

# **Regional Variations in the Process of Urbanization in Uttar Pradesh, 1951-71**

## **1. Introduction**

URBANIZATION as a process of becoming urban, involving a change over from rural agricultural occupation to non-agricultural occupations and associated with the organisational and behavioural changes, is both an antecedence and a consequence of several forces set in motion in a society undergoing transition. These forces represent a complex of vectors (of varying magnitude and direction) of economic development, modernization; cultural, social and political changes; and the governmental policies. Urbanization is both a quantitative and qualitative process and its study is of greater significance and relevance in the study of population, partly because differential urbanization may explain a significant variations in the demographic processes and partly because the mechanism of the process itself is not yet fully understood.

Uttar Pradesh, the most populous state of India, provides a good sociological laboratory for the study of urbanization in Indian context. Some distinct features of the urbanization in Uttar Pradesh are:

1. The state has cities which have existed for a long time, but in modern and demographic sense it has not made much progress [1].
2. The level of urbanization in the State is comparatively very low; its rate of urbanization too is low and the disparity in urbanization between the State and country as a whole has progressively widened.

3. Within the state, there are clearcut zones of conurbations and the growth of towns is limited to a part of the State [1]

In the recent past, many large cities of the State have experienced net out migration of people [2]. Being a state large both in area and population, it is characterised by many contrasts and diversities. In the light of this fact, we attempt here to highlight regional differentials in the process of urbanization in the state. Our specific objectives are to explore: (a) the regional variations in the level and speed of urbanization, (b) concentration of the urban population, and (c) the distribution of labour force by various economic activities.

Data for this purposes are drawn from the censuses of India (1951, 1961 and 1971). The concept and definition of 'Urban' is same as adopted in the censuses of India, in the period under study. The choice of contiguous administrative divisions to study regional variations is arbitrary but it is convenient and serves the purpose.

## 2. Analysis and Findings

*Distribution of Urban-Rural Population by Divisions.* The state is divided into 11 divisions for the purpose of administration. Table 1 gives the percent urban and rural populations as well as the number of towns/urban agglomerations in different divisions. There are five divisions, namely, Rohilkhand, Meerut, Agra, Allahabad and Jhansi, which have larger share in the State's urban Population than their share in rural population. These divisions account for 68.75 percent of the urban population and 60.07 percent of the towns. Among them Allahabad has comparatively a small share in the total number of towns/urban agglomerations but the highest share in the aggregate urban population. For this reason the average size of the towns in this division is relatively larger. Garhwal and Kumaun, the two hilly divisions are small in population and have the minimum share in both urban and rural population of the State. The rest four divisions, namely, Lucknow, Faizabad, Gorakhpur, and Varanasi, have a smaller share in the urban population than their corresponding share in the rural population.

*Comparative Degree of Urbanization.* The simplest and the conventional measure of the degree of urbanization is the proportion urban (i.e., the proportion of urban population in the total population). The divisions of the State show a wide variation in the degree of urbanization (Table2). It varies from 4.57 in Garhwal to 21.61 in Allahabad division. The divisions that exceed the corresponding State average are Rohilkhand, Meerut, Agra, Allahabad and Jhansi.

**TABLE 1—PERCENT DISTRIBUTION OF URBAN AND RURAL POPULATION AND TOWNS/URBAN-AGGLOMERATIONS BY DIVISIONS, 1971**

<i>State/Division</i>	<i>Rural</i>	<i>Urban</i>	<i>Towns/Urban-Agglomerations</i>
Uttar Pradesh	100.00	100.00	100.00
Garhwal	1.75	0.52	4.78
Kumaun	2.14	1.83	4.09
Rohilkhand	11.08	15.11	14.67
Meerut	10.25	16.93	19.11
Agra	9.24	13.81	11.95
Allahabad	10.54	17.82	6.15
Jhansi	4.82	5.08	8.19
Lucknow	11.24	10.44	7.51
Faizabad	13.28	4.61	7.17
Gorakhpur	14.67	4.42	4.78
Varanasi	10.99	9.43	11.60

SOURCE : Computed from Census of India, 1971, Series 1, India, Paper 1 of 1972, *Final Population*, pp. 24-37 and 128-133

