“NASHIK CITY: A STUDY IN URBAN GEOGRAPHY”

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BY

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If it be regarded as a distinct systematic or topical study within the general field of geography, urban geography is a comparatively young branch of the subject. It was certainly not taught as a specialist in the same way as geomorphology, climatology, or indeed political geography. Urban geography cannot claim to be a systematic study in the sense that it is concerned with those processes which, in the context of a culture, operates to create spatial patterns.

The first and immediate problem that arises in the study of towns is that of their definition. What does the term ‘town’s or ‘city’ implies as against ‘village’ or ‘hamlet’ and what is ‘rural’? The acceptance of a specialism entitled ‘urban geography’ implies that there is an area of study which is but part of settlement geography and which is in particular, contrasted with that of rural settlement. In reality, the differences between urban and ‘rural’ which are so easily made in an everyday way became very difficult to portray in precise and scholarly terms.

“Urban geography includes the site, evolution, pattern and classification of towns” - G. Taylor.

“Urban geography is in fact the intensive study of towns and their development in all their geographical aspects” – L.D.Stamp.

“Urban geography is concerned with interpreting the patterns and relationships that exit with in Urban areas on the one hand and between urban areas on the other” - H.M.Mayer.

“Urban geography is the graphic study of urban places which evolve, arrow and exist as service centers for their surrounding areas” - G.S.Gosal.

“Urban geographic investigations are concerned primarily with the areal variations within and among cities, including the relationship between urban and non urban areas and the forces of development and change that are shaping the urban landscape” – Pater Sholar.

“Urban geography deals with spatial aspects of urban development and non urban areas as they relate to cities. The concern is with determining the areal pattars associated with Urban centers and explaining their arrangements” – R.E.Murphy.
According to R.M.Northan, “the study of urban geography concerns with four types of relations with man and the land”.

According to R.E.Dickinson, “Urban geography studies are made regarding structure process and stages of urban settlements as the home of man which determine its physics structure, social and economic characteristics along with traditional process of urban development”.

Urban geography has a distinctive focus. Its primary concern is the association of activities in urban areas, which are expressed in characteristic associations of land use and occupancy features. Thus the center of interest of urban geography, as of all geography, is man, and the reciprocal relationships between man, his works, and the earth.

Urban geography is concerned with the study of economic base of cities: with interpretation of the relationships between the cities as an important from mans occupancy of the land and the activities within the cities hinterland or economically contributory area which focus upon the city and which give rise to urban occupancy.

Industrialization transportation and urbanization runs parallel to each other. Urbanization and rapid population growth in the city has created term endows problem, which is the root of the all environmental crisis. Due to increasing population the land under cultivation is reduced and city is becoming more crowded which affect city transportation growth is responsible for problem of residence, and it causes formation of suburbs. Increasing population has also affected the water supply of the city polluted water from industries and sewage mix with drinking water create health problems various problems of cities will be solved through proper planning by studying each problem thoroughly and considering other affecting factors so the study of expanding cities has got more importance in the recent time.

Above aspects harnessing the resources and creating, environmental hazards, for the beautification of the urban environment and making it more attractive for convenient living it is requires proper urban planning.

2. REVIEW OF LITREATURE:

After independence cities have been expanded vigorously in India. The cities of India offer worst from of visible poverty and problems with their slums and squatters settlements unsanitary living condition chronic shortage of services polluted air and water traffic congestion and lack of upon space. Therefore geographers have


Khan Z.T., (1973), has studied Bilaspur city. Ram Mohan Rao, (1978), has highlights the growth, structure and regional relationship of Warangal city. K.M.Kulkarni, (1980), in his study of Nashik city examined the structure, function and spatial relationship of an Indian city that is both ancient and modern.


