

# Occupational Structure of Towns in Haryana: 2011

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**Abstract – The utilization of human resources for the socio-economic progress of a nation through industrial and occupational structure, labour force participation has of immense importance. The proportion of workers engaged in various occupations portrays the socio-economic development of a region. Occupation is always associated to agriculture, industry and service sectors. The distribution of workers among different occupational categories along with regional disparities relating to the occupational structure explains the loop-sided development of different parts of India. The study of occupational characteristics and functional classification of towns is of vital importance in understanding their occupational structure and functional association. This study is essential to understand the economic base of towns in the study area. In view of this, the study of occupational structure and functional association of towns has been undertaken.**

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## INTRODUCTION

Human occupation defined by Census (1971) as “occupation is the name of the function which a person performs by engaging himself in some gainful activity. It indicates the earner’s nature of work. In common, we come across three divisions of occupation : i) service, ii) business and profession, and iii) cultivation”, Thus , the term ‘occupational structure’, indicates the unitary relationship pattern of the three occupational components of working population, these components include primary, secondary and tertiary activities of an urban settlement. Towns and cities owe their existence to presence of certain social and economic activities which require the concentration of people.

The occupational characteristics of a place depend largely on its socio-economic history, the sequence of its growth, its basic functions and the resources of the region in which it is located. The nature and complexity of economic base give rise to distinctive type of occupational characteristics. The occupation and industry are clearly two distinct lenses of view the economic activity of the population, the first is what the individual does, and the second shows the position of the worker in the economic structure of the country. Occupation is the type of work performed by a single person while industry is the branch of economic activity to which that person is connected.

## BASIC OCCUPATIONAL CLASSIFICATION

In the logical study of occupational structure of urban settlements, it is essential to consider working population as the basic criterion because working population is the active agency in the economic productive activity in region. The census authorities have classified workers into nine industrial categories -

1) Cultivators 2) Agricultural labourers 3) Livestock, forestry, fishing, hunting, plantation, orchards and allied activities 4) Mining and Quarrying 5) Manufacturing, processing, servicing and repairs a) Household industry b) other than household industry 6) Construction 7) Trade and commerce 8) Transport, storage and communication 9) Other services

These nine Industrial categories of workers are classified into three groups, as primary activity, secondary activity and tertiary activity. The primary activity deals with the producing and extracting raw materials. It includes, first, second, third and fourth categories of workers. The secondary activity includes fifth and sixth category of workers, and is associated with the processing, fabrication, construction and manufacturing of materials. The tertiary activity is associated with the services and amenities and includes seventh, eighth and ninth category of workers.

According to 2011 censuses of India, the reference period for determining a person as worker or non-worker is one year proceeding to the date of enumeration. Workers are then, classified as main workers and marginal workers. Those who worked for more than 6 months (183 days) in the reference period are termed as main workers. Workers who worked for less than 6 months (183 days) in the reference period are the marginal workers.

Census of India 2011 has provided information on four categories of workers only i.e. cultivators, agricultural laborers, household industries and other workers. The first two are related to agricultural activities while the rest are treated as non-agricultural workforce..

#### **Cultivators:**

As per Census definition, cultivators included persons engaged in cultivation of land owned or held from government or private persons or institutions for payment in money, kind or share. Effective supervisions or direction in cultivation are also included in it. A person who has given out his/her land to another person or institution for cultivation, for money, kind or share of crop and also does not even supervise or direct cultivation of land will not be assessed as cultivators.

**Agricultural Labourers:** The agricultural labourers are defined as a person who works on another person's land for wages in money or kind or share is regarded as agricultural labourers. He has no risk in the cultivation but merely works on another person's land on wages. The agricultural laborers are usually more economically and socially vulnerable group in our society.

#### **Household Industry:**

A household industry is defined as an industry conducted by one or more numbers of the household at home or within the village in rural areas and only within the precincts of the house in urban areas. The larger proportion of workers in the household industry should consist of household members. The industry should not be run on the scale of a registered factory, which would qualify to be registered under the Indian Factory Act.