A drawback of this conventional measure of the degree of urbanization is that it does not take into account the distribution of urban population according to size of urban places. To overcome this, Davis has suggested an index [3], which is the unweighted mean of the percentage of population in urban places of different size classes. It gives greater weight to the larger places and thus expresses the extent of urban concentration. Table 2 gives the percentage of the total population living in towns/urban agglomerations of various size limits as well as the values of this index of urbanization. In the computation of the index, the towns of size less than 5,000 have not been considered. The highest value of the index is given by the Allahabad division followed by the Meerut division. The four divisions which show the index to be higher than that of the state are Rohilkhand, Meerut, Agra and Allahabad. The Jhansi division with urban proportion above the state average shows the value of the index of urbanization to be smaller than that of the State. Garhwal, Faizabad and Gorakhpur divisions are the least urbanized and the remaining four (viz. Kumaun, Jhansi, Lucknow and Varanasi) fall in the intermediate level of urbanization.

TABLE 2—PERCENTAGE OF POPULATION IN TOWNS/URBAN-AGGLOMERATIONS OF VARIOUS SIZE LIMITS AND INDEX OF URBANIZATION IN DIVISIONS OF UTTAR PRADESH, 1971

State/Division	All Towns/Urban-Agglomerations	Percentage of Total Population in Towns of Size					Index
		5,000+	10,000+	20,000+	50,000+	100,000+	
Uttar Pradesh	14.02	13.99	13.33	11.86	9.52	8.00	11.34
Garhwal	4.57	4.05	0.82	—	—	—	0.97
Kumaun	12.19	11.84	11.51	8.46	2.82	—	6.93
Rohilkhand	18.20	18.20	17.60	16.05	12.32	8.79	14.59
Meerut	21.24	21.17	20.13	17.59	13.79	10.52	16.64
Agra	19.61	19.61	18.41	16.51	14.15	13.30	16.40
Allahabad	21.61	21.61	21.20	20.49	19.96	18.59	20.37
Jhansi	14.66	14.56	13.48	10.58	5.80	4.62	9.81
Lucknow	13.16	13.16	12.93	11.65	8.96	8.28	11.00
Faizabad	5.36	5.36	5.00	3.92	2.22	1.03	3.51
Gorakhpur	4.68	4.68	4.47	3.80	2.52	1.97	3.49
Varanasi	12.27	12.23	11.24	9.85	8.33	7.48	9.83

SOURCE : Same as that of Table 1.

The high variability in the economic levels as between the different regions of the State is perhaps reflected by the regional differentials in the urbanization. Within the State, the divisions which are at a relatively higher level of urbanization fall in the central and western regions of the State. These parts of the State have high per capita incomes, due to concentration of industries, large farm holdings, and adequate irrigation facilities [4]. Excepting Dehradun and Nanital districts, the rest of the hilly regions are economically backward. These regions lack transport facilities and record very high pressure on cultivated land [4]. Barring the Dehradun and Nanital districts, it is the least urbanized part of the State. The Eastern region of the State is the poorest. It is characterised by recurrent floods, irregular rainfall, poor land productivity, high density and very low level of industrial development [4]; the level of urbanization too is low.

*Speed of Urbanization.* Speed of urbanization refers to the rapidity of growth of urban population ( $U$ ) relative to the total population ( $T$ ) over time ( $t$ ). Statistically, it may be defined as the rate of increase of  $U/T$ . It describes the direc-

tion and rate of change of the degree of urbanization over time. Since the total population ( $T$ ) has two components, urban population ( $U$ ) and rural population ( $R$ ), the speed of urbanization may also be defined as the rate of increase of urban population relative to rural population (i.e. the rate of change of  $U/R$ ). If  $\alpha$  is the rate of increase of  $U/R$  and  $\beta$  is the rate of increase of  $U/T$ , mathematically it can be stated that

$$\alpha = \frac{T}{R} \beta^*$$

$$(T = U + R).$$

Obviously, for the same values of  $\beta$ ,  $\alpha$  will be higher for lesser values of  $R/T$ . Also for all values of  $\beta$  the following inequality holds,

$$\alpha > \beta, \quad \text{if } U \neq 0, \quad R \neq 0$$

$$\alpha = \beta, \quad \text{if } U = 0, \quad R \neq 0.$$

and

Moreover, as the percentage urban gets higher, it necessarily becomes more difficult to make a large proportional gain in that ratio [5]. Thus, to compare the speed of urbanization in the population which vary markedly in the level of urbanization and also exhibit low speed, the rate of change of  $U/R$  is a more sensitive measure than the conventional measure (rate of change of  $U/T$ ). Table 3 gives the urban-rural ratio and speed of urbanization ( $100 \alpha$ ) by divisions, experienced during 1951-71. Urban-rural ratio of 1951 is adjusted for definitional changes in 1961 Census.