Considering above discussion the city – Nashik is selected for study for understanding the urban process, urban problems and bright possible future with in frame work of planned development.
3. **CHOICE OF THE TOPIC:**

Towns and cities have acted as focal points in the cultural landscape of India and they continue to play a major role in India’s’ emergence as a premier industrial and political power in the world. The landscape of urban settlements in India provides a veritable for the study of the complex Inter relationships among the people and between the people and the physical and cultural environments in which they live. The study of urbanization in India by its varying nature several dimensions of analysis. Fundamentally, these include spatio-temporal, socio-cultural and politico-economic dimensions.

A geographer's primary interests is in the study of the inter relationship between people and their habitats. In an urban setting, the habitat comprises not merely the territory of the city and its hinterland but also the spatial linkages between a large number of Urban and rural settlements within the region.

The city is heterogeneous in terms of its population composition and has a variegated and complex land use structure. The city comes to life with the spatial mobility of its people engaged in their day to day activities to satisfy their economic social and cultural need. Land, roads, building and people, all from part of the city structure. Each component unit performs a significant role, so that the city may function harmoniously and perform its wider role as a focal focus on the intricate patterns of land, uses in commercial, industrial and residential areas.

Taking into consideration of the above aspects, Nashik city has been selected and studied in urban geography beside this researcher is belonging to the study region and knows the various functions and service activities in detail. The researcher also knows the problems of the study region.

4. **STUDY REGION:**

Nashik city is the capital of Khandesh and also has a head quarter of Nashik revenue division and so also Regional office of Maharashtra Pollution Control Board. Nashik city is an important and one of the famous ancient cities of Maharashtra. It is a district head quarter located on the banks of Godavari River and is at 565 meters above mean sea level (MSL). Two interpretation are available on origin of the name ‘Nashik’, the first relates with the town situated on nine peaks (Navshikhar) and second relates to the incidence in Ramayana where at this place Lakshmana is said to have cut off the nose (nasika) of Shurpanakha, a sister of Lankadhipati Ravan. It is a
place of rich heritage and culture and now developed into a metropolis with a population of approximately 15 Lakhs. The banks or the Ghats of the river Godavari are considered to be sacred people take holy dip in the “Kundas” (Ponds) constructed on the river banks. Godavari river is “Dakshin Vahini”, Ramkund is a unique place of religious importance at all the times, especially in the “Kumbhamela”. Nashik, a major industrial town situated at Latitude 19° 33’ and 20° 53’ North Latitude and between 73° 16’ and 75° 6’ East longitude in Northern Maharashtra, is located at a height of 565 meters above mean sea level at a distance of 185 Km from Mumbai (Bombay), 220 Kms from Pune, 165 Kms. from Ahmednagar and 180 Kms from Aurangabad. The total area is 259.13 Sq.Km. which is 2nd largest in Maharashtra after Mumbai. It has a population of 15,00,000 and road length of 850 Kms. Similarly Mumbai Agra National Highway No. 03 and Nashik-Pune National Highway No.50. The main rivers flowing in the district are Godavari, Kashyapi, Darna, Girna, Kadwa and Nasardi (Nandini). There are two industrial estates namely Satpur having 1600 Acres and 750 numbers of units and Ambad having 1400 Acres area with 850 numbers of units. The city has become the center of attraction because of its beautiful surroundings and cool and pleasant climate. Nashik has a peculiarity of its own due to its mythological, historical, social and cultural importance. The city, vibrant and active on the industrial, political, social and cultural fronts, has influenced the lives of many great personalities. The river Godavari flows through the city. Temples and Ghats on the banks of Godavari have made Nashik one of the holiest places for Hindus all over the World. Religious spots such as Trimbakeshwar, Panchavati and Tapovan are known all over India. Nashik Municipality was formed in the year 1864 and in the same year, Nashik was made a fully fledged district with 13 Talukas. Presently there are 15 Talukas namely Nashik, Peth, Dindori, Surgana, Kalvan, Baglan (Satana), Devla, Trimbakeshwar, Malegaon, Chandwad, Nandgaon, Yeola, Niphad, Sinnar and Igatpuri. Nashik District is a major agricultural center known for grapes, onion, flowers, sugar cane, rice and popular vegetables. Grapes, onions and flowers are exported all over the World. Cultivated area is around 56 per cent of the total land area. Nashik abounds in forest wealth. The forest lies in the western part of the District. Surgana, Kalwan, Peth, Dindori, Nashik and Igatpuri Talukas have a number of forests. Teak and sissoo trees are found in large number in these forests. Besides these trees and shrubs like anjan, agave and bamboo are also found here. The jungles are in habitat by animal such as wolves, hyenas, sambars, foxes and birds like
koels, kingfishers and peacocks.

