

Spatio-Temporal Analysis Of Changing Patterns In Classes Of Urban Centres In Bist Doab Region Of Punjab

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Abstract

One of the biggest long-term repercussions of human activities on the global ecosystem is the conversion of the planet's land surface to urban areas. Urban ecosystems are predicted to take up increasingly bigger areas of land, transforming natural habitats into fragmented, sharply edged zones largely covered by buildings. In the Bist Doab region of Punjab, there is significant growth of urban centres of various strata, which act as hubs of economic activities. The population in urban areas has been rapidly increasing between 1971 and 2011. The growth of class III, class IV, and class V urban centres has been prominent, driven by industrial development and the establishment of small-scale industries.

Key words- *Urbanization, Urban Population, Urban Centres, Economic growth, Industrial and commercial development.*

Introduction

One of the most permanent effects of human activity on the global ecosystem is the conversion of the planet's land surface to urban habitation (Seto et al., 2011). Møller et al. (2012) expressed that the natural habitats are increasingly being transformed into extremely fragmented, sharply edged zones that are partially covered by buildings. Urbanization is a very complex phenomenon and is based on the economic and spatial characteristics of the region, as well as the processes of diffusion and migration. (Ramachandran et al., 2021). By 2030, as per a gauge, the world will have 706 urban centres with in excess of one million occupants, and the vast majority of them will be in developing nations. The quantity of megacities will increment to 43 in the developing nations of the world (United Nations, 2019). Mahtta et al. (2022) explained the correlation between the national income and the urban land expansion. In his view, "The higher the gross domestic production higher the urban land expansion, which involves the capital investments, growth of business infrastructure, effective governance, secure roadways, and easy healthcare access, etc." Henderson and Wang (2007) explained that urbanization is obliged by the expansion in number and in size of urban centres.

Tewari and Godfrey (2016) pointed out that India is going through a massive process of urbanization. In 2015, 420 million people, or 33% of the nation's population, lived in urban areas. One in every two Indians will be living in towns and cities by 2050, and by 2031. India's high levels of labor mobility have significant effects on the development and urbanization of cities (Tumbe, 2016). Punjab is a special state that draws a lot of immigrants from other states. According to data from the 2011 Census, more than 24 lac individuals (2,488,299) moved to Punjab from other states in the nation. This accounted for 5.3% of all migrants living in India. The majority of the state's immigrants made their homes in the major cities of Punjab (Punjab Economy Survey, 2022-23). According to the 2011 census, the urban population in Punjab accounts for 37.49% of the total population, and this urban population contributes nearly 60% of the state's GDP. There were 108 towns in Punjab in 1971, and at present there are a total of 237 urban centres in Punjab.

2. The Study Area

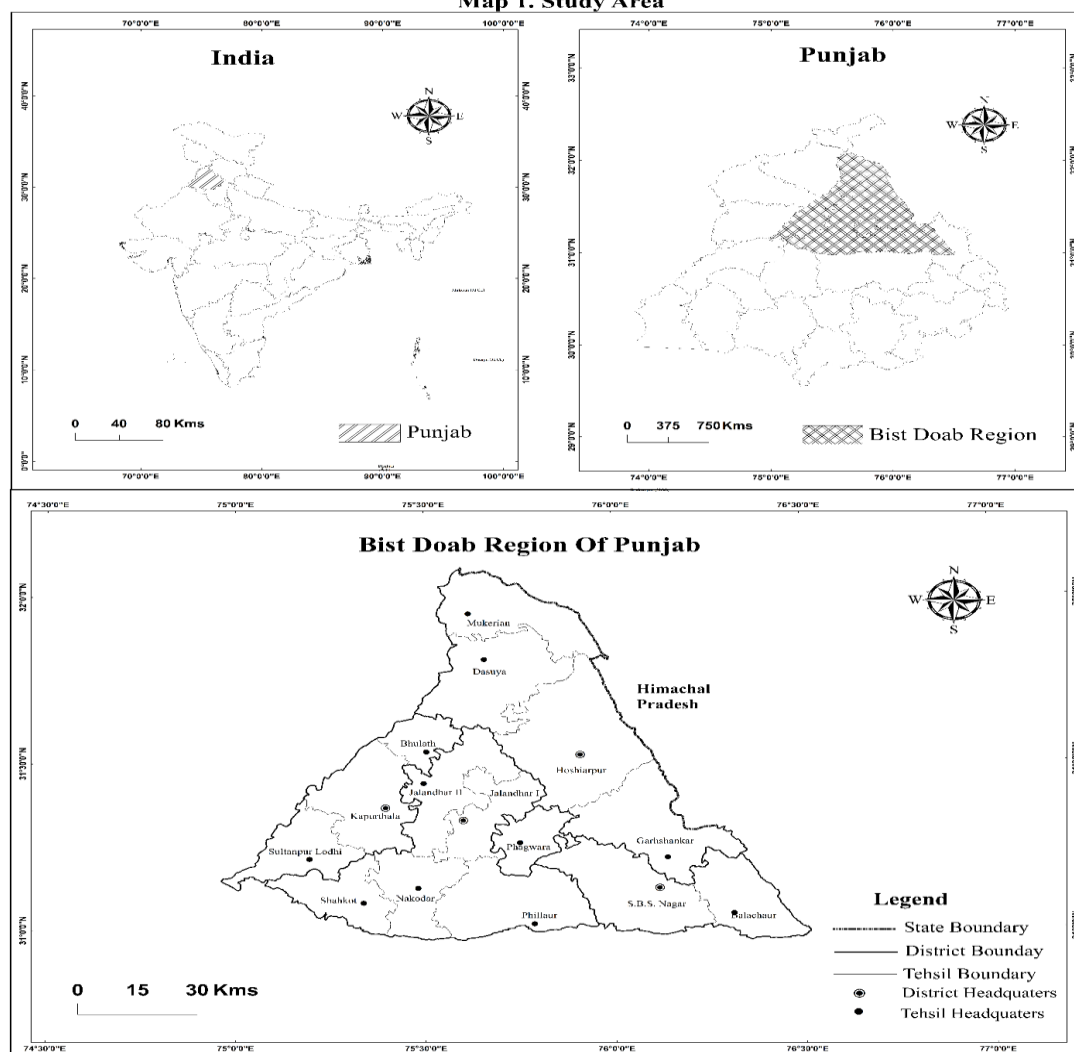
The Bist Doab region in Punjab is situated between the Beas and the Satluj rivers. It stretches from 30° 54' North latitude to 32° North latitude and 75° East longitude to 77° 48' East longitude. Himachal Pradesh is located in the northeast of the Bist Doab region, with the Beas River in the northwest and the Satluj in the south. Bist Doab is almost triangular in shape and has level terrain; however, the extreme east is covered in Shivalik Hills. The Bist Doab region is situated throughout the districts of Jalandhar, Hoshiarpur, Kapurthala, and S.B.S. Nagar and covers an area of around 8896 square kilometers. The region accounts for approximately 17.6% of the total area of Punjab state.

