

CHAPTER - V

OCCUPATIONAL CHARACTERISTICS AND FUNCTIONAL CLASSIFICATION OF CITIES

The study of, occupational characteristics and functional classification of cities, is of great importance in understanding their occupational structure and functional association. It is essential to understand the economic base of cities in study area. In view of this, an attempt had been made to study the functional classification of cities.

OCCUPATIONAL STRUCTURE :

According to census "occupation is the name of the function which a person performs by engaging himself in some gainful activity." Mukherjee and Singh (1954) have defined occupation as "the name of the function which a person performs by engaging himself in that particular branch of gainfull economic activity which is his industry."

Towns and cities owe their existence to present 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.

*not necessarily
the same*

BASIC OCCUPATIONAL CLASSIFICATION :

In the logical study of occupational structure of urban settlements it is essential to consider the working population because this population is engaged in economic productive activity. In 1961 the census authorities have classified workers in to nine industrial categories viz.

- I. Cultivators
- II. Agricultural Labours
- III. Livestock, forestry, fishing, hunting
plantation and allied activities.
- IV. Mining and quarrying
- V. Manufacturing, processing servicing
and repairs
 - A. House hold industry
 - B. other than house hold industry
- VI. Construction
- VII. Trade and Commerce
- VIII. Transport, Storage and Communication
- IX. Other services.

These nine industrial categories are also found for 1971 census population. But in 1981 census has entirely changed the classification of working population. According to 1981 census following classification of workers has been given viz.

1. Cultivators
2. Agricultural Labourers
3. House hold industry
4. Other workers
5. Marginal workers.

In this classification, other workers includes the workers engaged in livestock, forestry, fishing, plantation mining and quarrying. It also includes, workers engaged in manufacturing activity, other than house hold industry, workers engaged in construction, trade and commerce transport storage and communication and other services.

The marginal workers includes those workers who were engaged in gainful work for more than six months during the census year.

Since the occupational classification of 1981 census has made drastic changes in the classification system. It has become very difficult to make comparative analysis of occupational characteristics of cities.

CHANGES IN OCCUPATION STRUCTURE :

To analysis the changes in the occupational characteristics in the study area. The data of 1961 and 1971 census has been considered for comparison and is depicted in a Fig. no. 5.1 A and 5.1 B. The data of 1981 census has been shown in Fig. 5.2 A,B which is not comparable with the data of 1961 and 1971 census. To study the relationship

