SOME NOTES ON CITIES AND URBAN PLANNING IN INDIA

by

Christopher Charles Benninger

Bachelor of Architecture, University of Florida
1966

Master of Architecture, Harvard University
1967

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Signature of Author_____
Department of Urban Studies and Planning
June 8, 1971

Certified by_____
Thesis Supervisor

Accepted by_____
Chairman, Departmental Committee on Graduate Students

ABSTRACT

TITLE: SOME NOTES ON CITIES AND URBAN PLANNING IN INDIA

AUTHOR: CHRISTOPHER CHARLES BENNINGER

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This thesis is concerned with the relevance of urban form in Indian cities to the needs and means of users. Ahmedabad is used as a case study and other cities are noted where relevant data is available. Users are defined as households. A model of a typical household is generated from social and economic data and from my case studies in Ahmedabad.

The study questions whether or not symptoms of urban decay are not really healthy signs of urban areas undergoing positive rapid transitions in conditions of scarcity. These symptoms are presented in Chapter One. Urban land control is seen to be a major issue and imbalances between urban planning and social and economic planning are hypothesized.

In Chapter Two the context of the existing city is presented. Information on demography, density, employment, circulation networks, land use and urban components is presented. From this an image of the existing city is gained.

In Chapter Three land control and urban development are put in a historical perspective and major components of planning are discussed. From this discussion a legal picture of the city form is built.

The characteristics, needs and means of households is presented in Chapter Four and the urban patterns which they opt for are noted. It then becomes clear that the existing form is much more respondent to user needs and means than the form proposed by planners.

This fact is played out in Chapter Five with the development of a theory of urban form which balances capacities of settings against needs and means of users in situations. Environments are depicted as the interaction of settings and situations and environmental quality is said to depend on the nature of matches and mis-matches between setting and situation.

Based on the above the following characteristics are seen to be positive indexes: 1. over crowding; 2. mixed use in residential areas; 3. low gross levels of sanitary services; 4. low quality of housing; 5. over urbanization; 6. fragmentation of social structure; and, 7. class polarization.

But due to the critical need for highly accessible location land control is seen as the most critical problem. It is noted that in most cases the majority would have been better off had planners plans been neglected.

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PREFACE

At the outset the reader should be alerted to the objectives of this document. In very simple terms I am interested in the question: how do people use cities? It is from this basis that the fragmented urban policy which now attempts to regulate urban growth is analysed.

Very early in the paper I will discuss several "symptoms" of urban decay. These symptoms are topics around which much of the retoric on cities centers. Merely to repeat this retoric, perhaps only to arrive at new heights of polemics, would be of little use. Rather I would like to look at these topics not as symptoms of some yet unknown catastrophe, but as characteristics of urbanizing areas in today's developing nations. In each case we should ask if the "symptom" is in fact a negative index and whether the problem falls truly in the realm of planning or should be more properly placed under the topic of political inequities. After this introduction to the Indian city two distinct images will be evolved. One is an image of the city of Ahmedabad as a case study of existing conditions in Indian cities. Another is a study of the legal image of what the city should be like. The two will be quite different.

The question of which is better, or which parts of each is better quickly comes to ones conciousness. In order to determine this I will look at a typical household from which a model of the needs and means of people in Indian cities can be generated. By matching these needs and means against the capacity of each image to comply we will gain some understanding of the validity

of these images. By referring back to "symptoms" of urban crises we may find that they are symptoms of crises only to the extent that we pervert our view of how the city is used by its people.

Alternative definitions of urban development will evolve from the discussion.

Besides this wholistic purpose I have several minor objectives which may be of interest to students of urbanization. One is to describe as clearly as possible a contemporary Asian city which is undergoing rapid population growth and industrialization. Secondly, I wish to review the development of urban land control policy intended for that city in a historical context. And finally, I wish to develop a picture of a "typical" household, however ludicrous that may be, by which we may objectively make gross deductions about urban processes.

The question of how people use cities hindges on many possibilities. For my purposes I am concerned with employment and residential needs above others. These two can be selected because they are to a great extent mutually interdependent and because they are highly linked to the purpose of being in cities in the first place, and are therefore critical.

FOREWORD

Notes to My Indian Friends: Cities or Villages?

Many discussions of urbanization policy in India begin with the stopper, "but the urban environment is not important, it is in the villages that India must succeed or die . . . investments of time, capital or planning in the cities only aggravates things by attracting more innocent people from their villages." Before we embark on an adventure which assumes the importance of urban centers we should address ourselves to this statement.

While it is true that the majority of India's population lives in the villages and that villages are essential to the survival of the country, it is unreasonable for us to accept the polemics that this forces upon us a policy of urban neglect. The result of this neglect, as will be noted in later chapters of the text, is the development of policy based on special interests, and counter productive to the interests of the urban poor and village dwellers alike. Until very recently urban centers have not been given an important role in the context of social and economic development. No coherent urban policy developed, but rather an implicit strategy composed of isolated and episodic incidences of urban control (building codes, zoning, Town Planning Schemes and municipal investment) resulted. In terms of the socialist ideals of the country these measures are often counter-productive and patronizing to the rich, rather than enabling tools which help the people (bottom three quintiles by income) survive.

Indian cities have seldom been discussed in their proper context. There have been polemics as to whether they should exist or not, how new cities should be designed, whether the village is the proper base for Indian culture and whether cities are not really evils imported from the west. But the role of urban centers which are growing despite the rhetoric has not been carefully identified.

Recent discussions of social and economic development have isolated urban planning as an important tool for national growth. The Guayana project, the Ford project in Calcutta and the Domar Valley scheme have raised many topics of which the importance of urban centers in development processes is one.

The debates on this topic seem to be continuous. Catherine B. Wurster, along with traditional Indian philosophers though for other reasons, argued for decentralization.

> "Cheap land, lower densities and shorter distances could mean simpler standards and technology for all kinds of social and civic facilities, utilizing rough, impermanent materials, personal labor and capital otherwise untapped, and other resources from the more or less non-monetized sectors of the economy. From this viewpoint, decentralization in one form or another is essentially a resource-saving device."
> ("The Nature and Cost of Minimum Acceptable Living Conditions in Different Types of Indian Urban Community /mimeographed/ University of California, Berkeley.)

Besides arguments for the benefits of decentralization there have been arguments against excessive metropolitan growth. These arguments generally center around the issue of imbalanced growth of income, the magnified disparity between the growth poles and the "backward regions." Over utilization of urban

infrastructure is also noted and symptoms of overcrowded housing units, water shortages and clogged roadways are cited.

Despite all of these arguments, pro and con, the important fact which seems to remain is that urban centers are essential to high rates of economic and social development. Advocates from many disciplines seem to have come to this conclusion independently. Some of the following findings support this notion.

Small and medium sized plants seem to benefit from "industrial linkage" noted by P. Sargent Florence. Using four criteria (a. efficiency in increasing current production; b. efficiency in increasing future income; c. efficiency in pattern of income distribution; and, d. efficiency in offering a variety of jobs and services) Florence comes to the conclusion that metropolitan concentration has an economic advantage. (P.S. Florence, "Economic Advantages and Disadvantages of Metropolitan Concentration," The Metropolis in Modern Life, ed. R. M. Fisher, New York, 1955.)

M. J. Wise notes that new science based industries develop from and often take place near scientific research laboratories. This seems to be the case of Ahmedabad and Hyderabab. "These seedlings of the industrial forest are often located near large cities." He also notes the increased growth of service industries and their linkage to urban centers. (M.J. Wise, "Economic Factors of Metropolitan Planning," Planning of Metropolitan Areas and New Towns, United Nations, 1964.)

B. J. L. Berry notes that higher accessibility increases

the competitive ability of higher order urban centers vis-a-vis lower order centers and promotes centralization.

In a study for the Summer Institute, Ahmedabad, David Sims found that the transport industry of Gujarat, composed mainly of small independent truckers, could only operate efficiently in cities of 50,000 people and above and therefore they adjusted their rates accordingly, having a secondary effect of determining the location of small scale industries.

Congestion and long trips to work seem to have been the main arguments against concentration brought forth in the Barlow Report, but as M. J. Wise (ibid.) points out: "Much evidence exists, however, that men and women of initiative are willing to bear such daily disadvantages to take advantage of opportunities for economic advancement and the highly developed cultural and entertainment facilities of the great city."

Finally, Lloyd Rodwin points out,

> "it is more important to increase returns than to cut costs. Through processes not as yet fully understood, growth appears to have a better chance of becoming self-propelling in the larger cities, that is cities of 100,000 or more. This is likely to be especially true of those with some initial advantages, such as an exceptional harbor, a salubrious climate, superior transport preferably with access to a potentially rich hinterland, or a resource ripe for exploitation. Such assets offer a matrix of possibilities which if successfully exploited, will create new advantages and opportunities: a larger and more specialized labor force, more adequate credit and exchange facilities, increased business and professional services, improved roads and utilities, more diversified job opportunities, a wider range of consumer services sparking worldly ambitions and competitive effort. The interaction creates external economies, widens the market, generates new enterprises - in short, reinforces the whole syndrome of growth and radiates its influence over an expanding hinterland." (Lloyd Rodwin, Urban Planning in Developing Countries, AID, Washington, D.C., 1965.)

The urban population of India may now exceed one hundred and ten million according to interim reports of the 1971 census. In excess of ten million people have moved to the cities from the countryside since 1961 and the population of major cities has increased drastically from 1961 to 1971 (Calcutta to seven million, Bombay to 5.7 million and Delhi to four million). Despite this phenomenal urban growth Om Prakash Mathur notes ("Urban Growth Policy for India: A Brief Statement of Issues," presentation to SPURS Fellows, M. I. T., May 10th, 1971): "Our treatment of the problems of urbanization and urban growth has been passive, and to a large extent ambivalent. It is passive because we have not assigned any definite role to urbanization in the great economic and social transformation currently taking place in the country."

More extreme than those who merely love villages are those who dislike cities. Those who suggest restrictions on urban growth do so on the claim that the unit costs of infrastructure investment are too high. Considering that urban areas are at least twice as productive as their rural counterparts, it is probable that any differential in unit cost in infrastructure would be made up for by the greater productivity in urban areas. In the 1961 census urban areas with about 18 percent of the country's total population produced about 42 percent of the GNP. India's bias toward rural development is based in her history and reinforced by her politicians who look to the village for votes.

India has gained self consciousness as a rural nation. Her tradition, culture and economy are all rurally based. Her idealogical foundations and emotional prejudices are based in her rural past.

In the late 1900's Indian philosophers, discovering Asia's own civilization and throwing off imposed Western values lumped cities as just one more imported colonial evil.

Tagore emphasized the beauty of village life and the discomfort of the city. He voiced this theme in many of his speeches abroad. The North China Herald (June 7, 1924) commenting on his speech at the University of Tokyo notes: "The theme of Dr. Tagore on this occasion was village contrasted with city life. He pleaded for the conservation of village habits, customs, and standards of living, opposing the rush of population to the cities."

The independence movement picked up on this theme and glorified a pre-colonial, pre-Mogul past in which India was visualized as a civilization of democratic village states with a high level of decentralized industry and commerce. Gandhi's ashram on the Sabramati in Ahmedabad became the model of what the new movement pictured as the ideal human condition. "Occasionally he talked of a golden age of the Indian village, in the sixth century B.C., or in the mythical Krita Yuga," notes Geoffrey Ashe in Gandhi (page 248). Ashe also notes (page 177):

> "The ashramites were meant to be the vanguard of Bapu's Utopia - an India rejecting urban capitalism and most modern civilization, even in what seemed its beneficent aspects; a wise, classless, busy India, that would

> dissolve Imperialism by recovering its own soul, converting the conquerors to its own simplicity."

Gandhi praised village life and laid his hopes not in heavy industry and concentration of resources but in a revival of rural India. "Gandhian economics," was the result which placed high priority on village self-sufficiency, Kadhi, decentralized craft and domestic industry and increased agricultural production.

These priorities undoubtedly are of great importance for India but the rhetoric in which they were framed labelled the city as evil, ugly, unhealthy, anti-social and regressive. The continued growth of cities was neglected and their importance in development processes was subdued in the resulting discussion.

Nehru argued against the Gandhian economists and advocated self sufficiency in heavy industry and the improvement of society. Nehru's emphasis on society and industrialization was debated by Gandhians who said that the individual must change first and that the village was the proper scene of that change.

But, inspite of the dialogue cities continued to grow and their critical conditions became magnified. The first two Five Year Plans neglected cities almost wholly giving top priority to agricultural production. While emphasis on agriculture was wise the neglect of urban areas was tragic. No real policy which controlled the development of cities was discussed while rural reform, abolition of the zamindaris, establishment of democratic village panchayats and village school programs moved ahead with great concern and often political daring. The Town Planning Act (Bombay) of 1954 was an up dated version of the 1915 Act and the

criteria of urban development stayed about the same. Physical development by western standards was the goal. Social and economic implications of urban growth were neglected.

This condition of course was beneficial to the middle class who were heavily invested in the city and shifted their capital to the city where higher profits were possible. Urban land speculation became a major form of investment and the government developed no tools to control the situation. Thus, while there were great efforts to rationalize the economically weak villages, the cities became islands of free enterprise and control by the few has continued unchallenged.

Western trained planners were another problem. They have been over concerned with neatness and garden city patterns and later with the dogma of CIAM. They advocated a visual image of the city charged with the most mundane of middle class concerns: open space, separation of "traffic" from the romantic world of the pedestrian, "green", set backs and separation of "conflicting functions," concerns about the use of individually owned automobiles, and finally good plumbing. They built their garden suburbs at great cost in Chandigarh, New Delhi and on the edges of Ahmedabad, Calcutta Bombay and Madras. But the cities lived on, for the most part neglected.

Town planning, like architecture, is seen as an art. It seems that all of what Pattric Geddes has said (Pattric Geddes in India, ed. J Tyrwhitt) is forgotten or pushed aside and that social and economic issues can be left to the villages and large scale industrial projects at Jamsheopur and Rourkela. City

planning has become a new kind of luxury to be consumed by the few.

If India is to develop as a nation both cities and villages will have to find their place in the strategy.' Indeed if villages are to develop they may have to do so on capital surpluses produced in the cities.

CHAPTER ONE:

INTRODUCTION

Recent interim reports of the census count of population in India point to larger urban populations than expected and a great per cent of that population is seen to be due to rural urban migration. In the last decade a full ten million persons moved from the country side to cities and the total urban population went to over one hundred and ten million persons.

Not surprisingly this coincides with breakthroughs in agriculture, particularly in rice and wheat. In the late sixties when India was becoming self sufficient in basic food stuffs there was a notion that increased prosperity in rural areas would slow migration to the cities. The opposite condition seems to have resulted. This is probably due to the fact that the profits from the "Green Revolution" go to the hands of the few who rather than invest in local village commodities which might have a filtering down effect, invest in urban land, consumer commodities and to a greater extent than ever . . . labor saving devices such as farm tractors. The effect is the reduction of demand for labor at a time when population is on the increase and the general improvement of agricultural techniques have been reducing labor demands anyway. The agricultural revolution should move quickly to other commodities and produce and the result will be even higher still migration rates.

Thus we can safely assume that India is entering a phase of rapid rural-urban migration which has never been paralleled in

its dimensions in history. This means that cities will be under maximum pressure to meet the needs of individuals and households and that morphological processes now under way will be accelerated and due to changing weights of growth from sectors of the population to others, the form that cities will take in the near future can be expected to be generically different than those of today.

It is important that we be in a position to understand the processes of persons moving into and adapting to cities if we are to direct effectively the vast structural changes that will reform Indian cities.

During this process cities will continue to fulfill important roles in other aspects of economic and social development. The importance of urban centers in development processes has been well documented. They provide the external economies, the economies of scale made possible by technological advances, social overhead capital, consumer densities, and provide concentrations of labor, skills, knowledge and capital resources as well as nodes of communication and innovation. Advances in technology and the evolution of diverse and extensive industrial systems depend on these aggregations of resources to operate effectively.

If a developing nation is to become self sufficient in basic industrialized commodities, and moreover is to raise the standard of living of its people through increasing the availability of social services and consumer goods it will depend on operant urban centers to fulfill these basic functions. By the same argument, if these nations are to take advantage of the

multiplier effects of education, research and advanced social services, cities must be recognized as the vehicles through which these advances will find their reality.

How then will our cities survive these basic structural changes and still be viable economic and social centers? The implication is that an industrializing and modernizing society is also the scene of rapid urbanization and concentration of resources and services and is at the same time the scene of revolutionary changes in urban structure. It is important for us to distinguish between signs of decay and signs of generic structural change. There is bound to be confusion in this respect and much of the planning effort which is preventive by nature may be counter productive in the sense that it attempts to artificially change morphological directions which are essential if cities are to adapt to their new form.

ONE: URBAN CRISES?

It is then useful, if not essential, for us to engage in a discussion of Indian cities to point out from the literature some of the popular notions of urban decay and for us to begin to question exactly what is healthy and what is not.

Calcutta is one of the favorite "whipping boys" of the new urbanists, who very sincerely wish to generate interest in their cause. But all the reasons given for the imminent disaster of the city seem to be lacking as the city lives on. Nirmal Bose points out that:

> "By 1960 it was clear that no aspect of Calcutta's development was keeping pace with the needs of its population or its hinterland. Overcrowding, health hazards from grossly inadequate water supply and sanitation facilities," is the condition. (Cities, "Calcutta: A Premature Metropolis," Scientific America Book, 1967)

P. B. Desai and Ashish Bose note the rising social costs attributable to uncontrolled urban growth. They note ("Economic Considerations in the Planning and Development of New Towns," Background paper No. 5, U. N. Symposium, Moscow, 1964):

> "Rising social costs attributable to uncontrolled urban growth are clearly reflected in the mounting needs for public infrastructure, for measures to deal with human problems caused by congestion, and also for ameliorating the difficult conditions under which masses of under-privileged people live in cities. It has been recognized that constructive modifications of the pattern resulting from individual activities in search of private profit are bound to be spotty and are likely to compromise the functional efficiency of the system as a whole."

And, Pitambar Pant, in "Urbanization and Long Range Strategy of Economic Development," weigh the cost of providing education, health, housing and recreational facilities against the economic by-products to the nation in considering the effective growth of urban centers.

But the question is still begged on . . . because Calcutta continues to grow, continues to survive past all predictions and in many respects Calcutta thrives. If the urban infrastructure of which Bose, Desai, Pant and others speak of were so important to the new immigrants to the city it is sure that they would return to the villages. But in fact it appears that it is better to live in Calcutta without water, schools, health facilities,

and social services, than to live in Begal's villages without clean water, schools, health facilities and social services.

My point is not that the people of Calcutta should or should not have these amenities, but we must separate from our noble and patronizing rhetoric what are basically political questions concerning distribution of resources (in this case stated in terms of urban infrastructure) and what are basically questions of the priorities of the people who are inhabiting Indian cities. In the long run popular priorities will have a great deal to do with the shape cities take. While our "standards" of decent human conditions may have a great deal of political impact, it is more important for us as planners to understand the nature of popular priorities in a system changing within a situation marked by scarcity.

In later chapters I will investigate these priorities and we will ttry to see the interface of the household as a socio-economic unit with the form of the city. It would be useful at this point though to review the major "symptoms of decay" presently under discussion in concerned planning and design circles, and to question the degree to which these are symptoms of real problems, or just characteristic of a system undergoing rapid structural change. This discussion will serve as an introduction to urban problems of India and will be referred to later in concluding sections.

The following are commonly held to be symptoms of urban decay and therefore counter productive to economic and social development.

1. Overcrowding in mixed use urban environments.

2. Breakdowns in urban sanitary and social service systems.
3. Urban housing is of low quality and is often worse than its rural counterparts.
4. Continued migration to the city results from "pushes" rather than "pulls" and cities are seen to be over urbanized.
5. Rather than being melting pots for heterogeneous groups, the city is socially fragmented and the scene of communal and caste strife.
6. Class polarization seems to be increasing.
7. Land speculation is raising rents and prices. Disparigies in income are increasing as unearned increments from land price inflation continues.

Overcrowding and Mixed Use

One of the most appaling features of Indian cities is the extremely high density in which people live and the high degree of mixed use within which this happens. Some areas of Ahmedabad reach densities as high as 500 persons per acre and even higher figures have been cited for Bombay and Calcutta.

While these densities are high we can expect them to go even higher. Urban areas in India are in a stage of growth which results from general population increases and from the rise of employment in secondary and tertiary economic activities. John E. Brush notes that "from 62.4 million in 1951 India's urban population rose to 78.9 million in 1961, an increase of 26.4 per cent. In the fifty years ending in 1961 the increase was more than two hundred per cent, or about 53 million." In the

same period the total population rose about 75 per cent. Recent reports indicate even higher rates of growth. These high rates of growth have resulted in overcrowding and intense conditions of mixed use.

"Living quarters of the workers are often placed within the left-over spaces between the factory sheds and the railway yards. They would be built smack up against a steel works, a dye plant, a gas works or a railway cutting. Attention none what so ever is paid to such matters as stench of refuse, murking outpouring of chimneys and the noise of hammering and whirling machinery accompanying the household routine. Human environment has progressively gone on deteriorating." ("Industrial Concentrations," J. T. Patel and B. B. Shah, in annual Town and Country Planning Seminar, Ahmedabad, 1964.)

The form of most Indian cities derives from their traditional functional patterns and from growth patterns tempered by custom and from British and Mogul rule. This growth has been generally uncontrolled and the densities are often high due to inadequate sites for housing or the necessity for communal and caste groups to crowd together. Unsanitary conditions result and much of the congestion of the cities is a result of these high densities.

Brush notes (India's Urban Future, ed. Roy Turner, page 57):

> "Two facts about urban population distribution stand out clearly from the data obtained in recent censuses.
>
> "First, extremely high densities occur in both the indigenous inland centers and the Indo-British seaports."

He continues,

> "The second notable fact about population distribution is the sharp density difference between wards in the central or old urban areas and the periferies, particularly where there are suburbs, as in the case of Calcutta, or contonments and civil stations, New Delhi being an obvious example."

Brush points to areas where there are densities of 650 to 700 people per acre and cities in which the ratio of minimum to maximum densities is 1:300.

Breakdown in Urban Utilities and Services:

The distribution of services and utilities in Indian cities is very skewed and generally they are lacking. In discussing the city of Ahmedabad Rom Setya, chief Town Planner for the State Government of Gujarat, noted distressing signs in the capital city. He said:

> "By and large the eastern side is of working class, the western side is of employers. The road length per capita on the eastern side is a fraction of the road length on the western side. Water consumption on the western side is almost three times as high. Such a situation is potentially dangerous politically and socially. It can provoke unnecessary tensions.
>
> "Two things have happened. The eastern side has been mainly neglected environmentally and is utilized beyond capacity, the western side has been tragically wasteful and extravagant in the provision of services, house lots, roads, etc. The western side looks like a garden suburbia, the eastern side a terribly overcrowded, structurally decayed ghetto."
> ("Ahmedabad - A Growing Metropolis," a lecture at Gujarat University, 1967)

Poor Housing Conditions:

Decent housing is a basic amenity for the city to operate

properly. It must be properly located to place workers near sources of employment and of a quality to insure minimum levels of comfort. Most important it must provide a healthy environment in which to live. But there is an acute housing shortage in most Indian cities and the health conditions are intolerable. From 1951 to 1961 the housing shortage in urban India rose from 2.5 million to 4.7 million houses even with an estimated construction of 3.0 million units during the period (ECAFE, "Urbanization and Housing," Delhi, 27 June, 1962). According to a Central Government report (N.S.S. Report No. 67, 12th Round, 1957) 47 per cent of the urban dwellings and 44 per cent of the rural dwellings has less than 50 sq. ft. per person. For both rural and urban areas only about twenty-five per cent had over 100 sq. ft. per person. 72 per cent of urban households do not have any bathroom. Motilal Harris was one of the first in Ahmedabad to note the difficulties arising from an acute housing shortage. In a lecture at the Laski Institute of Political Science in Ahmedabad, he noted:

> "With the tremendous rise in population by the streams of migrants pouring in and the activity to provide new housing not keeping pace with the demand, shortage of housing is inevitable. This is the greatest evil from which all our urban areas have suffered most in the last decade or two. The evils of various other types such as the Pugree system or key money, the nominal leave and license system in which under the plea of use of furniture, many a time non-existant, huge rents are charged, the ownership flat construction which has long last drawn the attention of the State Government of Maharashtra and a committee has been appointed recently to look into it, the failure of co-operative housing and the many scandals one hears to which people who parted with their contributions in good faith have been subjected and similar other evils are too well known to any city dweller.

> "The congestion in the houses and the rooms affects the sanitary arrangements of the cities and in many of them particularly in their older areas, we have the spectacle of surcharged drains and sewers, unswept streets, uncleared dust bins and a general deterioration of sanitary standards even in some of what are considered as the better areas of the city. The effect of all this on health can be imagined."

Speaking specifically of Calcutta Nirmal K. Bose notes, "More than three-fourths of the population of the city of Calcutta proper live in overcrowded tenement and bustee (slum) quarters. According to an official estimate 'two-thirds of the people live in kutcha (unbaked brick) buildings. More than 57 per cent of multimember families have one room to live in. For more than half of the families cramped into one-room quarters there is only 30 square feet or less per family member.'" Overcrowding seems to be a common feature of urban life in India. In Ahmedabad there are an average of 4.35 persons in one room households. This condition seems to be general and the Census of India noted the number of one room households per thousand in major cities was as follows: "Greater Bombay has the largest number of one room households (723) followed closely by Calcutta (719). Ahmedabad (653) fares a little better than Madras which has 675 such households but worse off then Delhi (630), Bangalore (559), and Hyderabad (458). The extent of overcrowding and sub-standard housing conditions obtaining in different cities can well be judged from the proportions of population living in one room households."

Over Urbanization:

Neither the proportion of population in urban areas nor the rate of growth of urban places was particularly notable in India before the end of the First World War. But since this period urban areas have been undergoing rapid urban growth. The 1911 Census showed only 9.4 per cent of the population living in urban areas. By 1951, 17.3 per cent of the population lived in urban areas and in Gujarat in 1961, 26 per cent of the people lived in urban areas. The following chart from Kingsley Davis indicates the range of urban growth which we can expect over the next few decades:

FIGURE ONE

ESTIMATED SIZE OF THE TEN MAJOR CITIES IN INDIA IN 1970 and 2000

(in millions of inhabitants)

METROPOLIS (a)	Type of Estimate of Proportion in Cities (b)			
	LOW		HIGH	
	1970	2000	1970	2000
Calcutta	12.0	35.6	16.0	66.0
Delhi	6.0	17.8	8.0	33.0
Bombay	4.0	11.9	5.3	22.0
Madras	3.0	8.9	4.0	16.5
Bangalore	2.4	7.1	3.2	13.2
Ahmedabad	2.0	5.9	2.7	11.0
Hyderabad	1.7	5.1	2.3	9.4
Kanpur	1.5	4.5	2.0	8.3
Poona	1.3	4.0	1.8	7.3
Nagpur	1.2	3.6	1.6	6.6

a. ranked according to their relative position in the year 2000.

b. each type of estimate yields two series of figures for the specific cities, according to whether the 20,000 + or the 100,000 + class is utilized. On the whole however the differences are not great; we have accordingly taken the mean of the two. Furthermore, for the year 2000, we have three additional bases for different estimates, according to whether the high, low, or medium population projection is used. In all cases, for purposes of the present table, we have used the medium population projection.

FROM: Kingsley Davis, "Urbanization in India," in India's Urban Future, ed. Roy Turner, University of California Press, Berkeley, 1962, page 25.

The reasons for migration to cities and the resulting increase in their population have been debated for the last decade. Bert Hoselitz took the rather traditional stand that "push" factors were responsible ("Urbanization: International Comparisons," India's Urban Future). He notes:

> "The main reason for Indians leaving the villages is the high population density in agricultural regions and the smallness of the amount of land available to cultivators - in brief, the sheer excess of human resources on the land."

Hoselitz notes the difference between 19th century Europe where the mechanization of agriculture led to a geographical and functional displacement of the labor force. Sovani takes difference with Hoselitz (Urbanization and Urban India, page 7) noting that all the conditions described by advocates of the "push" theory have existed in India over the past two centuries and that it is indeed changes within urban society which have caused the changes in migration rates. But the advocates of the "push" theory have other motives for their theory. They are intrigued by the fact that industrialization in urban areas has not paralleled the growth of urban population as it has in other areas of the world. In the sense that the occupational structure has not changed to one more predominantly in manufacturing and that the rate of industrial growth has not paralleled urban population growth, India has been termed over urbanized. The argument goes further to note that without a parallel growth in industry and income the city cannot support the costly infrastructure necessary to support it.

A UNESCO Seminar Report ("Urbanization in Asia and the Far

East," Bangkok, 1957) notes:

> "Thus the recent rapid rate of urbanization visible in Asian countries does not bespeak of a corresponding growth of industry but a shift of people from low productive agricultural employment to yet another section marked by low productivity employment, namely, handicraft production, retail trading, domestic services in urban areas."

Hoselitz makes the point more clearly and he ties the problem to other aspects of economic and social development (India's Urban Future, page 168):

> "Compared with European cities during a corresponding period of economic development, the cities of India, therefore, show the following economic features: urban industry is less developed and is characterized by a large number of small-scale and cottage-type enterprises; the urban labor force, therefore, is made up of a smaller portion of industrial workers and a larger portion of persons in miscellaneous, usually menial, unskilled services; the urban labor market is fractionalized and composed of mutually non-competing groups, thus impeding optimum allocation of resources and preventing upward social mobility and relief from the amount of unemployment."

While these cities show signs of "over urbanization" they are often not growing fast enough in relation to their regional needs. In spite of the growing hutments, crowded housing and poor facilities growth often is not fast enough. Asok Mitra points out (Registrar General of India, from socio-economic surveys of Calcutta) that, "it seems incredible that, while West Bengal's population grew by 33 percent in the last decade, Calcutta's should have grown by only 8 percent."

These factors all indicate poor control of urban growth and the conditions cited are counter productive to social and economic growth in general.

Fragmentation:

Rather than being melting pots of heterogeneous groups, the city is socially fragmented and the scene of communal and caste strife. Students of India have noted with concern the rising level of communal violence in the cities in the last decade. The riot in Ahmedabad in September of 1969 where five thousand people were killed was one of many such incidences, though certainly an exaggerated condition. The strife has caused the disruption of industry, over crowding in communal areas, has acted to repress social mobility and helped to enforce outmoded labor and economic traditions. The social fragmentation of Indian cities can most clearly be seen in the residential patterns in terms of spatial distribution of social groups. These patterns can be observed on different levels which in many ways represent a map of the levels of social identity under the ideology of Hinduism. The first level of separation is the community. By community we mean whether a person is a Hindu, Moslim or to a lesser degree a Christian or Zorastrian. The next level is the caste level and after that the family. All these levels are represented as isolated land areas which form a pattern in most Indian cities. On the communal level for example it can be seen in Ahmedabad that the Moslims live along the river bank while the Hindus live in the eastern section of the old city. This pattern was established historically because Ahmedabad was ruled by the Moslims originally and the best sites were near the fort and within the original city walls, and were taken by those in favor with the Moslim court. This pattern survives to

this day. Many middle class Moslim families moved across the river with the middle class Hindus during the past thirty years, but during the last communal riot many of those homes were destroyed and looted forcing the Moslims back across the river.

Caste patterns were notable in our studies of Ahmedabad and Baroda. Nirmal Bose's work, Calcutta, A Social Survey, illustrates this pattern in a more detailed manner than any other. One of his concluding remarks, "A castelike segregation in residence as well as preference for occupation thus persists in Calcutta even when the city has thrown up many new occupations of various kinds having no relationship with traditional, hereditary occupations. This separatness of communities is further augmented by some features of ways of living, dress, and religion as well." He goes further to point out that groups also segregate on the basis of provincial origin and on native language (page 79). In the figure below we can see just one example of the maps he has presented which describe physical segregation of affinity groups in the city, in this case ethnic groups.

The next level of segregation is based on family grouping. The figure below shows a house built by two brothers which is typical and the new house they have built in Vastrapur, a village inside the city of Ahmedabad. The last figure shows a settlement called Liberty and the family segregation within the caste segregation of the community.