3. Objectives

The primary goal of this research is to determine how the Bist Doab region's urbanization process aided in the development of new urban centers in the Bist Doab region of Punjab. The study will be carried out by considering the following objectives.

1. To analyze urbanization patterns in the Bist Doab region from 1971 to 2011.
2. This study examines how urban centers in the Bist Doab region have grown over the past several decades because of urbanization.
3. To analyze changes in urban center classifications across Punjab's Bist Doab region districts.

Map 1. Study Area



Source: Census of India, 2011

4. Database and Methodology

The five census years—1971, 1981, 1991, 2001, and 2011—have been used to identify the geographical and chronological patterns of urban development in the Bist Doab region. This study is primarily based on two methodological approaches: data analysis and data mapping. Using census data, the present paper conducts a spatial and temporal analysis of urban centres in the region. According to the Census of India (1971a, 1981a, 1991a, 2001a, 2011a), urban centres are classified into six categories based on population size:

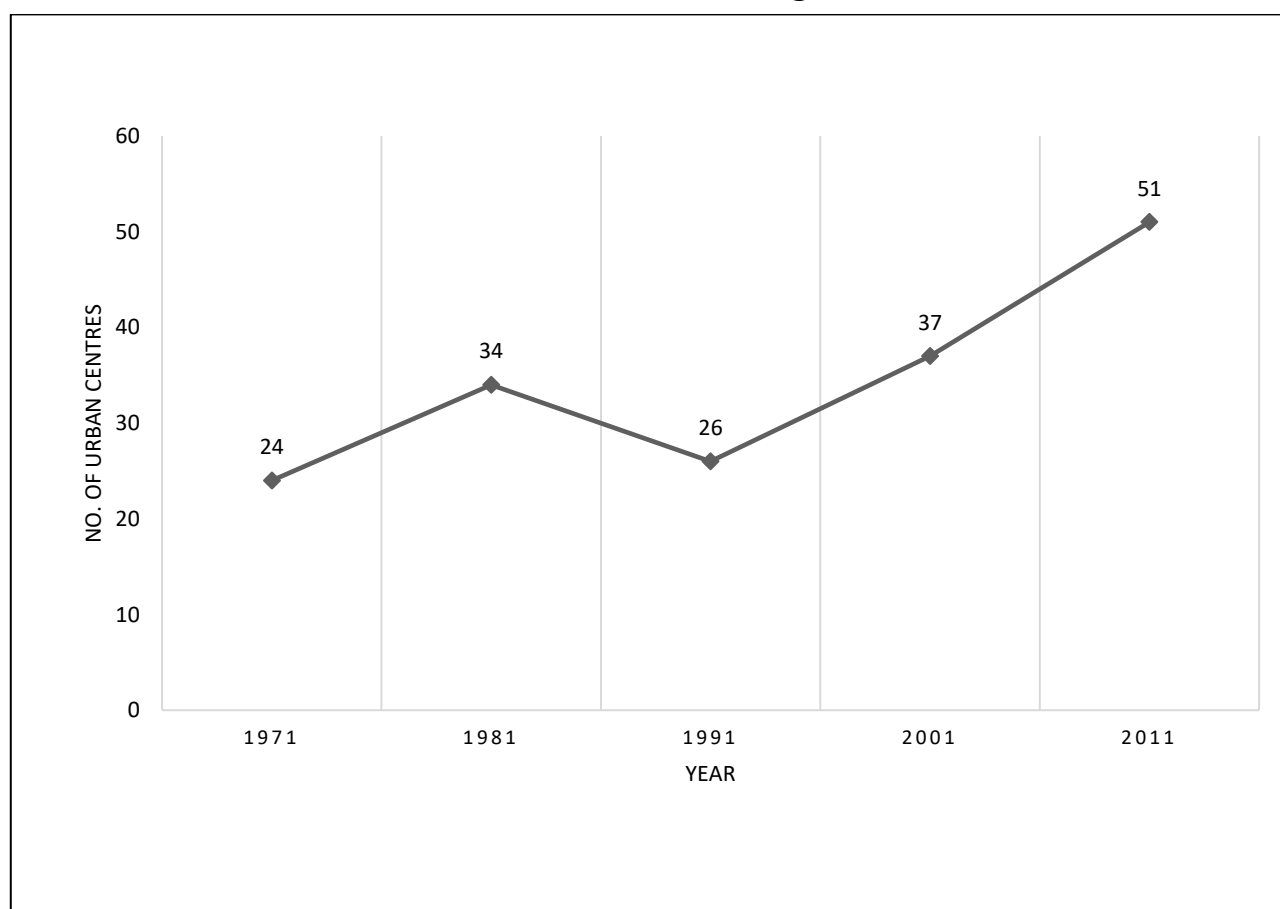
1. Class I towns: Population of 100,000 persons or more
2. Class II towns: Population between 50,000 and 99,999 persons
3. Class III towns: Population between 20,000 and 49,999 persons
4. Class IV towns: Population between 10,000 and 19,999 persons
5. Class V towns: Population between 5,000 and 9,999 persons
6. Class VI towns: Population below 5,000 persons

