

## SPATIO - TEMPORAL VARIATION IN THE NUMBER AND POPULATION OF URBAN CENTRES OF BIJAPUR DISTRICT IN KARNATAKA

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**ABSTRACT** : Bijapur district being a drought prone area has 23.58 percent urban population which is less than Karnataka state's ratio of (30.90%) urban population. There are 1,239 rural settlements while urban centres are only 18, each serving 69 villages around their vicinity. There are 13 towns located in southern half of the district which has a more favourable geographical setting than the north. But this situation is expected to change by 2000 A.D. when northern half of the district gets irrigation through Upper Krishna river project. The rate of decadal urban growth in pre-independence period was 21.87 percent while in post-independence period it is 22.68 percent, which shows unchanged economic conditions in Bijapur region. The

### INTRODUCTION

The growth of urbanization or urban economy and its impact on regional development is highly relevant today to developing countries which are now passing through various phases of economic development. Urbanization being a dynamic force involves urban elements that have considerable temporal and spatial variations. In case the process is viewed on a definite regional background, urbanization influences the surrounding rural areas, which

can readily be seen in rural urban linkages. Hence, urbanization is equipped with the potentialities of development of non-agricultural production to cater in a better way, to the requirements of urban manufactured goods in the rural areas.

Some notable contributions have been made during the last four decades or so on the process of urban growth and regional development by geographers, locational and urban economists and town planners.

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\* *Old Definition*: Town includes (a) every municipal area/ corporation, cantonment and town area committee, etc. of whatever size; (b) all civil lines not included within municipal limits; (c) every other continuous collection of houses, permanently inhabited by not less than 5000 persons, which the provincial superintendent may decide to treat as a town for census purpose.

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*New Definition*: Town includes (a) all places with a municipal area/corporation, cantonment or notified area committee; (b) all places which satisfied the following criteria; (i) a minimum population of 5000, (ii) atleast 75 percent of the male working population being non-agricultural, (iii) a density of population of at least 400 per sq. Km. (i.e. 1000 per sq.mile).

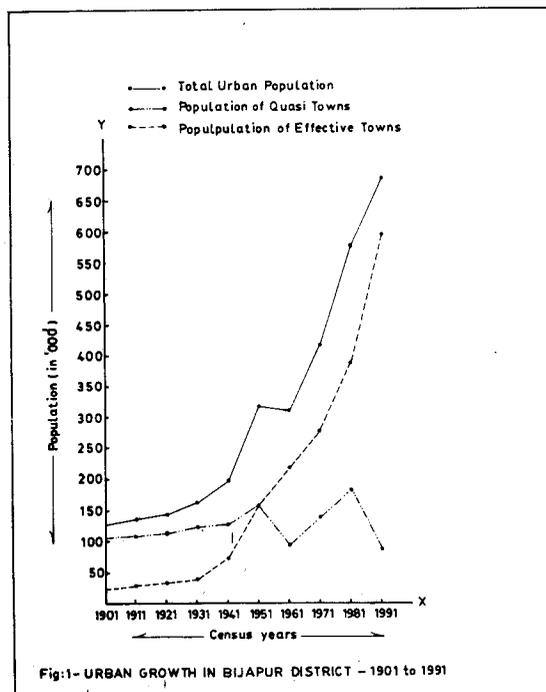


Fig. No. 1

### STUDY AREA :

Bijapur district of Karnataka state located in the Northern Maidan is well situated in the interior of the Deccan plateau. It is located about 200 miles from the west coast and is part of the rain shadow region with erratic and ill-distributed south-west monsoon annual average rainfall of 554mm. As the district belongs to the semi-arid climatic region, it has large variation in the amount and distribution of rainfall, consequently it is prone to droughts and famines. The district is one of the largest in the state. It has a population of 29,18,829 (1991) with a density of 171 per Sq.Km. The rate of literacy is 45.70 percent and the urban population in the district is less i.e., 23.58 percent. Out of the total population, 41.68 percent are workers and 58.32 percent are non-workers. Similarly, out of the working population the total cultivators are 34.36 percent, agricultural labourers 28.75 percent, people engaged in household industries account

for hardly 2.81 percent and other workers number 34.08 percent. The total number of villages are 1,239 and the towns are 18. The district consists of eleven revenue takuks namely Badami, Bagalkot, Basavan-Bagewadi, Bijapur, Bilgi, Hungund, Indi, Jamakhandi, Muddebihal, Mudhol and Sindhgi.

