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Jhansi City: A Study in Spatial Pattern of Socio-Economic Characteristics of the Population

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Abstract

The city's structure is becoming heavier due to the higher demographic growth and rapid expansion of urban functions. The city attracts migrants from surrounding region due to its better economic and infrastructural base. Population characteristics and socio-economic factors determine the level of development in the micro-level planning. Social and demographic features of population reflect not only structure and composition of population but also availability and status of social facilities and quality of human resource. Internal demographic structure of the city is the basic concern of the study for geographers and planners to formulate a rational strategy for future planning of the city. It also helps administration for implementation of the development plan and policies. The employment opportunities in different sectors attracted attention to the geographers and demographers to analyse and interpret the standard of living and quality of life of city dwellers.

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Keywords: Population Distribution, Demographic Structure, Social and Economic Characteristics of Population.

Introduction

Population growth and urban expansion have advanced at an unprecedented pace over the past few decades. Although cities occupy only a very small portion of the earth's land surface but half of the world population resides in urban areas. There is unsustainable growth of population in cities of developing countries became a cause of concern in recent years. Thus, there has been a growing importance of population studies in geography as spatial and environmental dimensions. The population geography is

concerned with the study of demographic processes and their consequences in an environmental context. The theoretical and methodological development in population studies play a vital role in the expansion of subject while many times it delimited by the lack of demographic data. Population composition at a given time may be regarded as the product of the processes of demographic change. The study of demographic structure of population reveals the scenario of the composition of population and future structure of society as

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well as supply of labour. The growth of population and the present corporate life demand the goods and service while the growth of economy enhanced with the commercial activities and extension of services. The availability of better economic as well as social services enhanced the quality of life of urban dwellers. Population characteristics and socio-economic factors determine the level of development in the micro-level planning. Internal demographic structure of the city is the basic concern of the study for geographers and planners to formulate a rational strategy for the development. It also helps administration to implement the development plan and policies for the sustainability of urban environment. 'The study of population is concerned not only with its size and characteristics, but also how it is distributed in various divisions and its changes over the years. Here again, it is necessary not only to describe how population is distributed over various areas in terms of density, composition and dynamics, but also to seek reasons for the patterns of distribution and changes in these patterns, if any' (Bhende and Kanitkar, 2010, p.397). 'The analysis of any population distribution, whether on a local, regional or even world scale, must inevitably take into account various social, demographic, economic, political and historical factors as well as purely physical influences' (Knowles and Wareing, 2007, p.57). 'Comprehensive knowledge of growth patterns, spatial distribution and density, population characteristics are essential in drawing out places for development' (Tiwari and Sharma, 2009 p.17). Jhansi city is characterised by variety population traits such as religious and social composition, age and sex structure, literacy rate, and work participation in relation to its locality and neighbourhood. Although the study is made

according to municipal wards and density clearly varies from core to periphery in decreasing order and follows the rule of distance decay. The sex ratio varies from area to area which is affected by economic condition, society and its level of education. The literacy rate among the urban dwellers depends upon social background, economic conditions and the nearness of availability of educational institutions. The occupational structure of the population evidently shows that the urban characterises more than eighty per cent workers engaged in other than household industry.

Study Area

The city is located between 25° 21' 19.9" N to 25° 31' 54.12" N latitudes and 78° 30' 9.47" E to 78° 39' 20.33" E longitudes. The prominent surface configuration of the study area is undulating plateau platform which is extended on granitic and gneissic region of Bundelkhand. The average elevation of the city is 284m above mean sea level and the general slope of the terrain tends towards north and east which reflects by its drainage. The climate of Jhansi is classed as monsoon type and area receives an average amount of 87.5cm annual rainfall that meets the criteria of semi-arid moisture conditions. The rocky surface configuration contributes to its extreme temperature conditions. Thus, the temperature varies from 40C in winter to 47C in summer season. The city occupies an area of 169.5 Sq. Kilometre. The municipal corporation is divided into 60 wards to uphold the facilities and services while the civil administration of the cantonment and the railway settlement notified area are separately maintained by their own boards. The population of the city including cantonment and the railway settlement is 5, 47,638 out of which 2, 89,698 are males and 2, 57,940 females. The sex ratio of the city

comes to 890. The total literacy rate of the city is 83.65%. Male literacy goes to 89.25% and female's literacy slightly low, 77.2% (Census, 2011).

