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Urbanization in Haryana: A Geographical Perspective

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Abstract

Towns occupy a great place of significance because of their important role in the political, social and economic life of a country. Similarly; urbanization is one of the most powerful indicators of socio-economic development of an area. It is usually seen that the highly urban area have high state of socio-economic development. In fact, urbanization provides a new social and economic institution to the people and opens, new horizons of development. It is therefore, very much essential to include.

Keywords: Decadal urban growth, effective urban population, spacing of towns, density of towns etc.

1. Introduction:

Towns occupy a great place of significance because of their important role in the political, social and economic life of a country. Similarly; urbanization is one of the most powerful indicators of socio-economic development of an area. It is usually seen that the highly urban area have high state of socio-economic development. In fact, urbanization provides a new social and economic institution to the people and opens, new horizons of development. It is therefore, very much essential to include urbanization in policy framework of regional development and planning (Tripathi, 1996).

The last decade of the twentieth century mark major watershed in the evolution of human settlement, for it encompasses the period during which the location of the world's people became more urban than rural (Clark 1996). Bose (1978) argued that urbanization in the demographic sense is an increase in the proportion of the urban population (U) to the total population over a period of time.

Urbanization is the growth of secondary and tertiary activities like manufacturing, trading services etc. and on the other hand threatens the growth of agricultural areas. Urbanization refers to as the movement of people from villages to the town/city where economic activities are centered around non-agricultural occupations such as trade, manufacturing industry and management. It is a phenomenon which is closely related with industrial revolution and associated economic development.

Pace of urban growth in India was slower before twentieth century but it has become faster during the different decades of the later part of the twentieth century, creating regional disparities in urban development. Such disparities are seen all over the country which are required to be redressed.

Study Area

Haryana, the developed state of India has been selected as area of study to find out regional pattern of urbanization in a spatial framework. Situated in North-Western part of India, the study area covers an area of 44,412 sq. kms with a population of 88, 21,588 extending between latitudes 27° 29' N and 30° 55' N, and longitude 74° 27' 8" to 77° 36' 5" E.

In Haryana the proportion of urban population to total population is 34.79 per cent which is above the national average of 31.20 per cent. The study area has 154 urban centres; of them 80 are statutory towns, 74 are census towns with 377.1 million population.

Source of Data

The data used in the study is secondary in nature and is obtained from Census of India 2011, Provisional Population Totals Paper- 2, Volume 2 of 2011, Rural –Urban Distribution Haryana, Series-7, and www.censusindia.net

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Methodology

In the present study, regional pattern of urbanization has been identified with the help of six indicators

- (a) Decadal urban growth (2001-2011),
- (b) Percentage of urban population to total population
- (c) Percentage of urban centres with population over 20,000
- (d) Spacing of towns,
- (e) Density of towns,
- (f) No of towns serving the rural population.

Data for these indicators have been culled from Census of India 2011.

Measures of Urban Population

- a) Decadal urban growth Rate = $(U_2 - U_1) / U_1 \times 100$
- b) Percentage of urban population to total population = $\text{urban population in a census yr.} / \text{total population in a census yr.} \times 100$
- c) Percentage of urban centres with over 20,000 population (Effective population) = $\text{No. of towns with 20,000\& above population in a census yr.} / \text{total population in a census yr.} \times 100$
- d) Spacing of towns (in kms.) = $1.0746 \sqrt{A} / N$ Where A is area in square kilometers; N is number of towns
- e) Density of towns = $\text{No. of towns} / \text{Total Area} \times 1000$
- f) No. of towns serving the rural population = $\text{No. of towns} / \text{rural population} \times 10,00,000$

The values of these indicators have been calculated for each district and have been given weight on the basis of the following formula to express the overall pattern of urbanization:

Wij = VIj/ Vai where

Wij= Weight age on 'i' indicator in 'jth' district

Vij= Value of 'i' indicator in 'jth' district

Vai= Value of 'i' indicator in study area

To express the regional characteristics of urbanization the districts have been categorized on the basis of the following criteria.

Criteria for Classification

To express the regional characteristics of urbanization the districts have been categorized on the basis of the following criteria:

Categories	Range of Values
Very High	Above (M +1.8SD)
High	(M +1.8) to (M+0.6 SD)
Medium	(M+0.6SD) to (M-0.6 SD)
Low	(M -0.6SD) to (M-1.8 SD)
Very Low	Below(M -1.8SD)

Weight age on Indicators By summing the weight age of all the indicators in a district, composite score have been derived to express the overall pattern of urbanization. (Table 1.)