A comparison between Table 2 and Table 3 reveals that the divisions with lower levels of urbanization have been urbanizing at a faster rate, as compared to the regions with relatively higher levels of urbanization. The rank correlation coefficient between the 'Index of Urbanization (1971)' and the 'Speed of Urbanization (1961-71)' was found to be  $- .7727$ . This relation calls for study in detail. Perhaps a multivariate approach using different socio-economic, cultural and political factors as explanatory variables would appear to be useful in this regard.

*Concentration of Urban Population.* Concentration of urban population refers to the relative importance of large cities within the urban aggregate at a parti-

$$*\alpha = \left(\frac{U}{R}\right)^{-1} \frac{\delta}{\delta t} \left(\frac{U}{R}\right) = \left(\frac{U}{R}\right)^{-1} \frac{\delta}{\delta t} \left(\frac{U}{T} \cdot \frac{T}{R}\right) = \left(\frac{U}{R}\right)^{-1} \frac{\delta}{\delta t} \left(\frac{U}{T} \cdot T + \frac{U}{R}\right)$$

On Solving the above equation we get

$$\alpha = \left(\frac{T}{R}\right) \left(\frac{U}{T}\right)^{-1} \frac{\delta}{\delta t} \left(\frac{U}{T}\right) = \frac{T}{R} \cdot \beta$$

TABLE 3—URBAN-RURAL RATIO AND SPEED OF URBANIZATION IN THE DIVISIONS OF UTTAR PRADESH, 1951-71

State/Division	Urban-Rural Ratio in Year (in percentage)			Speed of Urbanization (100%) in decade	
	1951*	1961	1971	1951-61	1961-71
Uttar Pradesh	13.42	14.75	16.31	9.91	10.58
Garhwal	2.37	3.23	4.79	36.29	48.30
Kumaun	9.45	10.47	13.88	10.79	32.57
Rohilkhand	20.84	20.85	22.26	0.05	6.76
Meerut	22.72	24.06	26.97	5.90	12.09
Agra	20.68	23.09	24.39	11.65	5.63
Allahabad	22.98	24.74	27.57	12.01	7.11
Jhansi	14.30	15.66	17.18	9.51	9.71
Lucknow	12.86	14.28	15.15	11.04	6.09
Faizabad	4.59	4.98	5.66	8.50	13.65
Gorakhpur	3.61	4.16	4.91	15.24	18.03
Varanasi	10.98	12.42	13.99	13.11	12.64

\*Adjusted for definitional changes in 1961 Census.

SOURCE : Computed from Census of India, 1951, Vol. II, Uttar Pradesh, Part II-A, *General Population Tables*, and Census of India 1961, Vol. XV, Uttar Pradesh, Part II-A, *General Population Tables and Census of India 1971, Series 1, India, Paper 1 of 1972, Final Population*, pp. 24-37, and 128-133.

cular point of time. Over time, it may change because certain urban units grow relative to the aggregate and other new urban units appear within the urban system. From among a number of ways of measuring concentration, we have used here the redundancy measure. The redundancy measure in respect of a division may be defined as

$$C_i = \log n_i - H_i(U)$$

$$= \log n_i + \int_{j=1}^{n_i} p_j \log p_j \quad (i = 1, 2, 3, \dots)$$

Where  $C_i$  is the concentration of urban population in the  $i$ -th division,  $n_i$  is the number of urban places in  $i$ -th division and  $p_j$  is the population of the  $j$ -th urban place in the division  $i$ , relative to the division's urban population. The

value of this measure ranges between zero (when all the urban places in  $i$  are of the same size) and  $\log n_i$  (when whole urban population is one city).

