

# Unit 7

## Social Area Analysis and Recent Advances

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### Learning Objectives

After studying this unit, you should be able to:

- explain the technique of social area analysis;
- analyse diverse populations by using this technique; and
- explain more recent techniques like Factorial Ecology and GIS (Geographical Information System).

### 7.1 Introduction

In the contemporary world, societies have become diversified and heterogeneous. From the second half of the 20th Century, internal, regional and international migration increased manifold due to expansion of capitalism, new power equations, and decolonisation. The outcome was ethnic diversity in most parts of the world. Urban Sociologists attempted to understand and assess diversity of various kinds in the population especially of large cities. Social area analysis was one of the techniques evolved to study diversity in income, status and ethnicity and mobility in urban population. This technique was a part of the methodological developments under the rubric of ecological school. Social area analysis is used more by urban geographers than sociologists.

### 7.2 Historical Review

The Ecological Approach was the most dominant and popular approach in urban sociology from the 1920s to the 1950s. Also known as the Chicago School, scholars belonging to this school studied urban populations by using biological principles like succession, competition, expansion and so on. You will learn more about the Chicago School, in Block 4 of this course. Robert Ezra Park, the most well known scholar of the school believed that the principles in the human world are similar to those in the biological one. (Spates and Macionis, 1982:110,111).

While the scholars belonging to this School used assumptions from biology, like 'survival of the fittest', they also were the pioneers in empirical study

of city life. Park argued that migration, that is, movement of the population in search of better jobs was one of the important reasons for changing the composition of large American cities like Chicago. Their detailed studies of big cities set the standards of 'how to do urban sociology?' in the early 20th century. They extensively used census data produced by governments on the one hand and processed it for various purposes and on the other, pioneered what is today known as 'urban ethnography'. Observation of daily routines of migrants, ethnic communities, labouring classes, delinquents and thieves, and what sociologists today would call 'the marginalized communities' was one of the main ways to study urban reality for the Chicago School practitioners and their followers. For this participant observation, life history and survey were the preferred techniques. (Spates and Macionis, 1982:46,47).

Park, Burgess, and others thus contributed to the theoretical and methodological aspects of the new field of sociology called urban sociology. America witnessed the emergence and expansion of many large cities in the beginning of the 20th century, and therefore, a manifold study of the urban subject-matter was the need of the hour. Also, it was believed that the American way of life was based on industrialization and the human spirit of achievement and this modern urban world was expected to create a new identity of 'modern human being'. In reality, however, ethnic enclaves emerged in all big cities of the world and social networks played a very important role alongside wealth and power. Burgess, in the analysis of his famous 'concentric zone theory', pointed this out. (Burgess, 1967: 50). The famous diagram illustrating the land use and distribution of population in Chicago city states that manufacturing activities determined the nature of city life in America in the early 20th century. Migrant labourers, who were attracted to these large centres of western capitalism, usually settled in working class neighbourhoods. With low skills and educational levels and no economic resources to bank upon, these immigrants were concentrated in the inner city area and took up jobs in factories in the central areas of the city. (Spates and Macionis, 1982:110,111).

Though very influential in the early decades of the 20th century, the Chicago School theorized a typical American city – a centre and symbol of Western capitalism with a high degree of industrialization. The ecological theory proved to be ineffective in assessing the changes in other settings.

In contemporary urban theory, therefore, other theories and models have assumed importance as scholars across the world attempted to analyse the urban scenario in different settings. Within urban ecology, along with the Concentric Zone theory of Burgess, other urban land use theories were employed widely in the second half of the 20th century. These are: the Sector theory by Hoyt, the Multiple Nuclei theory by Harris and Ullman, and the Social Area Analysis by Shevky and Williams and later by Shevky and Bell. Later Factorial ecology, a similar technique using computers, came into vogue.

Studying high rent districts of 142 cities in the US developed the Sector theory. Hoyt used a comparative approach since he simultaneously analysed

such a large number of cities. Also, the study examined cities in three different time periods – 1900, 1915 and 1936. As you had learnt earlier in Unit 6, in the Concentric Zone theory, Hyot argued that Sectors looked like a pie. New rings were added to the existing areas as the city grew due to competition and population movement. Other important observations were that fashionable districts increased to two or three over time and industry moved out of the city.