Table 1: Weight age on Indicators

Sr. No	Districts	a	b	c	d	e	f	Total
1.	Panchkula	1.07	1.28	0.83	0.62	2.9	1.32	8.02
2	Ambala	0.93	1.01	0.59	0.64	2.9	1.51	7.58
3	Yamunanagar	2.47	1.08	0.19	0.72	2.1	1.68	8.24
4	Kurukshetra	0.88	0.75	1.79	1.08	0.94	1.72	7.16
5	Kaithal	0.59	0.56	1.67	1.33	0.62	1.82	6.59
6	Karnal	0.21	0.75	1.12	0.98	1.15	2.01	6.22
7	Panipat	0.48	1.16		0.59	3.17	2.1	8.06
8	Sonipat	1.099	0.72	1.40	0.90	1.35	2.33	7.79
9.	Jind	0.58	0.58	1.12	0.58	0.64	2.34	5.84
10.	Fatehabad	0.64	0.51	1.67	1.31	0.45	2.38	6.96
11.	Sirsa	0.78	0.59	2.23	1.81	0.34	2.5	7.22
12.	Hisar	0.93	0.74	1.01	1.13	0.36	2.74	6.87
13.	Bhiwani	0.46	0.54	1.12	1.74	0.36	2.79	7.01
14.	Rohtak	5.34	1.01	1.79	1.16	0.82	2.90	13.02
15	Jhajjar	0.64	0.92	0.89	1.18	0.78	3.89	8.3
16	Mahendergarh	0.39	0.44	0.89	1.19	0.77	5.04	8.72
17	Rewari	0.51	1.58	0.50	0.82	1.64	6.19	11.24
18	Gurgaon	1.02	0.89	1.49	0.63	2.75	6.70	13.48
19	Faridabad	2.24	0.67	1.49	2.1	0.48	7.30	14.28
20	Palwal	0.55	0.55	1.12	1.19	1.48	10.25	15.09
21	Mewat	0.22	0.32	0.56	1.31	1.38	17.69	21.48

Findings:

These six measures of urbanization individually reveal different aspects of urbanization. This has been discussed in the following sub-sections. Further an attempt is made to combine the entire six criteria into a composite score to present the overall picture of urbanization.

a) Decadal Urban Growth

Decadal growth in urban population in the study area is 44.25 percent in 2001-2011, which is higher than the decadal growth rate of the country (31.80 percent). Haryana has varying levels of decadal urban growth which ranges from 9.21 to 236.45 percent.

The districts falling in different categories of urban growth are as follows:

Table 2: Decadal Urban Growth (in %)

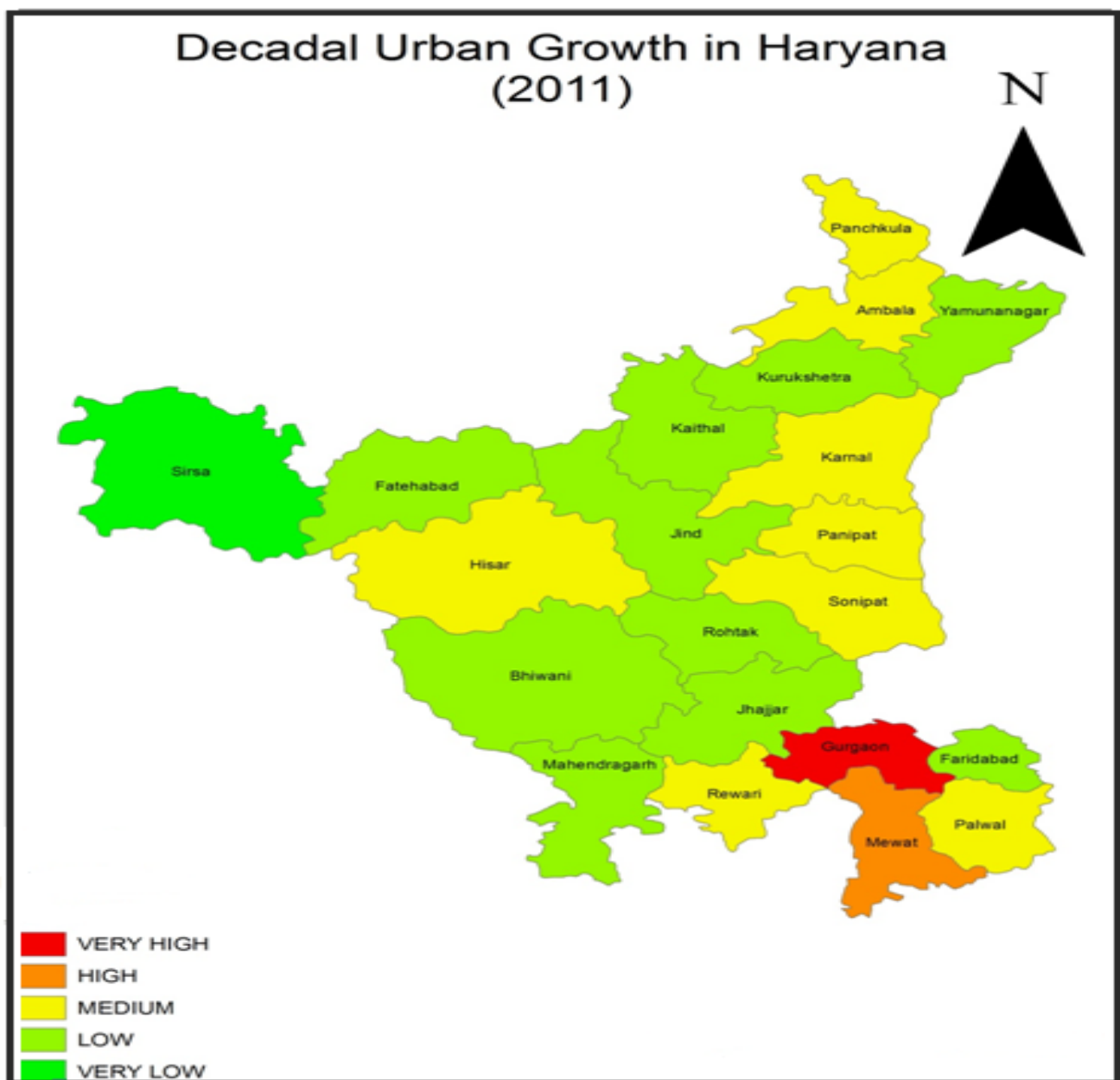
	Categories	Districts
Very High	ABOVE 131.57	Gurgaon
High	75.16- 131.57	Mewat
Medium	37.67- 75.16	Ambala, Panipat, Hisar, Panchkula, Rewari, Palwal, Sonipat
Low	18.74 -37.67	Bhiwani, Faridabad, Jind, Fatehabad, Kaithal, Mahendergarh, Yamunanagar, Kurukshetra, Jhajjar, Rohtak, Karnal
Very Low	BELOW 18.74	Sirsa