Objectives

- i. To analyse the spatial pattern of population in the city and processes affecting the same.
- ii. To describe and explain the social and economic characteristics of population of the city in terms of geographical conditions and developmental activities.

Database and Methodology

The population data of the city is collected from district census handbooks (1951-1981), Town Directory of Uttar Pradesh, 1991 and primary census abstracts, 2001 and 2011. The ward map of Jhansi city is based on the map of Jhansi municipal corporation. The topographical maps (54 K/10, 54K/11) are used for geo-referencing of municipal maps which are provided by Survey of India. The GIS technique is used for digitization of ward boundary and calculation of area. All the given maps are prepared by the computer

with the use of Arc GIS 10.1, an improved version of software. Tabulation of population data and drafting of the paper are made on MS office, 2007. Some relevant information of population regarding occupancy pattern on urban space by the people of different social backgrounds is marked during the field observation that played a vital role in the analysis and interpretation of varied facts of population data.

Density of population

The spatial distribution of urban population can reflect significantly urban function and development status (Zhiqin and Pingyu, 2011). Chandna, (2003) has made a distinction between two words population distribution and population density. The distribution of population is more locational while the density is more proportional. The former refers to the spatial pattern in which population finds its location such as linear, dispersed, nucleated, agglomerated, etc. and the latter is concerned with the ratio between the size of population and area.

Table 1: Jhansi city: Ward wise density of population, 2011.

Sl. No.	Persons/ ha.	Category	Wards	Total	Area (in ha)	Population (in figure)	Persons/ ha
1	600 and above	V. Very high	3, 14, 20, 30	4	46.43	31,591	680
2	400-600	Very high	7, 18, 32, 34, 35, 36, 38, 46, 57, 58, 60	11	186.90	90,500	484
3	200-400	High	5, 8, 11, 19, 25, 27, 33, 40, 50, 53, 55, 56, 59	13	375.52	101,278	270
4	100-200	Moderately high	1, 2, 9, 12, 21, 28, 47, 48, 49, 51	10	478.91	68,999	144
5	50-100	Moderate	4, 6, 22, 39, 42, 43, 44, 45, 52, 54	10	1279.88	93,917	73
6	25- 50	Low	16, 29, 37, 41	4	1262.58	45,365	36
7	Less than 25	Very low	10, 13, 15, 17, 23, 24, 26, 31	8	10052.30	74,047	7

Source: Primary Census Abstract, Census of India, 2011

The table 1 shows the density of population of the city which is unevenly distributed in the entire urban area. It is evident that high

density of population confines in the core area and moderate in middle zone and western side of railway notified area and low

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in peripheral zone. The overall density of population of the city is 32 persons per hectare while it is 37 persons per hectare in the municipal corporation. The density figure varies from 3 persons/ ha in Simardha to 771 persons/ ha in Sagar gate ward. The population density of walled city varies from 270 (Talaiya ward) to 628 (Banglaghat ward) persons per hectare which refers to high to very very high. It happened due to people preferred to live in that part because of security reasons. The four wards of the city consisted of most populous area, out of which Sagar gate and Banglaghat come within the walled city and two remain outside Sainyar gate and Khusipura II beyond the wall in south. Seven wards of walled city and four wards beyond the wall namely Schoolpura, Nandanpura I and II and outside Orchha gate and recorded a very high density of population because these wards are generally inhabited by Muslims and scheduled castes. Thirteen wards come under the category of high density of population, out of these three fall under walled city, two in the south west, three in the west, three in the Sipri area, Heerapura ward in the west of railway settlement notified area and Pulia No.9 ward in the south. The moderately high density of population occurs in between high and low density areas such as outside Khanderao gate, Premganj, Nainagarh south, civil line west and Hansari Gird. This pattern is related to relatively spacious wards of the city. The moderate density areas are located in middle zone such as major parts of civil line, outside Datia gate, Isaitola, Nainagarh, Batta Gaon and Dadiyapura. The rest of the outskirts are found to be under low density while peripheral newly added rural localities come under very low density because rural areas include larger agricultural and open land.