The average height of the land is 1950 feet (above the sea level). The area is surrounded by semi-arid regions of Karnataka and Maharashtra states. The district has broad groups of physical divisions with Deccan traps in the north, Kaladgi series in the south-west and peninsular gneissic topography in the east and south-east. The district is drained by five major rivers and is overlain by deep black soils in major portion of the area. The waste land occupies hardly 6.10 percent (1,04,466 hectares). Climatically the area belongs to semi-arid type with dry and healthy conditions for human settlements. The average annual

rainfall of 554 mm. occurs in the region with its large variation in the amount and distribution rendering the district liable to droughts and famines. The mean maximum temperature of the district is 40.00°C and minimum 14.8°. The district in Karnataka is conspicuous due to its plain and gentle topography and also its geographical entity in the matters of relief, soil, climate, drainage and vegetation. The vegetation cover is very sparse and occupies 4.87 percent (83, 103 hectares) only.

The economy of the district is dwindling due to the occurrence of droughts at least twice in every five years. The land under irrigation is very little, i.e., 10.84 percent (1,54,258 hectares) compared to the net sown area i.e., 83.09 percent (14,22,713 hectares). The strength of livestock population is 22,86,734. The total number of land holders in the district is 3,02,566, of which marginal land holders are 9.52 percent (28,560), small holders 19.60 percent (59,316), semi-medium 28.97 percent (87,652), medium 30.86 percent (93,376) and large holders 11.13 percent (33,662). About 10.99 percent of the land was brought under HYV programme in the district. The fertiliser consumption in the district is very low. i.e., 0.013 tonnes per hectare. The number of tractors in the district is 1,807 which emphasises the development of agriculture towards mechanisation. Similarly the high use of electric pumpsets ranging upto 36,512 suggests the achievement of farmers in the developmental programmes like well irrigation.

The main objective of this paper is to highlight the spatio-temporal variation in number and population size of urban centres by size class and town-groups and to highlight the regional economic disparities in the Bijapur district and to bring out their relationship.

## METHODOLOGY

The following four methods are used to study the trends and levels of urbanization and the regional development.

- i) Percentage of growth of urban population.
- ii) Growth rate of urban population :

$$\text{Rate of urbanization} = \frac{L_2 - L_1}{L} \times 100$$

Where  $L_1$  and  $L_2$  are the degree of urbanization at two points of time.

- iii) Class-wise growth of urban centres.
- iv) Relationship between economic disparities and distribution of towns.

## I. PERCENTAGE OF URBAN GROWTH:

In measuring the urbanization, the percentage of urban population to total population is used. An analysis of Table-1 reveals that there has been an increase in the proportion of urban population from 1901 to 1991 in the Bijapur district. It was about 14.06 percent in 1901 which has gone upto 23.58 percent in 1991 (see Fig. 1) showing thereby a rather slow average shift of only 1.06 percent in a decade. The urban population of the Bijapur district comprises of the total population of its 18 towns. Temporal variation in the number of towns in the district and their total urban population prove to be an important indicator of the pace of urbanization. The chronological distribution of towns from 1901 to 1991 shows that there were 14 towns during 1901, which increased to 25 by 1951. After 1951 the number of towns decreased to only 14 in 1961. The relationship between urban population and the density of population of each taluka shows a (0.74) positive correlation. The new definition while it gives a more realistic picture of urbanization than was given in earlier

censuses, has a problem of comparability over time. "Reclassification balance" as a component of urban growth has assumed added importance

and unless proper adjustments are made, inferences concerning urban growth rates during 1951-61 decade can be very misleading.

Table - 1

Growth of Urban Population in Bijapur District. (1901 - 91)

Census Years	No. of Towns	Urban Population	Rate of Decadal Variation in Urban Population in %	Percentage of urban population to total Population
1901	14	1.26.995	-	14.06
1911	16	1.36.614	7.57	13.31
1921	16	1.45.135	6.23	15.14
1931	17	1.65.357	13.93	15.79
1941	17	2.00.451	21.22	17.05
1951	25	3.21.457	60.37	23.02
1961	14	3.13.406	-2.51	18.88
1971	17	4.21.175	34.39	21.21
1981	19	5.78.628	37.38	24.09
1991	18	6.88.913	18.96	23.58

Source: District census hand book, Bijapur, 1961-1981 Provisional census report, Karnataka, 1991.

