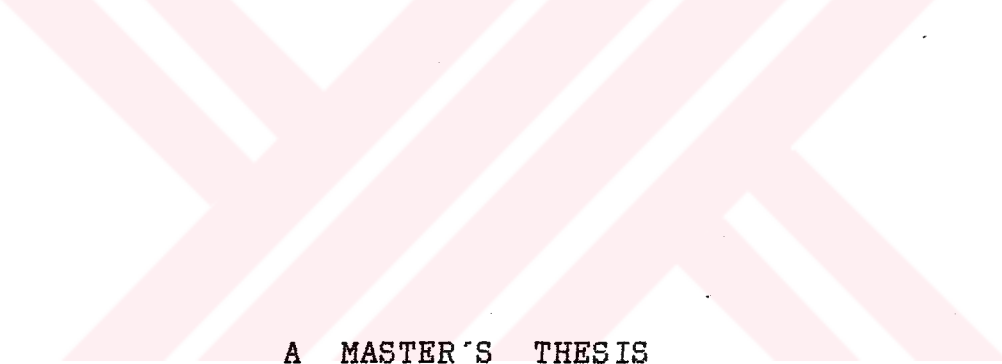


A SMALL DESIRABLE HOUSE FOR
SPECIAL GROUPS OF THE POPULATION IN ANKARA



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by

Zeynep (Sökmen) Uludağ

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T. C.

**Yükseköğretim Kurulu
Dokümantasyon Merkezi**

Approval of the Graduate School of Natural and Applied Sciences.

Alpay Ankara
Prof. Dr. Alpay ANKARA

Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science in Architecture.

V. Inanç
Assoc. Prof. Dr. Vacit IMAMOĞLU

Chairman of the Department

We certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science in Architecture.

V. Inanç
Assoc. Prof. Dr. Vacit IMAMOĞLU

Supervisor

Examining Committee in Charge :

Assoc. Prof. Dr. Vacit IMAMOĞLU (Chairman)

Assoc. Prof. Dr. Gönül Evyapan

Inst. Aydan Balamir

Inst. Ali Cengizkan

Inst. Baykan Günay

A SMALL DESIRABLE HOUSE FOR
SPECIAL GROUPS OF THE POPULATION IN ANKARA

ULUDAĞ (SÖKMEN) ZEYNEP

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ABSTRACT

Housing is a subject of great interest for various researchers. Today, in most countries housing issue is at a turning point. The problem of providing large numbers of people with proper housing is being replaced increasingly by problems of improving housing quality and meeting the housing requirements of special groups of the population.

This research emphasizes the need for small size dwellings to meet the requirements of special groups with different sizes and economic status. The matter has been investigated in the thesis and a design proposal has been prepared via a field survey.

After defining the problem and objectives in the first chapter, the origin of housing need, minimization and standardization studies in the world have been

examined in the second chapter. Then the foreign examples of small size dwellings and various investigations and applications in the world have been reviewed.

To find out the demand for small size housing, assessment of housing needs and problems of special population groups in foreign countries and in Turkey were examined in the third chapter. The demand for small size housing in Turkey and recent developments in attitude of the government have been explained.

In our country the housing market provides very few alternatives to the buyer and mostly they are standard types of houses, built without taking into account the type, size and economic position of the users. With the purpose in mind, the analysis of housing conditions in Turkey were examined in the fourth chapter under the topics of demographical data, housing data, and financial opportunities and restrictions. The recent examples of small size dwellings in our country were examined with the aim of searching for the demand for different applications of small size dwellings and their conditions.

A survey carried out in the field was reported in the fifth section, in order to establish the user's requirements and demand for small size houses. By establishing the life-styles of the surveyed families, recently married couples and retired workers' families their opinions on inside and outside of the housing and

their expectations, the design principles have been drawn up.

In the sixth chapter the design principles of the proposal were given in the form of design patterns, and in the seventh, design proposal have been stated. In the last chapter the problem and the design proposal have been discussed.



Keywords: Special population groups, Small size dwelling, The elderly, Single-people, Recently married couples, Retired workers' families,

ANKARA'DA
NÜFUSUN ÖZEL GRUPLARI İÇİN ÖNERİLMİŞ
EN UYGUN, KÜÇÜK BOYUTLU KONUT
ARAŞTIRMASI

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ÖZET

Konut çeşitli araştırmacılar için büyük bir ilgi konusudur. Bugün bir çok ülke için konut sorunu bir dönüm noktasına gelmiştir. Artık çok sayıda insana konut üretme problemi yerine, çoğunlukla konut kalitesinin yükseltilmesi ve nüfusun özel gruplarının konut ihtiyacının karşılanması problemi ön plana geçmektedir.

Bu araştırma, farklı büyüklükte ve ekonomik statüde olan özel grupların konut gereksiniminin karşılanmasında

küçük konuta olan ihtiyacın önemini vurgulamaktadır. Konu, bu tez çalışmasında araştırılmış ve bir alan çalışması ile tasarım önerisi hazırlanmıştır.

Birinci bölümde, problemin tanımlanmasından ve objektiflerin belirlenmesinden sonra, ikinci bölümde konut ihtiyacı, başlangıcından bugüne araştırılmış ve dünyadaki minimizasyon ve standardizasyon çalışmaları incelenmiştir. Ayrıca, yabancı ülkelerdeki küçük konut örnekleri ve çeşitli araştırmalar ve dünyadaki uygulamalar bu bölümde incelenmiştir.

Üçüncü bölümde, küçük konuta olan talebin belirlenmesi için, yabancı ülkelerde ve Türkiye'de nüfusun özel gruplarının konut ihtiyacı ve problemleri ortaya konmuştur. Türkiye'de küçük konuta olan talebin ve devletin bu konuya yaklaşımındaki son gelişmeler açıklanmıştır.

Dördüncü bölümde, Türkiye'deki konut sektörünün durumu incelenmiş ve küçük konut örnekleri ile bunlara olan talep araştırılmıştır. Beşinci bölümde, küçük konuta olan talebin ve kullanıcının ihtiyaçlarının ortaya konması amacı ile bir alan araştırması yapılmıştır. Araştırma yapılan ailelerin, yeni evli çiftlerin ve emekli işçi ailelerinin yaşam tarzları, konutun içi ve dışı hakkındaki fikir ve beklentileri araştırılarak, tasarım prensipleri ortaya konmuştur.

Altıncı bölümde, öneri projenin tasarım prensipleri, tasarım modelleri halinde verilmiş ve yedinci bölümde tasarım önerisi anlatılmıştır. Son bölümde problem ve tasarım önerisi tartışılmıştır.

Anahtar Kelimeler: Nüfusun özel grupları, Küçük konut, Yaşlılar, Bekarlar, Yeni evli çiftler, Emekli işçi aileleri.

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CHAPTER 1

INTRODUCTION

A home with its physical environment, features and characteristics, interwinds with an individual's own desires, life-styles and aspirations. It is the main place wherein the largest part of human life is lived. Thus it is an extension of an individuals personality.

The notion 'dwelling' is entirely subjective and is certainly not related to any particular form. A dwelling unit is, as Habraken says ".... only a dwelling not when it has a certain form, not when it fulfills certain conditions which have been laid down after a long study, not when certain dimensions and provisions have been made to comply with municipal by-laws, but only and exclusively when people come to live in it. The igloo is as much the dwelling of the Eskimo as the bamboo hut of the Javanese" (1).

To evaluate housing units for a better way of living and adaptation, individual's activities and inclinations have to be known. This adaptation process will also be to improve housing and make way for a healthier adaptation of the functional schema of the dwelling. Before beginning

the design process, for driving patterns related with standardized dwelling, we search into man's behaviour and activities inside the house within the physiological and social dimensions.

The social needs and the special requirements of certain groups as a result of the progressive ageing of the population and the general shortage of dwellings began to claim greater attention nowadays. "Until recently the emphasis was on the provision of housing for the 'average family' which appeared to be too large or too expensive or ill-adapted to other categories" (2). Most of our planning and design concepts are still built around the prototype of the nuclear family. It is clear that there is a need of research, aimed at identifying the special environmental need associated with certain groups, such as the elderly, the handicapped people, single people and small families. The emerging and desired life-style patterns of these special groups, and the environmental characteristics needed to support these patterns should be established to identify the specific dwelling requirement and satisfaction of these requirements. It seems necessary to decide on a number of objectives for the housing policy that will help these categories of people to provide an adequate number and variety of dwellings, other than conventional family dwellings.

The dimensions of the housing problem differ

according to the social, economic and political structure of the countries. A number of strategies have been tried in attempts to solve or at least cope with the problem, with different approaches to the industrialization and differences in institutions and technological levels. The factors which mainly define the housing question are the restrictions of the economic factors and political attitudes apart from the social factors which shape it. In fact, the housing market which mainly acts with a commercial mentality, without taking the decisions and demands of different types of users into consideration, gives the buyer very few alternatives. The alternatives in the housing stock do not have the qualifications which can meet different requirements and wishes of the users economically, socially and psychologically. Especially the low income group with their restricted accumulation come face to face with insufficient and impractical housing types.