Composition of Population

i) Religious

Population of Jhansi city consists most of the larger religion such as Hindu, Muslim, Sikh, Christian, Jain and Buddhists. More than 95% population of the city consisted of two religious groups namely Hindu (82%) and Muslim (14.50%) and rest 3.5% of the population of which to Christians accounted 2% while Jains, Sikhs and Buddhists, 0.6%, 0.5%, 0.4%, respectively (Census 2011).

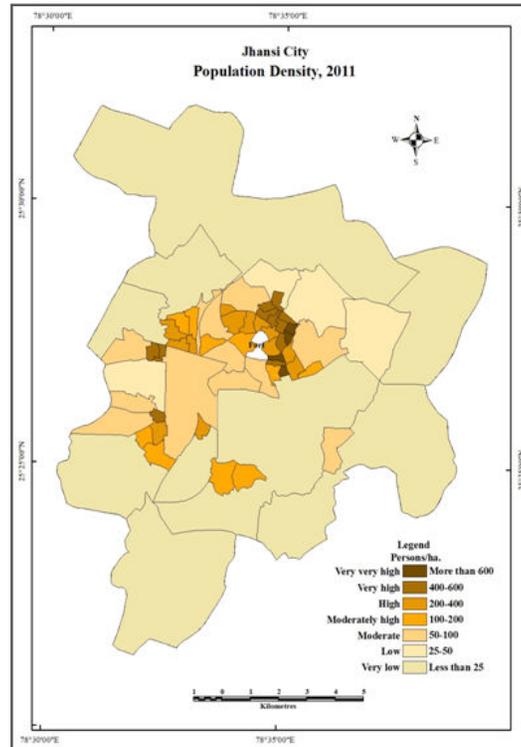


Figure 1: Jhansi City population distribution 2011.

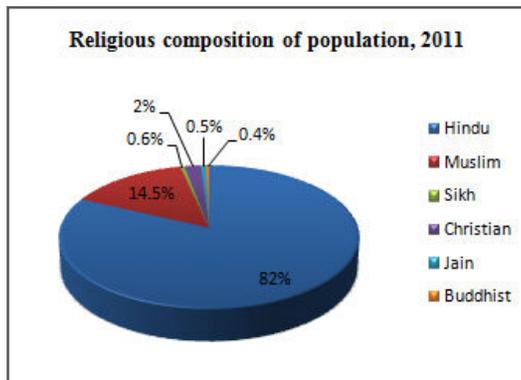


Figure 2: Religious Composition of Population, 2011.

Muslims are inhabited in many localities such as Mukaryana, Darigran, Aligol, Rai ke Tazia, Itwariganj, Mewatipura, Charkhamba, Inner Orchha gate, Datia gate and Sainyar gate within the wall and Kasai mandi, Outer Orchha gate, Avit market, Madak khana, Taz compound, Islamian (Pulia No.9) beyond the wall. Christians constitute 2% of the total population settled in five different localities namely Mission compound near H.M. memorial school, civil lines, Yellow church in Sipri, Isaitola of Khatibaba and Jhokan bagh. Jain community belongs to business class (Vaish) in the city. They are particularly involved in business activities such as money lending, trading and banking. They mostly inhabit the core area of the city such as Gudari, Khatrayana mohalla, etc. due to the concentration of business activities in Manik chowk and Bada bazar. Their inhabitation is greatly affected by security considerations. There are three important places populated with Budhist, i.e., Sarvjanik dharamshala of

Madakkhana, Krishna nagar of Premganj and 'Alhaghat' on the bank of river Pahuj.

ii) Social composition

As per the census 2001 the category wise population was accounted as 49.49% general, 27.63% other backward castes, 22.86% scheduled castes and 0.024% scheduled tribes. More than 50% belong to category of backward castes, scheduled castes and scheduled tribes. The percentage of scheduled tribes is negligible but proportion of general population is predominant.

