GECEKONDU/BUILT OVERNIGHT:

A Documentary on a Squatter Settlement in Istanbul

BY

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Bachelor of Architecture, University of Maryland
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Submitted to the Department of Architecture
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ABSTRACT

This study presents information on social, economic, physical and political aspects of life in a squatter settlement in Istanbul, Turkey. Additionally, a description of a film that was made on the same settlement along with an explanation of the filming and the editing process is presented.
The study provides data to formulate housing policies for low income groups; especially concerning the physical and social aspects of community planning.

Thesis Supervisor:.....
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PREFACE

This research documents some aspects of the life of an ordinary family in the squatter settlement of Pinar in Istanbul, Turkey. It was prepared in conjunction with a film on the same family. An explanation of the film making process is included.

The existing situation in Pinar (the squatter settlement) is described and discussed in the light of social, political, economic and physical realities. The family presented in this study is large. This provides an opportunity to investigate different aspects of this community through individuals of different ages and sexes.

Various maps and a brief discussion of the urban context and Pinar are presented in an appendix to describe the existing situation, growth patterns and land utilization.

This research is intended to serve as a reference in formulating housing policies and in community planning. It attempts to provide an intimate look into a community undergoing transition; to explore how this transition occurs. The primary purpose of both this study and the film is to record the existing situation. Both are comprehensive, individual studies yet complementary at the same time.

The study is derived from field research done by the author during the summer of 1978. The issues introduced and discussed are based on personal observations. The basic maps are provided by the residents of Pinar and the Greater Istanbul Master Planning Office.

INTRODUCTION

Accelerated population growth in developing countries, combined with the movement to the industrially expanding urban centers in search of jobs and better living conditions, is causing urban growth of unparalleled magnitude. Pressured by the economic and political realities, public and private planning agencies have been generally ineffective in settling these large populations. Economic and social stability available only to a relatively small minority makes squatter settlements the logical alternative for low and very low income groups.

Istanbul, the largest urban and industrial area in Turkey, is much affected by the phenomenon of squatters. Almost half of the population lives in gecekondu areas. The term, gecekondu, literally means "built overnight" in Turkish. It is a description of a process whereby dwellings are constructed quickly, sometimes overnight, illegally or without a building permit. These dwellings are liable for demolition until occupied. Above all, the term is a legal definition unrelated to the physical condition of the dwellings. The gecekondu dwellings in most of the squatter settlements in Istanbul are substantial units, highly individualized to cater to the user's needs and aspirations. The dwellings are well-maintained yet the settlements lack most of the utilities, services and community facilities which are very necessary but costly to provide due to the existing inefficient layouts.

There are a number of policies for the resolution of the squatter problem, one of which focuses on the prevention of squatters by developing planned areas and/or housing options for low income groups. This policy, not yet in implementation, can accomplish appropriate dwelling environments with minimum financial burden on the government and also allows alternatives for the low income groups.

It is evident in Pinar, the squatter settlement presented in this document, that the people are capable of constructing dwellings that go far beyond makeshift shelters if the land and infrastructure issues are efficiently planned and resolved beforehand.


AKBANK
ANADOLU
BANKASI

İSTANBUL

Over the ages, the Anatolian peninsula has been a bridge for many migrating cultures and armies. The Hittites, Greeks, Romans and finally the Turks have settled on this ancient land. It is rich in tradition. Today the ethnic-religious composition of its population of 42 million is 90% Turkish and 99% Moslem. Turkey is a "transitional country" with increasing industrialization and service development.

Istanbul is one of three major urban centers in Turkey. It was established by Greek colonists and the Corinthians in 659 B.C. on the peninsula bordered by the Marmara Sea, the Bosphorus and the Golden Horn. Byzantium, as it was called then, became an important economical, political and religious center. The city was conquered in 1453 A.D. by the sultan Mehmet I and became the capital of the Ottoman Empire. Its name was changed from Constantinople to Islambol meaning "plenty of Moslems". The city maintained its role as a commercial and cultural center even after Ankara was designated as the capital of the new Republic of Turkey in 1923.

During the years following World War II, Istanbul experienced rapid growth, both in size and population due to migration from rural areas to urban centers. In 1972 the city accounted for 8% of the total population; in 1975 the popula-

PHOTOGRAPHS, opposite page:

OLD CITY, Istanbul: (top left) The old city over the Golden Horn.

KARAKOY, Istanbul: (top right) Pedestrian and vehicular congestion in Eminonu and in the background, Karakoy, a commercial district.

ISTINYE, Istanbul: (bottom left) A residential street in a traditional area of settlement with the addition of some new buildings.

NISANTAS, Istanbul: (bottom right) Apartment buildings covering the hills in an upper-middle income neighborhood.

tion of the city was estimated at around 4 million. Over the last three decades, Istanbul experienced squatter invasions at an accelerating rate. Istanbul continues to represent employment opportunities and better future prospects for the rural population, and it continues to grow at a rate of 5% annually.

What it is that makes Istanbul attractive to this large migrating population is not difficult to formulate. Presently 75% of the national imports and 50% of the national exports are handled in Istanbul. The city has 40% of the nation's organized labor force and is the source of 50% of the total income tax revenues and 50% of the total private sector investments.

According to the definition of a law governing squatter settlements, 40% of the housing stock in Istanbul is considered squatters. Having returned to Istanbul after seven years, I could readily notice the deep extent of the city's growth: The increase in population was dramatic, as was the increase in the number of cars; apartment buildings had mushroomed, hoarding every inch of available ground. The vast highways and the Bosphorus Bridge, finally tying two continents together, appear only as cosmetics on the face of a deteriorating, congested environment. Housing the large population remains a yet unsolved problem. Squatters offer an inexpensive housing alternative for most of the newcomers. As the

older squatter settlements develop and become integrated into the urban texture, new settlements are established, randomly expanding the city boundaries in all directions. A planned development still remains to be accomplished.

The need for a planned development was realized in the first "Five Year Plan" of 1963 which was then followed by two additional "Five Year Plans". Development policies were constantly modified depending on the results of the previous plans. Primarily due to the financial problems plaguing the central and the municipal governments and various political pressures, the public sector involvement was at a minimum. The speculative nature of land, the continued trend towards luxury homes, the lack of a good credit system, and the lack of competence in cooperative management have caused the low income population to be left outside the housing market. It is conceivable that the shortage of low cost housing will continue to be compensated by squatters unless major changes in the national policies take place.

PINAR

After spending seven years abroad, I went back to Istanbul to study a squatter settlement and to make a film on the life of a family living in the settlement. I had prepared basic guidelines and objectives for my study before I went to Istanbul. All family and friends were notified beforehand to help locate a squatter willing to cooperate with me so that I could do my study. This task eventually proved extremely difficult. During the first three weeks, I went to a number of settlements and was introduced to numerous people and families. The idea of being filmed and studied daily did not seem attractive and appropriate to most of these people because of their conservative beliefs, political insecurities and fear of a stranger infringing on their privacy. Some simply feared exposure which could lead to a loss of their homes.

My determination was just about to give way to panic when my father came to my rescue. One of his friends, Mr. Talat, who was working in a military hospital close to a squatter settlement, thought he could help me. To meet Mr. Talat, I took one of the privately owned buses, a new addition to Istanbuls's public transportation system, from Sisli. I was planning my course of action as I watched the dense urban surroundings gradually transform into areas dotted with high-

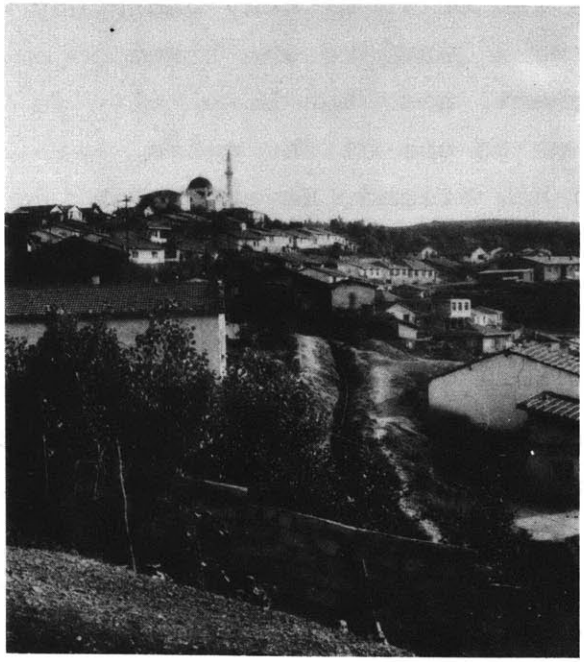
rises and open land. The driver took the Buyukdere Asphalt, a wide highway running parallel to the Bosphorus. I got off the crowded bus when we finally arrived at Pinar. Standing on the side of the highway, I recognized the military hospital further down the road. Facing East towards the Bosphorus, on the first hill parallel to the road, stood a settlement with a mosque at its highest point; houses crowded the hillsides in an irregular pattern. Slowly I made my way to the military hospital to meet Mr. Talat. He was going to introduce me to one of the landlords in Pinar.

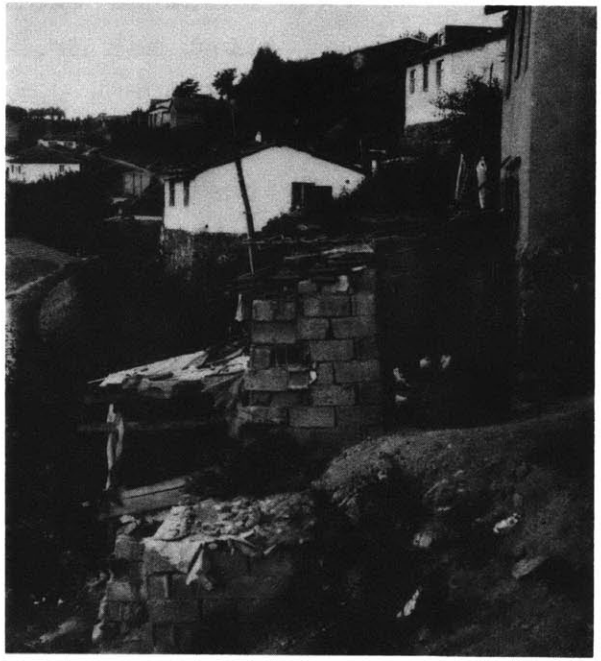
the landlords

At the time, I did not realize the amount of influence that the landlords had in such settlements and that having them as friends would be the key factor in my stay and study in Pinar. I first met Mr. Aziz, a landlord who lived on an adjacent hill from the settlement, near the hospital. He drove us to Pinar and took us to one of the cafés where I met his brother, Islam, and his friend, Hayati. That same day I walked around the settlement with Islam to see the surroundings and to let the people know that I was not an outsider with unknown intentions. I was provided with the basics: a room in an empty house. The first few days were spent observing the settlement and occasionally I went to the café to meet new people and also to maintain my contacts.

the location of Pinar

The settlement is located on the European side of Istanbul, 11 kilometers from the city's center and 4 kilometers from





the Bosphorus. It is surrounded by less dense settlements to the east; by the Istinye Asphalt and the Istanbul Technical University campus grounds to the south; by the Buyukdere Asphalt and the Ataturk industrial park to the west; and the military hospital grounds to the north. A cross section taken from the Bosphorus due West reveals gradual changes in the age of the settlements, in income levels, in the legality of the settlements, and in the quality of public services and utilities. In general, a gradual decline in social and economic standards becomes apparent as one goes away from the Bosphorus. A better way of getting to Pinar, as I later found out, is to take the Istinye Asphalt, which branches out from the Buyukdere Asphalt and continues towards the Bosphorus. The main street of the settlement, Camlibel Street, connects Pinar to this major route at the southern end. As one approaches the settlement on Camlibel Street, the first building to be noticed is a white mosque with a single minaret. The mosque cost 5-7 million Turkish Liras and was donated to the village by a wealthy old man who became very religious during the later years of his life. Standing on higher grounds, the distinct wedge shape of the hill becomes more apparent. The narrow valleys below the hillsides, creeks, and planted fields give the area a total rural appearance.

access to Pinar

The houses cover most of the hill, which is wider at the top (where the mosque stands) and which slopes gradually towards

PHOTOGRAPHS, opposite page:

PINAR, Istanbul: (top) The settlement and the surroundings from the Istinye Asphalt.
(bottom left) The mosque marking the entrance to the settlement on the southern end of Camlibel Street.
(bottom middle) The houses on the west side of the ridge. The water pipes recently put into trenches are visible.
(bottom right) Back yards of the houses with half-basements on the east side of the ridge.

the tip of the wedge to the north. The hill is relatively steep on both sides of the ridge. The houses are built in tiers on the hillsides. The narrow secondary streets, which are either short and perpendicular to Camlibel Street, or run in long parallels, form irregular blocks. Camlibel Street stretches from South to North through the whole settlement covering the ridge. All commercial activities and most other activities take place along this street. Eight of the nine grocery stores are located on this street along with clothing stores, a couple of liquid gas stores, a furniture and appliance store, a few workshops (such as auto mechanics, welders, carpenters, a construction office and a window glass cutter), and the four cafés of the village which for men are the most important public meeting places. According to Mr. Hayati who acts as the unofficial village representative, 3,000 people make up the total population of Pinar. The incomes range roughly from very low to lower middle on the national scale.

history of Pinar

Eight years ago this settlement did not exist. The land was originally owned or claimed by four families who had migrated here forty or fifty years ago from villages on the Black Seashore. These families gradually sold the land in small parcels that were big enough for a house and a yard. Up to this day, Pinar is not accepted as a legal settlement. It is assumed as government land and on maps it appears to be a part of a larger area reserved for forest development. How-

PHOTOGRAPHS, opposite page:

CAMLIBEL STREET, Pinar: (top left) Commercial activity.
(top right) One of the cafés and workshops along the commercial strip.
(bottom left) The furniture and appliance store and a temporary lean-to for selling watermelons.
(bottom right) A temporary shack for selling fruits and vegetables.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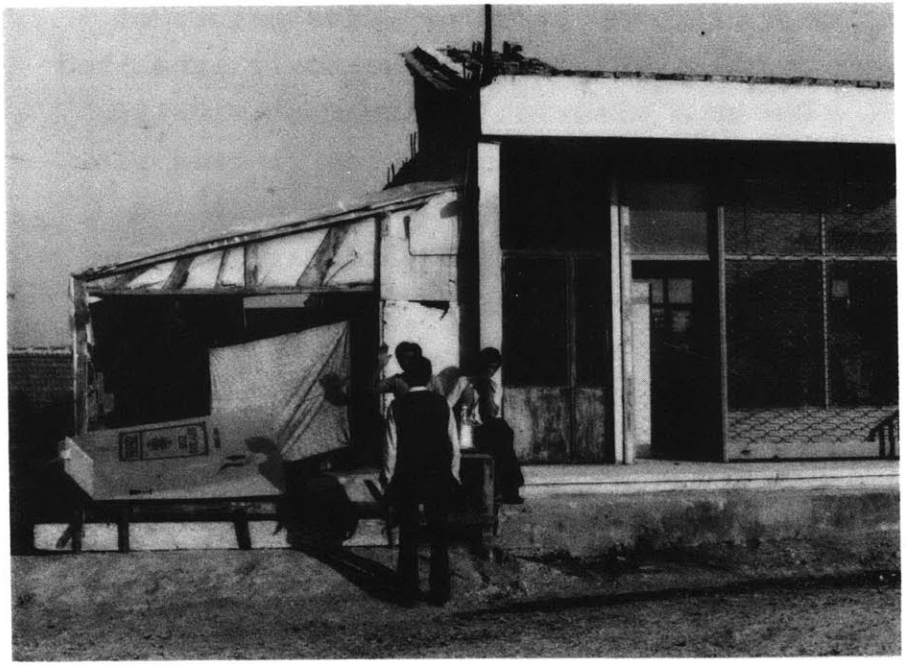
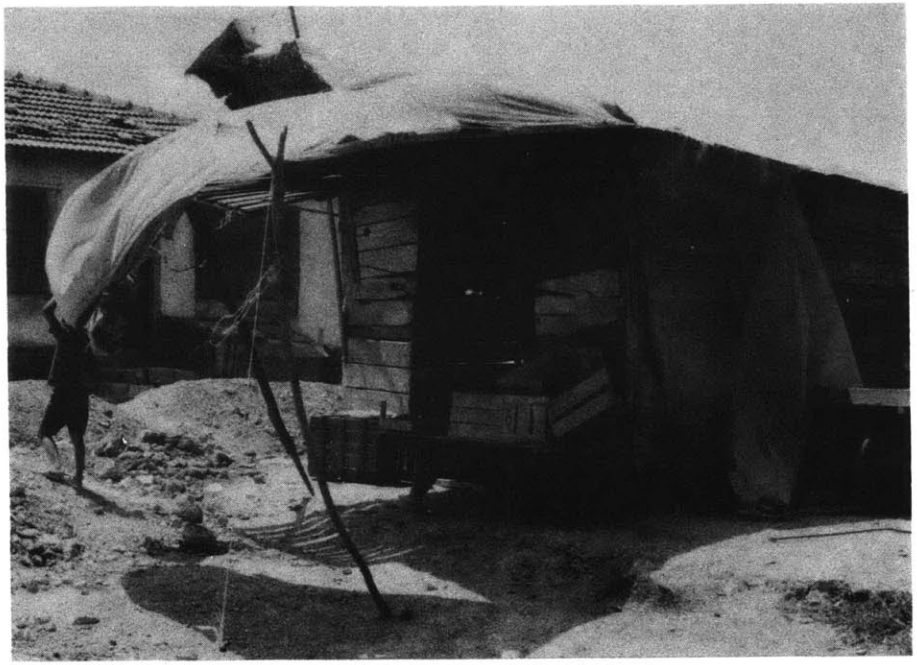




ever, the settlement continues to grow. Agreements are made daily on the basis of a handshake and mutual trust. The residents expect the government to legalize ownership during the next two years, but any changes in the illegal status of this land would have to be directly linked to changes in national policies. Some of the occupied and most of the remaining open land is subject to much controversy and the landlords are dead-locked in their lawsuits against the municipality government and the military hospital.

Pinar is somewhat distant from the city. Air pollution, traffic jams and other such problems common to a city are nonexistent in Pinar. On the other hand, also not available are the amenities which a city has to offer. The nature of the topography, numerous hills and valleys, scarcely inhabited but largely planted, make up a pleasant environment. Unlike the city, all dwellings benefit from the cooling breezes blowing from the Bosphorus during the summer. Houses built on the hillsides provide open views. Private yards are small but still large enough to grow a few plants and raise some small animals.

transition

Pinar resembles a small town in the countryside. The daily life exhibits rural, traditional patterns. It is relatively a new settlement still in transition. The effects of the city, only as far away as the highways, are hard to examine and comprehend at this point in time. The television anten-

nas on the roofs of most houses and cars contrast the rural surroundings and the humble dwellings. These elements basically different in origin and tradition form a complex and sometimes contradictory conglomeration of ideas and implications. Pinar nevertheless remains primarily rural with traditional social patterns and physical appearance.

People of Pinar have migrated primarily from villages and towns on the Black Seashore. To most of these people the city simply means employment and other opportunities. Whether these people become integrated into the city life or prefer to remain loyal to a traditional way of life yet adapting a few new artifacts to be able to survive in a changing environment is still open to debate. My observation is that some artifacts like television and cars are pragmatically incorporated into a list of priority needs by the people of Pinar. Other aspects of life, such as the role of men and women, remain as they have been traditionally defined. The majority of the women remain at home performing survival routines; however if there are economical hardships, they will go to the city for employment. The same condition applies to the older children in the family. Men are still the breadwinners and they only venture outside the settlement to go to their jobs or occasionally for purposes of entertainment. Pinar generally remains a closed community. The immediate contact with the world outside is the television. It has become a major source of entertain-

existing social structure

television

ment and means for gathering information. All four cafés and most houses have television. While playing cards, backgammon, chatting and watching television at the café are still the favorite passtime activities for men, women stay mostly at home, working, watching television; or they go for a short visit to their neighbor's home or go to the water springs and, while getting water, chat with their friends.

Access to Pinar is relatively fast and easy. Government-owned and privately-owned buses provide transportation to this area. The settlement is located fairly close to the intersection of the two major routes, the Buyukdere Asphalt and the Istinye Asphalt. A short walk on Camlibel Street provides direct access into the settlement.