Areas of Very High and High Growth:

The highest urban growth rate was recorded by Gurgaon (236.45 percent) followed by Mewat (109.13 percent) district.

One third districts of the study area have recorded moderate urban growth comprising of Ambala, Panipat, Hisar,

Panchkula, Rewari, Palwal, Sonipat districts. More than 50% districts of the study region falls under the categories of low and very low decadal urban growth. Three areas have been recognized in this category.



One is extending in an arc form from Yamunanagar in north-east to Sirsa in west. Kurukshetra, Kaithal, Jind, and

Fatehabad fall in between. The second one radiates from the centre west of the study area, i.e., from Jind penetrating

through the districts of Rohtak & Jhajjar in central west & turns towards Mahendergarh and Bhiwani in south-west & west respectively.

Third patch is Faridabad district. The lowest was recorded by Sirsa (9.21 percent).

b) Percentage of urban population to total population

It is the most popular and commonly used method for measuring level of urbanization. Higher the percentage,

higher would be the level of urbanization and the vice-versa. People living in urban centre accounted for 27.8% for the total population of the country, while at state level it is 34.8%. The percentage of urban population to total population is low in the central part of the study area surrounded by category of moderate in the north and very high and high in the south of central Haryana. Whereas in the far south it is moderate except, Mahendergarh where it is recorded low.