5. Decadal Spatial Analysis of Changing Patterns in Classes of Urban Centres from 1971 to 2011.

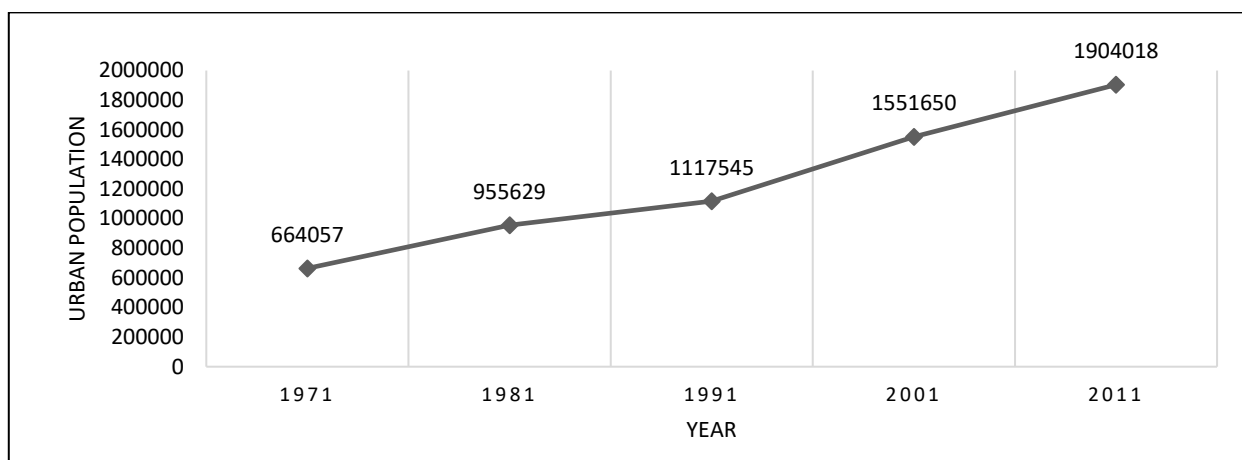
At the time of the 1971 Census, the Bist Doab region of Punjab had identified 24 urban centres of varying classes. This number increased to 51 by 2011. Concurrently, the urban population grew significantly from 664,057 persons in 1971 to 1,904,018 persons in 2011, reflecting a growth rate of +188% in urban population over these four decades. Figures 1(a), (b), and (c) illustrate the growth patterns of urban centres, as well as changes in population and area across different urban classes throughout the decades.

Figure 1(a)

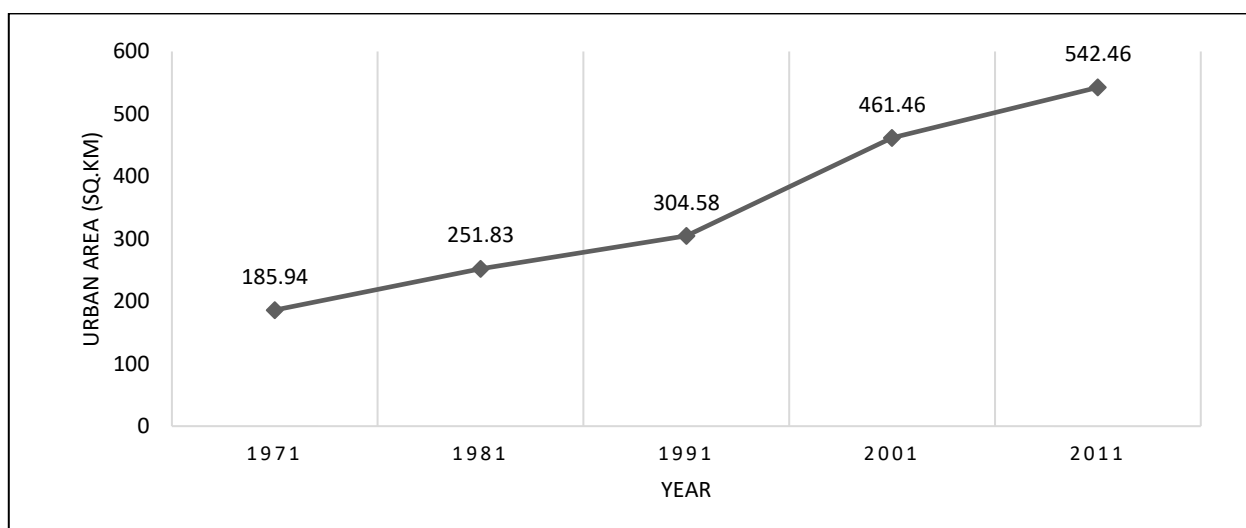
Number of Urban Centres in Bist Doab Region from 1971 to 2011



Source: Census of India 1971(a), 1981(a), 1991(a), 2001(a) and 2011(a).

Figure 1(b)**Growth of Urban Population in Bist Doab Region from 1971-2011**

Source: Census of India 1971(a), 1981(a), 1991(a), 2001(a) and 2011(a).

Figure 1(c)**Growth of Urban Area in Bist Doab Region from 1971-2011**

Source: Census of India 1971(a), 1981(a), 1991(a), 2001(a) and 2011(a).

The urban area in the Bist Doab region also expanded, growing from 185.94 square kilometers in 1971 to 542.4 square kilometers in 2011. The following section provides a spatial analysis of the urban centres in the Bist Doab region, presenting data on their population and other key characteristics across each decade from 1971 to 2011 through maps and tables.

5.1 Spatial Analysis of Different Classes of Urban Centres and Their Population in 1971

In 1971, the Bist Doab region was divided into eleven tehsils: Nawanshahr, Phillaur, Nakodar, Jalandhar, Kapurthala, Sultanpur Lodhi, Phagwara, Dasuya, Hoshiarpur, Garshankar, and Balachaur. Notably, the Balachaur tehsil recorded no urban population during this period. In the terms of urban distribution, Jalandhar district had 12 urban centres with a total population of 437,164; Kapurthala district contained 3 urban centres with a population of 99,670; and Hoshiarpur district included 9 urban centres, housing 127,223 individuals. The spatial distribution and classification of urban centers in the Bist Doab region during 1971 are illustrated in Map 2.

