

# Changes in Jurisdictional Limits of Municipal Towns in Haryana: An Overview of Causes and Consequences

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**Abstract:** The change in municipal limits of statutory towns is done to bring geographical growth of towns under administrative limits in order to regulate the haphazard urban growth on the periphery of towns, to increase the municipal income by imposition of taxes on enterprises that come up outside the legal limits of urban centres and to facilitate the future growth of towns. With a rise in the number of municipal towns from 58 in 1961 to 79 in 2011 in Haryana, the area under them has increased from 319.39 km<sup>2</sup> to 1499.84 km<sup>2</sup>. This represents an urban conversion of no less than 1180.45 km<sup>2</sup> of rural land that finds its explanation in the extension of municipal limits of as many as 59 towns. This paper attempts to analyse statistically the explanatory variables of territorial expansion of statutory towns in Haryana. It has been hypothesized that changes in the municipal limits of statutory towns is associated with their population growth, administrative status, non-agricultural workforce and location in respect of major roads. The statistical analysis confirmed close association of the variable 'change in territorial jurisdiction' of a town with the variables of 'connectivity' and 'administrative status'; a weak, positive but statistically non-significant correlation with 'population growth' and no association with the variable 'economic base' of a town. Permanent loss of fertile agricultural land, rural-urban conflicts and the inability to revise municipal limits frequently and preferably much beyond the present urban built up leading to chaotic land use are some of the consequences of changes in the municipal limits of statutory towns. The present paper is an attempt to meaningfully analyse the causes and consequence of changes in municipal limits of statutory towns in Haryana. It is based on census data from 1961-2011.

**Keywords:** municipal limits, statutory towns, geographical growth, haphazard urban growth, urban conversion, explanatory variables, population growth, administrative status, non-agricultural workforce, connectivity, rural-urban conflicts and chaotic land use.

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## I. INTRODUCTION

In India the criteria of defining urban area as per the census of India 2011 are as follows:

- i) All places with a municipality, corporation, cantonment board or notified town area committee etc.
- ii) All other places which satisfy the following criteria:
  - a) A minimum population of 5000;
  - b) At least 75% of male working population engaged in non-agricultural pursuits; and
  - c) A density of population of at least 400 persons per square km.

All those settlements which meet the first criterion are known as *Statutory Towns* whereas those which satisfy the second criterion are defined as *Census Towns*. The Statutory Towns that are governed by municipal bodies are known as Municipal Towns. These Municipal Towns are governed through the municipal acts of respective state governments, except in the case of cantonment boards which are under the administrative control of Ministry of Defence at the national level.

The fast urban-industrialization in a few states, notably Haryana is reflected not only in increase in the number of municipal towns but also in the territorial expansion of their statutory limits. The statutory towns in the state have not only grown in numerical strength from 58 in 1961 to 79 in 2011 but have also registered a significant increase in their municipal limits; from 319.39 km<sup>2</sup> in 1961 to 1499.84 km<sup>2</sup> in 2011. Thus, increase in territorial limits of municipal towns is an important factor underlying urban growth besides net rural-urban migration and the contribution made by natural increase and thus cannot be overlooked. The focus of the present paper is, therefore, on the growth of statutory towns and the factors contributing to their growth in the state of Haryana that are governed by local government bodies like “Municipal Committee” (for a transitional area with population not exceeding fifty thousand); “Municipal Council” (for a smaller urban area with population exceeding fifty thousand but not exceeding three lacs) and “Municipal Corporation” (for a larger urban area with population exceeding three lacs). There are 78 municipalities in the state of Haryana out of which 9 are municipal corporations, 14 are municipal councils and 55 are municipal committees (see Fig. 1.1 and Appendix - 1).

## II. STUDY AREA

Haryana emerged on political map of India when the Punjab-Reorganization Bill was passed by the Indian Parliament on September 10, 1966 bifurcating the bilingual state of Punjab and made provision for the setting up of the new state of Haryana. The state is located in the north-western part of the country and forms the western component of Great Northern Plains. The study area lies within the latitudinal extension of 27° 39' north to 30° 55' north and the longitudinal extension of 74° 27' east to 77° 36' east. The total area of the state is 44,212 sq.km and as per the 2011 Census, the total population of the state stands at 2,53,53,081 persons. For administrative purposes as per 2011 Census the state is divided into four divisions (Ambala, Hisar, Rohtak and Gurgaon), 21 districts, 57 sub-divisions, 74 tahsils, 44 sub tahsils, 119 development blocks, 154 towns and 6841 inhabited villages (Fig. 1.2). The capital of the state is Chandigarh which lies within Chandigarh Union Territory.

## III. OBJECTIVES

The basic objective of the present paper is to analyse statistically the explanatory variables of territorial expansion of statutory towns in Haryana. It has been hypothesized that changes in the municipal limits of statutory towns is associated with their population growth, administrative status, non-agricultural workforce and location in respect of major roads.

## IV. DATA BASE AND METHODOLOGY

The data on the change in territorial jurisdiction of towns and their distribution by size class have been drawn mainly from secondary sources like census publications and occasional papers published by Directorate of Census Operations, Haryana, Chandigarh and Office of the Registrar General and Census Commissioner, New Delhi. The present study covers a period of 50 years (1961-2011) for which a reliable and continuous data on various aspects of urbanization in Haryana are available.

As per Census of India, the urban centres have been divided into six groups – *cities* (the urban centres with population of one lakh and more) comprising Class I towns; included are the cities with population of 10 lakh and more, i.e. one million and above, termed as *million plus cities*; *large towns* (the urban centres with population of 50,000 to 99,999) comprising Class II towns; *medium towns* (the urban centres with population of 20,000 to 49,999) comprising Class III towns; and *small towns* (urban centres with population of < 5000 to 19,999) comprising Class IV (10,000 to 19,999), Class V (5000-9,999) and Class VI (<5000) towns. This categorisation has been done to provide a meaningful analysis of change in size-class composition of statutory towns experiencing areal expansion.

To test the hypotheses that extension of territorial limits of towns is associated with their population growth, administrative status, functions and location in respect of major roads, non-parametric techniques of Spearman's rank correlation and Chi-square test of independence in contingency tables were employed. Small sample size and highly skewed nature of data forced the researchers to opt for such non-parametric tests.