$$H_i(U) = \int_{j=1}^{n_i} p_j \log p_j$$

is called the entropy function. Swanson [6] found this measure to be appropriate on such grounds as the ease of interpretation of extreme cases, independence of the population distribution function of size characteristics and elegance of the spatial size concentration effects as well as the variation of concentration within a state. The concentration within state may be defined as

$$C_i = \log n - H(U) = \int_{i=1}^l p_i C_i + \int_{L=1}^l p_i \log \frac{p_i}{n_i/n}$$

where  $p_i$  is the share of  $i$ -th division in the State's urban Population,  $n_i$  the number of urban places in the  $i$ -th division and  $n$  the number of urban places in the State. The expression

$$\int_{L=1}^l p_i \log \frac{p_i}{n_i/n}$$

gives the extent of spatial concentration of State's urban population among its division. Being the weighted average of the logarithms of the estimated slopes of the Lorenz curve at each point, where the weights are city sizes [7], its usefulness is envisaged over other concentration measures based on Lorenz curve. Column 4 and 5 of the Table 4 give the hypothetical maximum and observed values of concentration by divisions. Column 6 gives the measure of concentration relative to its hypothetical maximum value (index of concentration of urban population). The highest concentration of urban population [8] is given by Allahabad division followed by Lucknow division. Meerut division which is the second largest in the state in urban population as well as in index of urbanization, ranks sixth. The least concentration is recorded by Garhwal division, followed by Kumaun. The two components of  $\log n - (H) U$  have been computed. The rank correlation coefficient between the 'Index of urbanization' and 'Index of concentration' was + .6636 and that between the 'Index of concentration' and 'Speed of urbanization' (1961-71) was - .6545.

TABLE 4—AVERAGE CITY SIZE AND THE CONCENTRATION OF URBAN POPULATION IN THE DIVISIONS OF UTTAR PRADESH, 1971

Division	Average City Size* $\left(\frac{U_i}{n_i}\right)$	Percentage of Division's Urban Population to State's $(100 p_i)$	$\log n_i$	$\log n_i - H_i(U)$	Index of Concentration of Urban Population $\frac{\log n_i - H_i(u)}{\log n_i} \times 100$
1	2	3	4	5	6
Garhwal	4,543	0.5133	1.461	0.1969	9.33
Kumaun	11,828	1.8236	1.0792	0.1070	9.91
Rohilkhand	43,540	15.1123	1.6335	0.2960	18.12
Meerut	37,461	16.9333	1.7482	0.3218	18.41
Agra	48,894	13.8135	1.5441	0.4848	31.40
Allahabad	122,663	17.8225	1.2553	0.6784	54.05
Jhansi	26,210	5.0775	1.3802	0.2313	16.76
Lucknow	58,803	10.4424	1.3434	0.5987	44.60
Faizabad	27,202	4.6108	1.3222	0.1502	11.36
Gorakhpur	39,102	4.4189	1.1461	0.2637	23.01
Varanasi	34,367	9.4319	1.5315	0.6112	39.91

\*Average city size =  $\frac{\text{Total urban population of the division}}{\text{Number of towns in that division}}$

$$\int_{i=1}^I p_i \log \frac{p_i}{n_i/n} = .0584$$

$$\int_{i=1}^I p_i C_i = .4401$$

$$C = \log n - H(U) = .4985$$

SOURCE : Same as that of Table 1.

*Agriculture, Industry and Services in the Urban and Rural Labour Force.* Pre-dominance of agriculture and industrial backwardness are perhaps responsible

for the low level of urbanization in the state. A direct correlation is often cited between industrialisation and concentration of population in large urban places. Each of them are considered to be cause of the other. The increase of industrial population relative to agricultural population and increase of urban population relative to rural population have been observed to be concomitant in the history of today's urbanised nations. Because the population data cross classified by agricultural, industrial categories are not available, labour force data have been utilized in the following analysis. However, population ratios may differ slightly from the labour force ratios, as the number of dependents per worker may differ in the various brackets of the population [9]. The various economic activities in which the labour force is divided are here placed in three groups as follows.

1. Agriculture—agriculture, forestry, hunting and fishing.
2. Industry —mining and quarrying, manufacturing, construction and utilities (electricity, gas and water).
3. Service —commerce, transport, storage, and communications as well as public and private services.