Gillion (Ahmedabad, page 104) notes: "The settlement pattern was not as haphazard as would have appeared to the outsider; generally the workers lived with their kin in

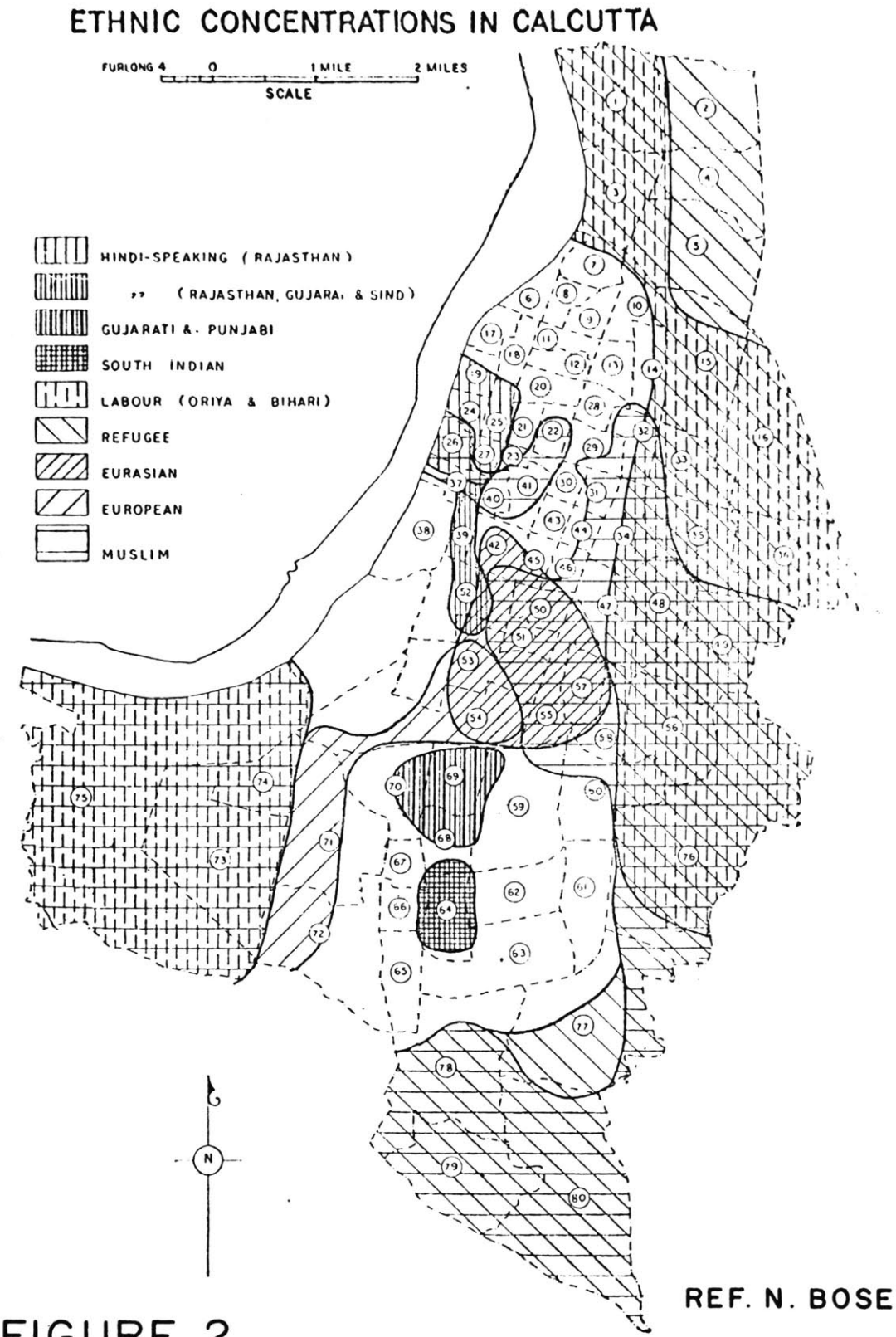

ETHNIC CONCENTRATIONS IN CALCUTTA
FURLONG 4
0
1 MILE
2 MILES
SCALE
HINDI-SPEAKING (RAJASTHAN)
" (RAJASTHAN, GUJARAT & SIND)
GUJARATI & PUNJABI
SOUTH INDIAN
LABOUR (ORIYA & BIHARI)
REFUGEE
EURASIAN
EUROPEAN
MUSLIM
N
REF. N. BOSE

FIGURE 2

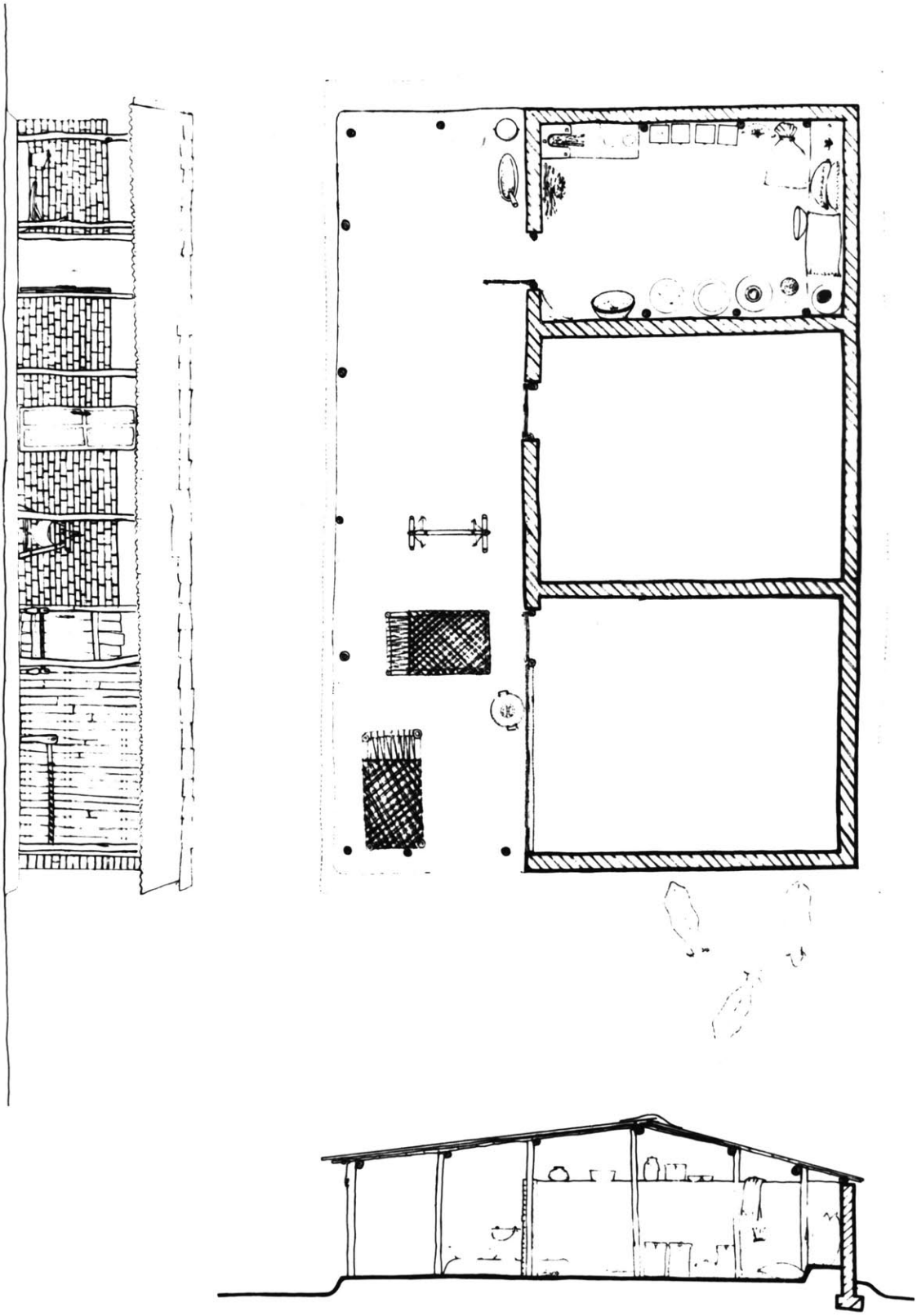


FIGURE 3 : HOUSE IN VASTRAPUR (OLD)

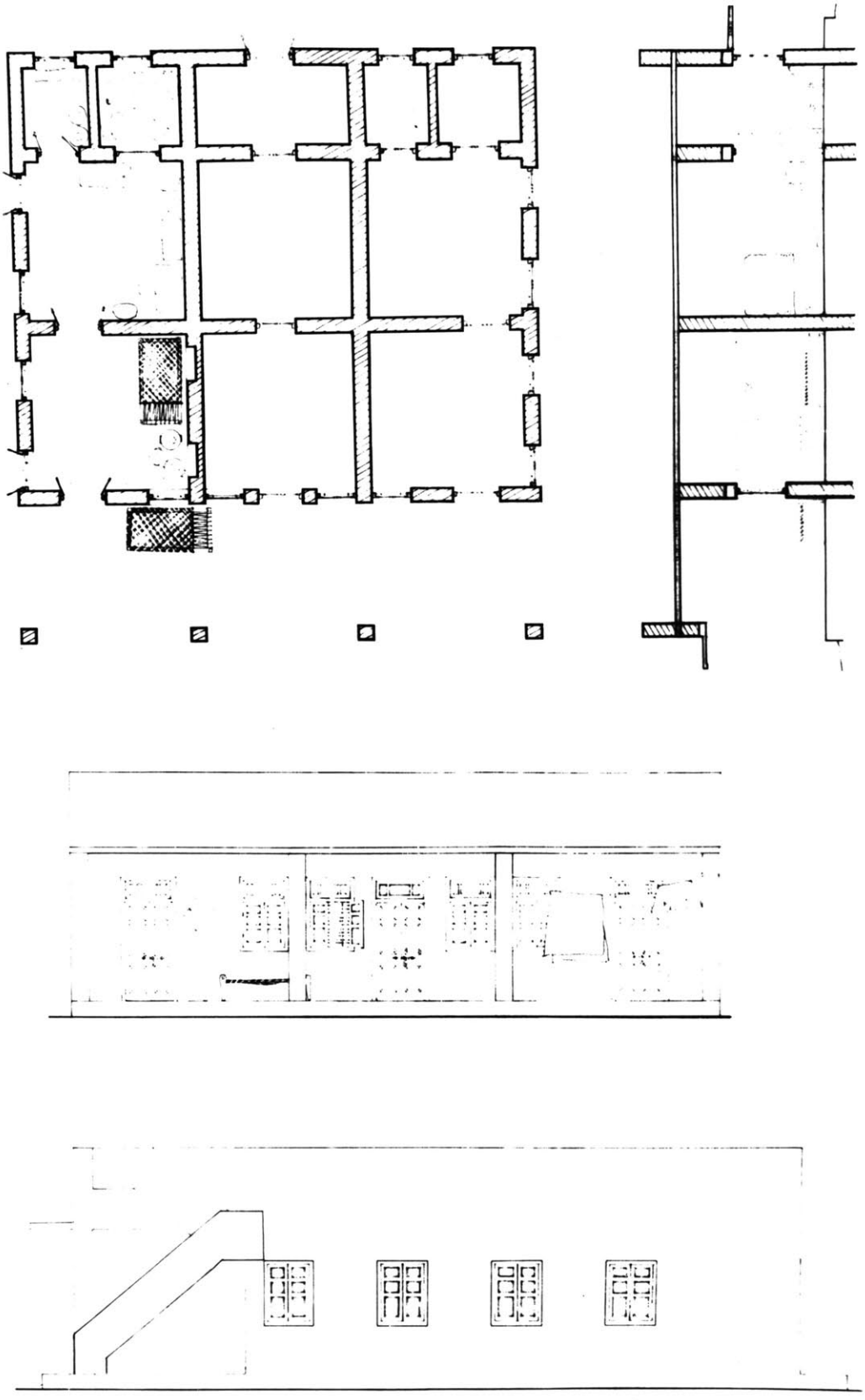


FIGURE 4: HOUSE IN VASTRAPUR (NEW)

FIGURE 5 : LIBERTY

particular localities and would decline to leave them in order to be nearer to a particular mill."

These patterns represent a reaction to the notion of social pollution and the need for security, both physical and economic. The nature of the social system as it developed in the villages and later in the cities of the middle ages still persists today.

Class Polarization

Many writers and visitors to India have observed the widening gap between the rich and the poor. The following observation is typical of their reactions:

> "It is as though India consisted of two quite different peoples - one constituting less than a hundredth of the total yet possessing all the power, with its own way of life, its own language, even its own press and entertainments, its separate aspirations - and the other, the masses of India, with an altogether different form of communication and set of allegiances."
> (Ronald Segal, The Crisis of India, page 27)

These divisions between the high income groups and low income groups are becoming obvious in many sectors. Education is a luxury for the urban rich and few from villages and lower income urban families attain college degrees. Rom Setya, as noted earlier, has pointed to disparities between the level of urban services available to the rich and the poor. "Minimum standard housing" is a luxury for the few, as are automobiles, bicycles for children, use of the air conditioned shops and restaurants, taxi cabs, "first class" and "first class air conditioned" seats on inter-city transportation, private clubs with swimming pools, English high schools, refrigerators,

western furniture, trips to the mountains and assorted electrical consumer goods.

It is clear that increases in income are occuring to the rich and not the poor while the rich with their increased incomes divert market forces to consumer production and raise price levels making it even more difficult for the poor to survive in the city.

Urban Land Speculation

Increasing population, economic development and industrialization are increasing the rate of urbanization. These forces have resulted in great pressures on the demand for land and on urban housing supplies. Inadequate and costly transportation coupled with the needs of the poor to live close to a diverse source of casual and unskilled employment act as multiplier effects in the situation.

As a consequence land prices are rising rapidly and the levels of rents are also increasing. And despite real shortages, large areas of land are being held for future sale on a speculative basis.

The Central Regional and Urban Planning Organization (under the Ministry of Health) recently pointed out in A Note On Urban Land Policy (not dated):

> "Supporting data on rising land prices are, unfortunately not available. But from a few available figures it is found that land prices increased by about 127 per cent during 1950-60 in the suburban areas of Gauhati. In Delhi, the price of land in some suburban areas increased by over 145 per cent. Within 4 years, viz., 1955-58. In some other areas within the city the

> increase was as high as 350 per cent over a period of 10 years (1948-58). The same is true, in varying degree of all cities and towns."

The resulting high prices have made it difficult for municipalities to supply appropriate community facilities and open space. Investments in housing have of necessity been made for the high income groups, due to the high level of development that must be constructed on high cost land in order to bring adequate returns on development investments.

Large profits occuring to a few individuals who can afford land investments are acting to polarize class definitions, as the unearned increments increase to these few in an economy of scarcity.

The preceeding discussion introduces the "outsider" to some of the major problems facing urban India, as perceived by most responsible urbanists in India.

It is my position that while these seem to be obvious symptoms of an urban crisis, as responsible planners we cannot accept that viewpoint so readily. The speciousness of the ease with which we accept such notions must be questioned and we must turn the cards around, so to speak, to see how people are adapting to urban life, how they use the city, what are their essential needs and what are their absolute limitations. In these terms overcrowding, mixed use, fragmentation and congestion may be healthy patterns. This is not the appropriate place to analyse the situation. This will better be done after we have more information on the city and the poeple who use it.

While the question of popular priorities and the uses to

which the city is put must wait, the issue of urban land control should now be discussed as an element of this paper.

TWO: URBAN LAND CONTROL - AN ISSUE

The power to designate use of land, to activate or freeze the use of land or to buy and sell land lies in the hands of the few middle class citizens who have money and influence (in India the upper 9% of the income scale). They write the laws which institutionalize patterns of land control and they choose the bureaucrats who interpret and enforce the law. They work from particular values: to protect the value of their property or to increase that value; to maintain the efficiency of the city and its enterprises; and to protect a conditioned sense of order from the onslaught of perceived pathological conditions . . . mostly revealing themselves in the physical disorder of the city.

Other groups though also have desperate needs for urban land and the high competition which results gives this special power of the few meaning in the patterns of urban growth. It indicates that the needs and means of the vast majority of urban dwellers (about 80% of which could be called members of low income households in India) will not be responded to. As the supply system of urban land continues to be distorted toward the needs of the few it will become increasingly more difficult for the poor majority to exist in the city. Observation of cities such as Bombay, Ahmedabad, Delhi and Calcutta indicate that there are in fact two cities sharing the same spatial area. The first is the city of the rich. For this city the streets are built,

new construction comes, and motorized movement carries their goods and moves them where they must go. But also there is the city of the poor who sometimes can claim a small area of their own to build huts or to just sleep on the street. A more fortunate family can find a room in the city, which is owned by the rich and rented at great profit. The poor city then works for the rich city, pays the rich city for space in which to live, abides by the laws of the rich city and somehow adapts its order to the few.

We have noted cases of Calcutta and Ahmedabad signs of breakdown. Social disruption and political chaos result. These problems are not limited to large industrial centers: they are obvious in the small towns as well as the large . . . it is the emerging pattern of urbanization in India.

Despite the rhetoric of the previous pages I want to make it clear that this is not primarily a moral question. The patterns are the result of natural human desires in an economy of scarcity and there are not callous intentions. The issue goes beyond the moral question of whether or not the few (under the notion that they are best prepared to make decisions) should be allowed to make such decisions; the issue is whether or not Indian cities can survive under the impact of these distortions, and should they not . . . what becomes of India?

Out of this issue come several notions which need clarification and investigation. One is the thesis that the "low income" population has particular needs which are in conflict with the present urban land development policy. Particularly

these needs can be expressed in terms of location of available residential sites. It is the intention of the discussion which follows to support this thesis by documenting the needs and means of low income households and the existing patterns of residential location. The topic which will be described during the discussion of the foregoing issue will be urban spatial structure in Indian cities. A hypothesis will be formulated which will test the validity of the notions of urban development strategy within the context of India's social and economic objectives. Conclusions will deal on a proximate level with criteria for new land control policy, and on a general level with alternative definitions of metropolitan development.

Should it be found that the existing system of urban land control thwarts the ability of the majority to respond to their needs within their means it is implied that existing land control policy should change, or that new policy should be implemented, in either case to allow individuals the capacity to respond favorably to their environment (have accessibility to employment and public facilities and services; participate in a security system based on location and tenure; and maintain an identity based on status gained from expression of shelter or belonging to a defined group). It is projected that these changes will not merely ameliorize the system, but will indicate inadequacies of the purposes of the system; alternative definitions of development will have to be stated before new planning implementations can be developed.

Major Hypothesis

In the foregoing the importance of the city for social and economic development was discussed and the failure of the city to meet the needs of the majority of its citizens was noted. The topic of urban spatial structure is raised as a possible vehicle by which the urban system may be viewed. Finally, the issue of urban land control emerged as a key area of investigation.

The following assumptions form a hypothesis which may aid in the clarification of the situation.

1. There is an imbalance between economic and social policy making institutions and urban planning institutions. While India has made great strides in training and organizing a cadre of economic planners at all levels of government and has successfully organized a political system which takes in a diverse field of interests and forces, it has failed to develop the institutions which train urban planners, plan urban areas and co-ordinate planning in other sectors which have high linkages with urbanization processes. While India has made substantial gains in building up her primary industries and maintaining and developing transportation and communications she has failed to initiate control of her urban areas.

2. Urban areas and concentration of resources are essential to reach high levels of social and economic development. This does not exclude the necessity of village development. This seems to be well documented in the literature.

3. Pathological patterns are emerging in the growth of Indian cities which are negative inputs into the development process. For general purposes we can define pathological environments as those which inhibit people from achieving the life style they perceive as attainable.

4. The above become critical now because:

   a. Migration rates are at the beginning of a "take off" point which will drastically change the demographic content of cities.

   b. Existing physical dwelling components are nearly saturated.

   c. Economic conditions will make it impossible to replace dwelling components at a rate proportional to needs.

   d. Therefore, we can expect components of the city to grow which until the present have had only a minor role.

   e. Because of the change in weightage of growth of components, the structure of the city will be generically different . . . most likely based on components spontaneously built in the popular sector.

THREE: METHODOLOGY

A test of the hypothesis discussed will follow the procedure outlined below. Comparative methodology will be implimented toward the objective of generating criteria for new policy which fits more closely the needs and means of the people who use the city and social and economic objectives of the socialist nation in India.

Ahmedabad, the capital city of Gujarat State, will be used as a case study. Ahmedabad is a good subject because of several factors:

a. It is a provincial city, and unlike Bombay, Delhi and to a lesser extent Madras, it is not a "world city," effected more by conditions external to India than regional factors.

b. It is a large city with a population of 2,000,000 and is the fifth largest city in India. It is therefore subjected to most of the pressures which will be found to a lesser extent in smaller cities and towns and perhaps to a greater extent in India's four urban centers.

c. Urban geographers (notably John Brush, "Spacial Patterns of Population in Indian Cities," The Geographical Review, Volume LVIII, No. 3, 1968, page 373) have cited Ahmedabad as an example which is most typical of density structure and land use distribution of Indian cities.

d. Ahmedabad is in an advanced industrial position and in a State which is highly urbanized by national standards (Gujarat 26%; India 18%). These two factors give the case study some predictive capacity for other urban areas.

Comparisons using the case study will be made between existing patterns and patterns which would result from present policy. Analysis of household structure will isolate needs and means. The two patterns . . . the existing and the implicit policy . . . will be evaluated as to their capacity to meet the needs of the households within reasonable means. Using my previous definition areas of pathology will be identified. National social and

economic objectives will be kept in view during the process. Alternative strategy will be outlined which has as its objective to bring urban development into balance with social and economic development.

CHAPTER TWO:

CASE STUDY OF AN EXISTING CONTEXT: AHMEDABAD

In the following chapter the reader is introduced to the context of an Indian city. The spatial distribution of different indices is presented, as is demographic, social and economic information. This chapter attempts to present an image of reality . . . to describe the existing city. This real image then acts as a reference against which the legal image of Chapter Three can be compared. Both images carry with them certain capacities to meet needs of urban dwellers. It will be the subject of Chapters Four and Five to make these comparisons to find sources of matches and mismatches. But in addition to acting as a staging ground for later chapters, the present pages cover the topic of spatial structure of Indian cities, for which Ahmedabad serves as a case study.

It is important that we begin this discussion by realizing that the city has gone through phases of physical, social and economic change and that it is now in the process of such a change.

To simplify this phenomena we could separate these phases into four periods. The first is the Mogul period when the city was completely within the walls and was the administrative center of Muslim Gujarat. A great deal of trade developed within the walls and during this period the city became a center of commerce and textiles. During the British period Ahmedabad moved outside of its walls to build bungalows, mills and military installations. Organized labor working in the mills became an important segment

of the population and a strong middle class of managers, professionals and business men developed in the city. This period saw the first influx of migrants to the city on a large scale. The present period is described in detail in the following pages as are projections to the year 2000. The present period is much like the British period with the following exceptions: a. a large section of tenements has developed on the eastern side of the city; b. the old city has been sub divided into one room dwelling units; c. and other components have expanded in size. Social and economic changes are discussed in more detail in Chapter Four under the topic of Households.

Existing Spatial Patterns of the City of Ahmedabad

First impressions of the visitor to Ahmedabad leave him in confusion. He finds it difficult to grasp the disorder; the crowding of people, cattle and movement into small areas of space; the mixture of residential, commercial and manufacturing activities. All of these things give one a sense of impending disaster, a feel for the calamity of which every visitor speaks on his return. But Ahmedabad is not the context which conditions the western mind that observes her and writes of her pathology. As a city she has her own order, her own definitions for efficiency, and most who come to live there find some measure of success.

That is not to say that Ahmedabad, and the cities for which she serves as a case study, do not have their problems or pathological aspects . . . they do. But to understand these problems

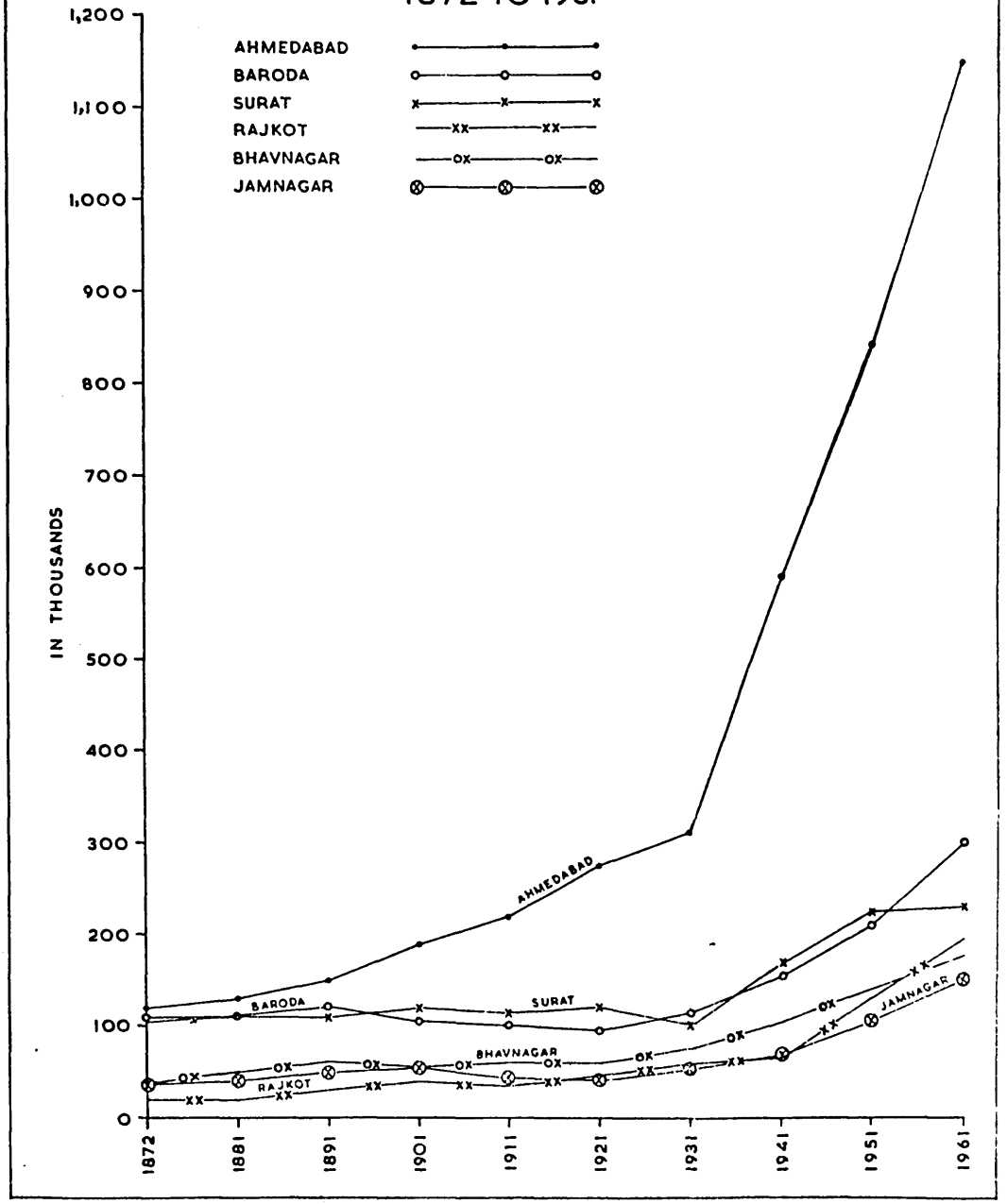
we must see the city objectively. We must not dismiss as disorder, what is a system in operation, and if we want to contribute to the operation of that system we must try to say something about the manner in which that system operates.

In 1961 Ahmedabad was the fifth largest city in India, coming after Bombay, Calcutta, Delhi and Madras. Today it has a population of two million. The legal boundary of the city covers about thirty-six square miles, of which about twenty-five square miles are urbanized. The built up area averages about 80,000 persons per square mile, and the city averages about 55,000 inhabitants per square mile if the legal boundary is used to calculate. Figure Six gives a picture of the growth of the city's population over the last century. During the most recent census period 1951-61 the city grew at an average annual increase of 3.2% or 37% for the decade.

This change was smaller than in the 1941-51 period and cannot be used accurately for projections into the future. For comparison, the national population increase for 1951-61 was 26% and the national urban population increase was 27%. While the urban increase was only proportionate to the total figure, it is significant that 69% of the decennial urban population increase occured in cities of more than 100,000 population. (These cities, in 1961, accounted for about 45% of the total urban population.)

In the 1951-61 period Ahmedabad had 121,168 registered births over deaths. Assuming no deliquency in registration this puts the population rise due to natural increase at 14.5% and leaves as the residual 22.9% which is apparently due to migration.

FIGURE 6


GROWTH OF POPULATION IN SIX CITIES, 1872 TO 1961
AHMEDABAD
BARODA
SURAT
RAJKOT
BHAVNAGAR
JAMNAGAR
IN THOUSANDS
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
1872
1881
1891
1901
1911
1921
1931
1941
1951
1961

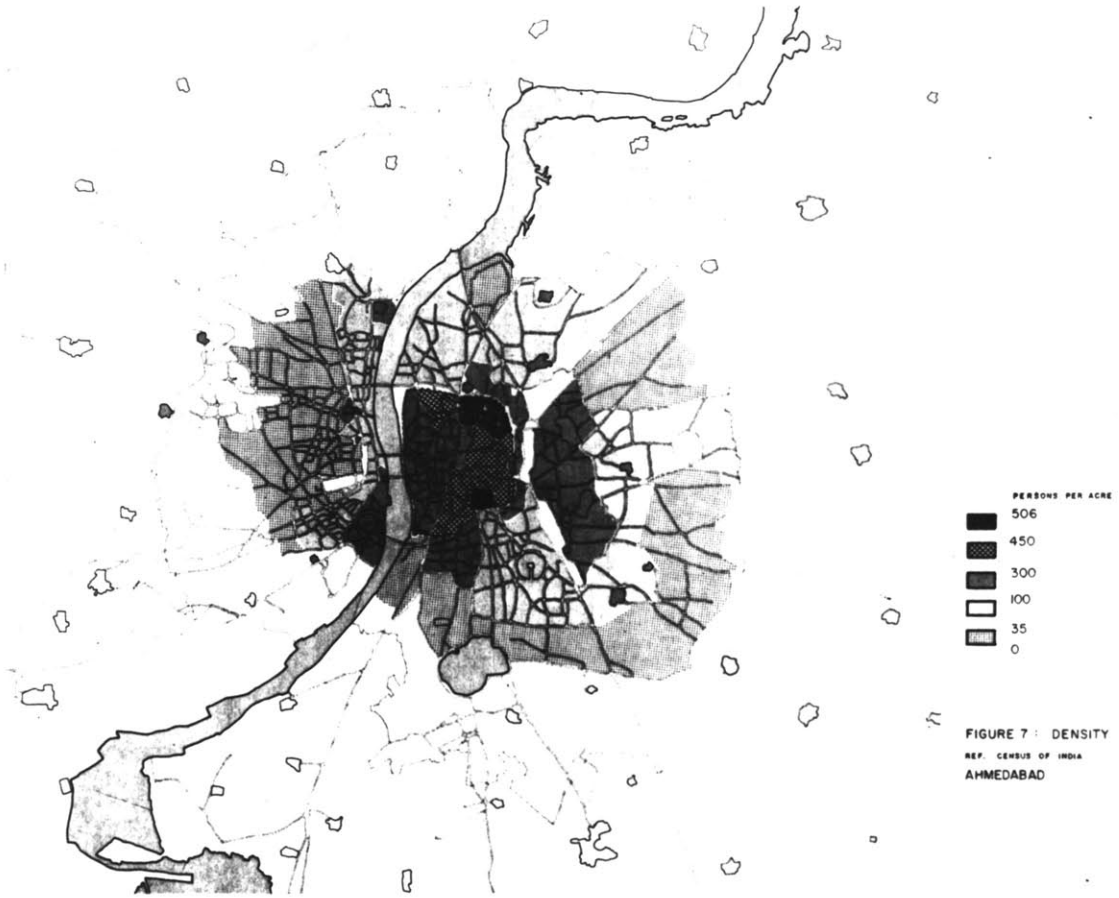


FIGURE 7 : DENSITY
REF. CENSUS OF INDIA
AHMEDABAD

During the same period the rate of natural increase for the State of Gujarat was 22%, reflecting higher birth rates in rural over urban areas.

According to the 1961 Census 50.8% of the population of Ahmedabad was born elsewhere. Classified by duration of residence, of this total 18.5% had lived in the city for less than three years. Of the total migrants enumerated in 1961, 12% were born within Ahmedabad District, 55% in other parts of the State, and 33% were born outside the State. 68% of the migrant total came from rural areas and 28% from urban areas.

Migration is reflected in the sex composition of the city. While the ratio of males to females is practically even for the State, the 1961 ratio for Ahmedabad was 805 females for every 1000 males. Of migrants enumerated in Ahmedabad in 1961, 57% were males and 43% females.

Densities range from 533 persons per acre (Ward XI, Dariapur-2) to a low of 5 persons per acre (Ward XXIX, Baherampura). Densities are illustrated in Figure Seven by wards according to the 1961 Census. There are several interesting factors which characterize the density patterns of Indian cities. First, unlike Latin American and African cities, Indian cities are growing over land which already has a high density. The villages which surround Ahmedabad fall roughly every two miles. Thus, in the city of Ahmedabad there are nodes of high population density even in newly urbanized areas.

Secondly, Newling's hypothesis which relates inversely population growth to density does not seem relevant to Indian

cities. The city center where highest densities are found seems to be an area which is growing rapidly. This is probably true because of the lack of popular transport facilities and lower standards of shelter since a family will inhabit one room. The center city can absorb a very great diversity before that area can be saturated for continued growth along with general population growth and therefore the critical density which Newling found (50 persons/acre) may exist but be much higher (above 500 persons/acre). Finally there are socio-economic aspects of the city which will be discussed in detail later which make these high densities "healthy."

Another aspect is the lack of a clearly desirable nodal point to which spatial structure can be related.

> "Presumably there is one point, usually in a commercial area with a major street intersection or public square, in the vicinity of which communication and interchange are at a maximum concentration and land values are highest." (John Brush, American Geographical Society Review, page 369, 1965).

This is true because of the general spread of commercial and administrative activity within the walled city.

Generally Indian cities, and particularly Ahmedabad, conforms to the Bleicher-Clark model of a negative exponential decline of density with increase of distance from the city center. John Brush has divided Indian cities into four variations of this of which Ahmedabad is typical of the majority of Indian cities. This variation is characterized by extremely high densities within the first mile or two from the center with a sharp downward gradient slope occuring within this range (one to two miles). See Figure Eight. The slope flattens to a thinly settled margin.

AHMEDABAD DENSITY

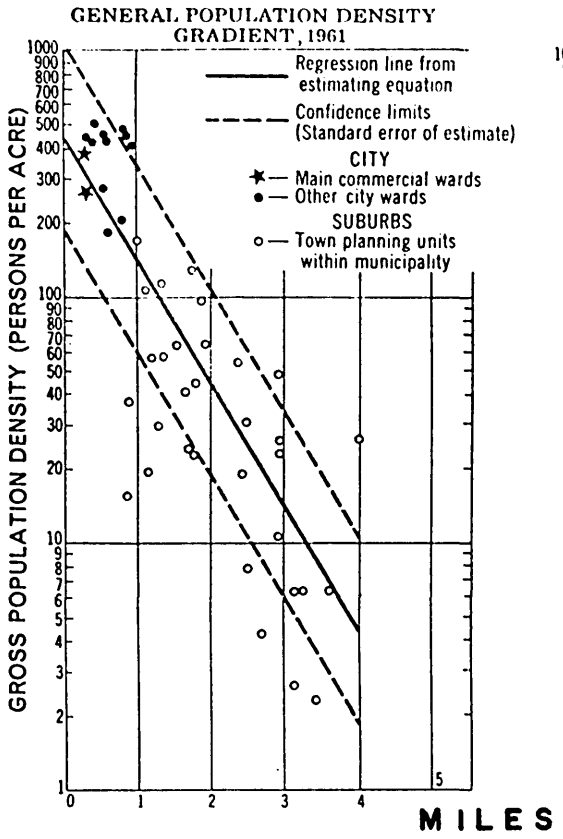


FIGURE 8

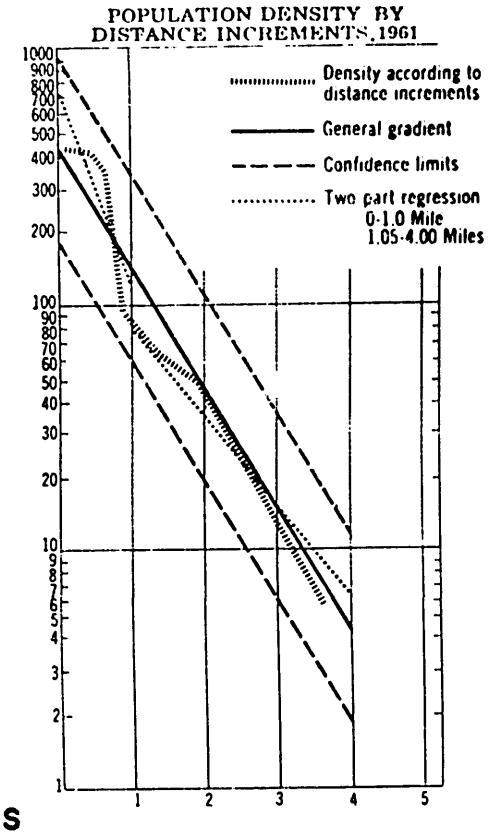


FIGURE 9

A most noticible characteristic of Ahmedabad is its generally high density and its sudden drop at the edge with a ratio of gross density from center to edge being roughly 50:1.

Figure nine illustrates the general population density by gradient and population density by increments. Brush notes as a characteristic of Ahmedabad the lower densities in the premodern commercial areas as compared to the premodern residential areas as recorded in the Census data. From my personal observations I would attribute this to the fact that these areas are the Muslim areas in the city to whose homes a Hindu census taken would hesitate to go and the majority of uncontrolled and squatting urban settlers along the river live here who are not well documented in the Census. My notion is that these areas have even higher densities than the premodern residential areas in the walled city. At any rate, both areas of the walled city are of very high density. In 1961 more than one third of the city population lived in the walled city.

Figure Ten puts variations in density in a historical perspective. Up to the 19th century Ahmedabadis lived almost exclusively within the walled city, with the exception of those who lived in puras and near by villages. By 1900 density in the over-all city had gone up and construction outside the city walls had begun. The Town Planning Schemes on the western side of the city account for the dip in density in the one to two mile area. As the areas in the eastern sectors out lying the walls begin to become more dense we can expect this dip to become less pronounced. While Newling puts the critical density at 50 persons per acre

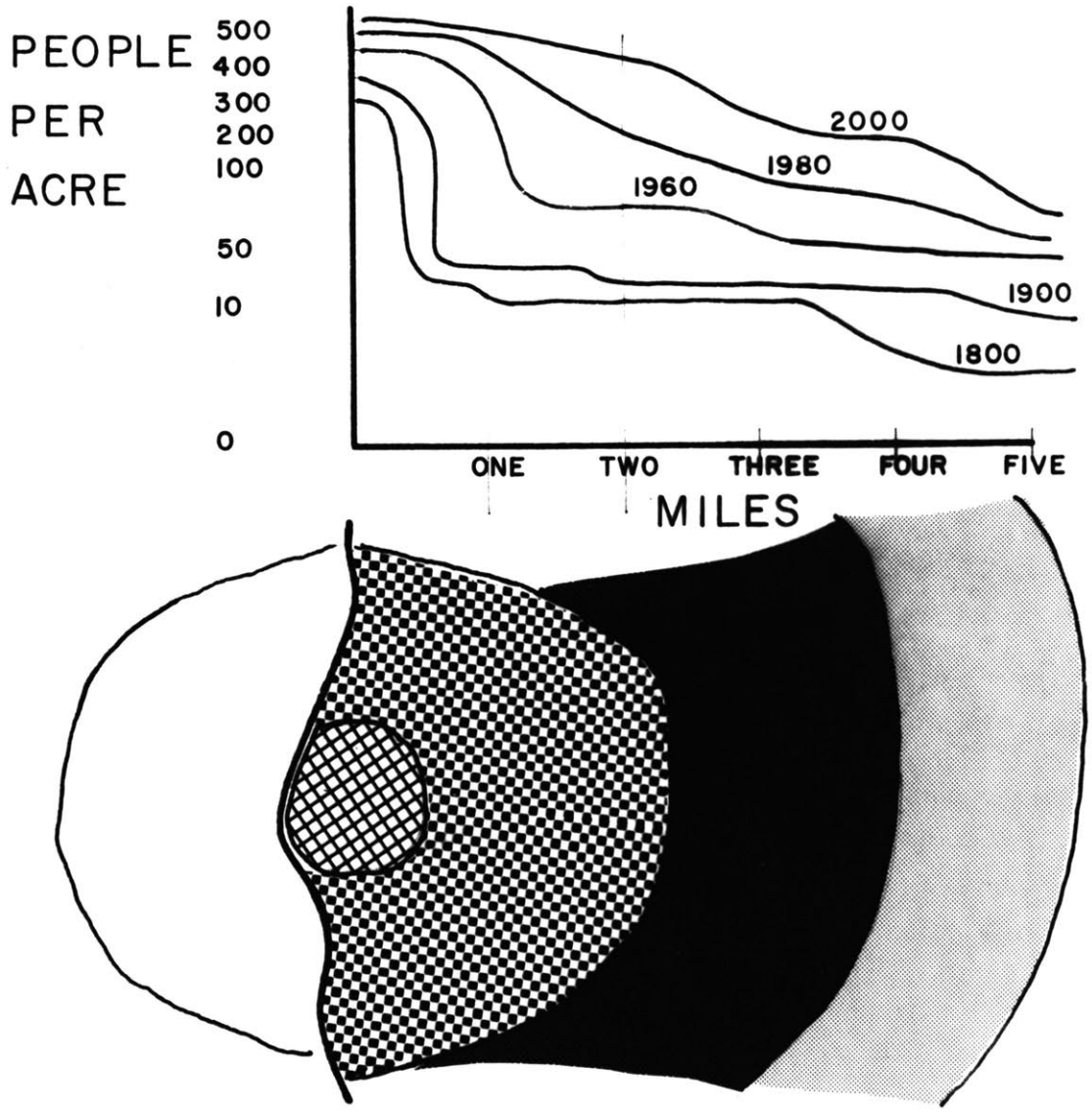


FIGURE 10: PROJECTIONS

in developed contexts, I would estimate that Asian cities will peak off at about 500 persons per acre. I assume this will be the case because in 1961 70 per cent of the center city inhabitants were living in single room dwellings and the density was near 400 persons per acre. Considering the increased commercial construction in the center city (walled) and the continuation of the subdivision of homes to single room dwellings I would assume that by now (1971) the density would be near 500 persons per acre and that the over flow process which has resulted in nearly 50 per cent of the population moving to the "new city" will be greatly accelerated in the next few decades. This process should be relatively proportionate to the rate of migration to the city perhaps with a lag time of five to ten years. General saturation though of the center city and the new city should be complete by 1980 and after that date we may expect extensive squatting in the outlying territories of the city. The present "green belt" zoned in the Master Plan provides an excellent opportunity for such settlement patterns.