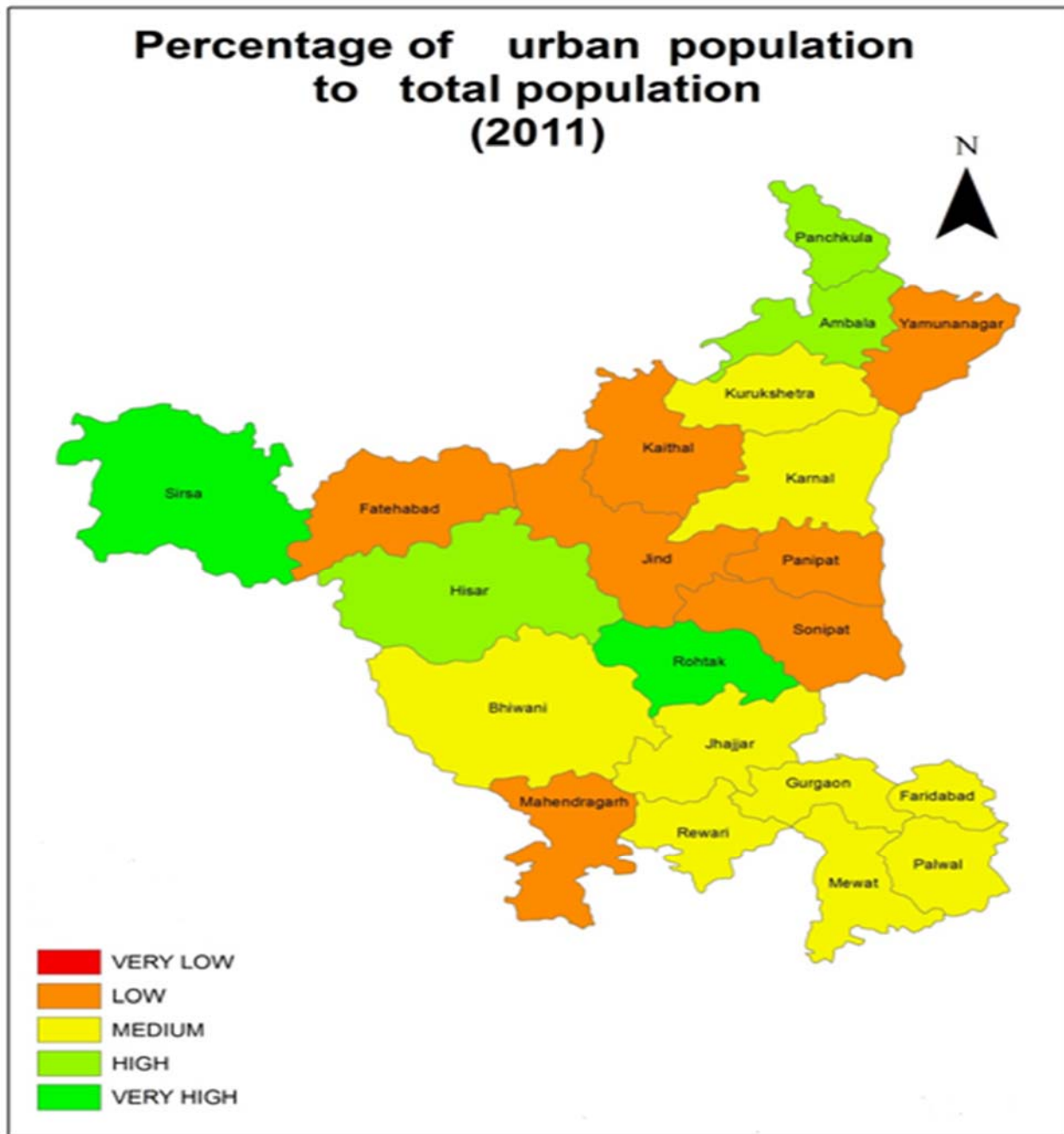


Table 3: Percentage of urban population to total population

	Categories	Districts
Very High	ABOVE 64.07	Rohtak, Sirsa
High	43.70-64.07	Ambala, Hisar, Panchkula
Medium	23.34-43.70	Mewat, Bhiwani, Kurukshetra, Jhajjar, Gurgaon, Faridabad, Rewari, Palwal, Karnal
Low	2.97-23.34	Jind, Sonapat, Fatehbad, Mahendergarh, Kaithal, Panipat, Yamunanagar
Very Low	BELOW 2.97	-----NIL-----

c) Percentage of urban centres with over 20,000 population (Effective population)

The percentage of urban centres with over 20,000 populations to total urban population is 44.81% in the study area. The higher percentage indicates that most of the urban population of the area is concentrated in large urban centres whereas the lower one points towards the population distribution in all towns. The districts have been categorized as under:

All the towns in the western part of the state, i.e., in, Sirsa district have population over 20,000. whereas some districts of central Haryana have recorded highly effective urban population, these are Kurukshetra

(80%),Rohtak(80%),Fatehbad(75%),Kaithal(75%),Sonepat(62.5),some in the south-east Gurgaon(66.67) and Faridabad(66.67).The percentage of effective urban population is lowest in Yamunanagar(8.33%) surrounded by category of low in the south,i.e.,25% in Mewat and 22% in Rewari.Ambala and Panipat districts also fall in this category with 26.67% and 25% respectively. Whereas all the remaining districts have recorded moderately effective urban population.

It is noticed that with the ongoing process of liberalization of economy and greater emergence of Trans-national companies the entire focus of industrial infrastructure has gravitated towards Gurgaon.