In 1945 Harris and Ullman developed Multiple Nuclei theory. This theory forwarded the principle of diversification as an important component of city growth. Attempting to engage with the concentric zone theory, these scholars argued that over time multiple nuclei of business, residence and middle class locations evolve as the city grows.

Contrary to these urban land use theories about which you have learnt in the previous unit, Unit 6, Social area analysis suggested that social factors like prestige, status, ethnicity are very important in determining the location of various communities. Around the late 1940s Social Area Analysis was developed and employed as a technique to analyse diverse urban populations mainly in the U.S.A.

In recent years related techniques like Factorial Ecology are used to analyse spatial differentiation of diverse groups and communities across the world.

### **7.3 Concept and Technique of Social Area Analysis**

Since the Concentric Zone theory could not be applied to many American and non-American cities, other theories of land use developed as stated earlier. Due to their limited applicability, urbanists tried to offer new explanations of patterns of city expansion and growth.

Eshref Shevky and Marilyn Williams (1949) pioneered 'Social Area Analysis'—the identification and description of areas according to their social characteristics. They argued that urban land use could be explained in terms of social characteristics alone. They examined social rank, family status and ethnicity. This technique was based on using a statistical procedure to identify selected important variables from a very large database of economic and social variables. Using census tract information prepared by the American government, they argued that the variance in all the census information could be explained in terms of two or three chosen variables which were arrived at after combining several other variables. First, Shevky and Williams applied it to Los Angeles and later to studying San Francisco city data.

Social Area Analysis thus signifies a statistical procedure of analysing available large-scale data of diverse populations. It became popular as statistical processing of large databases was commonly attempted during the 1950s. Some scholars have noted that this approach was very popular in the 1970s. From then on it is referred to and used from time to time, but there seems to be very little theoretical development in this direction. Social area analysis and factorial ecology have also been quite important in marketing research.

Residential differentiation has been explained at the zonal level in this method. To do so, indicators of socio-economic, demographic and housing data for small intra-urban districts is analysed, to test general hypothesis that the pattern of residential differentiation can be reduced to a small number of general constructs (Johnston, 2000).

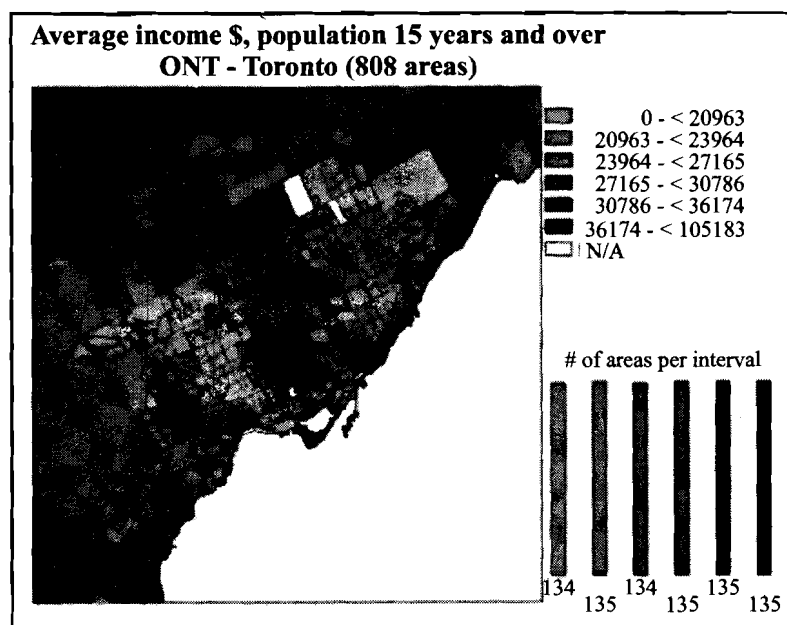
**Reflection and Action 7.1**

As you already know, Indian society is largely agrarian even till date. More than 70% of the population lives in villages. However, cities have existed in the ancient past, in the medieval period and in the contemporary period which are entirely different from the Western cities.