In the Municipal Corporation of Jhansi (2011), 1,10,318 persons belonged to scheduled castes and 1,681 persons to scheduled tribes with their respective proportion being 21.81% and 0.33%. The percentage marginally declined due to inclusion of population of the cantonment board and railway settlements in which 21.62% people belong to scheduled castes and 0.32% to scheduled tribes.

Table 2: Ward wise proportion of Scheduled caste population, 2011

Sl. No.	% age of SC Population	Category	Wards	Total
1.	50 and above	Very High	1, 8, 9	03
2.	40-50	High	4, 12, 14, 22	04
3.	30-40	Moderately high	2, 3, 5, 6, 7, 11, 13, 17, 21, 24, 26, 35	12
4.	20-30	Moderate	10, 15, 18, 20, 23, 25, 27, 28, 32	09
5.	10-20	Low	16, 19, 29, 30, 31, 34, 36, 37, 38, 39, 40, 43, 44, 45, 48, 49, 50, 51, 52, 43	20
6.	Less than 10	Very low	33, 41, 42, 46, 47, 54, 55, 56, 57, 58, 59, 60	12
	Total	-	-	60

Source: Primary Census Abstract, Census of India, 2011.

The SC population of the city shows general distribution mainly outside the city wall. Most of the wards of walled city and some other localities like outside Khanderao gate, CP mission compound and partially civil line,

outside Orchha gate and Dadiyapura evinced very low proportion of SC population while low proportion is depicted away from the walled city, i.e., three wards of Sipri, Dadiapura, Lahar Gird, Isaitola and

Nandanpura, Gariha Gaon, Schoolpura, Kochhabhanwar Kachhiyana, partially Nai basti, Nainagarh and Lahar Gird. The moderate and moderately high proportion of SC population is marked in two wards of walled city, Simraha, Bijauli, Simardha,

Nandanpura, Pulia No.9, Heerapura and partially Nainagarh. The high and very high SC population is found in the whole Talpura, Khusipura, Hansari Gird, Bhatta Gaon and partially Isaitola.

Table 3: Ward wise Proportion of Scheduled Tribe Population, 2011

Sl. No.	% age of ST Population	Category	Wards	Total
1.	2 and above	High	36	01
2.	1-2	Moderate	15, 25, 29, 37	04
3.	Less than 1	Low	1, 2, 3, 4, 5, 6, 7, 8, 10, 11,14,16, 17, 19, 21, 22, 23, 24, 26, 27, 28, 31, 32, 33, 34, 35, 38, 39, 41, 43, 44, 45, 46, 47, 48, 49, 50, 52, 58	39
4.	Not Available	-	9, 12, 13, 18, 20, 30, 40, 42, 51, 53, 54, 55, 56, 57, 59, 60	16
	Total	-	-	60

Source: Primary Census Abstract, Census of India, 2011.

The proportion of scheduled tribe population is very low in the city, i.e., 0.32% as the city is situated away from the tribal belt of central India and Tarai region of Himalaya.

Table 3 shows that sixteen wards of the city do not have tribal population. This fact is evident especially in walled city except Aligol II, CP mission compound, Gariha gaon, parts of civil line, Sipri, Khusipura and Talpura. There are 39 wards which have only 1 per cent tribal population. These wards are located around the wall, middle and peripheral areas. Next category (1-2%) of tribal population happens to occur in four wards namely, Bijauli, Heerapura, Pichhor and Aligol I. The highest percentage of tribal population is marked in ward no. 36 (Aligol II), i.e., 4.67%. The ward is located on the margin of walled city and is historically inhabited by Mongia tribe.

Sex Ratio

Sex composition is one of the important population characteristics which is vital for

meaningful demographic analysis. Change in its composition largely reflects underlying socio-economic and cultural pattern of a society in different ways. It is one of the important social indicators to measure the extent of prevailing equality between males and females at a given point of time (Khullar, 2006, p.391). Sex and age structure of a population define the limits of society's reproductive potential (Premi, 2006, p.103). The sex ratio of any area will be greatly influenced by the effects of migration as well as the preponderance of male births and the differential mortality rates of the two sexes (Knowles and Wareing, 2007, p.83).