Table 4: Percentage of urban centres with over 20,000 population (Effective population)

	Categories	Districts
Very High	ABOVE 85.89	Sirsa (100)
High	85.89-58.50	kurukshetra(80), Rohtak(80), Kaithal(75),Fatehbad(75), Gurgaon(66.67), Faridabad(66.67),Sonepat(62.5)
Medium	58.50-31.10	Bhiwani(50),Karnal(50), Jind(50), Palwal(50),Hisar(45.45), Mahendergarh (40), Jhajjar(40), Panchkula (37.5)
Low	31.10-3.71	Rewari(22),Ambala(26.67),Mewat(25),Panipat(25), Yamunanagar(8.33)
Very Low	BELOW 3.71	-----NIL-----

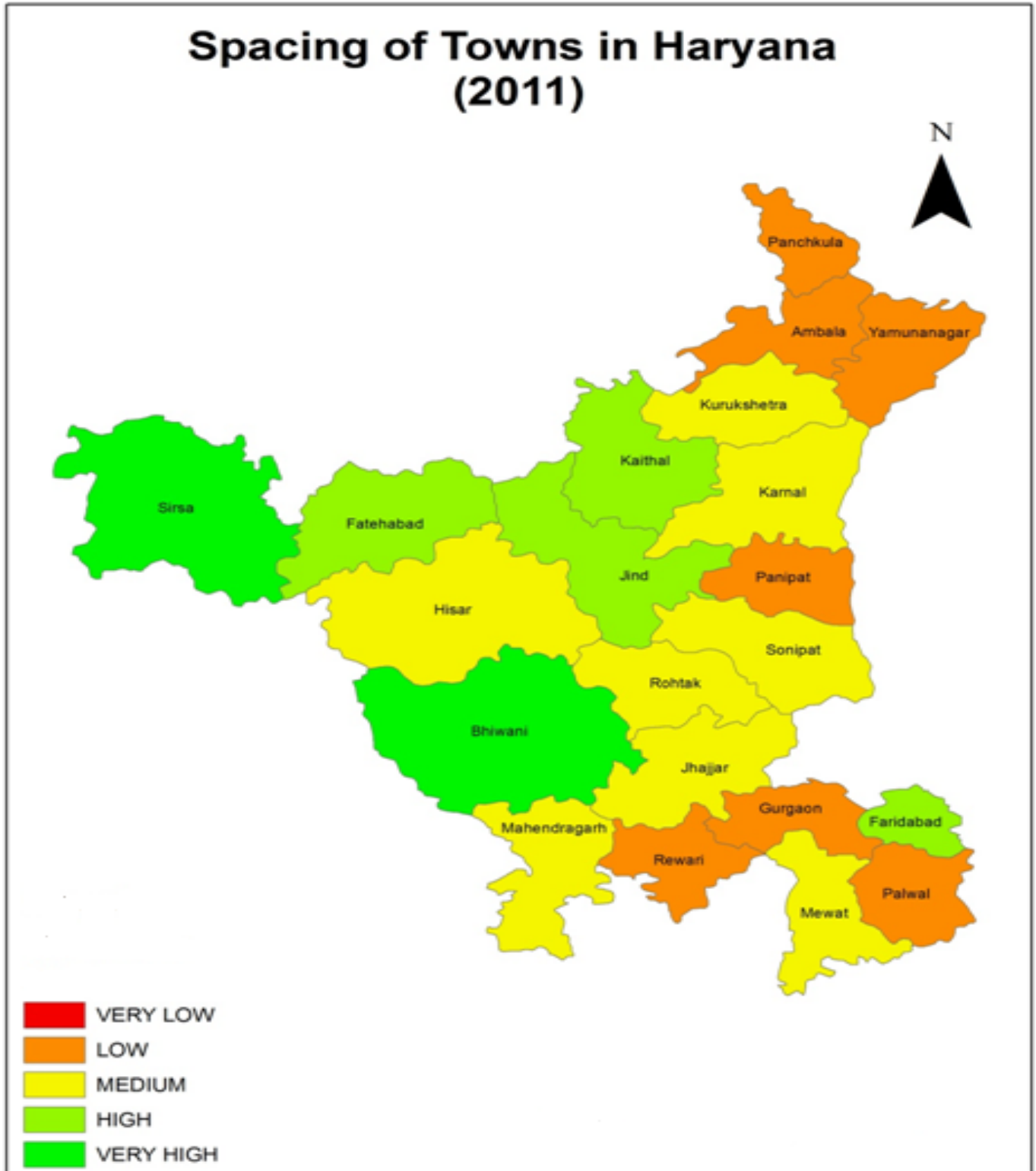
d) Spacing of towns:

The various districts could easily be distinguished from each other in terms of their urbanization levels on the basis of spacing pattern of towns. On an average the mean spacing worked out to be kms. In Haryana (Table).This facilitates intense rural-urban interaction. With a mean distance of 10.23 kms was noted for the closest spacing of towns followed by Panchkula (10.73), Gurgaon (10.98), Ambala

(11.18), Rewari (14.25), Panipat, and Yamunanagar. Kurukshetra, Karnal, Sonepat, Hisar, Rohtak,Jhajjar, Mahendergarh, Mewat are spaced at moderate distance. On the other hand, towns were most widely spaced in Sirsa (31.43kms) which were at a low level of urbanization. Rural populations in these districts are at a disadvantage in respect of their access to urban services.