According to 2001 census, the population of Nashik city was 10,77,236 persons. Out of which 53.44 percentage is male and 46.56 percentage is females. The study has 65 words in 1991 but it increased in 2001 up to 87 words. The city since old days basically the design of a religious place. However to it has been a flourishing industrial center as well as educational centers. Therefore, I decided to study the Nashik city a study of urban geography.

5. **AIMS AND OBJECTIVES:**

The present work intends to study the historical growth, demographic characteristics functional structure or various service facilities, slums and their occupational structure, the main urban problems, planning and suggestions for future development. However the specific objectives of the present study area are as follows:

I. To study the geographical setting and review of growth pattern of Nashik city.

II. To describe the land use pattern of Nashik city.

III. To highlight the demographic characteristics of Nashik City.

IV. To study the functional structure of Nashik city.

V. To study the slums of Nashik city.

VI. To examine the urban problems of Nashik city.

VII. To study for balanced urban development and suggest planning for future development of Nashik city.

6. **DATA SOURCES:**

The secondary data for the present study has been collected from the following sources:


III. The Gazetteers of Nashik District.

IV. The Reports of Nashik Municipal Corporation office.

V. The Reports of Town Planning Department office, Nashik.

VI. Various News Papers, periodicals and Journals etc.

Primary data regarding service facilities, shopping centers, transportation, healthcare facilities and occupational structure and income levels of slums have been
collected at time of field work face to face inquiry and quetionary are used for the same purpose conducted during January 2010 and May 2011 in the study region.

7. **METHODOLOGY:**

For the purpose of the study the whole region is divided into six sectors. The census maps of 1991 and 2001 have been used as a base maps for the study. Six sectors have made on the basis of co inciting the boundaries of wards of 1991 and 2001 census roads, railway lines, physical features and sector divided by Town Planning Department for feature planning of city.

In the present-study the information and data regarding the aspects of urban geography upto 2011 has been considered. The primary data has been collected with help of field work. For this purpose a thoughtful and thoroughly questionnaires were prepared for particular aspects. The field work as well as empirical method has been used to depict the various functions service facilities. After collecting primary and secondary data, it has been tabulated and represented with the help of various diagram and graphs have been prepared to show the different types of information and distribution. The analysis and interpretation of data has been done from the geographical point of view. The detailed methodology is illustrated in the respective chapters.

8. **DESIGN OF RESEARCH WORK:**

The present research work is organized into Seven Chapters.

The I\textsuperscript{st} is deals with the appraisal of problem. This chapter is also devoted to review of the relevant literature, aims and objectives, data collection and methodology that have been employed in the present work.

The chapter II\textsuperscript{nd} is devoted to the geographical and cultural setting. The location extent, site and situation, physiographic, climate, drainage, transportation, and economic status, history, agriculture and tourism have been studied.

The III\textsuperscript{rd} chapter sector wise demographic characteristics especially growth, distribution, density of population, population projection, literacy structure and occupation structure of study region are highlighted.

The IV\textsuperscript{th} chapter is devoted to the study of functional structure in which the administrative functions, educational functions, banking functions, health functions, communication and transportation functions, industrial functions, market functions, recreations functional zones of Nashik city have been studied.
The V\textsuperscript{th} deals with location, distribution demographic characteristics occupational structure of slums of the Nashik city.