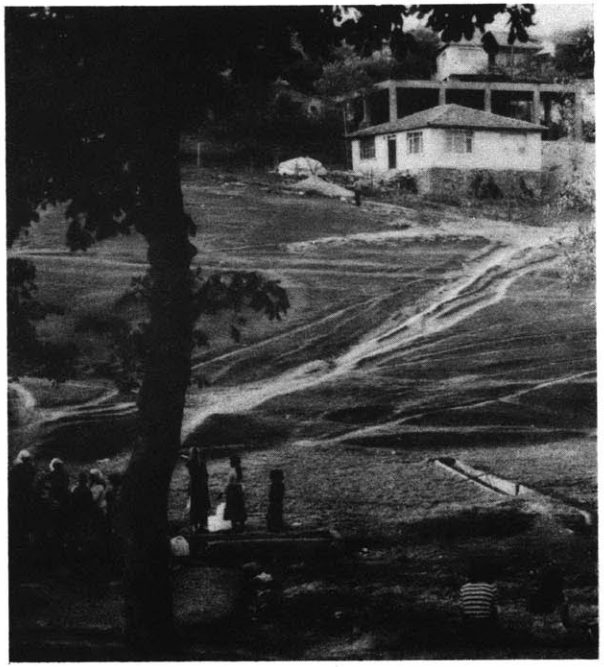
services

Pinar lacks some basic services. There are no health facilities and people make use of the small hospital in Istinye located four kilometers away on the Bosphorus. The settlement is not provided with any fire protection or a police force. Although closely knit community ties have traditionally helped prevent most common crimes, recent national political unrest is starting to take its toll in this area.

PHOTOGRAPHS, opposite page:

PLACES OF GATHERING, Pinar: (top left) Men playing cards af the café.
(top right) Men socializing on the street.
(bottom left) Children playing with burning garbage in an empty lot.
(bttom middle) Children making the best of an irrigation pool in the heat of the summer.
(bottom right) Women socializing by one of the water wells.

As the name of this settlement suggests (waterspring), water is in abundance in Pinar. There are four springs around the settlement at reasonable walking distances. Two of these



utilities

springs are located at the foot of the hill below the houses. A government health inspection has revealed that all four of the sources are contaminated, but various beliefs and rumors circulate in the settlement about the government findings. Some believe the water to be safe, others boil the water before use. But hepatitus being more common in the area than it should be, might prove the former belief to be wrong. Water is also delivered daily in trucks. This water comes from a safe source, but a problem surfaces when the same trucks are used for transporting fuel oil and not thoroughly cleaned afterwards. During my stay in Pinar, trenches were being dug to tie the settlement to the city water system. I was told that for a nominal fee each household would be able to get water connections and meters upon completion of the main water lines.

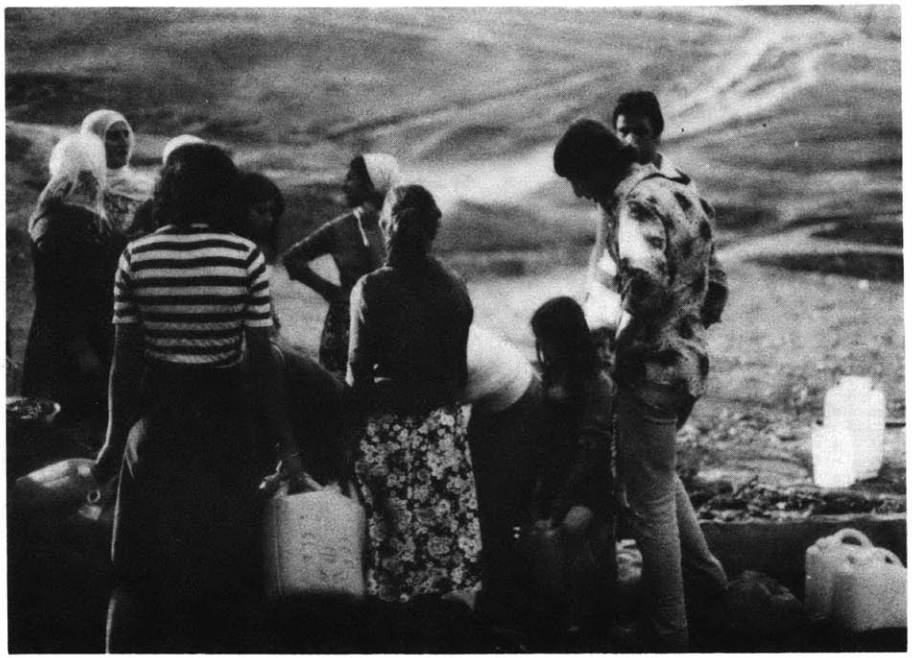
PHOTOGRAPHS, opposite page:

DIFFERENT WAYS OF GETTING WATER, Pinar: (top left and top right) Women getting water at two of the four springs.
(bottom left) Water being delivered in a fuel oil truck.
(bottom right) Trenches for the water supply network in progress, summer 1978.

Since there was not a storm drainage system in the settlement, each house was carefully built to avoid water running down the main street or the hillsides. All houses use closed offset ditches for sewage disposal which are periodically emptied out for a small fee.

the village council

After the settlement had started to grow, people established a village council to organize group action on issues which were beyond the capabilities of individual families. The council succeeded in building a small elementary school and later the government appointed a teacher. The council also



collected money to have the settlement surveyed and mapped, but a later attempt to have the Camlibel Street paved failed. An argument between the council and a private contractor over the financial aspects of the project left the street covered with a gravel base but without asphalt pavement. The problem of dirt blowing off these unpaved streets still remains a health hazard. All windows and doors facing the streets have to be kept shut to prevent the dirt from blowing into the houses. This gets in the way of cross-ventilation and as a result the houses become hotter.

In 1974 electricity was brought to the settlement through the joint efforts of the residents. A long line was stretched along the Camlibel Street and also perpendicular to it at reasonable intervals. The private connections are done by the residents or the local electricians. Fees to the government are collected every three months, and each household pays according to the number of people living in it since the dwellings are not provided with individual meters.

growth of Pinar

In 1970, only seven dwellings existed in Pinar. These houses belonged to the present day landlords or to their close relatives. As the landlords subdivided and sold the land, the settlement grew and the rate of settlement has since followed an ever accelerating course. The residents feel secure in their ownerships although the settlement has

not been legally accepted. Most heads of families with whom I spoke were very willing to pay their due taxes and thought that the government was losing some revenues by not recognizing their settlements and therefore not collecting taxes from them. During discussions at the café, most residents seemed very much aware of the local issues at hand, their rights, and the illegal activities that were taking place in Pinar. Equally important, they knew what could be or should have been done. Some had reasonable, viable solutions. For example, in laymen's terms, they proposed site and services projects or complained of the lack of good low cost housing alternatives. For most people, Pinar was one of the few places where they could financially afford to live. Though most families had low or very low incomes, the number of luxury cars in the settlement was somewhat surprising. As I inquired further into this questionable reality, I was told stories of landlords or other wealthy people who invested into squatter houses and participated in land speculation. The majority of these people had lived in Pinar at one time or another, but eventually moved to more traditional areas, elsewhere in Istanbul. These subjects were not often openly discussed since the community was small and very tightly knit. Most often the blame was put on a badly organized government and corruption. Though most residents complained of the lack of or inadequacy of services and utilities, the number of dwellings in Pinar increased rapidly, from seven dwellings in 1970 to approximately five hundred at the begin-

land speculation

ning of 1978.

The squatters in Turkey or gecekondu (meaning "built overnight" in Turkish) is a more substantial, constantly improving and highly adaptable dwelling compared to its counterparts in most other developing countries. All houses in Pinar appeared well-maintained and the owners were generally satisfied and proud of their shelters. Owning a house generated a feeling of responsibility and a desire for self-improvement.

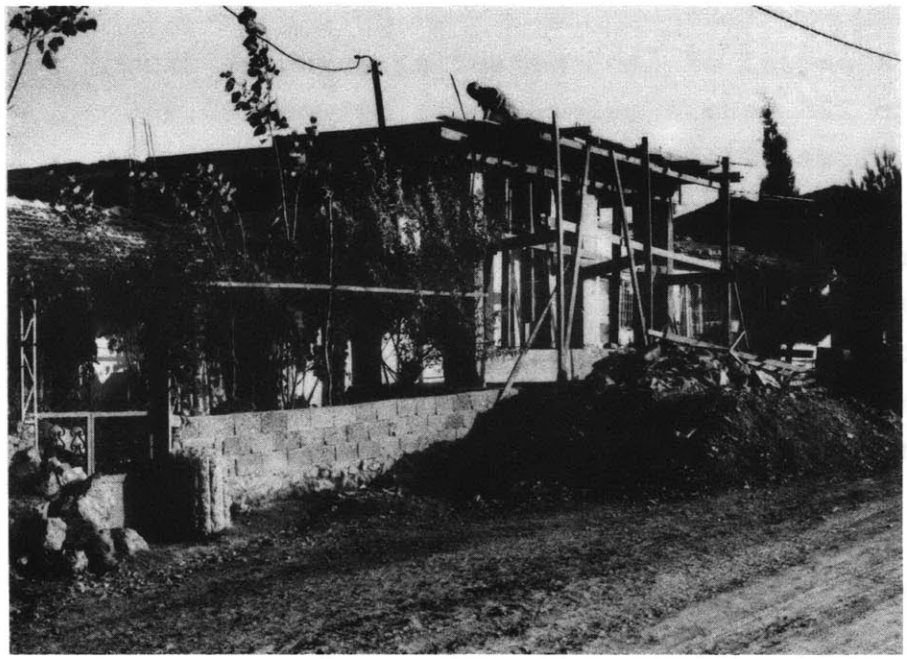
building a gecekondu

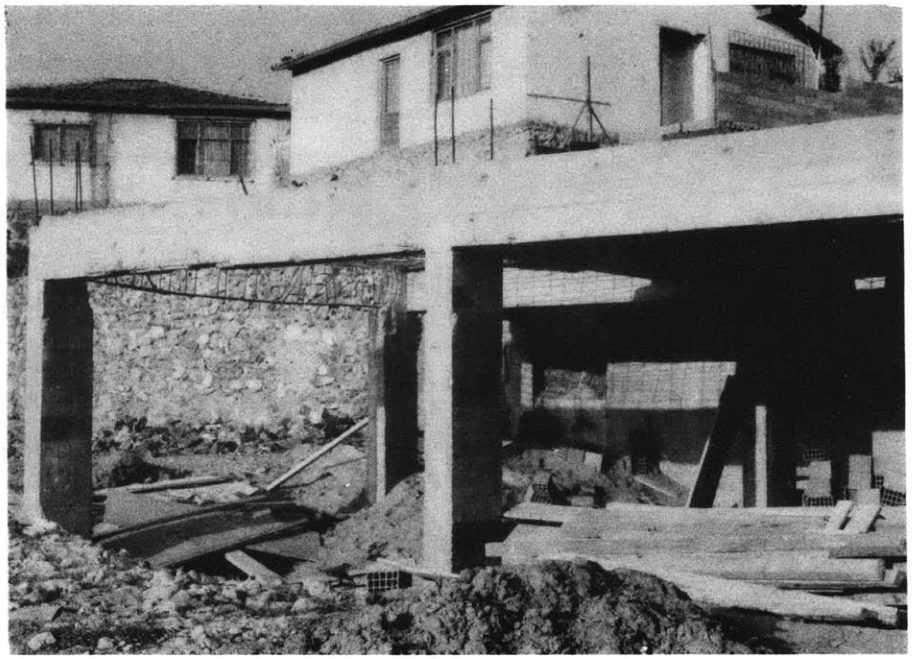
The demand for more houses in Pinar is ever increasing, but due to the changes in the national government, the building activity has come to a halt, leaving many residents unemployed. The newly appointed official in this municipality is a strong believer in the government's policies and not a single dwelling has been built since the January of 1978, though numerous attempts have been made. Constant visits by the local officials left many dwellings halfway built or totally destroyed.

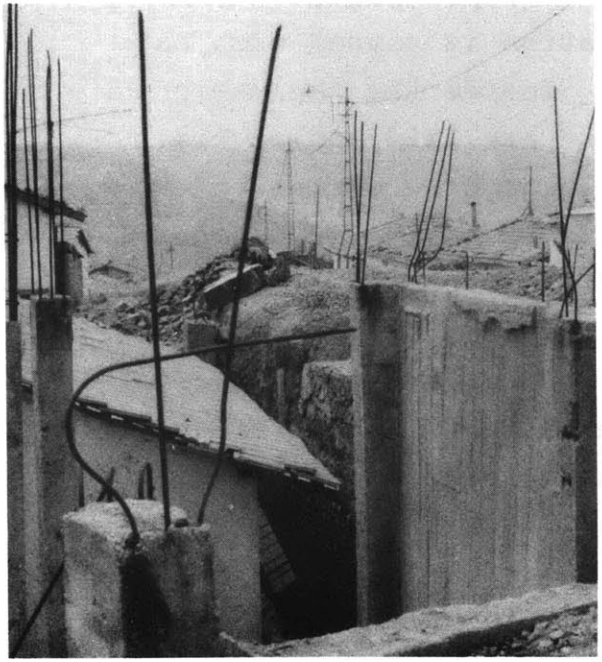
The landlords play a crucial role in the growth of settlements such as Pinar. An initial contact with the landlords through friends or relatives is essential to acquire a plot of land. If such contact is not readily available, moving into the settlement as a tenant is pretty much necessary to establish the prerequisite link in order to eventually be-

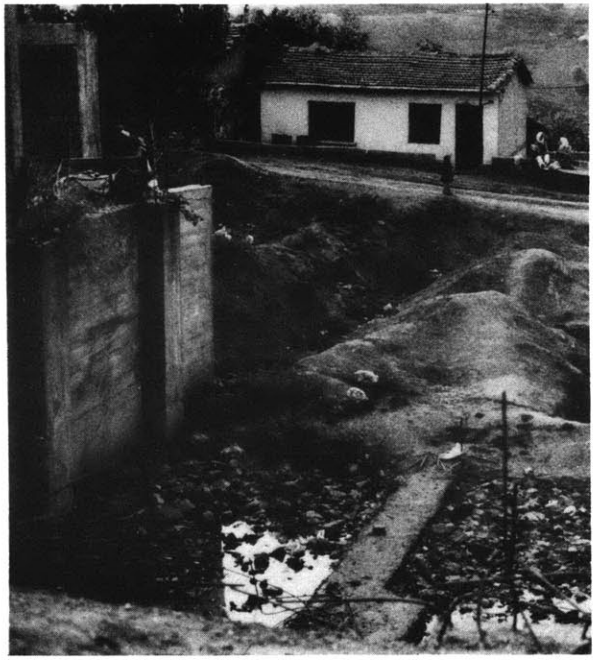
PHOTOGRAPHS, opposite page:

CONSTRUCTION ACTIVITY, Pinar: (top left) Man building a concrete frame around an existing dwelling; an ingenious way of gradually improving the existing condition, while escaping demolition.
(top right) A dwelling waiting for more favorable circumstances to be completed.
(bottom row) Construction activity brought to a halt by the local officials and demolition.









cost of a gecekondu

come a homeowner. A parcel of land measuring anywhere from 150 square meters to 225 square meters costs between 80,000 to 100,000 Turkish Liras ($1.00=30.00TL). The landlords are directly involved in all phases of the process. They will sell the land, sometimes take part in the construction and also offer long-term credit. This allows them to have some leverage on most of the residents. After the land is selected, the landlord will arrange an "unofficial" permit from the local officials which requires additional fees.

the building process

Over the years, simple and pragmatic methods have been devised to build squatter dwellings. It requires self-help, involves both sexes working continuously and very quickly. The building process happens in a few rapid phases. Usually the trenches are dug and the foundation is poured much earlier than the actual construction. Inside the foundation boundaries, rocks the size of a fist are laid and packed. When it is thought appropriate, a large crew of men and women will gather early in the morning to build the house. I had the opportunity to observe and photograph the building process during my stay in Pinar. The crew of the construction I had observed gathered at 9:30 A.M. due to poor organization. All the material had been carried to the site previously and the crew included skilled local masons as well as totally unskilled men and women. A basic job division was quickly made. The mortar was being mixed as men and women brought water from the closest spring and as the masons

designed the house on the site according to the local standards. The rooms were measured and marked with full strides of a man, and as soon as the mortar was ready, the concrete block walls started taking shape. By 6:00 P.M. the walls had reached full height and all windows were in place. Due to a mishap, however, the lumber and tiles for the roof did not arrive in time and the construction was left unfinished. Theoretically, they would have worked through the late hours to finish the roof. The floor slab would have been poured after all the exterior work was finished. The inside work would have had to have been done gradually after the owner moved in. But the following day, Sunday, the walls were knocked down by the officials. I was told that it usually takes two or three attempts until one is allowed to keep the building, unless one is lucky. The total cost of such a house ranged from 200,000 TL to 250,000 TL during the summer of 1978. This sum includes the cost of the land. Other necessary fees totalled between 5,000 TL to 15,000 TL, depending on the paying capacity of the owner.

Note: The building process and the subsequent demolition is illustrated on the cover.

THE ERKAN FAMILY

My primary contact in Pinar was Mr. Islam. At first I was introduced to a number of his relatives and business associates. Eventually a number of these people were willing to allow me to study their families. I searched for an ordinary family. My criteria was simple and flexible. It was based on a family consisting of a middle-aged couple with a number of children and a few close relatives. I felt that this family should not be new in this settlement, and that they should also be living in a house which they themselves built and owned. There were some tenants in the settlement, but the majority of the families were homeowners.

During my first few days at Pinar, most of my time was spent at a cafe. I would sit at a table with Mr. Islam and get involved in discussions which concerned recent political issues or the problems of the settlement. During this time it became customary for me to explain exactly what I was doing to anybody who happened to sit down at our table. In this manner I was introduced to Mr. Cavit Erkan, a man with a good sense of humor and moderate beliefs. After I expressed my interest in his family, I was invited to his home for afternoon tea. During the following days, I inquired about his background and how he came to live in Pinar. I established a more specific framework for the film based on this

Cavit Erkan

information and started filming.

The Erkan family lives on Camlibel Street in a well-maintained house. It is located on the eastern slope of the hill about three hundred feet downhill from the main shopping area. Mr. Erkan, 47, and his wife Esma, 44, have seven children; two daughters and five sons. Their oldest daughter, Hatice, 21, is married to one of Mr. Islam's distant relatives and lives in a house futher down the hillside. Vedat, 20, their oldest son, and second oldest among their children, married Saynur in November of 1977. Saynur lives with the Erkan family and was pregnant with her very first child, who was born in late August, a few days prior to my departure.

Mr. Erkan's background

Mr. Erkan was born in the village of Mesudiye on the Black Seashore. He spent some time in Istanbul during his military service and later went back to his village to marry Esma. He had decided to live in Istanbul for the usual reasons: opportunities for better employment and a better future. He then returned to Istanbul alone so that he could establish himself. His wife joined him later and they rented dwellings in Pasabahce and Gultepe. At the time, these areas were either totally or partially occupied by squatters. Eventually they moved into a squatter house in a much smaller settlement near Pinar. However, he could not get along with his landlord because of some financial reasons and he decided

Mr. Erkan's move to Pinar

to build his own house in Pinar. He contacted the landlords and they sold him a piece of land without much of a problem. The fact that he was from the same general area as the landlords in Pinar made buying property easier for him. As a rule, the people tend to be more helpful to others who come from the same regions of Anatolia, as they themselves, especially in squatter settlements. As a result, the majority of the people living in squatter settlements have their roots in the same towns or even the same villages. The people of Pinar come from various villages of the cities on the Black Seashore (Ordu, Trabzon, Rize) or from villages and towns in eastern Anatolia (Sivas, Malatya, Hakkari). The latter formed a small and very tightly knit minority group. The others referred to this group as Kurds, which is not altogether true, although most of the Kurdish minority in Turkey is located in that general area of Anatolia.

In 1971, Mr. Erkan bought a relatively large piece of land from Islam's family. He built his first house together with another family. They built a joint shell and a roof in 18 hours, over one night and a part of the next day. His part of the house had two rooms and it was large enough for his family at the time. It was also the best he could afford. Eventually, though, the house became inadequate to meet the Erkan family's needs, and as their income increased, thanks to the older children having joined the work force, Mr. Erkan built a bigger house adjacent to his first one. He rents his

old house to a younger couple for 700 TL per month, which, considering the rental fees in Istanbul today, is truly a nominal amount. The new house had five rooms, and it was designed by Mr. Erkan's wife, Esma. All rooms are used for sleeping except the guest room which is the first room off the entrance hall and therefore somewhat less private. The most important room in the house is the living room. It serves as a place to eat, to sleep, to work, to watch television and to entertain everyday guests. Most of the house chores ranging from laundry work to the preparation of meals are done on the floor of the multipurpose living room. Among the thirty houses I surveyed in the neighborhood, each had a similar room that served the same purpose. The most private room belongs to the newly married couple, Vedat and Saynur.

the new house

Furniture mainly consists of beds, which are converted into sofas during the day, and chairs. The guest room again presented an exception. Its furniture is more formal and may contain, for instance, armchairs, a sofa and coffee tables. It is the smallest room in the house and is mostly used on special occasions.