#### **Other Workers:**

All those who had worked in any field of economic activity other than cultivation, agricultural laborers or workers in the household industry are classified as other workers.

### **STUDY AREA**

Haryana emerged as a separate State in the federal galaxy of the Indian Republic on November 1, 1966 with seven districts. With just 1.37% of the total

geographical area and less than 2% of India's population, the state of Haryana has carved a distinctive place for itself during the past five decades.

The state is located in the north-western part of the country and forms the western component of Great Northern Plains. Having 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 and the total population of the state stands at 2,53,53,081 persons. 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. The capital of the state is Chandigarh which lies within Chandigarh Union Territory.

#### **OBJECTIVE:**

The main objective of the present study is to classify towns of Haryana in diverse occupational structures applying suitable statistical techniques. Comprehensively, investigated aspects are –

- (i) The point of at which an economic activity in a town becomes specially significant?
- (ii) What criteria will be selected to determine any town as agricultural town or industrial town or town of service?

#### **METHODS OF FUNCTIONAL CLASSIFICATION**

Cities or towns as dominant economic, cultural and administrative centres may be classified more effectively both empirically and statistically on the basis of their functions as criteria than perhaps according to any other attributes. The scholars like Arousseau (1921), Hartshorne (1936), Trewartha (1952) have presented their classification on the basis of their impressionistic assessment about the dominant functions of towns or cities whereas the works of Harris (1943), Pownell (1953), Nelson (1955), Webb (1955), Rafiullah (1965), Mukherjee (1966), and Krishna (1979), is based on certain scientific principles with some statistical yardsticks. In both the schemes of classification socio-economic and administrative functions performed by the centres are the focal theme of analysis.

The classification of towns and cities by the dominant functions they perform and their functional association is a useful elementary technique on the basis of which their role in the economic development can be analyzed in depth. This ultimately stimulates the national development. (Adsul, 1994). The town is a point of specialized activity carrying out tasks, which are best performed either at central, accessible places

or where a high degree of population concentration is economically necessary (Harris and Ullman, 1945).

In the present study, Nelson's method has been used for functional classification of towns. Nelson's (1955) method of standard deviation is a much better yardstick to measure functional specialization. It involves the measurement of variations from the normal or average percentage of workers employed in a particular service in all the urban places of a region. All the cities that are more than one S.D. above the average for any of occupation categories are classified as functional types. Further he has given three classes of specialization of all the functional categories. The three classes of specialization are Mean + 1 S.D., Mean + 2 S.D. and Mean + 3 S.D. By this method the towns can be classified where the intensity of specialization is measured. The advantage of this method is that one can find out the functional association of towns

### FUNCTIONAL CLASSIFICATION OF URBAN CENTRES BY NELSON'S METHOD

The Indian census has furnished the data of employment under four categories i.e., cultivators, agricultural labourers, household industries and other workers. Cultivators and agricultural labourers have treated together as agricultural labourers. The percentage of total workers engaged in each functional group for each of the 154 towns of the study region, has been calculated separately. The arithmetic mean and Standard deviation [S.D. =  $\sqrt{(x_i - x/N)}$ ] have been computed for each activity group for all the towns of all the regions of the study area. By adding the standard deviation to the mean, three degree of variations from the mean have been distinguished (Table 6.1).

**TABLE 1: MEAN AND STANDARD DEVIATION (IN %) FOR FUNCTIONAL GROUPS OF HARYANA (2011)**

Statistical Method	Agriculture /Primary	Household Industry/ Secondary	Other Services/ Tertiary
Year	2011	2011	2011
MEAN	13.23771	3.733958	82.92373
SD	2.359187	11.2591	11.83287
M+1SD	24.49681	6.093145	94.756
M+2SD	35.75591	8.452332	106.5895
M+3SD	47.01501	10.81152	118.4224

Using the Standard deviation and mean, 154 urban centres of Haryana for the census year 2011 have been grouped according to their appropriate functional categories, e.g. Towns with percentage more than one degree of variation from the mean+ 1SD in Agriculture classed as Agricultural towns, above mean+ 2SD as Ag<sub>2</sub> and above mean+ 3SD classed as Ag<sub>3</sub>. The same procedure has been followed for all functional groups.