According to the Census of India, 2011, out of the total population 2,89,698 are males and 2,57,940 are females (sex ratio 890) in Jhansi city which is less 22 points when compared to Uttar Pradesh (912) and 50 points less when compared to national level (940) while the sex ratio of municipal corporation was 905 which is close to the state level.

Table 4: Growth of Sex-Ratio of Jhansi City from 1951 to 2011

Census Year	1951	1961	1971	1981	1991	2001	2011
Sex Ratio	858	840	888	893	878	885	890
Variation (persons)	-	-18	+48	+5	-15	+7	+5

Sources: i) District Census Handbooks, Census of India, 1951, 1961, 1971, 1981; ii) Town Directory of Uttar Pradesh, Census of India, 1991, part IX-A; iii) Primary Census Abstract, Census of India, 2001 and 2011.

The table (4) shows the growth of sex ratio of Jhansi city from 1951 to 2011. The sex ratio in the city had always remained unfavourable to females. It got accelerated by larger migrants as male dominated and male preferential births with help of illegal medical facilities caused poor sex ratio in the cities. Sex ratio of the census year (1951) is marked as 858 while it declined by 18 point in 1961. There was a sudden increase 48 point in 1971 followed by a rise of 5 point during 1971-81. Again it decreased (-15) during 1981-91. Subsequently, it began to improve perceptibly. The sharp improvement has been marked in 2001 and 2011 with 7 and 5 points, respectively with the legal restrictions and empowerment of women.

Table 5: Population under the age group below 06 in Jhansi city.

Census Year	Total population	Males	Variation In Male	Growth rate Male (%)	Females	Variation in Females	Growth rate Females (%)	Sex Ratio (Female/000 Male)	Variation in Numbers
1991	65,538	34,152	-	-	31,386	-	-	919	-
2001	60,693	32,396	-1556	-5.14	28,297	-3089	-9.84	873	-46
2011	60,396	32,467	71	0.22	27,929	-368	-1.30	860	-13

Source: i) Town Directory of Uttar Pradesh, Census of India, 1991, part IX-A; ii) Primary Census Abstract, Census of India, 2001 and 2011.

Table 5 refers to the sex ratio of under the age group of 6 year from 1991 to 2011. The data shows that there is continuous decrease of population of the age group which is the indicator of slowing down of growth rate of population. The sex ratio among the children is continuously falling down which is serious cause of concern in days to come. It happened due to decreasing rate of growth among the female child than male that created wide gap among male and female children. The sex ratio (860) of the city is 54 points less when compare to national level (914) and 42 point less when compare to Uttar Pradesh (902) as per Census, 2011.

Literacy

Literacy is very basic measure of the status of development of the society. 'Literacy is indispensable means for effective and meaningful participation of population in various social and economic activities which contribute to human development and poverty reduction. The literacy rate is taken as one of the key indicators of a country's development. It is vital to avail health care and gain meaningful employment and last but not the least to achieve population control' (Singh, 2009, p.25). It is considered

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as one of the most important social aspect of any society's development. It indicates the socio-cultural status of any society in any geographical unit and the change in literacy reflects the socio-cultural and economic transformation of the society (Singh and Patidar, 2011, p.1). Differentials in the rate of literacy by place of residence as well as sex are the result of the interaction of a host of social, cultural, historical and economic determinants. One may therefore look to the geography of traditional social structures and institutions for some part of the explanation of spatial differences (Ali, 2009, p.100).

percentage of literates has been 973.95% during the last six decades while the population by 329.97%. It means the growth rate of literacy accounted more than three times to the growth rate of total population. The literacy rate of the city is 15.97% more than from the state level (67.68%) and 9.61% from the national level (74.04%). This may be attributed to location of more educational institutions near the rural areas. The literacy rate of the city is 89.25% for males and 77.20% for females. At the national level, these figures are respectively 82.14% of male and 65.46% of female and 77.28% male and 51.36% of female at the state level of Uttar Pradesh.