## V. STATISTICAL ANALYSIS OF THE EXPLANATORY VARIABLES OF TERRITORIAL EXPANSION OF STATUTORY TOWNS IN HARYANA

The researchers have made an attempt to address the research question- what are the factors that explain change in territorial limits of municipal towns? In view of the above research question, the following hypotheses have been framed:

- 1) Higher growth of population in a town will find a positive association with frequency of changes in its territorial limits. In other words, rapid growth of population in a town will lead to a higher frequency of changes in its territorial limits.
- 2) Higher the administrative status of a town greater will be the change in its territorial limits.
- 3) Towns located on national highways undergo change in territorial limits faster than those on state highways and the latter faster than those on district roads.
- 4) Towns with wider economic base that offer ample employment opportunities undergo change in territorial limits faster than those towns that have small economic base and poor employment potential. The hypotheses were tested for 1961-2011 period.

## VI. POPULATION GROWTH AND TERRITORIAL CHANGE

The decade-wise analysis to ascertain the nature and degree of association between change in jurisdictional limits of towns and their growth rate could not be done. This was because of the small number of towns in each population size category due to which no statistical technique gave stable results. Therefore, the entire period 1961-2011 was taken into consideration. To examine the degree of association between the two variables -population growth and change in territorial jurisdiction of towns, Spearman's Rank Correlation Technique was employed. **Table 1.1** summarizes the results as below:

**Table 1.1: Haryana: Correlation between Percent Growth Rate and Percent Change in Territorial Jurisdiction of Towns classified by Population Size Categories, 1961-2011**

Population Category	Size	Number of Towns with a changed jurisdiction	Spearman's Rank Correlation Coefficient ( $r_s$ )	Level of Significance (0.05)
I		18(20)	0.38	Not significant
II		8(9)	0.31	Not significant
III		15(33)	0.33	Not significant
IV		6(16)	-0.31	Not significant
V		1(1)	-	-

**Source:** Computed by the Researcher

**Note:**

- i) Figures in parenthesis are total number of municipal towns in different population size categories.
- ii) Municipal towns have been assigned to different population size categories as per 2011 census.
- iii) There was only one class V town, Ateli in 2011 that registered an increase of 0.35 km<sup>2</sup> in municipal limits and added a total of 4,152 persons to its population of 1,521 since 1961.
- iv) 12 Class III and IV municipal towns that came into existence after 1961 and experienced change in municipal limits have not been included.

Tables 1.1 reveals that the research hypothesis that was stated at the outset that the higher growth of population of a town will find a positive association with change in its jurisdictional limits is not exactly validated. Only a weak, positive but statistically non-significant correlation was observed between population growth and change in territorial jurisdiction of Class I, II and III towns.

18 out of 20 Class I cities registered a phenomenal growth rate during 1961-2011. These cities experienced a spurt in industrial, commercial, educational and administrative activities, hence witnessed a rapid growth of population due to large scale in-migration. To regulate the haphazard development of unauthorised residential colonies, commercial and industrial establishments that spring up in the peripheral areas, where land prices are relatively low, municipal boundaries

have been revised from time to time of these cities but a few of them like Yamunanagar, Jagadhri, Thanesar, Panipat, Sonipat, Bahadurgarh, Hisar, Sirsa and Palwal are examples of under bound cities where municipal limits have not been able to keep pace with the rapid growth of population. This is because, while the administrative boundary is rather static, the actual limits of an urban centre change with time in response to the growth of the place (Ramachandran, 1989). Hence, weak positive correlation is observed between these two variables. On the other hand, the MC limits of Gurgaon, Faridabad, Rohtak, Karnal, Jind, Kaithal and Ambala have been able to keep up with the population growth.

A weak positive correlation ( $r_s = 0.31$ ) was observed between growth rate and municipal boundary change of Class II towns. Both the variables behaved independently of each other as revealed by further examination of data. As many as 8 out of 9 Class II underwent change in territorial jurisdiction during 1961-2011. The only exception was Fatehabad which though experienced a high growth rate of 467.98 per cent during 1961-2011 did not undergo any revision in its municipal limits.

Narwana, Tohana, Hodal and Narnaul despite registering a high growth rate did not undergo corresponding increase in territorial limits. Two Class II towns namely, Hansi and CharkhiDadri despite of high growth rate of 157.38 per cent and 307.08 per cent respectively, registered a decline in their jurisdictional limits during 1961-2011. However, the reasons for decline in municipal limits of these two towns could not be ascertained. At the other end of the spectrum are Gohana and Mandi Dabwali which expanded more in their municipal limits than their population. This was more in sync with their importance as service centres to their hinterland which prompted their municipal bodies to channelize the urban growth around these towns.

Again, a weak but statistically non-significant correlation ( $r_s = 0.268$ ) was observed between population growth and change in territorial jurisdiction of Class III towns. The above observation was supported by the analysis of data. 15 out of 33 towns underwent change in municipal limits and growth in population during 1961-2011. This does not mean the remaining towns experienced no change in population or municipal limits. In fact, as many as 11 towns that gained statutory status after 1961 experienced growth both in terms of population and municipal limits but could not be included in the calculations as they came up post 1961. So in effect only 7 towns did not undergo expansion in municipal limits during 1961-2011 period though they did register growth in population. Kalka, Pehowa, Safidon, Kalanwali, Ferozpur Jhirka, Mahendragarh, Haileymandi, Pataudi and Pundri experienced high population growth which was, however, not accompanied by correspondingly high expansion in municipal limits.

Kalka's poor growth was due to the urban shadow cast by Panchkula, a fast-expanding satellite town of state capital Chandigarh. Safidon too has suffered from the same fate as Kalka being in the urban shadow of its district headquarter, Jind which explains its stagnant growth. Kalanwali, another Class III town presented an interesting case. It experienced an increase of as high as 1281 per cent or 37.15 km<sup>2</sup> in its municipal limits during 1981-91 due to the merger of two large revenue villages of Kalanwali and Chukerian for development of Mandi Township. Later on, as per final notification issued by the Urban Local Bodies Department dated 14.10.2003, Chukerian village which was in municipal limits in 2001 came out of municipal limit thus reducing the area by 31.72 km<sup>2</sup>. However, the reason for the exclusion of the village could not be determined. Haileymandi, though, experienced a large increase of 528.18 per cent in its legal limits due to the construction and inclusion of a new grain market to serve the rural area more effectively, yet it was no match to its rapid population growth of 1109.83 per cent. Pataudi, another town close to the city of Gurgaon has seen rapid population growth and spurt in commercial, residential and industrial activities but not a corresponding expansion of municipal limits. Ferozpur Jhirka, a town located in backward district of Mewat last experienced expansion in municipal limits in 1981 though it did experience population growth of 163.29 per cent during the same period. Mahendragarh town experienced the least expansion of just 9.71 per cent in municipal limits during 1961-2011 but that does not mean it stagnated in population growth too. In fact, it experienced a population growth of 221.11 per cent during the same period.