For agricultural activity mean and S.D. values of Urban Centres in Haryana for the year 2011, mean value for this activity was 13.24 percent whereas the standard deviation was 2.36. The values for other services was 82.93 and 11.83 respectively. Mean and S.D. values for household industry was 3.73 and 11.24 respectively (Table.1).

An analysis of occupational pattern of the urban settlements of the state by size class helps us to have a peep in the state of urbanization in the study area. Dimensions of occupational characteristics of the urban settlements in the region can highlight the various characteristics of the urban centres. For this purpose the towns in the state of Haryana have been put under two categories:

Effective urban centres (having more than 20,000 persons) and

Quasi urban centres (having less than 20,000 persons);

In other words effective urban centres include large (Class I) and medium (Class II and (Class III) towns whereas small (Class IV, Class V and Class VI) towns are quasi urban centres.

1. PRIMARY / AGRICULTURAL TOWNS
2. SECONDARY /HOUSEHOLD INDUSTRY TOWNS
3. TERTIARY TOWNS /TOWNS OF OTHER SERVICES/TERTIARY TOWNS
4. DIVERSIFIED TOWNS

#### PRIMARY / AGRICULTURAL TOWNS:

Primary towns possess agricultural outlook and provides the preliminary needs of the people. Though the primary occupation is the least urban of all functions and a heavy preponderance of this function belonging to primary sector of economy is a measure of rural rather than urban economic base of towns which are very much at the threshold of urbanism. No wonder, then, that mostly quasi towns specialize in it.

The analysis of Table 4 clearly indicates that in the year 2011 there were 25 towns in the state of Haryana in agricultural activity which were above average, out of these 16 are medium Class (Class II and III) towns and remaining 31 urban centres are from small town group. Of these 3 towns are from effective town group these are Pundri, Rania and Bawani Khara out of these last one was very highly specialized in agricultural activity, whereas rest two towns are specialized agriculture town with low intensity. In quasi town group two towns namely Narnaul and Faizabad too were recorded

as very highly specialized in agricultural activity (Table 1).The remaining nine towns, Bawal, Hathin, Ladrawan, Buria, Kalayat, Siwani, Julana, Uchana and Rania have registered agricultural activity above average.Faizad ,Class VI town was the leader of these town as 68.11 percent workers of this urban centres are engaged in agricultural activities.

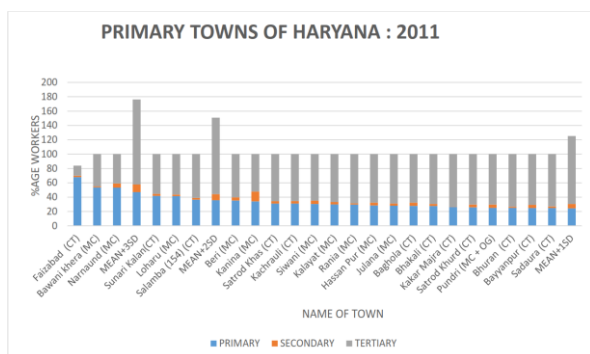
**TABLE 2: FUNCTIONAL GROUP OF TOWNS (EFFECTIVE TOWNS >20,000):2011**

Degree of Specialization	Agriculture /Primary	Household Industry/ Secondary	Other Services/ Tertiary
1	4	4	5
2	0	2	0
3	1	0	0
Total	5	6	5

If we compare the workers of effective and quasi urban centres ,it has been observed that quasi urban centres of the state are developing in every occupation especially the primary one whereas the effective urban centres have shown inclination toward service sector.