The curve for 1980 represents these trends and the projection for the year two thousand shows a dip in the present new city area. This is true because I estimate it will have a lower saturation point than the center city for the following reasons:

1. A larger proportion is covered with non residential uses such as industry and storage yards which do not lend themselves to combination with dwelling.
2. While there will be increased subdividing in the Town Planning Scheme areas, the densities will still be low and will hold

down the density growth in these sectors of the city.

3. The increased acceptance of "squatting" and the added political power gained with numbers will make this alternative more reasonable for a larger number of people. The benefits of squatting will be generally known by the people and they will take this alternative perhaps before accepting overcrowded conditions as high as are presently experienced in the old city.

Because of the tremendous increase in squatting the outlying areas will, by the year 2000, reach high densities (probably averaging around 250 people per acre).

We can expect the center city to fall in density by about 20 per cent between 1980 and 2000 for the following reasons:

1. Increased construction of commercial structures in the area.
2. The rise of middle class "singles," neuclear families and others who prefer and can afford to live in the city will create a demand for "apartments" that generate greater profit at lower densities. Changes in family structure and income levels indicate this is very conceivable.

If this pattern is representative of Indian cities generally we can see that the density structure of Indian cities will completely change by the year 2000. Thus one of the major transitions that Indian cities will experience is the transformation of the density patterns, perhaps as noted in the previous discussion.

Of the total population of Ahmedabad in 1961 only 31% were classified as workers in the 1961 Census. By comparison the

figure for all-India was 43% and 41% for Gujarat.

Although Ahmedabad's economy is dominated by the textile mills and the town is often referred to as a manufacturing center this observation is only relative to the rest of India. Even though of the seven largest cities in India Ahmedabad has the highest proportion of the working force engaged in manufacturing, this figure is only 50% of the total work force, includes all types of manufacturing activities, and is biased towards organized, registered firms. A complete breakdown of the work force is found in Figure Eleven specified by type of employment. Since the Census enumerated only fully employed workers these figures must be approached with caution. The whole range of casual marginal, part-time and domestic employment, mostly in service industries, has been left out. According to the 1961 Census 16% of the work force were either self-employed or employed in family businesses. This figure is probably much higher.

The degree of unemployment is not mentioned in the Census of Ahmedabad and even if it were it would have little meaning, for the line between unemployment and marginal, underemployment is impossible to draw. It can only be said that jobs are not easy to find throughout the city's economy.

Figure Twelve illustrates the pattern of employment areas for low income workers. Domestic work employs a large number of persons in the bungalow suburbs and in the better pols (neighborhoods) in the walled city. To a lesser extent domestic work can be found in the middle and even lower income areas. The public and institutional activities of the city employ a large

FIGURE ELEVEN

WORK FORCE BREAKDOWN

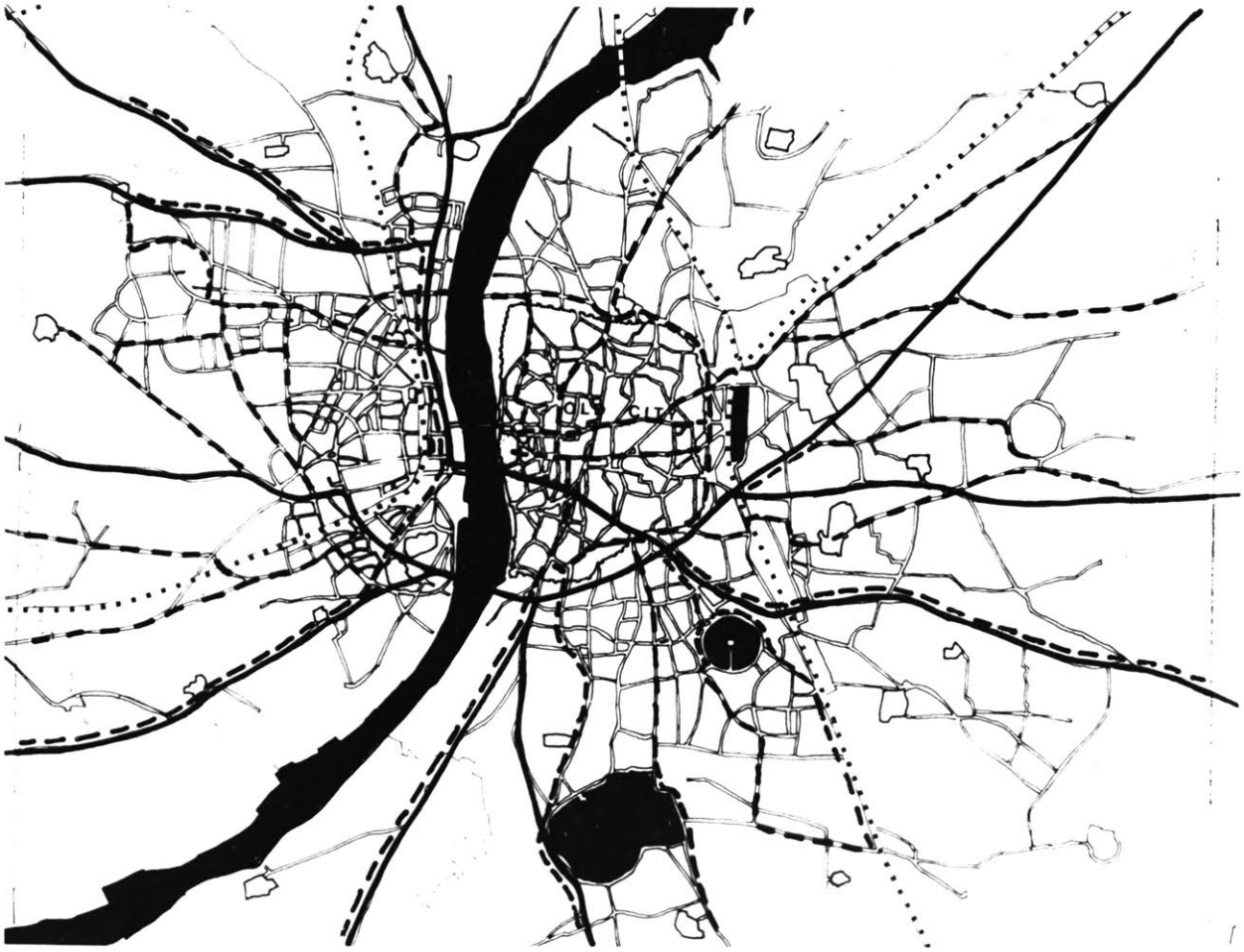
based on 1961 data

TYPE OF WORK	PER CENT INVOLVED
Cultivation	0.17
Agricultural laborer	0.13
Livestock, Forestry, Fishing, Hunting, Plantations and Orchards*	0.31
Household Industry	3.05
Manufacturing	50.58
Construction	2.66
Trade and Commerce	15.45
Transport, Storage and Communication	5.77
Other Services	21.88
Total	100.00
Participation Rate	31.1

*The above group includes mining and quarrying.

Source: Census of India, 1961, Volume V, Gujarat, Ahmedabad, page 231.

FIGURE 12:
EMPLOYMENT AREAS
AHMEDABAD



RAILWAY • • • • STATE BUS —— BUS — — —

FIGURE 13: TRANSPORT

number of full time "peons" as do the many officies in the walled city.

These peons, to use a local term, are "in service" and usually work for a monthly wage unlike casual laborers. Casual laborers find their maximum employment in highly concentrated commercial and service areas, especially around the rail station and near the central market. Manufacturing which employs approximately one half of the permanent work force in the city is concentrated in the industrial areas, but there are a large number of craft shops operating within the city. The rail yards, service areas, and the industrial belt are located along the eastern edge of the city wall. The trucking industry is located along the eastern edge also which is a constant source of casual labor, for most of the goods are moved by hand or by cart pulled or pushed manually within the city, the trucks being used only for inter city traffic. Changes of location of employment areas in the future are reflected in projections for changes of land use.

Figure Thirteen shows major networks of transport, which are the State Transit bus lines (that run out of the city and carry commuters daily), the Municipal Transit Authority which operates within the city, and Western Railway, which again carries a daily commuter traffic in addition to the inter-city traffic. About 70,000 persons commute daily into the city boundaries to work, (according to a survey by the State Town Planning Office). Another 16,000 persons visit the city every day to use its clinics, hospitals and doctors. Rates for

public buses are too high for a low income household to use on a daily basis. Bicycles are expensive (from 200 rupees to 350 rupees) and the maintenance costs can be high. As a result the majority of the citizens walk to work.

Figure Fourteen gives a self explanatory picture of the uses of land within the 1968 Ahmedabad municipal boundary. It is noted that traditional classifications are somewhat artificial - that residential and commercial activities often exist at the same locations, that workers and squatters homes are found within industrial zones, and that some small scale industries are run in the home - but the overall picture is still relevant. A fine-grained mapping of sub-areas would show considerable mixing of activities.

Along the railways to the east of the city where the first textile industries were located is where the manufacturing activities of the city have continued to grow. Retail, wholesale and entertainment activities are located within the old city, clustered near Budhra, the old fort, and running back into the city down Relief and Gandhi roads. More recently retail and entertainment activities have developed along Ashram Road which parallels the river on the western side of the city. Villages which have become surrounded and urbanized by the city form commercial nodes, which act as neigborhood shopping centers over the whole surface of the city. Moreover, commercial activity is spread in a finer grain fasion over the entire city. A close look at any block in the old city would show the main roads concentrated with commercial activity and the interior

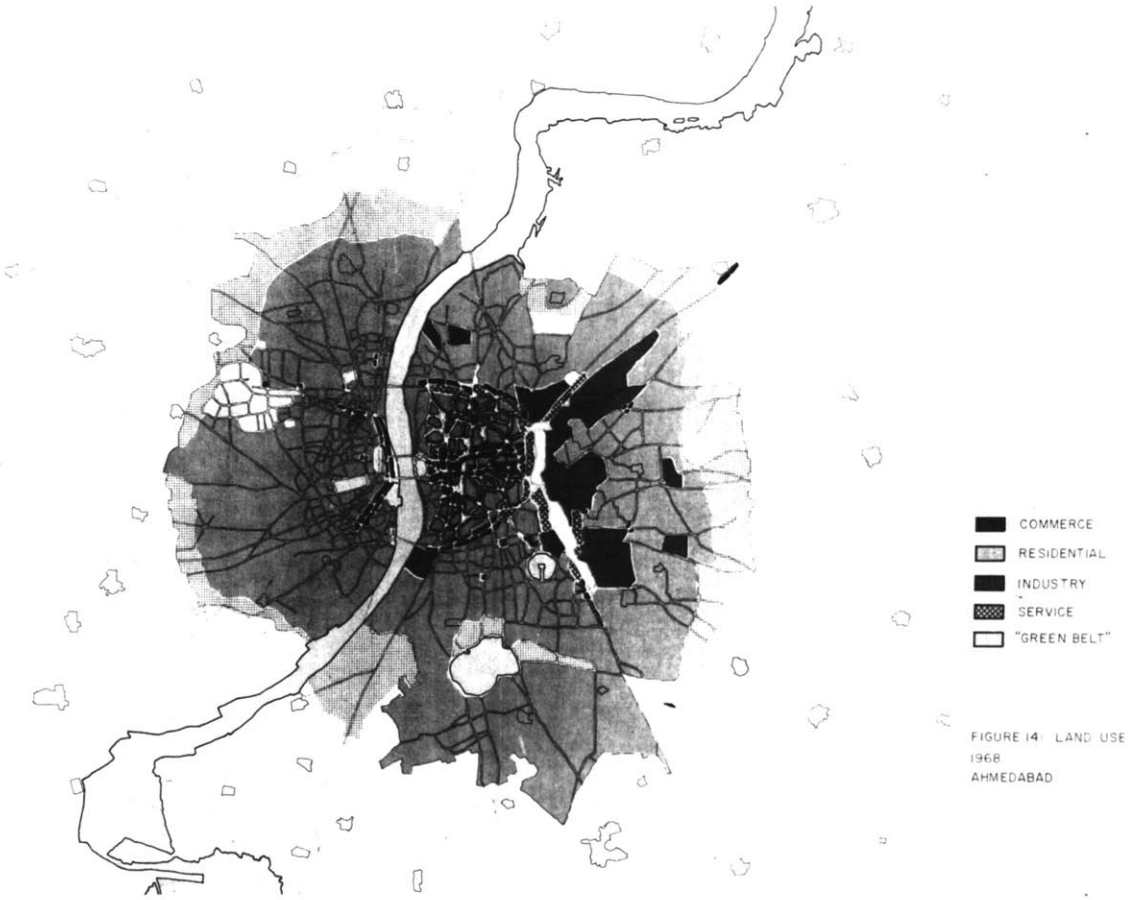


FIGURE 14 : LAND USE
1968
AHMEDABAD

concentrated with residential activity. Of great importance to the city's economy is the spontaneous, marginal activity which moves about the city . . . sometimes settling at a corner for good, but often on a platform on four bicycle wheels or carried on a man's back. These are the tea stalls, the bicycle fix-it shops, bedi (cigarettes) shops and key makers or ragg buyers, all of whom legally through a bribe or illegally by keeping on the move, carry on activities which must amount to a great percentage of any day's cash-goods exchange in the city.

Public and institutional activities are located throughout the city with national banks, the State Office Building, and municipal building notably being located inside the walled city, along with countless private schools and colleges. On the western side of the city are located the city's research institutes, Gujarat College, Gujarat University, The Indian Institute of Management, the School of Architecture and Planning, St. Xavier's College, a major hospital, music halls, a museum designed by Corbusier, and the National Institute of Design. Technical colleges, Civil hospital, and temporarily the state assembly building are located outside the walled city to the east.

Open space is hard to find in Ahmedabad. The river which is dry for nine months of the year serves as the major outdoor space, and there are a few parks in the old city. The density of the western side is less than one tenth the eastern side and the bungalows located there are surrounded by green yards. The university, much like an American state campus or English

College, is full of lawns and park-like spaces. There is a green belt which surrounds the city, and on which only agricultural buildings may be built. Service activity is concentrated primarily along the outter perimeter of the wall and is greatly intermixed with the industrial activity of the city. But like commercial and residential activity, it can be found in finer grain almost anywhere within the city boundary. Residential land uses virtually cover the entire city. A discussion of the distribution of residence by income will clarify the situation. The cantonment (military base) and airport are located to the north of the city.

These patterns of land use can generally be expected to persist with additions and minor variations. The existing pattern evolved from an earlier period when the commerce of the city was centered around the fort, and through the center of the city by "Three Gates" (the entrance to the first walled area) and on to Mante Chowk the city market. This original commercial area also spread into side streets, where specialties like textiles, silver and brass could be purchased (each type of good having its own street). Workshops on the main streets and in private homes produced the goods for which the city became famous . . . textiles, gold and silver, and at various times opium and silks. By 1900 commerce had spread down most of the major roads which enclosed intraverted residential neighborhoods. The gates where one gained access to the city were also highly developed as commercial nodes. Also, by 1900 the textile industry had shifted from hand craft to machine production.

The vast majority of the new mills were located just outside the city walls to the east. Also, by 1900 the western side of the river had been opened up with the construction of Ellis Bridge. The first middle class bungalow neighborhoods grew up there as they did to the north of the city near the military cantonment. Thus, Ahmedabad underwent her first major structural change from about 1880 to about 1930. In this time the city changed from a walled city having all its functions within to a city with a large industrial area, class segregated bungalow suburbs and new commercial nodes around urbanized villages outside the city walls.

During the next transition vast numbers of new-commers will give form to the city by developing open fringe areas into spontaneous residential communities which will at first be low income and primarily residential, but should experience a slow rise of income and level of development accompanied by increased mixed use. Much of the change in residential patterns can be inferred from the discussion of density. The present rise of hutments in the city should be as forewarning as were the first bungalows on the western side of the Sabramati River.

The following changes can also be expected from Industry and Commerce.

Industry in Ahmedabad is becoming more diversified. Chemicals and pharmaciuticals can be expected to expand. These functions will continue to grow along the rail line to the north and south of the city. There is an increase in secondary industries like assembly plants and machine tools which support local basic industries or serve the large consumer market in Gujarat.

These functions are more and more dependent on trucking for both receiving of raw materials and parts and for distribution to consumers. For this reason we can expect more industries to locate along inter-city roads. The competition for rail sites should also make these locations more economical for smaller plants.

Generally we can expect a shift of industry to the perifery of the city. This will be true for the following reasons:

1. cheaper land.
2. industry is becoming more capital intensive and its needs for labor are less.
3. the development of Industrial Estates provides tax incentives, water and electricity discounts, and often work sheds, with special financing for participating plants.
4. periferal sites may appear more efficient to managers from the lack of conjestion and the expansion potential.

Service industries, except for highly specialized cases can be expected to stay in the city and rapidly grow there. This is true because many of them depend on competition for semi-skilled labor and casual labor. Also, their customers are generally located in the city and they will probably expand into obsolescent factory buildings as they move their functions to the perifery.

Commercial locations will change as the residential patterns of income groups change and as new marketing techniques and products come into the picture.

Mass production is beginning to compete with the crafts in

many areas, and commercial activity is moving to the less dense outlying areas. These two factors opt for general purpose stores rather than specialty shops. In order to survive shops in the out lying areas need to carry more items and distributing firms are growing which market a diverse number of products to single shops. Specialty shops though will continue to grow in the city center and at other places where the volume of sales is high due to accessibility to a large number of customers. The following changes should take place in the distribution of commerce.

1. New major commercial cores should develop at major intersections and at urbanized village sites. This pattern can already be noted.
2. New strips of commercial will develop along major radial streets going from the center city to the outlying areas.
3. Formal "shopping centers" will be organized and managed by developers or the municipality. Swastic near Navrangpura is a good example of this where the city has sponsored and constructed 12 shops with parking spaces in a suburban bungalow area.

In our discussion of morphology of the city there are three concepts that need definition if we are to understand the processes. First is the theory of <u>flow</u>. In this theory it is assumed that once migrants arrive at the city they will move in different sequences of dwelling type depending on their needs and means. John Turner's studies of Lima (<u>Ekistics</u>, Mar, 1965) are perhaps the clearest explanation of this phenomena yet available. In Turner's work the role of priorities in this process is described (see bibliography). Alternative models of flow were presented in my

February, 1970 Ekistics article. Second is the notion of saturation. According to this notion a dwelling component of a city can become "filled." If the demand for the use of that component is great, even after the saturation point, the city will have to make adjustments to meet this demand. This first happened in Ahmedabad when the available one room dwellings for migrants in their first decade of urban residence ran out. This coincided with the exodus of the middle class to bungalows which provided inner city houses which were subdivided and rented to the poor. There are linkages between industrialization, the rise of the middle class, mass migration to the city, the development of suburbs and the subdivision of inner city homes. This sequence of linkages created the first major transformation of the city of Ahmedabad. There was a relative balance in that phenomena in the sense that the move of the middle class to the outlying areas provided space for the incoming migrant. However, it is now assumed that the inner city is saturated and that drastically increased rates of migration will create demands which will then create generically new components of the city to find a new balance. There are bound to be periods of pathology until the new balance is reached. As noted earlier a pathological environment is an environment which prohibits individuals from achieving the life style that they perceive as probable and desirable. By this definition over crowding may not be a pathological condition if it is a step toward a perceived and desired life style. But not being able to gain access to an over crowded environment when it is a necessary step to a life

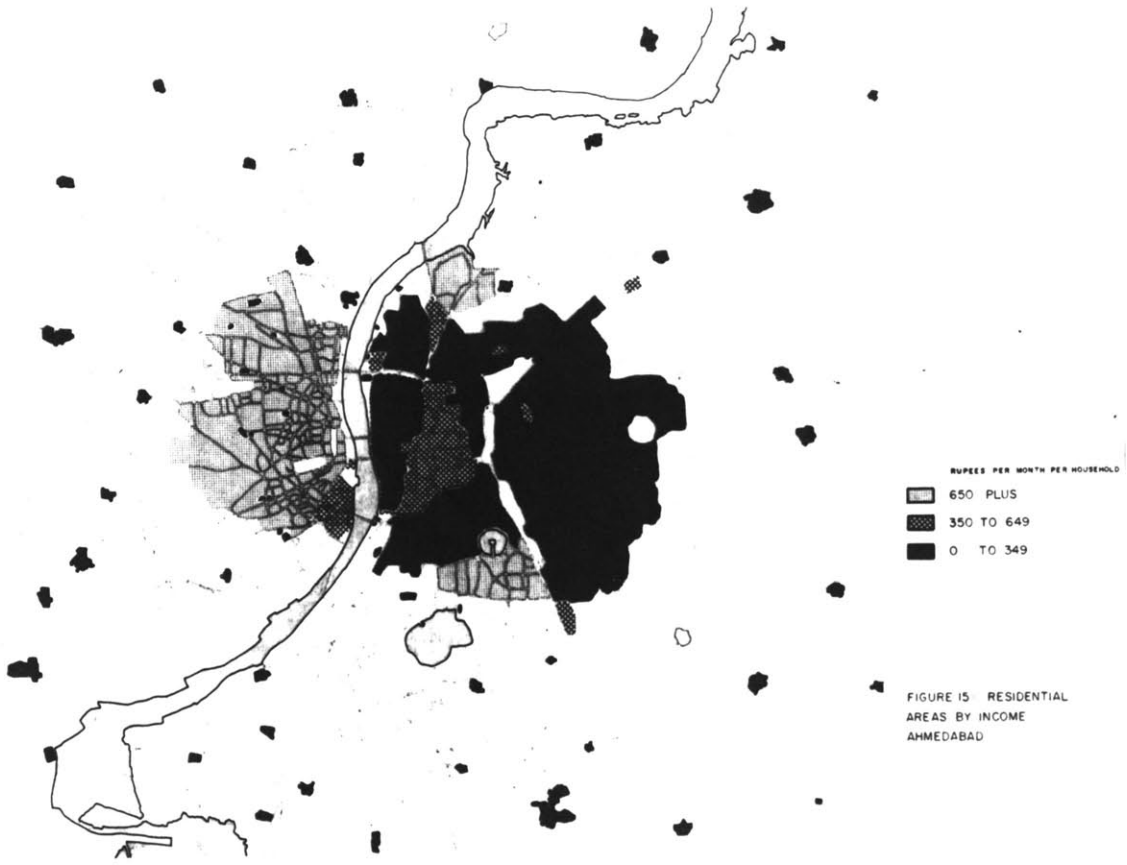


FIGURE 15 RESIDENTIAL AREAS BY INCOME AHMEDABAD

style is a pathological condition.

This also brings up the distinction that must be made between dwelling components and situation. Dwelling components are physical commodities used by individuals and households for shelter, status, location and security. Situation is where that individual or household stand vis a vis their desired life style. Environment is the combination of the two and its quality is a function of the differential. Persons with different situations may be sharing the same components and to each of them it may be an entirely different environment.

Figure Fifteen shows the distribution of residential areas by income. The bungalow suburbs make up the upper income group (upper 7%) and this sector covers just over one third of the area of the city when Shaibaugh and Konkuria Lake areas are included. These areas also have average densities which are less than one tenth of the densities in the walled city and they consume almost 50% of the income of the city. Some moderate income families live on the western side of the river, and many more live in the walled city. There are also pockets of wealth in the old city, but these areas are reducing as the wealthy continue the move to the suburbs across the river or up to Shaibaugh. Low income households are found throughout the walled city and are heavily settled outside the wall on the eastern side. Pockets of low income households are clustered on the western side.

Figure Sixteen shows the location of settlement types of which I have identified five. Figure Seventeen describes on a

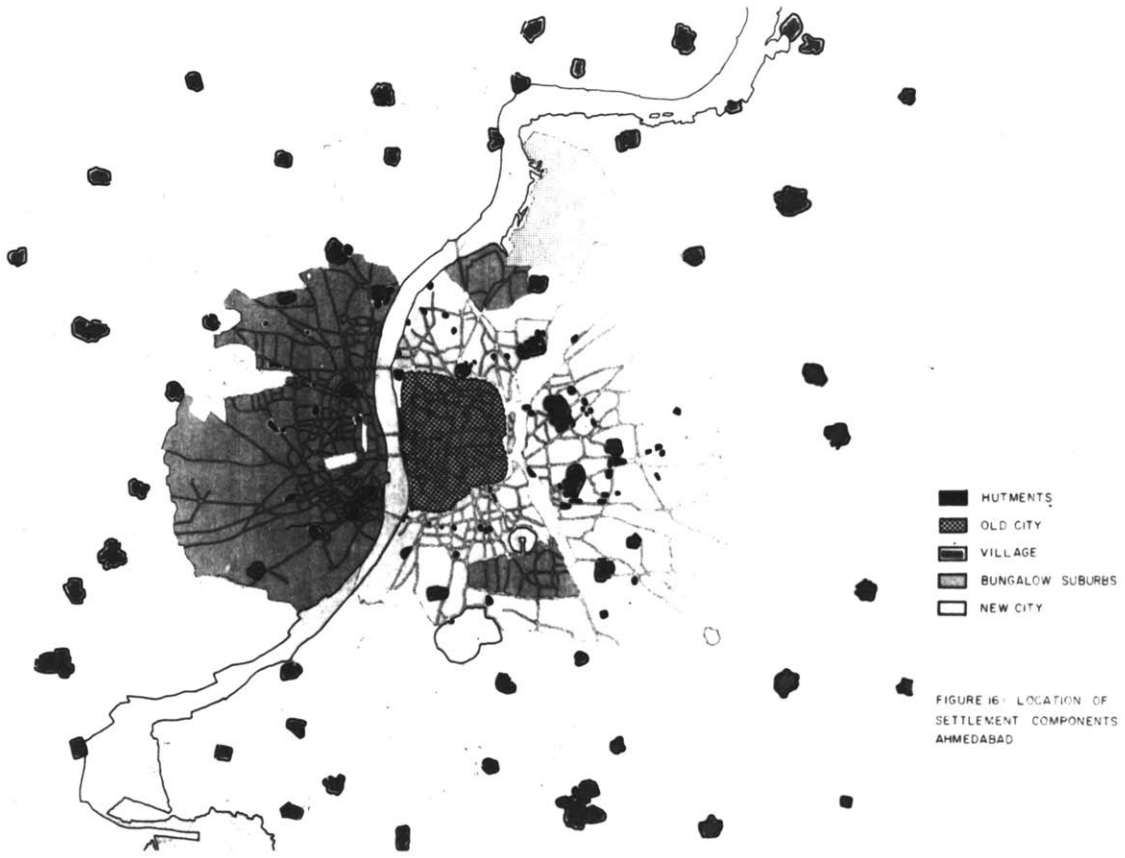


FIGURE 16: LOCATION OF SETTLEMENT COMPONENTS AHMEDABAD

FIGURE SEVENTEEN

FACTOR	DWELLING COMPONENT				
Type	Old City	Spotaneous	Suburb	Indegenous	New City
Typical Pattern	a. pol b. muslim c. area	hutment	a.bungalow b.duplex c.condominium	village	tenament
Organization	caste,guild associations	caste	society	Panchayat	Associations
Builder	private	popular	private	popular	private popular public
Income Level	1/3moderate 2/3 low	low	high	low	low
note: high=fifth quintile, moderate=fourth and low=first to third quintiles.					
Household Size	5.5	5.32	4.86	4.5	4.6
note: National average size family=4.71; National average sizes households: Rural=5.5; Urban=5.84.					
Family Type	single extended	nuclear*	nuclear	extended	nuclear*
note: * means usually clustered with other nuclear households of the same family.					
Women/ 1000 Men	875	854	812	815	735
note: city average = 805.					
Source of Security	F.,N.P.	F.,U.P.	F., U.P.	F., U.P.	F., N.P.
note: F=family; N.P.=Native Place; U.P.=Urban Property					
Percentage Who Rent	71	56	20	35	91
LAND USE	65% R 20% C 10% O 5% S.I.	95% R 5% C	100% R* *shopping & public in planned zones	85% R 10% A 5% C	50% R 30% I 15% S 5% C
note: R=residential; C=commercial; O=offices; A=animals, I=industrial; S-service; *planned.					
DENSITY people/ acre	390 (260)	750 (712)	35 (18)	400 (340)	600 (300)
note: ()=net densities after adjustment for inclusion of other land uses					
% of City	30	9	7	7	45
UTILITIES	D	A	E	C	B
note: A=no utilities; B=communal W.C.'s and taps; C=water, some electricity, no W.C.'s; D=water, all access to W.C.'s, some electricity; E=all utilities.					

comparative basis some of the data we have on these settlements. These then become the dwelling components of the city.

The Indian city generally has components (such as the Old City and villages) which make up an integral part of metropolitan areas. Unlike Latin American Cities and African cities and like many European cities the growth process is then one of adapting older components to new needs and adding new components to old ones. With a low level of urbanization in India (18%) and extreme economic conditions in many rural areas this process can be expected to continue.

If we look at Ahmedabad (see Figure Eighteen) as an example of this process the pattern will become much clearer. The base structure of the city is the Old City and village network immediately surrounding the city. It can be seen that the Old City started with the fort, Badhra, and that a small town built up around it and then a city within the present walled area. The villages were generally in existance at the time of the construction of Badhra (1411) but new rural settlements called puras were built by the Shah where small palaces and Mosques were built as an outer defense line and as means of paying off friends (the pura and its surrounding lands were gifts from the Shah). This indigenous structure of the city persists today. The practice of building bungalows outside the city wall was begun by the British in the late 19th and early 20th century and is a predominating practice today among the upper middle class. The cantonment usually contains such bungalow suburbs as well as military installations.

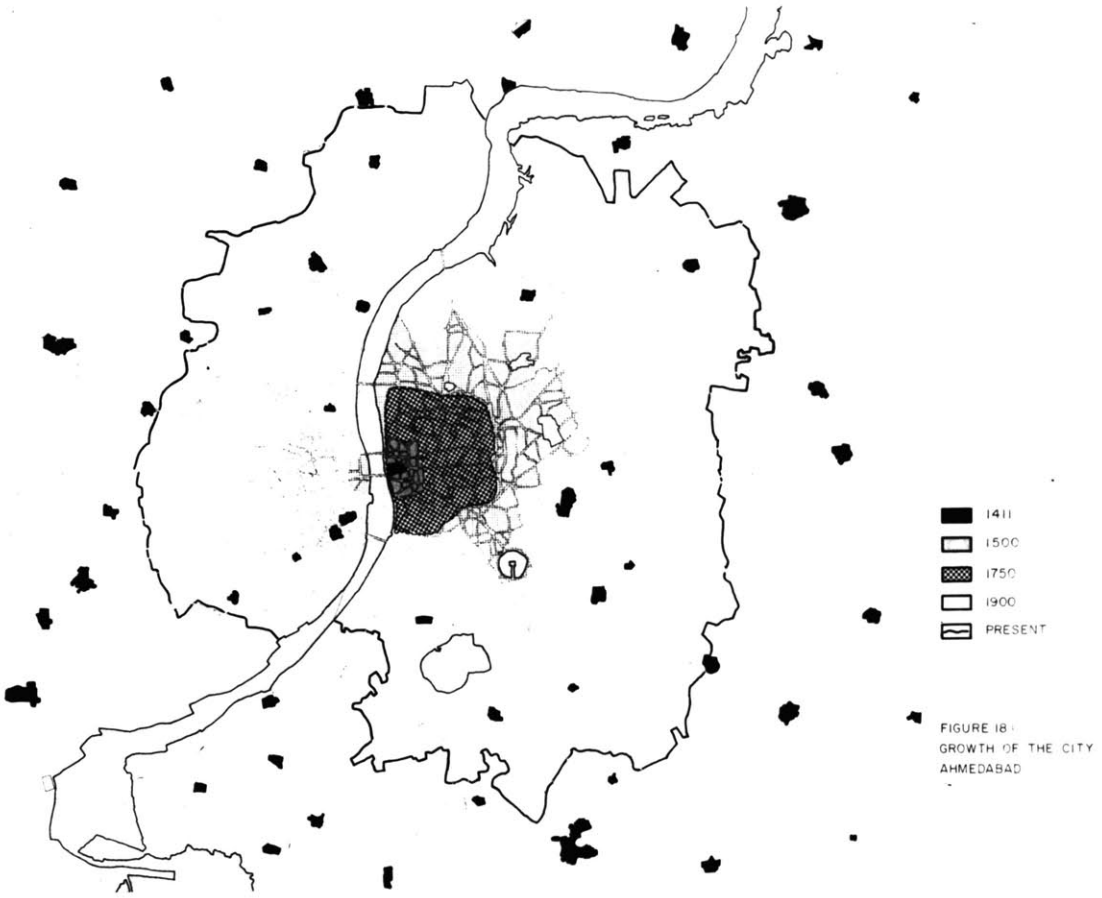


FIGURE 18 :
GROWTH OF THE CITY
AHMEDABAD

Hutment areas or busti areas as they are often known are spread in clusters over the area of the city. They make up a smaller component than their counterparts in Africa and Latin America, but we can expect them to become more predominant as the rate of urbanization increases. Calcutta seems to substantiate this notion. A component which we could call the new city is the growing tenement area to the east and located outside the wall of the city. It is presently the most rapidly growing component and almost 50% of the population lives in this area. Its growth as that of the old city can be expected to stop as they are becoming saturated.

If we are to understand processes of growth and change in the Indian city we must know how these components interact and what is their nature.