OCCUPATIONAL STRUCTURE OF CLASS I CITIES

1961

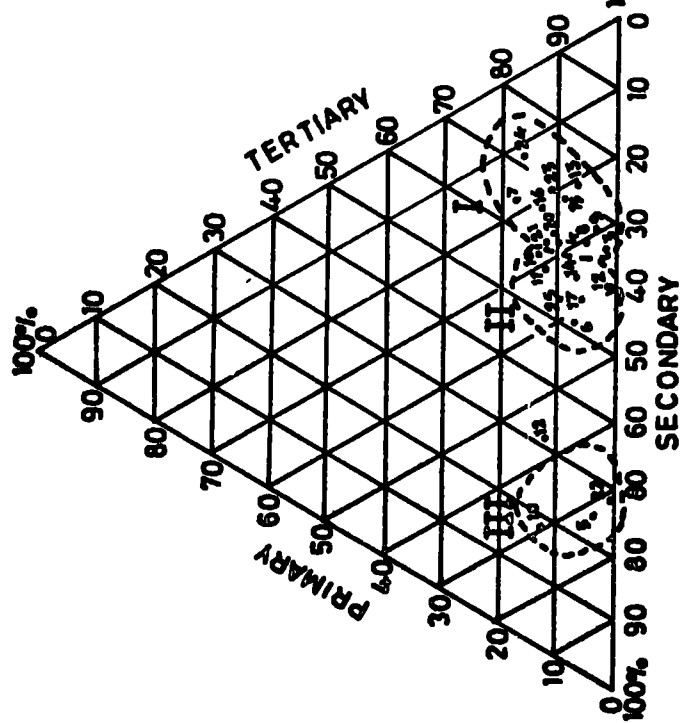


Fig.5.1 A

1971

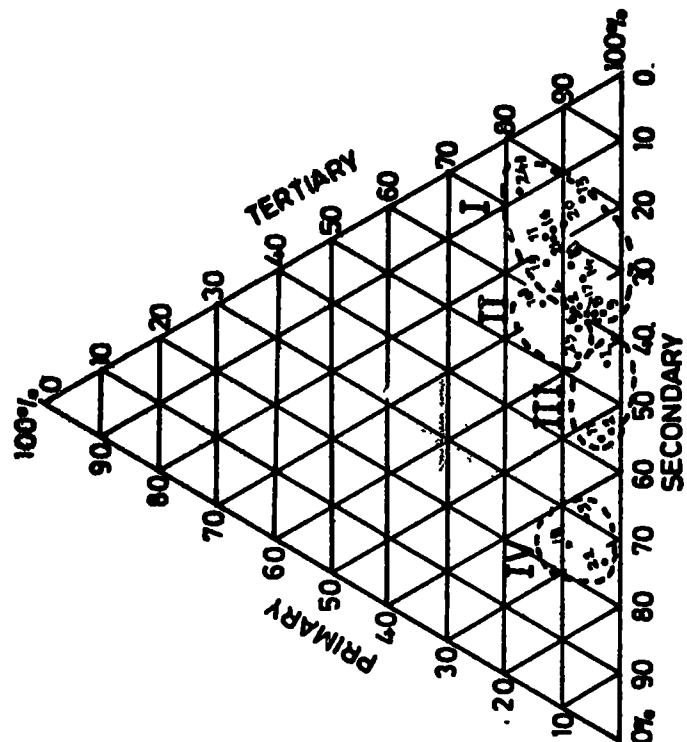


Fig.5.1 B

pattern formed by primary, secondary and tertiary activities of working population the trilinear graph is used.

ANALYSIS OF CITY GROUPS (1961) :

The occupational structure of 25 cities in the year 1961 indicates that there are three city groups and only two cities Bhusaval and Kolhapur are found in isolation. The group I includes, Ulhasnagar, Nasik, Jalgaon, Ahmednagar, Pune, Aurangabad, Akola, Amravati, Jalna, Chandrapur and Latur cities of the area where one factor tertiary is found to be high. Out of these 12 cities 10 cities are district head quarters where the percentage of other service population is very high. All cities in group I are the important commercial centres of Maharashtra. (Fig. 5.1 A).

Second group includes all important urban centres of Maharashtra. Eight cities namely Bombay, Thane, Dhulia, Sangli, Nanded, Nagpur, Gondia and Solapur are included in this group where the dominance of tertiary and secondary factor is medium.

Third group where are factor, secondary is found to be high, includes three important textile centres of Maharashtra namely Malegaon, Bhivandi and Ichalkarangi.

Two cities Bhusaval and Kolhapur are found in isolation. Bhusaval falls in the class where one factor is very high. It is an important transport centre where very high percentage of population is engaged in transport and

communication activity. The city of Kolhapur which comes under the category of two factors medium, is an important trade and industry centre of Maharashtra.

ANALYSIS OF CITY GROUP (1971) B

The Fig.no. 5.1 B indicates the groups of cities according to the data of 1971 census. All cities are grouped in to four classes of city groups not a single city is found in a isolation. Large number of cities are included in the first group. They are Nasik, Jalgaon, Ahmednagar, Poona, Kolhapur, Aurgngabad, Nanded, Akola, Amravati, Nagpur, Bhuseval, Jalna, Chandrapur, Latur and Parbhani. It is observed that these cities are included in a group where one factor, tertiary is found to be high. In this group all cities of Marathwada and excepting Gondia all cities of Vidarbha are included.

The second group includes three important market centres of Maharashtra, They are Dhulia, Sangli and Gondia This group fall in the class where secondary and tertiary factors are medium.

The third group includes four cities where secondary factor is medium, accompanied by tertiary factor. It includes Bombay, Thane and Ulhasnagar and Solapur cities. All these cities are the manufacturing cities of Maharashtra.

The fourth group includes three important textile centres, Malegaon, Ichalkaranji and Bhivandi. The comparative analysis of changes in occupational characteristics of cities in Maharashtra for the data of 1961 and 1971 census reveals the fact that Bhusaval, Kolhapur, Nagpur, Nanded and Solapur cities indicate little changes in their occupational shift. Malegaon, Bhivandi and Ichalkaranji have maintained their class and group.

ANALYSIS OF CITY GROUPS (1981) :

Due to change in the classification system, in 1981 the plotting of data on trilinear chart, gives a typical picture of city agglomeration. All 25 cities of Maharashtra are grouped in to two classes and most of cities show very high percentage of population engaged in tertiary activity.

Group I includes four cities, Gondia, Sangli, Latur and Parbhani where high dominance of tertiary activity ranging between 70 to 80% is found.

The second group includes all remaining 21 cities of Maharashtra where very high dominance (above 80%) of tertiary activity is found. Fig. 5.2 A and Fig. 5.2 B indicate the city groups and their enlarge image respectively. All cities have been included in high and very high tertiary activity groups because several activities from primary groups and major activity of manufacturing from secondary group are included in the tertiary activity group in 1981.