Since there are very few alternatives in the housing market, the buyer is forced to buy the product which is most suitable to his economic conditions and to try to adapt his life to such housing. It is the task of architects to create a system and find a solution to this rush of building typical, standard house pattern against the varying kinds of families in the housing market. To bring a functional solution to the problem,

the type and the number of users and their social, cultural and economic make up and demands should be given an identity together with the people living in it.

After the qualifications of serving the family needs and wishes, and having a full functional schema we may talk about standardization and minimization of dwelling units as a way of coping with the problem. Having several standard types and modules will be more satisfactory from both the economical and psycho-sociological points. The increase in construction cost and using limited income, bring the solution of decreasing the unit area, by eliminating unused areas and by minimizing the loss of space. It is necessary to produce houses at an affordable cost by taking into consideration the user's way of living, activities, expectations and economic status. "The price must be reasonable and a sufficiently diversified range of solutions must be avoidable to allow everyone freedom of choice of dwelling" (3). The low cost of small size housing will be determined by the minimum standards established for construction, land utilization, accomodation and equipment. In establishing such standards, not only economic considerations but also health, social and technical considerations and tradition and custom must be taken into consideration. To produce these low cost small size dwellings in great numbers will bring the solution to the housing needs of low

income families while at the same time making it possible to meet different needs and wishes of small families.

Finally, the aim should be establishing the most economical housing in type and area, having both minimum dimensions and standards to meet the requirements of the special groups of the population. More importance should be given for the production of sound and cheap houses, taking into account the user's need of the functional schema and financial potential.

The objective in this regard will be to provide a house of 'minimum desirable standard' to different types of families in urban and rural area within the paying capacity of the family.

"The minimum desirable standard needs to be classified in the context of the above objective. The desirability is valued from three factors" (4).

- i) Social: the comfort and satisfaction of occupants
- ii) Technical: the house should meet the minimum engineering, architectural, health and sanitary specifications
- iii) Environment: the environment around the house should be conducive to the personal and intellectual development, should be visually pleasant, free from physical or chemical pollution and should provide effective channels of

intellectual and physical
communications.

Generally we may define small size houses as;

- i) functional small spaces, having minimum desirable standards and optimum dimensions to meet the requirements and wishes of small families
- ii) the most economical housing in type and area, obtained by eliminating the unnecessary areas and minimizing the loss of space. (Minimum sizes are intended to provide maximum level of useful space per person)
- iii) desirable units having a better use of third dimension of the spaces, decoration elements and special installation for the ease of using small spaces.

In Turkey, the Ministry of Reconstruction and Resettlement has accepted 60 sq. meters as a maximum limit of small size dwelling and developed the housing credit systems according to this limit.

The need of producing a great number of low cost houses first came into existence after the Industrial Revolution in order to shelter the workers who had migrated to urban areas. Standardization and minimization began to be accepted as a general solution for the problems of homelessness and overcrowding. Thus a greater number of houses could be produced at a lower cost.

But psychological and social needs of people have been greatly neglected and unhealthy shelters have been created. Then architects began to deal with the problem and some studies have been made. Le Corbusier made some studies to modularize and standardize dwellings. Also Doxiadis, parallel to those of Le Corbusier, stated that houses should be designed according to the human scale and that necessitates reducing spatial use, which brings to the fore the concept of smaller unit.

"First studies concerning room sizes started in 1919 in Europe and the Tudor Walters Committee fixed the housing standards for the first time. Then Parker Morris determined the standards related to the design of activities that took place in the dwelling, of furniture and of other household goods" (5). These studies to reduce the area were based on the type, size and demands of the users. In this manner it would be possible to produce small size units to meet the demands of small families having special needs.

The emphasis in setting the targets for the housing of special groups has generally been on the necessity for solutions that occur as far as possible with the housing of the normal population.

CHAPTER 2

A PERSPECTIVE OF HOUSING HISTORY FROM THE VIEW POINT OF SMALL SIZE HOUSES

2.1 ORIGIN OF HOUSING NEED AND STANDARDIZATION

After the first half of the 19th century, the Industrial Revolution caused the rapid-growth of urbanization and the flow of migration with the new relations of labour and production in Europe. As a result of the rapid increase in the urban population, the migrators and workers were faced with the problem of finding healthy shelters. Some designers and social thinkers who were mostly utopists, designed some model communities for the problem. Such as, Robert Owen in England (1817) proposed a cooperative model society up to 3000 communities with square shaped units for 1200 people each, with a common kitchen and a cafeteria. In France, Charles Fourier proposed communal life, unit housing (phalanstary) for approximately 2000 people. Also in France, Godin proposed "Familistere de Guise", a cooperative society for approximately 1000 workers on a land of 18 hectars.

At the end of the 19th century Ebenezer Howard

introduced the idea of " Garden City ". He imagined a community with high wages and low rents, bright homes and gardens within the natural beauty, through freedom and cooperation in the way people wish. "He believed that the growth of state power would be affected by his proposals and decided for communities of about 30.000 people, where "human society" and the beauty of nature were meant to be enjoyed together" (6).

After the First World War, with the urgent need of housing, new policies and laws were introduced by governments for new settlements in Europe. As a general outcome of the Industrial Revolution new technical solutions in improving housing introduced the idea of standardization and minimization to accelerate the housing supply and credits were given to the users.

During and after the Second World War, 850.000 dwellings were built in Europe as after wartime construction with prefabrication. Standardization and minimization began to take place in housing production.

"Le Corbusier believed that industrialization would be the main era of "man" nature and the machine for creating a vision of man's industrial society in a "complete environment" (7). In this environment, citizens would be served by the techniques of the industrialization, in their daily lives. He believed that justice, harmony and beauty would be created by industrialization and the

individual liberty would be the fundamental of social organization.

"According to the 1960 census, 18 percent of all occupied homes were substandard in America" (8). Most of the families living in these physically inadequate or overcrowded units were poor and almost all had a low income. These ill-housed and low-income households made up a sizeable portion of the population. High costs, housing shortages, and inflated interest rates have been felt most severely by the families with the least income. The responsibility lies almost entirely with the federal government in USA to assist those families.

In the United States the war had stimulated Federal Housing action for the first time. "The large housing requirements generated by the industrial expansion needed to cope with war production called into being two new agencies; The Housing Division of the Emergency Fleet Corporation, and the United States Housing Corporation (USHC)" (9). These agencies have completed a small number of dwellings by the end of war, such as; 9000 family units and 7500 single person units in USA (10). Designs for low-cost houses abounded in the 20s and 30s in America all had small floor space (area) with standard elements such as bathroom and kitchen units. "To meet the housing need and demand, dwelling units must be cheap enough to be accessible to everyone and suitable for small scale

application" (11).

"In England (as a general solution to the problems of homelessness and overcrowding) housing authorities seized upon a report under the chairmanship of Sir John Tudor-Walters in 1918, on the provision of dwellings for the working classes in England, Wales and Scotland" (12). This report dealt with the type of accommodation required by the 'working class' and discussed alternative designs of which the most suitable seemed to be the 'self-contained cottage'.

After 1924 in Germany urban authorities employed radical architects, or the architects themselves were able to control planning loans, design and the administration of the building regulations.

In complete opposition to the 'self-contained cottage' pattern of contemporary British Public housing, in Frankfurt, Ernst May planned terraced two and three-storeyed houses and apartments with central heating and a degree of open planning to compensate for exceptionally small floor space allocated to each person (13). Also schools, shops, guest houses, churches, a theatre and large areas of open space were provided.

"Ernst May's entire Frankfurt programme comprised of 15.000 dwellings. In Germany the total number of dwellings completed between 1918 and 1933 reached 3 million" (14).

In USSR, despite rapidly increasing state expenditure

in 1931, available floor space per person had decreased from 5.7 square meters in 1928 to 4.4 square meters in 1932 under the pressure of population increase" (15). In the new industrial regions floor space per person had dropped still more to an unbelievable 2.4 square meters.

In 1931 a new organization for the implementation of standard house construction was formed and the mass production of two basic types of dwellings began in Russia; a timber, three-storey, felt-roofed house for five or ten families; and a five storey brick tenement block for single persons with lavatories for every two flats, kitchens for every twelve and no baths, to be site built with standard service components in every major city and town (16).

As a result of the Industrial Revolution, duality between industrialization and creating a high style culture on bourgeois and living standards of workers and migrators, set up a new urbanization thought so called 'mass housing' in two different manners; the utopist rationalist idea, the so called model suburbs-which necessitated highly oriented, organized and standardized common life (even it re-arranged the activity pattern of man) and led by Le Corbusier and Tony Garnier; on the other hand nostalgic ideas led by Ruskin, Pugin and Morris who defended the middle age urban context while rejecting the monotonous standardized rationalist

architecture (17).