According to the 1971 census, agriculture accounts for the highest share in the states labour force. Among the divisions, this share of agriculture varied from 62.22 in Meerut to 91.05 in Gorakhpur, state average being at 77.99 (Table 5). Rural-urban classification of the labour force does not strictly correspond to its agriculture non-agricultural classification; rural labour force includes some who pursue non-agricultural activity, and its urban counterpart includes some who pursue agriculture. The percentage of the agricultural in the rural labour force for the state is 89.18, it varies among the divisions from 78.78 in Meerut to 93.19 in Jhansi which shows that the non-agricultural component of the rural labour force is larger than the agricultural component of the urban labour force. The ratio of agricultural labour force to rural labour force, can, symbolically, be expressed as

$$R = \frac{r_a + U_a}{r_a + r_{na}}$$

where  $R$  stands for the ratio of agricultural labour force to rural labour force;  $r_a$ ,  $U_a$  and  $r_{na}$  for rural agricultural labour force, urban agricultural labour force and rural non-agricultural labour force.

The degree of urbanization of the labour force engaged in an activity may be defined as the percentage ratio of labour force engaged in that activity in the urban to the total labour force in that activity. Table 6 gives the degree of

TABLE 5—COMPARISON BETWEEN PERCENTAGES OF RURAL LABOUR FORCE AND PERCENTAGES OF AGRICULTURAL LABOUR FORCE IN UTTAR PRADESH, 1971

<i>State/ Division</i>	<i>Percent Agricultural Labour Force</i>	<i>Percent Rural Labour Force</i>	<i>Percentage Ratio of Agricultural to Rural Labour Force</i>
Uttar Pradesh	77.99	87.46	89.18
Garhwal	86.58	96.66	89.57
Kumaun	77.96	89.96	86.66
Rohilkhand	77.93	84.03	92.74
Meerut	62.22	78.98	78.78
Agra	69.51	81.57	85.21
Allahabad	71.14	79.64	89.33
Jhansi	81.93	87.91	93.19
Lucknow	81.70	88.39	92.44
Faizabad	88.23	92.50	92.64
Gorakhpur	91.05	95.78	91.05
Varanasi	75.55	88.33	85.54

SOURCE : Computed from Census of India 1971, Series 21, Uttar Pradesh Part II-B (i), *Economic Tables* pp. 2-135.

urbanization of total, agriculture, industry and service labour force, for the years 1961 and 1971. Meerut division ranks first in the degree of urbanization of total labour force, followed by Allahabad. But in the degree of urbanization of industry and service Allahabad occupies the first place and the second rank goes to Rohilkhand. The divisions of Rohilkhand, Meerut, Agra, Allahabad, Jhansi are above the state average in the degree of urbanization of agriculture. The divisions which are above the state average in the degree of urbanization of service are Rohilkhand, Agra, Allahabad, Jhansi, and Lucknow. Further the labour force in each of the three economic activity groups has become

more urban in the decades 1961-71. It should be noted here that the data on labour force of 1961 census and of 1971 census are not perfectly comparable,\* As the Table 6 depicts, agriculture is a rural activity and between the groups of non-agricultural activities, service is more urban than industry.

Table 7 gives the percentage distribution of urban labour force by economic activity and service-to-industrial workers ratio for 1961 and 1971. The share of industry in the labour force is greater than that of agriculture but smaller than that of the service sector. The percentage of agriculture in total labour force varies from 6.47 in Allahabad to 18.23 in Jhansi. Garhwal, Kumaun, Rohilkhand, Jhansi, Faizabad, and Gorakhpur divisions are above the state average in percentage in agriculture. The percentage of industry in the total labour force varies from 12.39 in Garhwal to 33.55 in Varanasi. Rohilkhand, Agra, Allahabad, Gorakhpur and Varanasi divisions are above the state average in this regard. The percentage of service in the total labour force varies from 55.23 in Rohilkhand to 74.66 in Garhwal. Garhwal, Kumaun, Meerut, Allahabad, Jhansi, and Lucknow divisions are above the corresponding state average. Notable is the increase in percentage of agricultural labour force in urban areas in all the divisions during 1961-71. This may be due to (a) addition of new towns in 1971 that have relatively larger percentage of agricultural labour force, (b) relatively slower growth of industry and service than the growth of total labour force and (c) change of definition of labour force in 1971. With the exception of Rohilkhand, Meerut, Jhansi, and Agra, ratio of service workers to industrial workers had increased during the decade in all divisions. It shows that of the urban non-agricultural economic activities, the service sector had grown at a faster rate than the industrial. For Rohilkhand, Meerut, Jhansi, and Agra divisions, however, the reverse is true.

