CHAPTER - XII

SUMMARY OF THE STUDY

This study attempts to understand the pattern of residential area that evolves in the suburbs of Indian cities. The pattern is essentially a morphological form that is brought about by a complex interacting set of processes in an environment. Here, in the specific case study, the setting is suburban, in eight maujas of the suburbs of the western part of Ahmedabad city during 1961-1981.

1. OBJECTIVES

The objectives of this study are to understand the growth and development of suburbs, especially residential suburbs. The residential suburbs have been demarcated in this study. Various aspects of suburban landuse, demographic composition and behaviour, and distribution of infrastructural facilities which are responsible for the growth of the suburbs have been studied.

2. MODEL

A 'Socio-Demographic' model has been evolved to classify the residential pattern of the study area. The model is represented by a three dimensional rectangular parallelopiped graph. Three axes of this graph have been represented by socio-economic status of residents (X-axis), behaviour, perception and life style of residents (Y-axis) and their housing characteristics (Z-axis). These three factors are very much interrelated. As for example, socio-economic status which has variables like level of occupation, education, monthly income, family background etc. controls the behaviour and life style like possession and use of various modern goods, reading and recreation habit, idea of raising children, nature of socio-economic interactions, their attitude...
and belief etc. Both these socio-economic status and behaviour and life style control housing characteristics, i.e. housing structure, facilities, values of the house and internal density of the house in the suburb. This model measures the level of 'Modernity' of the suburban residents in their socio-economic status, behaviour and life style and housing characteristics. The term 'Modern', used in this study, means freedom of thought, an enlightened framework of mind and technological sophistication, whereas the term 'Traditional' means the belief in age-old traditional institutions and a state of mind less conducive to change and to accept scientific ways of life. Variations in 'Modernity' of three factors give rise to a residential pattern of households and housing on space. In maujas, where three factors are modern, then the pattern of those maujas have been termed 'Modern', whereas maujas where three factors are traditional have been termed 'Traditional'. Some maujas, which have the combination of both modern and traditional factors, have 'Mixed' pattern.

3. RELEVANCE OF THE STUDY

This study indicates the uneven growth of suburbs and it has indicated some suggestions to solve the problem. The relevance of studying the residential pattern of suburbs lies in understanding the growth of suburbs - not only in terms of morphology but also in terms of composition and behaviour of residents and how people organise themselves on space and which factors control such a distribution of population. The classification of suburbs by housing and households can be helpful in micro-level planning, by understanding the need of each area. This study, with the help of the model, concludes that physical characteristics (housing) of suburbs change faster due to the technological development than the behavioral aspects of residents (households).

4. METHODOLOGY AND DATA

Univariate and bivariate tables, choropleth, isopleth, isometric maps have been used to analyse different aspects of
the study. Various methodologies have been used to test hypotheses which have been formulated to bring out the objectives of the study. 'Suburbanisation Index' and 'Residential Index' have been used to demarcate the various types of suburbs in the study area. A model has been evolved with the help of 'Modernity Index' to find out the residential pattern of the study area. This model, i.e. 'Socio-Demographic' model has been represented in a graphical fashion rather than through statistical methods (i.e. factorial analysis or cluster analysis), as the nature of the data is qualitative, related to the behaviour, perception and attitude of residents.

Both primary data and secondary data have been used in this study. Primary data have been collected by field survey. Fifteen hundred samples have been selected in a proportionate basis through stratified random sampling to represent 1500 households of the various types of residential structure of the study area. One questionnaire with sixty variables has been formulated to get information regarding their place of birth, level of occupation and education, monthly income, family background, reading and recreation habit, idea of raising children, possession and use of modern goods, their interaction pattern, perception and image and attitude towards locality and housing facilities, structure, etc. All primary data are qualitative in nature, whereas secondary data collected from various sources are quantitative type. Secondary data have been collected to analyse various aspects of landuse, demography and infrastructure. These data have been collected from village panchayat offices, Census of India, Ahmedabad Municipal Transport Service, etc.