Map 2

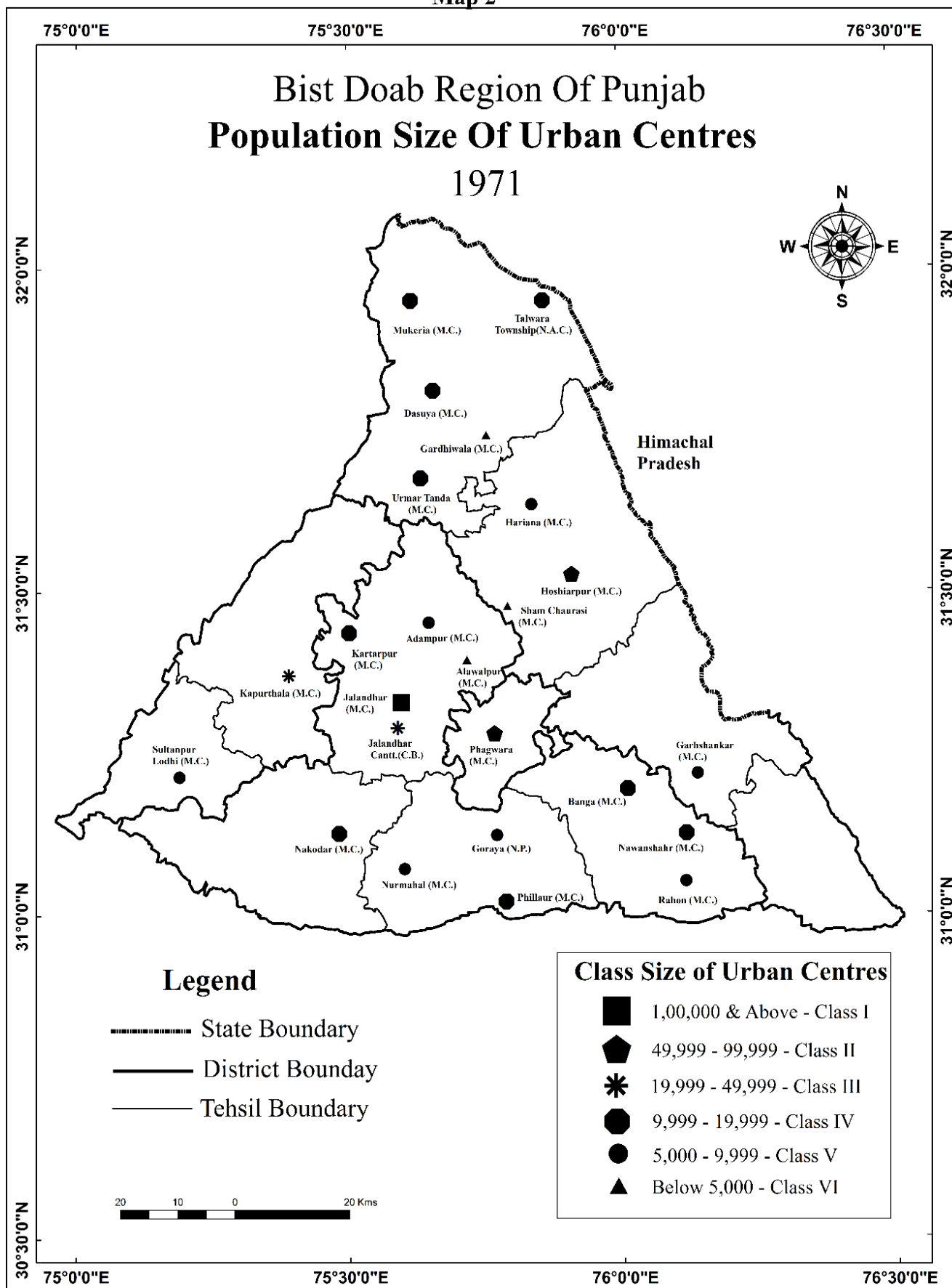


Table 1
Number and Population of Urban Centres by Class in the Bist Doab Region, 1971

Status of urban centres	1971			
	No. of urban centres	Population of urban centres	Population (%) of urban centres to total urban population	Area of Urban Centres (Sq.Km)
Class I (>1,00,000)	1	2,96,106	44.6	62.16
Class II (50,000 – 99,999)	2	1,12,703	17.0	20.49
Class III (20,000 – 49,999)	2	69,206	10.4	36.34
Class IV (10,000 – 19,999)	9	1,25,182	18.9	37.22
Class V (5,000 – 9,999)	7	49,907	8.2	28.72
Class VI (<5,000)	3	10,953	0.9	1.01
Total	24	6,64,057	100	185.94

Source: Census of India 1971(a).

As shown in Table 1, the Bist Doab region featured one Class I urban centre, Jalandhar (Municipal Council) with a population of 296,106, accounting for 44.6% of the total urban population and covering an area of 62.16 square kilometers. Class II consisted of two urban centres, Hoshiarpur (Municipal Council) and Phagwara (Municipal Council), with populations of 57,691 and 55,012, respectively, (17.0% of the urban population), spread across 20.49 square kilometers. Additionally, Jalandhar Cantonment (Cantonment Board) and Kapurthala (Municipal Council), with populations of 33,724 and 35,482, respectively, were designated as Class III urban centres, representing 10.4% of the total urban population, covering an area of 36.34 square kilometers.

In 1971, there were nine urban centres in the Bist Doab region classified as Class IV. These included Nakodar (Municipal Council) with a population of 18,156, Nawanshahr (Municipal Council) with 17,527, Banga (Municipal Council) with 11,885, Kartarpur (Municipal Council) with 14,644, Phillaur (Municipal Council) with 11,543, Talwara Township (Notified Area Committee) with 17,865, Urmar Tanda (Municipal Council) with 12,262, Mukerian (Municipal Council) with 10,937, and Dasuya (Municipal Council) with 10,363 individuals, collectively accommodating 125,182 individuals (18.9%) over an area of 37.22 square kilometers.

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Additionally, seven urban centres with a total population of 49,907 (8.2%) and an area of 28.72 square kilometers, were categorized as Class V: Nurmahal (Municipal Council) with 6,000, Goraya (Notified Area Committee) with 8,135, Adampur (Municipal Council) with 8,105, Rahon (Municipal Council) with 6,607, Sultanpur (Municipal Council) with 9,176, Garhshankar (Municipal Council) with 6,882, and Hariana (Municipal Council) with 5,002 individuals. Finally, under the Class VI category, there were three urban centres: Alawalpur (Municipal Committee Level I) with a population of 4,732, Gardhiwala (Municipal Council) with 3,753, and Sham Chaurasi (Municipal Council) with 2,468 individuals, accounting for just 0.9% of the population (10,953 individuals) and occupying a minimal area of 1.01 square kilometers.