The kitchen opens into the continuation of the hallway and is easily entered from the living room. It is large enough for a tiled counter, a refrigerator and some work space. Later, Vedat built some shelves which cover the walls of the kitchen.

The only bathroom is located next to the kitchen and is made accessible by a short corridor which can be closed off by a door from the more public parts of the house. Like the rest of the houses in Pinar, they have no water connections. They boil their water which they get from one of the springs, and they use the water delivered by trucks only for laundry and cleaning purposes. The back patio is used often during the summer for relaxing and eating. It overlooks a yard crowded with small fruit trees and vegetable plants. A half basement with window and door openings is used for storing coal. All houses located on the hillsides utilize this type of half or full basement arrangement built with rocks obtained from the nearby quarries.

employment

Mr. Erkan worked in the plastics industry during his first years in Istanbul. His wife worked as a cook in the Facit factory which manufactures small electronic equipment. Later Mr. Erkan was employed by the same factory as a watchman. He still works there on a weekly or biweekly rotating schedule for twelve hours a day, seven days a week. Mr. Erkan spends most of his leisure time on his back porch with friends or at his favorite local café. He does not venture outside the settlement except to go to work, which takes him to an industrial area in an older section of the city close to the Golden Horn. Having paid into the social security system for twenty-seven years, in order to make himself eligible for retirement benefits, Mr. Erkan hopes he will be able to re-

tire soon. He is considering to open a business in the neighborhood with the money he will receive upon his retirement. In the future, he is planning to replace his homes with a multistory house if the financial and legal circumstances are favorable.

Mrs. Erkan

Esma came to Istanbul from Mesudiye 18 years ago following her marriage. She is a hefty woman, energetic and authoritative. She is the supervisor and the figure of authority in the house when her husband is not there. For ten years she has worked at Facit. The original factory manager had conveniently provided the Facit workers in Pinar with transportation to and from work. When he died, though, the new manager discontinued this fringe benefit, and Mrs. Erkan decided to quit her job. Despite a healthy appearance, she complains of hypertension, stomach problems and backpains which have been plaguing her since she had hepatitus two years ago.

the children

Hatice, their first born, was married and moved out. She has two young children who were suffering from whooping cough during the summer. One of the children was hospitalized, and Hatice was busy taking care of him. The few times she came by the house was to check on her other baby who, not ill enough to be hospitalized, was left with her mother.

Vedat, Mr. Erkan's oldest son, works as a painter in the

nearby neighborhoods. He was not encouraged to continue with his education after he finished elementary school. The family needed more income to build a bigger and better house at the time, and Vedat started working. Although his work requires him to go outside the neighborhood, he prefers to spend his free time at a friend's home or at a café in Pinar. He was scheduled to report for the mandatory military service in October, 1978. Afterwards he plans either to go into business with his father or to open a store for electrical equipment on his own.

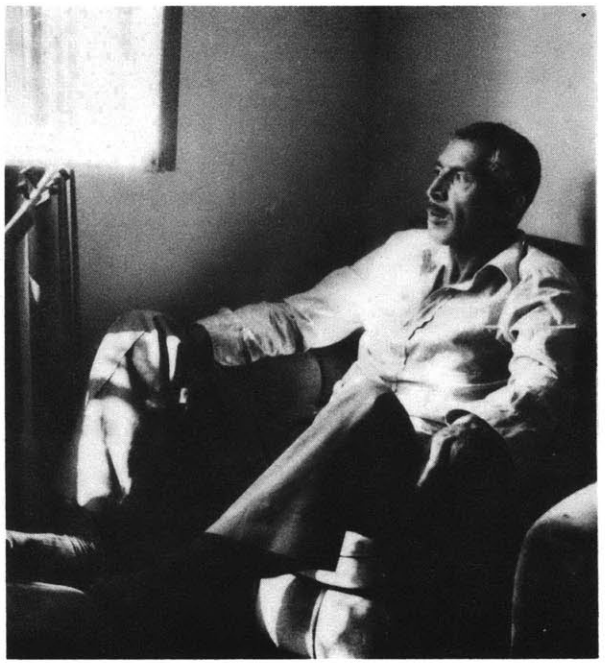
the bride

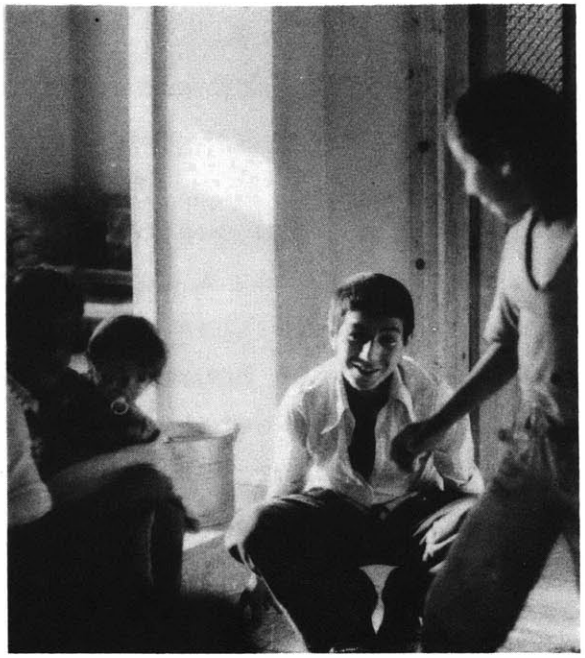
Saynur, 18, was born and raised in Adapazari, a town on the Black Seashore. There she finished elementary school. While Vedat was on a visit to Adapazari, he met Saynur and arranged for her to leave home without her parents' consent. This created an undesirable condition with her family. After some time had passed, the two families reconciled their differences and the couple was forgiven. During the summer, she was pregnant with her first child. A cheerful and hardworking woman, she has assumed the responsibility of doing most of the housework under the supervision of her mother-in-law.

PHOTOGRAPHS, opposite page:

THE ERKAN FAMILY: (top left) Vedat and Saynur with their newborn child.
(top middle) Mrs. Erkan preparing a meal on the floor of the living room.
(top right) Mr. Erkan at a moment of relaxation in the guest room.
(bottom left) Ahmet eating breakfast.
(bottom middle) Sedat and Hursit with a friend.
(bottom right) Sultan posing with her sister's ill child.

Ahmet, 19, completed his compulsary elementary education in Pinar and decided to become an electrician. He worked at various places for short periods of time. Unfortunately, most of the summer he was unemployed. He spent his time with his friends listening to music or playing soccer. He was at





home primarily when he needed to eat or sleep.

Sedat, 15, finished elementary school in 1977 and decided not to continue with his education. He enjoys working on cars, but during the time that I was there, he did not have a job. His home responsibilities include minor shopping or errand running. He spends his leisure time playing outside.

Hudaver, 14, recently graduated from Pinar Elementary School. He is probably the hardest working child in the family. He works in the nearby industrial park as an auto painter, leaves very early in the morning and comes home very late.

Hursit, 11, is the youngest boy in the family. He is still in elementary school. He has the same responsibilities as Sedat, minor shopping and errand running. However, he carefully avoids both by remaining outside playing.

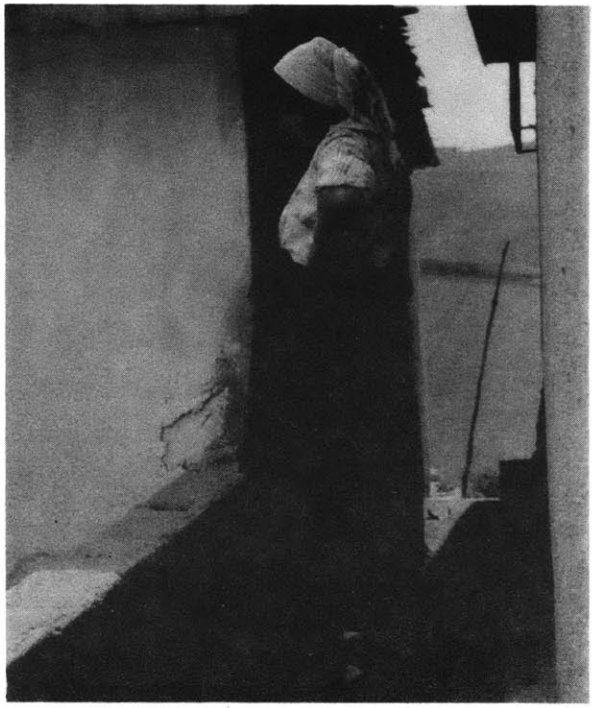
Sultan, 8, the youngest child in the family, recently started going to school. As a female, her responsibilities around the house are more than those of her brothers. She spends her day inside the house, helping with the daily chores. She occasionally goes out to get water or to buy supplies from one of the local grocery stores. These trips eventually turn into playtime. Under her mother's supervision, Sultan is learning her responsibilities so that she may eventually assume the customary role of the female, still unchanged and

practiced in the rural areas of Turkey.

The Erkan family can be considered to have an above-average income relative to others in the settlement. They have succeeded in building their own house, which is the top priority of any family in squatter settlements. Mr. Erkan's sons, when employed, contribute a great deal to the overall income of the family. The women in the family have taken charge of the survival routines in the home and the men are free to use their spare time as they wish until, of course, they decide to take a job or until they are advised to do so. With the exception of Vedat, most of the children do not have much interest in continuing with their formal education after they complete their elementary school training. Almost all of the children expressed an interest in working in the automotive industry. If tradition bears out, they will likely be apprenticed in a small establishment. Eventually, however, all of them hope to own their own businesses.

division of responsibilities

The women spend their days doing the household chores. This work is very time consuming since few modern appliances are used. In fact, the most important additions to their traditional household are the small stove that operates on bottled gas which is sold at the local gas store and the refrigerator. They do not use a vacuum cleaner, or a more substantial stove or a sink in the kitchen, although they could afford these appliances. Esma, Saynur and Sultan take care of the



back yard, the chickens, the cooking, cleaning and laundry, and the serving of the men. Even the younger boys in the family are generally spared from the housework. They will occasionally set a table or serve tea for their father or for the guests. The social order in the family is directly related to sex and age. After the parents, the older male children, Vedat and Ahmet follow in importance in the family hierarchy. The younger boys and the other female members of the family are placed at the bottom of the social scale. Saynur, or the bride, as she is often called, has a precarious role. As an outsider, she has acquired a flexible position anywhere after Vedat and Ahmet. She deals mostly with Esma, avoiding possible conflicts with the younger boys.

social structure in the family

It is customary in a traditional Turkish family to have a bride or a relative live under the same roof. These extended families are very common in the rural areas and this tradition is adapted to the life in the urban environments whereby a number of families closely related to each other occupy various apartment units in the same building.

traditions

In the Erkan family, it is also practical to have Saynur living in the same house. Mrs. Erkan is a strong and capable woman, but she is getting older and she needs Saynur's help to take care of the household. In the future, Vedat and Saynur might decide to move into a nearby house if they have the financial means or if the next older boy, Ahmet, decides to

PHOTOGRAPHS, opposite page:

WOMEN AT WORK: (top left) Saynur in front of their house.
(top right) Mrs. Erkan and Saynur working in the back yard.
(bottom left) Mrs. Ekan doing the laundry on the floor of the living room.
(bottom middle) Sultan dusting the television cabinet.
(bottom right) Saynur.

get married.

The traditional roles and customs are strongly observed in the Erkan family. One is overwhelmed with their hospitality from the moment one enters their household. Guests are offered food or at least tea which are ready to be served at any time of the day. The social order is disrupted as one is offered the best seat around the dinner table, which belongs to the head of the family, and is served before anyone else. Life in their home appears comparatively humble yet rich within the well-defined traditional patterns.

THE FILM PROCESS

PREPARATIONS

An important part of my work was to make a film presenting a number of issues in the Urbanization process. Specifically, the film was to focus on the existing physical, social and economic realities confronting the individuals and/or families in a squatter settlement. Several preparations and decisions had to be made for me to pursue my work. I had to formulate the specific topic of the film, decide on my audience, and plan the approach to aid me in my fieldwork. Finally, I selected a number of alternative topics which included: (1) documenting the life of a squatter family; (2) comparing settlements different in development mode, proximity to the city, and other such aspects; (3) recording the building process of a squatter dwelling; and (4) tracing migration to urban centers. After some initial research, I decided to concentrate my study on the life of a family in a squatter settlement. The human element incorporated into the film would allow me to deal with issues of common interest with the general public. I did not want the film to be geared strictly to the expert in the urban development field. Rather my target audience would include any interested individual or institution. The film could be used for educational purposes and/or for entertainment.

purpose

audience

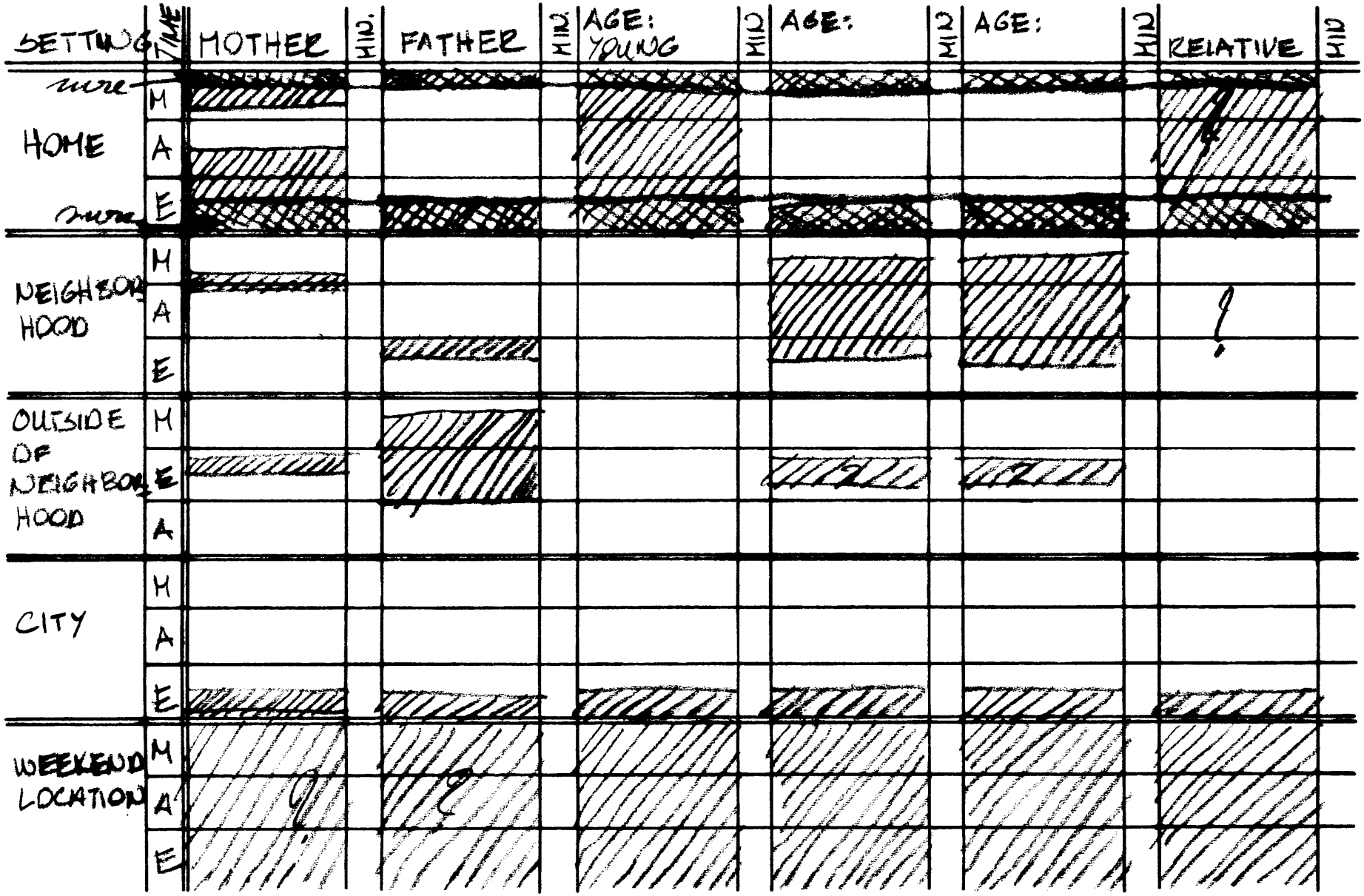
filming approach

I did not have any previous arrangements with a family or a squatter settlement. To write a script with specific characters and localities was impossible. The approach to the filming process had to be flexible. Within the boundaries of a loose outline, the film would be allowed to take its course. This necessitated a constant restructuring of guidelines to integrate new ideas and topics as the opportunities arose.

In anticipation of probable locations and activities, I prepared a number of charts. These charts were arranged to include actors, activities, and the time of day. I assumed that I would be filming a family with an unknown amount of children and a relative or relatives living in the same house. The charts were instrumental in understanding how important localities could be identified through different activities or individuals and vice versa. Most of the basic assumptions indicated on these charts were correct; others proved unnecessary. For example, the list of locations included "outside the neighborhood" and "the city", but these people hardly ever ventured outside the settlement. I had also made some incorrect assumptions concerning socialization and entertainment patterns.

The charts were later used to record the activities of the characters already filmed. This allowed me to budget the limited amount of film I had and also to make a more specific

THE BASIC PREPARATION CHART



framework for the film. Nevertheless, there were a number of difficulties. The first few days I had a hard time filming anything. The people were very camera shy. To avoid wasting valuable film, I used a common technique. I decided to hold the camera as if I was constantly filming, hoping that the people would eventually tire and continue with their activities. Not only did the people not tire, but they also knew exactly when they were being filmed by the noise of the camera. I decided to be patient and after a week of being filmed, the novelty wore off.

technical difficulties

Many of my other difficulties were technical. The equipment was somewhat primitive. I used a Kodak Super-8 Ektasound camera. This earlier model could not be focused through the viewer. Some film was wasted before I learned to estimate distances and to focus without looking at the distance indications on the lens.

The sound recording was done with a directional "shure" microphone. Due to a bad connection, which I did not detect at the time, a good part of the recorded sound was weak, full of static or totally lost. These problems could have been avoided if the film could have been developed while I was still shooting. Unfortunately, this was not possible, and I had to continue my work based on assumptions and anticipations.

I assumed that a lot of the filming would be done under low light conditions and therefore used Kodak 7242 Tungsten film which has a high ASA rating. The total length of the film used amounted to 155 minutes. It was distributed among the various localities as follows:

total footage

At home	67.5 minutes
At the café	20.0 minutes
At the office	7.5 minutes
At the store	5.0 minutes
In the neighborhood	40.0 minutes
At work	10.0 minutes
In Istanbul	5.0 minutes

EDITING PROCESS

Before I started editing, I made an assessment of what I had filmed. The shots included:

- Various activities at home
- Discussions and other activities at the cafe
- Discussions at the office and at the store
- Various activities in the neighborhood:
  - Construction
  - Children playing
  - Getting water
- Pan shots of the neighborhood
- On the way to Pinar
- Pan shots of Istanbul

the method

There is not a specific process that one follows in editing. Every individual creates his own technique. The process and the equipment used in editing affects the end product greatly. One of the most significant factors in my editing process was the equipment that was available at the M.I.T. Film Department. After the film was developed, it was all transferred onto 3/4" video cassettes. All subsequent work was done on a 3/4" editing system. This sophisticated equipment more than compensated for my losses caused by some inappropriate equipment I had used for filming. The video editing made it possible for me to prepare edited sequences without cutting the original film. This technique offers numerous

advantages; for example, comparing two diversely edited versions of the same film.

The edited film, like most other edited media, is the editor's subjective response to a body of raw material in the light of his apprehension. Selective exposure and background, among other factors, can hinder the individual's perception. An innate duality exists in a film. The observations, ideas and conclusions one encounters while filming do not necessarily correspond to those in the already exposed film. An objective analysis and organization of the film before editing is therefore a must in order to extract and relay a clear message to the viewers. They might or might not have previous background on the specific issues presented. I had the invaluable advice and objective guidance of Professor H. Caminos in clarifying the theme of the film and the process.