5. GROWTH OF SUBURBS OF AHMEDABAD

The study area, i.e. the residential suburbs of Ahmedabad city is situated along the western side of Ahmedabad city. The river Sabarmati plays an important role in the growth of Ahmedabad city and its suburbs. Original city of Ahmedabad was established on the eastern side of the river and till later part of the 19th
century the growth of the city was concentrated on the eastern part of the city. In the earlier part of the 20th century, due to the construction of bridges over the river, larger areas were opened for urban expansion to the west of the river. This expansion was predominantly residential while industrial and commercial zones are mainly on the eastern side of the river. Due to the formation of the State of Gujarat, large number of people were attracted to the city for rapid industrialisation of the state. As the pressure of population increased within the city limit, new settlements have started developing in areas which were formerly agricultural land with rural settlements. In areas outside the city limits, agricultural lands were sold to residents of the city by the villagers who were original residents of the rural settlements. People of the new suburban area mostly have migrated from various parts of the city. The multi-stepped migration has been noticed in these suburbs. In the initial stage, people generally had immigrated in the city from different parts of the state and the country. In this stage, the people also outmigrated from the core-city to the other parts of the city. In the final stage these people outmigrated mainly from other parts of the city to the suburbs. New suburban settlements have grown initially near the city limit and then along the main transportation routes so that residents can reach the core city easily; eventually, suburban settlements spread all over. The maujas with core villages having residents of higher socio-economic status have attracted the new settlers most. But the core villages have remained as "islands" in the midst of these new suburban settlements.

6. CLASSIFICATION OF SUBURBS

In this study, the suburbs of the western part of Ahmedabad city have been broadly divided into four zones. The rural suburb is the farthest from the city limit which is followed by moderately rural, moderately urban and urban suburb, which is just across the city limit. The rural suburb is more or less rural in character with no city bus service and no built-up urban residential
houses, even so suburbanisation has been felt in this area by the presence of non-agricultural fallow and daily movement of villagers to the city to supply milk. Residents of the rural suburb possess very few urban, modern goods. In the moderately rural suburb, few city buses are present and here a part of the land has been devoted to commercial farming in the production of vegetables. Residents of this type of suburbs have started seeking subsidiary jobs in the city. They have more interaction with the city than the residents of rural suburbs. The moderately urban suburb is very near to the city limit. It has greater frequency of city bus service, higher growth of population and higher density than the previous two types of suburbs. In this suburban area original villages are inhabited by traditional residents as well as migrated residents. Inmigrants with low income have settled down in the core villages. The urban suburb is the extension of the city itself. This suburb has electricity, water tap, metalled road and various other basic amenities, though for all activities including shopping and services, residents of this area depend on the city-centre.

The moderately urban suburb and urban suburb are further subdivided into three types of suburbs: (a) Non-residential, (b) Semi-residential, (c) Purely residential. In the non-residential suburb most of the non-agricultural land is either industrial or commercial while in the semi-residential suburb part of the land has been devoted for institutions and the rest for residential use. In purely residential suburb, most of the non-agricultural land has been used only for residential purpose.

7. RESIDENTIAL SUBURB (STUDY AREA)

The maujas of semi-residential and purely residential suburbs have been selected as the study area. The study area has eight maujas of which Vejalpur, Jodhpur, Ranip and Ghatlodiya are very much urbanised with the growth of new houses while Memnagar, Vastrapur, followed by Chandiodya and Thaltej are less urbanised. The level of urbanisation has been measured by the rate of
conversion of agricultural land into non-agricultural use which depends on various factors, e.g., nearness to the city, accessibility, need for personal space by residents, socio-economic status of the residents of the core village. The study area has three types of residential structures, i.e. core villages which are the original residential structures that existed prior to the development of the suburb; housing societies which have been built due to suburbanisation and rest is other type, including the government colony, hutment, etc.

8. CHANGE IN LANDUSE

The residential pattern of suburbs is very much associated with changes in morphological aspects - landuse, its demographic composition and infrastructure. Landuse of the study area has gone through an enormous process of conversion. This conversion of agricultural land into non-agricultural use has been controlled by speculators who own most of the non-agricultural vacant land of the study area. Share of agricultural land has decreased gradually with the increase of various non-agricultural land especially residential area. An increase in non-agricultural fallow indicates the scope of future urban expansion as non-agricultural fallow gets converted into residential area. First, fallow land was expanded near the city limit and then it was along the roads and now it is in interior.