The chapter VI\textsuperscript{th} includes the study of different problems of Nashik city. The study has included housing, city bus transportation water supply pollution and health problems.

The VII\textsuperscript{th} chapters include concluding and city development and planning for future development of city. This chapter has included the planning strategy of Nashik Municipal Corporation and suggestion made by author.

9. **CONCLUSION:**

Nashik city is and headquarter of Nashik district in Nashik revenue division of North Maharashtra. The city enjoys a central position and reflects the glorification of North Maharashtra. The study region is located on 19\textdegree~33’ and 20\textdegree~53’ North Latitude and between 73\textdegree~16 and 75\textdegree~6’ East Longitude and covers an area about 259.10 sq.kms. It is an important railway junction of central railway having a height of 450 meters from mean sea level.

The physiographic of Nashik is very typical because it is formed by the Deccan Laval with residual hill ranges and broad valleys, with small hillocks. The river Godavari flowing from west to east direction forms western boundary of study region and after a course of about 1,465 Kms it joins Bay of Bengal at Machalipatnam. The river Nasardi and Valdevi flowing from west to east forms eastern side of city and the Gangapur Dam is situated on west side of city. The climate of the city is generally dry, except in the monsoon period and the average rainfall of the city is 76 mm.

Although Nashik is one of the ancient cities of India, the origin of the city’s name and the subsequent changes in the name can only be vaguely derived from the available literature. According to early Hindu records the city was known as ‘Padmanagar’ or Lotus city during ‘Krita Yuga’. During ‘Treta Yuga’ the city was known as ‘Trikantak’ or three-peaked city as it grew over three hills on the right bank of the river. It became ‘Janasthan’ during ‘Dwapara Yuga’ when the city area expanded at the cost of the receding forests and the city became well peopled. The municipality was established on 7th November 1982 and in 1871 population was 22,436 persons. Since then city has been steadily growing and now becomes important commercial and industrial centre of Maharashtra with 10,77,236 population.
in 2001. Areal growth of study region shows that in 1871 the area was 12.80 sq. Kms. it has increased upto 259.10 sq. Kms in 2012.

The study region is divided into three geographical zones i.e. the inner zone, the middle zone and outer zones. The inner zone corresponds with old city having commercial area, administrative buildings and highly congested residential area. The middle zone includes industrial establishments and planned residential area, while the outer zone covers suburbs such as Gangapur, Anadawali, Makhamalabad, Masharul, Adgaon, Manur, Eklahra, Kotmgaon, Deolali, Chunchale and Pimpalgaon–Bahula.

The landuse pattern in urban area is of prime interest to the geographers. Due to rapid increase in population and size of the urban areas, the landuse changes continuously. A development plan was prepared for Nashik City in the year 1993. The landuse as given in the development plan indicates the fact that the large increase in the population will be accommodated in the development plan area. The total development area in 1985 was about 27 per cent of the total area with large areas under Agriculture (52.99 pre cent) and vacant land (14.25 per cent). In future developed area is expected to increase to 52.84 per cent keeping 43.61 per cent for the non development zone and 3.57 per cent for water bodies.

It is observed that, in 1901, the population of Nashik city was 21,490 persons, which has increased upto 30,098 persons in 1911. From the decade of 1911 to 1951, the population growth rate was high due to natural growth and immigration from rural areas (i.e. 40.06 per cent in 1911, 27.02 per cent in 1921, and 85.24 per cent in 1951). Due to severe drought and migration to other cities, population growth rate was very low in the decade of 1941 (i.e. 14.52 per cent). In the decade of 1951, the highest population growth (i.e. 85.24 per cent) of 20th century was recorded, because in 1982 Nashik Municipal Corporation has extended its boundaries from 12.80 sq. Kms to 259.10 sq. Kms by including the area and population of surrounding villages. There was 10,77,236 population in 2001, which has 63.98 per cent growth rate.