My initial work consisted mostly of analyzing the individual shots so that I could categorize them in terms of technical quality, filming quality, length, content, and so on. Charts containing this information were prepared and used throughout the editing process. After this somewhat laborious task of categorizing was completed, I tried to perceive the most obvious ideas and impressions contained in the film. I made comparisons between these impressions and my observations during my stay in Pinar only to find out that a number of

compromises were necessary. Many things had happened in Pinar which seem to have escaped my camera. The Erkan family was large. All individuals of the family and also others outside the family were interesting and worthwhile. Nevertheless, the film was to be short and to the point while remaining loyal to reality. This made it impossible for me to introduce and develop all the characters involved.

The majority of the footage contained information on activities at home and at the cafe. The preliminary assumptions I had made were correct as far as the activities at home were concerned. I had filmed mostly daily routines performed by the women. This allowed me to select the dominant characters of the film. Outside the home, the cafe was the most important location. The initial observations contained contrasts and parallels between the home and the cafe. This in itself presented a social commentary. It presented information on the behavior patterns and the roles of men and women in this society. Other impressions consisted of factual data either on the physical environment or the construction process. What I had seen in Pinar and what I wanted to say in the film remained to be integrated into the film through the meaningful sequencing of events.

Pinar was a rural settlement in an urbanized environment. In Pinar, men and women performed their traditional duties. While there were men that worked hard, others remained idle

at the café. People were politically sensitive. They were well aware of current issues. A constant progress and growth was evident. A seemingly quiet neighborhood was full of activities. The remainders of destroyed dwellings presented evidence that there were constant attempts to build. Cars and televisions contrasted with chickens in the back yard and men selling goods on horseback. Only men ventured outside the settlement and the women hardly ventured beyond the boundaries of their back yards. And for the children, the whole settlement was a playground.

The first editing chart contained a number of these ideas. The home remained as the point of reference, as I had originally intended. The sixty-two minute film represented everything I wanted to include into the final production, yet it was complex and unclear. My gain from this first edit was in the basic organization of the sequences. Further study of this film helped me to develop the idea of a dialogue between the café and the home. The chart and the film went through four extensive modifications. The final script contains four café sequences, four sequences at home and one sequence at the office. The first café sequence precedes the pan shots of Istanbul, the trip to Pinar and pan shots of the settlement. The following café sequence provides a continuity and the start of the story after the previous introduction. This part gives further insight into what goes on at the café, and it also commences the construction of a

the final script

dwelling. The construction activity combined with the repeated discussions at the cafe', placed at critical intervals, provide the primary structure of the film. The activities at the cafe' change from playing cards to talking or watching television, as simultaneously the construction advances. This combination is intended to symbolize the contrasting activities of men and also to indicate progress in the settlement. The advancement of the construction activity provides, too, a pattern or rhythm which gradually builds up to the eventual destruction of the dwelling under construction. The discussions at the cafe' revolve around the political aspects of building squatter dwellings, landlords, corruption, and the evolution of a squatter settlement. Unfortunately, all verbal information is meaningless to the non-Turkish speaking audience. Subtitles could not be used due to financial constraints. A short narrative during the introduction is presented to provide the viewer with supplementary information so that he may understand the content of the conversations in the film if they are not self-explanatory.

The first home sequence starts on the patio as Mr. Erkan tells the story of his move to Pinar. Immediately afterwards, the women are introduced while they are cleaning the house. Subsequent home sequences illustrate the absence of men at home and the various survival routines being performed. In some aspects, it is an exaggeration. The activities are condensed and many. On the other hand, it is the reality,

since the routines are real and performed daily by the women. The degree of marginality of life in Pinar is ever present for the discriminate viewer. For others, I have placed contrasting objects, activities and ideas immediately next to each other to emphasize that fact. The degree of marginality is relative to the city, the settlement and the home. The dialogue between the cafe and the home advances as a number of contrasts and parallels between the activities at the two locations and the two sexes are made. Finally, the repetition in activities are there to stress these contrasts and parallels.

The first day comes to an end at the cafe while the men at the construction site are still working. The similar activities that take place afterwards symbolize the repetitive nature of the day to day life in Pinar. The destruction of the dwelling, which was last seen as the walls were reaching full height, starts the last sequence. The women continue working at home and Mr. Erkan walks out of the settlement, indicating the end.

THE FINAL EDITING CHART

Café: Discussion on services in Pinar
Panoramic shots of Istanbul
The trip to Pinar
Panoramic shots of the settlement
Café: Various activities, beginning of the discussion on building a squatter dwelling and the beginning of the construction
Home: Mr. Erkan on the patio talking about his move to Pinar and women cleaning the house
Water delivered by truck
Mrs. Erkan preparing dinner
Café: Mr. Erkan playing cards
Previous discussion continues as construction advances
Home: Women at work
Watching television during dinner
Café: Men watching television
Same discussion and construction continue
Home: Mr. Erkan waking up as women continue work
Office: Mr. Erkan and his friends discussing local politics
Demolition of the squatter dwelling
Home: Eating lunch
Mrs. Erkan and Saynur doing laundry
End: Mr. Erkan on the way to work walks up Camlibel Street

The appendix consists of detailed information on the urban context and various maps of Istanbul, Pinar and the Erkan dwelling.

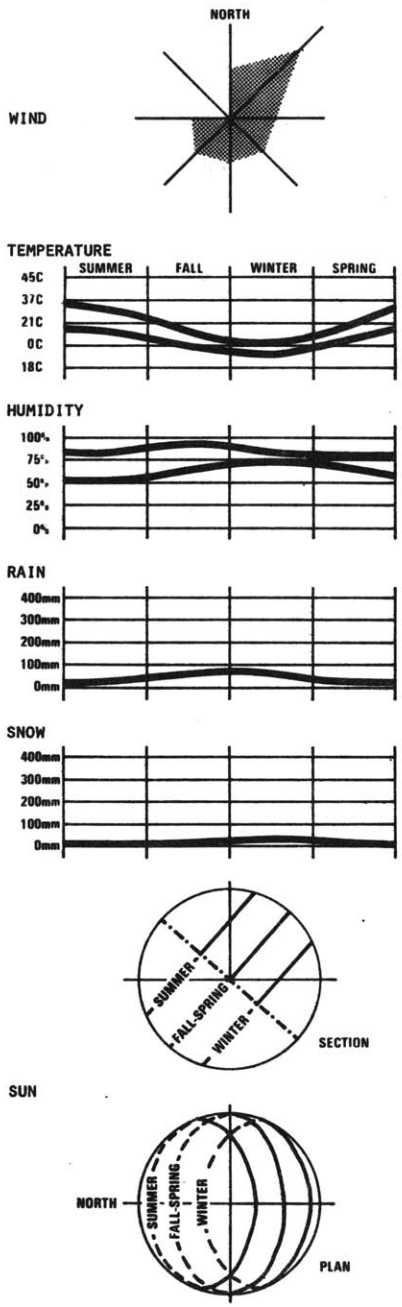
ISTANBUL, TURKEY

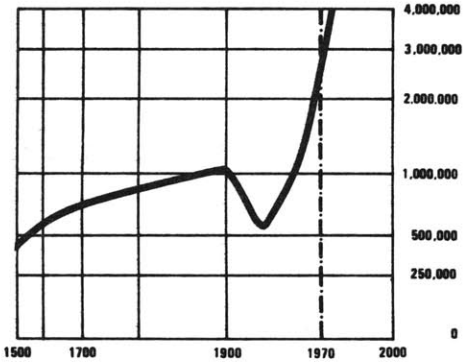
URBAN CONTEXT

1. PRIMARY INFORMATION: Divided by the Bosphorus which links the Sea of Marmara to the Black Sea, Istanbul, the Country's largest city, principal port and tourism center, is a city belonging to both Europe and Asia. A bridge across the Bosphorus, the fourth longest suspension bridge in the world, was completed in 1973. A narrow inlet, known as the Golden Horn (Halic), divides the European side of Istanbul. The first bridge on the Golden Horn was built in 1845 between Eminonu, the historic peninsula and old city, and Galata, the modern section of the city. The Bosphorus is over 25 km. in length and averages 1.5 km. in width. Both banks rise steeply from the water forming a succession of cliffs, coves and nearly land locked bays. At the present time, the metropolitan area of Istanbul lies between Kucuk Cekmece Lake on the West and to the provincial boundary near Tuzla on the East. The urbanization sector, which is expanding rapidly, presently covers an area of 40,000 hectares. Istanbul is located at latitude 41° North, longitude 29° East. Summers are moderately hot, winters are mild with average temperatures ranging from 27 to -5 degrees Centigrade. Winters are generally the wettest months. 10 to 18 rainy days per month occur from October through May. Total annual rainfall is 666 mm. Snowy days average 9 per year.

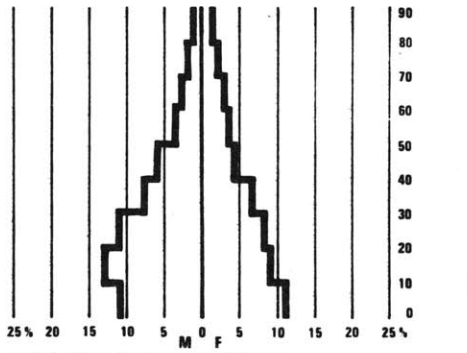
2. HISTORY: The origins of Istanbul date back to 658 B.C. when Greek colonists and Corinthians established Byzantium on the peninsula bordered by the Marmara Sea, the Bosphorus and the Golden Horn. In 330 A.D. Roman Emperor Constantine shifted his capital to Byzantium and thus named it Constantinople. The Byzantine Empire (East Roman Empire) continued until 1453 when the city was conquered by Ottoman Emperor Sultan Mehmet I and named Islambol (plenty of Moslems) which later became Istanbul. Istanbul was the capital of the Ottoman Empire until 1923, when Ankara was designated the capital of the new Republic of Turkey. The City's population was 60,000 in 1453; 500,000 in the 1800's and 990,000 in 1940. The population and area has doubled since the 1950's, but in the early 1970's more than 70% of the population lived in the Istanbul municipality. A cosmopolitan, multi-ethnic city with a population in 1972 of 2.8 million, Istanbul has lost the political importance it had during the Ottoman Empire, but it has maintained a major role in the Nation's commercial and cultural life.

3. ECONOMY: Istanbul is an important industrial, commercial, transactional center and a major transhipping and railroad point handling 75% of the national imports and 50% of the national exports. Istanbul represents 35 to 40% of the nation's organized industrial labor force, 50% of the total income tax revenues and 50% of total private sector investments. The private sector makes up 80 to 90% of the total investments in industry and housing. In 1964, Istanbul contributed 18.3% of the total Gross National Product. Per capita annual GNP was $416 in Istanbul versus $157 for the Country. In 1972 Istanbul, which accounted for 8% of the total national population, produced 22% of the total GNP. GNP per capita (at current prices) was $1065 for Istanbul and $364 for Turkey. The economic growth rate was 11% for Istanbul and 7% for Turkey. In 1970, 83% of Istanbul's organized industrial labor force was employed on the European side, 17% on the Asian side. Small area consumption industries such as food canning, bottling, printing, textiles, chemistry, metal, furniture, take place on the European side to the north and west. Large area capital industries such as oil refineries, car and home appliance factories, machinery, stone and soil products industries are concentrated along the Istanbul-Izmit Highway on the Asian side.

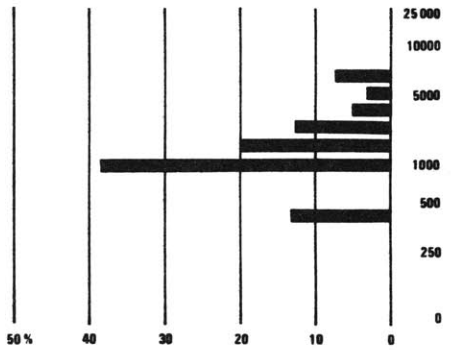




URBAN POPULATION GROWTH
horizontal: dates vertical: population
Source:

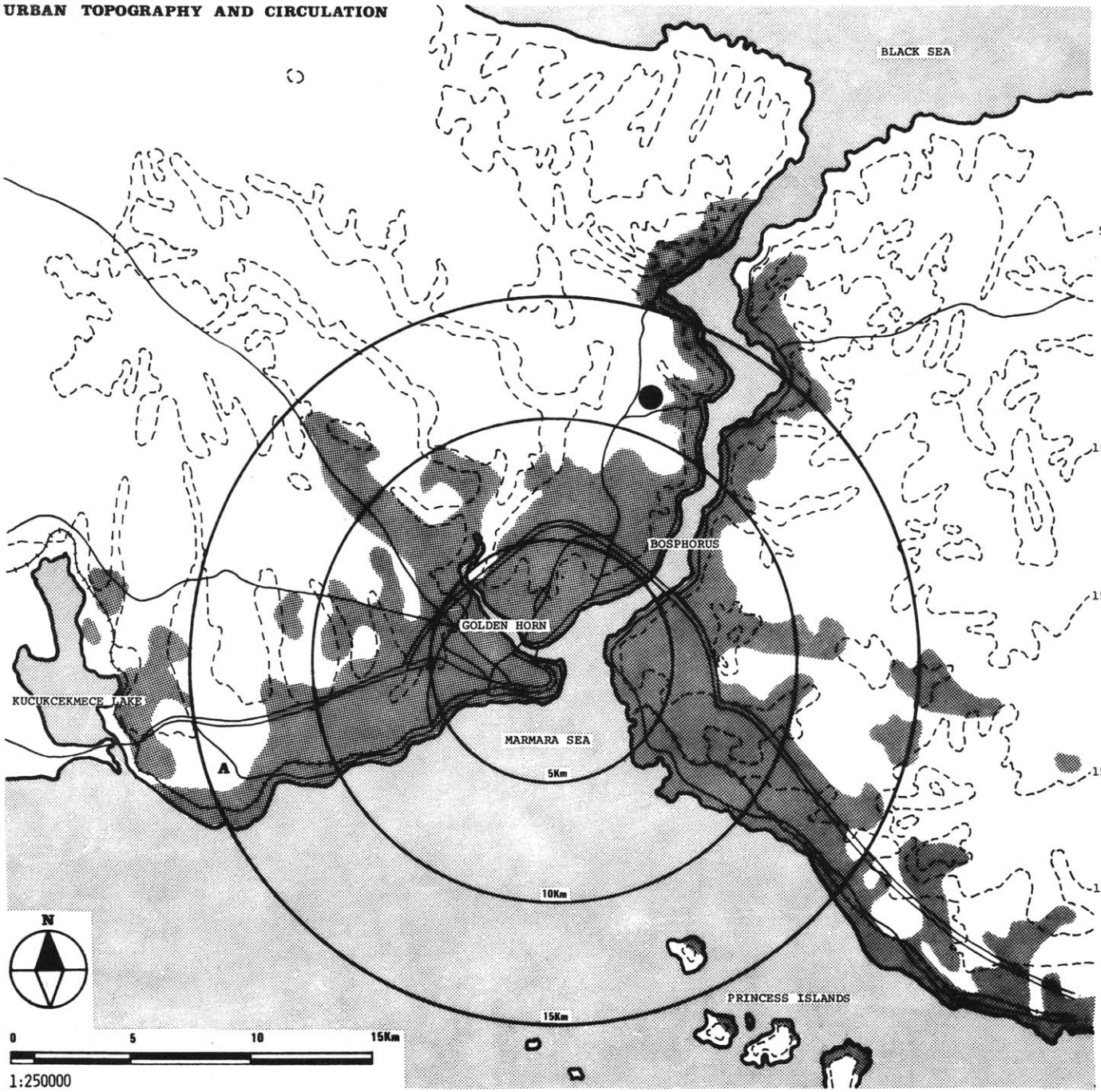


URBAN POPULATION DISTRIBUTION
horizontal: percentages vertical: ages
males: M females: F
Source:



URBAN ANNUAL INCOME DISTRIBUTION
horizontal: percentages vertical: dollars
Source:

URBAN TOPOGRAPHY AND CIRCULATION



4. GOVERNMENT: Since the beginning of the Ottoman Empire, the administrative organization of Istanbul has gone through many changes. The combined provincial and municipal government which was established in 1930 was separated in 1953 for purposes of efficiency. The chief provincial official is the governor who is appointed by the President on the recommendation of the Minister of Interior. There are 19 districts in the Province of Istanbul and 15 within the Istanbul metropolitan area. The Province is divided into municipalities. According to the Lausanne Treaty of 1923, the borders of the Istanbul municipality, established in 1853, cannot be changed. There are 32 other smaller municipalities located within the Province, 18 of which are in the Istanbul metropolitan area. The Municipal Administration consists of an assembly, a council and a mayor. The assembly is elected by popular vote. The organization and functions of municipal governments are prescribed in detail by national law. All Municipalities are required to draw up development plans and submit them for approval to the governor, or in the case of larger cities such as Istanbul, to the Ministry of Interior. Upon approval, the municipalities are required to conform to that plan. In 1965, the Greater Istanbul Master Plan Office was established to prepare the master plan of Istanbul to be approved by the Ministry of Reconstruction and Resettlement. The municipalities must prepare their plans according to the planning offices' goals.

KEY

A Airport

Primary Road

Railroad

Rapid Transit

Built-up Area

CASE STUDY

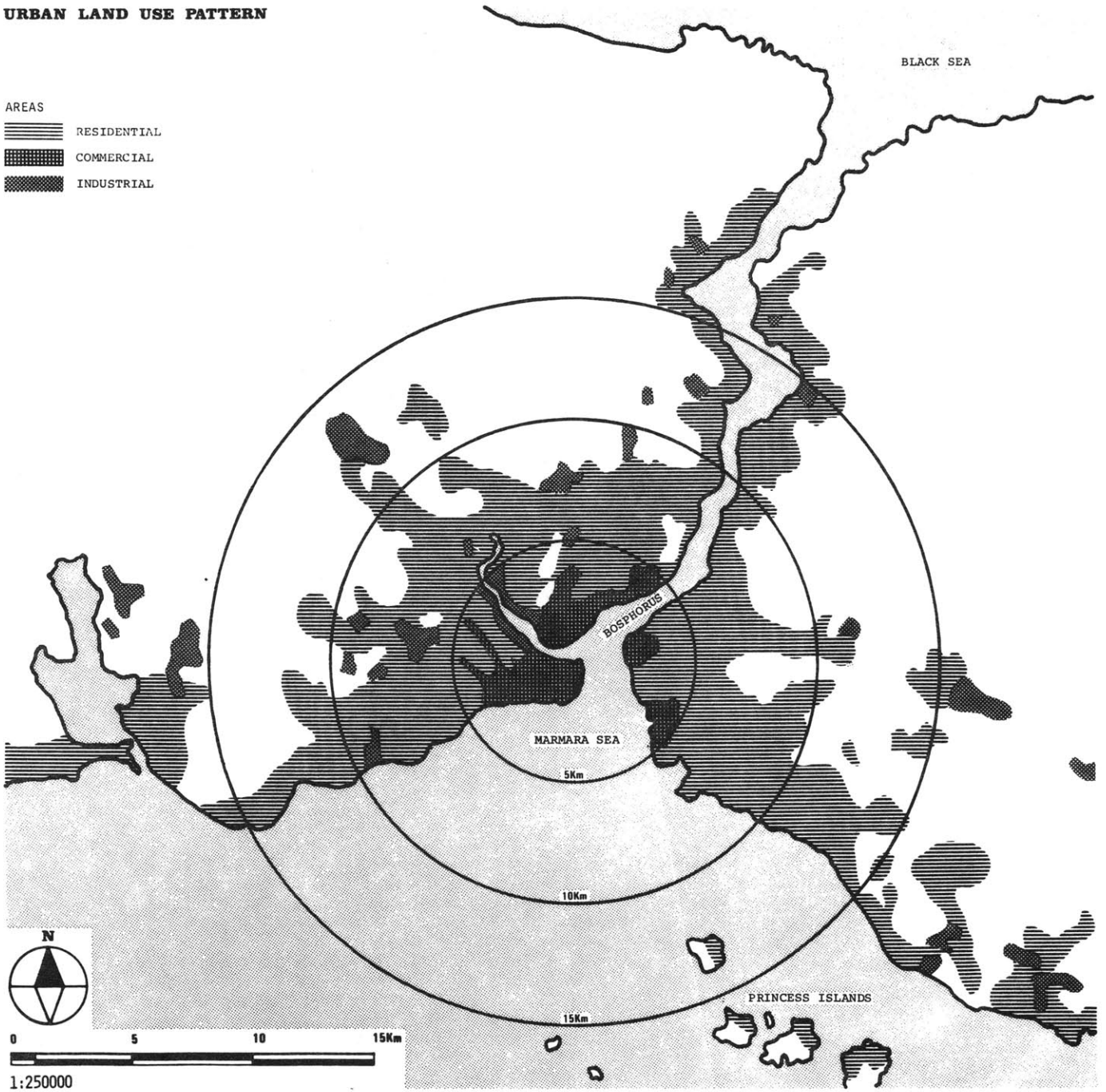
CASE STUDY: Pinar

5. DEMOGRAPHY: Metropolitan Istanbul represents 8% of the toal national population and 20% of the urban population of Turkey. Istanbul metropolitan population has more than doubled since 1955. In 1970, 2,247,630 of the 2,995,191 metropolitan population lived within the Istanbul Municipality; the growth rates are 5.2% and 3.5% respectively, 2.7% for Turkey and 7% for Ankara. 36.6% of the population growth was inborn and 63.4% was due to migration. In 1955, 45.5% of the population was born in Istanbul. The illiteracy rate above six years of age was 19.2% compared to a national figure of 45.2% in 1970 in a ratio of 1 to 3 between males and females. 46.4% of Istanbul's population was female. 10% of the population above six years of age had completed high school and 3% higher education.