The growth of land value of residential land in the study area is controlled by various physical and social factors, e.g. distance from city, accessibility, socio-economic status of the people of core villages. The distribution of residential land and land value are very much correlated in a positive manner. In other words, the area which is developed in residential landuse has higher land value compared to those areas which are fallow lands and are yet to be developed.

9. DEMOGRAPHIC CHANGES

Like landuse, demographic aspects of the study area have also
changed considerably. Though the population has increased, the pattern of distribution has changed in 1981 compared to 1961. There is an increase in both gross (persons per sq. km) and net (residential persons per sq. km of the residential area) density. Relative position of gross density of some of the maujas has also changed from 1961 to 1981. It is interesting to note that maujas which are more urbanised, for example Vejalpur, have changed from average to higher group of density of population while less urbanised maujas, for example Thaltej, have changed from average to lower group of gross density. But in case of net density, maujas with high residential area, for example Jodhpur, have low density which indicates that people in these maujas live in less crowded manner. The study area as a whole has enormous growth of total population and residential area. The influence of suburbanisation in the study area is felt with the increase of sex ratio, literacy and percentage of non-primary workers.

10. INFRASTRUCTURE

The study area has few metalled roads, city buses, authorised shops and other amenities. These few infrastructural facilities are not equally distributed all over the study area. Southern (Vejalpur and Jodhpur maujas) and central (Vastrapur and Memnagar) portions of the study area have good accessibility, i.e. more areas are nearer to the metalled roads; connectivity is also high in south (Vejalpur) and north (Ranip). Maujas situated in the south (Vejalpur), north (Ranip) and north-west have high to very high concentration of commuters per bus. In most of the maujas, the bus service is concentrated in one road and it is very difficult for the people, who are living far from the road, to catch the bus. Authorised shops are large in number only in Vejalpur and Ghatlodiya. Except in Jodhpur, in all other maujas shops are concentrated on the main road. Other amenities are also not equally distributed over the study area in relation to the distribution of population.
11. **CORE VILLAGES VERSUS HOUSING SOCIETIES**

There is much difference between the residents of core villages and housing societies in terms of socio-economic status, behaviour and life style of residents and their housing characteristics.

(a) **Socio-economic Status**

Residents of core villages, due to their rural origin and belief in age-old customs, are more traditional. This has been indicated by the low level of education, traditional hereditary occupation, joint family system, large number of family members, low female participation in work, vegetarian food habit and low average monthly income due to low level of occupational skill. On the other hand, residents of the housing societies are educated, have modern occupation, small size of family which indicates that they have modern socio-economic status. There is also variations between core villages and housing societies situated in various maujas. As a whole maujas situated in the north and north-west, i.e. Ranip and Chandlodiya, have residents of low socio-economic status, both in their core villages and housing societies. This is mainly due to the concentration of blue-collar workers in Ranip and poor location of Chandlodiya which have not attracted residents of high socio-economic background. On the other hand, residents of both the core villages and housing societies of Jodhpur mauja, situated in the south, have high socio-economic status. This is mainly due to the attraction of original residents of the core village, who are Patels and have high socio-economic status in the society in Gujarat. So, the newly settled people are also with high socio-economic status.

(b) **Behaviour and life-style**

Regarding the attitude, behaviour and life-style, residents of core villages of all maujas are traditional, i.e. they do not have any reading habit, they do not keep any magazine or newspaper, they have very little desire about children's education, they
always prefer caste as a first criterion in children's marriage. The residents of core villages possess and use very few modern goods, whereas residents of housing societies have relatively modern behaviour and lifestyle. They expect higher education for their children, they possess and use various modern goods but most of them give caste as a first preference in the marriage of their children. As a whole, behaviour and lifestyle of the residents of housing societies are not as modern as their socio-economic status indicates; their levels of education, occupation and income are high, but their attitude towards life has not changed so much.