In the rural areas, agriculture is the major component of labour force (87.68 percent of the total labour force) and the other two components (industry and service) are minor (table 8). The Garhwal, Rohilkhand, Jhansi, Lucknow, Faizabad and Gorakhpur divisions had a larger share of agriculture than the State in 1971. The share of agriculture in the total labour force in the rural areas has increased in the decade 1961-71. The Garhwal and Kumaun divisions are the exceptions where there was an increase in the share of services and a decrease in those of agriculture and industry. Except Allahabad and Rohil-

\*Firstly because of definitional change and secondly due to the reason that labour force engaged in mining and quarrying, in 1961, is included in agriculture (due to non-availability of separate data), through the effect of second factor is almost negligible in case of Uttar Pradesh.

TABLE 6—DEGREE OF URBANIZATION OF AGRICULTURE, INDUSTRY AND SERVICE IN UTTAR-PRADESH

State/Division	Year	Degree of Urbanization of			
		Total Labour Force	Agriculture	Industry	Service
Uttar Pradesh	1961	10.17	0.98	31.84	43.68
	1971	12.54	1.69	45.14	54.34
Garhwal	1961	2.22	0.31	6.65	35.33
	1971	3.34	0.50	18.31	22.32
Kumaun	1961	5.95	0.47	19.07	42.20
	1971	10.04	1.37	35.98	42.22
Rohilkhand	1961	14.71	2.14	40.86	51.17
	1971	15.97	3.17	55.94	64.38
Meerut	1961	17.82	2.74	26.47	38.33
	1971	21.02	3.41	42.67	54.05
Agra	1961	16.72	1.29	40.30	45.91
	1971	18.43	1.82	55.60	56.67
Allahabad	1961	17.05	1.16	51.51	56.79
	1971	20.36	1.85	60.86	68.85
Jhansi	1961	9.81	1.45	27.77	41.94
	1971	12.09	2.69	41.14	60.80
Lucknow	1961	10.35	1.05	36.98	53.04
	1971	11.61	1.38	44.94	62.89
Faizabad	1961	3.63	0.42	17.84	29.04
	1971	4.61	0.85	28.33	35.56
Gorakhpur	1961	3.09	0.21	18.45	28.31
	1971	4.22	0.53	26.31	31.53
Varanasi	1961	9.02	0.75	27.36	37.40
	1971	11.67	1.55	37.32	47.20

SOURCE: Computed from Census of India 1961, Volume XV, Uttar Pradesh, Part II-A, *General Population Tables*, pp. 294-412 and Census of India 1971, Series 21, Uttar Pradesh, Part II-B (i), *Economic Tables*, pp. 2-135.

TABLE 7—PERCENTAGE COMPOSITION OF URBAN LABOUR FORCE  
CLASSIFIED BY BRANCH OF ECONOMIC ACTIVITY IN  
UTTAR PRADESH

<i>State/Division</i>	<i>Year</i>	<i>Total Urban Labour Force</i>	<i>Agriculture</i>	<i>Industry</i>	<i>Service</i>	<i>Ratio of Service Workers Per 100 Industrial Workers</i>
Uttar Pradesh	1961	100.00	7.34	30.56	62.10	203
	1971	100.00	10.49	28.56	60.95	213
Garhwal	1961	100.00	12.55	13.24	74.21	560
	1971	100.00	12.95	12.39	74.66	603
Kumaun	1961	100.00	6.60	20.91	72.49	347
	1971	100.00	10.68	19.43	69.89	360
Rohilkhand	1961	100.00	10.49	29.85	59.66	200
	1971	100.00	15.46	29.31	55.23	188
Meerut	1961	100.00	7.91	27.12	64.97	240
	1971	100.00	10.08	27.10	62.82	232
Agra	1961	100.00	4.81	32.23	62.96	195
	1971	100.00	6.87	32.75	60.38	184
Allahabad	1961	100.00	4.79	34.08	61.13	179
	1971	100.00	6.47	30.88	62.65	203
Jhansi	1961	100.00	11.29	23.63	65.08	276
	1971	100.00	18.23	19.09	62.68	238
Lucknow	1961	100.00	8.10	25.53	66.37	260
	1971	100.00	9.70	22.08	68.22	309
Faizabad	1961	100.00	10.03	30.26	59.71	197
	1971	100.00	16.20	27.01	56.79	210
Gorakhpur	1961	100.00	5.95	38.20	55.85	146
	1971	100.00	10.93	32.77	56.30	172
Varanasi	1961	100.00	6.14	36.98	56.88	154
	1971	100.00	10.03	33.55	56.42	168

SOURCE : Same as that of Table 6.