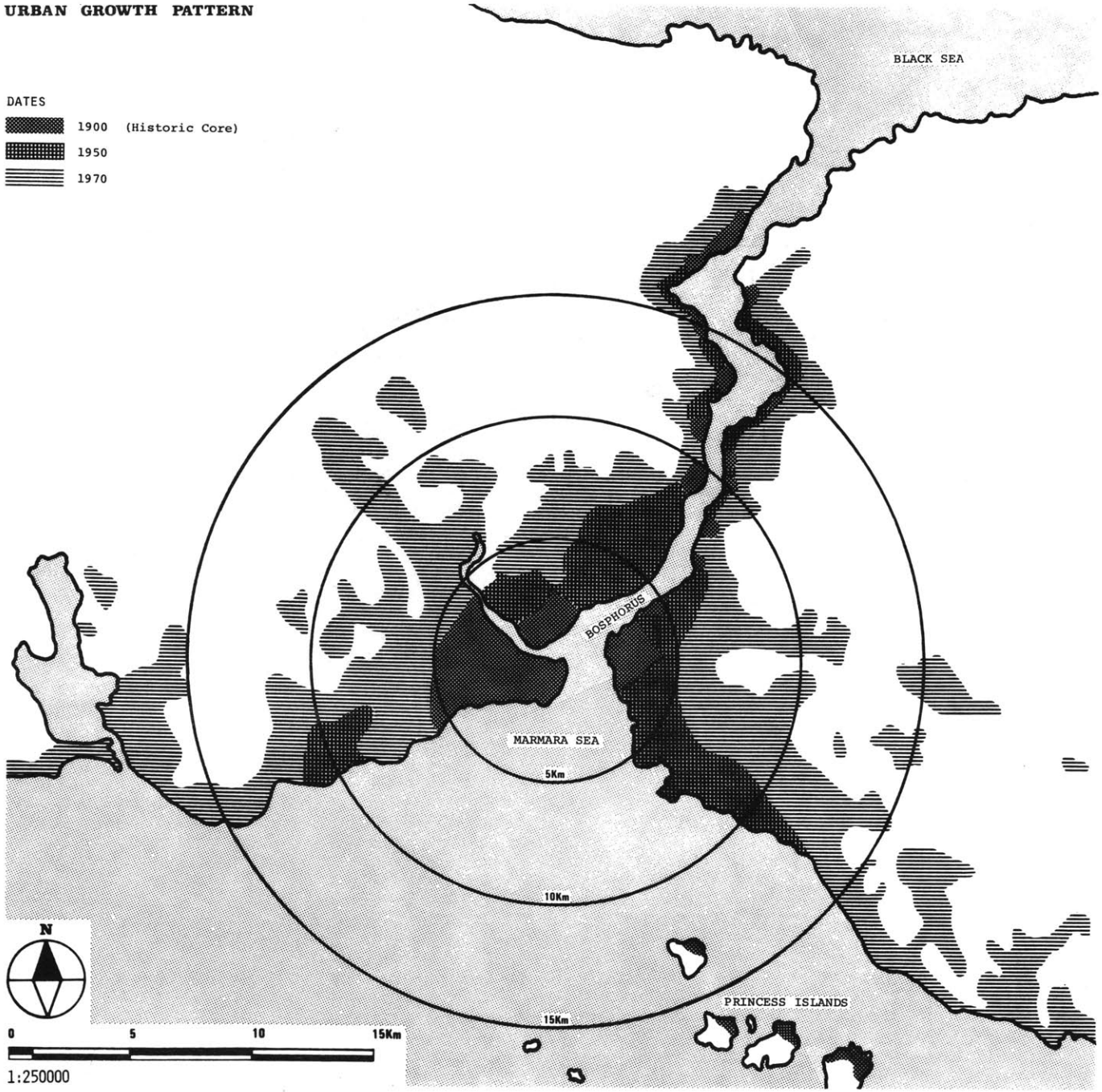
6. SOCIO-CULTURAL: Despite the continued dominance of the educated elite, changing circumstances such as economic growth and diversification have substantially altered the composition and therefore the interests of the powerful national elite. Since World War II, increased economic opportunities have greatly expanded the size and power of the middle class based in commerce, industry, technocracy, education, and private practice of the learned professions. However, wealth, occupation, family heritage and place of residence still distinguish the different social classes. The social hierarchy moves upward from unskilled workers to industrial workers and service employees to salaried people and small businessmen to the middle class and finally to the traditional elite. Istanbul's population is the most heterogeneous in Turkey. In 1965, 28.4% of Turkey's minority population accounted for 5.1% of the population of Metropolitan Istanbul.

7. SOCIO-ECONOMIC: According to the 1966 Survey of Consumer Expenditures in Istanbul, 51.1% of the population had annual incomes under $850, 21.7% between $850-$1285, 19.8% between $1285-$2571 and 7.3% above $2571. In the last two decades Istanbul's industries have tripled and the urbanized area doubled. In 1965, 38% of the population was employed. Low income settlements are scattered around the periphery of Istanbul and in pockets of the city's historical core. The middle in-

URBAN LAND USE PATTERN



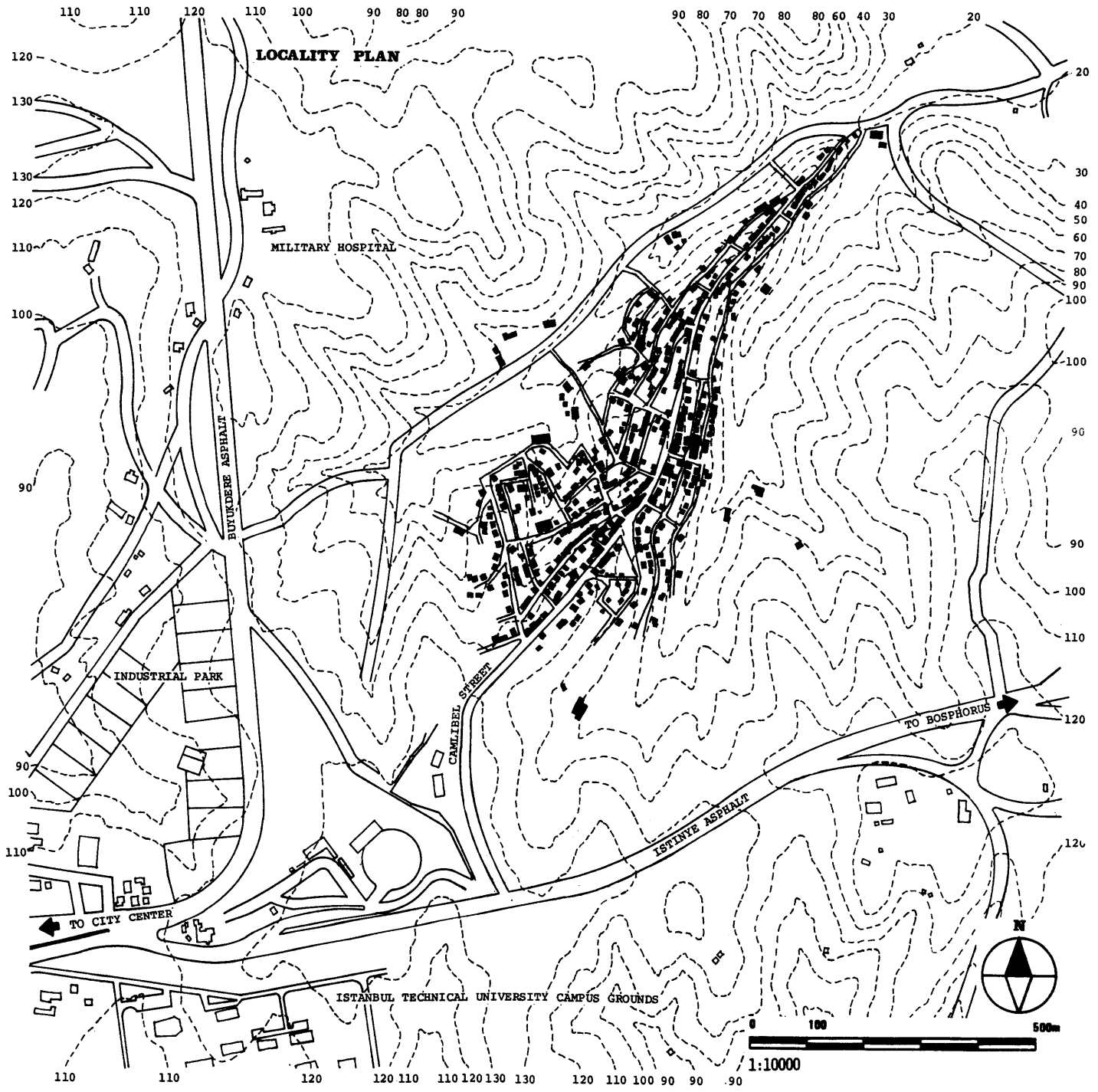
URBAN GROWTH PATTERN



come areas are concentrated in the historic peninsula. The remaining middle and high income areas are spread along the shores of the Sea of Marmara, the Bosphorus and to the northeast of the historical core.

8. HOUSING: In 1963, 660,000 people were living in 120,000 squatter dwellings (gecekondu - literally built at night) which made up 40% of the dwelling stock and 45% of the population in the metropolitan area. 19% of the squatters in Turkey lived in Istanbul. By 1972 there were 200,000 squatter dwellings housing 30-40% of the population in 50% of the built up area. 30,000 housing units are needed each year in Istanbul. 17,000 are provided by the private sector, 3,000 by the public sector and 10,000 by squatter settlers. In 1972, there were an estimated 80,000 registered squatter dwellings. 10,000 unregistered squatter dwellings were being built every year at a rate of 20 to 30 per day. Of the total housing investments, only 5.1% are from the public sector. 51% of public sector housing investments are allocated for squatter settlement improvements. Construction tax laws discourage construction of dwelling units in excess of 100 m^2. According to No. 1318 Financing Law, dwellings not exceeding 100 m^2 are exempt from building construction taxes. By public housing standards, 30.5 to 63 m^2 is minimum and 40 to 100 m^2 is the average dwelling size, range being relative to family size. Urban dwelling stock statistics show a decrease from 2.17 persons per room in 1955 to 1.87 persons per room and 2.7 rooms per household in 1972. In 1970, 41% of the urban dwelling stock was in good condition, 33% in fair and 26% in poor condition. The percentages for squatter dwellings were 30%, 40% and 30% respectively. The average dwelling areas for high income families is 24.3 m^2 per person as opposed to 7.2 m^2 per person for squatter families. The densities average 250 persons per hectare in high income areas and 320 persons per hectare in squatter settlements.

The Urban Context has been obtained from a thesis that was prepared at the Urban Settlement Design in Developing Countries program: URBAN DWELLING ENVIRONMENTS: ISTANBUL, TURKEY, Butler, M. and N., M.I.T. Thesis, Cambridge, 1976.


LOCALITY PLAN
MILITARY HOSPITAL
BUYUKDERE ASPHALT
INDUSTRIAL PARK
CAMLIBEL STREET
ISTINYE ASPHALT
TO BOSPHORUS
TO CITY CENTER
ISTANBUL TECHNICAL UNIVERSITY CAMPUS GROUNDS
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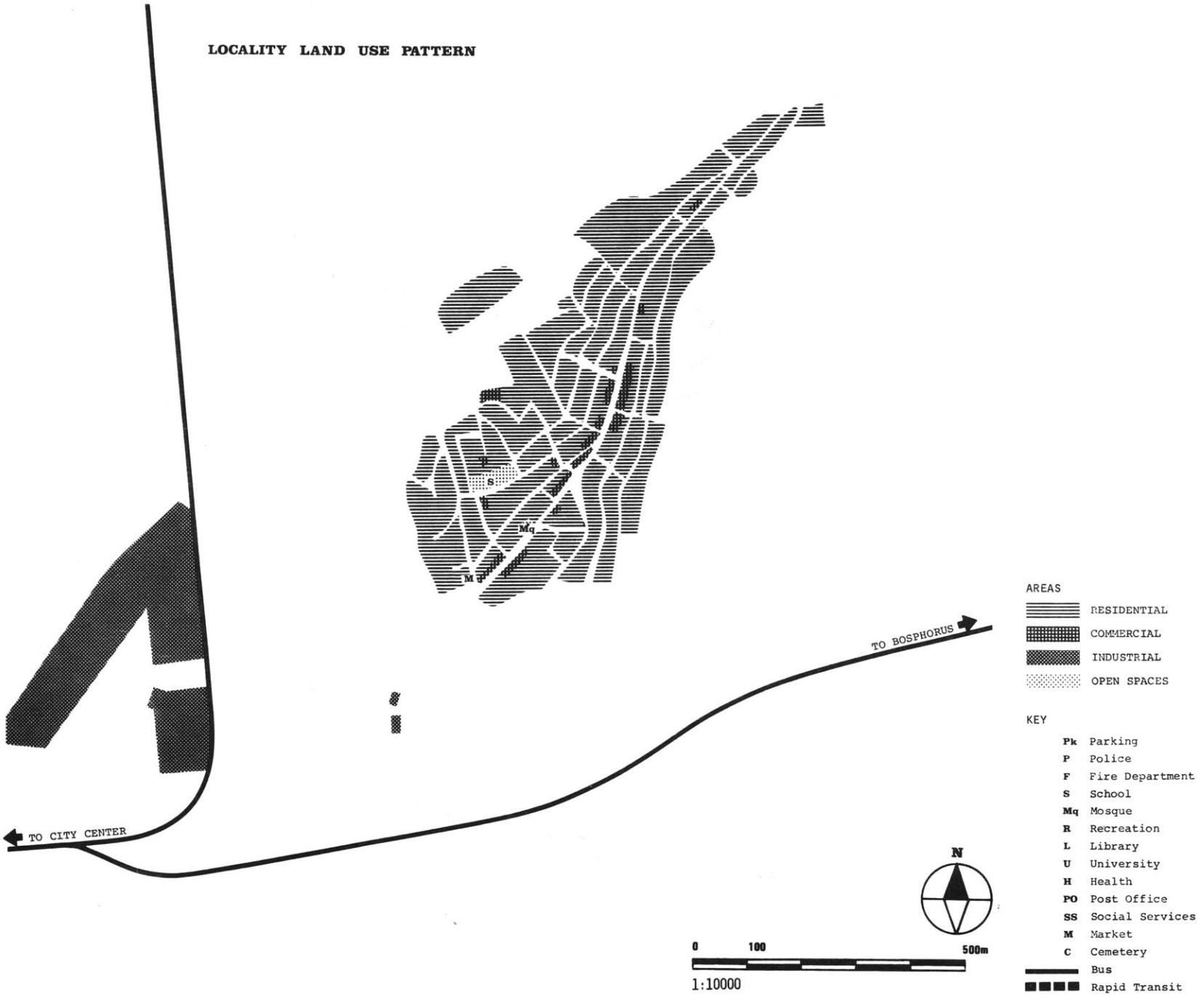
LOCALITY LAND USE PATTERN
TO BOSPHORUS
TO CITY CENTER
AREAS
RESIDENTIAL
COMMERCIAL
INDUSTRIAL
OPEN SPACES
KEY
Pk Parking
P Police
F Fire Department
S School
Mq Mosque
R Recreation
L Library
U University
H Health
PO Post Office
SS Social Services
M Market
C Cemetery
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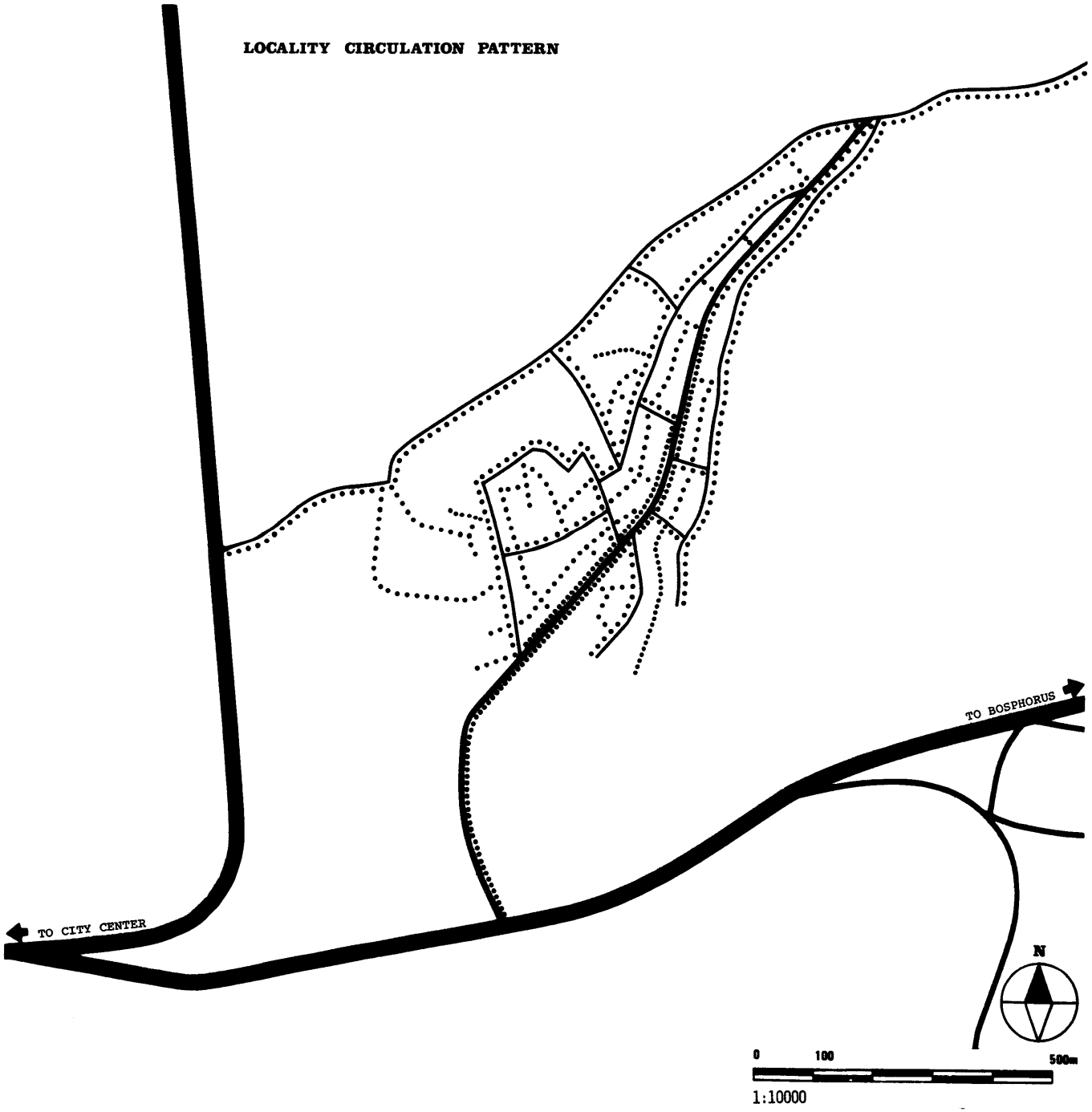
LOCALITY CIRCULATION PATTERN
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TO CITY CENTER
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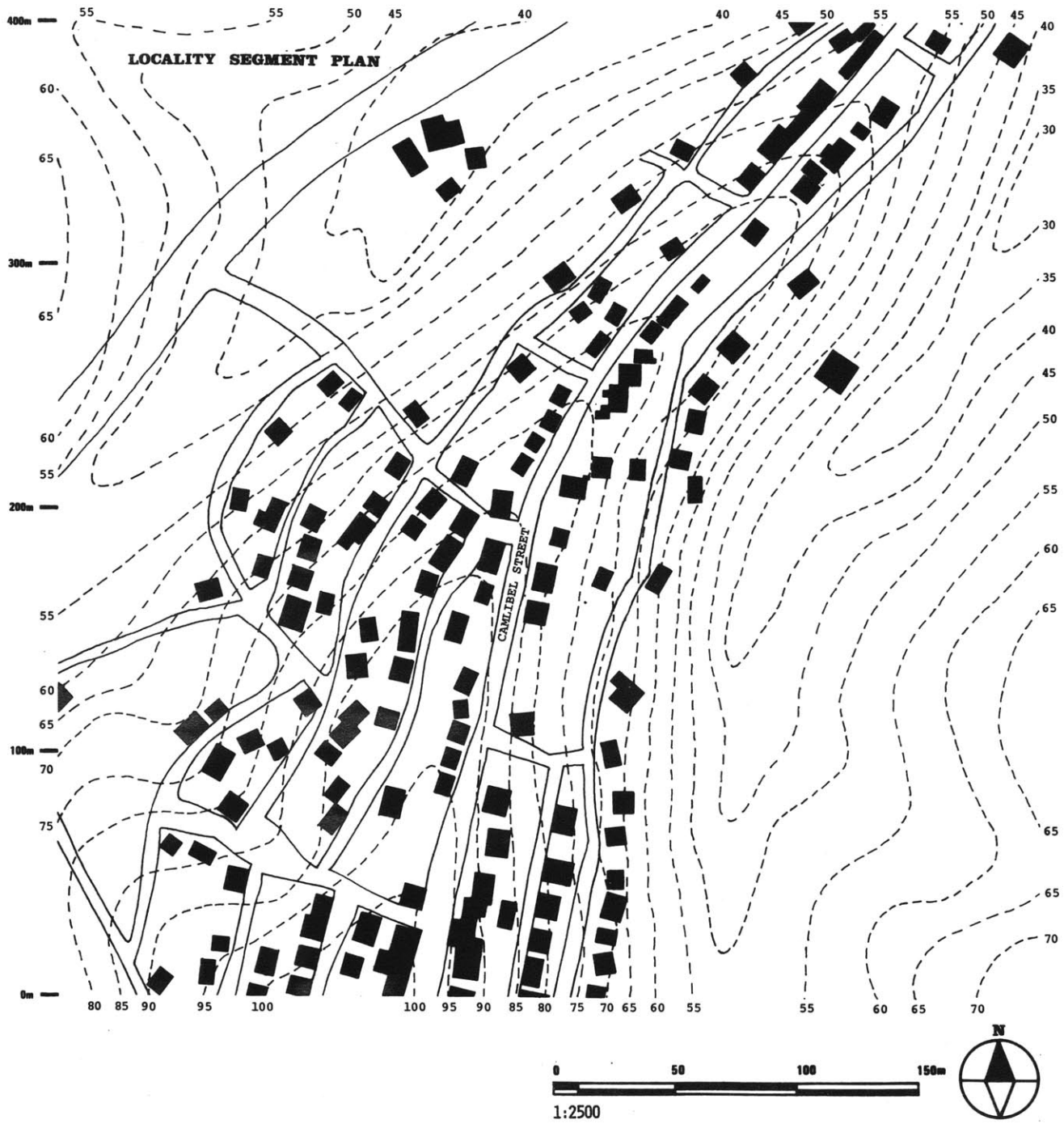