The Old City

Many cities in India contain ancient walled sections which persist from the Mougal period or even earlier. These areas have a definite structure and Ahmedabad illustrates this well. In Ahmedabad the old walled city, which covers two square miles and contains about six hundred thousand inhabitants (seven hundred and fifty projected for 1971) is divided into highly structured social groupings and commercial networks. Religion is the basis for the first social division of areas of the city, with the Muslim community generally inhabiting the wards along the river and the Hindus inhabiting the pols in the eastern two thirds of the city. (See Figure Nineteen which illustrates a

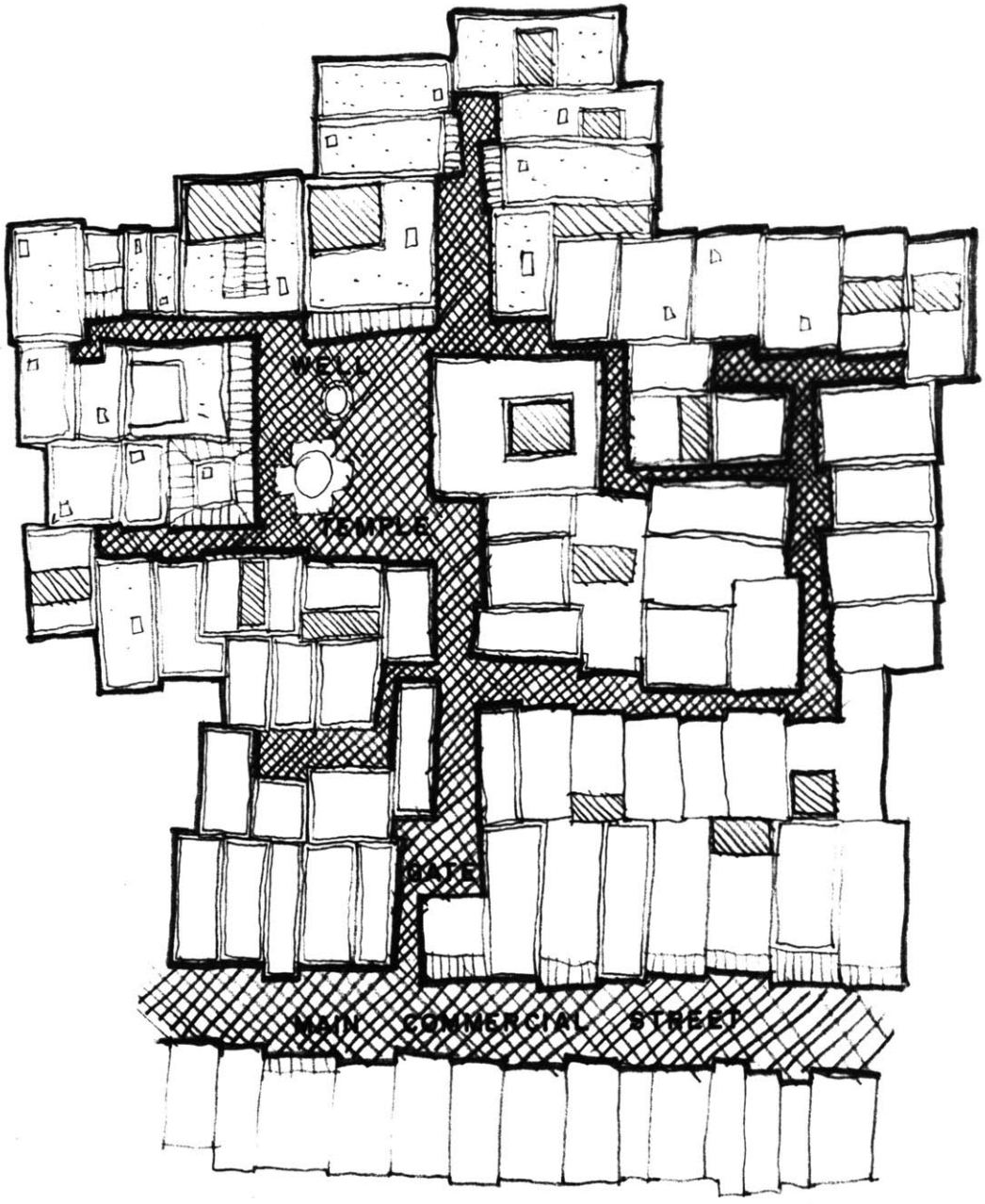


FIGURE 19 : TYPICAL POL

"typical" pol structure.)

There is one main entrance with a gate off the commercial street. A street leads back to an open space where the temple and rich families live. The well is located here but taps are now found in front of most structures. Electricity extends to many dwelling units within the walled city. W.C.s though in limited numbers have taken the place of the night soil system over the majority of the walled city and this is especially true of the pols. The pol is a physically contained unit backing houses up one against the other on three sides and against commercial structures on the main street. Low income families tend to locate close to this commercial edge or in the small ways that run off the main street to the square and temple. Low income families are now moving into sub-divided upper income homes. Generally the pols are made up of caste and guild groups. A Sheth or money lender may be the leader and his house will be promenantly located on the main open space. Structures are three, four and five stories high. With the coming of industrial activity to the city in the late nineteenth and early twentieth century brick and concrete homes were built in the pols by mill owners and managers. More redently apartment houses have been built on the narrow lots, some of which are eight floors high. In many places the public ways have been covered over by extending a room from one dwelling to another. The roof tops are used for sleeping, and there is a separate world up there where neighbors can freely converse in the silence way above the streets of the city, or they can just gaze from one roof to another and off to the land-

scape of the city's building tops. Generally, the houses are inward focusing with a court or deep shaft of open space which penetrates the entire house from above. The main living floor is located four or five feet above the ground on a plinth. This plinth usually extends out in front of the house forming a veranda which the next floors are built over.

The social life is highly structured by religious, caste, guild, class and family customs. There is a great deal of community life in the open spaces and the verandas are meeting places for conversation and good times. The ways are congested with children playing, an occasional motor scooter and now and then a cow. The pols are tied together by a network of doors which open from a house in one pol to a house in another to allow passage in times of emergency and sometimes for a casual visit to a friend in the next pol.

The main connection though is on the commercial streets which lace across the city, usually terminating at the gates of the wall. These streets are lined with shops which are in width from eight to fifteen feet wide, and in the opening of a wider shop one often finds a smaller shop built into the opening which sits in its own box and may sell cigarettes or candy. The structures which line these main streets are from four to six stories high. Relief Road is an exception, being the major commercial street in the Gujarat region, and the location of the headquarters of many firms and industries. Here structures are often of concrete, may have elevators and are up to ten stories in height. On the commercial streets the upper floors are used

as professional offices and for small service operations such as printing shops. As was traditionally the case many tradesmen still live above their shops, but many stay in the pols or have moved to the bungalow suburbs. This network of commercial streets is qualitatively differentiated in that commercial areas tend to be specialized. Thus, the area around Ratan Pol is known for its fine cloth, another Pol for silver, and so on. Nodes of activity are formed at several places in the city where major commercial streets meet or in particularly accessible points on the network like Mante Chowk, the main market place of the city, and Trendawaja an active business center. Mante Chowk houses, besides the main market, the stock market and numerous shops. The streets in the area are full of hawkers in the day time and at night snacks and ice cream is sold from carts. The area around Bhudra, the original citadel of the city, is also taking on a specialized life. Here most of the main banks and financial offices of Gujarat are located. Manufactured consumer goods are sold in the shops in this area and many restaurants are found.

Similar nodes of intense commercial activity are found where the gates to the city connect the Old City with the new. These sub nodes of intense commercial activity are found where the gates to the city connect the old city to the new city. These sub-nodes tend to sell most consumer items and some food stuffs. Tea stalls abound in all the nodal points of the city and they are prime meeting places for young men and old who sit and discuss all that is important.

The majority of Ahmedabad's Muslims live in the walled

city and they are clustered together in residential areas in the western part of the walled city parallel to the river. Unlike the Hindu pols the moslim neighborhood faces on a street much as does a neighborhood in the west. The Mosques also face on the streets, unlike the Hindu temples which are hidden away, and the main Mosques are on the major streets in the most prominent places of the city. Because of the custom of purdha the house design also varries in order to allow the women their own world around the court and in the rear of the house.

The wall which once surrounded the city is mostly torn down, and like many European cities a ring road has replaced this wall or runs along its edges where it still persists. This road is lined with many shops, warehouses and workshops and storage yards. The railway station and freight yards fall on the eastern edge of this road and it is an area of significant activity.

The pols, the Muslim neighborhoods, the commercial streets and its nodes, and the walled ring are all undergoing change. From the pols the richer families are leaving for the bungalow suburbs. Generally they are not selling their homes but are subdividing them for rental units. In some places they are being town down and apartment buildings are coming in their place. The density is thus, going up and the income level of inhabitants is going down and the communities becoming more heterogeneous as the new households are formed from low income migrant families, who may be of similar caste, but from different areas of Gujarat or even outside states. Physically they are becoming more open ended as new connections are broken through from one pol to the

next. In some cases commercial activity is introduced and in a few cases the automobile has invaded. The poorest migrants (bottom quintile) and industrial workers do not inhabit the subdivided units as much as do government clerks, clerks in the mills and office workers (second to top quintile). But the poor are there (generally coming from the 3rd and 4th quintiles), on the streets, and in the densest and most run-down structures, which include the Muslim areas and the neighborhoods along the wall on the north and east. Demographically, extended families still are the predominent household type in the Old City, but there are an increasing number of single males from age twenty to thirty-five. The average family size is 4.75 persons and the average dwelling is just over one room per family. The length of urban residence is going down.

Larger "Europe Shops," cinemas and office buildings are coming up on the commercial streets and are beginning to dominate in the old nodes of the city. While the government is locating the majority of its functions in the new capital city, Gandhinagar fifteen miles north of the city, its offices continue to grow within the city, as do schools, clinics and professional offices. Hotels and restaurants in the western sense are becoming noticeable in the city and even a "department store" has now opened.

Street sleeping on the commercial streets is a growing phenomena and the commercial network is becoming more congested with motor rickshaws, autos, hand pulled carts, bicycles, pedestrians and hawkers.

The Village

Besides the Old City with its traditional neighborhoods, the village is the only other settlement form which persists from an earlier time and pre-industrial urban system. During the Mogul Period in Ahmedabad it was the practice of the Shah to give out parcels of land to favored subjects to be developed as administrative cores and to act as a first line of defense of the city. These settlements, known as puras, grew into villages many of which persist today along with the agricultural villages which cover the state of Gujarat. These villages are spaced from a mile to two miles apart and some are near the city wall. Today they form commercial nodes outside the city walls and thereby give structure to the newly urbanized areas.

Navrangpura is a good example of such settlements which are generative points in modern day Ahmedabad. Here a post office is located, a major city bus station, a telegraph station, private clinics and it is the major commercial center for the surrounding area. The old puras had a mosque and small palace. In Navrangpura the mosque still remains and the village that grew there is still evident even though the area is entirely urbanized. A Jain temple is nearby, a restaurant, and several canteens are active. Fruit vendors, a bicycle repair shop, a dry cleaner and food stuffs shops are there.

Vastrapur, is an agricultural village now in the city limits. Unlike Navrangpura, Vastrapura was an agricultural site until very recently. Investigation of the village land ownership pattern ten years ago and today reveals a striking change of the

land sub division pattern, as well as land use changes and tenure changes (see Figure Twenty). Today almost all the land previously used for agricultural purposes is owned by urban land development interests and urban institutions. The inhabitants have mostly found jobs in the city as peons, watchmen, or laborers. Some of the castes have been able to transfer their work to urban conditions and have thereby raised their income considerably. Outsiders now rent rooms and space from the original inhabitants and the village is more diverse than ever before. Caste living and communal traditions persist. Even though the village has been integrated into the city the Sarpunch still leads the community. Like other Indian villages Vastrapur has a panchayat (or local government) with a panchayat building, a central well with water tank, a school, a temple and a canteen where one can have tea and snacks. Several small shops are there which sell basic necessities.

Because the village is now part of the city of Ahmedabad which allows it to be tied into the utilities network of the city and because the village has participated in the municipal political structure successfully (voted Congress) it has received electricity, a bus stop, a water tower, and taps spaced about the village which run for two hours two times a day. The people use the surrounding open space as latrines as there are no W.C.s. Even though the municipal bus line stops at the village, it is too expensive for daily trips to and from jobs . . . but it is used for special shopping trips or for the boys to go to the city for excitment. A developer has built a row of shops

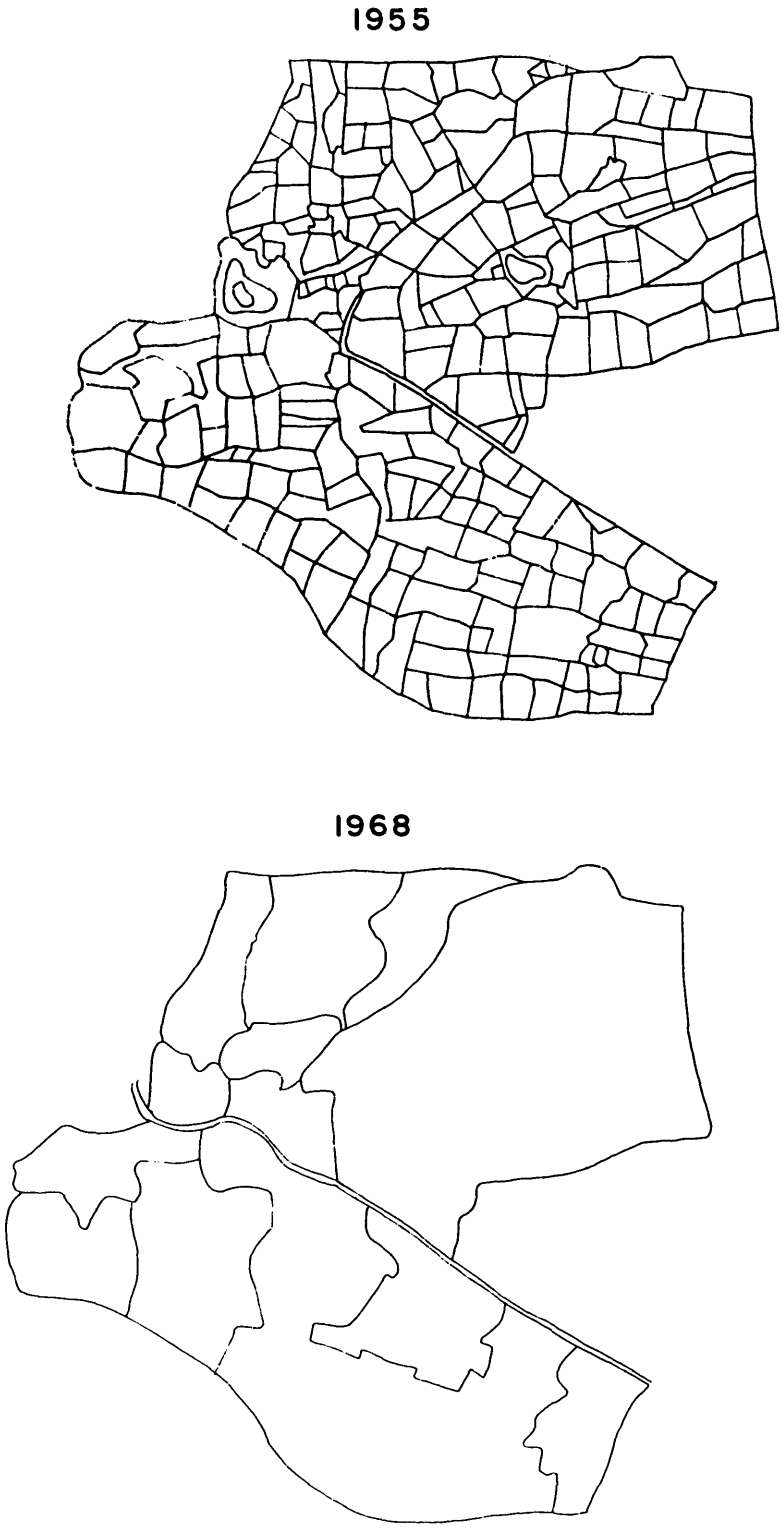


FIGURE 20: LAND OWNERSHIP PATTERNS=VASTRAPUR

on the main road, but none are yet rented. The main road is paved to within a quarter of a mile of the village.

Within ten years one can predict that the village located to the west of the city will be surrounded by bungalows, institutional buildings and places of business . . . these establishments have already acquired the land. Were it on the north, east or south of the city we could expect in ten years that it would be surrounded by hutments. The village has already enjoyed a higher income due to the new accessibility to the city for sale of village crafts and agricultural products, mainly milk. Many villagers work in bungalows which are now in walking distance and others who have bicycles ride to work. The number of recent migrants who are now living in the village has lowered the age and average size of families.

Hutments

Hutments in Ahmedabad are of two types. The first type is one where the residents illegally squat on property that does not belong to them. In the vast majority of cases it is land that belongs to the public sector. Such settlements are found along the river's edge, along the railway tracks and on open space earmarked by the government for some future development. In the second type the hutment dwellers rent plots of land from the owners or from a person who came earlier and is himself squatting on the entire property. In both cases the individual families construct their own homes. Most such dwellings are of one room whose walls are mud and whose roof is of odd pieces of tin and tile.

Most living is done in the out-of-doors and there is no clear boundary between the area of one hut and the area of another. Each hut sits in open space which is communally shared. In the more dense hutments the dwellings are along paths which move between the mud walls and plinths and a single household may only have a single room ten feet by eight feet and a plinth of built up mud of the same size.

The hutments seem to be an old component of the city. Hamilton on his tour of India in 1828 described Ahmedabad as a vast assemblage of mud and straw huts. Shapur, a major settlement on the river is mentioned as a place where Gandhi held prayer meetings in 1918, dates back to the nineteenth century. The same phenomena probably existed even centuries before, but as additions to the villages which lie close to the city rather than as distinct entities.

Socially there are differences also. Some hutments are single caste communities. In such cases the inhabitants will have come from the same region or village. The community organization in these settlements is structured around traditional patterns with the caste leaders handling relationships with the outside and mediating internal disputes. In such conditions the maintenance of caste traditions is given preference over problems of living in the city. Caste elders will deliberate more seriously over the correctness of a marriage than the ways in which the community can get water or drainage. Other hutments are multi-caste, but with the boundaries between caste groups clearly defined. This definition is accomplished by backing up one row of huts against another or simply by facing one group of huts away from the

others. Community organization is most fragmented in these settlements with each group having its own leaders and concerns.

The hutments of Ahmedabad are spatially widely distributed around the old city's outer perifery on both sides of the river. The settlements rarely have more than three hundred dwelling units which are constructed in the popular sector and are poorly served by urban services. Densities reach the highest in the city and are sometimes at 750 persons per acre on one level. Some of the communities have a few public taps and one has public latrines of which most are broken. In many areas hutment dwellers will be found going from house to house begging for water, and it is often these near by homes that pressure the city to provide taps. The streets or open fields serve as latrines and in the dry climate the system has not yet shown itself as a great problem.

Of all the dwelling components of the moden Indian city this type offers the least in terms of land tenure security and services. But it does allow low income unskilled laborers to live in communal groups, often in areas of the city dominated by other income groups, giving them access to domestic or other jobs they would not have if they lived in the city center.

Most hutment dwellers do not send their children to school, nor have they been themselves. Generally they are laborers and household servants. Many families have lived in the hutments for generations, yet they are growing slowly and newcomers adapt themselves to the existing pattern.

These settlements should not be confused with the consolidating settlements of Latin America, which form a distinct

dwelling component. These components are rather an extension of the center city slum.

Bungalow Suburbs

In the twentieth century Ahmedabad has expanded extensively outside its old walled boundary. The spacious, planned developments provide a new type of life for the upper quintile income group of Ahmedabad which is Western in spirit. Characteristically the bungalow suburbs were planned as cooperative enterprises and in this way are like the pols of the city. They are often organized by a caste group and in many such developments a temple is built. Gillion (Ahmedabad, page 152) points out that this is an excellent example of orthogenetic change in an Indian city.

Suburban lots are large and the dwelling usually sits in the center of the lot leaving useless side yards between the homes. Most of the structures are masonry and of modern design. Yards are often well planted and a "carport" is common.

Services for the bungalow suburbs are high. All units have water, electricity and W.C.s. Most roads are paved and there is trash collection. Vendors push their carts through the area which carry fresh vegetables, fruits, pots and pans, and milk sellers come two times a day. Dhobis, the traditional washermen, come at least once a day to take away and bring back clothes. Schools and clinics are accessible to the inhabitants.

The inhabitants of the bungalow suburbs are mainly from professional and managerial families. They represent the upper income group of the city and many of them have come from the

pols. Because Ahmedabad is a growth center many people have come from the "outside" of whom a large number are technical and professional people. Car ownership is high and most children have their own bicycles.

The first such settlement started north of the city in the British Cantonment and just south of the Cantonment where wealthy Ahmedabadis first moved to distinguish themselves from those within the walls.

To the south of the city around Konkaria lake there is another large area of bungalows, but by far the largest such area is the area to the west of the river Sabramati, locally known as the Ellis Bridge side. These areas house about 7% of the inhabitants of the city, but cover about 30% of the land area of the city.

Three physical patterns predominate:

1) The single family dwelling is similar to its western counterpart. These are found as individual ventures on a private tract of land or more often in a Society where a group has formed and is developing the land together.

2) Single storied duplex units where the lot is shared by two families. These units are usually clustered in carefully laid out rows on very small lots and surrounded by a wall. The remaining street space is used communally.

3) More typical of recent cooperative venture is the walk-up condominium apartment building. These structures are usually four stories high and leave an open space of 25% of the site for community life. The entire complex is then walled off with a

gate at the entrance.

The New City

The "New City" is a term used to describe the tenement area which now surrounds the walled city on the eastern side of the Sabramati River. It is the fastest growing and most uncontrolled component of the city. It is characterized by its mixed use, low income, and tenement development. The area is adjacent to and in fact surrounding the industrial area of the city. One room houses have been built by the mills for employees. Other inhabitants of the area rent one room dwellings which have been constructed by speculative developers. The municipality has also constructed some housing here for low income municipal employees.

Services in the new city are low. There are communal W.C.s in some areas and occasionally one will find a water tap. Some streets are lit at night, but rarely is a home. Most streets are unpaved and dusty.

The majority of the inhabitants are industrial laborers, peon class clerks, and manual laborers. Most work in the immediate vacinity.

Tenements in this area are intersperced by warehouses, small industries, commercial development along the main roads, and the large textile mills. Many service workshops are located here and the rail yard of the city runs by much of the area.

Community life seems to be limited to family relationships and neighborhood, caste, loyalties. Many outsiders live in this

area and communal tensions are the highest in the city. The household size is 4.6 which is low for the city. The number of females per 1000 males is the lowest in the city (735) and is the only case where this index falls under the city average (804). In addition most of the households are nuclear and there are many households made of bachelors living together. 91% of the dwelling units are rented and the density is high (on a fine grain up to 600 persons per acre while the gross density is 300). 47% of the population of the city lives in this area.

The area is characterized by a high concentration of employment areas intersperced with residential areas, (30% industrial, 15% services and 5% commercial). As the New City wraps around the old city it also provides easy access to the job market of the city center itself.

Like the Old City this sector of the city is becoming saturated. A vast majority of the dwellings are single room rented facilities. The highest concentration of hutment dwellers live in this area and most of the land for such activity is under use.

CHAPTER THREE:

URBAN LAND CONTROL

Land control is perhaps the major vehicle for implimentation of urbanization policy on the metropolitan level. This happens through formal controls which directly control the use, tenure and exchanges of land and in indirect controls such as the investment policy of local government bodies who by their actions direct the growth of municipalities. Housing policy, taxation and laws which seek to aid the development of industry all effect the control of land indirectly and therefore become part of our discussion. All of these controls, direct and indirect, work toward a future image of what the city should be like.

As we shall see in Chapter Four, use and tenure of urban land is an essential consideration of the inhabitants of India's cities. The goals of these people will be illuminated later, in a more detailed discussion of households. The degree to which land control is expressive of the desires of the people is of utmost importance. The coincidence of goals or expectations with policy and existing situations is essential if growth is to continue without costly social friction and continuous institutional breakdown which can be destructive to a poor society.

At a national level India's goals can be defined as "human welfare, welfare being considered in the broadest sense to include not only material goods, but also human dignity and cultural values." (B. Harris, India's Urban Future, ed. Roy Turner, page 261). There is a history of socialist rhetoric dating from

the "three fold ruin" of India (moral, spiritual and material) of Gandhi's early days in the Congress, through Nehru and presently with the "new" Congress. All of this rhetoric implies a direction for development or a development strategy based in the good of the people and not special interests. The rhetoric can be carried to the local level and it carries with it a committment to socialism and human welfare.

But the rhetoric has no urban policy to match it and the defacto acts of the bureaucracy work as a policy with little sympathy to general levels of human welfare, and as we saw in Rom Setya's description of the walled city of Ahmedabad and the bungalow suburbs there is a widening gap between the reality of urban life and the rhetoric of the politicians.

Personal goals of aggrandizement perhaps weigh more on reality than Gandhian ideology which discredited itself from urbanism in its "back to the village" character and its open distaste for the city and the immorality it is to bring. Yashodhar Mehta points to the individual in the following characterization which gives a clear picture of the commercial motivations of the people of Ahmedabad:

> "A poet has sometimes observed that wherever there is a Gujarati there is Gujarat. This may mean anything or nothing, but I may as well say that wherever there is money or even the possibility of money, there always is a Gujarati. The lure of money takes him to all parts of the world and to all sorts of things. Wherever he scents money, all his faculties become immensely concentrated and like a yogi he applies all his wonderful powers of concentration to the extent of samadhi. God then reveals himself through money and the Gujarati is in ecstasy. He becomes a sort of Paramahamsa, all smiles, sweetness, good words, amiability, etc. He goes on buying and selling, invest-

> ing and reinvesting, and creates, by his own concentration and perseverance, heaven on earth, if not for all, at least for his family; if not for his family at least for himself. This is not a mean achievement." ("About Ourselves with Apologies. We Gujaratis" III.)

Ahmedabad is thus the richest provincial city in India. It boasts over one hundred textile mills and has recently diversified its industrial base into pharmacuiticals and plastics. It has the highest percentage of population employed in manufacturing of any city in India (Census of India, 1961) and has been undergoing rapid development over the past one hundred years. While it is advanced over other Indian cities in many ways, it is certainly not atypical of the direction and goals of urban development in India.

In addition to the saintly rhetoric, and the drives of a highly organized manufacturing center, there are cultural constraints on the individual which effect social change and implied definitions of development. These constraints act openly through family, caste and communal customs and rules. They are more exclusive than directive. They effect the organization of industry, residential patterns, and individual habits.

Gillion points out (Ahmedabad, page 93) that "The agents brought to the management of their mills the ideals and qualities of generations of financiers and merchants. They regarded their firms as family trusts to be conserved. The managing agents not only had their relatives as joint partners in the agency and as shareholders in the company but also employed them on the business side as well. Thus the caste system and joint family system found new avenues of expression in a modern context, as they

have done in many other aspects of Indian life."

Gillion also notes the effect of residential patterns in his discovery that many workers did not live next to the mills in which they were employed (p. 104). "The settlement pattern was not as haphazard as would have appeared to an outsider; generally the workers lived with their kin in particular localities and would decline to leave them in order to be nearer a particular mill."

The effect of caste on residential location was discussed in detail earlier, and it was seen that this social structure had its physical manifestations in the form of the city.

The question is not then how to start development in a backward society, it is how to set new goals for development on a metropolitan level, in a highly advanced society with a growing economy and rapidly shifting demographic structure. As William Doebele points out, "the facination in the art of institution building in the developing countries undoubtedly lies in just this judgement: to be able to determine precisely how rapidly organizational reforms can be made without destroying the essential continuity of the country's administrative tradition." ("Legal Issues of Regional Development," in Planning Urban Growth and Regional Development, ed., Lloyd Rodwin, page 295).

In order to understand the continuity of planning tradition and particularly interest in urban development a short history of such efforts in Ahmedabad would be helpful.

The history of urban development in Ahmedabad falls in three phases. From 1817 to 1883 the city was ruled by collectors

who represented the British rule in Bombay and acted in cooperation with leading citizens, members of financial and commericial elite and government servants.

The second phase followed Lord Ripon's local self government reforms which evolved into present day popular government.

The third phase saw its beginnings in the Land Acquisition Act of 1894 and even earlier in the Sanitation Commissions and persists today in a number of nation wide laws which seek to tie urban planning into a national framework of goals and policy. All three phases to some extent over lap, though the first phase is virtually complete and the last stage is coming more into its own.

The rise of the Collectorship in Ahmedabad followed a period of chaotic rule by the decaying Mogul empire and then by the Marathas from the south who cared little for this foreign city.

In the early period of the Collectorship citizens worked together to form organizations which brought forth needed improvements. The first such organization was the Town Wall Committee whose initial goals were the protection of the city and the collection of taxes which had been generally evaded or misused under the previous rulers. The Town Wall Committee was the predecessor of the Ahmedabad Municipal Commission, and it dates from 1831.

The Collector had made the first municipal improvements in the city by bringing a fire engine from Bombay and initiating vaccinations. But in 1831 with the encouragement of the Nagarseth (a seth is a money lender and nagar means city or head, and since this was a commercial city the Nagarseth was the leader of the

city), the Kazi (whose family under Muslim rule traditionally ran the bureaucracy), the Judge and the Collector joined to form the Town Wall Committee to repair the wall of the city and to collect taxes to make the repairs. These four men plus the Acting Collector of Sea Customs of Gujarat made up the committee and they had the support of the leading citizens of the city.

After the work on the city walls was completed the Town Wall Committee asked for permission to continue collecting taxes to carry out new projects (1842). The taxes were in the form of increased town duties, as the citizens rejected the notion of a house tax which would be collected by castes.

With their expanded power the Town Wall Committee embarked on many necessary projects. These included watering the streets to keep down the dust, the construction of a dharmsala (rest house for travellers), feeding of the poor, construction of a grain market, removing of refuse heaps outside the wall near the main gates and provision of more water to the city. These activities began in 1842.

In 1857, 400 watchmen were hired by the Town Wall Committee to patrol the streets and to man the walls. The Mutiny of that year probably explains the concern for law and order.

The British Government in Bombay opposed the feeding of the poor on the grounds that it would attract all kinds of unhealthy individuals to the city. This was carried on then by individuals in the community.

The evolution of the Town Wall Committee was connected with the history of town duties and restraints on trade within the

city and municipal government in general (Gillion, Ahmedabad, page 113).

In 1844 the Bombay Government put forth a Draft Act which allowed the collection of a house tax for the improvement of towns and cities. This gained the immediate response of the people who had always opposed a house tax, which would be collected by the Bombay Government and redistributed again to the towns, and in the same year leading Ahmedabadis signed the petition of several hundred rejecting the Act.

Due to this opposition and violent reactions to other forms of taxation the Bombay Government stated it would not assist the improvement of towns unless they came up with voluntary sources of funds themselves. The Act (XXVI) of 1850 incorporated this principle of voluntary organization and improvement under the initiation of the people themselves and in 1852 the city accepted the act.

The Act was acceptable because the people wanted an expanded committee over the Town Wall Committee and the Commission the Act called for would have a wider base. The first meeting of the Municipal Commission was held in 1956, even though the Town Wall Committee did not retire until 1858. Thirty Municipal Commissioners were appointed.

Though the Commission continued the work of the Town Wall Committee it brought order and fairness to the operation of the city. Its first moves were to police the collection of taxes at the city gates and to see that all citizens payed their fair share, with no exemptions to the leading families as had been the

accepted practice in the past. In 1864 it voted to give preference to those who had passed civil service exams for municipal employment.

The major activities of the Municipal Commission included the installation of underground drainage and the extension of piped water. But the Commission's work also included maintaining fire engines; burning of street lamps (Kerosene from 1868 on); watering roads; scavenging; collecting taxes; financing vaccinations, hospitals and clinics; and, from 1862 on instituting vernacular and English schools.

In 1874 Ahmedabad became a City Municipality under the Bombay Municipal Act. This allowed the people to elect non official members to the Commission and was the first step in the second phase of the administration of urban development in Ahmedabad. But before this evolution from a Town Wall Committee of self chosen officials to an appointed Municipal Commission to an elected government was complete, the first steps of government planning on a national level could be seen in the Sanitary Commissions of 1864. While all of these evolutionary steps were taking place in administration, local government was gaining responsibility for more and more areas of urban development.

In 1863 the city made its first official city survey. In 1866 the Commission installed steam pumps to replace bullox that ran the artesian wells of the city water system which had been initiated in 1849. In 1871 the Commission increased octroi to help pay the police force. In 1872 Kankaria park was restored from its earlier Mogul period. The park included the 34 sided

reservoir covering 72 acres with an adjacent garden.

In 1873 the people became antagonistic to the Commission and in the following year, as noted earlier, the city became a Municipality with elected non official members to the Commission. From 1875 the city had its first full time health officer. In 1877 a new park was constructed at Karanj and the city contributed to the construction of both Ellis Bridges in 1870 and in 1892. Two new gates were constructed as well as a municipal office building and a vegetable market. In 1879 the city closed deep well privies which were infiltrating the water system.

In 1882 the new Liberal Viceroy, Lord Ripon asked the states to improve and expand local self government and the provincial governments were urged that the local governments be popularly elected. In 1883 the first popular elections were held in Ahmedabad, but they were only to elect half of the Municipal Commissioners. In 1885 the Gujarat Sabha was formed which took the place of the Ahmedabad Association, which had represented the people in earlier British times. The Gujarat Sabha demanded more local control. In 1888 these groups petitioned for more municipal control, including the right to elect their own Municipal President and to have special representatives for the educated classes. The right to elect two representatives from the educated classes was given, which made an elected majority, but the President was still appointed.

In 1882 the city had a leper hospital, a lunatic asylum and Hathsing and Premabhai hospitals were completed. Three major dispensaries were constructed by this time also. In 1886 the city Survey Office was opened and Inspectors were given the right

to order the removal of buildings constructed without permission or roof extensions which came within eight feet of each other across a street. In the same period the city instituted a program of road widening by which it forceably bought land and paid for its operations by selling shop frontage along the new streets which ran through the center of the city and became the most advantageous locations in Ahmedabad. In 1886 the paths and ways in the pols were paved and moves for a new water system and underground drain began.

By 1891 the new water system had been installed and the drainage system was being extended to most parts of the city, taking the place of the night soil system. In 1897 separate latrines were installed for Bhangis and Dheds. The telephone came in 1897 followed by electricity in 1915 and the motor bus in 1921.

This brief history brings us up to the 1894 Land Acquisitions Act, and to the beginning of a new phase of urban growth and development in India.

As has been mentioned previously the Sanitary Commissions of 1864 were the forerunners of urban planning from the national level in India. The Commissions acted as technical experts to the municipalities of the providences and their surveys and recommendations were among the first urban development movements which originated from the national level. Town improvement in the early years generally meant improvement of sanitary conditions. The first development in sanitation caused much debate. High castes did not want to drink water from pipes touched by low

caste workers. Engineering and financial problems further delayed improvements.

The first and most important piece of urban development legislation came in 1894 which was the Land Acquisition Act of Bombay. It set the basis for all future developments in this area and set the mood of all subsequent Central and State Acts. It provides for compensation on the basis of market value of the land at the date of the publication of preliminary notification and gives a 15 percentage solatium in consideration of the compulsory nature of acquisition.

The Act provides the following steps in the procedure of acquiring land:

1. Publication in the official gazette under Section 4 of a preliminary notification regarding the likelihood or need to acquire land for a public purpose.
2. Filing in of objections by the public within thirty days of the issue of the preliminary notification under Section 4.
3. Publication in the official gazette under Section 6 of the declaration, after disposal of the objections, by the Government of its intention to acquire land.
4. Inviting claims for compensation from the affected parties and the determination of compensation.
5. Taking actual possession of land by the Government when the compensation award had been accepted by the person or party concerned. The right to appeal to a court of law exists for the claimant who disputes his compensation.

Using the powers of this Act Improvement Trusts were initiated

which were charged with town improvement schemes, expansion schemes, and the provisions of services. The first Improvement Trust was in Bombay in 1898 and was soon followed by other cities. The Hyderabad Improvement Trust of 1912 was different in that it gave powers to two miles beyond the city boundary. Improvement Trusts limited themselves to projects which were remunerative. This meant new areas were taken up with a great deal of interest all over India while the old cities were ignored.

Following the lectures and surveys of Patric Geddes Town Planning Acts were passed, mostly modeled after the British Housing and Town Planning Act of 1909.

In 1914 the Bombay Presidency established the Town Planning Department in Poona and the Consulting Surveyor to the Government became the Head of the Department. This position still exists in Gujarat under the Minister for Rural Development and the office has its headquarters in the city of Ahmedabad.

In 1915 the Bombay Town Planning Act was passed and at first the powers under the act were limited to Bombay, but later were extended to Ahmedabad. The object of the act was (J.R. Nankad, "Fifty Years of Town Planning") "the social amelioration and improvement of the physical conditions in town and country."

The Town Planning Act gave Local Authorities the power of acquisition and to develop lands in their jurisdiction. The act limited the Local Authorities to "suburban and outlying lands." Even with these limitations it gave broad powers to planning agencies. Most important of these powers was the power to pool land irrespective of ownership. After planning the land the

Local Authority would then redistribute the land in the form of plots to the owners. In this way roads and water drainage, plus utilities have been brought to many newly developed areas of the city. The Local Authority was also given the right to reserve certain lands for schools, markets, clinics and recreation. Land could be bought for these purposes at the market value on the day of declaration. The Local Authority in addition had the power to collect a 50% betterment tax on increases in land value resulting from the improvement. Ahmedabad has prepared twenty-two such plans covering 15,000 acres.

The limitation to outlying areas was severe and the Municipal government had little chance to make improvements in the city.