On the other hand, Gharaunda, Shahbad, Ladwa, Jhajjar, and Sohna experienced expansion in municipal limits that exceeded their population growth. This anomaly in case of Gharaunda, Shahbad and Ladwa found explanation in the extension of legal boundaries of these towns to include factories and mills that were on the outskirts so as to improve the financial position of the urban local bodies. Jhajjar town experienced tremendous expansion of jurisdictional limits by as much as 2042.85 per cent just next to Sohna. In fact, during 2001-2011 its municipal limits were revised by as much as 30 km<sup>2</sup> due to the inclusion of Jhajjar rural and two more villages to regularise the urban growth. The spurt in urban growth is due to it being part of National Capital Region. Sohna as mentioned earlier, registered maximum growth in municipal jurisdiction following the spill over effect of rapidly growing Gurgaon.

No association was observed between population growth and change in territorial jurisdiction of Class IV towns ( $r_s = -0.314$ ) as the value of  $r_s$  was statistically not significant. As per 2011 census there were 7 Class IV towns out of which as many as 6 towns registered expansion in municipal limits but witnessed low population growth. Punahana emerged as a statutory town in 1991, hence, it has not been included. Despite registering slow to moderate growth rate; Farrukhnagar, Bawal, Loharu, Julana and Uchana underwent phenomenal territorial expansion because of their role as market towns. The only exception was Nuh which registered a decline in municipal limits twice during 1961-71 and 1971-81 for reasons unknown. It recovered the lost area to some extent by merger of Nuh rural during 2001-2011 thus taking the total area under municipal jurisdiction to 4.29 km<sup>2</sup>. Yet the area under its jurisdiction was small which may be explained by its location in the industrially backward Mewat district.

To sum up, revision of MC limits is a tedious process and population growth in many cases has not been able to out step the municipal limits. Moreover, policy planning at municipal level is myopic in nature and not able to for see the future expansion and plan for it systematically in advance. Similarly, no significant association was observed between the territorial change and population growth of towns belonging to lower population size categories. This was because of the decline and stagnation of small towns, a phenomenon observed throughout India. This stagnation was due to competition from nearby big urban centres and due to the emergence of rural service centres. Therefore, not much need was felt to redefine the boundaries of small towns. It follows that town boundary change could not be ascribed solely to the factor of population growth. There were in fact a host of factors at work.

## VII. ADMINISTRATIVE STATUS AND TERRITORIAL CHANGE

Another attribute chosen to explain change in territorial jurisdiction of towns was administrative status. It was assumed that higher the administrative status, more rapid was the expansion in municipal limits of a town. The nature of data, however, did not lend itself to statistical analysis. Therefore, to determine the nature of relationship between territorial change and administrative status, data were subjected to *qualitative analysis*. Data were represented through a map (**Fig. 1.3**) to figure out the kind of association between the two variables. Broadly speaking, administrative status of a town and territorial expansion in its jurisdiction were found to be positively associated. This was more evident in case of towns that were placed higher up in the administrative set up than those lower in the hierarchy.

Out of 21 municipal towns, which are district headquarters, only Fatehabad did not undergo any change in boundary since 1961 despite moving up in the administrative hierarchy. Another exception was Panchkula which too did not simply experience an expansion in municipal limits, rather it underwent change in administrative identity in the sense that till 2001 it was under the jurisdiction of Estate Office but later declared a Municipal Council and subsequently Municipal Corporation in which Pinjore M.C. and Kalka M.C. were merged as per the notification dated 17<sup>th</sup> March, 2010 issued by the Urban Local Bodies Department, Government of Haryana.

At the time of formation of Haryana state, there were 7 towns which were district headquarters namely, Ambala, Rohtak, Karnal, Gurgaon, Hisar, Jind and Mahendragarh, that is, there were 7 districts named after district headquarters. Remaining 14 district headquarters were lower in administrative hierarchy, majority of them being tahsil headquarters. Barring Panchkula and Fatehabad, all the 12 towns underwent change in municipal limits when they moved higher up in the administrative hierarchy. However, change in municipal limits was not always positive. In case of Bhiwani and Jind the upgradation was accompanied by a reduction in territorial limits during 1961-71 though later on they did register increase in boundary with a change in administrative status. The association between higher administrative status and expansion of municipal limits was explained by higher government spending on development activities at the district headquarters. The development works expanded the employment base which attracted migrants and resulted in the mushrooming of residential colonies and commercial establishments in the periphery of towns. In order to regulate haphazard development in the periphery, the municipal limits of towns whose administrative status was upgraded were revised from time to time.

The frequency of change in the territorial limits during 1961-2011 was maximum in case of Thanesar (Kurukshetra) which underwent boundary change five times. This was consistent with its continuous up gradation in administrative status from tahsil to sub-divisional and finally to district headquarter. Similarly Sonipat experienced expansion in municipal limits four times along with change in administrative status but when Sonipat upgraded from tahsil to sub-divisional headquarter during 1961-71 it added 4.37 km<sup>2</sup> area to its municipal limits or 25.70 per cent increase whereas when it attained the status of district headquarter in 1972 there was no immediate impact on the municipal limits. It was

only in 1981-91 that it added 6.95 km<sup>2</sup> area under its municipal jurisdiction. Sirsa too underwent expansion in municipal limits four times. Unlike Sonipat, it did not register any increase in municipal limits during 1961-71 when it upgraded from tahsil to sub-divisional headquarter. It was only when it became a district headquarter in 1975 that it underwent expansion in municipal limits by as much as 216.98 per cent.