(c) Interaction and perception

There is also large difference in perception, attachment and interaction pattern of the residents of core villages and housing societies. Residents of core villages have rated their own area very high as they have high attachment to their own area. As a whole, residents of the suburbs have rated their area higher than that perceived by the researcher. Due to the emotional feeling of living in their own locality for generations, the residents of core villages are more attached to their own area. Regarding interaction patterns, residents of housing societies depend more on the city for shopping, social visits than the residents of core villages.

(d) Housing Characteristics

Like other factors, there is very much difference between residents of core villages and housing societies regarding their housing characteristics in terms of housing structure, facilities, value and internal density. The residents of core villages have houses with small built-up area and made of brick, tiles and sometimes stone, leaves and mud. The houses in core villages have very few facilities like separate bathroom, toilet, kitchen, water tap, etc. So the rent and selling value of these houses are very low. Due to the small built-up area and large number
of family members, the internal density of these houses is very high. All these above mentioned factors indicate that the housing characteristics of the core village is very traditional. Among the core villages housing characteristics of Jodhpur is less traditional and Chandlodiya it is very much traditional. Housing characteristics of housing societies with big cement-concrete structure, various facilities, high rent and high selling value and low internal density are considered to be modern. Housing societies of Jodhpur are very modern which is closely followed by Vastrapur, whereas the level of modernity of the housing societies of Chandlodiya is very low.

12. GENERAL RESIDENTIAL PATTERN OF THE STUDY AREA

It has been found that all core villages have traditional socio-economic status, behaviour and life style and housing characteristics but housing societies in most of the maujas have modern socio-economic status but relatively traditional behaviour and life style. It is interesting to note that people of all core villages are not traditional in the same manner and also the people of housing societies are not modern in the same rate. So, to find out the residential pattern on space regarding the difference between the maujas in three factors, i.e. socio-economic status, behaviour and life style and housing characteristics, the 'Socio-Demographic' model has been formulated. These three factors have been represented by three axes of a rectangular parallelopiped in the graphical representation of model in all eight maujas which depicts the residential pattern. In maujas, where three factors are modern, then the pattern of those maujas has been termed 'Modern'. Maujas with three traditional factors have been termed 'Traditional', whereas maujas with the combination of both modern and traditional factors have been termed 'Mixed'. This model helps to evolve a suburban typology of households and housing. Ranip, Chandlodiya and Thaltej, situated in the extreme north, north-west and west have traditional pattern, whereas maujas, Vejalpur and Jodhpur in south have modern pattern. Vastrapur, Memnagar and Ghatlodiya
situated in the central part have mixed pattern. So, this model has formulated a slope of modernity in the residential pattern from south to north. This model implies that behaviour and lifestyle do not change as fast as socio-economic status or housing characteristics. It means that people take longer time to change their behaviour and lifestyle but external factors like housing, education, income can be changed faster.

13. MICRO-LEVEL PLANNING OF SUBURBS

The study area has various problems like mixed landuse, vacant land without being used for a long time, lack of proper infrastructure, dual social characteristics of core villages and housing societies; core villages do not have proper sanitation system which creates health problem, problem of mosquitoes and flies, water-logging, etc. These problems were not there when there were not many houses around them. If sanitary system is not improved in core villages, they will be soon converted into urban slums. So government must initiate a number of rigid action programmes like provision of sanitation in core villages, proper sewerage system in the suburbs, proper infrastructural facilities, fixed land value and use of vacant lands. To implement these programmes in a comprehensive manner, the government must have a single body like suburban corporation to look after the administration of the total suburban area.

14. SCOPE OF THE FUTURE STUDY

There is enormous scope in the study of various aspects of suburbs, parts of our future city. So these areas must have proper planning from the beginning to reduce the problems of the city in future. It is bound to face urban problem if suburbs grow in a haphazard manner. Suburbs can be studied in various points of time and then it is possible to get an idea of change in human characteristics along with the change in physical characteristics. Micro-level planning is possible by knowing the attitude and behaviour of residents in the suburb.