Table 5: Spacing of towns

	Categories	Districts
Very High	ABOVE 29.98	,Sirsa ,Bhiwani
High	22.53-29.98	Jind, ,Fatehbad,Kaithal, Faridabad,
Medium	15.04-22.53	Kurukshetra,Jhajjar, , Karnal, Mewat, Mahendergarh, Rohtak Sonepat, Hisar,
Low	7.62-15.04	Yamunanagar , Panchkula ,Ambala, Palwal, Gurgaon, Rewari,
Very Low	BELOW 7.62	-----NIL-----



(e) Density of towns:

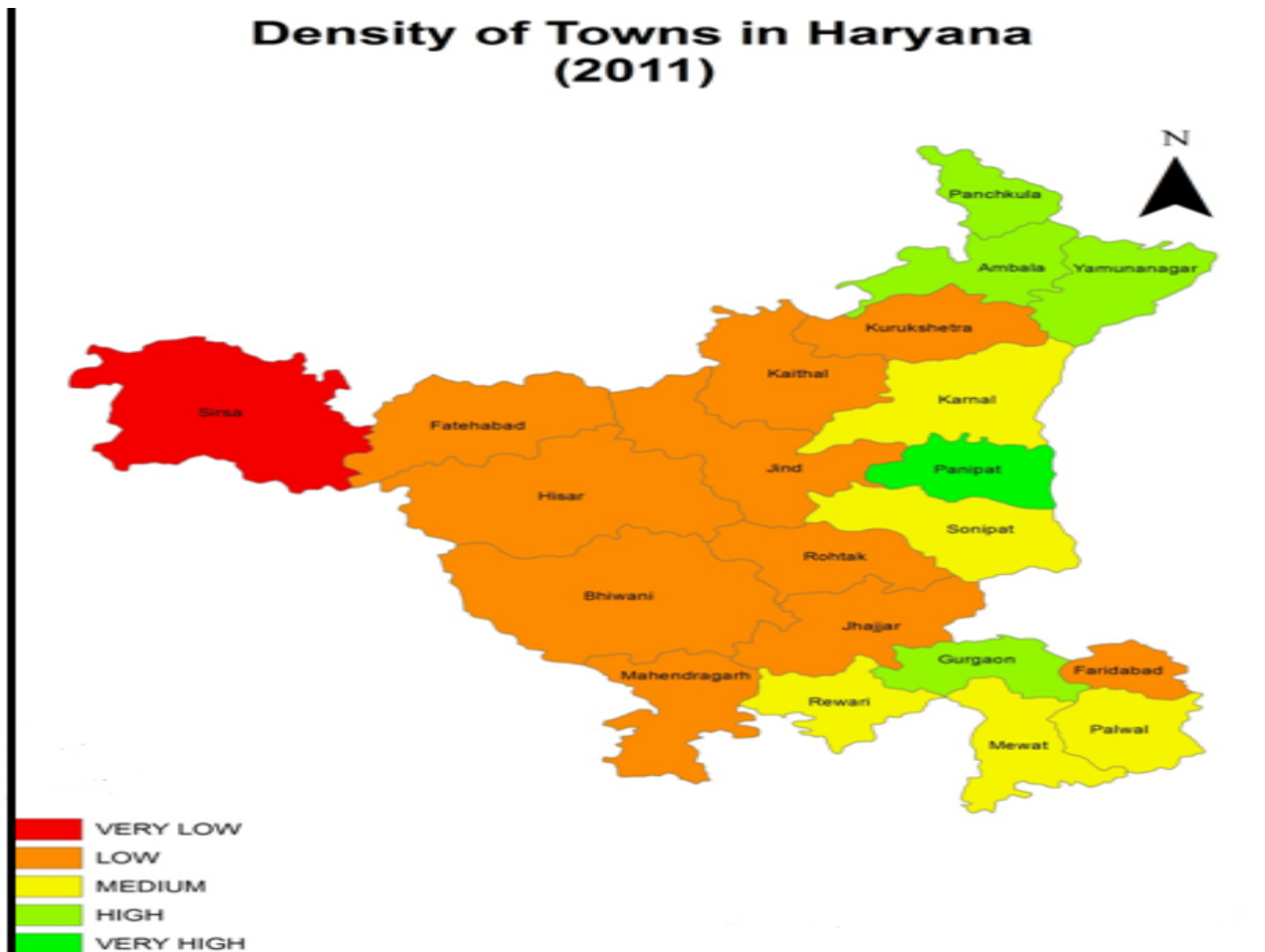
The simplest approach is to measure the density of the town per unit area. This method has been used by Rajbala (1986) to measure the level of urbanization at macro level by calculating density of towns per thousand square kilometers. Greater the density of towns, higher the level of urbanization would be.