As many as 8 cities – Karnal, Rohtak, Rewari, Jind, Hisar, Jhajjar, Gurgaon and Faridabad experienced change in jurisdictional limits thrice during 1961-2011. Jhajjar's expansion in municipal limits was in close correspondence to its up gradation in administrative status. Overall it experienced an increase of as high as 2042.85 per cent in its municipal limits. The growth of Rewari was stagnant till 1981 though it got promoted from a tahsil in 1961 to a sub-divisional headquarter in 1971. It was only in 1989 when it became a district headquarter that it underwent expansion in municipal limits but the expansion was not phenomenal like Jhajjar. It experienced an expansion of 204.12 per cent in its jurisdictional limits. This indicates that in some cases higher administrative status does not translate into rapid expansion of municipal limits. Obviously, there are other factors at work. Faridabad till 1979 was an industrial town in Gurgaon district after which it was upgraded to the status of district headquarter of a newly formed Faridabad district. In 1981 a new entity called Faridabad Complex Administration (F.C.A.) was created by the amalgamation of Faridabad New Township, Faridabad M.C., Ballabgarh M.C. and 32 adjoining villages with an area of 178.24 km<sup>2</sup>, an addition of 152.49 km<sup>2</sup> to the existing municipal limits. Thus, upgradation of administrative status had a positive impact on the municipal boundary of Faridabad. Gurgaon has undergone maximum revision in municipal limits among all cities of the state but before 2008, the year in which it was upgraded to the status of Municipal Corporation, it was an under bound city. Gurgaon was a district at the time of formation of the state of Haryana so in its case it was the upgradation of the status of the urban local body that resulted in the expansion of municipal limits. Similar development was observed in Karnal, Rohtak and Hisar which too got upgraded to Municipal Corporations in 2010.

Kaithal, Panipat, Bhiwani and Palwal experienced expansion in municipal limits only twice during 1961-2011 though they all underwent up gradation from tahsil to sub-divisional headquarter and subsequently district headquarter. The maximum increase in territorial jurisdiction was in case of Kaithal (704.04 per cent). The remaining three towns did not undergo as much expansion in municipal limits. Thus, change in administrative status worked as a catalytic force in change in territorial jurisdiction of towns but each town had its own story to tell.

Sub-divisional headquarter is one step down the district headquarter in administrative hierarchy. Being less important than district headquarter from administrative point of view, sub-divisional headquarters have received less attention of the state governments. It is headed by a sub-divisional officer who works under the Deputy Commissioner, the head of a district.

It was found that except for Bahadurgarh and Jagadhri, none of the remaining 28 sub-divisional headquarters were Class I towns. Out of these 28 sub-divisional headquarters only 18 underwent expansion in municipal limits. Bahadurgarh underwent maximum expansion in municipal limits followed by Shahbad but then Bahadurgarh was the only class I town which was a sub-divisional headquarter. The proximity of Bahadurgarh to the national capital and it being one of the foci of industrial growth in NCR contributed to its expansion. Shahbad too benefitted from its location on the Grand Trunk Road and the spill over effect of industries and mills from Ambala city. On the other hand, Maham, Hansi and CharkhiDadri registered a decline in their municipal limits in the very same decades when their status got upgraded from tahsil to sub-divisional headquarters. 8 statutory towns that had the status of sub-divisional headquarters did not experience any expansion of administrative limits.

All the 12 statutory towns that were tahsil headquarters belonged to either class III or class IV category towns. 7 of them experienced expansion in municipal limits but the expansion was small except in case of Gharaunda and Sohna that not only underwent substantial expansion but that too thrice during 1961-201. Sohna has experienced expansion following real estate boom in Gurgaon and Gharaunda is located on N.H. 2.

Similarly, out of 10 municipal towns designated as block headquarters only Cheeka and Pinjore have experienced substantial expansion in municipal limits. Rest of the towns experienced only a small increase in their territorial limits. Kalayat and Kanina however, experienced no expansion in municipal limits. Cheeka, a class III town classified as an urban centre in 1991 experienced a substantial increase of 22.2 km<sup>2</sup> in its municipal boundary but the reason for this increase could not be ascertained. Pinjore, a class III town in the vicinity of state capital Chandigarh, experienced an increase of 8.91 km<sup>2</sup> during 2001-2011 due to merger of Pinjore rural and nine other villages.

Apart from the above discussed municipal towns, there were some towns which did not perform administrative functions, yet they underwent an increase in municipal limits. These were Taraori, Kalanwali and Haileymandi. All were class III towns. Only two towns namely, Dharuhera and Nissing did not undergo any change in their territorial jurisdiction because they were awarded the statutory status in the preceding decade of 2001-2011 itself.

Broadly speaking, there appeared to be a positive association between administrative status and change in territorial jurisdiction of towns. This was more evident in case of towns that were placed higher up in the administrative set up than those lower in the hierarchy.

### VIII. CONNECTIVITY AND CHANGE IN TERRITORIAL JURISDICTION OF TOWNS

The transportation links particularly the roads play a vital role in the process of urbanization. As far as transportation links are concerned, the role of roads was much more evident than the role played by railways in Haryana. All the towns were linked with metalled roads. Therefore, connectivity index (or beta-index) for all the towns was calculated by taking into consideration road links. Beta Index ( $\beta$ ):  $e/v$  where  $e$ = number of edges (links) and  $v$ = number of vertices (nodes) measures the connectivity relating the number of edges to the number of nodes. The greater the value of  $\beta$ , the greater the connectivity. Weights given to the different roads were as follows: National Highway-3; State Highway-2 and Major District Road-1 in order of their decreasing importance.

To investigate the relationship between the two attributes of connectivity (accessibility) and change in territorial jurisdiction, the *chi-square* test of independence in contingency tables was employed. This non-parametric test technique was used because data were badly skewed and could be expressed only in ranks. A value of chi-square was computed under the assumption of the research hypothesis ( $H_1$ ) that the two attributes of connectivity and change in territorial jurisdiction are dependent (i.e. there is a contingency between the two variables); towns located on national highways undergo change in territorial limits faster than those on state highways and the latter faster than those on district roads. For application of this statistical technique both the variables were classified into three categories - high, moderate and low. The categories were as follows:

Categories	Change in Territorial Jurisdiction in km <sup>2</sup> (1961-2011)	Frequency (number of towns)	Connectivity (Weighted index) $\beta$	Frequency (number of towns)
High	201.82 --- 23.62	11	13 - 8	9
Moderate	23.62 --- 11.82	9	8 - 4	19
Low	11.82 --- 16.6	39	4 - 1	31

Note: The divided range technique gave skewed categorisation of change in territorial jurisdiction. Therefore, extreme values were ignored to come up with the above categorisation.