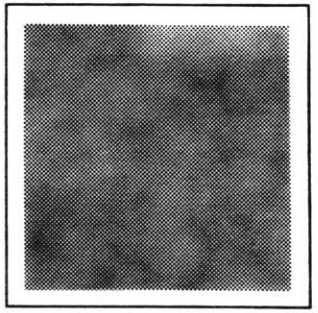
LAND UTILIZATION DIAGRAMS

1 Hectare

PATTERN

Public:	streets/walkways	
Semi-Public:	playgrounds	
Semi-Private:	cluster courts	
Private:	lots	
	dwellings	

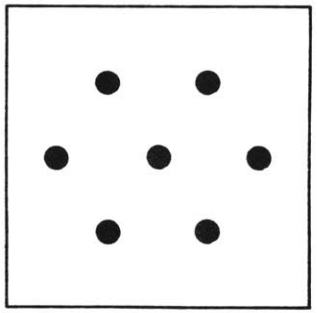
1 Hectare



PERCENTAGES

Streets/Walkways	23%
Playgrounds	1%
Cluster Courts	—%
Dwellings/Lots	76%

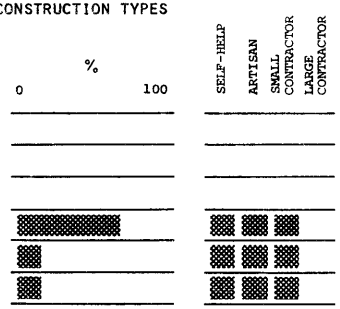
1 Hectare



DENSITY Persons/Hectare

20 Persons

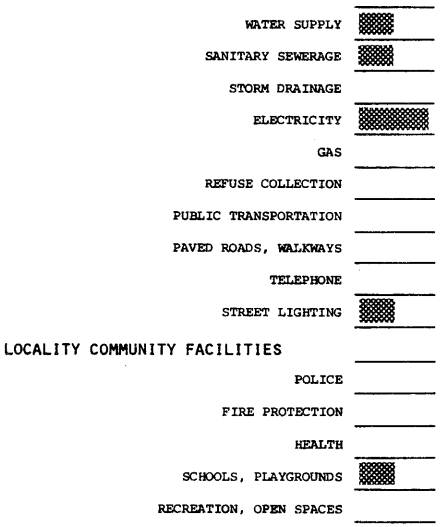
LOCALITY CONSTRUCTION TYPES



The chart shows (1) approximate percentage of each construction type within the total number of dwellings and (2) building group that generally produces each type.

Quality of information:

LOCALITY UTILITIES AND SERVICES



The chart illustrates the approximate availability of utilities, services, and community facilities at three levels: NONE, LIMITED, ADEQUATE.

Quality of information: accurate

LOCALITY BLOCK LAND UTILIZATION DATA

DENSITIES	Total Number	Area Hectares	Density N/Ha
LOTS	30	1.14	39
DWELLING UNITS	22	1.14	29
PEOPLE	115	1.14	101

AREAS	Hectares	Percentages
PUBLIC (streets, walkways, open spaces)	.37	32.5
SEMI-PUBLIC (open spaces, schools, community centers)	-	-
PRIVATE (dwellings, shops, factories, lots)	.77	67.5
SEMI-PRIVATE (cluster courts)	-	-
TOTAL	1.14	100.0

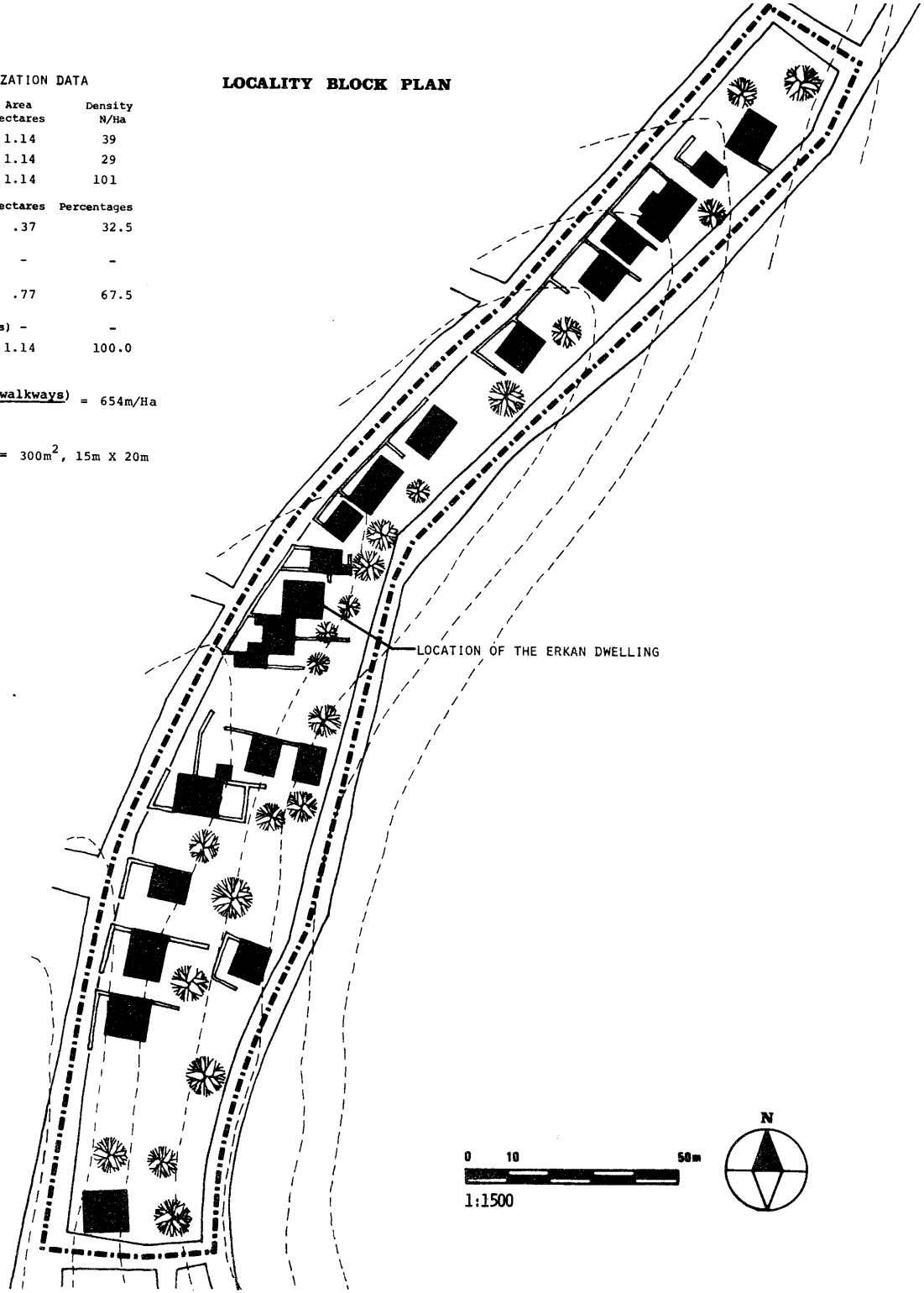
NETWORK EFFICIENCY

$\frac{\text{Network length (streets, walkways)}}{\text{Areas served (total area)}}$ = 654m/Ha

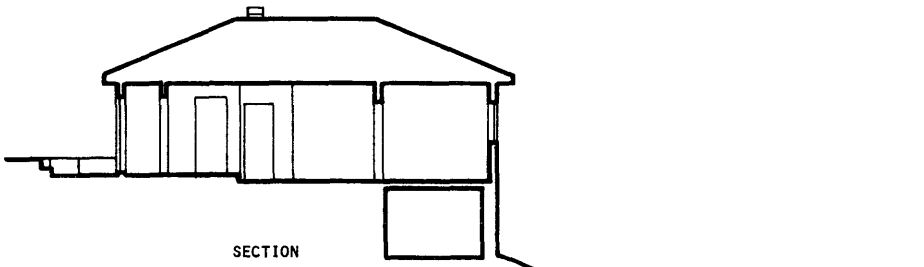
LOTS

Average area, dimensions = $300m^2$, 15m X 20m

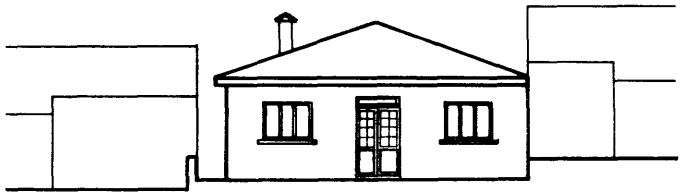
LOCALITY BLOCK PLAN



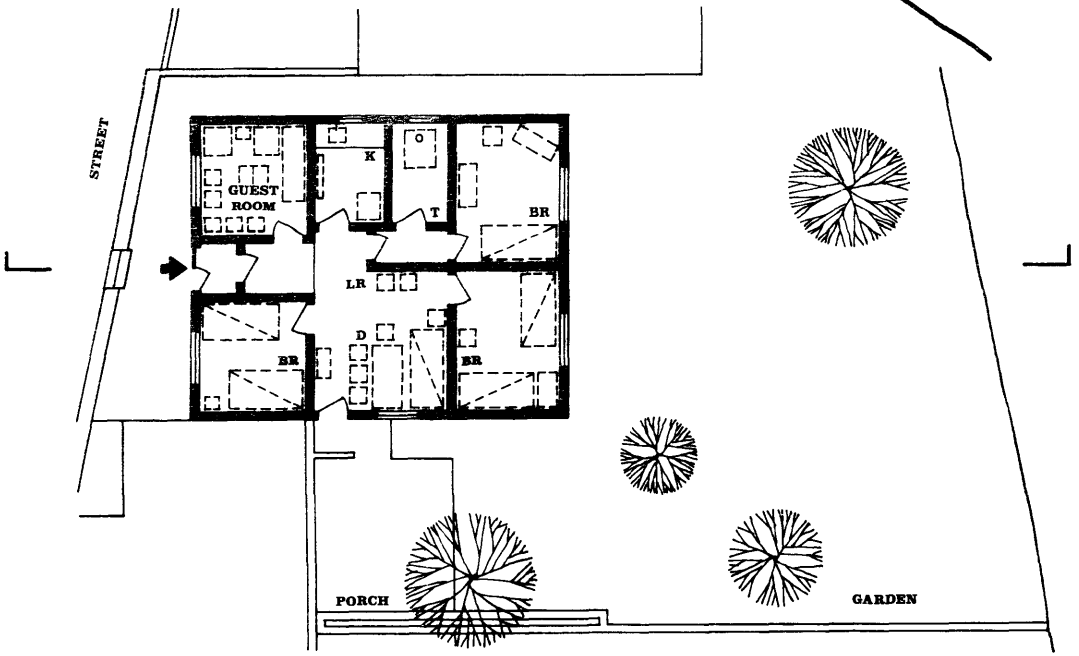
THE ERKAN DWELLING



SECTION



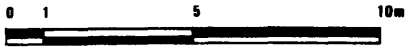
ELEVATION



PLAN

KEY

LR	Living Room
D	Dining/Eating Area
BR	Bedroom
K	Kitchen/Cooking Area
T	Toilet/Bathroom
L	Laundry
C	Closet
S	Storage
R	Room (multi-use)



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GLOSSARY

The criteria for the preparation of the definitions have been as follows:
-FIRST PREFERENCE: definitions from "Webster's Third New International Dictionary", Merriam-Webster,1971.
-SECOND PREFERENCE: definitions from technical dictionaries, text books, or reference manuals.
-THIRD PREFERENCE: definitions from the Urban Settlement Design Program (U.S.D.P.) Files. They are used when existing sources were not quite appropriate/ satisfactory.

Words included for specificity and to focus on a particular context are indicated in parenthesis.

Sources of definitions are indicated in parenthesis. (See also: REFERENCES).

ACCESSES. The pedestrian/vehicular linkages from/to the site to/from existing or planned approaches (urban streets, limited access highways, public transportation systems, and other systems such as: waterways, airlines, etc.) (U.S.D.P.)

ACTUAL LAND COST. "(The cost of land is)...set solely by the level of demand. The price of land is not a function of any cost conditions; it is set by the users themselves in competition."(Turner, 1971)

AD VALOREM (TAX). A tax based on a property's value; the value taxed by local governments is not always or even usually the market value, but only a valuation for tax purposes. (U.S.D.P.)

AIRPORT DISTURBANCE. The act or process of destroying the rest, tranquility, or settled state of (the site by the annoyance of airport noise, vibration, hazards, etc.) (Merriam-Webster, 1971)

AIRPORT ZONING RESTRICTIONS. The regulation of the height or type of structures in the path of moving aircraft. (Abrams, 1971)

ALTERNATINC CURRENT (A.C.) (an electric) current that reverses its direction of flow at regular intervals. (ROTC ST 45-7, 1953)

AMENITY. Something that conduces to physical or material comfort or convenience, or which contributes satisfaction rather than money income to its owner. (Merriam-Webster, 1971)

AMPERES. Amperes (amp) are a measure of the rate of flow of electricity. It is somewhat comparable to the rate of flow of water (quantity/time). A steady current produced by one volt applied across a resistance of one ohm. (ROTC ST 45-7, 1953)

APPRAISAL. An estimate and opinion of value, especially by one fitted to judge. (Merriam-Webster, 1971)

APPROACHES. The main routes external to the site (pedestrian/vehicular) by which the site can be reached from other parts of the urban context. (U.S.D.P.)

ASSESSED VALUE. A valuation placed upon property by a public officer or board as a basis for taxation. (Keyes, 1971)

ASSESSMENT. The valuation of property for the purpose of levying a tax or the amount of the tax levied. (Keyes, 1971)

BACKFILL. Earth or other material used to replace material removed during construction, such as in culvert, sewer, and pipeline trenches and behind bridge abutments and retaining walls or between an old structure and a new lining. (DePina, 1972)

BARRIER. (A boundary) as a topographic feature or a physical or psychological quality that tends to separate or restrict the free movement (to and from the site). (Merriam-Webster, 1971)

BETTERMENT (TAX). A tax on the increment in value accruing to an owner because of development and improvement work carried out by local authorities. (U.S.D.P.)

BINDER COURSE. A transitional layer of bituminous paving between the crushed stone base and the surface course (to increase bond between base and surface course). (DePina, 1972)

BITUMINOUS. A coating of or containing bitumin; as asphalt or tar. (DePina, 1972)

BLOCK. A block is a portion of land bounded and served by lines of public streets. (U.S.D.P.)

BOUNDARY. Something (a line or area) that fixes or indicates a limit or extent (of the site). (Merriam-Webster, 1971)

BUILDING CODE. "A body of legislative regulations or by-laws that provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures within the city, and certain equipment specifically regulated therein." (BOCA, 1967)

BUILDING DRAIN. Lowest horizontal piping of the building drainage system receiving discharge from soil, waste, and other drainage pipes. It is connected to the building sewer. (ROTC ST 45-7, 1953)

BUILDING MAIN. Water-supply pipe and fittings from the water main or other source of supply to the first branch of the water-distribution system of a building. (ROTC ST 45-7, 1953)

CESS POOL. An underground catch basin that is used where there is no sewer and into which household sewage or other liquid waste is drained to permit leaching of the liquid into the surrounding soil. (Merriam-Webster, 1971)

CIRCULATION. System(s) of movement/passage of people, goods from place to place; streets, walkways, parking areas. (U.S.D.P.)

CLAY. A lusterless colloidal substance, plastic when moist (crystalline grains less than 0.002mm in diameter). (U.S.D.P.)

CLEANOUT. A plug or similar fitting to permit access to traps or sewer lines. Cleanouts are usually used at turns and other points of collection. (ROTC ST 45-7, 1953)

CLIMATE. The average condition of the weather at a particular place over a period of years as exhibited by temperature, wind, precipitation, sun energy, humidity, etc. (Merriam-Webster, 1971)

COLLECTION SYSTEM. The system of pipes in a sewage network, comprised of house service, collection lines, manholes, laterals, mains. (U.S.D.P.)

COMBINED SEWER. A sewer that carries both storm water and sanitary or industrial wastes. (DePina, 1972)

COMMUNITY. The people living in a particular place or region and usually linked by common interests: the region itself; any population cluster. (U.S.D.P.)

COMMUNITY FACILITIES/SERVICES. Facilities/services used in common by a number of people. It may include: schools, health, recreation, police, fire, public transportation, community center, etc. (U.S.D.P.)

COMMUNITY RECREATION FACILITIES. Facilities for activities voluntarily undertaken for pleasure, fun, relaxation, exercise, self-expression, or release from boredom, worry, or tension. (U.S.D.P.)

COMPONENT. A constituent part of the utility network. (U.S.D.P.)

CONDOMINIUM. Condominium is a system of direct ownership of a single unit in a multi-unit whole. The individual owns the unit in much the same manner as if it were a single family dwelling: he holds direct legal title to the unit and a proportionate interest in the common land and areas. Two types of condominiums are recognized: *HORIZONTAL:* detached, semi-detached, row/grouped dwelling types; *VERTICAL:* walk-up, high-use dwelling types. (U.S.D.P.)

CONDUCTORS. Materials which allow current to flow such as aluminum, copper, iron. (ROTC ST 45-7, 1953)

CONDUIT. A pipe or other opening, buried or above ground, for conveying hydraulic traffic, pipelines, cables, or other utilities. (DePina, 1972)

CONSERVATION EASEMENT. An easement acquired by the public and designed to open privately owned lands for recreational purposes or to restrict the use of private land in order to preserve open space and protect certain natural resources. (U.S.D.P.)