Panipat has recorded the highest town density, i.e, towns per 1000 sq. Kms. due to rapid growth of urbanization. Panchkula, Ambala, Yamunanagar and Gurgaon enjoy the rank of highly town density due to

industrialization and their unique features. Moderate town density is found in the districts of Kurukshetra, Karnal, Sonapat, Hisar, Rohtak, Jhajjar, Mahendragarh and Mewat. These districts are near to the state average of 3.48 towns per thousand kilometers. Whereas in district Kurukshetra, Kaithal, Jind, Faridabad, Rohtak, Jhajjar, Mahendragarh, Fatehabad, Hisar, and Bhiwani, the town density is **low**. **Very low town** density is found in district Sirsa due to its large size.

Table 6: Density of towns:

	Categories	Districts
Very High	ABOVE 10.29	,Sirsa ,Bhiwani
High	6.46-10.29	Panchkula, Ambala, Yamunanagar, Gurgaon
Medium	5.78-6.46	Karnal, Sonipat, Rewari, Palwal, Mewat
Low	1.19-5.78	Kurukshetra, Kaithal, Jind, Faridabad, ,Rohtak, Jhajjar, Mahendergarh, Fatehbad, Hisar, Bhiwani
Very Low	BELOW 1.19	Sirsa



(f) No of towns serving the rural population:

The level of urbanization is inversely proportional to the population served by an urban centre. The larger the rural population served by each town, the lower the level of urbanization would be and vice-versa.

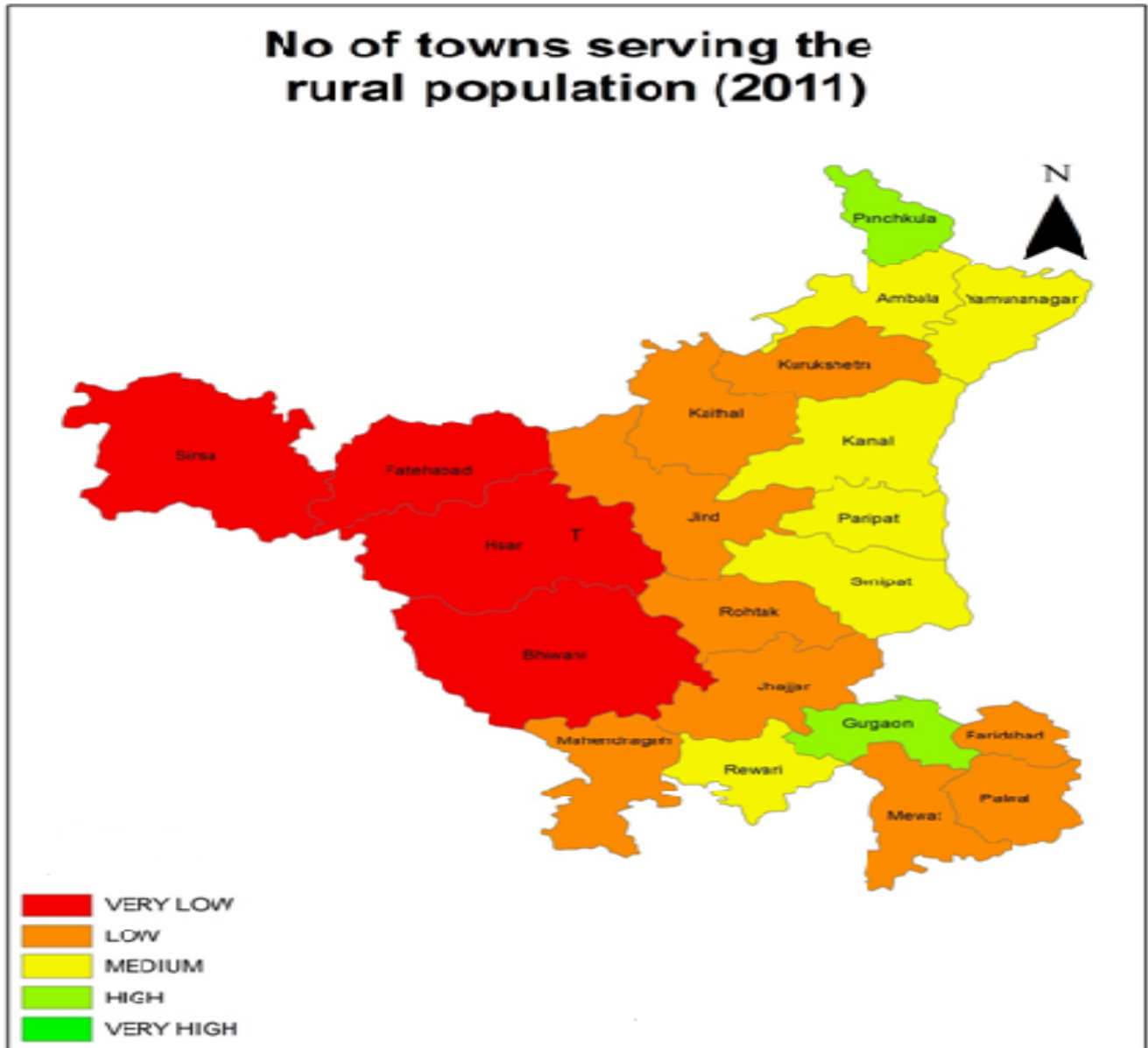
Panchkula with 35.68 and Gurgaon with 25.42 towns are more developed & highly urban accessible districts serving a million rural population respectively.