TABLE 8—PERCENT COMPOSITION OF RURAL LABOUR FORCE CLASSIFIED BY BRANCH OF ECONOMIC ACTIVITY IN UTTAR PRADESH

<i>State/Division</i>	<i>Year</i>	<i>Total Rural Labour Force</i>	<i>Agriculture</i>	<i>Industry</i>	<i>Service</i>	<i>Ratio of Service Workers per 100 Industrial Workers</i>
Uttar Pradesh	1961	100.00	83.52	7.41	9.07	122
	1971	100.00	87.68	4.98	7.34	148
Garhwal	1961	100.00	92.68	4.23	3.09	73
	1971	100.00	89.12	1.91	8.97	470
Kumaun	1961	100.00	88.10	5.62	6.28	112
	1971	100.00	85.47	3.86	10.67	277
Rohilkhand	1961	100.00	82.73	7.45	9.82	132
	1971	100.00	89.30	4.39	5.81	132
Meerut	1961	100.00	60.99	16.34	22.67	139
	1971	100.00	76.09	9.69	14.22	147
Agra	1961	100.00	75.53	9.59	14.88	155
	1971	100.00	83.66	5.91	10.43	176
Allahabad	1961	100.00	83.84	6.60	9.56	145
	1971	100.00	87.67	5.08	7.25	143
Jhansi	1961	100.00	83.53	6.68	9.79	147
	1971	100.00	90.69	3.76	5.55	148
Lucknow	1961	100.00	88.20	5.02	6.78	135
	1971	100.00	91.16	3.55	5.29	149
Faizabad	1961	100.00	89.27	5.24	5.49	105
	1971	100.00	91.72	3.31	4.97	151
Gorakhpur	1961	100.00	90.09	5.39	4.52	84
	1971	100.00	90.56	4.05	5.39	133
Varanasi	1961	100.00	80.83	9.73	9.44	97
	1971	100.00	84.20	7.45	8.35	112

SOURCE : Same as that of Table 6.

khand, the ratio of services workers to industrial workers has increased during 1961-71 in all divisions. Even in Allahabad, the reduction in the ratio is not significant. The increase of the ratio of service to industrial workers reflects a slower growth of industry relative to that of services in rural areas. Comparison of the ratio of service to industrial workers between urban and rural areas reveals that among the non-agricultural economic activities, service dominates more in urban than in rural areas.

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## References

1. P. P. Bhatnagar, *General Report on the Census*, Census of India, 1961, Vol. XV, Uttar Pradesh p. 168-325.
2. Arun Kumar Sharna and Naresh Kumar Tyagi, *Internal Dynamics of Urbanization in Uttar Pradesh*. I.I. P. S., Bombay (Typed),
3. Davis, Kingsley and Ana Casis, 1946, Urbanization in Latin America, *Milbank Memorial Fund-Quarterly*, **24** 186-207,
4. National Council of Applied Economic Research, 1965, *Techno-Economic Survey of Uttar Pradesh*.
5. Davis, Kingsley, Asia's Cities, Problems and Options, *Population and Development* Vol 1(1), 71-86
6. Swanson, J.A., 1975, **Urban Concentration and structural change : The American Middle West, 1850-1930**, *Urban Studies*, 12(3).
7. Hart, P. E., Entropy and other measures of concentration, *Journal of the Royal Statistical Society*. Series A (General), 134(1), 73-85.
8. Tisdale, H., 1942, The process of Urbanization, *Social Force*, 20. 311-316.
9. *Agriculture, Industry, and Services in the Urban and Rural Labour Force*, Prepared by the Population Division, Department of the Economic and Social Affairs of the United Nations Secretariat ESA/p/WP. 57, 30 September 1970,