Sector wise population growth shows that in 1991 the highest growth was observed in sector No. III (i.e. 93.41 per cent) and lowest in sector No. I (i.e. 41.36 per cent). In the decade 2001, highest population growth was found in sector No. III (i.e. 93.41 per cent) and lowest in sector No. I (i.e. 2.27 per cent). Lowest growth rate was found in sector No. I, because population migrated to other sectors of the city.

According to geometric rate of increase method projected population of the city is 16,97,795 and 26,06,529 persons for the decade 2011 and 2021 respectively.
While according to current rate ratio method, the projected population is 13,44,821 and 16,12,405 persons for the decade 2011 and 2021 respectively.

The distribution of population reveals that, in 1991, the sector No. I have highest concentration of population (i.e. 25.77 per cent), while lowest concentration found in sector No. II (i.e. 8.78 per cent). In the decade 2001, the sector No. III has highest concentration of population (i.e. 19.95 per cent), while lowest concentration found in sector No. II (i.e. 11.46 per cent).

The density of population was 1665 persons per sq.km. in 1951, this increased up to 4,503 persons per sq.km. in 1981. But it was decreased upto 2,535 persons per sq.km. in 1991, because the urban area of Nashik city has increased in 1982. The density of population was again increased in 2001 i.e. 4,158 persons per sq.km.

As compare to other sectors, sector No. I has very high population density in both the decade 1991 and 2001 i.e. 11,594 and 11,330 persons per sq.km, because it is an old city area, with multistoried antiquated buildings and narrow lanes, so the density gradually decreases towards the periphery of the city and recently developed area of the city.

It is observed that, the sex-ratio was very low in study region, because of migration of male working population from rural to urban area. In decade of 1991 the sex-ratio was 891 and it has slightly decreased upto 871 in the decade 2001.

Population below the age group of 14 years was decreased from 40.18 per cent to 39.65 per cent in the decade 1991 and 2001. In the age-group of above 60 years population was increased from 5.88 per cent to 6.18 per cent in the decade 1991 and 2001.

The total literate population of Nashik city was 67.94 per cent in 1991 which has increased up to 74.51 per cent in 2001. In the decade 1991 nearly 60.75 per cent females and 74.35 per cent males were literate. Literacy was found increased upto 68.73 per cent in the females and 74.51 per cent in males in the year 2001. In the decade 1991, highest literacy (70.48 per cent) was observed in the sector No. II, while the lowest literacy (61.68 per cent) was found in sector No. III. In the decade 2001, the sector No. II was recorded highest percentage (79.50) of literate population. The sector No. III recorded the lowest percentage (71.20) of literate population. The sectors which are located in the central part of the city have higher percentage of literate population.
In the decade 1991, the labour participation ratio was 30.64, which was increased upto 34.48 in the year 2001.

The percentage of total workers in primary sector was 13.06 per cent, secondary sector 37.86 per cent and tertiary sector 47.43 per cent in 1991. While in the decade 2001, it was 15.20 per cent in primary sector, 39.00 per cent in secondary and 39.41 per cent in tertiary sector. The percentage of workers in tertiary sector was found decreased from 1991 to 2001 because the marginal workers were increased from 01.65 per cent in 1991 to 6.39 per cent in 2001.

In the decade 1991 the sector No. I was recorded highest percentage (i.e. 21.24) of working population, while lowest percentage (i.e. 9.10) of workers were found in sector No. II. In decade 2001, the sector No. II has observed highest percentage (i.e. 21.75) of working population and the lowest percentage (i.e. 11.55) was found in the sector No. II.

Various functions play an important role in the social, economical and cultural development of the city and its surrounding region. Being a tahsil and district headquarter several administrative offices are established in the city. About 90 per cent of total administrative offices are located in the sector No. III.