Ambala, Karnal, Sonipat, Rewari, Panipat, Mewat each have urban population below average, 14.45 towns serving a million rural population whereas Yamunanagar

(17.54 towns) is above average. This is the category of moderate level. Kurukshetra, Kaithal, Jind, Faridabad,, Rohtak, Jhajjar, Mahendergarh, Palwal fall in low category whereas in Sirsa, Fatehbad, Hisar & Bhiwani towns distribution is not even, there are very low number of towns serving million rural population because being their less in numbers and less urban influence on rural population. They have in general very poor access to social and economic infrastructure and consequently do not get incorporated in the mainstream of development activities.

Table 7: No of towns serving the rural population:

	Categories	Districts
Very High	ABOVE 38.17	-----NIL-----
High	23.12-38.17	Panchkula, Gurgaon
Medium	9.26-23.12	Ambala, Yamunanagar, Karnal, Sonipat, Rewari, Panipat, Mewat
Low	5.78-9.26	Kurukshetra, Kaithal, Jind, Faridabad, ,Rohtak, Jhajjar, Mahendergarh, Palwal,
Very Low	BELOW 5.78	Sirsa, Fatehbad, Hisar, Bhiwani



Overall Pattern of Urbanization

Composite score of the districts have been calculated and on the basis of total scores the districts have been grouped into five categories as in Table

Areas of Very High & High Urbanization: As much as 19 percent districts of the study area falls under very high to

high category of urbanization. The district of Mewat situated in south falls under very high urbanization category with highest score (above 16.5).

The high urbanization is concentrated in south east in districts of Gurgaon (13.48%), Faridabad (14.28%) and Palwal (15.09%).

Table 8: Overall Pattern of Urbanization, 2011

	Categories	Districts
Very High	ABOVE 16.5	Mewat
High	16.5-11.82	Gurgaon, Faridabad, Palwal, Rohtak
Medium	11.82-7.14	Panchkula, Ambala, Yamunanagar, Panipat, Sonapat, Sirsa, Mahendergarh, Jhajjar, Rewari.
Low	7.14-2.46	Kurukshetra, Kaithal, Karnal, Jind, Fatehabad, Bhiwani, Hisar
Very Low	BELOW 2.46	-----Nil-----

Areas of Medium Urbanization: There are three patches of medium urbanization. 47.62% districts fall in this category. The first is Sirsa (7.22%) in the west, The second is Rohtak (13.02%), Rewari (11.24%) and Mahendergarh

(8.72%) in the south-west and The third comprising of Panchkula (8.02%), Ambala (7.58%), Yamunanagar (8.24%), Panipat (8.06%), Sonapat (7.79%) and Jhajjar (8.3%) in the east and central part of the study area.

Areas of Low Urbanization: There are 33.33 percent districts which fall into this category. There are three patches of low urbanization. The first pocket of low urbanization is situated in the North West and west viz. Kurukshetra (7.16%), Kaithal (6.59%), Jind (5.84%), Fatehabad (6.96%) districts.

The second pocket is Bhiwani(7.01%) and Hisar(6.87%) districts in the west and

The third is Karnal (6.22%) situated in the east of the study area.

No district falls in the category of very low urbanization.

Conclusion

A notable feature of the analysis of the levels of urbanization is the existence of a north-south urban divides which separates relatively more urbanized Southern part of the study area with least urbanized Northern part of the study area excluding a patch of Rohtak. Urban development is very uneven. Broadly speaking the western part of the study area is lagging behind other areas with respect to urbanization.

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