Accordingly, all the 59 towns of Haryana that had undergone change in territorial jurisdiction during 1961-2011 were grouped into three categories (high, moderate and low) with respect to both the attributes. It was found that the calculated  $\chi^2$  value of 19.532 was more than the critical value of  $\chi^2$  at 0.05 level of significance which was 9.488. Therefore, it was concluded that  $H_0$  (Null Hypothesis) needs to be rejected and that there is real association between connectivity and change in territorial jurisdiction. **Figure 1.4** succinctly brings out the above observation.

Connectivity is an important attribute having a direct positive bearing on the territorial expansion of class I cities in the state which is evident in all cases except Jagadhri and Faridabad which have low value of connectivity index. Jagadhri which is a twin city of Yamunangar, is located on NH-73A which means it is well connected and the low value of connectivity was due to fewer roads passing through it. In case of Faridabad too, low connectivity was a misnomer. The low value was because of fewer transport routes connecting it with other towns and not due to minor transport linkages. In

fact, Faridabad is located on NH-2 and is very well connected to Delhi and Gurgaon. Among Class I cities, Gurgaon, Rohtak, Karnal and Jind were classified in high category for both connectivity and change in territorial jurisdiction. Gurgaon underwent extension of municipal limits thrice during 1961-2011 period, it being an important commercial, educational, industrial and IT hub. It is an important constituent of National Capital Region, located at a distance of 30kms from the national capital of Delhi along Delhi – Jaipur national highway (NH-8). It also has good transport linkages with the rest of the state with three state highways passing through it. Rohtak, another Class I city that lies in NCR is a prominent cultural, educational and health services centre and has three national highways passing through it, NH 10 through which it is connected to national capital and NH- 71 and NH-71A. As many as four state highways connect it with other urban centres of the state. This excellent transport linkages have resulted in frequent revision of administrative limits. The city has registered expansion thrice in its municipal limits since the formation of the state. Karnal, an important Class I city on NH-1 and recently included in NCR has undergone expansion in municipal limits thrice during 1961-2011 period. Besides, NH 1, there are three state highways passing through it. Jind, another Class I city recently included in NCR besides Karnal is located in the central part of Haryana. Apart from NH- 71, three state highways too pass through it. The city has added 38 km<sup>2</sup> to its area since 1961 and has undergone territorial expansion thrice. Class I cities of Panipat, Bhiwani and Rewari have high connectivity index and have undergone moderate expansion in M.C. limits. Ambala, Kaithal, Hisar, Bahadurgarh and Sonapat have experienced rapid expansion in municipal limits and have moderate level of connectivity index. Only Yamunanagar and Palwal have moderate connectivity index but have registered only minor expansion in jurisdictional limits.

Close correspondence was observed between connectivity and extension of territorial jurisdiction of class II towns except in case of Gohana which inspite having high connectivity registered only a minor increase in municipal limits during 1961-2011. Another anomaly was Fatehabad which despite being on NH-10 did not undergo any change in municipal limits. The remaining 7 class II towns had moderate to low connectivity and witnessed moderate to small revision in administrative limits. Out of these four towns – Tohana, Mandi Dabwali, Charkhi Dadri and Narnaul located on state highways but away from national highways had experienced poor expansion in municipal limits, thus adding gravity to the observation that towns with fewer transport linkages registered low expansion in administrative limits. However, Hodal, Hansi and Narwana despite located on national highways witnessed only a slight revision in municipal limits thus indicating that connectivity is not the sole factor contributing to the expansion of municipal limits of a town.

Out of 33 class III towns, as many as 23 towns exhibited a close association between the two variables of connectivity and change in territorial jurisdiction. They had fewer transport linkages and underwent a slight revision in municipal limits. A word of caution though, the low connectivity index in case of as many as 6 towns viz. Kalka, Naraingarh, Samalkha, Taraori, Gharaunda and Taoru gave a misleading picture because all these towns are located on national highways. This is because connectivity index was influenced more by the number of road links passing through a town than the nature of these linkages in spite of an attempt to eliminate this weakness of the index by giving higher weight to major routes. Kalka, for example, is located on NH-22 and is a gateway of Himachal Pradesh. As a result, most of the trade and traffic between the hills and the plains passes through it yet only a slight revision in municipal limits was done. Similarly, Samalkha, Gharaunda and Taraori are located on NH-1 but have experienced small revision in town limits. Naraingarh, located on NH-72 and Taoru on NH-71B too underwent small expansion in their municipal boundaries. Ganaur and Barwala likewise, are both located on NH-1 and NH- 65 respectively but did not undergo any revision in municipal limits. Among all the class III towns, only Jhajjar boasted of high connectivity and correspondingly high revision in municipal limits. Jhajjar, the district headquarter of district Jhajjar is located on NH-71 and as many as six state highways pass through it and it added as much as 34.32 km<sup>2</sup> when it underwent expansion in municipal limits thrice during 1961-2011 period. Mahendragarh, Loharu, Sohna and Maham had moderate connectivity but low expansion in town limits.

Only 7 class IV towns of Uchana, Julana, Loharu, Bawal, Farrukhnagar, Nuh and Hassanpur out of 16 towns experienced a slight increase in municipal limits, the rest remained stagnant. All of them had low connectivity index as majority of them were located on district roads. Very few of them were on national and state highways. Thus, there seem to be a close association between towns, few exceptions notwithstanding.

A detailed analysis of the nature of association between connectivity and change in territorial change does confirm a close association between the two attributes in case of statutory towns in Haryana.



## IX. FUNCTIONAL STATUS AND CHANGE IN TERRITORIAL JURISDICTION OF TOWNS

The types of economic activity or 'functions' carried on within a town determines its pace of development and hence physical spread. It was hypothesized that towns with wider economic base that offer ample employment opportunities undergo change in territorial limits faster than those towns that have small economic base and poor employment potential. The inflow of migrants would result in the coming up of new residential colonies, industrial and commercial establishments in the periphery of towns. To contain this unplanned, illegal and unregulated development the municipal limits would be revised by the government from time to time.

The workforce data provided by different censuses are not comparable and since a detailed nine occupational classes are not available for the 2011 census, the present study took into account the two non-agricultural activities concentrated in urban areas – household industries and other workers to verify the stated research hypothesis.

Workforce in Non-Agricultural Sector was calculated by the following formula:

$$\text{Percentage of Workers in Non-Agricultural Sector} = \frac{\text{Total non-agricultural workers}}{\text{Total Workers}} \times 100$$

The decade –wise analysis to ascertain the degree of association between change in jurisdictional limits of towns and their workforce in non-agricultural sector could not be done because of limitations of data. Therefore, the entire period, 1961-2011 was taken into consideration for the variable – change in municipal limits of towns while workforce in non-agricultural sector was calculated on the basis of 2011 census. To examine the degree of association between the two variables –percentage of workers in non-agricultural sector and change in territorial jurisdiction of towns, Spearman's Rank Correlation Technique, a non-parametric correlation technique was employed.