During 2000-01 study regions had 259 primary schools, which have increased upto 318 primary schools in 2010-11. The number of primary school going students were 1,33,039 in 2000-01, which was 12.35 per cent of total population. In 2010-11, primary school students were increased upto 2,14,152 which was 14.40 per cent of total population.

In 2000-01 there were 65 secondary schools in the city, which have increased upto 133 secondary schools in 2010-11. The numbers of secondary school going students were 98,244 in 2000-01, which was 9.12 per cent of total population. During 2010-11 secondary school students were increased up to 1,53,901 which was 10.35 per cent of total population.

There are various educational facilities like arts, commerce, science, engineering, medical, pharmacy, law, business, management, agriculture, education, music and social work etc. Before 1982, there were 5 colleges but now there are more than 50 colleges and two state Universities located in the study region.

Banking facilities are well developed in the study region. There are 42 nationalized banks, 18 scheduled banks, 36 co-operative banks, 28 urban banks and 475 pathedies located with different branches.
The study region has 3,790 dispensaries and 495 hospitals, which are mainly located in sector No. II and III. Civil hospital and other specialized hospitals are located in sector No. III. There are 1,193 doctors, out of which 539 doctors are specialized doctors and 554 doctors are general practitioners. Gynecologists and Dentists account for 5.20 and 4.36 per cent of the total doctors.

In the study region, health care centers and population ratio is 1:376, while doctors and population ratio is 1:309. The ratio of beds and population is 1:134.

Nashik city is well connected by roads and railways with important cities of country. There is no domestic or international airport located in proper Nashik. The nearest one is the Ozar Airport (domestic) located at some 24 km from the city center. There is another airport at Gandhinagar but it is not used due to its short runway. The other nearby airports is located at Mumbai (international) 190 Kms from Nashik and the Aurangabad Airport (domestic) or Chikkalthana Airport at about 218 Kms from the city. At present the Kingfisher Airlines runs only one daily flight to Mumbai from the Ozar Airport. The Deccan Airlines also used to ply flights from Ozar to Mumbai some time back. But this service was discontinued due to the lack of passengers. During the 1980s the government’s Vayudoot also ran a service to Mumbai from the Gandhinagar Airport, and N. H. No. 03 and 50 passes through the study region. The total length of roads in the city was 830 Kms in 1991, which is increased upto 2,518 Kms in 2011. There were 8,60,837 vehicles in 2011, out of total vehicles nearly 55.73 per cent are motor cycles.

Industries are well developed in the study region. There are various types of small scale and large scale industries observed in the study region. Dal Mills, Oil Mills, Industries based on Fruits and Vegetables, Ginning and Pressing, Saw Mills, Chemical Industries, Plastic Product Industries are well developed. ABB, MICO, XLO, VIP, Mahindra & Mahindra, Crompton Greaves, Carbon Everflow, Taparia Tools etc. industries are the important industries in the Nashik city. Industries are mainly located in Ambad and Satpur in sector No. IV. Out of total investment in various industries in 2011, nearly 38.34 per cent is invested in chemical industries, while 17.82 per cent in rubber and plastic industries, and 13.50 per cent in paper and allied industries.

Marketing occupies an important position in the economy of city. Commodities exported from study region are Grapes, Onion, corn, pulses, plastic
products and imported commodities are tea, sweet oil, cloth, wheat, medicines and Automobiles.

There are 56 shopping complexes of municipal corporation have, 2,771 shops and private complexes have 10,568 shops. The Mahatma Phule Market is oldest and Sharanpur Canada Corner Mini Market largest market, have 450 shops and famous for cloths, readymade garments and grocery. Other important markets are New Bhadrakali Bhaji Market, Yashavant Mandai, Ravivar Karanja, Shivaji Road Market, Sharanpur Canada Corner Tibetien Market etc. The well constructed and planned structures are the characteristics of these market centers.