Another problem with the Acquisition and Town Planning Acts has been the length of time necessary for the procedings to complete. With no legal complications, resulting in a court case, the average time has been two years from the date of notification. Paragraph 27 of the Tenth Report of the Law Commission of India notes:

> "Experience has shown that inordinate delay occurs in acquisition proceedings. The main complaint of the Governments is that they are greatly handicapped in carrying out large projects in and outside the Development Plans as well as other works of public utility, as the machinery provided and the procedure laid down in the Act lead to great delays in obtaining possession of land sought to be acquired. For the smooth and speedy attainment of the ideal Welfare State, it is imperative that the Government should be able to obtain possession of the lands needed for their projects with the least possible delay. On the other hand, the complaint from the public is that there are unconscionable delays in the determination of compensation and its payment to the owners of properties. The Finance Ministry has given four instances in which the carrying out of projects has been delayed because they could not obtain possession of the land in time and it has been

stated that acquisition proceedings commended as early as 1943 are still pending."

The Bombay Town Planning Act of 1915 and the Model Building Bye-laws Under Section 298 of the United Provinces Municipalities Act of 1916 are in Appendices A and B respectively. The rights given to municipalities under the Town Planning Act of 1915 allowed it to participate actively in urban development. This included the plotting out of land for building, reservation of land for roads, open spaces, gardens, markets, etc. (See Section Three)

The Town Planning Schemes of which many have been completed in Ahmedabad all come under the powers given by the Town and Country Planning Act of 1915.

The establishment of basic industries in the 1930's saw the massive construction of workers quarters and the resulting new towns such as Jamshedpur.

The War years saw a halt to urban development activities as India threw herself in on the side of the Allies.

Post War planning activities by the Government of India led to the Health Survey and the Development Committee under the Chairmanship of Sir Joseph Bhore. In 1946 the Committee published its report which set forth the thinking which for many years was to influence the direction of Center and State Government activities.

Its major points included the following:

1. That future growth of urban areas should continue under the direction of development plans.

2. The proper authorities should "make a determined effort to

eradicate existing slums and to prevent conditions in which they can grow and thrive.

3. A Ministry of Town Planning should be established at the State level.

4. The Center should establish a cell of experts to consult with other parts of government.

5. A Director of Provincial Ministries of Housing and Town and Country Planning should be established who will review new schemes and bring them under technical scrutiny.

6. Model Acts should be legislated from the Center which give form to Acts which the States may legislate.

7. a. Improvement Trusts in large cities with full time planners should be established.

7. b. Smaller cities should consult with District Health Boards who should have a Town Planner.

7. c. Rural areas should come under the scrutiny of a Provincial Director of Town and Country Planning.

8. Local Self Government Acts should be legislated where they have not been to give the people control of their cities.

In 1947 the Post War Reconstruction Scheme, No. 139, gave cities the right to prepare Master Plans and Ahmedabad at this time prepared such a plan.

The division of Pakistan from India caused vast numbers of people to move from Muslim areas into India and in an effort to settle them the government of India undertook several projects to establish new towns. Faridabad and the new mandi (market) towns in the Punjab are examples of this.

Following 1947 master plans had been developed for Lucknow, Kanpur, Agra and Jamshedpur. Master plans for new towns had been developed for Bhubaneswar, Chandigarh, Gandhi Dham and Faridabad.

In 1951 the first Five Year Plan voiced the necessity to link housing with urban planning.

The Second Five Year Plan saw housing as part of a wider problem of planning urban areas and the economic relations with the regions they served. In particular it called the Center and States to study:

a. Methods of securing planned development in urban areas.

b. Development of civic administration on sound lines.

c. Expansion of housing facilities.

The Second Five Year Plan even went so far as to lay down the following five principles:

(1) "Each State should have a phased programme for the survey and preparation of Master Plans for all important towns. These should provide for integration of land use and zoning principles in each town or area with a view to obtaining the maximum amount of efficiency and economy in working and living conditions. In this connection, towns and cities such as Delhi, Bombay, Calcutta, Madras, Allahabad, Hyderabad, Kanpur, Lucknow, Poona, etc., were recommended for early attention.

(2) "A number of new towns which had recently come into existence and others were likely to develop during the Second and subsequent Five Year Plans as industrialisation proceeded. As early as possible the preparation of regional plans for such towns should be taken in hand.

(3) "Development of river valley areas should be based on careful surveys of the topography, resources and development needs and potentialities. Such surveys were recommended for a number of areas such as Damodar Valley area, Bhakra Nangal, Hirakud, Chambal, etc.

(4) "Town and Country Planning Legislation should be enacted in all the States and a necessary machinery for its implementation should be set up. Further, the expansion of existing facilities for the training of Town Planners and Architects should be undertaken.

(5) "Taking note of a number of programmes in Second Five Year plan which had considerable bearing for urban development and redevelopment the plan recommended that these programmes should be implemented in an integrated manner, with careful attention to their impact on urban and regional development and with reference to their present and future requirements of planning in different parts of each State or region."
(Town and Country Planning in India, page 37)

In 1954 the 1915 Town Planning Act was repealed and a new act, the 1954 Town Planning Act was instituted. The Act for the first time gave Local Authorities the power to purchase land in the city. It also provided measures which allowed Municipalities the ability to estimate the cost of lands to be consumed.

In addition to these rights the city must prepare its own land use plans. After preparing its plans the Municipal Corporation must put it up for public objection, after which modifications will usually be made. At this time the plans are submitted to the State Government for final Sanction. The State Government then again invites the public for objections and with modifications, if any, the government gives final sanction to the plan. Rom Setya notes the process takes from two to three years.

"The Bombay Town and Country Planning Act of 1954 for the first time gave to local bodies in that State, the power to prepare a Master Plan and to endorce it and within the framework of the Master Plan, to prepare subsequently schemes and to implement them. The Bombay Act not only empowered the local bodies to prepare the Master Plan but also required them to do so within a certain period prescribed by the law and submit them to the State Government for approval. Where the local bodies failed to do so, the State

> Government was empowered to have the plans prepared themselves and provide it to the local body for being processed."
> (Town and Country Planning In India, page 57)

The Constitution of India allows land legislation both at the Center and the State level. Generally speaking though Town and Country Planning falls at the State level. It is at this level that new acts are adopted and in a few cases projects are initiated (the Ford Project in Calcutta and the Twin City Project in Bombay). But on the whole the vast majority of the projects have been initiated on the local level in the form of Town Planning Schemes under the 1915 Act.

In some states there has been success using powers under the Municipal Acts for controlling and directing urban growth. Certain powers are provided by the Government of the Punjab in the Punjab Municipal Act to restrict certain types of development and to encourage others that are considered conducive to the development of the community.

The Central Regional and Urban Planning Organization under the direction of a committee of Ministers has prepared a Model Town and Country Planning Law which is available to State Governments. The Law enables States and municipalities to prepare Development Plans and to enforce them. This may happen on the local level or on a regional basis within the State for which a planning authority is made. Implementation is left to the existing Central, State, and local authorities. The Law provides for coordination of all development activities under a State Town and Country Planning Board.

Local bodies are generally weak with regard to urban development

issues. Ahmedabad and Baroda are the only two cities in Gujarat which have their own offices and the Baroda office is the only one of the two which has the necessary political backing to take daring steps, while the Ahmedabad office has done a remarkable job with the carrying out of Town Planning Schemes. In most States the State Office is located in the capital city with branch offices in the larger towns and this is the manner in which Gujarat State has organized its Town and Country Planning office. They have devoted most of their time to developing Master Plans. Generally the State offices have the following responsibilities:

(1) Educating the Municipalities regarding the advantages of town planning and preparation of Schemes;
(2) advising the Municipalities in the selection of suitable areas for preparation of Town Planning Schemes;
(3) giving the required assistance to the Municipalities in the preparation of Town Planning Schemes;
(4) performing the duties of the Arbitrator in addition to preparation of Development Schemes or Layouts in respect of Government lands;
(5) advising Government on housing, slum clearance, regional planning etc;
(6) preparing type designs for the housing of the middle and poor classes; and
(7) advising the Collectors of the Districts in respect of layouts of lands as also in all cases of permissions for non-agricultural use.

In the past the Center Town and Country Planning Expert who was an Advisor to the Government of India was available to consult the states. But the Central Regional and Urban Planning Organization has now been organized under the Ministry of Health as the advisor to Central Ministries, departments, special undertakings, State Governments and local bodies.

The Municipality also has zoning and building regulatory

controls. With its limited technical staff though the zonal and building controls are not effective. Commenting in a letter to me Rom Setya (Head Planner, State of Gujarat) notes that "there is a provision in the legislation to declare certain areas to redevelop, but the land acquisition processes are so cumbersome that redevelopment schemes are always paralytic."

The Municipal Corporation is able to levy property and betterment taxes by virtue of the Municipal Corporation Act. But there has always been a strong opposition to any form of taxes in the city and especially to property taxes.

> "The motive of government in framing this Act appears to be, to construct roads & ca. for the good of the inhabitants. But, Protector of the Poor, your intention may be good in trying to enforce a new practice for the welfare of the people, but we are not willing that a new practice should be enforced. To us it appears that the intention of Government thus to do good for the welfare of the people is in their own hands, but by introducing a new practice they only inflict a severe injury on the ryots (subjects). This is what we think. Therefore we are not willing that a new practice should be introduced."
> (Petition, 25 Sept. 1844. Boman-Behram, pp. 240-242)

This opposition to the House Tax as a continuation of the Town Wall Committee was resented by the people and that tradition of distaste of the people of Ahmedabad to any form of direct taxation continues to this day (Gillion. Ahmedabad, page 114).

Land speculation controls do not exist. Rom Setya points out that the only way to control land speculation is for the Municipality to become the greatest speculator itself. Land tenure policies are vested with the Central Government and as yet Ahmedabad has not received the right to control tenure or rent (as has the city of Bombay). The land use policy developed

under the powers of the Town Planning Act of 1954. It has been very difficult to enforce land use though and most of the city grows in an uncontrolled fashion.

The Town Planning Office of the city of Ahmedabad was thus most active in administering Town Planning Schemes. Twenty-two such schemes were completed.

The Five Year Plans have become more and more important as elements of urban development in India. India's efforts to become a self sufficient industrialized nation find their coordinated framework in the Five Year Plans which are in spirit modeled after those of the socialist world.

The more recent Five Year Plans have brought more emphasis to industrialization and this has an indirect effect on the urbanization of the country. Besides this indirect effect the Plans have become more and more specific about urban problems.

The First Plan as we have noted discussed only housing while the Second Plan was very clear about many areas of regional and urban planning.

The Plans have come under great criticism, but they have created a positive framework within which development has taken place. Much of the criticism is in line with the following:

> "During the Second Plan period a serious diversion of resources took place for the benefit of the privileged Upper Classes sector (i.e. the U-sector), and it is highly probable that this tendency was assisted by the inequality in distribution of incomes resulting from the planned investment process which produced increasing accruals of profit and salaried incomes to the U-sector. The result is that at the present moment the U-sector, with its effective demand, is controlling the market forces towards its own benefits." (Indian Economy-Its Nature and Problems, Alak Ghosh, page 93.)

But despite such criticism India continues to move toward a planned economy, in which the role of urban areas are more becoming understood.

The Third Plan goes beyond that of the earlier Plans and includes the following items relevant to urban development.

1. New industries should be located away from large and congested cities.
2. In planning large industries the regional concept of planning should be applied. New industry should serve as focal points for regional development.
3. Economic interdependence between towns and surrounding rural areas should be strengthened by developing composit plans including community development, rural and urban planning.
4. Within each rural area the effort should be to secure a diversified occupational pattern in place of the present dependence on agriculture.

These major points are in keeping with our earlier discussions of Ghandian economics.

The Third Plan also required Master Plans for major cities, ports, and rapidly growing towns. Assistance in the implimentation of Master Plans was to come through other programs such as water supply schemes, industrial estates, community development and so on. The idea was that through coordination the plans could be carried out using the budgets of other sectors. This turned out to be a difficult, if not impossible proposition.

The Plan put special emphasis, in addition to Master Planning, on enforcement of land values through compulsory acquisition, definition of tolerable minimum standards and on strengthening

municipal administration.

While the First and Second Plans treated urban development as allied to housing the Third Plan moved ahead in many areas. Seventy-two Development Plans were prepared for urban areas. Regional studies were carried out for metropolitan regions of Delhi, Greater Bombay and Calcutta.

Regional Planning authorities were set up in Bombay, Poona and Nagpur under the Maharashtra Regional and Town Planning Act of 1966 which replaced the 1954 Town Planning Act of Bombay. Under the new Act authorities were created that carried out urban planning in conjunction with regional plans for development.

Under the Third Five Year Plan the States were pressed to inact Town Planning legislation and by 1968 practically all states had done so.

The Fourth Five Year Plan will cover the years 1969 to 1974. The Plan notes the growth of urban areas and projects 180 urban dwellers by 1980. It speaks of "positive plans for decongestion, dispersal or removal of population," from urban areas. The Plan refers to "a certain limit beyond which unit costs of providing utilities and services increase rapidly with the size of cities."

The Fourth Plan calls specifically for local planning to fall under regional authorities and for the curbing of unearned increments in income gained from increased land values. It calls for "the evaluation of a radical policy in this regard." (Section 18.5)

The provision of Rupees 136.70 crores in the State sector is suggested for land acquisition, the profits from which should be

used for less economic schemes.

Rupees 40 crores (crore=ten million) has been kept for the integrated urban development of Calcutta using 11 crores for transportation, 17 crores for water, sewerage and drainage and one crore for the improvement of busti areas.

The Plan calls for municipalities to raise their investment capacity and to cut unearned increments of income through the improvement of assessment and collection of taxes. The following methods are suggested:

1. property taxes where they do not exist.
2. ground taxes for unused property.
3. surcharges or stamp duties on the sale of property.
4. conversion taxes on changes of existing land uses to more profitable land uses.
5. betterment levies for improvements carried out by the municipality, especially where increased values dueto the improvements result.

The budget of the Fourth Give Year Plan in Diagram A gives a better picture of its intent of the plan.

In the previous pages we have reviewed some of the history and legislation that has effected urban development in Ahmedabad. In the following pages several areas will be taken up in more detail which have most directly effected the form of the city.

Of particular interest are the Housing Schemes which are generally financed through programs of the Central Government, Town Planning Schemes which gained their initiative from the Bombay Town Planning Act of 1915, the Development Plan which

DIAGRAM A

PROVISIONS PROPOSED IN THE FOURTH PLAN FOR HOUSING AND URBAN DEVELOPMENT

sl. no.	item	outlay (Rs. crores)
(0)	(1)	(2)
1	state and union territories	136.70
2	central sector schemes	34.00
3	office and residential accommodation for central government employees	30.00
4	dock labour housing	2.50
5	experimental housing and research	0.35
6	housing statistics	0.35
7	town planning including inter-state regional plans	0.50
8	local self government (training and research)	0.30
9	total (housing and urban development)	170.70

was initiated by the Town Planning Act of 1954 and encouraged by the Five Year Plans, as noted earlier, and the new Land Use Plan initiated by the State Planning Office. In addition we shall review the New Capital Project and Industrial Estates as satallite projects to the city. Finally, taxation policy will be briefly discussed.

HOUSING

Housing Schemes

Loans and subsidies for most housing schemes are provided by the Government of India and the Life Insurance Corporation of India. Control of these projects lies with the Central Government in the Ministry of Works, Housing and Urban Development. But administration is through the State and its local agencies.

Public housing in Ahmedabad is on the whole sponsored by one of two agencies: the Municipal Corporation or the Gujarat Housing Board.

The Municipal Corporation

Slum Clearance Schemes: In April of 1966 the Central Government increased its financial aid for slum clearance quarters. The Center provides 37½ per cent as a direct subsidy and 50 per cent as a loan. The balance of that 87½ per cent is given by the State as a subsidy (12½ per cent).

Under this scheme the Center has established ceilings for costs of construction of various types ranging from Rs. 1600 to Rs. 5850. The size of the quarters varries. The cost to tenants

is approximately Rs. 16 per month plus costs for electricity and water which raise the cost to Rs. 20 per month.

Priorities for allotment of quarters follow these criteria:

"1. Those families now occupying huts located within a radius of 1320 feet of the slum clearance quarters under construction.

"2. Those occupying huts located in the areas immediately surrounding No. (1) above-first those within ½ mile, ¼ mile, etc.

"3. Other hut dwellers of the city.

"4. Hut dwellers who live in nearby chawls which have pucca built rooms (in order to make the chawls cleaner and more orderly).

"5. A Municipal employee to look after the maintenance of the slum clearance quarters and collect the rents." (Report on Housing page two)

The scheme is intended for households with incomes of Rs. 175 or less.

Besides the criteria above, others may be given slum clearance quarters up to 5 per cent of the units. These are:

1. Government servants in the administrative services.
2. Social workers.
3. Persons employed by the Defense Services during National Emergencies.
4. Persons made homeless by public improvements and finally to Municipal employees.

The Municipal Commissioner is authorized to allot units using the above criteria. The appendix includes regulations which tenants must follow.

The loan portion of the cost of construction is repaid in

30 annual equated installments of principle and interest (about 5%). The Slum Clearance Scheme is operated by the Municipal Corporation of Ahmedabad and over 2500 units have been completed.

The Gujarat Housing Board

The Gujarat Housing Board is the most active agenvy in unit construction in Ahmedabad having built over 12,000 units of Subsidized Industrial Housing units alone. Several schemes are administered under the Housing Board:

1. Subsidized Industrial Housing.
2. Low-Income Groups Housing Scheme.
3. Middle Income Group Housing Scheme.

Each scheme has its own eligibility requirements. When housing constructed by the Gujarat Housing Board is ready for occupancy applications are invited through news media and the eligibility requirements are stated. No applications are available until after such advertisement. In the case that there are more applications than there are units available there is a drawal by lottery supervised by an Allotment Committee appointed by the Gujarat Housing Board. Screening for eligibility is also the responsibility of the Allotment Committee.

Subsidized Industrial Housing Schemes

Eligibility for these schemes is limited by a wage ceiling of 350 rupees per month and the household must include factory workers.

Housing may be constructed by the following agencies under this scheme:

1. The State Government, which receives 50 per cent as a loan and 50 per cent as a subsidy from the Central Government;
2. Registered cooperative societies of industrial workers, which receive 65 per cent as loans, 25 per cent as subsidies and pay the 10 per cent balance themselves.
3. Employers, who contribute 25 per cent of the cost, and receive 50 per cent as a loan. The other 25 per cent is a subsidy.
The loans under this scheme carry the usual rates of interest given by the Central Government and are repayable by the organizing agency in 30 annual installments.

"The Subsidized Industrial Housing Scheme provides for several different types and sizes of houses. The rent as well as the cost of construction is subsidized according to ceilings set by the Government of India. The overall ceiling costs, including construction and land, for small and regular two-roomed houses (single-storied, double storied, and multi-storied) range from Rs. 4200 to Rs. 7000. An addition of Rs. 750 to the ceiling is permitted in cities the size of Ahmedabad. (Hostel and dormitory structures for non-family workers may also be built)" Rents for the above housing units range from Rs. 17.50 to Rs. 26.50.

Making use of the terms of this scheme the Gujarat Housing Board has built over 12,000 units in Ahmedabad. The monthly economic rents for these units varies from Rs. 23.70 to Rs. 87.35 and the subsidized rent per month varies from Rs. 13.00 to Rs. 43.75. Generally the units have one general purpose room, a kitchen area, a court and a verandah. The area is around 300 square feet per unit.

Low Income Group Housing Schemes

This program is open to households with incomes less than Rs. 500 per month. The housing may be constructed by the individual, cooperative societies, trusts and institutions, local authorities, and by the State Government or an agency designated by it.

State and local authorities may receive 100 per cent loans under the program for housing up to Rs. 10,000 and other bodies 80 per cent loans up to 10,000 rupees. The loans are repayable over a 30 year period.

Housing in the range of 232 square feet to 1200 square feet may be built and the State is expected to ensure that these Central funds are not spent on costly structures.

Housing may be sold outright, on a hire-purchase basis, or rented on a no loss, no profit basis if the promoting body is a public agency or a trust or institution. Under this scheme the Gujarat Housing Board generally sells units on a hire-purchase basis in which case the tenant must pay 20 per cent of the cost in advance and the remaining 80 per cent in equal monthly payments for 30 years. (For a flat with a purchase price of 6454 rupees, the advance would be 1291 rupees, and Rs. 30.50 per month. Report on Housing, page 5)

Middle Income Group Housing Scheme

Eligibility requirements for this scheme demand an income from Rs. 6000 to Rs. 15,000 for the tenants. Flats are generally available on a hire-purchase basis and the area varies from 400 to 700 square feet. (For a flat costing 20,575 rupees, the

applicant pays Rs. 4175 in advance and Rs. 107 per month for 25 years.)

The Life Insurance Corporation of India finances this program and the loans come through the state government at 5 per cent interest and are repayable over 25 years.

Housing Societies and Cooperatives

Housing Cooperatives and Societies are institutions formed by individuals to take advantage of funds available through the Gujarat Cooperative Housing Finance Society, Limited.

There is no restriction of the income on members of cooperatives in this scheme. Loans are given up to 60 per cent of the cost of land and construction up to 25,000 rupees per member. The loans must generally be repaid in equal installments within 20 years. If any of the members intend to construct homes costing Rs. 50,000 or more loans will not be given. This scheme is generally employed by upper income groups in Ahmedabad but others also may and have participated: in the following programs:

1. Subsidized Industrial Housing Scheme.
2. Low Income Group Housing Scheme.
3. Housing Cooperatives for Backward Class people (since 1961 under a scheme through the Department of Social Welfare.

Just as the Gujarat Housing Board may gain funds through the Subsidized Industrial Housing Scheme, Registered Cooperative Societies of Industrial Workers who wish to build their own houses may secure financial assistance through the Scheme. The worker may provide his share of the cost by drawing a non-refundable loan from his Provident Fund Account.

As in the Subsidized Industrial Housing Scheme, Registered Cooperatives who qualify, may gain funding under the provisions of the Low-Income Housing Scheme.

Prior to 1961 Housing Cooperatives for Backward Class people received loans of 66 per cent of the cost of construction, repayable in 30 years. Since 1961, sweepers and scavengers employed by the Municipality could build a house through a program in the Department of Social Welfare. Under this program the following subsidy is available:

1. If he owns a plot of land, 750 rupees.
2. 500 rupees if he does not own a piece of land.

(a year after the receipt of the 500 rupees and the purchase of land he is eligible for the 750 rupees subsidy.)

TOWN PLANNING SCHEMES

The Town Planning Schemes in Ahmedabad have their roots in the Bombay Improvement Trust which was sanctioned in 1898 and included the city of Ahmedabad which was then in the Bombay Presidency. Four years earlier the Land Acquisition Act of 1894 had laid the way for municipal action in physical planning.

Prior to the Improvement Trust the Municipalities had carried out their own planning. In Ahmedabad committees had been formed to handle situations in an eposodic manner. The Town Wall Committee and Fund had operated in this fashion to maintain and build parts of the city wall.

But municipal administration found it difficult both in scope and complexity to handle such projects and for this

reason Improvement Trusts were initiated. They were entrusted with town improvement schemes, town expansion schemes and the provision of services and amenities.

In 1896 a survey of Ahmedabad's suburbs and outlying land had begun and in 1901 the government urged the municipality to plan its development outside the city walls. They stressed health, convenience and avoiding the congestion of the old city (Gillion, Ahmedabad, page 151). In 1910 50,000 rupees were given to the city for improvements.

The Town Planning Act of 1915 was an extension of this policy. As an enabling act it allowed Local Authorities powers to acquire and pool land to develop leaving space for roads and public amenities and to charge a betterment fee on increases on value due to the scheme.

A. E. Mirams, Consulting Surveyor to the Government of Bombay, prepared a comprehensive plan in 1916 for the development of the suburbs.

In 1917 Ahmedabad began its first Town Planning Scheme of 227 acres just outside the city wall called Jamalpur.

Densities, land use and physical layouts were different for almost every scheme and the sizes varied from approximately 200 acres to 2000 acres. But all followed closely the principals of the Garden City Movement and while the planners desired to reduce crowding in the old city by providing an alternative in the suburbs the Schemes did little for the vast majority within the city walls.

The bungalow suburbs on the western bank of the Sabramati

which are described earlier are the result of this policy and Town Planning Schemes have been an effective method of channeling development funds to the middle class and the result has been a lowering of conditions in the old city.

The Town Planning Schemes were the first real attempts to shape the city in terms of "planning principals." The first years however brought little action because they were taken by adjusting to the plan and preparing for implimentation and then came the events of 1918 (strikes, protest and fasting which finally lead to Gandhi's raise in the Congress) which was followed by reactions to the Quit India movement in 1921.

But in 1924 elections were held and Sardar Patel (later to be of international reputation as a leader for independence) was elected President of the Municipality. Patel set out on a vigorous plan of improvement stating that "The test of municipal improvement is how it works in the poor localities." (Parikh, p. 271, Vallabhahai Patel, Vol I) During these short years lasting up to 1928 when the mill owners unseated Patel under the leadership of Ambalal Sarabhai the seeds of planning in Ahmedabad were cast. The second and third town planning schemes were initiated in conjunction with cooperative housing societies at Ellis Bridge on the west side of the Sabramati and at Kankaria to the south of the city. The walls were also taken down in places for the first time and Relief Road was cut through the old city.

Since these first Schemes twenty have been initiated and are at various stages of completion. In the earlier period the reservation of areas for public usages did not arise as a problem.

This was true because the areas included were at first very small. The betterment charge could therefore cover the cost of such schemes. But as the size of the schemes grew reaching almost 2000 acres it became necessary to include areas for schools, markets, playing fields, gardens, clinics and other civic amenities. This resulted in the Government bearing part of the cost, with the betterment charges, for attaining this land. This was true because the facilities in the scheme would be used by a wider area than just the area covered.

The Development Plan

The Town Planning Act of 1954 is the clearest statement of planning objectives which are available for the city of Ahmedabad. The Act not only gives the Municipality the right to plan for the entire city (not just suburban and outlying areas), but the Act also requires that each town and city prepare a development plan of the area within its jurisdiction. A detailed study was to be carried out before the preparation of the plan. As a control mechanism the Central Government earmarked a portion of the revenue returned to each state to town planning. This money was then to be spent on planning activities. In the middle of 1956 the Corporation of the city of Ahmedabad began its planning under the Act and it planned not only for the 20.7 square miles under its jurisdiction, but for the anticipated size of 35.9 square miles. (In 1958 those extensions were sanctioned by the Government.)

The factfinding survey of the city was partly completed in

1956 and was there upon brought up to date in 1961 (a new census year) adding new population data and data from the new areas of the city.

A tentative zoning plan was approved by the Corporation of the city in 1957 which included provisions for the area of the city with its new extensions. The actual development plan however was not prepared, published and presented to the Government until 1962.

Before the development plan was finalized the municipal Commissioner formed an advisory committee who reviewed the plan and its general proposals and the proposals for each planning unit (Town Planning Schemes) in particular. This advisory committee consisted of representatives from the Public Works Department, Police Department and Revenue Department of the Government, the Housing Board, the Western Railway and the Ahmedabad Electricity Company. Section Seven of the Act allowed for the reservation of lands in the Development Plan for specific government utilities and each representative was asked to forward requirements of land for their respective departments before the plan developed further.

The Town Planning Act required that the Development Plan along with the report on Section Seven be published in order that members of the public may study and understand the implications of the effort. The public has the right to propose changes in the plan before it moves to the Government (state level) for sanction.

The Government also has a public hearing on the plan and

requests the municipal planning office to make changes where public opinion strongly merits.

The main objectives in preparing the plan were the following (Development Plan, Town Planning Act of 1954, The Municipal Corporation of the City of Ahmedabad, page three):

"1. To limit the physical growth of the city to its natural increase in population in order to preserve the present social structure and individual character.

"2. To preserve the economic base of the city and utilize the available potential to flourish the existing industrial structure without further concentration of new heavy industries.

"3. To pull out the population from the densly populated areas by developing new self-contained residential neighborhoods.

"4. To superimpose a road and highway system which may prevent the intermingling of through and local traffic and cause proper circulation of traffic within the city.

"5. To promote an orderly and balanced growth of the city by proper distribution of land uses and gradual segregation of intermixed uses.

"6. To designate adequate areas of lands for compulsory acquisition to meet the existing deficit in community facilities public utilities and housing.

"7. To assist Government and other statutory bodies by reserving lands to meet their requirements for a planned programme of works within the city.

"8. To prevent occurance of ribbon and fringe development by creating a sufficiently deep green belt.

"9. To work out a phased programme of development within the available resources financial administrative and technical.

"10. To enforce a rigid control on new developments by framing suitable zoning regulations and special development regulations."

Other notions persisted into the plan and are important

factors for later discussion. The conception of the neighborhood as a basic unit for planning and "urban living" was accepted as one of the "most important of all recent developments in town planning" (page seven). This notion in fact was not new to the city as has been seen in the Town Planning Schemes which were developed after the Act of 1915. In the new Act these areas were seen as planning units for survey as well as for planning proposals.

Under the Act of 1954 the Municipality was impowered to make one or more new Town Planning Schemes which would emphasize the following objectives:

> "1. The promotion of the social health of the city.
>
> "2. The establishment of more convenient facilities and relationships between the various amenities and services necessary for everyday living, e.g. houses, shops, schools etc. These are in substance the objectives to be achieved by planning on a neighborhood pattern."
> (Quoted in Development Plan, page 8)

Of particular interest are the notions of restriction of growth of both the size of the city and the magnitude of the population. The two ideas are tied together in the concepts of the planners. They estimated the population of the city in 1971 to be 1,500,000 persons even though many realistic estimates put the population for that year at two million persons for a minimum estimate (Kingsley Davis, Cities). There is an assumption in the plan that migration can be directly controlled by limiting the growth of industry. Even the notion that industry could be controlled was questionable. The following quote typifies the planners notions about growth:

> "Having utilized the available potential of land for industrial development further concentration of industries is desired to be barred as it would otherwise create additional concentration of population with consequent social evils. The Industrial Panel formed at the instance of the city Coordination council set up by the Government of Gujarat has also recommended to stop further concentration of industries within the city. It has also recommended to set up a green belt around the city to disallow the growth of industries around Ahmedabad except in the zones earmarked by it. This green belt will also serve as a barrier to the further growth of Ahmedabad. The amount of any further migration of population into the city may therefore be expected to be related to the growth of educational facilities and the need for domestic services, rather than to the opportunities for industrial and commercial development.
>
> "With these facts in mind it is expected that the population of Ahmedabad will not be subject to a growth other than its normal rate.
>
> "The population of Ahmedabad for the aforesaid reasons is expected to follow its mean decinial growth of the last decade and is estimated to grow to 1,500,000 by 1971." (page nine)

And later in explaining the provisions of the Development Plan the planners state:

> "The Development Plan is based on an estimated population of 15 lakhs (one lakh equals one hundred thousand) within the boundaries of the city in 1971.
>
> "This figure of population is estimated on the basis that the immigration will be rendered negligible by the planning proposals and the population will be subject only to the natural increase; that the physical growth of the city will be restricted to its present growth by peripheral belt around the city..."

Not only did the Development Plan envision a stable population size and control of immigration, but it went further to visualize the "decongestion and dispersal of population from the old city and some of the congested pockets in the suburbs." (Section III, 3.4) It called for new housing in the suburbs to

rehouse the overspill in areas that were not then developed.

Thus, another conceptual basis of the plan was that of control of density in various areas in the city. The planners state that they will reduce the density of the old city to 250 persons per acre from the present density of 390 (1961) persons per acre and in the villages they will reduce the density to 200 persons per acre. The average densities on the west side of the Sabramati River would be controlled at 120 persons per acre.

Finally, a major notion of the development plan is the controlled distribution of land use.

> "The city is divided into broad areas of use zones like Residential, Industrial, Commercial and Agricultural within each of which all new development must serve the same general purpose. These use zones constitute the ground work of positive planning. Together with the layout of roads and highways, this use zoning forms a broad pattern into which detailed plans of each zone has to be fitted." (Section III, 3.7)

Appendix L gives the general break down of the city by land use as conceived in the Development Plan.

The Development Plan also included specific projects which would increase the efficiency of the city (like street widening).

While the plan has been impossible to enforce, it demonstrates clearly the thought of contemporary planners in Ahmedabad and the goals and objectives around which their plans grow.

Land Use Plan Prepared by the State Government

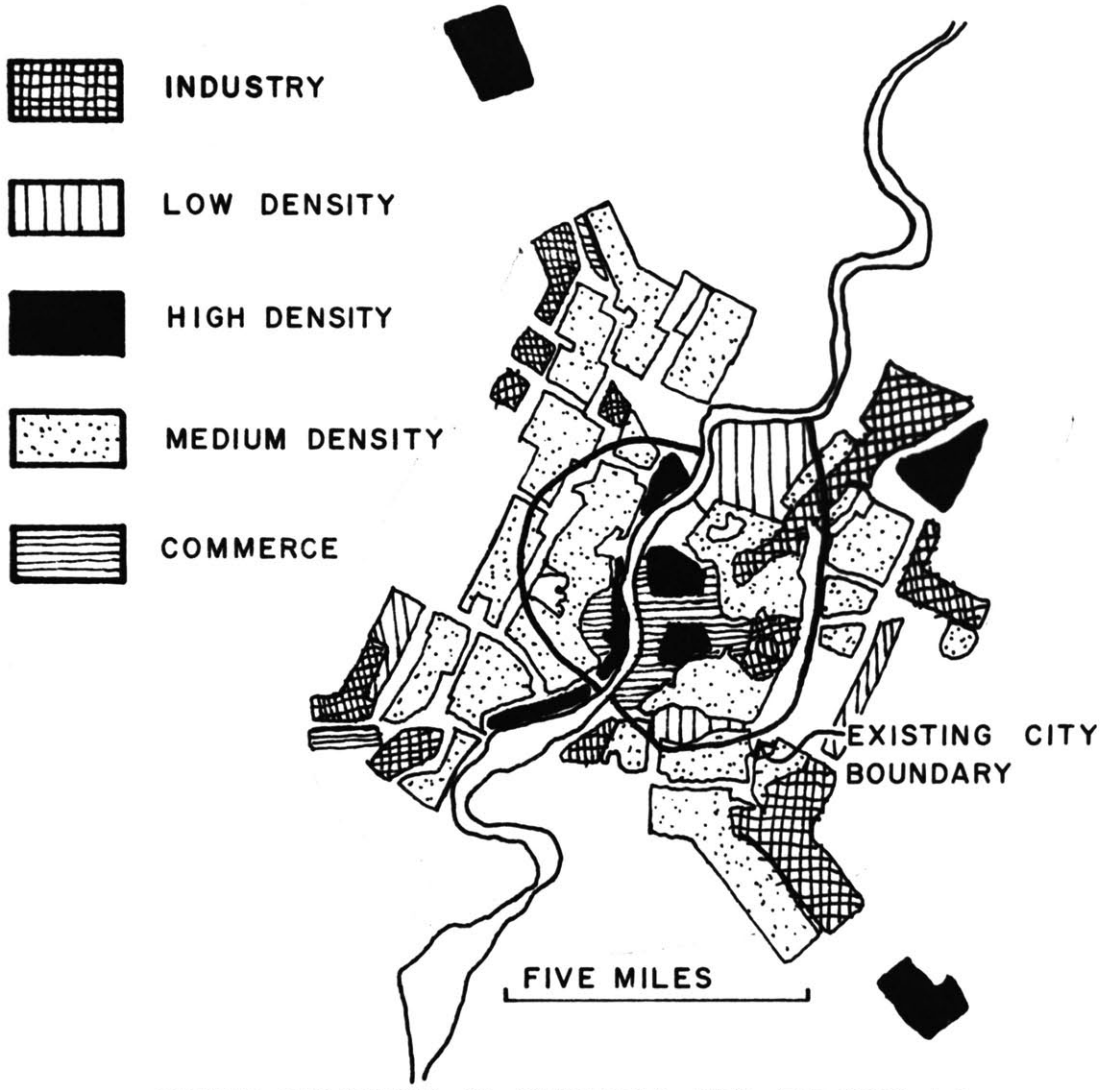
As part of the Development Plan a Land Use Plan was developed in 1958. This Land Use Plan was drawn up by the Municipal Corporation of Ahmedabad and went through many phases of public

discussion and confirmation before it was finally accepted and put into law.

The resulting Land Use Plan was generally a reproduction of the existing situation in the city, probably due to the influence of business and commerce in the city. The Plan merely tried to set a new direction, starting from where the city was. This was a very reasonable decision.