In Europe and USA, governments' attitude towards the increasing population, mass of unemployed people, stationary investment and capital was to provide standardized-prototype housing units with the minimized unit area and offer the appropriate life model in a rationalist utopist manner. While there were regional, cultural, economical and social differences of the users, different investigations were carried in different countries.

2.2. STUDIES ABOUT MINIMIZATION AND STANDARDIZATION

2.2.1. Le Corbusier's Modular Studies

Le Corbusier accepted house as a machine to live in that requires standardized living conditions. For him the science of housing was divided into three subsections;

- Housing equipment
- Standardization and Construction
- Industrialization (18)

The modular or the Golden Rule which is a tool of measurement based on the human body and on mathematics was applied in the preparation of a prototype housing schema which contained a housing unit of proportional size. "In his opinion all architecture must be built to the human scale proportionate to the dimensions of human body" (19).

Le Corbusier applied the Modular systematically, not

only to the building plans and sections but also to the study of details. "Modular was also used for the furniture and equipment" (20).

In 1946 Le Corbusier explained the advantages of introducing harmonious dimensioning at all the determining points, of a housing unit, such as the heights of the ceiling, windows, doors, etc. "According to him architecture was the composition of lengths, floor areas, and panels, partitions and ceilings, heights and volumes in all apartments and small houses" (21).

At Unite' d'Habitation of Marseilles, he systematically applied harmonious measures of the Modular Standardization and the economic production of housing units.

Le Corbusier has been interested in human psychology as in the physical dimensions of the matter, while using human scale in designing the furniture and space. With his standardization studies he tried to offer better and healthy living conditions and economy in the use of space by eliminating unnecessary areas in a housing unit.

2.2.2. Doxiadis

According to Doxiadis, human scale should be taken into consideration in all sorts of enclosed or public spaces. He has started with the physiology of man; his own body, his dimensions, movements and senses which are necessary for the formation of space around. He defined

series of successive shells as the minimum human space for a living being. The smallest of all and perhaps the oldest is clothing. The next shell is room which is a minimum territory around man to protect him from his enemies. "These natural rules of human scale from room to city have been strictly observed for many thousand of years by all civilizations, has strengthened the meaning of the human scale" (22).

According to Doxiadis the cities, streets, squares and dwellings lost their human dimensions with the beginning of 18th century. He has suggested that to re-establish the human scale which has the greatest importance, we must re-establish the basic unit; the dwelling. A shelter should be planned according to the scale and needs of human being, and economy will be necessary in utilization of space.

So it will be necessary to decrease the area of the dwelling according to the type, size and needs of the family and the economy in the use of space.

Generally small size dwellings are necessary for small families. "This means an order for the equal benefit of all men, which can be decided only by all men in a democratic way" (23).

2.2.3. Parker Morris Standards

In England the housing standards were framed in the report of Tudor Walters Committee in 1919. "Housing

standards were reviewed in 1951 under the current economic conditions" (24). In this research, the standards were determined by looking at the needs according to the size of the family, and minimum sizes were intended to provide the maximum level of useful space per person.

"Parker Morris Standards abandoned the Tudor Walters Committee's approach of 1919 which recommended minimum room areas" (25). Minimum sizes were intended to provide the general level of useful space per person in various types of buildings. At first the emphasis has been on space standards, then they have increased the recommended standards for heating, thermal insulation and sound proofing.

"The Parker Morris Report of 1961 contains the right approach to the design of a room which is first to define what activities are likely to take place in it, then to assess the furniture and equipment necessary for those activities and then to design around these needs" (26).

The Parker Morris Standards were directed towards the size of rooms and to standardize not only the space but the furniture and other household goods in the dwelling according to the living activities. As a result of the technologic development, the changing household utensils, installations and furniture with the use of third dimension in a housing unit cause a decrease in the housing space. These studies show that small size

dwellings are necessary and applicable.

2.2.4. Minimization And Standardization Studies In China And Japan

In China, the housing conditions, under the pressure of crowded population were in the form of unhealthy shelters. In 1935 under a public health law, the minimum standard for the assessment of overcrowding was set at 3,25 sq. meters (35 sq.ft) per person. Later the low quality of housing was criticized and the 1965 housing conference was held on the subjects of improving quality standards and promoting rapid construction. Industrialized building techniques and prefabricated materials were emphasized.

In China, after 1965 urban residents had an average of 3.6 sq. meters living space (excluding kitchen and washrooms) per person. The present objective is to make 5.6 sq. meters living space available per person. "The comparable Parker Morris standard is about 15.5 sq meters per person in 4-5 person households" (27). That shows the social, cultural and economic differences between the countries. "The current standard form of urban housing is five or six storey flats of 40-50 sq.m. consisting of two rooms, kitchenette, wc, shower room and private balcony" (28).

"Housing quality depends on type of unit space and facilities. In China, two room units represent 50 % of all

construction" (29). The basic facility distinction is between those units having individual toilets and those sharing common facilities. Showers are still rare, instead public baths are common.

"It has been the Japanese tradition through the ages to construct their admirable wooden houses on a modulus which is called the Tatami" (30). In Japanese houses, there is a combination of living-dining room and kitchen. Generally dwelling units are planned from one room with a combination dining-kitchen (floor area: 35 sq. meters) to the five room and kitchen (floor area approximately 110 sq. meters).

In China and Japan, to provide houses for the low income groups the housing problem has been solved by an open planning system where the dining-living activities are gathered in a single space outside the dwelling. So new housing models with a common cafeteria and laundry have been put into practice.

Minimization of the dwelling area necessitates the removal of certain activities to outside the dwelling and joint use of certain spaces.

2.3. EXAMPLES OF SMALL SIZE DWELLINGS CONSTRUCTED IN FOREIGN COUNTRIES

The purpose of this part of the research is to find out the aims and decisions of the states in providing small size dwellings to the population. In addition to the

type of families needing small dwellings, plan types, design objectives and the environmental characteristics of the housing units are also examined.

The governments of different countries offer different solutions with different reasons in providing small size dwellings which are suitable to social, economic and political situations of the countries. In order to explain these solutions, the items below are considered while examining the examples;

- i) The demand for small size dwellings; its reasons
- ii) The types of families needing small size dwellings
- iii) Construction rate and ratio of the dwelling units
- iv) Plan types and environmental characteristics
- v) The financial sources
- vi) The construction techniques

Among a number of examples examined in different countries, three are discussed here; one from Holland, the others from United Kingdom and France.

2.3.1. Molenvliet / Papendrecht, Holland

The housing project Molenvliet in the small city of Papendrecht in Holland is an experiment in the production of housing "In Holland, the basic housing needs of most people are provided by non-profit housing societies that are subsidized by the government" (31). These organizations have tended to produce either high density row houses or

apartment blocks of a few basic types. This approach to mass housing, according to critics, has provided quantity but not quality.

To bring a solution to this problem the aim of the housing project in Papendrecht, was to have a system of production that took into account the differences between individuals and the specific needs of many families. The dwellings designed in Papendrecht reflects the national standards for specific categories of people; single workers, families of different sizes, the elderly and the students. "In addition, Holland, with its former colonies and its foreign workers, has become a multicultural nation" (33). So the housing project Molenvliet would allow each group to have satisfactory dwellings with different alternatives and varied sizes.

Molenvliet project was a small portion of the original proposal for 2800 dwellings on an adjacent site. The architect Frans van der Werf won the national competition for the whole project in 1969. One section of Molenvliet project was completed and occupied in 1978.

This first section contains 122 dwellings at a density of 37 dwellings per acre. Almost every dwelling is different. There are small apartments for young people who live on their own, "normal" apartments for young families, duplexes for large families special dwellings for the elderly and handicapped.

People who live here rent their dwellings from a non-profit housing association. For all the habitants in Molenvliet are tenants, the physical environment the architect provides is capable of simple alterations to meet the needs of new habitants.

The apartment units in Molenvliet have a four-story building height, that is the maximum height permitted by the local building laws. There are small gardens for ground floor units and (large) terraces for those above. Gallery access for the upper level units, are reached by stairways in the courtyards. They have all pitched roofs which signifies home in Holland.

Most of the construction elements are prefabricated units such as precast concrete lintels and concrete slabs. But the concrete stairs and access galleries were constructed in the site.