Recreation landuse is an important feature of an urban landscape. Nashik city has acute shortage of recreational facilities. There was 10 cinema theatres, 15 gardens, 13 play grounds, 8 libraries, 3 swimming tanks, 13 community halls and 7 rest houses are observed in the study region. There were 210 hotels in 2001-02, which have increased upto 454 in 2011-12.

In modern time, the study of slums has been made by various authors, but Homer Hoyt and E. W. Burgess have made important contribution in the study of slums. There are number of terms by which slums are known in different countries. In India they are known as Bastees, Jhuggis, Jhoupris, Chawls, Anthas, Cheris, Keris, Pettas and Zopadpatti etc.

At present, there are 168 slums in the Nashik city, out of which 56 slums are declared and other 112 undeclared. Besides these 85 slums are rehabilitated in last 20 years.

In the decade 1981, total numbers of hutments were 18,945 and total population of slums was 66,498 persons, which was 25.33 per cent of total population of the city. Total number of hutments were increased upto 42,742 in 2011 and total population of slums was increased upto 2,14,769 persons, which was 14.44 per cent of the total population.

The average density of population per meter was 10 persons in 2011. The highest density of population was found in Naikwadi slum i.e. 31 persons per meter and lowest found in Indira Gandhi Nagar slum i.e. 01 persons per meter. The highest number of population and families observed in Mahatma Phule Nagar (Nashik road), which accounts for 4.62 per cent of the total slum population. While largest area occupied by the Upnagar Nashik road which accounts for 12.25 per cent of the total slum area. The Daha Chauk is the lowest in population size, number of families and
area occupied than the other slums, which accounts for 0.03 per cent of the total slum population, wadar wadi, peth road panchavti accounts for 3.91 per cent of total slum population, which is second largest in population size, while Sawarbaba Nagar is third largest in population size, (i.e. 3.56 per cent). P. C. Tolls Prabhud Nagar, Kajichi Gadi, Shanti Ngar, Panchashil Nagar, Samata Nagar, Ramabai Ambedkar Nagar have more than two per cent population of total slum population.

During 2012, there were 833 females for every 1000 males in the slums of Nashik city, but it varies from slum to slum. Out of the total slums 38.69 per cent slums have less than 800 females per 1000 males, while 35.71 per cent slums have 800 to 899 females per 1000 males. While 16.07 per cent slums have 900 to 999 females per 1000 males. Above 1000 females per 1000 males have observed in 9.53 per cent slums.

It is observed that, 40.30 per cent of total slum population found in the age group of 0 -14 years, while 56.41 per cent found in the 15 - 59 years age group. Above 60 years age group only 3.30 per cent of the total slums population is found.

It is observed that in all slums of Nashik city, 20.47 per cent of the total population was literate in 2012, out of which 23.37 per cent were males and 18.41 per cent females. The highest literacy is observed in Nashik road sector slum area (i.e. 29.50 per cent) and lowest in Cidco sector slum area (i.e. 12.04 per cent).

The occupational structure of slums reveals that, 49.36 per cent of the total slum population is found working group. Out of which about 63.95 per cent is male and 36.05 per cent female. It is observed that, out of the working population of slum, 57.45 per cent is working as laborers, 16.32 per cent engaged in household, it is mainly the female population, 14.78 per cent devoted to construction, and 4.05 per cent engaged in collection of scraps and other things.

Annual income analysis of slum dwellers shows that, generally the annual income is found very low i.e. between Rs.30,000 to 60,000.

Shortage of housing accommodation is chronic disease of the city. Nashik city is expanding in its population day by day but it is difficult to provide houses to such a large population. It is observed that, there were 20,630 numbers of houses in 1971, while it has increased upto 2,25,190 houses in 2001. Occupancy rate of dwellings was 8.54 persons per house in 1971, which was found gradually decreased upto decade 2001. i.e. 4.78 persons per house.
Average density of houses in 1991 was 566 houses per sq.km. It has increased upto 869 houses per sq.km. in 2001, but it varies from sector to sector and colony to colony. In 2001, highest density of houses was found in sector No. II (i.e. 2762 houses per sq.km.) and lowest found in sector No. III (i.e. 393 houses per sq.km.).