**Table 1.2: Haryana: Correlation between Percent Workforce in Non-Agricultural Sector and Percent Change in Territorial Jurisdiction of Towns Classified by Population Size Categories, 1961-2011**

Population Size Category	Size	Number of Towns with a changed jurisdiction	Spearman's Rank Correlation Coefficient (r <sub>s</sub> )	Level of Significance (0.05)
I		18(20)	0.076	Not significant
II		8(9)	-0.071	Not significant
III		15(33)	-0.125	Not significant
IV		6(16)	-0.2	Not significant
V		1(1)	-	-

**Source:** Computed by Researcher from Census of India (2011), Workforce structure of Haryana, data available on CD.

### Note:

- i) Figures in parenthesis are total number of municipal towns in different population size categories.
- ii) Municipal towns have been assigned to different population size categories as per 2011 census.
- iii) There was only one class V town, Ateli in 2011 that registered an increase of 0.35 km<sup>2</sup> in municipal limits and added a total of 4,152 persons to its population of 1,521 since 1961.
- iv) 11 Class III and IV municipal towns that came into existence after 1961 and experienced change in municipal limits have not been included.

Table 1.2 reveals that the research hypothesis that towns with wider economic base that offer ample employment opportunities undergo change in territorial limits faster than those towns that have small economic base and poor employment potential is not validated. This does not mean that towns or cities that offer more employment opportunities are not growing faster than towns that have poor employment potential in the state. In fact, as has been observed these cities are growing faster than smaller urban centres but the revision in territorial limits to contain the haphazard urbanisation in fast expanding cities is not taking place at par with the areal expansion. As a result, many of Class I cities are examples of under bound towns where the urban area extends far beyond the legal limits. Hence, only a weak, positive

but statistically non-significant correlation was observed between percentage of workforce in non-agricultural sector and change in territorial jurisdiction of Class I towns whereas in the rest of the towns of lower population size categories the correlation was in fact negative though weak suggesting no association between the two variables.

As stated earlier 18 out of 20 Class I towns underwent change in territorial jurisdiction. A weak positive correlation ( $r_s = 0.099$ ) was observed between percentage of workforce in non-agricultural sector and municipal boundary change of Class I towns. Only two Class I cities of Panchkula and Ambala Sadar did not experience expansion of municipal limits because of change in their jurisdictional status as mentioned earlier.

All the 18 Class I towns have high to very high percentage of workers engaged in non-agricultural activities. These cities have undergone expansion of industrial, commercial, educational and administrative activities, hence witnessed a rapid growth of population due to large scale in-migration. To regulate the haphazard development of unauthorised residential colonies, commercial and industrial establishments that spring up in the peripheral areas, where land prices are relatively low, municipal boundaries have been revised from time to time of these cities but many of them like Yamunanagar, Sonipat, Sirsa, Hisar, Palwal and Panipat are examples of under bound cities where municipal limits have not been able to keep pace with the expanding employment base. In fact, in majority of these cities the built-up area extended beyond the administrative limits in response to the distinct emphasis on secondary and tertiary economic activities in these urban centres. According to **Ramachandran (1989)**, "The procedure for annexation of adjoining villages where the urban over-spill can be observed is lengthy and tedious. Further, the rural folk often resist annexation on the grounds that they would have to pay city taxes and be constrained by city building regulations." Therefore, the boundaries of these cities do not correspond to the spatial limits of the geographical city.

On the other hand, the municipal limits of Gurgaon, Bahadurgarh, Jagadhri, Rohtak and Ambala have been able to keep up with the expanding employment base. The territorial expansion and percentage of workforce in non-agricultural sector exhibited a close correspondence in these Class I cities which explains the weak positive though statistically non-significant correlation between the two variables in case of Class I cities.

A weak negative correlation ( $r_s = -0.071$ ) was observed between functional status and municipal boundary change of Class II towns (Table 3.23). Both the variables behaved independently of each other as revealed by further examination of data. As many as 8 out of 9 Class II underwent change in territorial jurisdiction during 1961-2011. The only exception was Fatehabad which despite having a high percentage of workforce engaged in non-agricultural sector did not undergo any revision in its municipal limits. Two Class II towns namely, Hansi and CharkhiDadri despite of high percent of workforce in non-agricultural sector – 90.075 per cent and 91.086 per cent respectively, registered a decline in their jurisdictional limits during 1961-2011. However, the reasons for decline in municipal limits of these two towns could not be ascertained. At the other end of the spectrum are Gohana and Narwana which underwent substantial expansion in territorial limits but had low percentage of workforce employed in non-agricultural sector. This revealed that the employment base of a town measured in terms of percentage of workers in non-agricultural sector is not the sole criterion. There were other factors too that played a role in the change in the territorial jurisdiction of towns.

Again, a weak but statistically non-significant correlation ( $r_s = -0.125$ ) was observed between percentage of workforce employed in non-agricultural sector and change in territorial jurisdiction of Class III towns. The above observation was supported by the analysis of data. 15 out of 33 towns underwent change in municipal limits during 1961-2011. This does not mean the remaining towns experienced no change in municipal limits. In fact, as many as 11 towns that gained statutory status after 1961 experienced revision of municipal limits but could not be included in the calculations as they came up post 1961. So in effect only 7 towns – Assandh, Gaur, Kharkhoda, Rania, Ellenabad, Barwala and BawaniKhera did not undergo expansion in municipal limits during 1961-2011 and the percentage of non-agricultural workforce was also low to moderate in them, indicating agriculture and allied activities were one of the major activities. This was however, not true in case of Sohna, Jhajjar and Gharaunda which underwent substantial expansion of administrative limits despite low percentage of workers in non-agricultural activities. On the other hand, Kalka and Mahendragarh had high percentage of non-agricultural workforce but experienced little expansion in municipal limits.