## II. GROWTH RATE OF URBAN POPULATION:

The decade-wise growth rate of urban population in each town has shown an increasing trend during the period 1901 to 1991. Their pattern has been analysed for pre-independence (1901-51) and post-independence (1951-91) period. The decadal growth rate has increased during these two periods of pre and post-independence (21.87 percent per decade during 1901-51 and 22.68 percent per decade during 1951-91). Besides, the growth rate of population in each urban centre has always increased throughout the study period (1901-91). The following

eight towns viz., Mudhol, Mahalingpur, Jamkhandi, Bijapur, Bagalkot, Ilkal, Guledgudd and Rabakavi- Banahatti have witnessed an average of more than 25 percent of growth rate from 1901 to 1991. The development of agricultural infrastructural facilities and increase in the number of small scale and cottage industries in these towns and their near vicinity have given scope for urban growth of these towns, whereas five towns viz., Hungund, Terdal, Talikot, Indi and Basavan-Bagevadi have experienced less than 25 percent urban growth. This slow rate of urban growth is mainly attributed to under development in irrigation and rural small scale industries.

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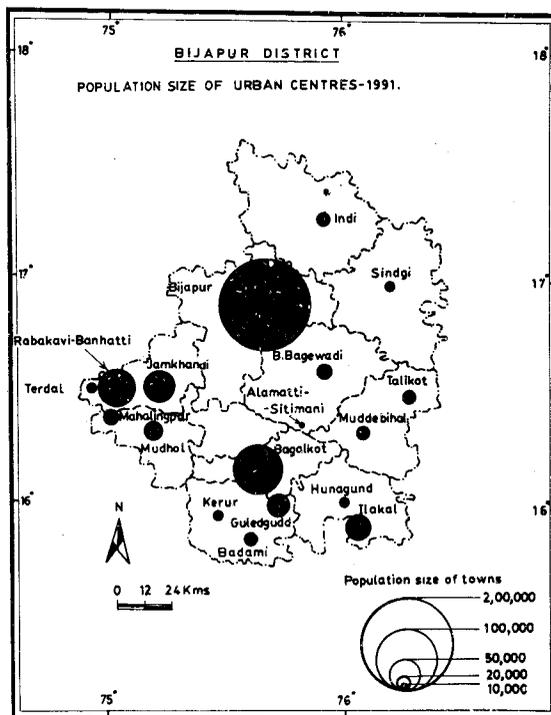


Fig-2

**Table 2 :**  
**Number and population of towns in different size-classes in Bijapur District (1991)**

Size Classes	Population Range	No. of Towns in each class	Name of the town	Population of each town	Class-wise town population
I.	1,00,000 and above	1	Bijapur	1,93,038	1,93,038
II.	50,000 to 99,999	2	Bagalkot Rabakavi-	78,819 60,607	1,37,426 (19.97)
III.	20,000 to 49,999	9	Jamkhandi Ilkal Guledgudd Mudhol Mahalingpur Indi Basavan Bagewadi Talikot Muddebihal	48,111 40,085 33,896 31,071 26,047 25,119 23,048 21,857 20,019	2,69,253 (39.12)

Size Classes	Population Range	No. of Towns in each class	Name of the town	Population of each town	Class-wise town population
IV	10,000 to 19,999	5	Badami Terdal Sindgi Hunagund Kerur	19,919 17,332 16,168 15,391 15,198	84,009
V	5,000 to 9,999	Nil	Nil	-	-
VI.	5,000 and below	1	Alamatti-Sitimani (NAC)	4,595 (0.67)	4,595
I to VI	Dist Total	18		6,88,319	6,88,319 (100.00)

Source : Provisional census report, Karnataka State - 1991

Note : Figures in brackets show the percentage of district total urban population.