The State Town and Country Planning Office was though concerned about long range growth problems of the city and under the direction of Rom Setya, who was then Chief Town Planner for the State, a new land Use Plan was initiated with the view of expanding the city to take in future growth. The new Plan covered four times the area of the existing city and provided necessary open spaces and facilities for the expanded population. It also saw the spreading out of population with medium density areas predominating. Setya also invisioned the development of four cores at the North-East, North-West, South-West and South-East corners of the city. These areas would also have provisions for godowns and industry to develop. Parks and green spaces meander through the city and the river frontage is used as a major open space. See Diagram B.

There are two satellite cities in different stages of planning which represent in actual terms the government's commitments to urbanization problems and make their goals more explicit. One city is the Industrial Estate immediately to the east of Ahmedabad and the other is the new State capital, Gandhinagar, fifteen miles to the north of the city.



GROWTH PROJECTION OF AHMEDABAD CITY FOR 2000 A.D.

LAND USE PLAN

DIAGRAM B

Gujarat, as an independent state came into existence in May of 1961 with the bifurcation of the bilingual Bombay State. Immediate plans were made for a new capital and before Gujarat was even officially declared a State the Chief Minister designate had chosen the site for the new capital and named it Gandhinagar.

It is an important project for discussion for it is absorbing most of the public sector funds available for urbanization and it is expressive of the goals and definitions of development now held by Ahmedabadi and Gujarati planners.

The town is planned for an immediate population of 175,000 on 10,000 acres with a composit density of 40 persons per acre. A new district (similar to counties in the U.S.) has been formed around the city comprising 75 villages and 125,000 people. All development in the district is regulated by the Gujarat New Capital Periphery Control Act, which allows the State Capital planners to regulate the physical growth of the district.

Effectively a five mile wide agricultural green belt surrounds the city.

The city plan is an adaptation of the Chandigrah plan and is linked to Ahmedabad by a straight road (300' right of way) the metropolitan airport being mid way between the two cities.

The function of the city was clearly stated by its planners:

> "Being very close to Ahmedabad the largest city in the State and a big industrial center, it is more likely to remain an administrative city. The principal employer in the city would be the State Government and as such the desireable population size was based on the Government employment patterns. The city is therefore planned initially for a population of about 175,000."
> ("Gandhinagar - New Capital of Gujarat," Mewada and Apte)

The planners did recognize other employment generators and a light industry zone was provided, though small. In addition a commercial center with wholesale and warehousing areas were provided to serve the city, as was the public institutional zone. The location of these four employment areas (the actual Capital being the fourth) were designated, "to locate each in such a way that, the total volume of traffic is destributed in the city with a balanced pressure on well desired traffic routes." Therefore, they were located to the north, west, south and east in the plan respectively, without consideration of linkages or accessibility of low income groups.

The plan includes the following specific allocations:

1. 300 acres provided for light industry employing 9000 workers at a gross density of 30 workers per acre.
2. 370 acres for the Government offices grouped in one complex.
3. 185 acres for the Commercial Center and the core civic facilities.
4. An area of 180 acres has been allocated for institutions of state-wide influence and another of 400 acres for an agricultural college has been set aside.
5. The residential pattern is one of sectors measuring about one kilometer by 3/4 kilometer or about 185 acres. Each sector will accomodate about 7000 persons and every two sectors will share community facilities which fall between them. Eight types of housing will be provided ranging from 120 square meters to 1603 square meters. "Each community will have a hierarchy of about four categories of plots to achieve a balanced social and

economic pattern."

About 50% of the city's population will be employed at the Capital Complex. Gross density for the city will be 40 persons per acre. Residential densities range from 20 to 60 persons gross per acre and at times the highest will reach 120 persons net per acre.

By its densities, street layouts, and extensive utility network (underground electricity) and high level of development of shelter we can assume that only middle income residents will be able to afford the costs of living in this highly subsidized city. Like Chandigarh it may become a town for the middle class, and they can motor into Ahmedabad for their work each day.

Industrial Estates

The State of Gujarat has taken a policy of aiding the development of industry and this happens in many ways. Licensing procedures protect young industries from outside competition and financial aid is available for initiating new operations.

The State Industrial Development Board has a policy of assisting industrialists in finding sites, water, power, raw materials, technical advice and information on marketing and processing. This policy has led to programs for the construction of Industrial Estates which provide infrastructure for new industries. The program brings together new small industries which share facilities.

Eventually the state intends to decentralize a large percentage

of new industrial growth to rural areas by providing one Industrial Estate in each District. As incentives the program provides factory sheds, water, power, roads and drainage. Major Industrial Estates are presently located at Baroda, Bhavnagar, Gandhigram, Rajkot, Udhana and Ahmedabad. ("Industrial and Commercial Development in Gujarat: an Outline," page 38, Ahmedabad Souvenir)

Of these Industrial Estates perhaps the most extensive in plan is the Industrial Township near Ahmedabad. The State Government took the decision to locate an Industrial Township adjacent to Ahmedabad on the suggestion of the City Coordination Council and an interim development plan was prepared for the purpose (Census, City of Ahmedabad, page 11). However, because of the Center's policy of balanced regional growth through the dispersal of industries, it was decided to limit the new township's development to three nodes.

This development lies directly next to Ahmedabad on the east and acts as a satallite to the city. The Township covers 12,000 acres and has three nodes of industrial development at Naroda, Odhav and Vatva. Its purpose is to "regulate and divert the future development of outgrowing cities (Ahmedabad) by way of creating favorable conditions for the location of industries, not far away from the cities."

Besides these three nodes covering 1500 acres other industrial development may take place, but only under highly limited conditions. Naroda was the first node completed which is complete with water supply, electrification, storm and water drainage, telephone connections and a bus connection to Ahmedabad. A goods

booking facility has been constructed at the railway station there.

Development standards for the estates are not rigid and the actual provision of most facilities is left to the companies. Many of the estates have land use plans. The object of the estates is to decentralize growth from Ahmedabad in order to bring development to the backward regions, or in the case of the Ahmedabad Industrial Township, to stop the growth of Ahmedabad by providing a counter magnet to the growth of the city itself.

TAXATION

Taxation is one of the most effective tools by which urban development can be directed. It is not used to its fullest extent in India either as a source of revenue or as a control mechanism. In Delhi the Municipal Corporation Act of 1957 does contain provisions under Sections 117 and 118 which allow differential rates of service taxes to be charged to different types of industry. In Ahmedabad property taxes are different for residential and for non-residential uses. A few other Corporations also use discriminatory taxes. A Note on Land Policy published and circulated by the Central Regional and Urban Planning Organization suggests the use of differential rates of taxes, penal taxation against non-conforming uses, and tax exemptions and rebates in cases where development is to be encouraged. The main purpose of these taxes should be the direction of growth and secondarily the collection of revenue.

There are existing taxes whose sole purpose is to "mop up"

unearned increments of income due to land speculation. The main ones are: Wealth Tax, Capital Gains Tax, or Estate Duty, Municipal Property Taxes, and Duty on Transfers of Property. All of these taxes do though have exemptions which leave much to be desired.

> "Wealth Tax has an exemption limit of Rs. 2 lakhs. Besides, it excludes one self occupied house in a town of up to 10,000 population and situated beyond 5 miles from other towns with populations exceeding 10,000. By its very nature, this tax affects only a few persons in the top income brackets. Capital Gains Tax, which also has very limited coverage, applies only to realised increments exceeding Rs. 5,000 in respect of urban land and that too if the income of the person is not less than Rs. 10,000. Capital Gains arising from the sale of houses and land are totally exempted when the sale proceeds are less than Rs. 25,000 and the aggregate value of all capital assets, being only property, of the seller before the sale is more than Rs. 50,000. Capital Gains and Wealth Tax do not apply to agricultural lands. The Gift Tax or Estate Duty also have high exemption limits. Gifts up to Rs. 10,000 in any year are exempted. The exemption limit for Estate Duty is Rs. 50,000. Both these Taxes tap a part of unearned increments but only after long intervals, mostly after a generation. None of the existing Central Taxes, therefore casts the net wide and deep enough to make substantial impact on unearned increments.
>
> "The Municipal Property Taxes, no doubt, are more broad-based as compared to the Central Taxes. But they also mop up unearned increments only if reflected in income from property. But because of rent control measures, low mobility of real estate, under assesment of owner occupied properties and inadequacy of municipal tax administrations generally, the results are far from satisfactory."
> (A Note on Urban Land Control, Central Regional and Urban Planning Organization, page 9)

Betterment levies are being used in Ahmedabad to gain returns on municipal investments as well as on unearned increments which result from those improvements. Betterment taxes are though difficult for the following reasons:

1. Increases in value occur in anticipation of certain improvements and raises in value can not be collected which occur before improvement,
2. It is difficult to prove the extent of the area within which value has been influenced by a particular improvement.
3. It is difficult to prove increases occur solely because of a particular improvement.

A Ground Tax is used in Ahmedabad to tax land in the city which is not put to use.

It has also been suggested that buildings on property be taxed separately from the property so that businesses within or on the non taxable land of the city may be taxed.

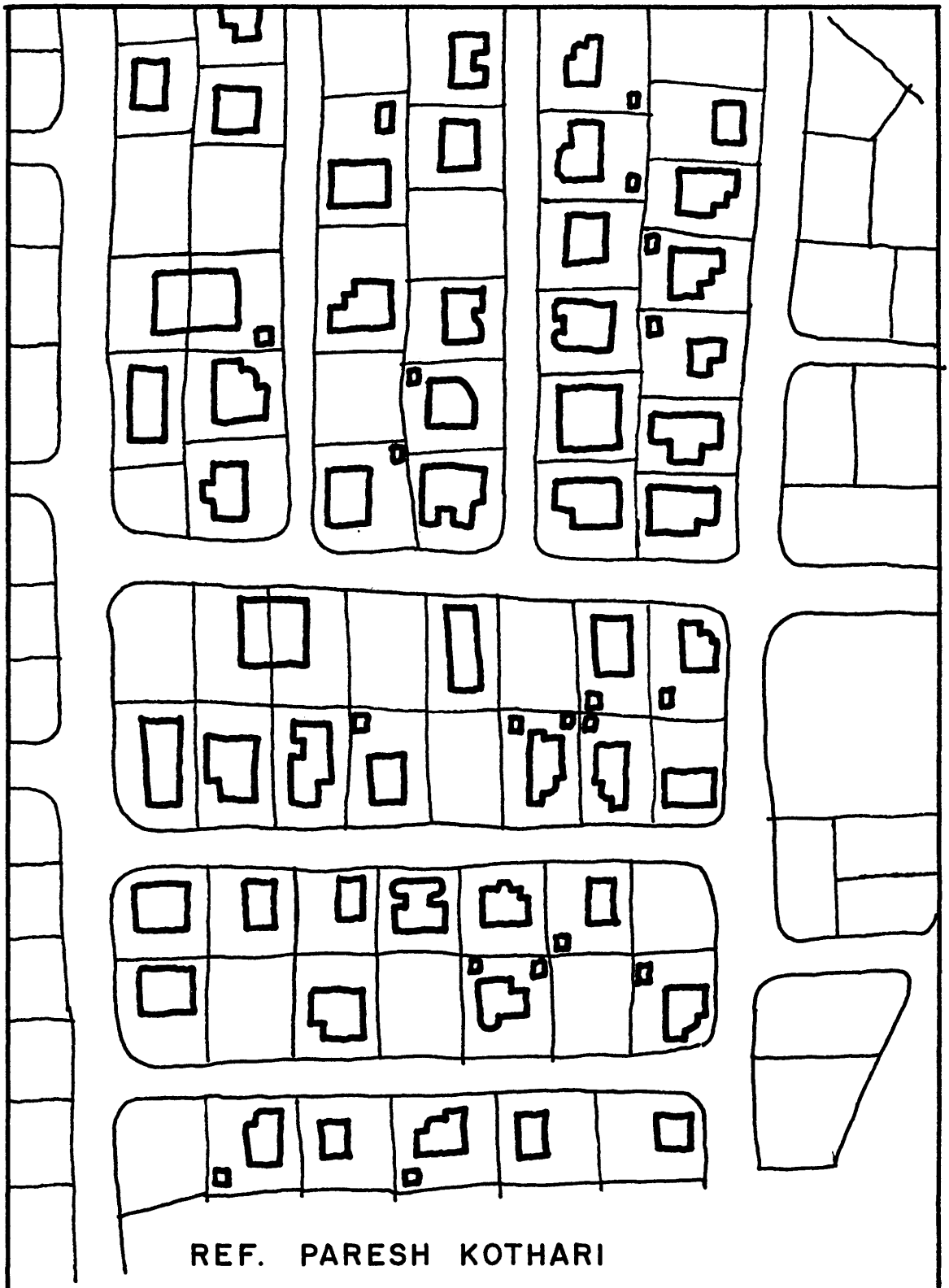
In concluding this section I would like to describe a settlement in Ahmedabad called Swastique (Swastic).

Swastique is representative of the communities which planners have attempted to build in India in its level of development, site planning standards, provision of infrastructure and land use control.

Much of my information on this settlement comes from the thesis of Paresh Kothari who graduated from the School of Architecture, Ahmedabad, 1969.

The density of Swastique is thirty-three persons per acre which is less than one tenth of the density of the old city. 28% of the area is covered with roads. Only 40% of the structures are of two levels and of those only 2% go to three levels.

Planning regulations do not allow any use except residential in the Swastique area, and sites were provided for a school,



REF. PARESH KOTHARI

DIAGRAM C: SWASTIC

clubhouse and open space for play. A fifteen foot set back is required on the front of lots and a ten foot set back on the side. 400 square yards is the minimum size lot and no side may be less than fifty feet in length. The built up area may not exceed one times the ground area.

Swastique is part of a 1939 Town Planning Scheme. The project was initiated by the Municipal Corporation under powers granted by the Town Planning Act of 1915. The land for Swastique was bought by the Municipal Corporation, subdivided and improved with drainage and water. Space for public amenities was reserved. After paying market value plus a 15% salitorium the Municipality re-sold the plots at cost plus a 50% betterment charge. Many of the blocks were bought in groups by housing societies and the societies made application from the government for 60% loans under the Co-operative Housing Scheme which allowed twenty years to pay the balance.

Most residents are of the upper 9% income group and the vast majority of the dwellings are now rented out by the original owners who live elsewhere and desire the income which the houses generate. In some cases the homes have been subdivided into apartments for moderate income households.

Generally the households have automobiles and live on guaranteed incomes.

Shopping is located in a planned "shopping center" which contains about twelve shops of which there is a laundry, pastry shop (bread and eggs are sold there), three Europe shops that sell canned goods and general household equipment, a barber shop

and there is a bank next door.

The community is serviced with a municipal bus stop at Navrangpura, a post office, a telegraph station and milk is delivered regularly by the Ahmedabad Municipal Corporation.

Private English Schools as well as public schools are in walking distance from most dwellings and the "Sports Club" is also a short distance away.

CHAPTER FOUR:

HOUSEHOLDS

In order to understand how people use cities it is necessary to have a graspable image of who they are. This image is best constructed out of descriptive information, because hard data is difficult to gather and where it exists it is of questionable quality. A descriptive image of households should include information on income, occupation, situation, family type, size and for our purposes location in the city and expectations are important.

There are racial, ethnic and educational variables which a detailed analysis might attempt to distinguish to build a cluster of images relevant to different variables in order to describe needs and means of people in cities with regard to residential location. We are though concerned mostly with the low income households because they compose almost all the four bottom quintiles by income in Indian cities (see Appendix for comparative data). There is a homogeneity of needs due to the consistent economic conditions of these urban dwellers. That is to say, in conditions of extreme scarcity the needs and means of different racial, caste and even variably educated groups will be relatively the same in terms of residential location requirements in the city. This image of a household is used as an entry point into the urban system which explains many of the structural aspects of the city form.

I often use the word symbiotic to distinguish Indian joint

families from other forms of extended families, perhaps emphasizing that the Indian extended family is emotionally highly integrated as well as integrated economically and socially. Even by the statistical definition of household as a group of individuals living in one dwelling unit sharing the same kitchen, there are a large number of joint households in the cities of India. In Agra 53% are called joint by this definition (Urbanization in Agra, page 374). I. P. Desai found 49.5 per cent of the families in his surveys of Mahuwa, a town in Saurastra, were joint ("The Joint Family in India - An Analysis," Sociological Bulletin, Vol. V., No. 2., 1956). K. M. Kapadia surveyed Navsari (population 50,000, 1956) and found roughly half the households to be joint families and in surveys of fifteen villages one to fifteen miles from Navsari he noted that the prevalence of the joint family was greater in towns than in rural areas ("Rural Family Patterns: A Study in Urban-Rural Relations," Sociological Bulletin, Vol. V., No. 2, 1956). Sovani also noted (Urbanization and Urban India, page 74) that the percentage of joint families went from 28 per cent in 1937 to 32 per cent in 1955 in Poona. It is also customary for related nuclear families to cluster together as neighbors. Perhaps urban conditions and increasing densities in particular make this impossible forcing families to gather under one roof in the city. None the less these two forms of symbiotic family predominate.

Family sizes have been given for different dwelling components of Ahmedabad in Chapter Two. The all India urban average size was 4.59 as opposed to rural 5.03 in 1954. By 1961 those

figures had risen to 5.5 and 5.84 respectively. In Agra the average family size grew from 4.96 to 5.91 between 1950 and 1960. This may reflect a pattern we found in Ahmedabad whereby clustered nuclear families under pressure for shelter began to move under one roof, especially in the case of recent migrant families who want center city location where space is dear. As noted earlier Ahmedabad has an average family size of 4.97 (1961) which was the lowest for urban areas in Gujarat (Baroda, 5.06; Surat, 5881). Family sizes on an individual basis will increase over time, but as a larger percentage of the city is being formed by recent migrants, this effect on the over all picture would tend to be tempered.

The situation of households in cities has a great deal to do with their length of residence in the city. As noted above a large percentage of the population is formed from migrants. In Bombay 64 per cent of the population was born outside the city and just over half of the annual increase in population was due to migration during the period 1951 to 1961 (Migrants in Greater Bombay, page 15). In Ahmedabad 50.82 per cent of the population was born outside the city (Census 1961) and it was representative of other cities in Gujarat as follows: Rajkot 45.55; Baroda 44.37 and Surat 28.82.

In Urbanization in Agra (page 293) it was noted that 72.9 per cent of the migrants to that city belonged to rural areas and 27.1 per cent belonged to urban areas. 25 per cent came from small towns (i.e., almost all of the migrants from "urban areas"). There are obvious reasons for the skewness toward rural areas:

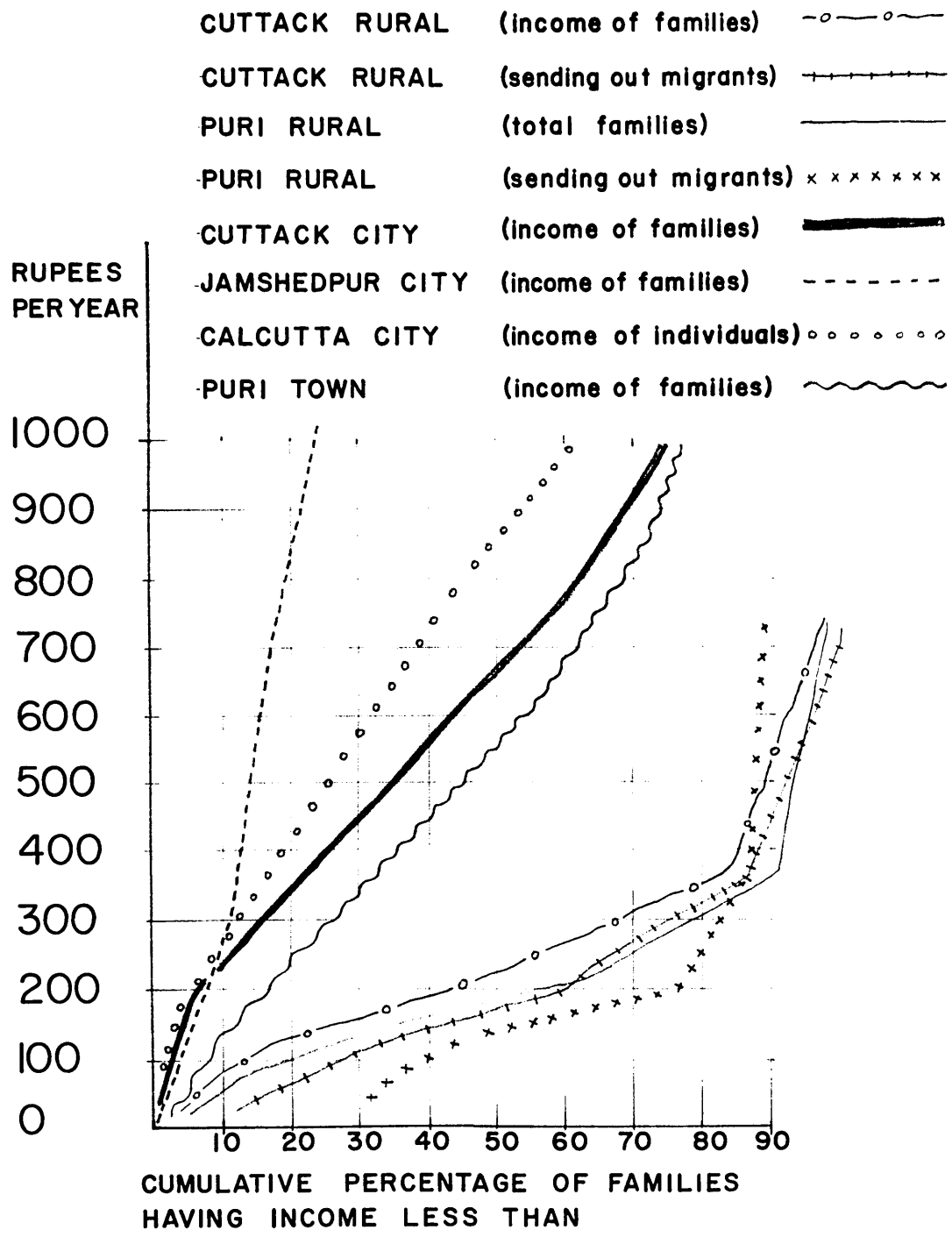


FIGURE 21: URBAN RURAL INCOMES

1. 82 per cent of the population lives in rural areas.

2. Migration often takes place in several moves, but one move migration predominates. In Agra 80 per cent move in one move, 12 per cent in two moves, 5 per cent in three moves and 3 per cent in four or more moves.

3. As can be seen in figure Twenty-One incomes are significantly higher in urban areas. Thus the pull factor would be greater from rural areas.

Migrants are attracted from nearby areas. This is interesting because nearby areas have the higher level of development and backward areas tend to be distant from the cities, and therefore income differentials would be greater the further one moved from the city. This indicates the role of accessibility and communication in migration trends which may be even greater factors than income differential. A study of Jaipur (Economic Survey of Jaipur City) found the following corrolation:

distance (in miles)	per cent of migrants
10 and below	10.2
10 to 20	12.7
20 to 50	9.8
50 to 100	19.7
100 to 200	23.3
200 to 500	14.3
500 and over	10.0

This points out that while the percentage of migrants coming from per mile increments continually goes down as we move away from the city, the majority of migrants still come from distances between fifty and 500 miles from the city, the largest group in Jaipur coming from 100 to 200 miles from the city.

All migrants do not make the city their home. It is noted in Urbanization in Agra (page 301) that only 55 per cent stay permanently; 28 per cent come on a semi-permanent basis (retire in their native place) and 16 per cent on a temporary basis. This begins to indicate to us the lack of security migrants are able to generate in the city and as we shall see later, even those who stay do not always fare so well.

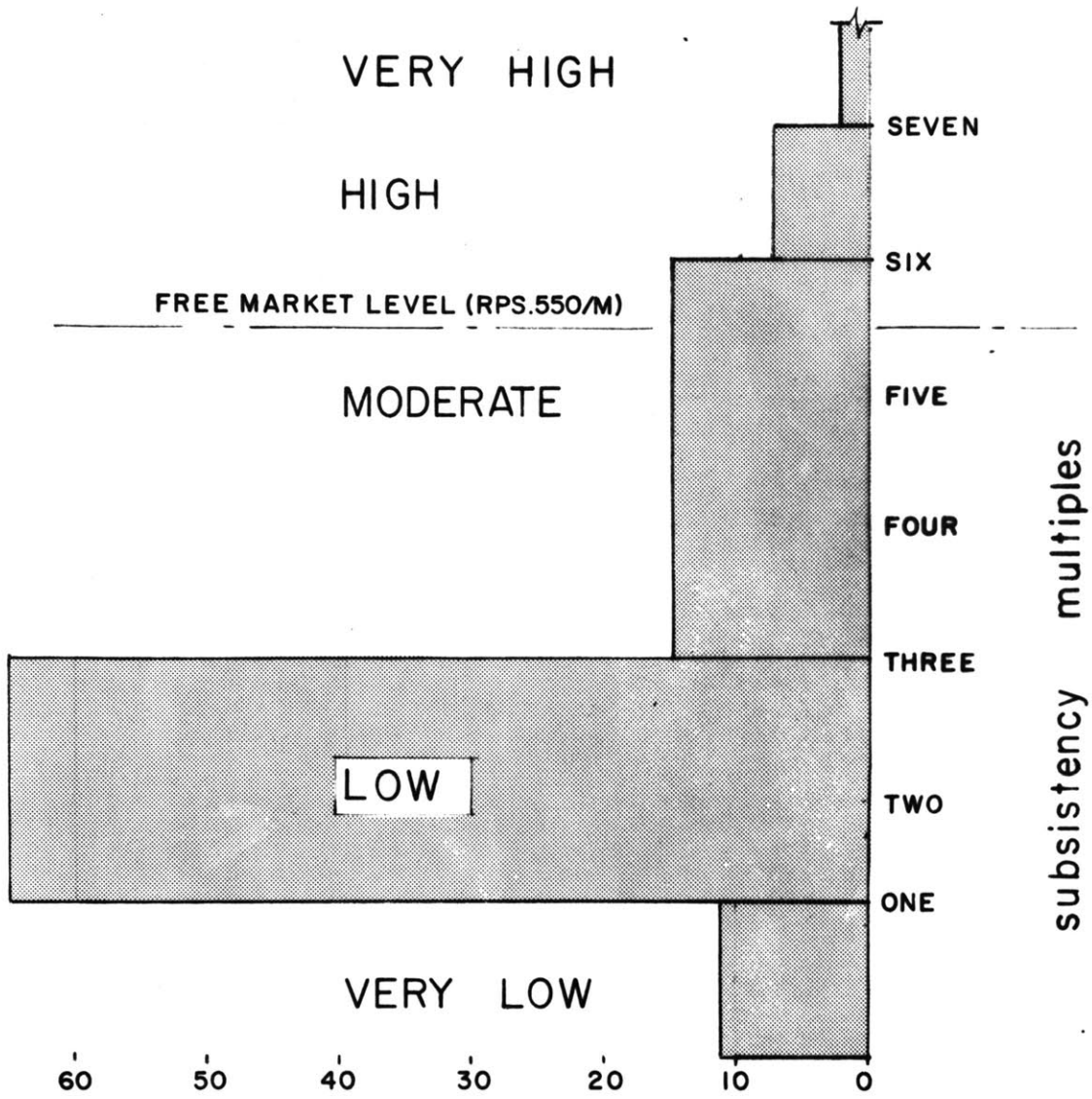
The fact that the majority of residents in Indian cities are migrants or children of migrants is important for us to understand if we are to sense the situation of households in Indian cities. Generally households are in a phase of adaptation to urban life. In Appendix J the situation of Sanjive, a migrant to the city of Ahmedabad, is described. He is at first marginally connected to the social and economic fabric of the city. He sleeps in the Railway Station, his work is casual and his income is irregular. Later he moves in with his brothers who have integrated their lives with the city. In the following Appendix (K) there is an interview taken by one of the members of my research team in Ahmedabad in 1969. The subject has lived in the city for fifty years and has managed to integrate his life with the city, but only because his sons have been successful. He makes bitter complaints about his shelter, but he stays on, apparently because the location is terribly important. He also speaks of frustrations because he cannot consolidate his small successes.

Some migrants never leave the reception stage and they live on the streets or sleep in shop fronts, finally with their whole family, or they return to the village. In Urbanization

in Agra (page 336) it is noted that only 57 per cent of the migrants increase their financial position by the move and by sector it is noted that 75% of agricultural laborers who move to the city increase their financial position while others fair less well. 33 per cent of the migrants had declines in financial situation and ten per cent remained the same.

Sovani concludes from various studies of upward mobility in Indian cities that "there was a solid stationary social base containing a very large proportion of the total community and on the surface there floated unstable elements who showed a larger tendency to move up in the occupational scale than to go down." (Urbanization and Urban India, page 105). Referring back to the data on income we can see that income does not rise enough, nor is it stable enough to provide security to households.

In order to understand the decision making process of individuals and families with regard to location and dwelling type it is important to understand the nature and characteristics of these households. It is hypothesized from the above and from my own surveys that the extended family is a highly integrated and economically diversified, yet unskilled and poorly paid, unit. The household type is significant because it includes most of the bottom four quintiles of population by income. As income data is not available for the city of Ahmedabad itself we will extrapolate from all India urban samples. In doing so we assumed a similar distribution proportion and an across the board increase of 80% over the 1961 urban India data. This increase



17.5 RUPEES EQUALS SUBSISTENCY

FIGURE 22 : INCOME: AHMEDABAD

REF. D. SIMS

was chosen because it puts the average of the bottom quintile just at subsistency or 17 rupees per month, meaning that there is a total income, 85% of which is spent on food and cooking fuel alone, which supports one person. According to the accompanying graph (Figure 22) it is apparent that just under 10% of the households live on incomes below subsistency. Income data on other urban areas is found in Appendix

Sovani notes (Urbanization in India, page 54) that: "The proportion of persons not in the labor force was higher in the urban than in the rural sector. So too was the proportion of the visibly unemployed." Taking 17 rupees per month as subsistency it is interesting to note that in 1961 the average income per month was 21.44 rupees, rural and 29.72 rupees, urban. Thus, the average urban income was only 1.74 times subsistency. In Baroda (Socio-Economic Survey of Baroda City) it was found that 8 per cent of the heads of households were unemployed and that an additional 20 per cent earned less than 40 rupees per month!

According to calculations of David Sims the income required to support rent or ownership payments on a "free market" basis is 550 rupees per month. This would support a dwelling unit of minimum European standards for a household of five members. Only the upper quintile can afford such standards.

Share in the aggregate dispos. income %	Quintile	Average household size	Average dispos. income per mon. per household*	multiples of subsistency (S) income per person
4	First	3.0	60 Rupees	S
9	Second	4.2	120	1.5S
13	Third	5.1	175	2.0S
19	Fourth	5.6	260	2.75S
55	Fifth	7.3	1000	8.0S

*To arrive at income figures for Ahmedabad, based on 1961 urban India figures (Urban Income and Saving) upward revision is necessary for the following reasons: 1) Indian per capita income has risen about 1% per year, 2) inflation has risen 15% from 1961 to 1971, 3) since urban India figures were from a proportionate sample of 150 cities of 10,000 population and above, it is assumed Ahmedabad would have a significantly higher average, and 4) Ahmedabad is in Gujarat which has the highest income per capita of any state in India, next to Maharashtra. Ahmedabad also has the highest percentage of employees in the labor force engaged in manufacturing of the seven largest cities of India.

Low incomes and lack of job security pose special problems for urban dwellers in India. Ownership of land serves as a source of security in many developing areas where incomes are high enough and where jobs are stable enough for the family to survive on the fortunes of one bread winner. In these cases transportation is relatively cheap enough to afford movement into center city jobs or even to other periferal industrial sites. But this is not the case for the vast majority of urban dwellers in India. In Baroda only 5.9 per cent of the population own their own homes and the rest rent, primarily near the city center. Transportation is too expensive and everyone needs accessibility to casual labor, if not for himself then for other members of his family. In Ahmedabad round trip fares from periferal sites to the city center would cost 50 N.P. per person or one half rupee. This

FIGURE TWENTY-THREE

DISTRIBUTION OF EARNERS ACCORDING TO DISTANCE BETWEEN PLACE OF RESIDENCE AND PLACE OF WORK AND THE MEANS USED FOR COVERING THE DISTANCE

Means of covering distance	Work in the house	Up to 1/2 mile	1/2 to 1 mile	1 mile to 2 miles	Above 2 miles	Distance not Definite	Not Stated	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. On foot..	470	1,396	515	387	397	178	-	3,343
2. Bicycle..	-	28	34	26	9	-	-	97
3. Bus..	-	-	-	-	32	3	-	35
4. Railway..	-	-	-	-	16	6	-	22
5. Motor Car..	-	-	1	-	-	1	-	2
6. Bullock cart..	-	6	4	2	42	7	-	61
7. Not definite..	-	1	-	-	3	16	-	20
Not stated..	-	3	1	2	1	12	34	53
Total	470	1,434	555	417	500	223	34	3,633

would amount to 25 per cent of the income of the average household in the bottom quintile in that city, if only one member of the family used public transport. Figure Twenty-Three gives an extremely clear picture of the situation which exists in most cities. (Hubli City, page 110) In this case it can be seen that the vast majority of city dwellers walk to work and that about two-thirds live within a mile of their place of employment. Less than 2 per cent use any form of motorized transport.

Caste, family and village ties are important sources of security. Relationships with the native village are therefore maintained where possible and many send money back regularly as a kind of social security payment. In Agra the average migrant household sends back 33 rupees per year to their native village. 10 per cent of the migrants in Agra own land in their native place and only 16 per cent left neither land nor family behind. 58 per cent of the migrants to Agra visit the native place "frequently" and 25 per cent visit on special occasions. In Baroda 31 per cent of the migrants own property in native villages and 73 per cent visit their native village once every two years at least. This indicates a strong relationship with the village as a source of security, as the joint family shows the importance of the family as a source of security.

The following characteristics then may be applied to such households:

1. The household incomes are low, ranging from subsistency to roughly three times subsistency. This includes the bottom four quintiles of population and places all of them out of reach of

an income which will support a "minimum standard dwelling unit." Incomes are low even when compared with other developing areas (Lima for example has a mean income which falls between 3S and 5S).

2. The extended family describes some of the emotional and economic links of the unit. The family unit is made up of a male head, one or more sons, and their families. An alternative structure is a household of brothers and their families. Most important is the fact that the unit shares a common purse. The family works according to the principal of from each according to his ability and to each according to his needs.

3. There is a lack of dependence on one source of income for the following reasons:

a. security - if one source became ill or died the entire family would be ruined and would have to return to the village or face a very uncertain future.

b. No one person can make enough money to support the entire family. Existence then requires as many members of the family as possible to participate in employment.

4. The household unit includes members in diverse types of employment. This is true because:

a. there are different job opportunities for men, women and children. Thus, it would be probable that one member would be a house boy in a bungalow, one a peon at an office or institution and still another a laborer on a construction site.

b. Most of the members are employed as casual laborers and the job type will change often even for individuals.

5. The unit depends on culturally based information networks.

a. the primary ties of the unit are within a homogeneous family, caste and communal group. Ties may be further limited to a regional and linguistic group.

b. when the household unit becomes dysfunctional (meaning it fails to have an intake of income necessary to purchase a subsistency level of living) it has the option of turning to the communal groups for help. This implies a responsibility of each member household unit that it will aid other units in maintaining a life style above subsistency.

c. the types of communication are face to face and are verbal. This requires a high degree of immediate personal contact.

d. the community acts as an information bank and communication network.

6. The community depends on a micro-system of exchange to carry on with its relations to the outside economic world.

a. There are traditional relationships between one caste and another. These relationships specify functions of individuals.

b. There are informal economic agreements among different members of the community. In this way a woman of one family may fetch water for an older bachelor living alone, because it is taboo for men to use the well or embarrassing and he may repay the service in money or by another gesture.

7. As noted above income is positively correlated with family size.

Location as a function of the Symbiotic Household

The above unit has many critical needs which affect and

determine its location in the city. These patterns in turn effect the patterns of the city.

1. It must be located where there is a diverse source of work of a casual and unskilled nature.
2. There is a critical number of such units which can be supported by any given area, which can be called the load of an area. An area can be considered saturated when all the units are living at a subsistency level or renting and in one room dwellings. This seems to be 500 people per acre.
3. Location will be where fellow family, caste and communal members are located for reasons of security and information distribution.
4. There are positive returns correlated with increased lengths of time spent in an area. The micro-economic fabric strengthens over time as contacts are made, relationships of an economic nature are reinforced and an understanding of the area system is gained.

Thus, the decision of any unit to locate will be determined by job accessibility and diversity, level of saturation, and possibilities for social connectiveness. The means of transport limit the area any one household unit may exploit.