5.2 Analysis of Different Classes of Urban Centres and Their Population in 1981

In 1981, the number of urban centres increased to thirty-four with population of 9,55,629 persons, covering an area of 251.83 square kilometers as displayed in table 2. In terms of urban distribution, Jalandhar district comprised 16 urban centres with a total population of 612,591; Kapurthala district had 8 urban centres with a population of 163,418; and Hoshiarpur district included 10 urban centres, accommodating 179,620 individuals.

According to the Census of India (1981), Jalandhar (Municipal Corporation) was the only urban centre in the region classified as a Class I town, with a population of 408,196 persons, accounting for 42.8% of the total urban population, covering an area of 79.4 square kilometers. Three urban centres were designated as Class II towns: Phagwara (Municipal Council) with a population of 75,961, Kapurthala (Municipal Council) with 50,300, and Hoshiarpur (Municipal Council) with 85,648 inhabitants, comprising 22.1% of the urban population and an area of 45.46 square kilometers. The Class III category included Jalandhar Cantonment (Cantonment Board), which had a population of 33,356; Nakodar (Municipal Council) with 26,239; and Nawanshahr (Municipal Council) with 26,726 persons, accounting for 9.1% of the population and occupying an area of 28.81 square Kilometers.

Table 2
Number and Population of Urban Centres by Class in the Bist Doab Region, 1981

Status of urban centres	1981			
	No. of urban centres	Population of urban centres	Population (%) of urban centres to total urban population	Area of Urban Centres (Sq.Km)
Class I (>1,00,000)	1	4,08,196	42.8	79.4
Class II (50,000 – 99,999)	3	2,11,909	22.1	45.46
Class III (20,000 – 49,999)	3	86,321	9.1	28.81
Class IV (10,000 – 19,999)	9	1,36,794	14.3	62.21
Class V (5,000 – 9,999)	13	91,938	9.6	32.38
Class VI (<5,000)	5	20,471	2.1	3.57
Total	34	9,55,629	100	251.83

Source: Census of India 1981(a).

In 1981, the Bist Doab region comprised nine urban centres categorized under Class IV, represented 14.3% of the urban population, with a notable area of 62.21 square kilometers. These included Kartarpur (Municipal Council) with a population of 17,878; Adampur (Municipal Council) with 10,960; Phillaur (Municipal Council) with 17,650; Banga (Municipal Council) with 13,490; Sultanpur (Municipal Council) with 12,143; Talwara (Census Town) with 17,907; Urmar Tanda (Municipal Council) with 17,655; Dasuya (Municipal Council) with 14,657; and Mukerian (Municipal Council) with 14,454 persons.

The highest number of urban centres in the region during this period fell under the Class V category, comprising a total of thirteen towns contributing 9.6% to the total urban population, with an area of 32.38 square kilometers. These included Nurmahal (Municipal Council) and Goraya (Notified Area Committee), each with a population of 8,802; Rahon (Municipal Council) with 8,671; Bhogpur (Notified Area Committee) with 8,882; Alawalpur (Municipal Council) with 5,851; Shahkot (Notified Area Committee) with 7,018; Malsian (Notified Area Committee) with 5,700; Lohian (Notified Area Committee) with 5,496; Begowal (Notified Area Committee) with 6,744; Dhillwan (Notified Area Committee) with 5,320; Garhshankar (Municipal Council) with 9,515; Balachaur (Notified Area Committee) with 6,630; and Hariana (Municipal Council) with 5,633 persons. Additionally, five urban centres were classified as Class VI: Bhulath (Notified Area Committee) with a population of 4,926; Nadala (Notified Area Committee) with 4,680; Talwandi Chaudhain (Notified Area Committee) with 3,416; Gardhiwala (Municipal Council) with 4,459; and Sham Chaurasi (Municipal Council) with 3,062 persons. These urban centres constituted just 2.1% of the urban population and had a low area of 3.57 square kilometer.

5.3 Analysis of Different Classes of Urban Centres and Their Population in 1991

During this period, a total of 26 urban centres were identified, collectively accommodating a population of 1,117,545 and spanning an area of 304.58 square kilometers. There was a net loss of eight urban centres, Bhulath (Notified Area), Balachaur (Municipal Council), Lohian Khas (Notified Area), Begowal (Notified Area), Dhillwan (Notified Area), Talwandi Chaudhain (Notified Area Committee), Nadala (Notified Area Committee), and Malsian (Notified Area Committee), as they were de-notified by the Indian census authorities. Notably, Balachaur tehsil recorded no urban population during this census period. In terms of urban distribution, Jalandhar district contained 14 urban centres with a combined population of 728,802; Kapurthala district had 3 urban centres with a total population of 166,605; and Hoshiarpur district included 9 urban centres, housing 222,139 individuals.

In 1991, there were two Class I urban centers in the region, accounted for the largest population share with 56.6% of the total urban population and also occupied the largest urban area (108.62 sq. km), indicating high urban concentration. These two urban centres were, Jalandhar (Municipal Corporation) with a population of 509,510, and Hoshiarpur (Municipal Council) with a population of 122,705. Additionally, two Class II urban centers were recorded: Kapurthala (Municipal Council), with a population of 64,567, and Phagwara (Urban Agglomeration), with a population of 88,316, contributing 13.7% to the urban population, with a total population of 152,883 and covering an area of 72 square kilometers. During the same period, five Class III urban centers were located within the Jalandhar district, collectively housing 132,002 people (11.8%), and spread over 35.1 square kilometers. These mid-sized towns reflect moderate urban development. These included Jalandhar Cantt. (Cantonment Board) with a population of 31,520; Kartarpur (Municipal Council), 21,093; Nawanshahr (Municipal Council), 29,955; Nakodar (Municipal Council), 29,478; and Phillaur (Municipal Council), 20,956.