**Table 3 :**

**Number and Population in two Categories of towns of Bijapur District (1901-91)**

Town Groups	1901		1911		1921		1931	
	No. of Towns	Population						
Effective Towns	1	23,811 (18.75)	1	27,615 (20.21)	1	32,485 (23.38)	1	39,747 (24.04)
Quasi Towns	13	1,03,184 (81.25)	15	1,08,999 (79.79)	15	1,12,650 (77.62)	16	1,25,610 (75.96)
Total	14	1,26,995 (100.00)	16	1,36,614 (100.00)	16	1,45,135 (100.00)	17	1,65,357 (100.00)

Town Groups	1941		1951		1961		1971	
	No. of Towns	Population						
Effective Towns	2	73,489 (36.66)	5	1,61,606 (50.27)	6	2,20,190 (70.26)	6	2,79,546 (66.37)
Quasi Towns	15	1,26,962 (63.34)	20	1,59,851 (49.73)	8	93,216 (29.74)	11	1,41,629 (33.63)
<b>Total</b>	<b>17</b>	<b>2,00,451</b> <b>(100.00)</b>	<b>25</b>	<b>3,21,457</b> <b>(100.00)</b>	<b>14</b>	<b>3,13,406</b> <b>(100.00)</b>	<b>17</b>	<b>4,21,175</b> <b>(100.00)</b>

Town Groups	1981		1991	
	No. of Towns	Population	No. of Towns	Population
Effective Towns	7	3,02,082 (67.76)	12	5,99,717 (87.13)
Quasi Towns	12	1,86,546 (32.24)	6	88,602 (12.87)
<b>Total</b>	<b>19</b>	<b>5,78,628</b> <b>(100.00)</b>	<b>18</b>	<b>6,88,319</b> <b>(100.00)</b>

Note : Figures in brackets show the percentage to the district's total urban population.

**III. CLASS-WISE GROWTH OF URBAN CENTRES:**

During 1991 Bijapur district experienced 23.58 percent urban growth. There are 18 towns spread into I to VIth classes (see Table - 2). Out of the total urban population (6,88,319), the class I city (Bijapur city) accounts for 28.04 percent of urban population (1,93,038), where as 19.97 percent of population (1,37,426) is concentrated in two class

II towns viz., Bagalkot and Rabakavi - Banahatti. The maximum number (9) of towns are in class III viz., Jamakhandi, Ilkal, Guledgudd, Mudhol, Mahalingpur, Indi, Basavan - Bagewadi, Talikot and Muddebihal. These nine towns together share 39.12 percent of urban population of Bijapur district. In class IVth we notice five towns viz., Badami, Terdal, Sindgi, Hungund and Kerur contributing 12.20 percent of total urban population. There

is no town belonging to class Vth, whereas there is one town (Almatti - sitamani : A notified area) of VIth class, sharing 4.595 (0.67%) population. During 1901 to 1991, there has been a significant change in the ratio of urban centres and urban Population in the two town groups<sup>5</sup> i.e., 'effective towns' and 'quasi-towns'.

In the group of "Effective Towns" (more than 20,000 population), throughout the nine decades, we notice a continuous increasing trend of urban population growth whereas the "Quasi Towns" (less than 20,000 population) have decreased from 1961, both in their number and their total population (see table - 3.). The location of towns as shown in the map (see Fig.2) reveals that there are 13 towns (72.22%) in southern half of the Bijapur district mainly because of favourable geographical setting like red mixed black soil, tank irrigation, well irrigation and wide distribution of handloom and cottage industries. However, when upper Krishna river project is completed by 2000 A.D. it is estimated that the northern taluks of Bijapur district will get more irrigation and thereby agro-economic prosperity will lead to more urbanization than the southern part of the district.