2.3.2. Adelaide Road Estate / Borough Of Camden, London

In March 1977, the London Housing Aid Center published a report about the continuing housing crisis in London. The report brought to light many important indications of the housing crisis one of the most important problems mentioned in the report was about the standard approach to public housing, emphasizing the typical family without recognizing the differences of users and the changing nature of the modern family. "Local public authorities previously focused on the task of

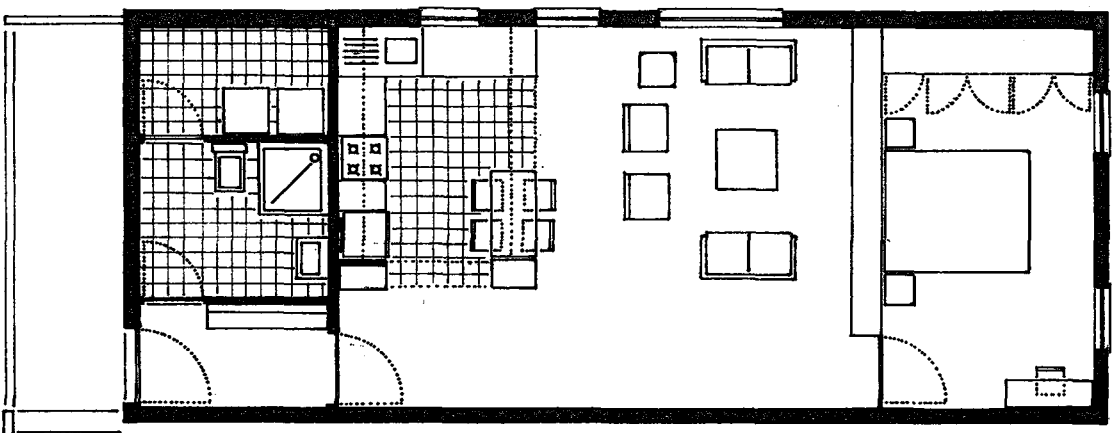


Figure 1: Plan and Axonometric Drawing of Small Size Dwellings in Molenvliet, Holland (Source: The Scope of Social Architecture, 1984).

satisfying the numerical demand for housing units with the same standard sizes which are also difficult to rent and becoming absolute to an even increasing rate" (33).

As a response to those problems of housing in London facing with the tenants and public, The Greater London Council (GLC) realized a housing project at Adelaide Road in London. The Adelaide Road Estate was designed by the Architect Nabeel Hamdi from the Architecture Association School of Architecture in London. "The housing layout was based on the concepts of;" (34)

i) The development of a standard structure which could accomodate a wide variety of dwelling types, and one which could be adapted simply to meet changing demand.

ii) The design of dwellings which can be simply adapted and upgraded piecemeal, to meet changing space and equipment standards.

iii) To meet current standards for space, planning and finishes in a way which enables to interpret these freely according to his needs and quirks.

The housing in Adelaide Road allows a great range of housing alternatives and the range of accomodation which include special groups, such as small families, extra large families, and the handicapped. "In order to qualify for central government subsidy, plans have to comply with minimum and maximum space standards, based on the recommendations of the 1961 Parker Morris Committee" (35).

Parker Morris Standards which were determined by looking at the needs according to the size of the family, came into general use in local authority housing in England and became mandatory, in January 1969. It is within the local authorities jurisdiction to determine appropriate densities, layouts, building scale and architectural styles.

The Adelaide Road site is 0.565 hectare and zoned for residential development at a density of 247 pp.ha. The site is bounded to the north by the four or five storey houses of the Eton Villas. The site could accomodate a maximum at 64 dwellings (one and two person apartments) and a minimum of 32 dwellings (eight-person houses and two - person apartments) in 8, three-storey blocks. "The accomodation is presently broken down into the following units" (36).

| | | | |
|---------------------------|--------------------|------------|-------|
| 1 | person flats | (elderly) | 2 |
| 2 | person flats | (elderly) | 15 |
| 2 | person flats | | 13 |
| 3-4 | person maisonettes | (duplexes) | 9 |
| 3-4 | person flats | | 1 |
| 5-6 | person houses | | 4 |
| 7-8 | person houses | | 1 |
| | | | ----- |
| Total number of dwellings | | | 45 |

In the housing project 30 dwellings out of 45 are

small size units for special groups of the population or for small size families. Generally 66.7 % of the dwellings are small size units in the whole project.

The Adelaide Road has become a management cooperative in which associations of residents have collective responsibility for some or all of the management functions, but do not own the property.

Now the Adelaide Road estate is full with tenants who are quite satisfied with their dwellings as they were free to choose where to live from an adequate range of alternatives.

The construction process began with a basic structure shell, with load bearing cross walls and reinforced concrete floors (pierced in the appropriate places). The shell includes primary mechanical and electrical service connections. The pitched roofs have black roof slates.

2.3.3. Les Marelles / Boussay-St Antoine, France

Since the Second World War, the larger cities, and especially Paris, have suffered from a severe housing shortage. Most of the families have been crowded into one or two rooms in substandard buildings. "The official response to the crisis has been to build public housing, cheap, sound and high in quantity, with little regards to the type and quality of the housing units and to essential services, schools and shops" (37). To the postwar



Figure 2: Plan of a Small Size Dwelling in Adelaide Road Estate and a Picture From Interior (Source: The Scope of Social Architecture, 1984).

condition of overcrowded, unsanitary and dilapidated housing, another dimension has been added as a problem. That was the disregard of the varied needs of the special groups of the population, the repeated standard plans and the poor quality of construction.

As a response to these problems the government and the new housing estates in France put in practice the production of different types of dwellings with a small floor space for the special groups of the population, such as; the single young people, young married couples, the elderly, and the handicapped; (to satisfy certain needs and fulfill certain aspirations).

The housing project Les Marelles was designed with the aim of satisfying these requirements and giving them the opportunity of determining how much floor area they needed and laying out a dwelling according to their own desires.

Les Marelles was designed and executed by architect Georges Maurious (between April 1974-75). Les Marelles is situated in Boussy-Saint Antoine, 300 m from the suburban railroad station, 200 m from a large shopping center, close to the forest of Senart and in the neighbourhood of a school complex and other recent apartment projects.

The floor space to be constructed was approximately 7100 m², which represented somewhere between 70 and 104 dwellings depending upon their final size. The scheme

provides 33 terraces for upper level apartments. The ground level apartments have private gardens.

"The project was made possible by the special loan conditions offered by a state supported housing bank, Credit Foncier"(38). The families who moved in had incomes which were more or less the same, and the differences in apartment sizes are very small.

Every dwelling completed under the experiment had to conform to the standard building codes, to the electric code, also to the special construction requirements of Credit Foncier.

The structural system consists of only three precast concrete elements, factory fabricated, easily transportable. These members form a hollow structural skeleton with a three dimensional network of columns.