Table 3
Number and Population of Urban Centres by Class in the Bist Doab Region, 1991

Status of urban centres	1991			
	No. of urban centres	Population of urban centres	Population (%) of urban centres to total urban population	Area of Urban Centres (Sq.Km)
Class I (>1,00,000)	2	6,32,215	56.6	108.62
Class II (50,000 – 99,999)	2	1,52,883	13.7	72
Class III (20,000 – 49,999)	5	1,32,002	11.8	35.1
Class IV (10,000 – 19,999)	12	1,73,738	15.5	82.77
Class V (5,000 – 9,999)	3	18,100	1.7	2.91
Class VI (<5,000)	2	8,607	0.7	3.18
Total	26	1,117,545	100	304.58

Source: Census of India 1991(a).

The highest number of urban centers fell under Class IV (10,000–19,999), with twelve towns contributing 15.5% of the total urban population and covering an area of 82.77 square kilometers. These included Banga (Municipal Council) with a population of 17,721; Rahon (Municipal Council), 10,771; Adampur (Municipal Council), 15,331; Nurmahal (Municipal Council), 11,149; Goraya (Notified Area Committee), 10,708; Shahkot (Notified Area Committee), 10,246; Sultanpur (Municipal Council), 13,722; Urmar Tanda (Municipal Council), 18,786; Dasua (Municipal Council), 18,351; Mukerian (Municipal Council), 17,813; Talwara (Census Town), 17,379; and Garshankar (Municipal Council), 11,761. In addition, there were three Class V urban centers: Alawalpur (Municipal Council) with a population of 6,468; Gardhiwala (Municipal Council), 5,159; and Haryana (Municipal Council), 6,473. Only two Class VI urban centers were recorded in 1991—Bhogpur (Census Town) with a population of 4,896, and Sham Chaurasi (Municipal Council) with 3,711. Class V and VI centers, with populations below 10,000 and 5,000 respectively, accounted for the smallest portions of the urban population with 1.7% and 0.7%, respectively. Their limited population and land area reflect emerging or minimally urbanized settlements.

5.4 Analysis of Different Classes of Urban Centres and Their Population in 2001

In 2001, four new tehsils were incorporated into the Bist Doab region: Jalandhar II and Shahkot tehsils in Jalandhar district, Bhulath tehsil in Kapurthala district, and Mukerian tehsil in Hoshiarpur district. Table 4 presents the distribution patterns of urban centres, their populations, and their spatial extents across different urban classes during that year. Additionally, a new district was established, Shaheed Bhagat Singh (S.B.S.) Nagar, comprising the tehsils of Nawanshahr and Balachaur. In terms of urban distribution, Jalandhar district included 14 urban centres with a combined population of 931,983; Kapurthala district had 7 urban centres

with a total population of 246,527; and Hoshiarpur district encompassed 12 urban centres with a population of 292,074.

Table 4
Number and Population of Urban Centres by Class in the Bist Doab Region, 2001

Status of urban centres	2001			
	No. of urban centres	Population of urban centres	Population (%) of urban centres to total urban population	Area of Urban Centres (Sq.Km)
Class I (>1,00,000)	3	9,65,998	62.3	153
Class II (50,000 – 99,999)	1	85,686	5.6	56
Class III (20,000 – 49,999)	9	2,37,485	15.3	112.5
Class IV (10,000 – 19,999)	13	1,86,286	12.0	86.98
Class V (5,000 – 9,999)	9	67,889	4.3	45.98
Class VI (<5,000)	2	8,305	0.5	7
Total	37	1,551,650	100	461.46

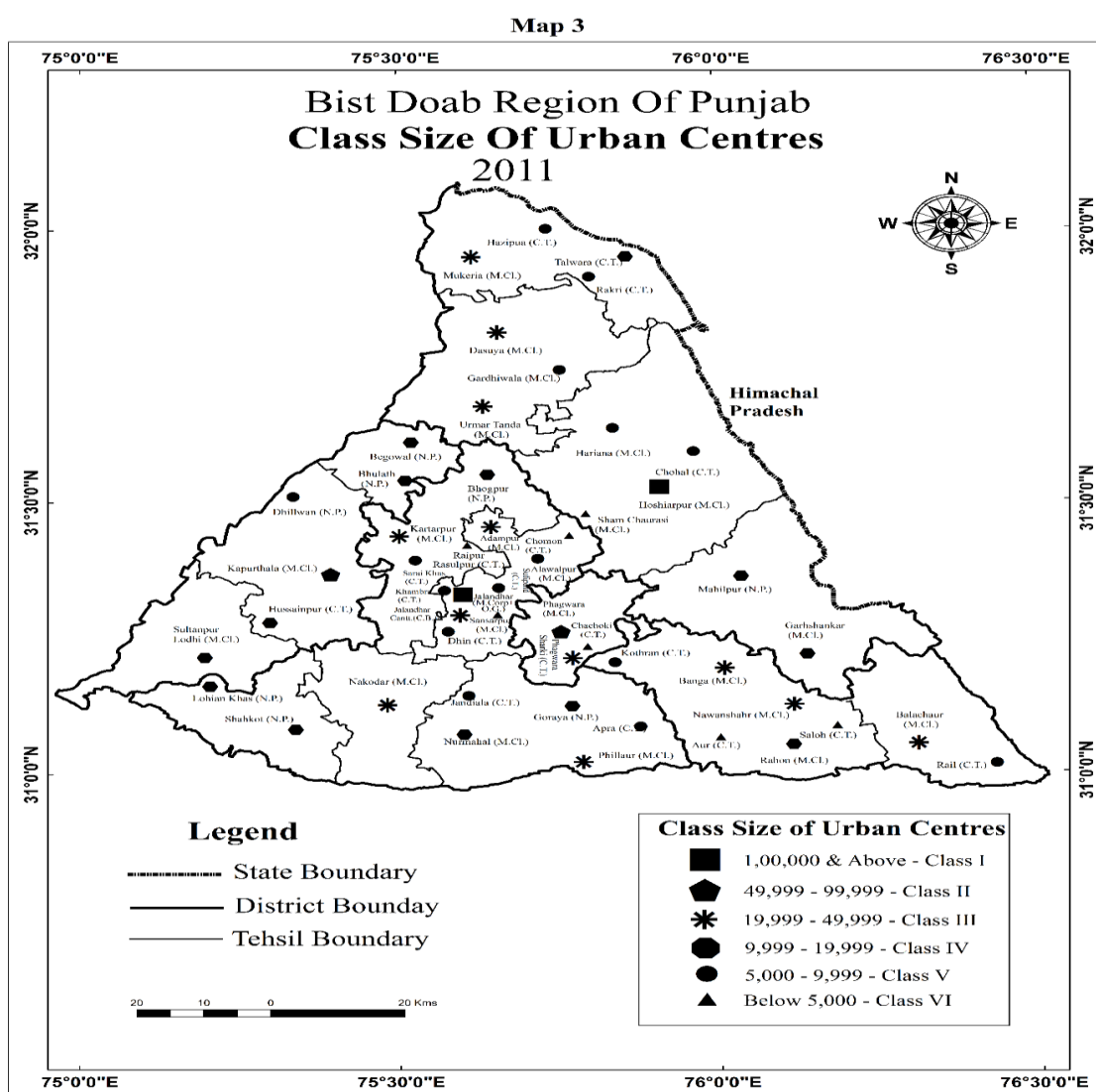
Source: Census of India 2001(a).