CONURBATION. Area of large urban communities where towns, etc. have spread and became joined beyond their administrative boundaries. (A.S. Hornby, A.P. Cowie, J. Windsor Lewis, 1975)

CONURBATION. An aggregation or continuous network of urban communities. (Merriam-Webster, 1963)

CORPORATION COCK/CORPORATION STOP. A water or gas cock by means of which utility-company employees connect or disconnect service lines to a consumer. (Merriam-Webster, 1971)

COSTS OF URBANIZATION. Include the following: *CAPITAL:* cost of land and infrastructure; *OPERATING:* cost of administration, maintenance, etc.; *DIRECT:* include capital and operating costs; *INDIRECT:* include environmental and personal effects. (U.S.D.P.)

CURRENT (See: ALTERNATING CURRENT, DIRECT CURRENT). An electric current is a movement of positive or negative electric particles (as electrons) accompanied by such observable effects as the production of heat, of a magnetic field, or of chemical transformation. (Merriam-Webster, 1971)

CYCLE. One complete performance of a vibration, electric oscillation, current alternation, or other periodic process. (Merriam-Webster, 1971)

DAM. A barrier preventing the flow of water; a barrier built across a water course to confine and keep back flowing water. (Merriam-Webster, 1971)

DEPRECIATION ACCELERATION (TAX). A tax incentive designed to encourage new construction by allowing a faster write-off during the early life of a building. (U.S.D.P.)

DESIGN. 1) The arrangement of elements that make up a work of art, a machine or other man-made object. 2) The process of selecting the means and contriving the elements, steps, and procedures for producing what will adequately satisfy some need. (Merriam-Webster, 1971)

DETACHED DWELLING. Individual dwelling unit, separated from others. (U.S.D.P.)

DEVELOPMENT. Gradual advance or growth through progressive changes; a developed tract of land (U.S.D.P.)

DEVELOPMENT SIZE. There are two general ranges of size: *LARGE:* may be independent communities requiring their own utilities, services, and community facilities; *SMALL:* generally are part of an adjacent urbanization and can use its supporting utilities, services, and community facilities. (U.S.D.P.)

DIRECT CURRENT (D.C.) (An electric current that) flows continuously in one direction. (ROTC ST 45-7, 1953)

DISCHARGE (Q). Flow from a culvert, sewer, channel, etc. (DePina, 1972)

DISTANCE. The degree or amount of separation between two points (the site and each other element of the urban context) measured along the shortest path adjoining them (paths of travel). (Merriam-Webster, 1971)

DISTRIBUTION (STATION). The part of an electric supply system between bulk power sources (as generating stations or transformation station tapped from transmission lines) and the consumers' service switches. (Merriam-Webster, 1971)

DISTURBED SOIL. Soils that have been disturbed by artificial process, such as excavation, transportation, and compaction in fill. (U.S.D.P.)

DRAINAGE. Interception and removal of ground water or surface water, by artificial or natural means. (De Pina, 1972)

DUST/DIRT. Fine dry pulverized particles of earth, grit, refuse, waste, litter, etc. (Merriam-Webster, 1971)

DWELLING. The general, global designation of a building/shelter in which people live. A dwelling contains one or more 'dwelling units'. (U.S.D.P.)

DWELLING BUILDER. Four groups are considered: *SELF-HELP BUILT:* where the dwelling unit is directly built by the user or occupant; *ARTISAN BUILT:* where the dwelling unit is totally or partially built by a skilled craftsman hired by the user or occupant; payments can be monetary or an exchange of services; *SMALL CONTRACTOR BUILT:* where the dwelling unit is totally built by a small organization hired by the user, occupant, or developer; 'small' contractor is defined by the scale of operations, financially and materially; the scale being limited to the construction of single dwelling units or single complexes; *LARGE CONTRACTOR BUILT:* where the dwelling unit is totally built by a large organization hired by a developer; 'large' contractor is defined by the scale of operations, financially and materially; the scale reflects a more comprehensive and larger size of operations encompassing the building of large quantities of similar units, or a singularly large complex. (U.S.D.P.)

DWELLING DENSITY. The number of dwellings, dwelling units, people or families per unit hectare. Gross density is the density of an overall area (ex. including lots, streets). Net density is the density of selected, discrete portions of an area (ex. including only lots). (U.S.D.P.)

DWELLING DEVELOPER. Three sectors are considered in the supply of dwellings: *POPULAR SECTOR:* the marginal sector with limited or no access to the formal financial, administrative, legal, technical institutions involved in the provision of dwellings. The housing process (promotion, financing, construction, operation) is carried out by the Popular Sector generally for 'self use' and sometimes for profit. *PUBLIC SEC-*

TOR: the government or non-profit organizations involved in the provision of dwellings. The housing process (promotion, financing, construction, operation) is carried out by the Public Sector for service (non-profit or subsidized housing). *PRIVATE SECTOR:* the individuals, groups or societies, who have access to the formal financial, administrative, legal, technical institutions in the provision of dwellings. The housing process (promotion, financing, construction, operation) is carried out by the Private Sector for profit. (U.S.D.P.)

DWELLING DEVELOPMENT MODE. Two modes are considered: *PROGRESSIVE:* the construction of the dwelling and the development of the local infrastructure to modern standards by stages, often starting with provisional structures and underdeveloped land. This essentially traditional procedure is generally practiced by squatters with de facto security of tenure and an adequate building site. *INSTANT:* the formal development procedure in which all structures and services are completed before occupation. (U.S.D.P.)

DWELLING FLOORS. The following numbers are considered: *ONE:* single story; generally associated with detached, semi-detached and row/group dwelling types. *TWO:* double story; generally associated with detached, semi-detached and row/group dwelling types. *THREE OR MORE:* generally associated with walk-up and high-rise dwelling types. (U.S.D.P.)

DWELLING GROUP. The context of the dwelling in its immediate surroundings. (U.S.D.P.)

DWELLING/LAND SYSTEM. A distinct dwelling environment/housing situation characterized by its users as well as by its physical environment. (U.S.D.P.)

DWELLING LOCATION. Three sectors are considered in single or multi-center urban areas. Sectors are identified by position as well as by the density of buildings as follows: *CENTER:* the area recognized as the business center of the city, generally the most densely built-up sector; *INNER RING:* the area located between the city center and the urban periphery, generally a densely built-up sector; *PERIPHERY:* the area located between the inner ring and the rural areas, generally a scatteredly built-up sector. (U.S.D.P.)

DWELLING PHYSICAL STATE. A qualitative evaluation of the physical condition of the dwelling types: room, apartment, house; the shanty unit is not evaluated. *BAD:* generally poor state of structural stability, weather protection, and maintenance. *FAIR:* generally acceptable state of structural stability, weather protection, and maintenance with some deviation. *GOOD:* generally acceptable state of structural stability, weather protection, and maintenance without deviation. (U.S.D.P.)

DWELLING TYPE. The physical arrangement of the dwelling unit: *DETACHED:* individual dwelling unit, separated from others. *SEMI-DETACHED:* two dwelling units sharing a common wall (duplex). *ROW/GROUPED:* dwelling units grouped together linearly or in clusters. *WALK-UP:* dwelling units grouped in two to five stories with stairs for vertical circulation. *HIGH-RISE:* dwelling units grouped in five or more stories with stairs and lifts for vertical circulation. (U.S.D.P.)

DWELLING UNIT. A self-contained unit in a dwelling for an individual, a family, or a group. (U.S.D.P.)

DWELLING UNIT AREA. The dwelling unit area (m^2) is the built-up, covered area of a dwelling unit. (U.S.D.P.)

DWELLING UNIT COST. The initial amount of money paid for the dwelling unit or the present monetary equivalent for replacing the dwelling unit. (U.S.D.P.)

DWELLING UNIT TYPE. Four types of dwelling units are considered: *ROOM:* A SINGLE SPACE usually bounded by partitions and specifically used for living; for example, a living room, a dining room, a bedroom, but not a bath/toilet, kitchen, laundry, or storage room. SEVERAL ROOM UNITS are contained in a building/shelter and share the use of the parcel of land on which they are built (open spaces) as well as common facilities (circulation, toilets, kitchens). *APARTMENT:* A MULTIPLE SPACE (room/set of rooms with bath, kitchen, etc.) SEVERAL APARTMENT UNITS are contained in a building and share the use of the parcel of land on which they are built (open spaces) as well as some common facilities (circulation). *HOUSE:* A MULTIPLE SPACE (room/set of rooms with or without bath, kitchen, etc.) ONE HOUSE UNIT is contained in a building/shelter and has the private use of the parcel of land on which it is built (open spaces) as well as the facilities available. *SHANTY:* A SINGLE OR MULTIPLE SPACE (small, crudely built). ONE SHANTY UNIT is contained in a shelter and shares with other shanties the use of the parcel of land on which they are built (open spaces). (U.S.D.P.)

DWELLING UTILIZATION. The utilization indicates the type of use with respect to the number of inhabitants/families. *SINGLE:* an individual or family inhabiting a dwelling. *MULTIPLE:* a group of individuals or families inhabiting a dwelling. (U.S.D.P.)

EASEMENT. Servitude: a right in respect of an object (as land owned by one person) in virtue of which the object (land) is subject to a specified use or enjoyment by another person or for the benefit of another thing. (Merriam-Webster, 1971)

EFFICIENCY. Capacity to produce desired results with a minimum expenditure of energy, time, money or materials. (Merriam-Webster, 1971)

EFFLUENT. Outflow or discharge from a sewer or sewage treatment equipment. (DePina, 1972)

ELEOTRIC FEEDER. That part of the electric distribution system between the transformer and the service drop or drops. (HUD, Mobile Court Guide, 1970)

ELECTRIC SERVICE DROP. That part of the electric distribution system from a feeder to the user's service equipment serving one or more lots. (HUD, Mobile Court Guide, 1970)

ELECTRIC TRANSFORMER. A device which changes the magnitude of alternating voltages and currents; generally from distribution voltages to user voltages; a distribution component that converts power to usable voltage. (TM 5 765 US Army, 1970; U.S.D.P.)

ELECTRICAL CIRCUIT. A closed, complete electrical path with various connected loads. Circuits may either be 'parallel' (voltage constant for all connected loads) or 'series' (voltage divided among connected loads). Parallel circuits are fixtures wired independent of each other, which are used in nearly all building wiring. (U.S.D.P.; ROTC ST 45-7, 1953)

ELECTRICAL FREQUENCY. The number of times an alternating electric current changes direction in a given period of time. Measured in cycles per second: hertz. (ROTC ST 45-7, 1953)

ELECTRIC GROUND. The electrical connection with the earth or other ground. (Merriam-Webster, 1971)

ELECTRICAL NETWORK COMPONENTS. It is composed of the following: *GENERATION:* produces electricity; *TRANSMISSION:* transports energy to user groups; *DISTRIBUTION STATION:* divides power among main user groups; *SUBSTATION:* manipulates power into useful energy levels for consumption; *DISTRIBUTION NETWORKS:* provides electric service to user. (U.S.D.P.)

ELECTRIC PHASE. May be either a single-phase circuit (for small electrical devices) or a three-phase circuit (for heavy equipment, large electrical devices). In single-phase only one current is flowing through the circuit with the voltage dropping to zero twice in each cycle. In three-phase currents flow through the circuit with the power never dropping to zero. (U.S.D.P.)

ELECTRICAL POWER. The source or means of supplying energy for use; measured in watts. (U.S.D.P.)

ELECTRICAL WIRING SYSTEMS. May either be single-phase or three-phase. *SINGLE-PHASE:* 2 hot wires with 1 neutral wire; *THREE-PHASE:* 3 hot wires with 1 neutral wire. (ROTC ST 45-7, 1953)

ELECTRICITY. Electrification: the process (network) for supplying (the site) with electric power. (Merriam-Webster, 1971)

EMBANKMENT (or FILL). A bank of earth, rock, or other material constructed above the natural ground surface. (DePina, 1972)

EROSION. The general process whereby materials of the earth's crust are worn away and removed by natural agencies including weathering, solution, corrosion, and transportation; (specific) land destruction and simultaneous removal of particles (as of soil) by running water, waves and currents, moving ice, or wind. (Merriam-Webster, 1971)

EXCRETA. Waste matter eliminated from the body. (U.S.D.P.)

EXISTING STRUCTURE. Something constructed or built (on the site). (U.S.D.P.)

EXPLORATORY BORING. Initial subsurface investigations (borings) are done on a grid superimposed on the areas of interest and on areas indicated as limited/restricted/hazard in the initial survey. (U.S.D.P.)

EXTERIOR CIRCULATION/ACCESSES (SITE PLANNING). The existing and proposed circulation system/accesses outside but affecting the site. These include limited access highways as well as meshing access to the surrounding area. Exterior circulation/accesses are generally given conditions. (U.S.D.P.)

FAUCET (also TAP). A fixture for drawing liquid from a pipe, cask, or other vessel. (Merriam-Webster, 1971)

FINANCING. The process of raising or providing funds. *SELF FINANCED:* provided by own funds; *PRIVATE/PUBLIC FINANCED:* provided by loan; *PUBLIC SUBSIDIZED:* provided by grant or aid. (U.S.D.P.)

FIRE/EXPLOSION HAZARDS. Danger: the state of being exposed to harm; liable to injury, pain, or loss from fire/explosion (at or near the site). (Merriam-Webster, 1971)

FIRE FLOW. The quantity (in time) of water available for fire-protection purposes in excess of that required for other purposes. (Merriam-Webster, 1971)

FIRE HYDRANT. A water tap to which fire hoses are connected in order to smother fires. (U.S.D.P.)

FIRE PROTECTION. Measures and practices for preventing or reducing injury and loss of life or property by fire. (Merriam-Webster, 1971)

FLEXIBLE PAVEMENT. A pavement structure which maintains intimate contact with and distributes loads to the subgrade and depends upon aggregate interlock, particle friction, and cohesion for stability. (DePina, 1972)

FLOODING. A rising and overflowing of a body of water that covers land not usually under water. (U.S.D.P.)

FLOODWAY FRINGE. The floodplain area landward of the natural floodway which would be inundated by low velocity flood waters. (U.S.D.P.)

FLOW METER. A device to measure flow of water. (U.S.D.P.)

FLUSH TANK TOILET. Toilet with storage tank of water used for flushing bowl. (U.S.D.P.)

FLUSH VALVE TOILET. Toilet with self-closing valve which supplies water directly from pipe. It requires adequate pressure for proper functioning. (U.S.D.P.)

FOOT CANDLE. A unit of illuminance on a surface that is everywhere one foot from a uniform point source of light of one candle and equal to one lumen per square foot. (Merriam-Webster, 1971)

FUMES. Gaseous emissions that are usually odorous and sometimes noxious. (Merriam-Webster, 1971)

GAS. A system for supplying natural gas, manufactured gas, or liquefied petroleum gas to the site and individual users. (U.S.D.P.)

GRADE. Profile of the center of a roadway, or the invert of a culvert or sewer. (DePina, 1972)

GRID BLOCKS. The block determined by a convenient public circulation and not by dimensions of lots. In grid blocks some lots have indirect access to public streets. (U.S.D.P.)

GRIDIRON BLOCKS. The blocks determined by the dimensions of the lots. In gridiron blocks all the lots have direct access to public streets. (U.S.D.P.)

GRID LAYOUTS. The urban layouts with grid blocks. (U.S.D.P.)

GRIDIRON LAYOUTS. The urban layouts with gridiron blocks. (U.S.D.P.)

GOVERNMENT/MUNICIPAL REGULATIONS. In urban areas, the development of the physical environment is a process usually controlled by a government/municipality through all or some of the following regulations: Master Plan, Zoning Ordinance, Subdivision Regulations, Building Code. (U.S.D.P.)

HEAD. (Static). The height of water above any plane or point of reference. Head in feet = (lb/sq. in. x 144)/(Density in lb/cu. ft.) For water at 68°F. (DePina, 1972)

HIGH-RISE. Dwelling units grouped in five or more stories with stairs and lifts for vertical circulation. (U.S.D.P.)

HOT WIRE. Wire carrying voltage between itself and a ground. (ROTC ST 45-7, 1953)

HYDRAULICS. That branch of science or engineering that deals with water or other fluid in motion. (DePina, 1972)

ILLEGAL. That which is contrary to or violating a rule or regulation or something having the force of law. (Merriam-Webster, 1971)

INCOME. The amount (measured in money) of gains from capital or labor. The amount of such gain received by a family per year may be used as an indicator of income groups. (U.S.D.P.)

INCOME GROUPS. A group of people or families within the same range of incomes. (U.S.D.P.)

INCREMENT (TAX). A special tax on the increased value of land, which is due to no labor/expenditure by the owner, but rather to natural causes such as the increase of population, general progress of society, etc. (U.S.D.P.)

INFRASTRUCTURE. The underlying foundation or basic framework for utilities and services: streets; sewage, water network; storm drainage, electrical network;

gas network; telephone network, public transportation; police and fire protection; refuse collection, health, schools, playgrounds, parks, open spaces. (U.S.D.P.)

INSULATOR. A material or body that is a poor conductor of electricity, heat, or sound. (Merriam-Webster, 1971)

INTERIOR CIRCULATION NETWORK (SITE PLANNING). The pedestrian/vehicular circulation system inside the site. It should be designed based upon the exterior circulation/accesses and land development requirements. (U.S.D.P.)

INTERVAL. A space of time (or distance) between the recurrences of similar conditions or states. (Merriam-Webster, 1971)

KILOWATT (kw). (1000 watts) A convenient manner of expressing large wattages. Kilowatt hours (kwh) measure the total quantity of energy consumed in a given time. One kwh represents the use of an average of 1 kilowatt of electrical energy for a period of 1 hour. (ROTC ST 45-7, 1953)

LAMPHOLE. A vertical pipe or shaft leading from the surface of the ground to a sewer, for admitting light for purposes of inspection. (U.S.D.P.)

LAND COST. Price: the amount of money given or set as the amount to be given as a consideration for the sale of a specific thing (the site). (Merriam-Webster, 1971)

LAND DEVELOPMENT COSTS. The costs of making raw land ready for development through the provision of utilities, services, accesses, etc. (U.S.D.P.)

LAND LEASE. The renting of land for a term of years for an agreed sum; leases of land may run as long as 99 years. (U.S.D.P.)

LAND-MARKET VALUE. Refers to: 1) the present monetary equivalent to replace the land; 2) the present tax based value of the land; or 3) the present commercial market value of the land. (U.S.D.P.)

LAND OWNERSHIP. The exclusive right of control and possession of a parcel of land. (U.S.D.P.)

LAND SUBDIVISION. The division of the land in blocks, lots and laying out streets. (U.S.D.P.)

LAND TENANCY. The temporary holding or mode of holding a parcel of land of another. (U.S.D.P.)

LAND UTILIZATION. A qualification of the land around a dwelling in relation to user, physical controls and responsiblity. *PUBLIC* (streets, walkways, open spaces): user -anyone/unlimited; physical controls -minimum; responsibility -public sector. *SEMIPUBLIC* (open spaces, playgrounds, schools): user -limited group of people; physical controls -partial or complete; responsibility -public sector and user. *PRIVATE* (dwellings, lots): user -owner or tenant or squatter; physical controls -complete; responsibility -user. *SEMI-PRIVATE* (cluster courts): user -group of owners and/or tenants; physical controls -partial or complete; responsibility -user. (U.S.D.P.)

LAND UTILIZATION: PHYSICAL CONTROLS. The physical/legal means or methods of directing, regulating, and coordinating the use and maintenance of land by the owners/users. (U.S.D.P.)

LAND UTILIZATION: RESPONSIBILITY. The quality/state of being morally/legally responsible for the use and maintenance of land by the owners/users. (U.S.D.P.)

LATERAL SEWER. A collector pipe receiving sewage from building connection only. (U.S.D.P.)

LATRINE. A receptacle (as a pit in the earth or a water closet) for use in defecation and urination, or a room (as in a barracks or hospital) or enclosure (as in a camp) containing such a receptacle. (Merriam-Webster, 1971)

LAYOUT. The plan or design or arrangement of something that is laid out. (Merriam-Webster, 1971)

LEVELS OF SERVICES. Two levels are considered: *MINIMUM*, are admissible or possible levels below the standard; *STANDARD*, are levels set up and established by authority, custom of general consent, as a model, example or rule for the measure of quantity, weight extent, value or quality. (U.S.D.P.)

LIFT PUMP. A collection system component that forces sewage to a higher elevation to avoid deep pipe networks. (U.S.D.P.)