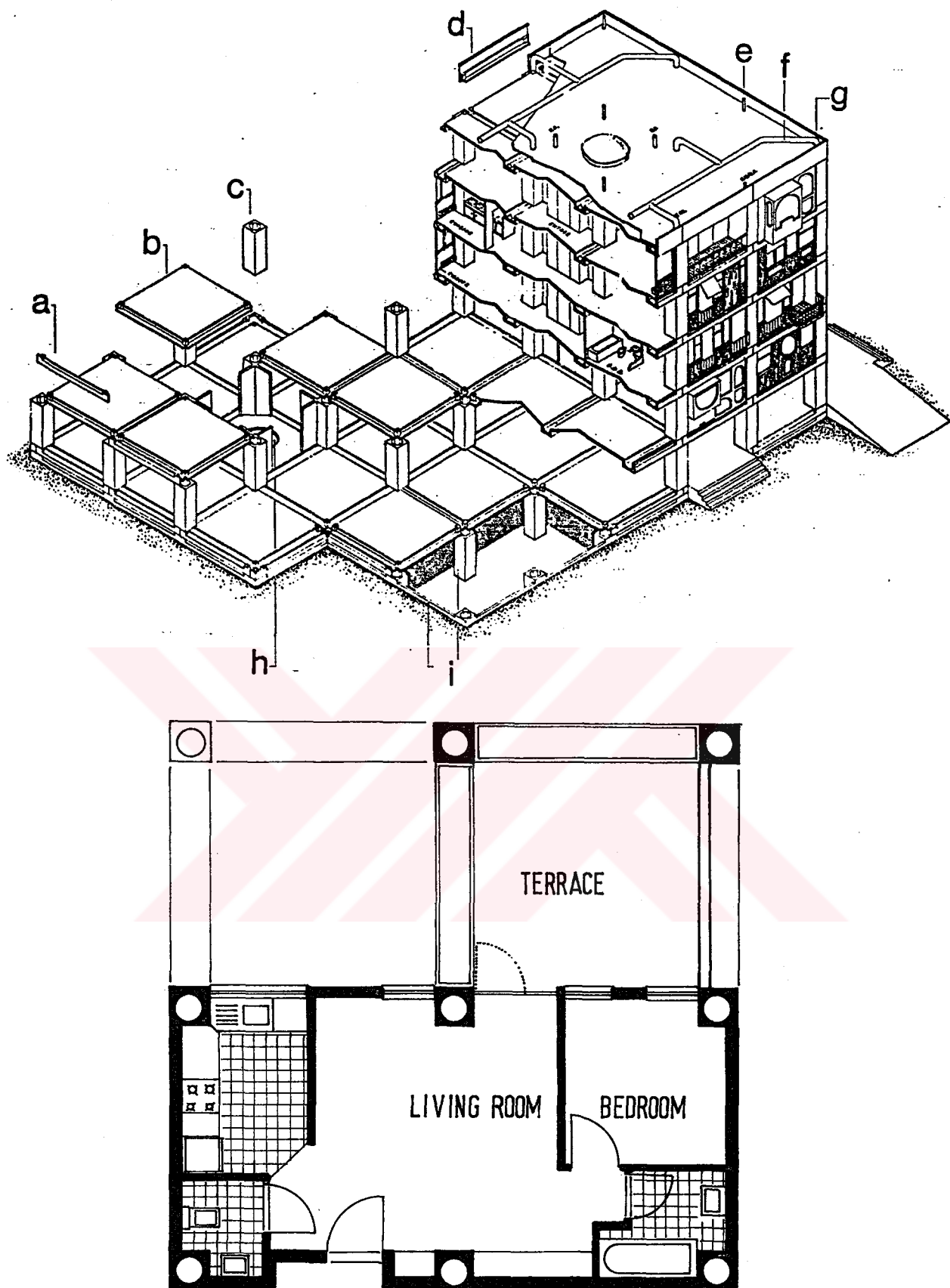


Figure 3: Plan and Axonometric Drawing of Small Size Dwellings in Les Marelles, France (Source; The Scope of Social Architecture, 1984).

CHAPTER 3

THE DEMAND FOR SMALL SIZE HOUSING

At this stage of the study the purpose will be to demonstrate the scope and size of special housing problems and their likely future evolution, to show the general lines of approach to these problems adapted by various countries, and the offered examples to solve them.

The main concern is the housing of the people who are not within the definition of average family size and characteristics. Most of them have for many years received little or no attention from the housing authorities.

The sources and causes of this phenomenon are complex and varied. "The most important ones may be reckoned to be the demographic, social and economic changes in the contemporary world, and the progress of civilization and economic development which influence people's living and working conditions, as well as the shape and functions of the family" (39). Changes may also be seen in the conception of the role played by the state in solving housing and social problems and in the extend of its responsibilities and of the tasks it undertakes in housing and social policy.

"Besides the rapid development of the three-generation family into the two-generation family there

have been some changes in the functions of the two generation family which have a crucial effect on housing needs "(40). Owing to its fewer children, to young people's earlier economic self-dependence and to the continuance of marriages, the period in which parents and adult children function as a family has become shorter. "Together with this phenomenon are the considerable number of incomplete families-young childless couples, elderly couples who have already brought up their children, one-parent families and single people living or wishing to live in separate dwellings" (41).

So it is certainly true to say that the size of the category of one-person and two-person households is steadily rising towards that of three-person and multi-person households, with an inadequate supply of small size dwelling units. The dwellings with three, four or more rooms which are suitable for housing families with children, can also be used to house one-person, or two-person households but one or two roomed dwellings are unsuitable for housing families with children. Therefore larger dwellings are absorbed by the market.

This situation is not only valid for our country. It also exists in many of the foreign countries, especially in Europe. In Europe, in 1970's there begins a specific aim to alter the minds of the local builders and those responsible for renewal, to start the alterations in

the sizes of the dwelling units for these groups representing 'special needs'. But that also require a change in purpose, organization and practice.

Attempts are being made to meet the demands of these special groups and the governments began dealing with them, since these groups make up a sizeable proportion of the population. What comes to mind in this situation, is small scale forms of housing with a sufficient variety of dwelling types for all kinds of applicants; families, single persons, elderly people and young people, physically fit and handicapped people, foreign workers, high and low income groups. "What it amounts to as far as the occupants are concerned is to avoid large concentrations of population groups, while on the other hand permitting small scale concentrations" (42). As in small scale concentrations it appears to lead some difficulties such as boredom, loneliness, controversies between population groups. A variety of dwelling types and dwelling sizes make it possible to avoid such concentrations. They also give the neighbourhoods and streets a more lively and more human appearance.

3.1. THE CLASSIFICATION OF THE SPECIAL POPULATION GROUPS

In a given population, certain categories of households require special housing conditions, because of the actual structure of the household or the age of its members, or an account of the presence of a physically

handicapped person, again, because of the nature of the activities or one or more persons in the household (43).

It is possible to conceive various definitions and classifications of these categories and the one proposed here is merely an example.

1) The elderly

2) Persons living alone other than elderly persons; single, widowed and divorced persons, students, workers separated from their families or far from their place of permanent residence.

3) Small households; elderly couples, young couples who have not any children, households composed of two persons, who for various reasons are not likely to have any children, or one parent households (father or mother separated from the spouse or widowed parent living with one or two children)

4) Physically handicapped persons living alone or living with their families.

3.2. ASSESSMENT OF THE HOUSING NEEDS AND PROBLEMS OF SPECIAL POPULATION GROUPS IN FOREIGN COUNTRIES AND IN TURKEY

Some of the above categories present common features from the point of view of normative requirements. If these requirements stand out clearly the shortage of suitable housing for these special groups will lead to a substantial shift in the house building programmes.

3.2.1. The Elderly

When one speaks of "old people" one usually means persons of pensionable age. "However the pensionable age is not the same in every country, and even within a given country the age of which pensions entitlement commences differ for men and women and for industrial and agricultural workers" (44).

For the purpose of this study all persons more than 65 years of age will be considered as 'old' or 'elderly'.

"The dramatic increase of the elderly population, in terms of both numbers and a percentage of nation's overall population, is one of the most important demographic changes in society" (45). "The ageing of population, visible in all European countries, follows more or less the same pattern" (46). At present, approximately 15 % of the population of the European countries is more than 65 years old. "The proportion of such persons is increasing constantly and may reach 20 % by the end of the century" (47). The elderly are not only a demographic problem but also an economic and social one. Parallel with the development of social insurance and old age and disablement pensions, there is a growing tendency among these people to preserve their independence for as long as possible. So they desire self-contained dwellings.

However in Turkey, the elderly are not a demographic problem. As can be seen from Table 1 the proportion of

old people in the population is decreasing. But there started some social changes especially in our family life-style. In our traditional family life-style the family links are so strong that, majority of the elderly desire to live with their families. The social and psychological causes of this situation are much more important than its economic causes.

However in the recent years there is a rapid development of the three generation family into the two generation family, as a result of these social and economic changes. "There is a pretty general agreement that the elderly should be encouraged and helped financially and socially to live an independent life in their homes, as long as they are physically capable of coping with them and efforts are being made to persuade them to move a smaller house where they can easily manage the housework" (48). There is also agreement that the elderly should be housed in the middle of the community in particular near shops and not isolated from the social life.

"The elderly may be divided into two categories; those who are healthy and capable of looking after themselves; and those who are incapable of looking after themselves and who require constant medical care, i.e. the disabled" (49). The housing requirement of the elderly differ according to whether they are single or married or

Table 1: Distribution of the Population by Age and Sex (Source: DiE 1987)

| Bin - Thousand | Sayım Yılı - Census Year | | | | | |
|------------------------|--------------------------|---------------|-----------------|-----------------|---------------|-----------------|
| | 1975 | | | 1980 | | |
| | Toplam Total | Erkek Male | Kadın Female | Toplam Total | Erkek Male | Kadın Female |
| Yaş Grubu Age Group | | | | | | |
| 0 - 4 | 40.348 | 20.745 | 19.603 | 44.737 | 22.695 | 22.042 |
| 5 - 9 | 5.701 | 2.917 | 2.784 | 5.691 | 3.051 | 2.910 |
| 10 - 14 | 5.380 | 1.760 | 2.620 | 5.970 | 3.062 | 2.908 |
| 15 - 19 | 5.249 | 2.800 | 2.449 | 5.503 | 2.870 | 2.633 |
| 20 - 24 | 4.264 | 2.232 | 2.032 | 4.967 | 2.563 | 2.404 |
| 25 - 29 | 2.532 | 1.857 | 1.657 | 4.050 | 2.074 | 1.976 |
| 30 - 34 | 2.833 | 1.487 | 1.346 | 3.375 | 1.719 | 1.656 |
| 35 - 39 | 2.295 | 1.179 | 1.116 | 2.695 | 1.374 | 1.321 |
| 40 - 44 | 2.140 | 1.041 | 1.099 | 2.198 | 1.079 | 1.119 |
| 45 - 49 | 2.146 | 1.092 | 1.054 | 2.057 | 989 | 1.068 |
| 50 - 54 | 1.684 | 881 | 803 | 2.008 | 1.044 | 964 |
| 55 - 59 | 1.342 | 677 | 665 | 1.729 | 862 | 867 |
| 60 - 64 | 767 | 383 | 384 | 1.151 | 592 | 559 |
| 65 - 69 | 1.084 | 536 | 548 | 793 | 375 | 418 |
| 70 - 74 | 1.853 | 851 | 1.002 | 2.113 | 955 | 1.158 |
| Bilinmeyen - Unknown | 78 | 52 | 26 | 167 | 86 | 81 |

whether or not they have family. But certain needs related to dwelling however do not change.