Do you think the technique of Social Area Analysis will be useful to study the cities in India? Write your opinion with valid arguments in about two pages. Compare your answer with those of other students at your Study Centre.

Following Shevky and Williams a score of studies on large American cities emerged from the 1950s to the 1980s, basing the analysis of census tract information on social characteristics like family status, and ethnicity. Studies in North American (Murdie, 1969; Davies and Barrow, 1973; Rees, 1979) cities have shown that three components of urban space have exhibited significant regularities in a number of cities, that is, socio-economic status, family status/life-cycle characteristics and ethnic component.

For example, see the maps of Toronto city marked with census characteristics. Here the types of differentiation are shown with the income and social status that tends to produce sartorial patterns.



**Figure 7.1**

The second type of differentiation is shown in the map (Figure. 7.2) with the ethnic differences that tends to produce clusters in a city.

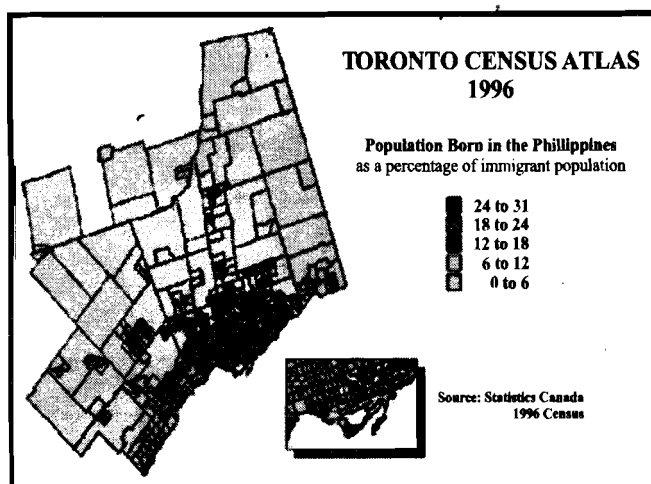


Figure 7.2

As seen in one of the recent research papers, some scholars are analysing the applicability of Social Area Analysis in urban planning research. The authors argue that they 'appraise the potential of social area analysis – for planning and policy-related research'. on multivariate statistical techniques, notably principal components analysis and cluster analysis important uses for a wide variety of planning research exercises. (Brindley T.S., Raine J.W., 1979, pp. 273-289(17)).

More recently, some scholars look at 'social space' from a sociological rather than geographical perspective using social area analysis. (see Heye C, Heiri Leuthold, 2005). The authors argue that the existing social area analysis was not based on sound theoretical principles, and hence argue that use of sociological concepts like 'social space' would help the understanding of cities by social characteristics.

## 7.4 Factorial Ecology

Factorial ecology is used to find the social characteristics used by an urban population with computer technology. There is a difference between social area analysis and factorial ecology, because, instead of starting with the reselected social characteristics (such as social rank) all characteristics considered to be potentially important in a city are analysed. The comparison takes place at the computer front. Computer compares all these characteristics with one another to see the linkages between these characteristics. The linked characteristics are called factors and are given descriptive names. Once the analysis is completed, the city's land use pattern as a whole can be described. (See Spates J., Macionis J., 1982).

For example, R.J. Johnston (1976: 193-235) used factorial ecology to examine Whangarei, a city in New Zealand. He took eight social characteristics, which he thought were important, and instructed the computer to use them in an analysis of each of Whangarei's twenty-two census-tract areas. His results indicated that some areas of the city had high concentrations of male workers who were in professional or managerial occupations, who earned over \$ 6,000 a year, and who also held a university degree. As these characteristics were strongly linked to one another, Johnston combined them into a single factor called 'socio-economic status'.

Another finding was about the people over 16 who were unmarried and lived in rented households in other residential areas of the city. Once again, the association among these variables was so high that Johnston designed 'family status' as a second important factor. Although the correlation was weaker, there was also some evidence that ethnic factors were of some importance in determining residence in Whangarei. Interestingly, when taken together, these three factors- socio-economic status, family status and ethnicity could account for over 86 % of the residential patterning of Whangarei. Johnston's findings are important especially because they have been simulated by other scholars using factorial ecology in other cities. (See Spates J., Macionis J., 1982).