Resulting Residential Patterns

The above are major forces in the structuring of residential patterns in the Indian city. The following patterns characterize such structure:

1. Density:

a. The symbiotic household unit described above results in high densities. This is true due to the growth history of settlement patterns at several scales. First, at the settlement scale we originally found homogeneous settlements spread apart as isolated nodes. But over time as they grew they began to fill up the available space and to find boundaries with each other until the only way the population could grow was by increasing ground coverage and density.

Secondly, a similar pattern of growth resulted at the dwelling scale. One member of the family household would settle in a caste group. Over time new members of the family would arrive from the village and sons would bring wives to live, each building his own hut. Thus, housing units which originally had space around them would now be packed together.

b. Households are attracted to the city center and other areas which have a large number of diverse, casual unskilled jobs that will support a large number of people. Thus, in these areas there will be a seemingly exaggerated residential density.

c. Families will live jointly rather than in a cluster of related nuclear families if prime location is close to saturation.

2. Mixed Use:

Commercial and industrial areas, along with service areas, provide the maximum number of jobs per unit area and therefore tend to attract a large number of residents who must live close to the source of employment.

3. Cost/Benefit:

The seeming diseconomy of living in high density, mixed use environments is off-set by the advantages of immediate accessibility to a diverse source of unskilled casual employment. This raises many questions: How do we define Cost/Benefit in such a situation? When can we call a settlement pattern or an environment pathological? The second question is perhaps easier to answer than the first. An environment could be called pathological when it prohibits a household from achieving a life style it desires. Case studies will show this most effectively. Cost/Benefit can be implied from the persistence of certain location patterns. Weighing costs is difficult. One can turn to extreme conditions of "cost" such as Calcutta and infer the costs of high density, mixed use, communal living does not outweigh the benefits. I think here it is important that we develop a notion of critical benefits which should be seen as absolute needs. Many of these critical benefits seem to cluster around the notion of location. Absolute needs seem to be: accessibility by foot to a diverse source of jobs; security provided by communal and caste group; and low rent.

The above factors can be seen in the distribution of low income household units in the city.

1. Hutments are spread over the city of Ahmedabad, and in areas where jobs are limited (as in bungalow suburbs where domestic and institutional jobs predominate) the hutments are highly clustered in dense nodes. This pattern expresses the availability of sites for squatting and the support capacity or load of any area of the city.

2. The New City is an area of growing densities and a high level of mixed use. The integration of both industrial, service and commercial uses is common.

3. The overall densities of the city is high when compared to developing cities of Africa and Latin America and as mentioned earlier this is most extreme where casual labor is most intense ... in the Old City. There is a correlation between the location of mixed use and high densities and the location of unskilled, casual jobs, of a diverse nature. There seems to be a gravitation of low income households to these areas.

4. The city is physically structured in a manner that expresses social structure. There are distinct communal, caste and family areas (see map of Calcutta, Ahmedabad and Liberty).

5. The spatial distribution of income correlates negatively with density and the degree of mixed use.

6. As the rich continue to move from their homes in the Old City to the suburbs, the poor inhabit the rooms from the sub divided houses, a pattern not typical only of India.

CHAPTER FIVE:

CONCLUSIONS

The chapters which came before are fragmented descriptions of a complicated process which gives form to urbanizing areas. My purpose here is to pull together these fragments and to picture trends in the dynamic process of urban transition.

The process is one of establishing equilibrium between physical, social and economic needs and means. It is in the process of "equilibrium finding" that order must be perceived.

Three assumptions about the context of Ahmedabad are also true, to a greater or lesser degree, of cities in developing areas:

1. Scarcity typifies the availability and allocation of resources for the majority of the population. About 70% of the population cannot afford "free market housing."
2. The city is in a transitional period. This means among other things that:

a. demographically the population is shifting from persons "of the city" to migrants from the outside (Ahmedabad = 50/50). Birth rates are increasing. The result is a younger, rapidly growing population skewed toward males because women migrate less readily.

b. Economically barter is giving way to a money economy and employment is moving to manufacturing and services from agriculture and caste bound trades.

c. Socially, new forms of mobility are opening through education and "money." While caste and family affiliations persist they are taking new forms and addressing themselves to

new problems.

d. Culturally the value system is changing from a "truth" based to a power based system.

e. Physically, old components are transforming themselves and new components are being added to the city. Technology is altering the concentration of employment and increasing the capacity of urban infrastructure to support larger numbers of people in smaller areas in a sanitary manner.

3. The city is formed of components either old or new which act as products to be consumed by users according to their needs and means. The components have the following characteristics:

a. They can be saturated. This implies that there is a limit to the number of households (people/acre) that can live in a component or segment thereof. In Ahmedabad this is reached when all the multi-room dwellings have been subdivided into one room dwellings. 500 persons per acre seems to be the saturation level for the old city under these conditions. Saturation is thus a physical concept. A second order definition of saturation is the support capacity of the infrastructure to maintain sanitary conditions and social services necessary for survival.

b. Any designated area of a component has a support capacity we can call load. For our purposes load means the number of people an area can support at subsistency plus a margin of surplus (of which components are "expectation . . . the desire to consume luxury goods, luxury being defined as anything in excess of subsistency . . . and security through income.") The margin of surplus may be zero especially the security component. Load is

thus an economic concept.

c. A component then has a critical density which is conceptually a combination of saturation and load factors. The difference between actual density and critical density is an index of potential. Critical density is the maximum concentration of population which any designated area of a component ultimately can house. Critical density will vary by changing factors of load or saturation. This can be done by lowering security and expectation levels to increase the density or by changing the saturation capacity by redefining the number of dwelling units either through production (adding units) or by changing levels of expectation (households decide they can live in one room instead of two).

d. Level of development of shelter of components can change. This can happen through upgrading in a piece by piece fashion or through addition of higher level units to the component or through downgrading by subdividing units so as to create more units at a lower level of development.

e. Tenure of components can change. Older components can rent at sub-market levels (below the cost that would be necessary to support interest, principal, maintenance and profit for an equivalent new unit). Rent is a more adaptable form of tenure than ownership. The percentage of units rented is an important index of a component's capacity to adapt.

f. Location of components determines their accessibility to other load areas to support local inhabitants if saturation capacity is greater than load or if the quality of load is greater

in an accessible area. Accessibility to "outsiders" who may be supported by the component is determined by location. In and out migration of inhabitants of any given component is effected by a component's adjacency to other saturation and load areas.

Thus, components are not only physical in concept, but are defined by their level of saturation, capacity of load, critical density, level of development of shelter, tenure and location. Components are always changing and there is an equilibrium between them as load, saturation and critical density of one will effect the load, saturation, critical density and quality of accessibility (location) of the others. Thus, components become <u>settings</u> which can be manipulated by users according to their situation.

For our purposes users can be defined as households. Because of the transitional conditions noted above urban households can be characterized in the following manner:

1. being recent migrants.
2. having a size of approximately 5.5.
3. depending on casual and diversified sources of employment.
4. having an average income per person of about two times subsistency. 70% of the population being under three times subsistency.
5. needing location close to the city center because of its provision of diverse and casual labor, and needing to live in direct contact with family, caste and community for security. Security lies with these basic associations, not in consistent income, ownership of property or institutionalized quarentees.
6. households are of an extended family type either living

jointly or as immediately accessible nuclear families.

7. All of these factors help define the <u>situation</u> of the migrant households, but are static indices. In order to understand the dynamic quality of the situation of households and to define their expectations we must understand the place of households in one of several models of mobility of adapting to urban life. For our purposes then mobility is a "life style" finding process and expectation can be defined as the difference between the present life style and imagined future life style of the household. Positive, static or negative mobility then is dependent on whether or not the household is moving toward the desired life style or away from it. While the situation of households has a quantitative cluster of characteristics noted above, it also has a relative, qualitative characteristic dependent on expectation.

Life style may be defined as a cluster of social, economic and physical characteristics and from a continum of these characteristics we can withdraw several abstract situations which can be hypothesized as stages of adaptation to the urban environment. These abstract situations become reference points for our discussions of the relative positions of households in the adaptation or life style finding process. The actual situation then of any household is "place" in a process of adaptation to and integration with urban life. The work of Marshall Clinard, Oscar Lewis, William Mangin, Peter Marris, Richard Patch, Lisa Peattie, Helen Icken Safa, and John Turner have provided us with descriptions of these situations. The following are situations

relevant to our studies (Benninger, Ekistics, Feb. 1970):

1. Reception is the situation experienced by the new migrant to the urban context. In this situation the newcomer - usually unskilled - needs maximum accessibility to casual jobs and possibly a close physical connection to a main market where he can obtain left-over food at the end of each market day. He has no money or time to spend on transportation and his need for shelter is minimal because he usually arrives without a family and carries what he owns on his back. Any rented shelter would in fact constitute a serious drain on his budget. The setting which most often results from this situation is primarily the street, where in warmer climates the migrant may spread out a blanket, rags or newspapers to bed down for the night. Alternatively, he may stay in the railway station, where he can fake as a third class passenger. The more fortunate have family members who will allow them to camp in their homes while trying to find regular work. The situation is usually temporary (up to six months).

2. Prolonged Reception is the situation in which the migrant's condition continues to remain the same as the periods during which he was being oriented to urban life. It might be called a condition in which the Reception situation has become a cronic life style. Generally it indicates a weak connection with the urban context generally as a result of failure to integrate with the urban economic and social life. Usually the persons involved are engaged in casual manual labor or in very marginal retail enterprises. Although street sleeping is the representative environment, it may acquire a more institutionalized form. For

example, in many cities shopowners have given certain people the right to sleep on the threshold of their business in return for an agreement that the squatter will keep an eye on the place. Small lean-to sheds may be built, large enough only to store a small amount of cooking and sleeping items. At night a habitat environment is created by rearranging this equipment. In the Prolonged Reception situation, whole families may often be found, unlike the Reception situation where only one member of a family has yet come to the city.

3. In the Accomodation situation, the migrant has become a part of the city. Very likely he either has a job with a regular income or he has established contacts with outlets for casual labor which provide him with enough assurance that he can rent shelter, even though the rent must be very low. Location is still of primary importance because he cannot afford transportation to his job, and his position with regard to security has not changed to the point that he can afford to be far from the sources of casual labor. His family lives with him and they may be participating in small scale economic activity. The setting which is most representative of this situation is the city center slum.

4. The Consolidated situation has been well described by John Turner and William Mangin. It is a condition in which the migrant has assessed his place in the urban environment and his possibility of making a permanent place there. His job and income condition have become relatively stable and his income is high enough to afford some transportation. The family size is

normally large and some children are old enough to put pressure on the parents to achieve certain status symbols. By this time, the migrant can visualize his security needs within the urban context and can explore ways to assure it. Lima style squatter settlements represent this situation, while hutments in India do not.

The settings of these situations depend on the timing of the migrant's movement through them. The environments will be different according to the timing and to the path taken by different segments of the migrant population through the possible situations offered by a given society. Therefore it is important to analyze the possible models of movements between various situations and to discover the types of environment which result. Figure 25 is a graphical reordering of the situations depicted in Figure 24, showing the importance of sequence and timing.

The Turner model is a movement from Reception to Accomodation to Consolidation. It could be called an optimal model because all systems respond to the needs and means of the situations, and the environments which result have great potential in terms of the setting needs of a growing transitional city. As the situation changes, or is perceived to be changing, there are adequate resources available to make a change in setting. In this model certain conditions are assumed to exist, such as available open land, transportation at reasonably low fares, a low level of police protection for private and municipal land. Moreover it assumes that conditions in the city center slum are satisfying enough to prevent people from undertaking a premature unplanned

or haphazard move to the consolidated areas. Thus the optimal model assumes a great deal of planning.

In Asia, and particularly in the settlement patterns we have studied in India, a model which could be indicated as Premature Consolidation is more relevant. In this model the migrant moves directly from Reception to Consolidation. The environment which results is quite different from the optimal model. The most noticeable difference in the resultant setting is that the premature model has no capacity for physical growth and change. Accessibility and utilities may only be improved by destroying some of the dwelling units, and lots are small and usually undefined. On the other hand the environment which results from the optimal consolidation model of an organized community shows a good structure in terms of the layout of streets and passages, with flexibility for the future. The addition of drainage and utilities can easily be added within the network structure and the size and configuration of the lots allow for growth over time and continuous upgrading.

Conditions which cause Premature Consolidation are highly unsatisfactory conditions in the city center slum; a desire to live with relatives and traditional social groups; good location of areas coming under consideration, and lack of funds for rent.

It is in cities where the center city slum is already saturated and rents are relatively high that Premature Consolidation takes place. In India, and other areas of the world where family caste or tribal membership determine dwelling location for the poor, the Premature Consolidation model is very prevalent. In

these cases a migrant will move as quickly as possible to the location of his caste group. If his father or his uncle is already in the city, he will certainly want to live next to him without considering an alternative better environment. This results in the construction of new hutments in areas where the land area is already overbuilt. In many cases one caste community is bordered by different caste communities, thus forcing it to increase its density and become over-crowded. In such areas community organization tends to be along traditional caste lines and oriented more to the ceremonies of life than to solving the pressing problems of an urban existence. Ties with the municipal and national political structure are mostly non-existent; quite unlike the Lima squatters who are highly politicized and who name their well-planned invasions and the resultant new communities after politicians whose favor they seek.

A third model includes people who remain in the Prolonged Reception situation. Although most often found in the primate cities of Asia, it is certainly a world phenomena. It occurs in cities where a saturated labor market, causing underemployment and unemployment, permits many migrants only the most minimal personal income and where (Bombay and Hong Kong are good examples) the available land area for building is already covered with structures, seemingly closing the possibility of moving on to the Accomodation phase. In addition to instances in which progress has become difficult there are members of this model who can be called drop-outs. These are persons who may at a previous time have achieved higher status and environmental conditions but,

due to some misfortune, were forced to drop into this Pathological Model. While misfortune may have thrust a man into this model, the situation tends to prohibit him from moving on to a better life style.

The Accomodation Model indicates that it is the movement from Reception to Accomodation that has become stabilized. For many inhabitants this can be a desired condition.

The situation may provide a level of shelter and accessibility to employment not readily available in other environments. In a few cases, maybe small families without children, it is in the most desirable location. Others who have had a long urban history may prefer the city center slum because it offers close family and friendship connections, which have economic meaning. They may consider that the security offered by home ownership in a consolidated settlement would not adequately replace the security offered in the existing close personal relationships. In India, where security is perceived to be in the village or "native place," and life in the city is perceived as a temporary condition (even though it rarely is), a movement to consolidate has much less meaning than in the optimal model, where urban inhabitants are building security for themselves within the urban context. The Indian migrant in the Accomodation condition will send any surplus earnings to his family in the village, where his status and his security are founded, rather than move on to establish a new permanent home in the city. He will often return to the village to marry and believes he will go to the village in old age, and even his children born in the city know the village as their

native place. Conditions which encourage stabilization of the Accomodation model are a large supply of slum dwellings in the center city; a strong police force inhibiting consolidation; a lack of good sites for such consolidation; traditional sources of security other than the dwelling place; a lack of any tradition of planning; and a status structure unrelated to the physical development of shelter.

The four models presented represent the predominant patterns of migrants in many urbanizing centers of transitional economies. The interaction of situation and setting creates environment.

Environment is then the by-product of two processes which mix conditions of setting and situation in ways that can either be healthy or pathological, depending on the extent to which households are able to attain life styles which they perceive attainable and are within probable ranges of attainment.

From this discussion the importance of the movement of population between components can be seen. This phenomena could be called flow. The ability of migrants to fulfill expectations will correlate with the supply of settings comensorate with situations of inhabitants. Mis-matches occur when there is not a correlation between the supply of settins and the situations of the people.

The premature consolidation model results from a mis-match between situation and setting. The situation demands a location at low rent which the existing situation does not provide. A new setting is then created to balance the setting. The cost of the mis-match is over crowding and poor sanitary conditions as well as reduced capacities for growth and change.

In the pathological model there is an imbalance between load and saturation. In this case there is a greater load capacity than accomodation capacity (the load area is saturated). At the same time competition for casual unskilled jobs is high resulting in low margins of surplus (nearing zero or subsistency) forcing migrants to live on the street.

In the Accomodation Model there is a match between a situation which opts for location and flexible tenure as high priorities and setting which provides accomodation on a rental basis.

In the optional model there are also matches between situation and setting. Because of variations in police power, job continuity, security sources, and income there are variations in the situations which would opt for consolidation. Consolidation is therefore not a common setting in South East Asia or India, because there are not sufficient imbalances between other settings and situations to cause households to consolidate. Needs of households will be fulfilled by adding high density components with high accessibility.

It appears that marginal propensities for consolidation arise where incomes range between three to five times subsistency, as in the case of Lima, Peru. The probability that households in Asian cities will earn at that rate is low and therefore we can expect the continuation of the saturation of city center components and the addition of prematurely consolidated components with high densities. Under these conditions high priority in planning should go to the provision of basic infrastructure to

maintain health standards and the plotting of high density areas on land acquired as near the city center as possible.

The upper 8 to 12 per cent of the population will continue to build bungalows and as we have seen this class has dominated residential sites in 33% of the city area in Ahmedabad and has consumed most of the resources available for urban growth. The low density and high level of infrastructure noted in the case of Swastique is typical of the planning of most cities in India.

We may expect the moderate income group (upper 70% to 90%) to participate in self help consolidating processes. Their incomes range from three to six times subsistency and they now generally live in center city locations that are "uncomfortable" to them and which might better be used by low income groups. For this group high density plots should be layed out as near to the city center as possible. The plots could have densities as high as 60 to 70 plots per acre allowing an ultimate density of 120 units per acre on two levels. As the city spreads in area these areas could then take over the setting function needed for the Accomodation situation. Moderate income families would tend to sub divide their units giving them over to lower income groups with smaller household sizes (second quintile = 4.2 persons per household) and the areas would then reach about 504 persons per acre when saturated. The high profits now made by the high income group who control saturated areas would be spread to the moderate income groups who sub divide units their families built over the previous generation. The moderate income sector, who now must remain in the Accomodation setting (which is below

their expectations) could be a vehicle for vastly increasing the stock of high density housing. Planning agencies should therefore encourage this type of setting to develop.

As noted earlier order is defined as equilibrium finding between social, economic and physical needs and means. This can be stated in terms of balance between setting and situation. As long as the city is in a period of transition equilibrium finding processes will continue.

Characteristics seen as symptoms of decay may well be positive signs of a system undergoing healthy changes with scarce resources. One can predict that after the transition is complete, higher standards will become reasonably possible. But the present situations of the majority of urban households do not place a high priority on high standards. Cost-benefits of living under contemporary urban conditions can be deducted from the fact that most migrants do not return to the village and that their incomes are substantially higher than what can be had in the often oppressive environment of the village. In fact the better life in the city seems to be a major causal factor of the transitional state of the city.

As we have seen overcrowding and mixed use are essential to most inhabitants of the city for accessibility and livelihood. Fragmentation into socially homogeneous groups provides a security factor which the village can no longer provide and for which there are no resources to provide on an institutional level. The low quality of housing is often noted as a critical indication of the failure of Indian cities. But in a salubrious climate

shelter has a lower priority than location and low rents for a household that is concerned with survival and mobility.

The terms in which housing shortages are stated often indicate that solutions should be found in terms of the production of more units of minimum standard. Housing as an element of a process is poorly understood and the more essential elements of location and tenure type are rarely treated.

Urban infrastructure in terms of drainage and clean water supply are essential in high density conditions. While the gross conditions may be declining, on a per capita basis they are increasing as the new migrants are coming from areas with no clean water or drainage to an area where clean water and drainage systems are over loaded.

As noted in the introduction the question of redistribution of resources should be clearly differentiated from priority systems of individual households when determining what "should" be. The increasing class polarization which is often noted as a symptom of breakdown is a positive indication that social and economic inequities are becoming part of the conciousness of India and that the role of power as a stabilizing element of society is being recognized over the traditional "place" and "truth" oriented norms. Class polarization is then a positive by-product of the contemporary urban scene.

On the other hand land speculation is not inherently a necessary element of the transitional process, but rather a symptom of the power base being skewed to the control of the few. Previous discussions have noted the importance of location

in all situations of the bottom four income quintiles of population. The extent to which the very high income group has dominated the urban land system is notable in the fact that 9% of the population lives on 30% of the land. Land is an essential resource to be controlled if urbanization is to be controlled. The case of Swastique illustrates these problems. Not only is there an exaggerated consumption of resources but there is an emphasis on high levels of development and standards borrowed from societies with conceptually different social and economic delimas.

Nationalization of all land and its incorporation as a public utility in which case it would be leased to users on charges based on the relevance of use to development objectives and with the purpose of collecting for public purposes unearned increments of income. In this fashion low density residential areas close to the city center could be made unfeasible and the use of vast areas now held for speculation could be directed toward consolidation functions.

Early in this document it was noted that there were imbalances between social and economic planning and urban planning. These imbalances can be seen in vast expenditures on suburban bungalow developments and on such projects as new capitals all built according to high standards and at great cost. The objective of creating "western" garden cities for the few must be seen as counter productive to development processes in which upward mobility of the majority is curtailed by the lavish consumption of locations and infrastructured by the few.

The movement of the upper class to garden city suburbs is

pathological in the sense that it prevents others from achieving reasonable expected life styles. As a mobility model it then falls in the cluster with Premature Consolidation and the Pathological Model, and while the latter two are conditions of necessity based in critical priorities the first must be seen as a misconception of standards and an irrelevant life style made possible only by inequitable distribution of resources. It is counter productive to India's socialist objectives.

On the other hand hutment clearance projects are carried out to create an abstract physical image of what the city should be. As alternative settings are not provided and the policy is carried out with no understanding of the causes of hutment formation this must also be seen as counter productive to development efforts which should ultimately act in favor of the mobility of households. Hutments are essential settings for particular situations and their existence must be protected.

Positive planning steps would opt for balancing inadequacies in the settings with situations. Where this is not possible benign neglect would be preferable. Some positive steps that could be made would include:

1. The control of urban land for the public good, possibly by nationalizing all land and incorporating it as a public utility.
2. Provision of locations for dwelling at densities and levels of mixed use which correspond to situations inherent in processes of upward mobility.
3. Through planning and allocation of vacant land adjacent or in existing saturated areas encourage the addition of dwelling units

through the popular sector.

4. Financing now given to suburban housing societies should be rechanneled to self help projects (3). This would include funding for community organization and technical assistance.

5. Municipal funds now expended on the infrastructure in suburban areas (noted by Setya) should be redirected to high density areas where sanitation is a critical problem and to consolidation areas that have a high potential of becoming accomodation areas.

6. Provision of Reception areas in the city center which provide location at extremely high densities for new-comers to the city. This could be done by incorporating space above city markets.

7. Where housing is built or financed by the public sector it should be on vacant land in or near saturated areas. All units should be rented. Densities should be maximized and level of development and provision of private facilities should have a lower priority than density.

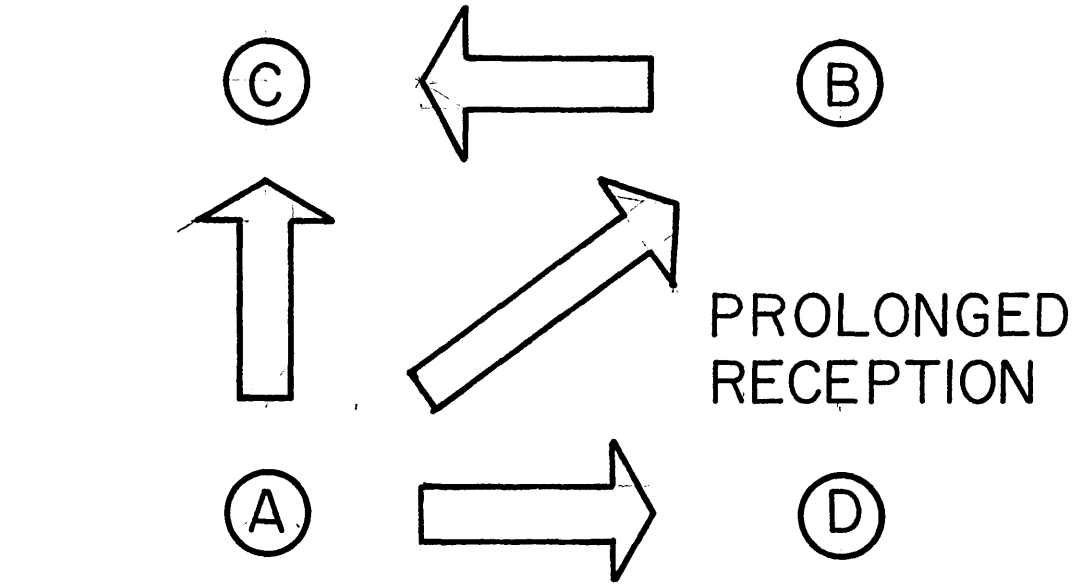
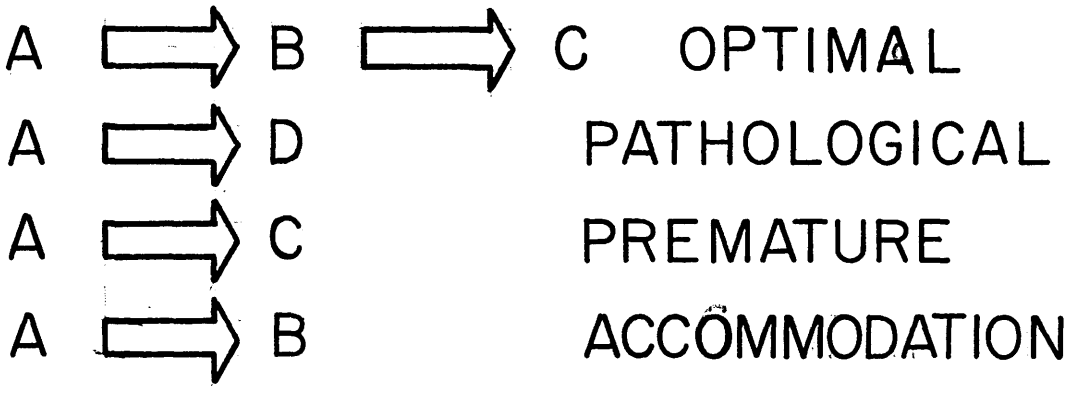


FIGURE 24



MODELS OF MOBILITY

FIGURE 25

APPENDIX A

THE BOMBAY TOWN PLANNING ACT, 1915

(as modified up to 31st March 1921)

The more important sections of the Act are reprinted below. Special attention may be given to: -

Section 3 - which shows the wide range of matters which can be included in a Town Planning scheme.

Section 8 - which limits the area, in respect of which a Town Planning scheme may be made, to land in the course of development, or likely to be used for building purposes.

Section 12- which provides for the pooling and redistribution of plots, and

Sections 18 and 19 - which show how the local authority may recover a part or the whole of the costs of the scheme from betterment contributions.

PREAMBLE: Whereas it is expedient that the development of certain areas should be regulated with the general object of securing proper sanitary conditions, amenity and convenience to the persons living in such areas and in neighbouring areas.

Section 1 - gives the short title and extent of the Act, and

Section 2 - is the interpretation clause.

Section 3 - A town planning scheme may make provision for any of the following matters: -

(a) the construction, diversion, alteration and stopping up of streets, roads and communications;

(b) the construction, alteration and removal of buildings, bridges and other structures;

(c) the plotting out of land as building-sites whether such land is intended to be used for building purposes in the immediate future or not;

(d) the allotment or reservation of land for roads, open spaces, gardens, recreation grounds, schools, markets and public purposes of all kinds;

(e) drainage, inclusive of sewerage, and of surface drainage and sewage disposal;

(f) lighting;

(g) water-supply;

(h) the preservation of objects of historical interest or natural beauty and of buildings actually used for religious purposes or regarded by the public with special religious veneration;

(i) the imposition of conditions and restrictions in regard to the open space to be maintained about buildings, the number, height and character of buildings allowed in specified areas, and the purposes to which buildings or specified areas may or may not be appropriated;

(j) the suspension, so far as may be necessary for the proper carrying out of the scheme, of any rule having the force of law, bye-law, act, or other provision which is in force in the area included in the scheme;

Provided that it shall not be lawful to suspend in any such area any Act of Parliament or, without the sanction of the Governor-General, any Act of the Governor-General in Council.

(k) such other matter not inconsistent with the objects of this Act as may be prescribed.

Sections 4 and 5 - deal with questions of disputed ownership and right of entry.

Section 6 - (i) A local authority as defined in this Act shall be deemed to be a local authority as defined in the Local Authorities Loans Act, 1914, for the purpose of borrowing money under that Act, and the making and execution of a town planning scheme shall be deemed to be a work which such local authority is legally authorized to carry out.

(ii) Any expenses incurred by a local authority under this Act or any town planning scheme made thereunder may be defrayed out of its funds.

Section 7 - defines a Notified Area.

Section 8 - (i) A town planning scheme may be made in

accordance with the provisions of this Act in respect of any land which is in course of development or is likely to be used for building purposes.

(ii) Where it appears to the Governor in Council that a piece of land already built upon, or a piece of land not likely to be used for building purposes, is so situated with respect to any land which is in course of development or likely to be used for building purposes that it ought to be included in any town planning scheme intended to be made with respect to the last mentioned land, the Governor in Council may sanction the making of a scheme including such piece of land as aforesaid, and providing for the demolition or alteration of any buildings thereon so far as may be necessary for carrying the scheme into effect.

(iii) The expression 'land likely to be used for building purposes' shall include any land likely to be used as, or for the purpose of providing, open spaces, roads, streets, parks, pleasure or recreation grounds, or for the purpose of executing any work upon or under the land incidental to a town planning scheme, whether in the nature of a building

work or not, and the decision of the Governor in Council as to whether land is likely to be used for building purposes or not shall be final.

Section 9 - lays down the procedure to be followed by a local authority in the initial stages and invests the Governor in Council with power to sanction or refuse the making of a scheme.

Section 10 - prescribes a time limit of twelve months for the preparation and publishing of a draft scheme.

Section 11 - The draft scheme shall contain the following particulars: -

(a) the area, ownership and tenure of each original plot;

(b) the land allotted or reserved under clause (d) of Section 3, with a general indication of the uses to which such land is to be put;

(c) the extent to which it is proposed to alter the boundaries of original plots;

(d) an estimate of the net cost of the scheme to be borne by the local authority;

(e) a full description of all details of the scheme under such clauses of Section 3 as may be applicable; and

(f) any other prescribed particulars.

Section 12 - (i) in the draft scheme the size and shape of every reconstituted plot shall be so determined

as to render it, so far as may be, suitable for building purposes.

(ii) In order to render original plots more suitable for building purposes the draft scheme may contain proposals

(a) to form a reconstituted plot by the alteration of the boundaries of an original plot;

(b) to provide, with the consent of the owners, that two or more original plots each of which is held in ownership in severalty or in joint ownership shall hereafter, with or without alteration of boundaries, be held in ownership in common as a reconstituted plot;

(c) to allot a plot to any owner dispossessed of land in furtherance of the scheme; and

(d) to transfer the ownership of a plot from one person to another.

Sections 13, 14 and 15 - deal with the consideration of objections, the powers of Government to modify or refuse sanction to a scheme, and restrictions on building after declaration of intention to frame a scheme.

Section 16 - (i) The costs of a town planning scheme shall include: -

(a) all sums payable by the local authority

under the provisions of this Act which are not specifically excluded from the costs of the scheme;

(b) all sums spent or estimated to be spent by the local authority in the making and in the execution of the scheme;

(c) all legal expenses of the local authority incurred in the making and in the execution of the scheme; and

(d) any amount by which the total of the values of the original plots exceeds the total of the values of the plots included in the final scheme, each of such plots being estimated at its market value at the date of the declaration of intention to make a scheme with all the buildings and works thereon at that date and without reference to improvements contemplated in the scheme other than improvements due to the alteration of its boundaries.

(ii) If in any case the total of the values of the plots included in the final scheme exceeds the total of the values of the original plots, each of such plots being estimated in the manner provided in clause (d) of sub-section (i), then the amount of such excess shall be deducted in arriving at the costs of the

scheme, as defined in sub-section (i).

Section 17 - For the purposes of this Act the increment shall be deemed to be the amount by which, at the date of the declaration of intention to make a scheme, the market value of a plot included in the final scheme, estimated on the assumption that the scheme has been completed, would exceed at the same date the market value of the same plot estimated without reference to improvements contemplated in the scheme; provided that in estimating such values the value of buildings or other works erected or in the course of erection on such plot shall not be taken into consideration.

Section 18 - (1) The costs of the scheme shall be met wholly or in part by a contribution to be levied by the local authority on each plot included in the final scheme calculated in proportion to the increment which is estimated to accrue in respect of such plot by the Tribunal of Arbitration:

Provided that

(i) no such contribution shall exceed half the increment estimated by the Tribunal of Arbitration to accrue in respect of such plot; and

(ii) where a plot is subject to a mortgage

with possession or to a lease, the Tribunal of Arbitration shall determine in what proportion the mortgagee or lessee on the one hand and the mortgagor or lessor on the other hand shall pay such contribution.

(2) The owner of each plot included in the final scheme shall be primarily liable for the payment of the contribution leviable in respect of such plot.

Section 19 - The amount by which the total value of the plots included in the final scheme with all the buildings and works thereon allotted to a person falls short of or exceeds the total value of the original plots with all the buildings and works thereon of such person shall be deducted from or added to, as the case may be, the contributions leviable from such person, each of such plots being estimated at its market value at the date of the declaration of intention to make a scheme and without reference to improvements contemplated in the scheme other than improvements due to the alteration of its boundaries.

Sections 20 to 28 - deal with the transfer of 'rights', provide for payment of compensation for injurious affection and describe the methods of payment by or to the local authority. Payments by

instalments is provided for.

Section 29 - After a draft scheme has been sanctioned the Governor in Council shall appoint an arbitrator with sufficient establishment whose duties shall be as hereinafter provided.

Section 30 - In accordance with the prescribed procedure the arbitrator shall -

(1) after notice given by him in the prescribed manner define and, where it is in his opinion necessary, demarcate the areas allotted to, or reserved for, the local authority, and the reconstituted plots;

(2) after notice given by him in the prescribed manner determine, in a case in which a reconstituted plot is to be allotted to persons in ownership in common, the shares of such persons;

(3) fix the difference between the total of the values of the original plots and the total of the values of the plots included in the final scheme, in accordance with the provisions contained in clause (d) of sub-section (i) of Section 16;

(4) estimate the increment to accrue in respect of each plot included in the final scheme, in accordance with the provisions contained in Section 17;

(5) calculate the proportion in which the increment of the plots included in the final scheme shall be liable to contribution to the costs of the scheme, in accordance with the provisions contained in Section 18;

(6) calculate the contribution to be levied on each plot included in the final scheme;

(7) determine the amount to be deducted from or added to, as the case may be, the contributions leviable from a person, in accordance with the provisions contained in Section 19;

(8) provide for the total or partial transfer of any right in an original plot to a reconstituted plot, or provide for the extinction of any right in an original plot, in accordance with the provisions contained in Section 20;

(9) estimate in reference to claims made before him, after notice given by him in the prescribed manner, the compensation to be paid to the owner of any property or right injuriously affected by the making of a town planning scheme, in accordance with the provisions contained in Section 21 and subject to the provisions contained in Section 22;

(10) draw up in the prescribed form the final scheme in accordance with the draft scheme: Provided that

(i) he may make variations from the draft scheme;

(ii) any variation estimated by him to involve an increase of ten per centum in the costs of the scheme as described in Section 16 shall require the sanction of the Governor in Council: Provided further that he shall make no substantial variation without the consent of the local authority and without hearing any objections that may be raised by the owners concerned; and that in the case of any substantial variation made by him the owners concerned shall have the right of appeal to the Governor in Council.

Sections 31 and 32 - provide that the decision of the arbitrator shall be final except in the case of increment or injurious affection in which case it is subject to appeal to a Tribunal of Arbitration.

Section 33 - (1) The Tribunal of Arbitration shall consist of a President and two Assessors.

(2) The President shall, in the City of Bombay, be a person who holds or has held office as a Judge of the High Court of Judicature, to

be appointed by the Chief Justice, in the district of Karachi, by such Additional Judicial Commissioner as may be appointed by the Judicial Commissioner; and elsewhere by the District Judge.

(3) One of the Assessors shall be an impartial person to be appointed, in the City of Bombay, by such person who holds or has held office as a Judge of the High Court; in the district of Karachi, by such Additional Judicial Commissioner; and elsewhere by the District Judge.

(4) The other Assessor shall be the arbitrator.

Sections 34 to 39 - deal with questions of procedure and with the powers of the Tribunal, and

Sections 40 to 43 - with the notification and the effect of the final scheme together with the powers of the local authority to enforce the scheme after sanction.