"The elderly have left their working life and have thus been cut off from a considerable part of their social contexts" (50). So they spend most of their time in their dwelling and its surroundings. Consequently a satisfactory dwelling in a socially functioning dwelling environment is particularly important for them. "Against the background of the age changes which are beginning to take place, housing for the elderly must be adapted to their needs and be provided with special equipment" (51). If this is done, most of the elderly will be able to live on for a long time in their accustomed environment and for the most part, care for themselves without any need of institutionalized care. Many elderly people, if not all, feel a greater need of peace and quiet in their residential areas, without being isolated from their social environment. The psychological, social, recreational and emotional issues are equally important for them. Many elderly also need (some domestic aid) help and services such as cleaning, cooking, laundry, a center for social intercourse recreation and personal care in connection with their dwellings.

In European countries, specific government regulations exist for providing dwellings for the elderly and general regulations will also be drawn up for elderly

people's adapted dwellings. Also the rents of these elderly people's dwellings are low on account of extra government assistance.

In Europe, for example in Sweden the municipalities are responsible for taking measures to meet the housing needs for all groups of citizens. Care for the elderly is also municipal responsibility in law. "The general pension system provides a good financial basis enabling the elderly to retain a satisfactory dwelling" (52). Special rent allowances for the elderly are also available. In Netherlands, the government policy with respect to incomes of the elderly is a responsibility to provide housing accommodation and to reduce the rents. Besides rent allowances in United Kingdom, the government has instituted a system of community care and support for the elderly. "France has for some years given housing allowances to the elderly and in Paris a rent allowance has recently been added (53). In Denmark, besides government construction and administration subsidies, pensioner's rents are also subsidized. Finland too combines state loans with housing allowances.

In Europe specially adapted dwelling units are also available for the elderly in ordinary residential areas. It is important that the elderly people (and those with other special needs) should have as wide choice of housing as possible. In Netherlands elderly people, besides

staying on in their dwelling, which can be adapted or subdivided with the help of government grant, have a choice of four kinds of accommodation: a special adapted dwelling; an adapted service flat; a residential home or, if needing care, a nursing home, hospital or other institution (54).

"Accessibility for the elderly is of considerable importance in connection with the modernization and renewal of old dwellings" (55). When increasing the density of old residential areas, dwellings restricted to the elderly in special housing blocks can easily be integrated. As it is a major shortcoming in European society today that so many young people grow up without contact with the older generation. If generations are to be successfully integrated, it must be done with the participation of the elderly and to a considerable extent, in accordance with their wishes. Therefore attempts are being made to mix elderly people's dwellings with family dwellings in the housing environment.

Also in Europe the housing in urban renewal areas occupied by a relatively large number of elderly people benefits from the extensive government assistance furnished for improvement of housing and residential neighbourhoods (56).

Provided suitable housing accommodation is available in the neighbourhood, most of the elderly people tend to

leave their old home, because it has become too large or involves too much work and move to a smaller, more comfortable, favourably situated dwelling. "If this dwelling has been adopted to make allowance for physical disability, it comes in the category of elderly peoples dwellings, which in Netherlands are at present being built with government assistance on a large scale and are now available for 13 % of the elderly population" (57).

In Turkey the situation of elderly people living with their relatives still occurs in rural areas, but it is on a limited scale and actually decreases still further in recent years. The majority of elderly people who are still physically fit continue to live in their own homes. If necessary, they can adapt their dwelling somewhat to suit their phase of life with government assistance. Having a smaller dwelling unit with optimum sizes to meet the requirements of the elderly couples, will be economically advantageous and favourably comfortable in managing the housework.

So, for the elderly the most important thing is the adaptation of the dwellings to their requirements and demands, and the provision of some optional domestic aid and of meals, care in case of sickness and accident and opening up recreation, and meeting centers in the housing environment.

3.2.2. Single Persons

3.2.2.1. In General:

European countries are now finding that a significant proportion of their population is single working people with an independent housing need of their own. "Single persons comprise on the whole, about 40 % of all the population in those countries" (58).

One of the reasons of this situation is migration from the countryside to towns in search of jobs. Workers migrate in large numbers from the country to the towns. Housing for these immigrant workers and also for foreign workers is a very important problem especially for the western European countries.

Second reason is the social climate which makes it easier for the unmarried (or divorced) to seek a place for their own instead of sharing or living with parents or relatives. The increasing number of students are also in this category.

"Third reason is the increasing mobility of many industrial and professional jobs and the trend to decentralize industrial and commercial sectors and government officers" (59).

"In 1970 in Denmark about 23 % of the population over 18 were single people separated from their families. In England and Wales roughly one-quarter of the working population are single people. In France, where most young

workers still live with their families there are nearly 700.000 of them (1.25%) living on their own" (60).

Some countries -France and Hungary among them- are building apartment houses or hostels. Sweden and Denmark provide a number of flats for single people (as well as elderly, handicapped, and students in their housing schemes and not only in the public sector). "In Netherlands the immigrant workers are prepared to pay a reasonable rent for simple but reasonably satisfactory accomodation-small, one-roomed dwellings and dwelling units with collective facilities" (61).

Figure 4 shows a description by age of the actual housing situation for the young in Denmark, in 1981. With growing age there is a falling tendency for the group staying with their parents and a corresponding increase for the group living in independent housing.

Figure 5 shows the calculated changes of the housing demand as a result of the population development for the 16 to 25 year olds. This calculation was also made by the Danish Social Research Institute in 1981.

Generally single people; single, widowed and divorced persons, students, workers often have low incomes and find themselves in poor quality housing, especially in big towns. Single people tend to desire self-contained accomodation in preferance to hostels. "Like students, single people may compete with other groups with similar

needs for economical and manageable accomodation which is self contained and conveniently sited for work or shopping or social life, as single people rely more heavily on their social contacts than other people do" (62).

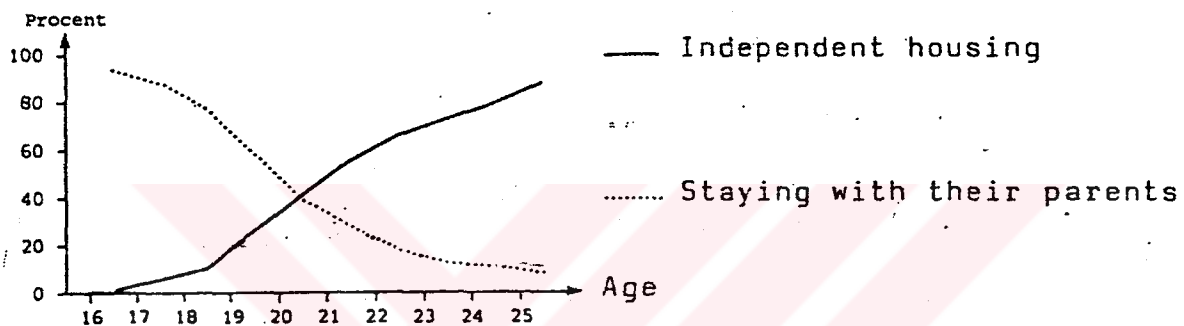


Figure 4: Percentage Share of 16-25 Year Old Youngsters Staying with their Parents in Interim Housing or in Independent, in Denmark May 1981.

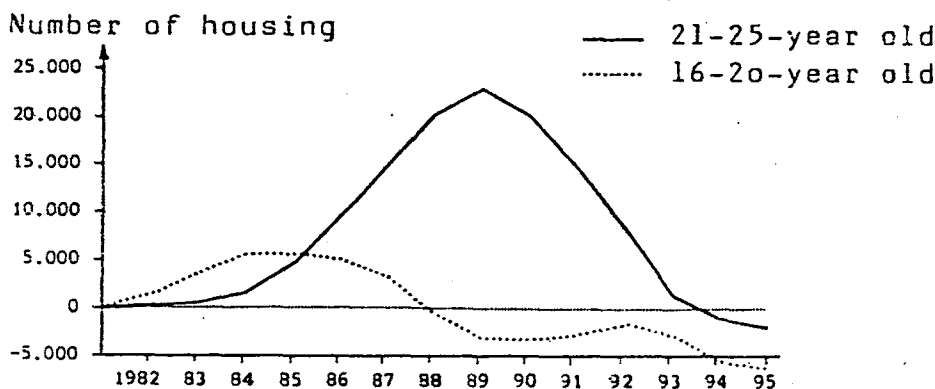


Figure 5: Calculated Changes of the Housing Demand as a Result of the Population Development For the 16-25 Years Old, in Denmark.

In Turkey, as it is seen from Table 2, the proportion of the single people to the population does not differ much in both population census years, in 1975 and in 1980. Besides that Table 1 and Table 3 shows that there is an increase in young population and student population in Turkey. So they constitute a sizeable proportion of the population with their special housing requirements.