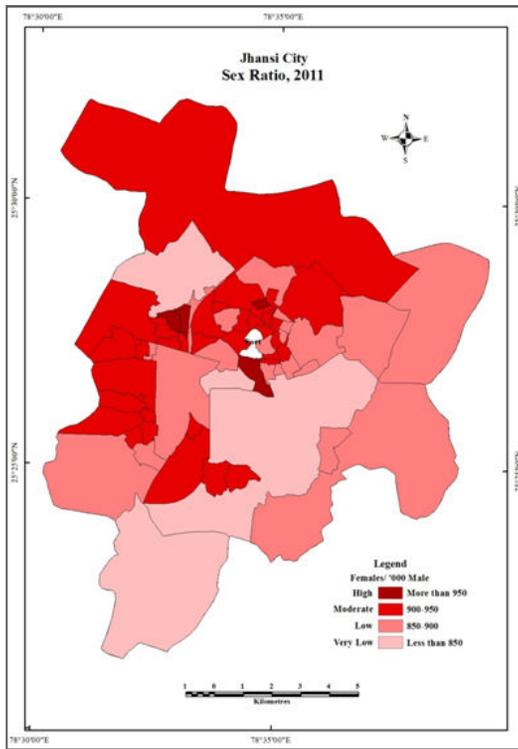


Figure 3: Jhansi City sex ratio, 2011.

The number of literates and illiterates increased along with the growth of population but the growth rate of literates was faster than the growth rate of illiterates which is the sign of progressive increase in literacy rate. The literacy rate in city has grown gradually from 29.79% to 83.65% from 1951 to 2011, respectively. The growth

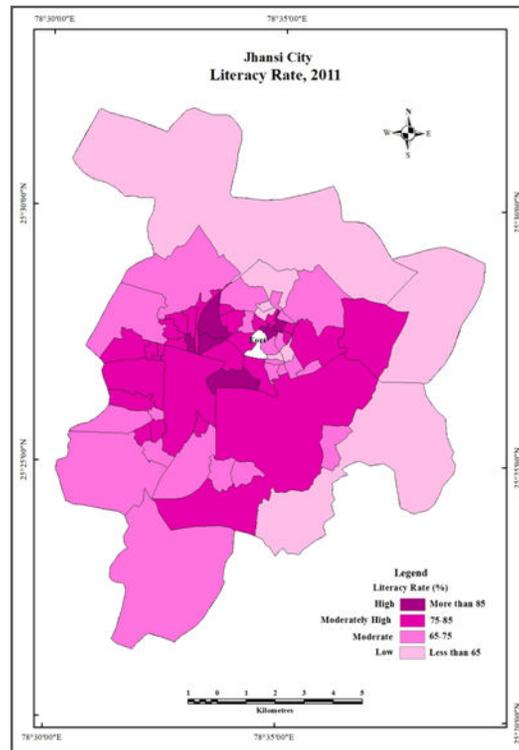


Figure 3: Jhansi City Literacy Rate, 2011.

Sex wise literacy (2011) has grown in different ways. Male literacy rate has more than doubled from 42.22% (1951) to 89.25% (2011) whereas amongst the females it increased more than five times from 15.31% to 77.20% in the same period. This phenomenon may be mainly due to the

effective participation of girls in education at all levels which improved educational attainment of girls appreciably over the years. Central Government schemes initiated development with launch of Universalisation of primary education among all the children in the age group 6-14 years under Sarva Shiksha Abhiyan (SSA) in 2000. Government has approved a new plan 'National programme of education for girls at elementary level as an amendment to the existing SSA providing additional support for education to underprivileged girls at the elementary level. The increase of work participation of females in various sectors of employment at present, it is a special phenomenon that occurred in modern society and economy and pushes the improvement of women's status, self-respect, awareness and educational importance. A number of schools and colleges promoted the cause of education among children. Presently, Jhansi is growing as an important educational centre in Bundelkhand region due to the establishment of a number of academic, professional and technical institutions and some of them dedicated to girls only. There are only 6 wards of the city which are having more than 85% literacy. These wards include Darubhondela and Gosainpura of walled city and 2 wards of civil lines, CP mission compound and the Nanak Ganj of Sipri that are linked with the higher and upper middle class residences and better availability of academic institutions. The 23 wards of the city come under the moderately high literacy rate and lie in the inner and middle zone. The next 23 wards of moderate