Similarly, no association was observed between percentage of workforce engaged in secondary and tertiary sectors and change in territorial jurisdiction of Class IV towns ( $r_s = -0.2$ ) as the value of  $r_s$  was statistically not significant. As per 2011 census there were 7 Class IV towns out of which as many as 6 towns registered expansion in municipal limits. Punahana emerged as a statutory town in 1991, hence, it has not been included. Despite having low percentage of

workforce in non-agricultural sector; Loharu, Julana and Uchana underwent phenomenal territorial expansion. Here mention must be made of Nuh which despite having a high percentage of workforce employed in non-agricultural sector registered a decline in municipal limits twice during 1961-71 and 1971-81 for reasons unknown.

To sum up, change in municipal limits of towns in Haryana is not associated with their employment base for there are other factors too that are responsible for expansion of municipal boundaries.

### **Consequences of Expansion in Territorial Limits of Municipal Towns**

The following consequences came to the fore from the examination of the expansion in municipal limits of statutory towns in the state of Haryana - Permanent loss of fertile agricultural land, rural-urban conflicts and the inability to revise municipal limits frequently and preferably much beyond the present urban built up leading to chaotic land use.

#### **1. Permanent Loss of Agricultural Land**

Since its formation in 1966, Haryana has experienced rapid urbanisation reflected in territorial expansion of existing towns and emergence of new towns. There has been a steady rise in the number of towns from 61 in 1961 to 153 in 2011. The total number of towns comprises of both statutory as well as census towns. The statutory towns have registered a significant geographical spread although they have not grown much in numerical strength; from 58 in 1961 to 79 in 2011 whereas census towns have multiplied exponentially from just 3 to 74 during the same period. The significant contribution of statutory towns is brought out by the fact that the share of statutory towns in the total urban area of the state has risen from 319.39 km<sup>2</sup> in 1961 to 1499.84 km<sup>2</sup> in 2011. If the area under census towns is also taken into consideration, then the total urban area of the state has increased from 355.65 km<sup>2</sup> to 2034.54 km<sup>2</sup>. This represents an urban conversion of not less than 1678.89 km<sup>2</sup> of rural land since the state came into being out of which the share of statutory towns is as high as 1180.45 km<sup>2</sup>. The process of rural land slipping under the urban carpet has assumed serious dimensions which need to be properly assessed. The figure pertaining to the increase in municipal limits of towns and cities provides a clue of the extent of fertile agricultural land being lost to physical expansion of urban centres but fails to give the complete picture. This is because around big cities expansion of built-up areas extends beyond their municipal boundaries. Besides, loss of agricultural land due to physical urban construction, a small proportion of land is pre-empted from agricultural use by speculators. Land is also removed from agricultural use due to acquisition by government agencies for residential sectors and for industrial estates etc. Some of this conversion may be unavoidable or even desirable but much of it needs to be regulated.

#### **2. Urban-Rural Conflicts**

In many cases it has been observed that rural folk do not want to lose identity and therefore resist extension of municipal limits of urban centres. The annexation of villages results in the abolition of *Gram Panchayats* and loss of political power of the *Panchayat* members. Another grouse of the villagers is that annexation of villages does not improve the living conditions because of the inability as well as unwillingness on the part of the municipal bodies to provide civic amenities. The municipalities cite lack of adequate funds but the villagers allege that the revenue generated through annexation of villages is spent on the maintenance of civic amenities and services within the old town. Another reason as to why the rural folk resist annexation is that they will have to pay municipal taxes and adhere to city building regulations. Often this rural urban conflict leads to legal disputes.

#### **3. Chaotic Land Use due to Cumbersome Process of Expansion of Municipal Limits**

A lengthy and tedious process is involved in extension of municipal limits. Hence, by the time, a proposal for changing town limits come into force, new settlements and economic activities come up on urban periphery making newly demarcated municipal limits unfit for the purpose for which these were extended. This is particularly true of fast growing industrial and commercial urban centres in Haryana as well as other states in India. The inability to revise municipal limits frequently and preferably much beyond the present urban built up in anticipation of future urban growth results in chaotic land use. Though the Town and Country Planning Department has declared controlled areas around all the towns and cities in Haryana to prevent haphazard urban growth, yet chaotic land use is a rule rather than an exception.

The Town and Country Planning Department has to report against unauthorised constructions in the controlled areas but it is handicapped by the inordinate delay in getting the requisite records from the local bodies. Also, the land sale deeds are carefully worded in order to circumvent the rules and regulations often with official connivance. Moreover, the

Department is not authorised to take follow-up action. Meanwhile what usually happens is that on extension of municipal limits, the unauthorised construction gets approved by the municipal body on payment of some development charges. This is done a number of times under political pressure or violent demonstrations organised by the affected households. Political populism combined with unreasonable demands by the affected parties and administrative lapses play havoc with urban periphery.

## X. CONCLUDING REMARKS

One should be cautious in one's search for a clear-cut cause and effect correlation between individual factors of population growth, administrative status, non-agricultural workforce and connectivity with that of change in municipal limits of statutory towns because whatever one sees is not a single cause and effect relationship but a number of partially coincident sets. Thus, it would be fatal to search for the role of any single factor in isolation from other factors and to consider the role of these factors in isolation from the more dynamic factors of political economy of the state.

The outcome of the expansion of municipal limits of statutory towns cannot simply be ignored. The long procedural and legal wrangles at times involved in extension of MC limits take such a long time that there occurs a huge gap in between the administrative and geographical limits of a town. The administrative limits being rather static, haphazard and uncontrolled growth of residential colonies, slums and commercial units, revenue loss, unwanted liabilities and environmental degradation are the natural outcome of the delayed process. Conflict of urban rural interest over resource sharing, the fear of losing independent identity on the part of village communities and slipping of rural land under urban carpet have further complicated the process of expansion of municipal limits of statutory towns.