Education or employment, domestic or other circumstances make it desirable for the adult young people to be separated from their families. This situation should give the opportunity for the young to register as-housing applicants and enter into consideration for independent accomodation.

3.2.2.2. Students:

"Economic and technical progress, and particularly the revolutionary post-war advances in science and technology, require not only more workers but also better qualified workers, and these workers are also constantly require to renew their knowledge"(63).

Though numerically far less formidable than the elderly, the handicapped and the mass of single people, students present special housing problem. Students drawn to the university centers leaving their homes occupy numerous studies, rooms and small dwellings concentrated in the build-up areas where the institutes of higher

Table 2: Population by Marital Status and Sex (Source DfE, 1986)

(12 years old and over)

| Thousand | Census years | | | | | |
|--------------------|--------------|-------|--------|-------|-------|--------|
| | 1975 | | | 1985 | | |
| | Total | Male | Female | Total | Male | Female |
| Marital Status | Total | 100 % | 100 % | 100 % | 100 % | 100 % |
| Single | Total | 33.6 | 38.3 | 28.8 | 33.5 | 38.7 |
| Married | | 59.3 | 57.4 | 61.2 | 61.0 | 59.1 |
| Widowed | | 4.8 | 1.8 | 7.9 | 4.9 | 1.7 |
| Divorced | | 0.6 | 0.5 | 0.8 | 0.6 | 0.5 |
| Unknown | | 1.7 | 2.0 | 1.3 | - | - |

Table 3: Population by Literacy and Level of Formal Education Completed and Sex (Source DfE, 1986)

(6 ve daha yukarı yaşlar - 6' years old and over)

| Okur-yazarlık ve bitirilen son öğrenim kurumu Literacy and level of formal education completed | Sayım Yılı - Census Year | | | | | |
|---|--------------------------|---------------|-----------------|-----------------|---------------|-----------------|
| | 1975 | | | 1985 | | |
| | Toplam Total | Erkek Male | Kadın Female | Toplam Total | Erkek Male | Kadın Female |
| Toplam - Total | 33.531 | 17.527 | 16.274 | 37.524 | 18.999 | 18.525 |
| Okuryazar olmayan - Illiterate | 12.144 | 4.096 | 8.048 | 12.197 | 3.802 | 8.395 |
| Bitirmeyen - Non-graduates (1) | 6.086 | 3.570 | 2.516 | 6.205 | 3.494 | 2.711 |
| İlkokul - Primary school | 12.110 | 7.384 | 4.726 | 14.216 | 8.395 | 5.821 |
| Ortaokul - Junior high school | 1.542 | 1.053 | 489 | 2.099 | 1.422 | 677 |
| Ortaokul dengi meslek okulu - Vocational school at junior high school level | 37 | 25 | 12 | 38 | 24 | 14 |
| Lise - High school | 710 | 485 | 225 | 1.105 | 708 | 397 |
| Lise dengi meslek okulu - Vocational school at high school level | 492 | 320 | 172 | 797 | 511 | 286 |
| Yüksek okul ve Fakülte - Faculty and other higher educational institutions | 334 | 266 | 68 | 844 | 629 | 215 |
| Öğrenim kurumu bilinmeyen - Educational institutional unknown | 21 | 16 | 5 | 4 | 3 | 1 |
| Mezun olup olmadığı bilinmeyen - Graduation unknown | - | - | - | 4 | 3 | 1 |
| Bilinmeyen - Unknown | 55 | 42 | 13 | 15 | 8 | 7 |

education or employment agencies are located. The characteristics desirable in these dwellings are similar to those applicable to the general run of dwellings for single persons or small households.

In European countries the number of students and young single workers are increasing. Student populations tend to be concentrated in large towns which already have housing problems.

Students have vulnerable economic conditions and without subsidized accommodation, can easily be forced into poor-quality housing on the open market. At the same time they have shown a trend of preferring a small rented flat or room of their own to the communal accommodation like dormitories, hostels, halls of residence which in many countries universities have been accustomed to provide (64). But such residences are now becoming very expensive and sometimes have an institutional atmosphere that students dislike, though they also supply communication and social background. "Nearly 50 % of all students in Poland and of university students in the United Kingdom are in such residences" (65). In United Kingdom small types of residences are being built by universities and financed by loan. "In France, the government may require small dwellings in HLM housing for rent to be reserved for students. The Netherlands is planning one roomed dwellings that can be let on lower rents; In Denmark

interest-free government loans cover 45 % of gross initial cost of residence units; Finland gives state loans; The Belgian government has recommended a fund for student housing" (66).

In Turkey as seen from Table 3, the increase in student population also creates important housing problems. Besides solving housing supply situation for students we have inadequate supply of dormitories or other kinds of shelter for them. Most of the students; educating away from their permanent residences or families, are not able to find suitable accommodations in large cities such as Ankara, Istanbul or Izmir. Many of them are obliged to have privately rented dwellings which are very expensive for them.

"In Europe the students housing shortage has been eased by the building projects of student organizations" (67). Student housing should be treated as a part of the general housing problem of the young. "In future the production of student housing should be implemented to enable these units to be used also by other young persons" (68) In Turkey such student organizations may involve in housing policy and mention the problems caused by the segregation of students and set their sights on producing small size housing for students and other young persons in conjunction with normal housing production.

3.2.3. Small Households

3.2.3.1. Young Married Couples:

In many developing countries young married couples are having their first child later. So there is an early period in which they may easily have a useful combined earning or saving capacity, and what they most desire is to have their own dwelling. Again, as previously mentioned the three-generation family is giving place to the two-generation family.

"The demographic explosion (though of differing intensity) observed in nearly all European countries, and earlier marriage have resulted in an increase in young marriages in many (European) countries" (69). Young families with or without children have emerged as a powerful force in the demand for housing in all countries.

There are 400.000 marriages every year in France and at the 1968 census 27 % of French households were two person and 21.4 % of these were childless. In 1973 there were 315.000 marriages in Poland, increased to 400.000 in 1980. There were half a million young households in Belgium, in 1971. "In Hungary in 1973, 27 % of all households were two person and it is 35 % in the German Democratic Republic" (70).

"Young couples present a problem not only of quantitative need but equally of providing them with

dwellings suited to the characteristic requirements of young people throughout Europe; a problem with an effect on the special character of the needs of this social group" (71):

--- young couples form a group with creating demand for new dwellings;

--- their housing needs are expanding as they are just at the start of their independent, social, and professional life and of the development of the family cycle;

--- their needs vary not only with time but also with place; being highly mobile, they frequently change their place of residence, not only from country to town, but also from one town to another.

--- their housing needs occur at a difficult point of time at the start of their independent social and professional life, when their financial outlook is still uncertain while their demands (not only in housing) are rather high.

In some countries young families have been very much at the mercy of the open market. In France, few young married couples own their own home before they are 30, and the public sector is almost closed to them. In Denmark it is a question more of affording to rent than finding a dwelling. "In United Kingdom there is a great shortage of single, self-contained accomodation for young married couples" (72).

This situation is more or less the same in Turkey.

The solution of housing problems for these group of population is started in Poland under the name of "Aid to Young Couples". "Poland is experimenting in cities with special 'transit' homes for the young couples to be managed by the popular councils, co-operatives, or social organizations for the young". "In Belgium the approved societies of the Societe Nationale du Logement build small size housing for young households" (73). The United Kingdom is experimenting with various types of low-cost housing for the young including 'starter homes' with space standards below the prescribed minimum Parker Morris Standards. Besides family allowances, France make various financial concessions to young families and gives priority to take over smaller HLM dwellings.

Even young couples and families carry out a responsible function in society by producing children, still in Turkey we do not have such solutions to their growing urgent demand. "In countries with low birthrate housing and demographic policies are closely linked. These interrelations are reflected in preferences given to young couples in obtaining their dwelling, in rent allowances or relief on loan interest as their children arrive, as is the policy in Czechoslovakia, the German Democratic Republic, and Hungary or child allowances in some European countries" (74).

3.2.3.2. One-Parent Families:

Besides the increase in early marriages the divorce rate is high in European countries and in Turkey. This leads on one hand, to an increase in the number of single people with housing need, on the other, to families with a single parent. These families often have weak earning power as well as social and psychological difficulties.

One-parent households consist either of a man or a single woman with family responsibilities who both need to work outside. "In United Kingdom and France 10 % of all households are composed of one-parent families where it is 15 % in Denmark and 9 % in Netherlands" (75).

Like other special groups of the population, one-parent families need some sort of housing, with services like nursery schools easily available close by, to enable the parent-breadwinner to go out to work "The important thing is that they should not be segregated; the divorced or deserted wives should not be treated by authorities as if there was some moral stigma; and that the high-priority housing need of such families; whether the sole parent is father or mother, should be recognized" (76).