category are distributed in whole city in which 11 wards lie in outer zone, 7 wards in core zone and 5 wards in middle zone. Low literacy (less than 65%) is found in 8 wards out of which three lie in outer zone which bear rural characteristics. Four wards (outside Sainyargate and Orchhagate II, Mukaryana, Aligol I and II) confine lie in core zone that are mainly inhabited by Muslims. Economic Characteristics of the Population The first step of planning process should be to conduct a resource assessment of the city and then to analyse these fiscal resources from an economic development perspective. The work participation rate and engagement of workers in different economic productive functions reveals the potential of development. Total number of workers are 167,897 which is 33.2% to the total population in the city. The main workers are 123,281 (73.42% of the total workers) while marginal workers 44,616 (26.57 of the total workers). Non workers are 337,796 in the whole population which is 66.79%. A good sign marked in the rate of work participation with the increase from 27.4 (2001) to 33.2% (2011). It happened due to some new opportunities that took place under the liberal economic system and inclusion of domestic workers.

Occupational Structure

Occupation being an important economic quality of population exerts vital influence on socio-economic, cultural and demographic characteristics of a region and provides a background in formulating plans for socio-economic development (Tiwari and Sharma, 2009).

Table 6: Proportion of workers to the total workers.

Census Year	Cultivators	Agricultural Labourers	Workers in Household industry	Other workers
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	Persons	%	Persons	%	Persons	%	Persons	%
1981	1,728	2.68	760	1.18	5,220	8.12	54,804	85.31
1991	1,487	1.92	1,350	1.75	3,138	4.07	72,238	93.69
2001	1,608	1.53	1,149	1.09	6,626	6.31	77,332	73.70
2011	4,251	2.53	10,990	6.54	12,503	7.44	14,0153	83.47

Source; i) District Census Handbooks, Jhansi District, Census of India, 1981; ii) Town Directory of Uttar Pradesh, Census of India, 1991, Part IX-A; iii) Primary Census Abstract, Jhansi, Census of India, 2001 and 2011

Table 6 shows the occupational structure of the city's population which is classified into four categories, i.e., cultivators, agricultural labour, workers in household industry and other workers. The percentage figures of occupational data of all categories fluctuated in every census year from 1981 to 2011 and in the last census, it is found a drastic increase of agricultural labourers while all three categories registered slight change. It happens due to inclusion of peripheral fifteen villages in the municipal corporation after 2001. As per census year 2011 the proportion of other workers gained highest figure, i.e., 83.47% to the total workers. It is followed by workers engaged in household industries (7.44%) with huge gap of more than 12 times. The proportion of other workers is very high to the total workers due to the city being an administrative headquarters of the district and the division. Therefore, it has been able to generate employment opportunities in service sector especially official jobs, transportation, business and commercial activities while some in industrial functions. The percentage of workers in household industries is 7.44% which reflects poor base of industrial set-up. The lowest proportion of workers was classed as cultivators (2.53%), agricultural labourers having second lowest proportion of the working force, i.e., 6.54%. This phenomenon occurred due to plenty of agricultural land of peripheral localities reviewed confined the hand of few.

Conclusion

The population of Jhansi city bears the characteristics like other cities of India. The historical background of the city has affected its population composition as religious and social while the lower sex ratio is the outcome of rural to urban migration male selective migration. Literacy rate of the city is varies from ward to ward as per the social and economic status of population. Walled city is characterised by the higher density of population and is inhabited largely by business class people while other middle class as well as higher class people reside in civil lines. The civil lines having higher literacy rate and better living environment due to moderately spotted occupancy and the concentration of administrative offices and various social facilities. The areas of lower income group are having the highest density due to various factors such as lack of living space, lesser urban facilities and the lower literacy rate. There is more than five per cent increase in the work participation during the last decade. The occupational structure of the population also varies from area to area. More workers engaged in services in core and middle zone and the cantonment and railway settlement while the workers in outer zone are engaged in agriculture. The workers in household industries are scattered around the city especially lower class areas.

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