During 2001, there were three Class I urban centres in the Bist Doab region, representing 62.3% of the total urban population: Jalandhar (Municipal Corporation) with a population of 714,077 persons, Hoshiarpur (Municipal Council) with 149,688 persons, and Phagwara (Urban Agglomeration) with 102,253 persons. These centres also occupied a total area of 153 square kilometers. Kapurthala (Municipal Council), with a population of 85,686 persons, was the only Class II urban centre, constituting 5.6% of the urban population and covering an area of 56 square kilometers. There were nine Class III urban centres in 2001: Jalandhar Cantt. (Cantonment Board) with 40,531 persons; Kartarpur (Municipal Council) with 25,157 persons; Nakodar (Municipal Council) with 31,408 persons; Phillaur (Municipal Council) with 22,302 persons; Talwara (Census Town) with 22,574 persons; Mukerian (Municipal Council) with 21,384 persons; Gardhiwala (Municipal Council) with 22,048 persons; Dasuya (Municipal Council) with 20,114 persons; and Nawanshahr (Urban Agglomeration and Municipal Council) with 31,967 persons. All these nine urban centres, collectively accounting for 15.3% of the total urban population and covering 112.5 square kilometers. Thirteen urban centres fell into the Class IV category contributing 12.0% to the total urban population, with a combined area of 86.98 square kilometers, in 2001: Adampur (Municipal Council) with 16,707 persons; Bhogpur (Nagar Panchayat) with 13,919 persons; Goraya (Nagar Panchayat) with 15,158 persons; Nurmahal (Municipal Council) with 12,632 persons; Shahkot (Nagar Panchayat) with 12,607 persons; Sultanpur (Municipal Council) with 15,557 persons; Hussainpur (Census Town) with 15,337 persons; Bhulath (Nagar Panchayat) with 10,091 persons; Garhshankar (Municipal Council) with 15,148 persons; Mahilpur (Municipal Council) with 10,098 persons; Banga (Municipal Council) with 18,809 persons; Balachaur (Municipal

Council) with 18,156 persons; and Rahon (Municipal Council) with 12,134 persons. In 2001, class V towns, consisting of nine centres with populations between 5,000 and 9,999, comprised 4.3% of the urban population and occupied 45.98 square kilometers. These centres included: Lohian Khas (Nagar Panchayat) with 8,548 persons; Jandiala (Nagar Panchayat) with 7,705 persons; Alawalpur (Municipal Council) with 7,172 persons; Begowal (Nagar Panchayat) with 9,616 persons; Dhilwan (Nagar Panchayat) with 7,973 persons; Hariana (Municipal Council) with 7,818 persons; Chohal (Census Town) with 7,433 persons; Gardhiwala (Municipal Council) with 6,264 persons; and Hazipur (Census Town) with 5,360 persons. Finally, two Class VI towns, namely, Sansarpur (Census Town) with a population of 4,060 persons and Sham Chaurasi (Municipal Council) with 4,245 persons, represented only 0.5% of the total urban population, spread over an area of 7 square kilometers.

5.5 Analysis of Different Classes of Urban Centres and Their Population in 2011

As per the Census of India (2011), the Bist Doab region comprised 51 urban centres, collectively housing a population of 1,904,018. Among these, Jalandhar district accounted for 21 urban centres with a total population of 1,161,171; Kapurthala district contained 9 urban centres with a population of 282,462; and Hoshiarpur district included 13 urban centres, accommodating 334,969 individuals. The spatial distribution of these urban centres, categorized by class, is illustrated in Map 3.



Jalandhar (Municipal Corporation with Outgrowth), with a population of 868,928, and Hoshiarpur (Municipal Council), with 168,653 people, were the two Class I urban centres, accounting for 54.5% of the total urban population and covering an area of 136.43 square kilometers. Class II centres also included two towns, with a total population of 196,780 (10.3% of the total urban population) spread over 39.67 square kilometers, and these were: Kapurthala (Municipal Council) with 98,916 residents and Phagwara (Municipal Council) with 97,864 residents. There were twelve Class III towns, accounting for 18.0% of the total urban population and covered 135.01 square kilometers, namely, Jalandhar Cantt. (Cantonment Board) with 47,845; Adampur with 20,922; Nakodar with 36,973; Kartarpur with 25,662; Phillaur with 24,688; Kapurthala Sharki (Census Town) with 20,102; Mukerian with 29,841; Dasuya with 25,192; Urmar Tanda with 23,419; Nawanshahr with 46,024; Banga with 20,960; and Balachaur with 21,631 residents.

Table 5
Number and Population of Urban Centres by Class in the Bist Doab Region, 2011

Status of urban centres	2011			
	No. of urban centres	Population of urban centres	Population (%) of urban centres to total urban population	Area of Urban centres (Persons/Sq.Km)
Class I (>1,00,000)	2	1,037,582	54.5	136.43
Class II (50,000 – 99,999)	2	1,96,780	10.3	39.67
Class III (20,000 – 49,999)	12	3,43,205	18.0	135.01
Class IV (10,000 – 19,999)	13	1,90,013	9.9	113.21
Class V (5,000 – 9,999)	15	1,06,884	5.7	86.65
Class VI (<5,000)	7	29,554	1.6	31.49
Total	51	1,904,018	100	542.46

Source: Census of India 2011(a).