**TABLE 3: FUNCTIONAL GROUP OF TOWNS (QUASI/SMALL TOWNS <20,000): 2011**

Degree of Specialization	Agriculture/ Primary	Household Industry/ Secondary	Other Services/ Tertiary
1	15	4	9
2	3	0	0
3	2	1	0
Total	20	5	9



**Figure 1: Primary Towns of Haryana 2011**

In census year 2011, 58 quasi urban centres have registered the workers engaged in agricultural activities above the average. In the year 2011 with little fluctuation in rank, 15 towns were dominated by agricultural activity. Whereas

**TABLE 4: PRIMARY EFFECTIVE AND QUASI URBAN CENTRES OF HARYANA: 2011**

Degree of Specialization	Name of Effective towns	Degree of Specialization	Name of Quasi towns
AG1----4	Hodal, Narwana, Pundri, Rania	AG1----15	Hassan Pur, Beri, Sadaura, Julana, Siwani, Kalayat, Satrod Khas, Kanina, Bayyanpur, Bhakali, Baghola, Kachrauli, Bhuran,, Satrod Khurd,Kakar Majra
AG2----	NIL	AG2----3	Loharu , Sunari Kalan, Salamba
AG3---1	Bawani Khera	AG3---2	Narnaund , Faizabad
Total 5	1 NCR , 4 Non NCR towns	Total 20	7 NCR, 13 Non NCR towns

(Note : For abbreviations, please refer the text).

45 towns have registered above average in agricultural activities. Rania (Class II) Hodal (Class II), Narwana, Pundri and Bawani Khera have been added in the year 2011. The degree of specialization of agricultural towns is shown in Table 6.6. The urban centres having workers in agricultural activities Mean + 1 SD or more are being called agricultural towns. These are being designated as AG

Out of which four towns fall in NCR Haryana, these are Hathin (Class IV), Ladrawan (Class V), Beri (Class IV) and Hassanpur (Class V) whereas the remaining eight Agricultural towns are the part of Non-NCR Haryana. The toppers in this category are from Non-NCR Haryana. Bawani Khera is the topper followed by Narnaund. Both urban centres are very highly specialized in Agricultural activities as their population is exceeding Mean +3 SD, while other agricultural towns have to be contented with the tag of agriculturally specialized towns as their working population was confined to Mean +1SD except Kanina whose working population in agriculture exceeded Mean +2SD and this town was declared as moderately specialized. In 2001,12 towns were diagnosed as agriculture towns in the quasi urban centres of the state.

## SECONDARY TOWNS/HOUSEHOLD INDUSTRY TOWNS

Industries grouped under this function absorb over 3.8 percent of the regional working population In the year 2011, their number was reduced to six from seven in 2001. Though three towns of previous decade were still there in this family, these were Ambala Sadar, Hansi and Assandh, whereas Panipat Taraf Ansar, Panipat, Jagadhri and Ganaur have to leave this family in 2011.

**TABLE 5: SECONDARY AND QUASI URBAN CENTRES OF HARYANA: 2011**

EFFECTIVE URBAN CENTRES		QUASI URBAN CENTRES	
Degree of Specialization	Name of towns	Degree of Specialization	Name of towns
HH1----4	Ambala Sadar, Hansi, Smalkha, Kalka	HH1----4	Uklana Mandi, Rampura, Raipur Rani, Boh
HH2---2	Pataudi, Assandh	HH3---1	Sec. 11&12 Part II (Panipat)
Total 6	2 NCR, 4 Non NCR towns	Total 5	2 NCR, 3 Non NCR towns

While Pataudi, Kalka, and Smalkha have been added in this category in 2011. The highest ranking town in this activity was Sector 11& 12 Part II of Panipat with 19.34 percent, followed by Farrukhnagar with 11.73 percent and further chased by Pataudi with 9.88 percent and the lowest ranking town Faridabad has a percentage of 5.86 in the household industry.

Out of 78 small towns, 7 towns had the specialization of the household industry in 2001 which were reduced to five in 2011 in secondary occupation. The old members of this family were Raipur Rani and Uklana Mandi while the new entrants in this family include, Rampura, Boh and Sec. 11 & 12 Part II (Panipat).Whereas Hathin, Nuh, Ferozpur Jhirka, Nangal Chodhary and Farrukhnagar vanished from the scene in 2011. These towns are not evenly distributed and are evolved as local resource and craft-based centres.