Application of factor analysis to identify correlated indicators/attributes, combining the correlated aspects such as the indicators mentioned above into an index and then identifying, homogenous areas based on such composite indices is a method to study the urban societies.

### Critique of Factorial Ecology

The main critique of the factorial ecology states that cities in different areas, with different cultures, have been concerned with different values. In some of them technology is hardly concerned whereas in some cities religious values play an important and influential role. The cultural and social settings, socio-economic status, family status or even the ethnicity may have different or no role to play in certain cities.

Different cities may have different land-use patterns, or cultural influences. Sometimes the social status related with caste plays an important role and makes a difference. The cities in Europe, Asia, America would definitely mark a difference since the whole social and cultural set up is different.

#### Reflection and Action 7.2

Do you think the study of city in terms of its social characteristics is important? In what ways will it help us? Write an essay on "Role and Significance of Sociological Study of cities?" In about two pages.

Discuss your essay with other students at your Study Centre.

## 7.5 Recent use of Social Area Analysis in Different Fields

In recent days factorial ecology with its emphasis on computer techniques has been revived through other sophisticated techniques. Advancements in satellite based communications and computer based technologies have helped the field of urban policy and planning.

GIS (Geographical Information System) is called as 'smart maps'(Hanna and Culpepper, 1998:7). These are prepared by using computerized databases. Though other maps are representations of flattened earth –

a two-dimensional image of the earth – GIS gives better results as computers can show curvatures of the earth in a very accurate, graphic and clear way. Recently GIS is also used for identifying social characteristics of cities. For example, a GIS based analysis of a locality can reveal how many houses are permanent structures, how many water sources are available, and so on. Accordingly, using the indices like permanency of housing structure, poverty levels of the population can be discerned.

## 7.6 Critique of Social Area Analysis as a Technique

Scholars have pointed out that Social Area Analysis was in a way a part of the rubric of urban ecology. It was also associated with industrial manufacturing under Fordism. In the 1940s, urban populations were arranged along zonal and sectoral lines on the basis of social differences. (Burgess, in Park et al., 1925/1967; Bunting, 1991; Harris and Ullman, 1945; Hoyt, 1933, 1939, 1966; Murdie, 1969; Shevky and Bell, 1955).

As times changed, sectoral or zonal segregation did not always happen in big cities. Earlier also, in cities like Chicago, ethnic enclaves like Little Sicily were observed by Chicago School theorists. With the passage of time and changing housing policies of governments, etc., the technique of Social Area Analysis proved less useful.

Social Area Analysis cannot fully explain urban land use. So the need to explore more sophisticated techniques based on the Social Area Analysis was felt.

The approach of social area analysis was also criticized for the lack of theory. Though it was successful in examining the major social characteristics of different residential groups in a city, it was unable to explain why those people lived there.

Some scholars have criticized that factorial ecological analysis fails to provide a satisfactory explanation of the process of residential differentiation, the way in which different areas of the city come to be associated with different types of people (Timms, 1978). Alternatively, they argue that to do so, it is necessary to adopt a micro social approach focused on the relationship between residential location and patterns of individual decisions and behaviour, generally at the household level. Households may be seen as decision-making units whose aggregate response to housing opportunities is central to ecological change (Knox and Pinch, 2000).

## 7.7 Conclusion

The technique of Social Area Analysis has proved to be very useful in the decades of the 1940s to the 1970s. This technique made a case for the use of social characteristics using census data to analyse large populations.

In contemporary times, some scholars have attempted to use this technique again in other parts of the world also. Increasingly, however, scholars argue that a satisfactory explanation of residential differentiation can be offered by combining various methods like Social Area Analysis, factorial ecology and so on.

## 7.8 Further Reading

Brindley T.S., Raine J.W., Social Area Analysis and Planning Research, Urban Studies, Volume 16, Number 3, October 1979, pp. 273-289(17), Routledge, part of the Taylor and Francis Group.

Flanagan William G., 1999, Urban Sociology, Images and Structures, Boston, Allyn and Bacon.

Shevky, E. And Bell, W. 1955. Social area analysis. Stanford, Ca: Stanford University Press.