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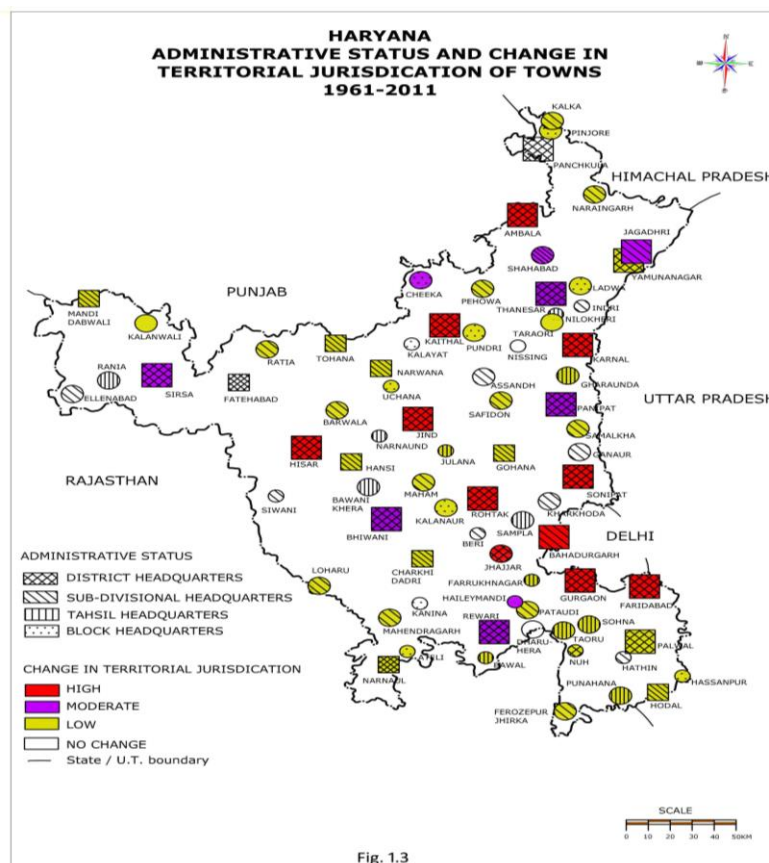
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## APPENDICES – A

### FIGURES:





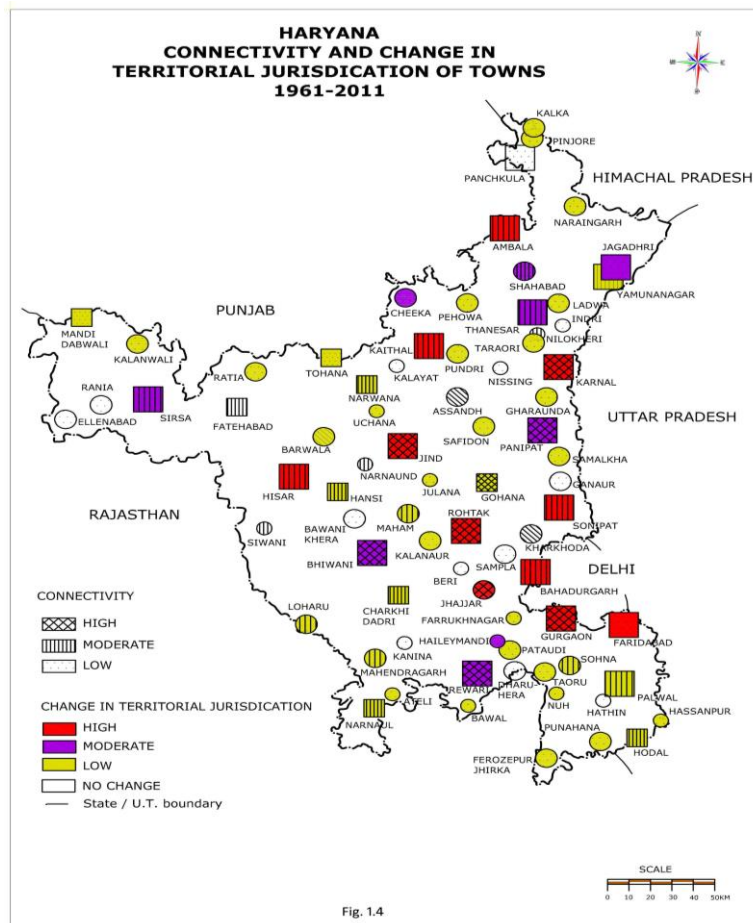


Fig. 1.4

**TABLES:**

**List of Municipalities in the State of Haryana (as on 25-11-2013)**

Sr.	Division Name	Sr.	District Name	Sr.	Municipal Corporation	Sr.	Municipal Councils	Sr.	Municipal Committees
1	2	3	4	1	2	3	4	5	6
1	Ambala	1	Panchkula	1	Panchkula				
		2	Ambala	2	Ambala			1	Naraingarh
		3	Yamunanagar	3	Yamunanagar				
		4	Kurukshetra			1	Thanesar	2	Shahabad
								3	Ladwa
								4	Pehowa
		5	Kaithal			2	Kaithal	5	Pundri
								6	Cheeka
								7	Kalayat
								8	Rajaound
2	Rohtak	6	Karnal	4	Karnal			9	Taraori
								10	Nilokheri
								11	Gharaunda
								12	Assandh
								13	Indri
								14	Nissing
		7	Panipat	5	Panipat			15	Samalkha
		8	Rohtak	6	Rohtak			16	Meham
								17	Kalanaur
								18	Sampla
		9	Sonipat			3	Sonipat	19	Gohana
								20	Gannaur

Sr.	Division Name	Sr.	District Name	Sr.	Municipal Corporation	Sr.	Municipal Councils	Sr.	Municipal Committees
1	2	3	4	1	2	3	4	5	6
								21	Kharkhoda
		10	Jhajjar			4	Bahadurgarh	22	Jhajjar
								23	Beri
3	Gurgaon	11	Faridabad	7	Faridabad				
		12	Gurgaon	8	Gurgaon			24	Sohna
								25	Haileymandi
								26	Pataudi
								27	Farrukh Nagar
		13	Palwal			5	Palwal	28	Hodal
								29	Hathin
		14	Rewari			6	Rewari	30	Bawal
								31	Dharuhera
		15	Mohindergarh			7	Narnaul	32	Mohindergarh
								33	Kanina
								34	AteliMandi
								35	Nangal Choudhary
		16	Mewat					36	Nuh
								37	Ferozepur Jhirka
								38	Tauru
								39	Punhana
4	Hisar	17	Bhiwani			8	Bhiwani	40	Charkhi Dadri
								41	Siwani
								42	Bawani Khera
								43	Loharu
		18	Hisar	9	Hisar			44	Barwala
						9	Hansi	45	Narnaund
								46	Uklana
		19	Fatehabad			10	Fatehabad	47	Ratia
								48	Bhuna
						11	Tohana		
		20	Sirsa			12	Sirsa	49	Rania
								50	Kalanwali
								51	Ellenabad
								52	Mandi Dabwali
		21	Jind			13	Jind	53	Safidon
						14	Narwana	54	Uchana
								55	Julana

Total Municipal Corporations : 09

Total Municipal Councils : 14

Total Municipal Committees : 55

Total : 78

Source: Department of Urban Local Bodies, Haryana.