around the city of Bulandshahr which more or less evidence the rural-urban continuum, are mainly Dariapur, Kazampur, Navada, Purwal, Akbarpur and Mau Khera between Meerut and
Sikandrabad road, Marguvpur, Dostpur, Balipura, Chandpur Bahlimpura, Machkauli between Sikandrabad and Khurja roads, Chawali, Suajpur Mirpur, Rampura, Rampur colony, Hazrat Samas, Tanda etc. villages between Khurja-Shikarpur and Anupshahr roads and Malak Mahosan Garh, Kalauli and Utrawali villages between Garhmukteshwar and Anupshahr road as well as the villages like Hirapur, Nayagaon, Barnaura, Kazipur, Tatarpur, Imilia etc. villages between Garhmukteshwar-Meerut roads.
REFERENCES


6. Ahmad Aijazuddin, Social Geography, Rawat Publications, New Delhi, 1999, P. 15