ACCUPATIONAL STRUCTURE OF CLASS I CITIES 1981

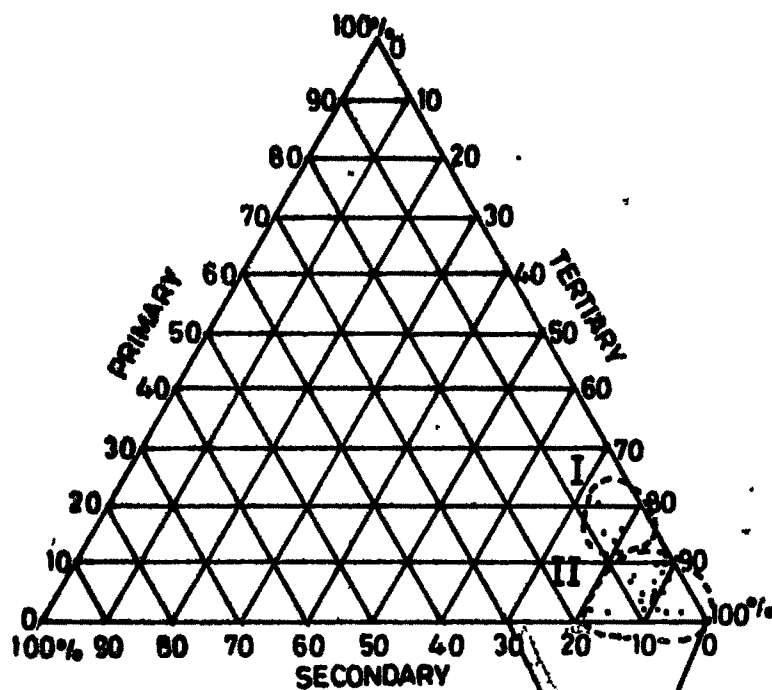


Fig. 5.2 A

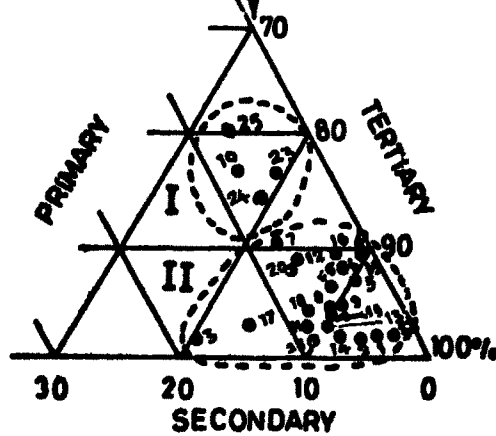


Fig. 5.2 B

census. Hence the comparison of 1981 data with the data of 1961 and 1971 working population is not possible.

FUNCTIONAL CLASSIFICATION OF CITIES :

Cities owe their existence to perform certain activities (Harris 1945). In order to understand the role of cities in national and regional economy; the functional classification of cities is of great importance.

The classification of urban centres as the basis of their location, size and morphology was given due importance by early geographers. In the recent years cities have been considered as the product of centripetal and centrifugal forces. Hence, in recent classification of urban centres due importance is given to occupational groups of urban centres.

Several geographers and sociologists have tried to classify cities. After the second world war geographers have given more importance to quantitative methods for the analysis of urban centres.

In the present study an attempt had been made to classify the cities of Maharashtra with the help of a quantitative method which has been used by ' Doi ' (1957) for combinational analysis of industrial groups.

REVIEW OF METHODS OF FUNCTIONAL CLASSIFICATION :

In 1921, M. Auroousseau has given first nonquantitative



method of functional classification of cities. He has divided the cities in to six classes according to their dominant functions. Further these six classes are divided in to sub-types. In his classification locational and physical factors are given due importance. In 1925 Mc Kenzie, a sociologist, classified cities, in to four general types. Gist and Harbert (1954) have divided cities in to five classes. Wemier and Hoyt (1948) have classified cities according to the fundamental sources of employment. Nath (1954) has classified Indian cities depending upon their economic function.

The quantitative approach to the functional classification of cities has been used by several geographers during last 50 years. The best known and widely accepted statistical methods of classification are put forward by Harris (1943), Pownall (1953), Nelson (1955), Garrison (1956), Alexanderson (1956), Webb (1959) and King (1961). Among the Indian geographer Janaki (1954), Sing (1959), Mukherjee (1970), Lal (1959), Deshmukh (1977) have worked on the classification of Indian towns.

CHOICE OF METHOD FOR CLASSIFICATION OF CITIES :

The problem of selecting a suitable method for the classification of cities, needs careful observation of the regional character of cities. In the present study Doi's (1957) method used by Deshmukh (1977) has been adopted.

This method gives rational results of the functional combination of cities.

Methodology :

To analyse the functional association of cities the technique of combinational analysis invented by Waver (1954) and further modified by Doi (1957) has been used. The modified method of Doi's substitutes the standard deviation

$$\sigma = \sqrt{\frac{\sum d^2}{n}}$$
 with the sum of the squared difference, $\sum d^2$ and the combination having the smallest $\sum d^2$ value is found out by consulting a one sheet table whose use requires the summing up of percentages.