#### IV RELATIONSHIP BETWEEN ECONOMIC DEVELOPMENT AND DISTRIBUTION OF TOWNS :

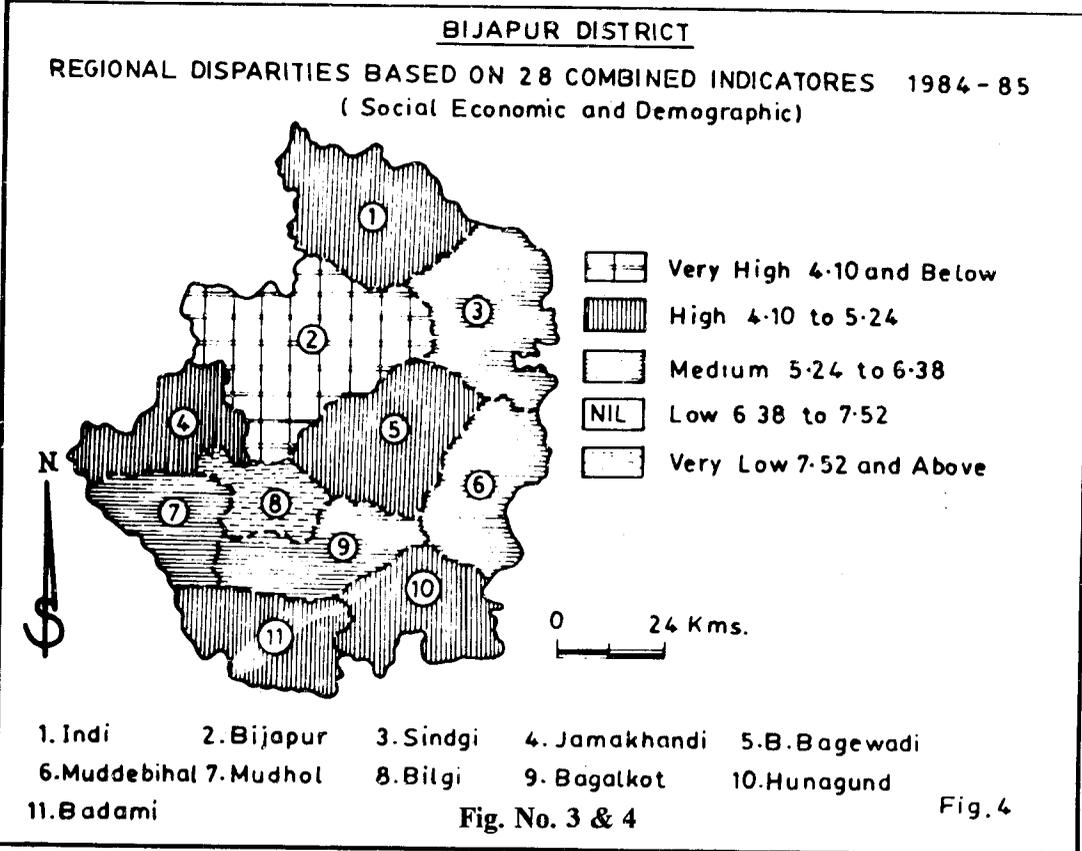
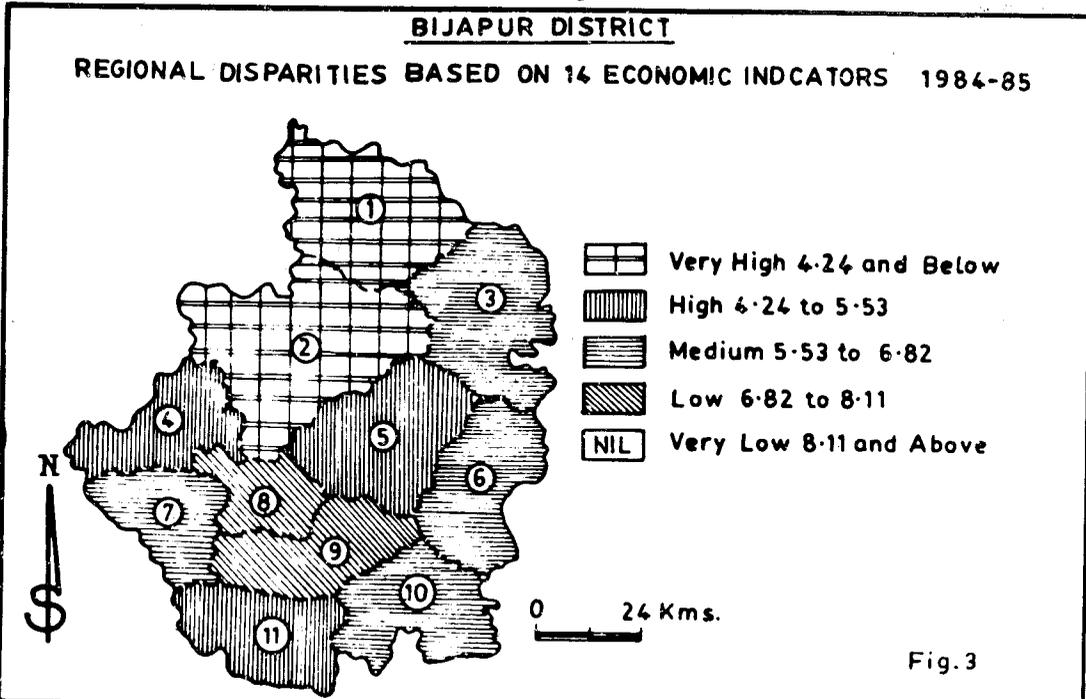
Using the following 14 indicators viz., (i) number of commercial banks, (ii) percentage of net sown area, (iii) percentage of net area irrigated to the net sown area, (iv) percentage of area under HYV to the NSA, (v) number of agricultural implements, (vi) number of industries, (vii) length of roads, (viii) length of railways, (ix) number of agricultural co-operative societies, (x) percentage of agricultural workers to the total workers, (xi) total number