**TERTIARY TOWNS / TOWNS OF OTHER SERVICES**

Other activities include commercial, retail, wholesale trade functional structure which constitutes the general necessity of large number of population and other administrative services include college, university, banking and medical services. The largest concentration of the other economic activities occurred in HMT Pinjore (99.53 %) followed by Asan Khurd with 97.23 per workers in this occupation. The activity, other services, dominantly observed in 9 towns in census 2011 of the state and are known as service towns.

**TABLE 6: TERTIARY EFFECTIVE & QUASI URBAN CENTRES OF HARYANA: 2011**

EFFECTIVE URBAN CENTRES		QUASI URBAN CENTRES	
Degree of Specialization	Name of towns	Degree of Specialization	Name of towns
OT1-----5	Ambala Cantt. Sasauli, Manesar	OT1-----9	Asan Khurd, Farakhpur, Chandni Mandir, Badhi Majra, HMT Pinjore, Bir Ghaghar
Total 5	2NCR, 1Non NCR town	Total 6	4 NCR, 5 Non NCR towns

Out of which three namely Ambala Cantt., Sasauli and Manesar were from effective town family whereas remaining 6 were related to quasi urban group. The centres of services have been depicted in Table 6.(Fig.3)

There are 9 towns which are classed as towns of other services in 2011. It includes factory and plantation workers, Government Servants, Municipal employees, teachers, priests and workers in all other service sectors. The members of this service town group include Asan Khurd, Farrakhpur Chandni Mandir, Badhi Majra, HMT Pinjore and Bir Ghaghar in 2011.

**DIVERSIFIED TOWNS:**

As many as 42 towns were identified as diversified towns in 2011. Diversified town is one where the percentage of workers does not reach above the mean + 1S.D. in any of the occupational groups. It is a characteristic feature of Indian towns to have workers engaged in various activities with non-attaining the degree of specialization. Out of these, 12 small towns are new (2011) and are diversified in the sense of that being in their early stage of development, they are performing many functions and services without any degree of specialization.

**TABLE 7: DIVERSIFIED TOWNS OF 2011**

Size Class	No. of Diversified Towns	TOTAL	% of each size class	% of total towns
I	17	20	85	16.35
II	9	11	81.82	8.65
III	36	45	80	34.62
IV	20	34	58.82	19.23
V	18	36	50	17.31
VI	4	8	50	3.85
TOTAL	104	154	61.69	100

Thus more than 50 percent towns of this group are diversified in 2011. Maximum diversification (34.62%) in activities was sought in Class III towns

of the state in 2011 whereas Class VI towns registered the least divergating, i.e., 3.85 percent.

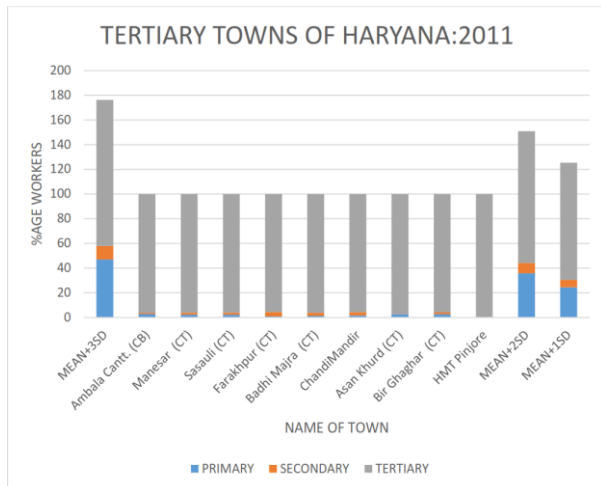


Figure 3: Tertiary Towns of Haryana: 2011

Agriculture, which is unimportant economic activity for towns, and not seen as urban function, has an employment population of percentage in the urban centres of Haryana in 2001. There is an increase of percent at the end of 10 years. However, when some analyses have been realized according to the region and growing population of the urban centres, it has been determined that agriculture is still important function for some towns especially quasi towns (<20,000 population). In general, tertiary activity plays an important role in the development of urban centres and encourages the economic growth of region.