DATA SOURCE :

For classifying cities on the basis of occupations and to show the changes in the functional characteristics of cities the data of 1961, 1971 and 1981 census are used. For 1961 and 1971 the cities are classified according to standard classification of occupations given in 1971 census of India. The occupational classification of cities for 1981 is based on the new occupational classification.

FUNCTIONAL CLASSIFICATION OF CITIES BY DOI'S METHOD :

This method is most suitable for showing functional association of cities. The functional association of all cities for the years 1961, 1971 and 1981 have been calculated by Doi's method and shown in table no. 5.1. The abbreviations used are explained in the table. The analysis of table 5.1

Sr. No.	Name of Class I City	Functional Association - 1961	Functional Association - 1971
20.	Jalna	OS + TC + Mf + Hh + TS	OS + TC + Mf + TS
21.	Chandrapur	OS + TC + Hh + Mf	OS + TC + Mf + TS
22.	Bhivandi	Mf	Mf
23.	Latur	TC + OS + Mf + TS	OS + TC + Mf
24.	Parbhani	OS + TC + Mf	OS + TC + AL
25.	Gondia	OS + TC + Mf + TS + C	TC + Hh + OS + Mf + TS

Mf = Manufacturing (Other than household industry)

TC = Trade and Commerce

OS = Other Services

TS = Transport, Storage and Communication

Hh = Household industry

AL = Agricultural Labours.

clearly indicates that in the year 1961 out of the 25 cities 8 cities were dominated by manufacturing activity. Out of these eight cities Ichalkaranji and Bhivandi are monofunctional cities of the area. One city Malegaon is dominated by manufacturing and household industry function. Bombay, Thane and Ulhasnagar are the other three important cities where manufacturing activity is associated with other services and trade and commerce functions. Only one city, Solapur has four function combination where, manufacturing activity is associated with household industry, other services and trade and communication functions. Five occupations are associated with Nagpur city where the combination is Mf + Os + Hh + Tc + Ts.

There are 15 cities in Maharashtra having the dominance of other service activity. Out of these 15 cities six cities, Nasik Ahmednagar, Kolhapur, Aurangabad, Nanded and Parbhani show the association of manufacturing and trade and commerce with other services function. Four occupation combination is found for Dhulia, Jalgaon, Pune, Akola, Amravati and Chandrapur cities where other services activity is found associated with manufacturing, trade and commerce and transport and storage or house hold industry functions.

Three cities Sangli, Jalgaon and Gondia show five function association dominated by other services trade and commerce, manufacturing, household industry, transport and storage or construction functions.

1961



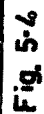
In the study area according to 1961 census only one city Latur shows a dominance of trade and commerce activity accompanied by other three activities which include Os, Mf and Ts functions.

Transport and communication function is dominantly found in only one city, Bhusaval associated by other services and trade and commerce functions. (Fig. 5.3).

The functional association of cities for 1971 indicates that there are nine cities namely Ichalkaranji, Bhivandi, Thane, Malegaon, Bombay, Ulhashagar, Dhulia, Pune and Solapur are classified as manufacturing cities of Maharashtra. Out of these nine cities, two cities, Ichalkaranji and Bhivandi are monofunctional. Two cities Thane and Malegaon have two function association. Thane has an association of Mf and Os functions. Malegaon has association of Mf and Tc functions. Remaining cities indicate association of trade and commerce and other services functions with manufacturing as a prime activity of the centres.

There are 14 cities in the area where the dominance of service activity is found. Out of these 14 cities 5 cities Ahmednagar, Sangli, Nanded, Latur and Parbhani show dominance of three functions. Eight cities, Nasik, Jalgaon, Kolhapur, Aurangabad, Akola, Amravati, Jalna and Chandrapur have dominance of four functions. Only one city Nagpur, shows the dominance of five functions.

1981



Gondia is the trade centre of the area associated with five functions. Only one city Bhusaval shows the dominance of transport and communication activity where Ts function is associated with Mf, Os and Tc functions.

The comparative analysis of the functional changes in cities of Maharashtra indicate that in 1961, Nagpur was dominated by manufacturing function but in 1971 it is dominated by other services function.

In 1961 Dhulia was service centre but in 1971 it shows a dominance of manufacturing activity. In 1961 Latur was trade centre and Gondia was service centre. But in 1971 Latur shows a dominance of service activity and Gondia shows a dominance of trade and commerce activity. All other cities show very little change in their functional status. Fig. 5.4 shows the functional association of city in Maharashtra in 1971.

The analysis of 1981 occupational data process by Doi's method classify all cities of Maharashtra as tertiary activity centres. It happen so because of the inclusion of various occupational groups in to single large group of other services.

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