Thirteen Class IV towns, representing 9.9% of the region's urban population and spanning 113.21 square kilometers, included Bhogpur (17,549), Goraya (16,462), Nurmahal (14,560), Shahkot (14,488), Lohian Khas (10,362), Sultanpur (16,877), Hussainpur (15,575), Bhulath (10,548), Begowal (10,116), Talwara (19,485), Garhshankar (16,955), Mahilpur (11,360), and Rahon (15,676). Class V centres (populations between 5,000 and 9,999) included fifteen towns with 106,884 people (5.7%) over 86.65 square kilometers, were Jandiala (8,487), Apra (6,258), Alawalpur (7,815), Sufipind (9,406), Dhin (5,961), Khambra (5,483), Sarai Khas (7,044), Dhillwan (8,157), Hariana (8,928), Chohal (7,304), Gardhiwala (7,593), Hazipur (6,091), Rakri (5,722), Rail (7,589), and Khothran (5,046). Lastly, seven Class VI towns with populations under 5,000

included Sansarpur (4,657), Chomon (3,704), Raipur Rasulpur (3,916), Chachoki (4,307), Sham Chaurasia (4,307), Saloh (4,481), and Aur (4,063), constituting 1.6% of the urban population, across an area of 31.49 square kilometers.

6. Conclusions

The following section provides an explanation of the main findings from this chapter:

The Bist Doab region of Punjab has witnessed substantial growth in urban centres across various strata, indicating significant progress. Between 1971 and 2011, twenty-seven new towns of different classifications were added, with these urban centres acting as hubs for economic activities, benefiting the surrounding rural areas. The population of urban areas in the Bist Doab region has also grown rapidly, increasing from 664,056 to 1,904,018 between 1971 and 2011.

Each decade has experienced urban growth, both in terms of the number of urban centres and the population size. However, the decade from 1981 to 1991 saw a net loss of eight urban centres, as eight towns that existed in 1981 were declassified in 1991. Despite this, the overall trend has been one of growth, particularly in Class III, Class IV, and Class V urban centres, which expanded significantly from 1971 to 2011. This growth is largely attributed to industrial development, as numerous small-scale industries were established during this period, contributing to both economic and urban growth in the region.

Interestingly, although the number of Class I urban centres remained constant, their population and area expanded considerably, highlighting the relationship between economic growth and urbanization. These Class I centres, being hubs of industrial and infrastructural development, attracted policymakers, developers, and migrants, further driving their growth.

Among the districts in the Bist Doab region, Jalandhar district has the highest number of urban centres, with 21, followed by Hoshiarpur district with 13, Kapurthala district with 9, and S.B.S. Nagar district with 8. The significant urban growth in Jalandhar district is primarily driven by government policies, such as the establishment of industrial training institutes and the development of industrial-cum-service centres, which have encouraged industrial, infrastructural, and commercial activities.

The economy of the Bist Doab region has greatly benefited from industrial migration operations. As a result, the urban population has grown rapidly. This growth can be attributed to advancements in the social, economic, educational, transportation, and commercial sectors, as well as the industrial sector. These developments have facilitated a strong migration flow from rural to urban areas, contributing to the higher urban growth rate observed in the region.

7. References

1. Census of India 1971(a). General Population Tables and Primary Census Abstract, Series15, Part II A and Part II B. Directorate of Census Operations, Punjab.
2. Census of India 1981(a). General Population Tables and Primary Census Abstract, Series17, Part II A and Part II B. Directorate of Census Operations, Punjab.
3. Census of India 1991(a). General Population Tables and Primary Census Abstract, Series20, Part II A and Part II B. Directorate of Census Operations, Punjab.
4. Census of India 2001(a). General Population Tables and Primary Census Abstract, Series4, Part II A and Part II B. Directorate of Census Operations, Punjab.
5. Census of India 2011(a). Primary Census Abstract. Population Tables, New Delhi: The Office of Registrar General and Census Commissioner of India.

6. Henderson, J.V. and Wand, H.G. (2007). Urbanization and City Growth: The Role of Institutions, *Regional Science and Urban Economics*, 37 (3), 283-313.
7. Mahtta, Richa, Fragkias, Michail, Guneralp, Burak, Mahendra, Anjali, Reba, Meredith, Wentz, Elizabeth and Seto, Karen (2022). Urban Land Expansion: The Role of Population and Economic Growth for 300+ Cities, *Urban Sustainability*, 2 (5), 1-11.
8. Møller, Anders Pape, Diaz, Mario, Flensted-Jensen, Einar, Grim, Tomas, Ibáñez-Álamo, Juan Diego, Jokimäki, Jukka, Mänd, Raivo, Markó, Gábor and Tryjanowski, Piotr (2012). High urban population density of birds reflects their timing of urbanization, *Oecologia*, 170 (3), 867-875.
9. Ramachandran, H., Sharma, P. and Tiwari, P. (2021). City Population, Hierarchy of Urban Centres and Urban Living Conditions in Assam, *Population Geography*, 43 (1), 1-16.
10. Seto KC, Fragkias M, Guneralp B, Reilly MK (2011). A Meta-Analysis of Global Urban Land Expansion, *PLoS ONE*, 6 (8), 1-9.
11. Tewari, Vinod (2011). Managing the Urban Fringe of Indian Cities. In: Dikshit, J.K., *The Urban Fringe of Indian Cities*, Rawat Publications, Jaipur, 16.
12. Tumbe, Chinmay (2016). Urbanization, Demographic Transition, and the Growth of Cities in India, 1870-2020, *International Growth Centre at London School of Economics*, Working Paper no.C-35205-INC-1, pp. 1-39.
13. United Nations (2019). *World Urbanization Prospects: The 2018 Revision*, Department of Economic and Social Affairs, Population Division.
14. <https://www.punjabdata.com/Cities-in-Punjab.aspx>.
15. <https://www.esopb.gov.in/static/PDF/EconomicSurvey-2022-2023.pdf>.