In the Nashik city, M. S. R. T. C. runs the buses for city commuters, with its 190 poorly maintained buses on 376 skeleton routes. The buses have a high operating cost and poor patronage. This results in present loss of 5.28 rupees per bus per km. At the same time the decline in the passenger share can be attributed to inadequate frequency, unreliable schedules and uncomfortable journeys. In view of aforesaid, the days are not very far off, if the city suddenly finds itself without any urban bus transport systems. Nashik Municipal Corporation should invest sufficient capital to improve the bus services in the city.

Nashik city comes under the semi-arid region of Maharashtra, where the water scarcity problem and drinking water problem carries major importance throughout the year. The water supply in 1971 was about 35.41 M. Lts. which is increased upto 337 M. Lts. in 2011. Present water sources and water supply are inadequate for the population of city. The per capita water supply was 201.8 Lts. in 1971, which is decreased upto 150 Lts. in 2011. Total number of water connections were 34,057 in 1961, which are increased upto 1,49,000 in 2012.

There are various pollutants contained in drinking water, bore well water, dug well water, nalla and lake of the Nashik city. The highest pH value is recorded in Ramkund, while lowest pH found in Anand wadi dug well water. High chlorides concentration is observed in the Shaunagar lake water due to bathing, washing and activities of human and animals. The dissolved oxygen levels are below detectable limits at all the sampling station of Ramkund and Dwarka. It is observed that, dug well and bore well water contains high amount of chlorides, total solids and hardness, due to intersection of sewage water into the well.

The study of air pollution shows that is busiest spot for heavy traffic flow. The maximum concentration of oxides of sulphur (32 mg/m^3) and oxides of nitrogen (33 mg/m^3) was recorded at V.I.P. industry. The level of suspended particulate matter (SPM) 190 mg/m^3 and respirable suspended particulate matter (RPSM) 235 mg/m^3 were recorded at these locations.

The levels of oxides of Sulphur were lower than the prescribed limit at residential area of the city. The levels of air pollutants are likely to increase in the
winter and summer season. Winter season is characterized by low wind speed and ultimately less dispersion of air pollutants. In summer the dust get air borne due to heavy wind currents. The traffic density on the N. H. No.03, which is going through the heart of the city, is major cause of air pollution. The level of oxides of sulphur is lower than the prescribed limit at residential area of the city. Normal level of sound intensity is 60 dB, but all study centers have more than 60 dB sound intensity.

In the study region, nearly 200 tones of solid wastes collected daily by municipal corporation. The leachate generated from the solid waste dumping sides carries high pollution load. e.g. the leachate generated from Agra road dumping station shows high amount of alkalinity, electrical conductivity, nitrates and phosphates. This shows the need of proper process for solid waste management in the study region.

Medical facilities in the study region are good but not adequate, so the people have to go to Mumbai and Pune whenever there occurs a very serious need. The city must have well equipped medical centers with advanced technology and machinery. Planning is very important for the development of urban areas. Nashik Municipal Corporation suggested number of town planning schemes for development of the city. The first master plan was prepared according to Bombay Town Planning Act-1954. It was sanctioned by Maharashtra Government in 1958 and implemented from 1959. Thereafter, various development plans have been made for Nashik city.

Nashik Municipal Corporation is trying to solve problems like distribution of land use, transportation, parking, street hawkers, water supply, drainage and sewage, industrial and housing policies, environmental pollutions, slums, marketing facilities and recreation etc. It has to take necessary steps to solve these problems effectively and immediately as soon as possible. It says that, the problem is not only to make proper planning but also to proper implementation. So plans must be properly implemented by municipal authorities.

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