of livestock, (xii) fertiliser consumption in tonnes, (xiii) number of regulated and non regulated markets and, (xiv) hydel power consumption, the taluk-wise economic development is identified. Further attempt is made to test the distributional pattern in relation to taluka-wise economic development (see Fig. 3). In the very high developed taluks of Bijapur and Indi there are two urban centres in each. In the high developed taluks like Jamkhandi, Badami and Basavana-Bagewadi there are three towns in each whereas in medium developed taluks like Muddebihal, Hungund and Mudhol there are two towns in each while in Sindgi taluk there is only one town. In low developed taluks like Bagalkot we find one town whereas in Bilgi taluk no township at all. Even though Bijapur taluk is very highly developed in terms of economic indicators, its urban growth is concentrated only in Bijapur city. Therefore, Bijapur city acts as a growth pole. Under the circumstances, there is no spatial spread of smaller towns in Bijapur taluk.

The study of regional development based on 28 indicators (social, economical and demographical aspects) when compared with the distribution of urban population shows a positive (0.44) correlation. (See Fig. 4).

#### SUGGESTIONS

Priority should be given to formulate perspective regional plans at block level. It is obvious that any economic plan should interrelate agricultural development, industrial development and others with each other with the same set of geographical conditions. Appropriate organisational set-up at different levels is necessary for horizontal as well as vertical integration of various development programmes at block level. In Bijapur district it is very much desirable to bring urban growth in areas devoid of urban centres. So that, urban



centres / amenities will be accessible to the people of each taluk.

The taluks which are prone to frequent droughts and scarcities will have the problems in an accentuated manner. Bijapur district is one of the backward districts in the state in spite of the existence of rivers and fertile soils. Though five rivers flow in the district the water of the river is used only by those villages which are situated on the banks. The Ghataprabha Left Bank Canal irrigates the lands of Jamkhandi (46.52%), Bilgi (56.27%), and Mudhol (70.15%) taluks only. The regional development of the district mainly depends on the exploitation of under water and canal irrigation by Almatti dam across Krishna river (which is not yet completed). Proper development of land and water use thus merit special consideration. The Jawahar Rozgar Yojana will be quite appropriate to reduce the stress of drought situation as well as unemployment created due to low progress in socio-economic conditions of the study region.

The emphasis is also needed to restore ecological balance. It depends upon the development of irrigational facilities, soil and moisture conservation, adoption of bio-technology afforestation, change in the cropping pattern, agronomic practices, livestock development, rural communications, provision of drinking water supply, development of small and marginal farmers and the agricultural labourers and setting up of agro-based industries. The dry land development programme, sustenance of animal husbandry, fisheries, horticulture, sericulture and small scale industries (at village level) should accompany the programme. The main objectives of the programme of agricultural development in Bijapur district is rotating around the drought situation. Therefore, plans on permanent basis to promote agricultural development and to generate employment opportunities and to restore ecology are needed which in turn can bring about a scenario of urban development especially at small size towns and their vicinity.

#### REFERENCES

- Sundaram, K. V. (1972) : *Growth of the Urban Economy of Small and Medium Size Towns : Urban and Regional Planning in India*, Vikas Publishing House, Pvt. Ltd., New Delhi.
- Mahesh Chand and Vishwakarma, R. K. (1972). *Urbanization as a strategy of Rural Development : Urban Systems and Rural Development*. The Director Prasaranga, University of Mysore, Mysore.
- Mallick, V. C. (1979). *Development of Small Towns for Balanced Urbanization and Economic Growth*, Place of Small Towns in India.
- Christaller, W. (1933). *Die Zentralen Orte in Suddentsch Land*, Fisher Jena, Translated as *Central Places in Southern Germany*, by Baskin, C.W. (1966) Prentice Hall.
- Bose, A. (1978). *India's Urbanization 1901-2001*. Tata McGRaw Hill, New Delhi.

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