TABLE 8: URBAN CENTRES CLASSIFIED ACCORDING TO PREDOMINANT FUNCTIONS: 2011

PREDOMINANT FUNCTIONS 2011	NUMBER OF TOWNS	POPULATION OF TOWNS	PERCENTAGE OF	
			Number	Population
PRIMARY ACTIVITY	23	287923	50	38.28
HOUSEHOLD INDUSTRY	14	352328	30.43	46.84
OTHER ACTIVITIES	9	111903	19.57	14.88

It is apparent that half (50 percent) of towns of the state are agricultural in nature. Even though they contain only 38.28 percent urban population according to main function in 2011, they form an important link between large cities and villages. The industrial cities are just the other way round. They constitute 30.43 percent of towns but contain 46.84 percent of population. Whereas merely 14.88 percent of urban population contribute in service sector with only 19.57 percent of service towns.

TABLE 9(a): URBAN POPULATION ACCORDING TO MAIN FUNCTIONS AS PER THEIR RESPECTIVE SIZE CLASS (IN %): 2011

SIZE CLASS	POPULATION OF TOWNS ACCORDING TO MAIN FUNCTIONS IN 2011 AS PER THEIR RESPECTIVE SIZE CLASS (IN %)		
	PRIMARY ACTIVITY	HOUSEHOLD INDUSTRY	OTHER ACTIVITIES
I	--	29.79	----
II	--	24.63	33.10
III	27.40	20.99	27.46
IV	53.48	16.57	--
V	17.57	6.62	34.17
VI	1.55	1.40	5.27

Data of 2011 reveals that in relation to size of towns Class IV are still the leader of primary activities both in terms of number of towns (43.48 percent) and population engaged (53.48 percent) though the percentage ratio got reduced in both the domain. Replacing Class V towns (runner up of 2001), Class III towns grabbed the second position in terms of population share in this function though in terms of number percentage Class V towns succeeded in maintaining its second place with 34.78 percent of towns in comparison to 13.04 percent of Class III towns engaged in agricultural activities.

TABLE 9(b): NUMBER OF TOWNS ACCORDING TO MAIN FUNCTIONS AS PER THEIR RESPECTIVE SIZE CLASS (IN %):2011

SIZE CLASS	NUMBER OF TOWNS ACCORDING TO MAIN FUNCTIONS IN 2011 AS PER THEIR RESPECTIVE SIZE CLASS(IN %)		
	PRIMARY ACTIVITY	HOUSEHOLD INDUSTRY	OTHER ACTIVITIES
I	--	7.14	
II	--	7.14	11.11
III	13.04	28.57	22.22
IV	43.48	28.57	--
V	34.78	21.44	44.45
VI	8.7	7.14	22.22

Class I towns were able to maintain their first place in industrial functions in this decade also with 29.79 percent population engaged in this function although lagged behind in terms of towns. The percentage of towns dominated by this function is more in Class III and IV category with 28.57 percent in each of the two category, followed by Class V category towns where this function is concentrated in 21.44 percent towns. The leader of previous decade in other activities -Class I towns has totally vanished from the scene in 2011 census and Class V category got an opportunity to lead in terms of both population (34.17 percent) and towns (44.45 percent) followed by Class ii towns in terms of population and Class III and V category in terms of percentage of towns in the service towns.

Remaining size class towns has equal percentage ratio of contribution in the service in terms of number. While in terms of population, Class II category is on second place with 13.53 percent population followed by Class IV town and the rest comes behind during 2001.

Thus, urbanisation is the progression of commercial, spatial and societal transformation. A pecuniary renovation ultimately transforms the agricultural economy into a mainly non-agricultural or industrialized economy, a spatial conversion in the dissemination of population, thus towns and cities propagate in number and size and the relative proportion of the population of the towns and cities upsurges, giving way to a social revolution which converts a formerly rural society into an urban culture and evolution of urban centres. Cities and towns can be observed as the pivot of economic and spatial development in several parts of the world. The urbanisation pattern mirrors the crescendos of a society. Subsequently urban regions are, on one hand, the foci of societal and economic development and of resourceful and pioneering power, and on the other, nuclei of economic and social clashes of deprivation and unemployment. The stages of economic take off and of a drive to maturity exert a significant influence on urbanisation pattern. (Singh, Nina, 1985)

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