LOCALITY. A relatively self-contained residential area/community/neighborhood/settlement within an urban area which may contain one or more dwelling/land systems. (U.S.D.P.)

LOCALITY SEGMENT. A 400m x 400m area taken from and representing the residential character and layout of a locality. (U.S.D.P.)

LOCATION. Situation: the way in which something (the site) is placed in relation to its surroundings (the urban context). (Merriam-Webster, 1971)

LOT. A measured parcel of land having fixed boundaries and access to public circulation. (U.S.D.P.)

LOT CLUSTER. A group of lots (owned individually) around a semipublic common court (owned in condominium). (U.S.D.P.)

LOT COVERAGE. The ratio of building area to the total lot area. (U.S.D.P.)

LOT PROPORTION. The ratio of lot width to lot depth. (U.S.D.P.)

LUMINAIRE. In highway lighting, a complete lighting device consisting of a light source, plus a globe, reflector, refractor, housing and such support as is integral with the housing. (DePina, 1972)

MANHOLE. An access hole sized for a man to enter, particularly in sewer and storm drainage pipe systems for cleaning, maintenance and inspection. (U.S.D.P.)

MATRIX (OF BASIC REFERENCE MODELS). A set of models of urban layouts arranged in rows and columns. (U.S.D.P.)

MASTER PLAN. A comprehensive, long range plan intended to guide the growth and development of a city, town or region, expressing official contemplations on the course its transportation, housing and community facilities should take, and making proposals for industrial settlement, commerce, population distribution and other aspects of growth and development. (Abrams, 1972).

MEDIAN BARRIER. A double-faced guard rail in the median or island dividing two adjacent roadways. (DePina, 1972)

MESHING BOUNDARIES. Characterized by continuing, homogeneous land uses or topography, expressed as: *LINES:* property lines, political or municipal divisions, main streets, etc.; *AREAS:* similar residential uses, compatible uses (as parks with residential). (U.S.D.P.)

MICROCLIMATE. The local climate of a given site or habitat varying in size from a tiny crevice to a large land area, but being usually characterized by considerable uniformity of climate. (Merriam-Webster, 1971)

MODE OF TRAVEL. Manner of moving from one place (the site) to another (other parts of the urban context). (U.S.D.P.)

MODEL (OF URBAN LAYOUT). A representation of an urban residential area illustrating circulation, land utilization, land subdivision, and utility network of a specific layout and lot. (U.S.D.P.)

MUTUAL OWNERSHIP. Private land ownership shared by two or more persons and their heir under mutual agreement. (U.S.D.P.)

NATURAL FEATURES. Prominent objects in or produced by nature. (U.S.D.P.)

NATURAL UNDISTURBED SOIL. Soils that have not been disturbed by artificial process. Although natural, they depend greatly on local conditions, environment, and past geological history of the formations. (U.S.D.P.)

NEIGHBORHOOD. A section lived in by neighbors and having distinguishing characteristics. (U.S.D.P.)

NETWORK EFFICIENCY (LAYOUT EFFICIENCY). The ratio of the length of the network to the area(s) contained within; or tangent to it. (U.S.D.P.)

NEUTRAL WIRE. Wire carrying no voltage between itself and a ground. (ROTC ST 45-7, 1953)

NOISE. Any sound (affecting the site) that is undesired (such as that produced by: traffic, airports, industry, etc.) (Merriam-Webster, 1971)

ODOR. A quality of something that affects the sense of smell. (Merriam-Webster, 1971)

OHMS (electrical). The unit of resistance to the flow electricity. The higher the number of ohms, the greater the resistance. When resistance is constant, amperage (and wattage) are in direct proportion to voltage. Resistance varies inversely with the cross-sectional area of the wire. Ohms = volts/amperes. R = E/I. The practical mks unit of electrical resistance that is equal to the resistance of a circuit in which a potential difference of one volt produces a current of one ampere or to the resistance in which one watt of power is dissipated when one ampere flows through it and that is taken as standard in the U.S. (U.S.D.P.; ROTC ST 45-7, 1953; Merriam-Webster, 1971)

OPTIMIZE/OPTIMALIZE. To bring to a peak of economic efficiency, specially by the use of precise analytical methods. (Merriam-Webster, 1971)

ORGANIC SOILS. Soils composed mostly of plant material. (U.S.D.P.)

OXIDATION POND (LAGOON). A method of sewage treatment using action of bacteria and algae to digest/decompose wastes. (U.S.D.P.)

PERCENT RENT/MORTGAGE. The fraction of income allocated for dwelling rental or dwelling mortgage payments; expressed as a percentage of total family income. (U.S.D.P.)

PIT PRIVY/LATRINE. A simple hole in the ground, usually hand dug, covered with slab and protective superstructure; for disposal of human excreta. (U.S.D.P.)

PLANNING. The establishment of goals, policies, and procedures for a social or economic unit, i.e. city. (U.S.D.P.)

PLOT/LOT. A measured parcel of land having fixed boundaries and access to public circulation. (U.S.D.P.)

POLICE PROTECTION. Police force: a body of trained men and women entrusted by a government with the maintenance of public peace and order, enforcement of laws, prevention and detection of crime. (Merriam-Webster, 1971)

POPULATION DENSITY. It is the ratio between the population of a given area and the area. It is expressed in people per hectare. It can be: *GROSS DENSITY:* includes any kind of land utilization, residential, circulation, public facilities, etc. *NET DENSITY:* includes only the residential land and does not include land for other uses. (U.S.D.P.)

POSITION. The point or area in space actually occupied by a physical object (the site). (Merriam-Webster, 1971)

PRIMER. A small introductory book on a specific subject. (U.S.D.P.)

PRIVATE LAND OWNERSHIP. The absolute tenure of land to a person and his heirs without restriction of time. (U.S.D.P.)

PRIVY. A small, often detached building having a bench with one or more round or oval holes through which the user may defecate or urinate (as into a pit or tub) and ordinarily lacking any means of automatic discharge of the matter deposited. (Merriam-Webster, 1971)

PROJECT. A plan undertaken; a specific plan or design. (U.S.D.P.)

PUBLIC CIRCULATION. The circulation network which is owned, controlled, and maintained by public agencies and is accessible to all members of a community. (U.S.D.P.)

PUBLIC FACILITIES. Facilities such as schools, playgrounds, parks, other facilities accessible to all members of a community which are owned, controlled, and maintained by public agencies. (U.S.D.P.)

PUBLIC SERVICES AND COMMUNITY FACILITES. Includes: public transportation, police protection, fire protection, refuse collection, health, schools, and playgrounds, recreation and open spaces, other community facilities, business, commercial, small industries, markets. (U.S.D.P.)

PUBLIC SYSTEM (general). A system which is owned and operated by a local governmental authority or by an established public utility company which is controlled and regulated by a governmental authority. (HUD/AID, Minimum Standards, 1966)

PUBLIC UTILITIES. Includes: water supply, sanitary sewerage, storm drainage, electricity, street lighting, telephone, circulation networks. (U.S.D.P.)

PUMP. A device or machine that raises, transfers, or compresses fluids or that attenuates gases especially by suction or pressure or both. (Merriam-Webster, 1971)

REFUSE COLLECTION. The service for collection and disposal of all the solid wastes from a community. (U.S.D.P.)

RESERVOIR. Large-scale storage of water; also functions to control fluctuations in supply and pressure. (U.S.D.P.)

RESIDENTIAL AREA. An area containing the basic needs/requirements for daily life activities: housing, education, recreation, shopping, work. (U.S.D.P.)

RESISTANCE. The opposition to electrical flow. (Resistance increases as the length of wires is increased and decreases as the cross-sectional area of wires is increased). (ROTC ST 45-7, 1953)

RIGHT-OF-WAY. A legal right of passage over another person's ground (land), the area or way over which a right-of-way exists such as: a path or thorough-fare which one may lawfully use, the strip of land devoted to or over which is built a public road, the land

occupied by a railroad, the land used by a public utility. Rights-of-way may be shared (as streets; pedestrians and automobiles) or exclusive (as rapid transit routes; subways, railroads, etc.) (Merriam-Webster, 1971; U.S.D.P.)

ROADWAY (HIGHWAY). Portion of the highway included between the outside lines of gutter or side ditches, including all slopes, ditches, channels, and appurtenances necessary to proper drainage, protection, and use. (DePina, 1972)

ROW/GROUPED HOUSING. Dwelling units grouped together linearly or in clusters. (U.S.D.P.)

RUNOFF. That part of precipitation carried off from the area upon which it falls. (DePina, 1972)

RUNOFF-RAINFALL RATIO. The percentage (ratio) of stormwater runoff that is not reduced by evaporation, depression storage, surface wetting, and percolation; with increased rainfall duration, runoff-rainfall ratios rise increasing runoff flow. (U.S.D.P.)

SAND. Loose, distinguishable grains of quartz/feldspar, mica (ranging from 2mm to 0.02mm in diameter). (U.S.D.P.)

SANITARY SEWERAGE. The system of artificial usually subterranean conduits to carry off sewage composed of: *excreta:* waste matter eliminated from the human body; *domestic wastes:* used water from a home/community containing 0.1% total solids; and some *industrial wastes*, but not water from ground, surface, or storm. (U.S.D.P.)

SEMI-DETACHED DWELLING. Two dwelling units sharing a common wall (duplex). (U.S.D.P.)

SEPTIC TANK. A tank in which the organic solid matter of continuously flowing sewage is deposited and retained until it has been disintegrated by anaerobic bacteria. (Merriam-Webster, 1971)

SERIES CIRCUIT. Fixtures connected in a circuit by a single wire. When one fixture is out, the circuit is broken. Fixtures with different amperages cannot be used efficiently in the same circuit. (ROTC ST 45-7, 1953)

SETTLEMENT. Occupation by settlers to establish a residence or colony. (U.S.D.P.)

SEWAGE. The effluent in a sewer network. (U.S.D.P.)

SEWER. The conduit in a subterranean network used to carry off water and waste matter. (U.S.D.P.)

SEWER BUILDING CONNECTION. The pipe connecting the dwelling with the sewer network. (U.S.D.P.)

SEWERAGE. Sewerage system: the system of sewers in a city, town or locality. (Merriam-Webster, 1971)

SHAPE. Form/configuration of the site surface as defined by its perimeter/boundaries. (U.S.D.P.)

SHOPPING. (Facilities for) searching for, inspecting, or buying available goods or services. (U.S.D.P.)

SILT. Loose, unconsolidated sedimentary rock particles (ranging from 0.02mm to 0.002mm in diameter). (U.S.D.P.)

SITE. Land (that could be) made suitable for building purposes by dividing into lots, laying out streets and providing facilities. (Merriam-Webster, 1971)

SITE AREAS. Two types are considered: *GROSS AREA:* includes the whole site or the bounded piece of ground. *USABLE AREA:* includes only the portion of the site that can be fully utilized for buildings, streets, playgrounds, recreation facilities, gardens, or other structures. (U.S.D.P.)

SITE AND SERVICES. The subdivision of urban land and the provision of services for residential use and complementary commercial use. Site and services projects are aimed to improve the housing conditions for the low income groups of the population by providing: *a) SITE:* the access to a piece of land where people can build their own dwellings; *b) SERVICES:* the opportunity of access to employment, utilities, services and community facilities, financing and communications. (U.S.D.P.)

SIZE. Physical magnitude or extent (of the site), relative or proportionate dimensions (of the site). (Merriam-Webster, 1971)

SLOPE. Degree or extent of deviation (of the land surface) from the horizontal. (Merriam-Webster, 1971)

SMOKE. The gaseous products of burning carbonaceous materials made visible by the presence of carbon particles. (Merriam-Webster, 1971)

SOIL. Soil structure: the arrangement of soil particles in various aggregates differing in shape, size, stability, and degree of adhesion to one another. (Merriam-Webster, 1971)

SOIL INVESTIGATION. It is the process to find the soil structure and other characteristics. It may include the following stages: initial soil survey, exploratory boring, construction boring. (U.S.D.P.)

SOIL PIPE. The pipe in a dwelling which carries the pipe discharge from water closets. (U.S.D.P.)

SOIL SURVEY (INITIAL). An on-site examination of surface soil conditions and reference to a GENERAL SOIL MAP. It is used to reveal obvious limitations/restrictions/hazards for early planning consideration. (U.S.D.P.)

STACK. The vertical pipe in a dwelling of the soil-, waste-, or vent-pipe systems. (ROTC ST 45-7, 1953)

STANDARD. 1) Something that is established by authority, custom or general consent as a model or example to be followed. 2) Something that is set up and established by authority as a rule for the measure of quantity, weight, extent, value or quality. (Merriam-Webster, 1971)

STANDPIPE. A pipe riser with tap used as a source of water for domestic purposes. (HUD/AID, Minimum Standards, 1966)

STORM DRAINAGE. Storm sewer: a sewer (system) designed to carry water wastes except sewage (exclusively storm water, surface runoff, or street wash). (Merriam-Webster, 1971)

STREET LIGHTING. Illumination to improve vision at night for security and for the extension of activities. (U.S.D.P.)

SUBDIVISION REGULATIONS. Regulations governing the development of raw land for residential or other purposes. (Abrams, 1972)

SUBGRADE. The layer of natural soil or fill (compacted soil) upon which the pavement structure including curbs is constructed. (DePina, 1972)

SUBMAIN or BRANCH SEWER. A collector pipe receiving sewage from lateral sewer only. (U.S.D.P.)

SUBSISTENCE INCOME. The minimum amount of money required for the purchase of food and fuel for an average family to survive. (U.S.D.P.)

SULLAGE. Drainage or refuse especially from a house, farmyard, or street. (Merriam-Webster, 1971)

TAP (also FAUCET). A fixture for drawing a liquid from a pipe, cask, or other vessel. (Merriam-Webster, 1971)

TAX EXEMPTION. A grant by a government of immunity from taxes; (a ten-year tax exemption on new housing in New York stimulated new construction in the 1920's; to ease its housing shortage, Turkey granted a ten-year tax exemption on new buildings). (Abrams, 1966)

TAX INCENTIVE. Favorable tax treatment to induce the beneficiary to do something he would not otherwise be likely to do. (U.S.D.P.)

TAX STRUCTURE - TAXATION. The method by which a nation (state, municipality) implements decisions to transfer resources from the private sector to the public sector. (U.S.D.P.)

TELEPHONE. An electrical voice communication network interconnecting all subscribing individuals and transmitting over wires. (U.S.D.P.)

TENURE. Two situations of tenure of the dwelling units and/or the lot/land are considered: *LEGAL:* having formal status derived from law; *EXTRALEGAL:* not regulated or sanctioned by law. Four types of tenure are considered: *RENTAL:* where the users pay a fee (daily, weekly, monthly) for the use of the dwelling unit and/or the lot/land; *LEASE:* where the users pay a fee for long-term use (generally for a year) for a dwelling unit and/or the lot/land from the owner (an individual, a public agency, or a private organization); *OWNERSHIP:* where the users hold in freehold the dwelling unit and/or the lot/land which the unit occupies; *EMPLOYER-PROVIDED:* where the users are provided a dwelling unit by an employer in exchange for services, i.e. domestic live-in servant. (U.S.D.P.)

TITLE. The instrument (as a deed) that constitutes a legally just cause of exclusive possession (of land, dwellings, or both). (Merriam-Webster, 1971)

TOILET. A fixture for defecation and urination, esp. water closet. (7th Collegiate Webster, 1963)

TOPOGRAPHY. The configuration of a (land) surface including its relief and the position of its natural and man-made features. (Merriam-Webster, 1971)

TRANSPORTATION. Means of conveyance or travel from one place (the site) to another (other parts of the urban context). (Merriam-Webster, 1971)

TRAP. A fitting that provides a water seal to prevent sewer gases and odors being discharged through fixtures. (ROTC ST 45-7, 1953)

TREATMENT WORKS. Filtration plant, reservoirs, and all other construction required for the treatment of a water supply. (ROTC ST 45-7, 1953)

UNIT. A determinate quantity adopted as a standard of measurement for other quantities of the same kind. (Merriam-Webster, 1971)

URBAN TRANSPORTATION. Means of conveyance of passengers or goods from one place to another along ways, routes of circulation in a metropolitan context. (U.S.D.P.)

URBANIZATION. The quality or state of being or becoming urbanized; to cause to take on urban characteristics. (U.S.D.P.)

USE TAX. The tax on land aimed primarily at enforcing its use or improvement. (U.S.D.P.)

USER INCOME GROUPS. Based upon the subsistence (minimum wage) income per year, five income groups are distinguished: *VERY LOW (below subsistence level):* the income group with no household income available for housing, services, or transportation; *LOW (1 x subsistence level):* the income group that can afford no or very limited subsidized housing; *MODERATE (3 x subsistence level):* the income group that can afford limited housing and rent only with government assistance; *HIGH (5 x subsistence level):* the income group that can afford housing without subsidy, by cash purchase, through mortgage payments, or by rent; *VERY HIGH (10 x subsistence level):* the income group that represents the most economically mobile sector of the population. (U.S.D.P.)

USUFRUCT. The right to profit from a parcel of land or control of a parcel of land without becoming the owner or formal leasee; legal possession by decree without charge. (U.S.D.P.)

UTILITIES. Include: water supply, sanitary sewerage, storm drainage, electricity, street lighting, gas, telephone. (U.S.D.P.)

UTILITY/SERVICE. The organization and/or infrastructure for meeting the general need (as for water supply, wastewater removal, electricity, etc.) in the public interest. (U.S.D.P.)

VALVE. A water supply distribution component which interrupts the supply for maintenance purposes. (U.S.D.P.)

VENT. A pipe opening to the atmosphere, which provides ventilation for a drainage system and prevents trap siphonage or back pressure. (ROTC ST 45-7, 1953)

VIBRATION. A quivering or trembling motion (such as that produced by: heavy traffic, industry, aircraft, etc. (Merriam-Webster, 1971)

VIEWS. That which is revealed to the vision or can be seen (from the site). (Merriam-Webster, 1971)

WALK-UP. Dwelling units grouped in two to five stories with stairs for vertical circulation. (U.S.D.P.)

WASTE PIPE. A pipe (in a dwelling) which carries water from wash basins, sinks, and similar fixtures. (ROTC ST 45-7, 1953)

WATER SUPPLY. Source, means, or process of supplying water, (as for a community) usually involving reservoirs, pipelines, and often the watershed from which the water is ultimately drawn. (Merriam-Webster, 1971)

WATERSHED. The catchment area or drainage basin from which the waters of a stream or stream system are drawn. (Merriam-Webster, 1971)

WATERWORKS. The whole system of reservoirs, channels, mains, and pumping and purifying equipment by which a water supply is obtained and distributed to consumers. (Merriam-Webster, 1971)

WATT. Watts (w) measure the power of the flow of energy through a circuit. Wattage is the product of volts times amperes. Both watts and hosepower denote the rate of work being done. 746w = 1hp. (ROTC ST 45-7, 1953)

ZONING ORDINANCE. The demarcation of a city by ordinance into zones (areas/districts) and the establishment of regulations to govern the use of land and the location, bulk, height, shape, use, population density, and coverage of structures within each zone. (U.S.D.P.)

EXPLANATORY NOTES

QUALITY OF INFORMATION
The quality of information given in the drawings, charts, and descriptions have been qualified in the following manner.

Approximate:	when deducted from different and/or not completely reliable sources.
Accurate:	when taken from reliable or actual sources.
Tentative:	when based upon rough estimations of limited sources.

QUALITY OF SERVICES, FACILITIES AND UTILITIES

None:	when the existence of services, facilities and utilities are unavailable to a locality.
Limited:	when the existence of services, facilities and utilities are available to a locality in a limited manner due to proximity.
Adequate:	when the existence of services, facilities and utilities are available in/to a locality.

METRIC SYSTEM EQUIVALENTS

Linear Measures

1 Centimeter	= 0.3937 inches
1 Meter (100 centimeters)	= 39.37 inches or 3.28 feet
1 Kilometer (1,000 meters)	= 3,280.83 feet or 0.62137 miles
1 Inch	= 2.54 centimeters
1 Foot (12 inches)	= 0.3048 meters
1 Mile (5,280 feet)	= 1.60935 kilometers

Square Measures

1 Square Meter	= 1,550 square inches or 10.7639 square feet
1 Hectare (10,000 sq. meters)	= 2.4711 acres
1 Square Foot	= 0.0929 square meters
1 Acre (43,560 sq. feet)	= 0.4087 hectares

DOLLAR EQUIVALENTS
All income, cost and rent/mortgage data have been expressed in terms of the U.S. equivalent; 1 U.S. dollar = 30.0 Turkish Liras (TL), (August 1978).

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