The remaining sections deal with miscellaneous matters, among others for the preparation of a joint Town Planning Scheme by two or more local authorities.

APPENDIX B

MODEL BUILDING BYE-LAWS UNDER SECTION 298 OF THE UNITED PROVINCES MUNICIPALITIES' ACT, 1916

The Model Bye-laws printed below have been framed by the United Provinces Government for the guidance of municipal boards when making bye-laws for the control of buildings, and were considered to be generally applicable to municipalities in that province.

1. The board hereby requires, with reference to sub-section (2) of Section 178, that notice be given in the case of all buildings wheresoever situated within municipal limits.
2. Every notice of intention to erect, re-erect or make a material alteration in a building or to make or enlarge a well shall be accompanied by plans, in duplicate, as prescribed in the following bye-laws. Each such notice shall also be accompanied by a key-plan, showing the precise situation of the building.
3. The plans shall be drawn to a scale of not less than five feet to the inch. The scale used shall be marked on the plans; and the position of the north point relative to the site plan of the house shall also be clearly indicated. All plans must be signed by the applicant. They must show all details necessary to enable the board to judge as to the suitability of the proposed building. In particular, the following matters must be clearly shown on the plans: -

   (a) The situation of the proposed building, relative to the streets or lanes adjoining it and to the

adjoining houses or other properties, the names of the owners of the adjoining houses or other properties, together with the chuk and house number, should always be given. The breadth of all adjoining streets or lanes must be shown. In case the breadth is not uniform the narrowest width should also be shown.

(b) Gutters and down spouts should be clearly marked on the plans.

(c) The position of, and full details regarding, all wells, drains, latrines, sandases and other sanitary conveniences, should be clearly given.

(d) When sanction is required in respect of a well, the internal diameter and the distance from the nearest privy should be shown, and it should be clearly stated whether the suggested work is compatible with the conditions laid down in the bye-laws.

(e) Each application in respect of a building should be accompanied by plans showing inter alia the following: -

(i) The ground floor and the position of the building relative to adjoining streets, properties and unoccupied spaces.

(ii) The first or upper floor and each additional floor.

(iii) The elevation of the building on the main frontage line.

(iv) At least one cross-section of the building.

All plans must be duly dimensioned. The height of the

plinth must be stated in all cases. The dimensions of all walls and doors as also the height of the rooms, windows, or other openings must be given. All new work should be indicated on the plan by a distinctive colour; and a key to the colours used should be given on the plans. It should be stated whether the house is to be pukka or kachcha and of what material the outer covering of the roof will be made.

4. No mosque, temple, church or other sacred building shall be erected or re-erected unless the frontage is at least fifteen feet from the centre of the road on which it abuts.

5. All houses intended for human habitation must be pukka or kachcha-pukka, except in the following areas: -

6. Except in the areas mentioned in bye-law 5 above, the outer covering of all roofs must be made of tiles, iron sheets or other non-inflammable materials.

7. Every person who erects or re-erects a building which is within 100 feet of the sewer and the water main shall link the privies in such building with the sewer.

8. Every person who erects or re-erects a building the whole or any part of which is intended or used for human habitation shall, if so required, construct one or more privy in connection with or as part of such building.

9. All persons who erect or re-erect buildings must conform to the standard types of privies prescribed by the Board for (a) privies connected with the sewer, (b) servants'

latrines for bungalows in civil lines and ahatas in the city, (c) privies on ground floors, and (d) privies on first and higher floors.

Sanction will not be given unless these plans and all the conditions imposed in respect thereof are adhered to; when any deviation from these plans or conditions is proposed, the health officer will be consulted by the Public Works Committee before a decision is given.

10. The Public Works Committee will fix in each case the precise position of the privy or privies inside the house or compound.

11. All privies connected with the sewer must be properly tapped and the plumbing and pipe work must conform to the specifications prescribed by the drainage bye-laws.

12. All privies connected with the sewer must be separated from any room used or intended to be used for human habitation by a masonry wall. Approach to a privy shall be through a tightly fitting door.

13. Every privy shall have a window opening directly upon the external air and of at least four square feet superficial area. This window shall be situated immediately under the platform of the privy. Sufficient ventilation shall also be provided to carry gases from the privy to the open air. In this bye-law 'window' shall mean an opening protected by wire netting or iron bars not closer than one inch to each other.

14. The platform of every privy shall be of nonabsorbent

material, such as glazed earthenware or smooth Portland cement not less than half an inch thick, so that no urine can penetrate. The whole privy shall, as regards both internal and external walls, be constructed of pukka masonry in lime.

15. The floor of a privy must be made of one or other of the following materials, to be selected by the owner: glazed tiles, stone cement or thoroughly well-burnt bricks plastered with cement not less than a quarter of an inch thick. The floor must be in every part of a height of not less than nine inches above the level of the surface of the ground adjoining the privy, and must be sloped on all sides of the drain.

16. The house drains through which waste or sullage water is likely to pass must be made of half round or whole earthenware glazed pipes not less than six inches in diameter properly laid upon a bed of concrete not less than four inches thick, where a house is connected with the sewer. In other cases the drain must be a pukka masonry cemented drain and all joints must be rendered tight with cement. These latter drains must be connected with the roadside drain, where a roadside drain exists within 100 feet of the premises.

17. The house shall be provided with iron gutters and down spouts to take all the rain-water which falls on its roof, chajjas or other projections. The gutters and down spouts shall be securely fixed and the latter shall

discharge into the surface drains by an elbow piece, the orifice being not more than one foot above the level of the bed of the drain and discharging in the direction of the flow of the drain.

18. Every room intended for or used for human habitation must have at least two ventilating openings of a superficial area of not less than twelve square feet each.

19. When a house is used for dwelling purposes, not more than two-thirds of the total area of the site shall be built over. In the case of properties where there are shops below and houses above, this bye-law shall not apply to the storey occupied by the shops, but shall apply to all other storeys.

20. The lowest point of the plinth shall be at least one and a half feet above the highest point of the road opposite the house.

21. No rooms intended for or used for human habitation shall have a height of less than ten feet.

22. (i) The term 'storey' shall be held to mean a room or set of rooms in a building the floors of which are at or near the same level.

(ii) The height of a building shall be held to mean: -

(a) in the case of pent roofs, the greatest height to top of walls (excluding gable walls) above the level of the centre of the streets on which the building abuts;

(b) in the case of flat roofs, the height to the

top of the parapet above the level of the centre of the street.

(iii) No three-storeyed house, or any part thereof, abutting on any street shall exceed in height one and a half times the width of the street: Provided that, if a building, or one or more of its storeys, be set back from the edge of the street, the height of such building or portion that is so set back may be increased beyond the height otherwise required by this bye-law by double the distance that it is set back.

(iv) The number of storeys shall not in any case exceed four and the aggregate height shall not exceed sixty feet, except with the special permission of the Public Works Committee.

(v) If a building abuts on two or more streets of different width, the building shall be deemed, for the purpose of this bye-law, to abut on the street that has the greatest width.

23. No wells shall be sanctioned, except in [certain circumstances] unless they are <u>pukka</u> throughout. If built inside a house, the internal diameter must be at least three feet. No well shall be sanctioned within fifteen feet of a privy unconnected with the sewer.

APPENDIX C

Slum Clearance Quarters (Public Housing)*

Terms and Conditions for Occupancy of Slum Clearance Quarters Constructed by the Ahmedabad Municipal Corporation:

1. Every tenant occupies the quarters on a monthly basis.

2. The tenant must pay a deposit of three months' rent in advance.

3. The monthly rent (Rs. 16.30) is payable before the 15th of every month. If the rent is paid after the 15th, the tenant may be fined an additional Rupee one.

4. If the quarters have an electrical connection, electric charges will have to be paid by the tenant.

5. All the Municipal taxes and cesses, except the property tax, must be paid by the tenant.

6. The quarters should not be put to any non-residential use and should not be sublet to anyone else.

7. The tenant must observe all the rules of cleanliness with respect to the quarters. He shall not cause inconvenience to others or spoil the appearance of the quarters.

8. No additions or alterations are allowed; and no partitions, either wooden or otherwise, can be erected in the quarters.

9. The Corporation is not bound to carry out repairs desired by the tenant.

10. Only members of the same family can live in the quarters. (The family includes the father and mother of the tenant, his wife and children dependent on him or his brothers and sisters who may be dependent on him and who dine together in the same kitchen.)

11. The tenant must send his children to the primary school for compulsory education.

12. If the tenant is addicted to wine or other intoxicants, is guilty of bad behaviour, or is given to quarreling with or harassing his neighbors, he will be forced to vacate the quarters immediately.

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*Additional information on slum clearance quarters may be obtained from Slum Clearance Department, Ahmedabad Municipal Corporation, Khanderao Market.

(Note: Other provisions to which the tenant must agree in order to be given slum quarters are concerned with conditions under which the Corporation may take possession of the quarters.)

APPENDIX D

HOUSING CO-OPERATIVES:

How To Form and Register a Co-operative Housing Society

1. Get ten or more individuals living within the Municipal limits of Ahmedabad to join together.

2. Obtain 4 copies of the bye-laws pertaining to housing co-operatives (Form "U") from Ahmedabad District Co-operative Union, opposite Ahmedavadi Pole. Fill these out and have them signed by at least 10 members.

3. Collect from each member Rs. 250(for 5 shares at Rs. 50 each) plus Re. 1.00 as membership fee.*

4. Deposit the total amount collected in the Baroda Central Co-operative Bank in the name of the proposed society and obtain a certificate of deposit.

5. In the case of industrial workers, obtain a certificate from the manager or proprietor of the factory which employs each member, stating that the person is a worker as defined in the Factory Act of 1948.

6. Obtain from the Ahmedabad District Co-operative Union 40 copies of the form on which members may attest that they do not own a house in the city. Have each of 10 members fill out and sign 4 copies of the above form.

7. If an agreement for the purchase of a plot of land has been made, prepare true copies of the agreement and have them signed by the 10 promoters of the society. If the land is not obtained directly from the owner and one or more middle men are involved, prepare one true copy of all the relevant agreements.

8. Obtain, from the Talati in the area where the land is, a copy of the Record of Right, indicating that the land under the name of the person from whom it is being purchased is recorded in the Revenue records.

9. If the land under consideration or purchased is Government land, obtain a letter from the Collector; if it is private land, obtain a site plan and have it signed by the chief promoter of the society.

10. Obtain 4 copies each of Forms B, C, and D from the Ahmedabad District Co-operative Union and have them signed by all 10 promoters. Insert in the blank spaces provided in Form B

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*In the case of industrial workers only Rs. 50 for one share each plus membership fee, is required.

the number of shares and the name of the society.

11. Forward all the above, together with an application for registration as a co-operative housing society, to the District Registrar of Co-operative Societies, Kothi Building, Ahmedabad.

The Registrar will then register the society and return to it a copy of the bye-laws of the Society duly sealed and signed.

The certificate of registration is usually issued within 15 to 20 days from the time the registration proposal consisting of the above papers is submitted.

APPENDIX E

Loans to Co-operative Housing Societies

To obtain loans from the Gujarat Co-operative Housing Finance Society, Ltd.:

1. A housing society must be registered as a co-operative.

2. Members must obtain the land on which they wish to build and have clear title to it.

3. A map showing the desired constructions on the land, plans of the houses, and an estimate of the construction must be prepared, and the prior sanction of the Municipal Corporation for all of these must be obtained.

4. Twenty per cent of the cost of the land and of the estimated cost of construction must be collected from each member.

5. Information on obtaining loans and application forms for loans should be obtained from the Gujarat Co-operative Housing Finance Society, Ltd., Bank of Baroda Building, 7th floor, Ahmedabad 1.

6. It is necessary for a co-operative housing society, in order to become a member of the Gujarat Co-operative Housing Finance Society to purchase two shares of the Society at Rs. 500 per share. A copy of the application form for these shares, together with copies of the proposals mentioned in it and a cheque for purchase of the shares should be sent to the Gujarat Co-operative Housing Finance Society.

   Rs. 1500 must be sent to the G.C.H.F.S. to cover cost of analysing title deeds, execution of mortgage documents and remuneration to architect of G.C.H.F.S. The Board of Directors considers applications only after receiving a certificate from the solicitors certifying that the titles are free and the property is eligible for ready sale.

7. Thereafter the number of members for whom loans are desired should be determined, and the application forms for loans filled in and sent to the G.C.H.F.S., together with the enclosures mentioned in the form.

8. An additional 20% of the cost should then be collected from each member and arrangements should be made to spend this money on land and construction.

9. As soon as information is received that the loans have been sanctioned, the co-operative housing society must pass a resolution stating that the society is willing to accept the

loan in accordance with the stipulated conditions, and send a copy to the G.C.H.F.S.

10. As soon as 40% of the amount collected from members has been spent on land and construction, the G.C.H.F.S. should be informed and a request made to send an architect to evaluate the property.

11. The architect's evaluation report is then placed before the Board of Directors which decides on the amount that can be lent from the sanctioned loan. This amount is then lent, after the mortgage deed is signed and sealed. The money lent must be spent on further construction of members' residences.

(Additional procedures are outlined in detail in a pamphlet which is available from the Gujarat Co-operative Housing Finance Society, Ltd.)

APPENDIX F

Requirements and Procedure to Obtain Building Permits.

Permission must be obtained from the Ahmedabad Municipal Corporation for any additions, alterations, or new construction within the city limits of Ahmedabad.

Correspondence should be addressed to the Commissioner, Ahmedabad Municipal Corporation, Ahmedabad.

Application form is available from the Building Permission section (Bandhkam Shakha) of the Ahmedabad Municipal Corporation on payment of 10 paise. Application must be made (on behalf on the builder) by an Architect or an Engineer who is licensed to practice as an Architect or Engineer within the city limits of Ahmedabad.

I. Every application for permission should be accompanied by

(1) Application form duly filled in and signed;
(2) Certificate from licensed Architect or Engineer, stating that he has undertaken design and supervision of the work;
(3) Plans in triplicate giving the complete details of the work;*
(4) The road line map obtained from the Municipality;
(5) Documents proving the ownership of the land by the owner - attested true copy of the "sanad" (deed) or the original

All of the above documents, with the single exception of item (3) above, must be submitted in the following circumstances:

(a) when no change is made in the height of the building;
(b) when only the internal floor is to be replaced;
(c) when flooring or plastering is to be done or re-done;
(d) when only a lavatory block or bathroom or a staircase is to be added or some modifications are to be made in them;

*Dimensions and details of the site; dimensions and details of the proposed work; sections of the building showing the heights and details of materials and construction; and North Direction. In proposals for additions and alterations to the existing premises, the plans must clearly indicate in different colours the existing and proposed portions.

(e) when converting an existing room or a bathroom into a lavatory block;
(f) when only doors and windows are to be made or re-made;
(g) when only a hood projection is to be made.

Permission is usually given within three weeks.

II. To obtain the road line map or site plan referred to in I(4) above:

The owner of his licensed Architect or Engineer must make application to the Municipal Commissioner, giving the survey numbers and Tika number of the land for which the road line map is required. Rs. 2.00 must be paid with the application. It usually takes one week to obtain the road line map. It can be obtained in three days if an additional payment of Rs. 2.00 is made at the time of application. In order to take delivery of the plan at the Building Permission Section, a court fee stamp of Re. 1.65 p. must be attached to the plan. If the plan is larger than average, the charges which must be paid at the time of delivery will be higher.

III. To obtain a water connection:

The applicant must obtain an application form from the Water Section (Pani Shakha) of the Ahmedabad Municipal Corporation. Water connections are given to the owner of the house or premises or the tenant on receipt of application and an agreement on a stamp paper worth Rs. 3.00. The application must be signed by a licensed plumber. The charges for providing the water connection depend on individual cases; the details can be obtained from the clerk in the Water Section. Permission is usually obtained within 10 days after payment of the charges.

IV. To obtain a drainage connection:

The owner of a new building must first complete his building and obtain a completion certificate from the Municipal Commissioner. In case of existing buildings, the applicant must submit an application on a form obtained from the Building Permission Section of the Ahmedabad Municipal Corporation (cost of form is 12 paise). Permission is issued by the Corporation within 10 days from the date the application is received. The applicant must then approach the Drainage Section with the letter of permission. Within a few days after payment of Rs. 3.00, an order is issued to him. The expenses of the drainage connection are borne by the applicant and differ with individual cases.

V. When a new building is completed, application is made to the Municipal Commissioner for a building completion certificate. The Building Inspector visits the site, inspects the work and, if it tallies with the details of the plan submitted, the certificate is issued. The owner may then apply for permission to obtain a drainage connection.

If the applicant needs further information, he can see the Deputy Town Planning Officer in his office between 3:30 and 4:30 P.M. on working days.

APPENDIX G

Cost Structure of Individual and Co-operative Housing 1966

(exclusive of cost of land)

1	2	3	4
Category of Housing	Accommodation	App. built up area	App. carpet area
		(1,40:1)	
(A) Low cost housing	One room with kitchen or two rooms with kitchen with independent lavatories (w.c. with bath)	252 sq. ft. to 350 sq. ft.	180 sq. ft. to 250 sq. ft.
		(1.50:1)	
(B) Middle cost housing	One bedroom or two bedrooms plus living, kitchen and independent lavatories, verandah	480 sq. ft. to 750 sq. ft.	320 sq. ft. to 500 sq. ft.
		(1.60:1)	
(C) High cost housing	Three bedrooms, living, dining, kitchen, store, two lavatory blocks, verandah and alcove.	1920 sq. ft. to 3200 sq. ft.	1200 sq. ft. to 2000 sq. ft.

Appendix G - Continued

5 Specifications of Construction (a)	(b)	6 Fixed Amenities supplied	7 Service Amenities	8 Cost per sq. ft. (Built as individual unit)
Ground floor structure with foundations upto 4'-0" in bk. superstructure in 9" bk. walls, R.C.C. slab, 9" parapet wall, ladder to terrace.	Jambra floor outside exposed brickwork, inside neerum plaster, cement tiles in lav. block 3'-0" dado t.w. windows & doors, iron fixtures, white wash.	Kitchen Platform (low), pegs, wooden planks for store space.	Electricity (5 to 8 points) water, drainage (inside the house)	Rs. 15/- to Rs. 18/-
Ground floor structure with foundations upto 5'-0" in bk. 14" bk. walls, R.C.C. slab, 9" parapet wall, staircase to terrace.	Cement tile floor and skirting, plastered bk. inside & outside, cement tiles in lav. block with 3'-0" dado, t.w. doors and windows, brass fixtures, distemper finishing.	Raised kitchen platform, racks for store space, built in wardrobes for bedrooms, sink and washbasin.	Electricity (8 to 12 points) direct & indirect water connection, drainage	Rs. 18/- to Rs. 22/-
Ground and first floor, foundations upto 6'-0" depth, 14" bk. walls, R.C.C. slabs 9" parapet wall, covered staircase up to terrace.	Marble mosaic flooring and skirting, white glazed tiles in lav. block with 3'-0" dado, t.w. or steel windows, t.w. doors, aluminium or chromium plated fixtures, oil paint inside and cement paint outside.	Raised kitchen platform with stone or mosaic finish, built in wardrobes and cupboard arrangement in every room, first class accessories.	Concealed lighting, direct and indirect water connection, drainage.	Rs. 25/- to Rs. 30/-

APPENDIX H

Grouping of Housing and Its Relation to Cost

Category of Housing	Cost per Square Foot			
	Built as individual Unit	Built as twin Unit	Built as individual but in groups of 20 and over	Built as flats or blocks in high rise (4 floor apartment)
(A)	Rs. 16	Rs. 15	Rs. 14	Rs. 17
(B)	Rs. 20	Rs. 19	Rs. 18	Rs. 18
(C)	Rs. 27	-	Rs. 25	Rs. 24

Summary:

Approximate costs of Individual Units of

Category (A)	Rs. 5000 to Rs. 6000
Category (B)	Rs. 12000 to Rs. 15000
Category (C)	Rs. 16000 to Rs. 75000

APPENDIX I

URBANIZATION AND URBAN INDIA

TABLE 7

INCOME DISTRIBUTION OF EARNERS CLASSIFIED BY OCCUPATION IN DIFFERENT CITIES IN INDIA (Contd.)

Monthly Income Rs.	0	1	2	3	4	5+6	7	8	Total
				HYDERABAD-SECONDERABAD					
0- 50	-	96	414	76	936	2278	140	687	4627
50- 75	1	57	156	164	242	280	38	76	1014
75- 100	1	52	154	142	218	265	33	55	920
100- 150	4	99	59	193	149	101	7	43	655
150- 250	14	74	69	148	165	80	8	47	605
250- 500	16	77	46	54	58	57	1	33	342
500-1000	30	35	2	2	24	2	1	6	102
Above 1000	21	3	-	-	20	-	-	3	47
Total	87	493	900	779	1812	3063	228	950	8312
				JAMSHEDPUR					
0- 50	-	-	-	7	133	37	419	14	610
50- 75	-	-	-	4	89	24	282	8	407
75- 100	-	1	3	34	44	136	213	2	433
100- 150	-	4	3	52	68	209	327	2	665
150- 250	1	2	3	54	69	214	336	4	683
250- 500	2	29	19	21	25	111	17	-	224
500-1000	5	40	3	-	6	3	5	-	62
Above 1000	2	13	-	-	6	-	-	3	24
Total	10	89	31	172	440	734	1599	33	3108
				LUCKNOW					
0- 50	2	106	227	34	651	1127	328	-	2475
50- 75	1	61	172	31	324	556	121	-	1266
75- 100	7	41	44	110	65	232	10	-	509
100- 150	7	37	40	98	58	207	8	-	455
150- 250	12	59	30	157	54	83	4	-	399
250- 500	21	51	13	64	27	14	-	-	190
500-1000	21	13	-	-	13	3	1	-	51
Above 1000	10	5	-	-	6	-	-	-	21
Total	81	373	526	494	1198	2222	472	-	5366
				POONA					
0- 50	2	87	180	45	473	1377	505	231	2900
50- 75	5	61	332	68	256	868	95	55	1740
75- 100	5	60	167	151	153	472	40	32	1080
100- 150	3	81	114	227	132	356	20	27	960
150- 250	14	80	114	132	111	102	8	19	580
250- 500	19	41	46	20	68	24	-	12	230
500-1000	14	19	3	-	19	2	-	3	60
Above 1000	3	6	-	-	6	2	-	-	17
Total	65	435	956	643	1218	3203	668	379	7567

TABLE 7 (Contd.)

Monthly Income Rs.	0	1	2	3	4	5+6	7	8	Total
				RAIPUR					
0- 50	-	14	49	7	26	538	146	-	780
50- 75	1	20	17	18	11	123	20	-	210
75- 100	1	10	7	9	6	45	8	-	86
100- 150	2	15	8	14	9	24	6	-	78
150- 250	5	15	3	5	9	24	5	-	66
250- 500	1	5	2	1	4	5	4	-	22
500-1000	1	1	-	-	2	3	2	-	9
Above 1000	-	-	-	-	-	-	-	-	-
Total	11	80	86	54	67	762	191	-	1251
				SURAT					
0- 50	-	47	93	28	203	1340	292	-	2003
50- 75	5	38	92	55	214	432	39	-	875
75- 100	5	13	49	47	68	14	14	-	350
100- 150	11	12	18	82	117	233	13	-	486
150- 250	6	24	9	26	56	47	1	-	169
250- 500	10	15	5	4	22	14	-	-	70
500-1000	3	2	1	1	12	9	-	-	28
Above 1000	1	1	-	-	3	-	-	-	5
Total	41	152	267	243	695	2229	359	-	3986

APPENDIX J

THE PARABLE OF SANJIVE: AN IMMIGRANT TO THE CITY OF AHMEDABAD

Ambali is a village of three thousand people all of whom live in one room mud huts with tile roofs made by the potter. Most huts have a lean-to front porch where the family lives and entertains guests. The enclosed room is used for storage, cooking and the women sleep there. The men sleep in the front yard. The huts are clustered in groups by caste and there is a distance of several hundred feet between each cluster. Ambali is forty miles from Ahmedabad, the provincial capital of Gujarat and a major world textile center. Almost all the male Ambaliwallas over fifteen years of age have visited Ahmedabad and have seen the autos, cinemas, the great temples and mosques, and have been excited by the bussel and activity of the great city. Occasionally boys will come back from the city to visit or to take a wife and they are dressed in slacks and ready-made shirts and black leather shoes with belts. The younger boys stare and listen to the stories of the city.

Sanjive lives in Ambali, but like two of his five brothers before him he will go to the city to find work. Sanjive's father has told him that he will find a better life in the city and that the family holding of one and a half acreas which is planted in beans will not give him work or support the family he is sure to make. The village has almost doubled in size since Independence and there is no need for Sanjive's labor. Moreover, Sanjive is looking forward to the city and the freedom it provides. He can imagine himself in slacks and a ready-made shirt with black

leather shoes. He feels that if he goes to the city he may even someday own a watch of a bicycle. He is not of a low caste but his place is fixed in the village. In his mind he sees himself in the city as a free and adventurous man.

Tomorrow Sanjive will walk eight miles to the nearest pucka road where he will catch a ride into the city on a passing truck or if no ride comes he will go on for two more miles to Talod a rail stop and commercial town where his cousin-brother lives. There he can spend the night and take the early morning third class train to the city.

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It was six o'clock in the morning just ten days ago when Sanjive had arrived at the Railway station in Ahmedabad. The floor was covered with hundreds of bodies rolled up in sheets like the dead feady for burning. The thought scared Sanjive but he soon found that these were live people who slept in the station every night because they had no other place to go and because the station was well located for casual jobs in the city. Sanjive had spent the first day walking around the walled city which is about a mile and a quarter across. He was just looking, exploring and feeling a little out of place in his pajama and kurta even though there were many dressed like him. Toward the end of the day he found his way to his brothers' place at Shapur, a cluster of mud huts just outside the wall and under Ghandi bridge on the Sabramati River.

After ten days Sanjive was restless. He had been to the mills working for work: Calico Mills, Jupiter Mills and many more.

None could offer work. The thirty rupees Sanjive's father had given him was running out and he did not like staying with his brothers. They lived in mud huts even smaller than those in the village, and in a caste group. Each brother had a hut next to the other. Moreover, they did not even own their land and there was danger in the monsoons of floods. Sanjive was sure that he would do better and he rejected suggestions from his brothers that he make his own hut there some day. Sanjive ridiculed his brothers for their conditions and disagreements on many issues followed. Sanjive decided he would sleep in the railway station until he could find a regular job. He heard from the people in Shapur of the cheap food that the produce trains from Karia reject at night after a day's sales and he felt he could do better by himself.

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Weeks passed and Sanjive was getting lonely living in the station even though he had found others in his position there who had become his friends. He had on several occasions found work, but just for a specific task and each time for only about a rupee a day. One day he carried things from the station to a go-down in the city and on another occasion he helped a man move a machine from one building to another. Sanjive found many of the men and boys at the station did this kind of work quite often and planned to continue there until a better job could be found. The station was well located for finding these jobs and people would even come there looking for workers. Most of Sanjive's new friends said this was why they stayed at the station.

Several of his friends had been at the station for three or four years and Sanjive found that there were similar men and even whole families who slept in shop fronts in the city picking up casual jobs at Mante Chock, the central market, and in warehouses and workshops near the station just outside the city walls. Sanjive began to realize that the task of finding a regular job would not be easy; that there were many who had come before him who had failed. He wondered how he could ever ask his father to find him a wife when all he could offer was street pavement and some periods when all there was to eat was garbage from the trains. Sanjive began to lose his hope. Every night he went to sleep dreaming that in the next day he would find a regular job. But each day was the same.

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Early one morning Sanjive's brother Indra came to the station in a hurry. He told Sanjive that in the restaurant where he worked one dish washer had taken ill and had missed the previous day's work. The owner of the restaurant became furious when no one came from the washer's family to do the work and the man was not to be taken back. If Sanjive came now he could get the job. Sanjive asked no questions; he was excited.

Washing dishes was eary to learn. The job paid twenty-five rupees per month plus food and the owner let those who worked there without families sleep in the back court. Pajamas and shorts were provided to those who worked there. Sanjive became happy. He began to think that if he could just save four month's salary he could buy pants, shirt and shoes, if not ready made

at least in the western style. Then he imagined how he would go to the village and show off to his friends the good life and success of the city. He now could dream again about buying a watch and he could afford to go to the new Rupali cinema. All these thoughts went through Sanjive.

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Sanjive tired of living behind the restaurant. He missed the life of his family and his caste festival was soon to be here. Sanjive moved to his brothers' at Shapur which was about 20 minutes walk from the restaurant. He now felt good there. He was with his own people, his own family and his own caste. These were people he could understand and trust. There was security here because all the income was shared and if one brother became ill someone would fill his place at work. All the family ate together and shared the love of the children. There is no rent and Shapur is just next to the center of the city where all the family works. Sanjive now wanted to be like his brothers'. He felt their life was better than that of the village. Someday he would bring a wife to Shapur and raise a family there by the Sabramati and under the walls of Ahmedabad.

What Can Be Learned From the Parable of Sanjive?

The forces that are pulling and pushing people to the cities have been long discussed. What should interest us is: what happens when they get there? Sanjive's story was, so to speak, typical. And if we look at it several points can be seen clearly. (1) The only work available to the vast majority of newcomers

is casual, unskilled labor.

(2) To get that labor and live by it location is essential. This is true because (a) the jobs come up quickly and whoever is at the source of demand will get the job, (b) the jobs are irregular and do not pay well and the new arrival should be close to cheap food, most likely discarded food. This will happen at the central market place or at rail stations, (c) there is a multiplier effect where many people of the same needs and means gather in terms of increased information, communication, understanding, and even help from those in a similar condition at a time of crises.

The people who lived at the rail station in Ahmedabad were in a situation of reception and they had to live there. Those who lived with their families on shop steps had given up ever leaving the reception condition; given up ever being integrated into the economic and social structure of the city. They most probably would remain in a pathological reception condition for the remainder of their lives. In this case the entire family is involved in and dependent on the marginal street economy and casual labor that the center city provides. Sanjive learned that in the end the security of living close to his family-caste group and the location near the center city which provided diverse accessibility to the working family was the best location for him.

APPENDIX K

Case Study of a family in "Liberty" (a hutment in Ahmedabad)

Indravadan C. Shah

The following interview is interesting for two reasons. First, the author is an eighteen year old Gujarati, who himself immigrated to Ahmedabad, much in the fashion of Sanjive in the previous parable. At the time of the interview (April, 1969) he had been using the English language for only two years and I believe his reactions to be rather direct and his emphasis on various information to be as relevant as the information itself. Secondly, the story tells us something about the priorities of people in cities. Even though the subject being interviewed (not identified) has desires for better housing, facilities and the security of land ownership . . . he has continued to live in these conditions in preference to a move to the edge of the city where he might find them . . . even after forceably being moved several times. The location of Liberty is about 15 minutes from Nehru bridge, which crosses the Sabramati right into the heart of the city. It seems to be location which keeps the subject and his family here.

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I was living in Navranpura Gaam fifty years before it was surrounded by the Tamarind trees. And only two bridges were to connect with the City, Ellis Bridge and Railway Bridge. We were doing farming and we had land there. But after 1930 the land was sold to some city persons and they started constructing bungalows. In 1940 or so the land we had moved on to was bought

by the Ahmedabad Municipal Corporation and we were pushed off by city officials and we settled ourselves here where we have been for the last twenty years. When we came here we were not told to pay rent. But after seven years here one man made claim to the land saying that it was a royal gift to his family sometime back and that all who lived here must pay. We started paying five rupees per month and we still pay that.

I got married when I was nineteen years old, but I kept her at my place (I assume he means his native village) for four years and then brought her to Ahmedabad. Up to the age of forty I worked as a farmer but after the land got built up I started looking for another job, but failed to find anything other than a casual laborer on construction sites with my wife. Those were really miserable times to live.

When I was forty-seven my eldest son started his job as a watchman at the Patel Society and my second son started learning driving.

Now economically we do not have a problem, but we do not have land to build our house on. We like this place as far as we don't have to face any difficulty with work. I am though sorry that my sons do not have any education.

Here we have trouble with latrines and water. For latrines we have to go one mile or so to find a place (along a street or in a field). We are not getting enough water from our one tap in Liberty.

We are not given the Ration Cards (during shortages of sugar and rice) and also the election forms do not come to us. Also,

we are not sure that tomorrow our houses will remain up or not. The Ahmedabad Municipal Corporation people can come any time and remove our houses (he fears that their land lord who also lives in a well made hut on the site may loose the land he claims and that they may all have to go). So we don't have safety of our property and therefore we can't buy anything.

In fact this is not the place for men to live, for animals we had nicer shelter. In the monsoon this site becomes the animal yard. Everywhere you find the water which causes the diseases. In summer we are tested by the heat and in winter we have the nice experience of the bitter cold. In fact, these houses are not fit for any season for any person."

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The above interview shows a bitterness toward the conditions of shelter and tenure but location seems to have a much higher priority than either of the others.

APPENDIX L

LAND USE TABLE
AHMEDABAD

Sr. No.	Character of Zone	The types of development for which zone is primarily intended	The types of development which may be permitted with consent of the Local Authority	The type of development which will not be permitted
1	2	3	4	5
I	Residential Zone	Dwelling Houses, flats, Tenement Buildings, Chawls, public Residential buildings, such as Boarding Houses, Hostels, Residential Clubs, Hospitals, Clinics, Nursing Homes, Sanatoriums Schools, Residential Colleges, and Public Assistance Institutions (Residential) public & Semi-public Recreation Grounds, Gardens, Parks, Play Grounds, Sports Grounds, Gymanasiums, Health Centre, Green Belts	Retail Shops Places, of public worship,, Places of public Assembly, Places of public Entertainment, Public Service Buildings, Light Home workshops Service Establishments. All other uses not mentioned in columns 3 & 5.	General industries Special Industries Wholesale Markets, Wholesale Ware Houses.
II(a)	Old City	All the uses of Residential Zone No. I	Places of Public Worship Places of Public Assembly	General industries Special Industries

1	2	3	4	5
II(a) cont.		Retail shops, offices, Business Buildings, Service Establishments, Newspaper and Printing Presses	Places of Public Entertainment, Public Service Buildings, Civic Buildings, Ware Houses, Light Home Workshops. All other uses not mentioned in columns 3&5.	Wholesale Markets.
II(b)	Villages	All the uses of Residential Zone No. I, Retail Shops	Places of Public Worship, Places of Public Assembly, Public Service Buildings, Light Home Workshops, Service Establishments, All other uses not mentioned in columns 3 & 5.	General Industries, Special Industries, Places of Public Entertainment, Business Building, Civic Buildings, Whole sale Markets, Ware Houses.
III	Light Industrial Zone	Small Factories, Workshops, work places, Godowns & Warehouses.	Residential Shops, Business Buildings, Public Service Buildings, Places of Public Entertainment. All other uses not mentioned in columns 3 & 5.	General Industries Special Industries
IV	General Industrial Zone	All uses of Zone No. III Large Factories and Mills not connected with Dangerous and Offensive Trades	Shops, Business, Public Service Buildings, Places of Public Entertainment, Residential Buildings for Industrial Workers	Residential Buildings put up by Individuals or Cooperative Housing Societies. Special Industries.

1	2	3	4	5
IV cont.			put up by Industry, Government, or Municipal Corporation. All other uses not mentioned in columns 3&5.	
V	Special Industrial Zones	Factories, Workshops, work places and Warehouses for Dangerous and offensive trades.	Shops, offices, Public Service Buildings, Residential Buildings for Industrial Workers put up by Industry, Government or Municipal Corporation. All other uses not mentioned in columns 3&5.	Residential Buildings put up by individuals & cooperative Housing Societies.
VI(a)	Commercial Zone (Offices and Business)	Retail shops, offices, Business Buildings, Civic Buildings, Places of Public Entertainment, Service establishment, Newspapers and Printing presses, Hotels, Clubs, and Residential flats (upper floors only).	Public Service buildings, Light Industries. All other uses not mentioned in columns 3 & 5.	General Industrial Special Industrial Wholesale trade Warehouses.
VI(b)	Commercial Zone (General)	Retail shops, offices, business Buildings, Civic Buildings, Places of Public Entertainment, Service establishment Wholesale warehouses, Newspaper and printing presses, hotels.	Residential, Public Service Buildings, Light Industries. All other uses not mentioned in columns 3 & 5.	General Industrial Special Industrial

1	2	3	4	5
VII	Agricultural Zone	Agriculture, Nurseries, Flower Gardens, Fruit Farming, Recreation and Sports Grounds, Public Parks and Parkways.	Sewage Farms, Farmhouses, Dairy Farms, Milk Colony, Animal Raising, Poultry Farming, Public Service Buildings.	All other uses not mentioned in columns 3 and 4.

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