Young couples may have very simple needs before they have children, and are content with small accommodation. They often demand housing standards above the average. When they are both earning, their standard of living may be

high, but with a family their unavoidable expenditure grows quickly and they need services, such as; nursery schools, play centers, laundry, etc. One-parent families in particular need such services.

In most of the European countries one-parent families get no specific financial aid towards housing. In Turkey one-parent families constitute only 5.5 % of the population (Table 2) and just like other countries single parents do not create any special case in the social housing policy.

3.2.4. The Handicapped

Present day societies have seen, a growing number of handicapped and disabled people, with their special housing need, acquiring particular urgency. as this group of the population is significant and constantly growing.

Up to 10 % of any industrialized country's population is disabled or handicapped. "In United States, where the proportion is slightly over 10 % , this means 21 million handicapped people". "In Netherlands and German Democratic Republic one million each". "In France (over 5 %) 2.8 million of whom 1.3 million are elderly" (77). "In England and Wales it is estimated that over 600.000 handicapped people are living alone and that 4 out of 5 of them are elderly" (78). It can be accepted that probably a majority of handicapped people are elderly, and the

European countries treat the two categories together for housing purposes.

The majority of handicapped people do not require special dwellings differing in structure from "normal" family dwellings. The problem of handicapped is their need for some adaptation of housing standards and small size housing that is also specially equipped.

"The differences consist in their equipment with railings and handles enabling the handicapped to move and, in general, the elimination of so-called "architectonic barriers" not only inside the dwelling but throughout the building, by means of ramps, wider entrances, lifts with special dimensions, etc." (79). The installations such as sliding doors, and appropriate handles in bathrooms and wc and bath taps, etc. are necessary for the handicapped to adapt themselves, step by step to the requirements of daily routine. Also the installations and specially designed furniture in the kitchen will allow the handicapped person free access to the kitchen equipment, such as draining board, cooker on table.

There is a general agreement that everything possible should be done to allow handicapped, and even disabled people to live as near as possible normal lives within the community and, if feasible, to allow them some choice of accomodation. Like the elderly they tend to have low-incomes and may prefer to live the nearest they can to

an ordinary, unsegregated life in the community with easy access to social facilities and often to work.

"Dwellings for the handicapped people should form part of ordinary family housing mixed among it rather than concentrated, so that they have more chance of social contact with unhandicapped people" (80). However, for the seriously disabled, support services are likely to be essential and this necessitates a certain degree of concentration.

In general, housing for handicapped people should be well distributed through a certain housing area so that they can maintain their links with friends and relatives and can be reasonably near their place of work. The special housing need of the handicapped involve a good deal of both routine and emergency help; such services as medical care, bathing, laundry, shopping and transport.

In Europe, the majority of the handicapped are living on their own or form part of a two-person household. "The handicapped single person or for two-person households, of which at least one of the partners is handicapped require an adapted, small dwelling with perhaps some optional assistance from the neighbourhood" (81).

"For housing the handicapped there are three main alternatives" (82).: to adapt existing housing
: to build special housing (wheel chair

housing) for people totally dependent on wheel chairs.

: to build ordinary housing with certain features so designed that it is suitable for many handicapped people to live in as well as for people who are not handicapped.

In Europe, governments provide financial aids to modify or adapt small size (special) dwellings for the handicapped. "These may be to the builder or public authority for dwellings for the severely disabled or, as in Sweden, to the less severely handicapped in person so that they can get the work done themselves" (83). In Sweden also the state pays for technical aids. Project for the handicapped in Denmark may be financed up to 94 % by government loans and mortgage loans, and the remaining 6 % obtained by grants from private agencies. "In Belgium, where there are subsidies for specialized housing as well as for equipment and telephone, allowances are graded according to the degree of disablement In England and Wales allowances outside the 'housing cost yard-stick' have recently been made available to local authorities for wheel chair housing which broadly conforms with government design guidelines, and an additional allowance is now available for mobility housing" (84). Also France has for some years provided housing allowances for the handicapped.

In Turkey we have also disablement pensions. Studies

about the problems of housing and social environment for handicapped are being carried out in recent years.

"The success of housing schemes for handicapped people is not purely a matter of design or planning or equipment. It depends, more in any other branch of housing, upon a coordination of local support services and, in particular upon effective co-operation between the local housing and social services authorities" (85). So far, in Turkey the government has realized that for them the social and community services need to be strengthened. The agreed policy is to make it possible for handicapped and disabled people to live in the community and to work, and make new dwellings accessible and usable by handicapped people.

The requirements and adaptations necessary for housing the handicapped are as follows (86) :

- favourable location good external accesibility, at slight distance from public facilities and auxiliary services of importance to elderly people and handicapped persons;

- dwellings or dwelling unit entirely on one floor and situated at ground floor level or capable of being reached by lift;

- dwellings of small, limited size, safe comfortable and easy to run and to keep clean;

- interior adapted to physical disablement;

-- availability of an installation to which an alarm can be connected.

It is being considered that the fulfilment of these, or similar requirements and the availability of such adaptations be a condition obtaining extra rent-reducing government assistance.

3.3. THE DEMAND FOR SMALL SIZE HOUSING IN TURKEY AND RECENT DEVELOPMENTS IN ATTITUDE OF THE GOVERNMENT

Whatever the methods employed, housing for special needs had to be dealt with as a part of general housing policy and integrated into housing programmes.

"In general, housing for special needs is a subject for governmental direction or guidelines, especially in such matters as fixing of standards but for execution at regional or local level. It involves local survey and local authorities with complex problems of priorities of housebuilding and allocation of housing. Many of the local tasks might be small scale and difficult to execute involving specialist labour and methods" (87).

The efforts in providing small sized housing for these special groups has recently started in Turkey. Yet we have just a few examples of small size houses which are recently occupied by some special groups especially by the elderly, newly married couples, students (living apart from their families) and other single people such as rich business-men and business-women who are using them as

their permanent residences.

It is obvious that, in Turkey these special groups, in need of small size houses, can not find suitable range of alternatives in the housing market. The housing problem is mainly defined by the restrictions of economic factors not the social factors which shape it. Housing market in the private sector acts with a commercial mentality, the decisions and the demands of the users are not taken into consideration. The functional scheme of the dwelling, the spatial relations inside it, purchasing power, the standard of living, and the social status of the users should be considered and the dwelling should be given an identity with the people living in it. Housing must facilitate the integration of these special groups into the general structure of society. So, suitable range of units of different sizes in new housing complexes should be provided.

In Turkey, the government also prefers constructing small size dwellings instead of large ones, as it brings a solution to the housing need of special groups and also to the general housing shortage in the country. By this way the government will provide the possibility of housing choice among a great range of alternatives. Achieving a better harmony between the types of dwelling occupied and the size and structure of the households concerned, is likely to contribute to the satisfaction of needs as a

whole.

Generally the government's efforts for encouraging small scale dwellings are for:

- the increase in the cost of construction and using limited income ratio bring the solution of decreasing unit area, by eliminating unnecessary areas and by minimizing the loss of space

- the efforts to eliminate the general housing shortage. As the number of housing units build by the government will increase when they build small scale units instead of large ones

- housing people with special needs who are tended to be economically and socially vulnerable and to provide adequate quantity with adequate variety and choice

The government encourages small size dwellings by;

- increasing credits given for small size dwellings
- encouraging the production of economic and functional (or usable) furniture types and installation for small size dwellings (Eliminating the loss of space, bringing functional usage to the partitions inside the dwelling).

- cheap and sound construction of small size dwelling with use of new technologies.

The Turkish Real Estate Bank (Türkiye Emlak Bankası) and The Prime Ministry of the Republic of Turkey Housing Development and Public Participation Administration

(Başbakanlık Toplu Konut ve Kamu Ortaklığı İdaresi) had increased the housing credits from their own resources for the construction of small size dwellings. According to this scheme the Bank was granting 2 million Turkish Liras plus the counter value of 250.000 TL for special furnituring of the small size units. Also from the Social Insurance Institutions (SSK) sources 750.000 TL has given more for the workers and government officers. Totally; with all those given grants small size dwelling becomes 3 million Turkish Liras, which is indeed very close to the whole construction cost of one unit, in 1985. In 1989, the Prime Ministry of the Republic of Turkey Housing Development Fund and Public Participation Administration gives 4.5 million Turkish Liras as housing credit for small size units which constitute 47 % of the whole construction cost of one unit. Also with extra support credits given at the construction phase, the total credits given to the small size dwellings reach 7.5 million Turkish Liras.

But still the demand for small size housing is not at a preferable level. As it is seen in Figure 6 from the distribution of housing credits due to the unit magnitudes, only 3.13 % of the housing credits are used for small size dwellings up to 60 m².

Even there is a decrease in square meters of dwellings, in the housing market there is not much demand

for a 60 m² house which is accepted as the upper limit of small size dwellings by the government. Table 12 in section 4 shows the credits given by the government.

Besides these attempts the government should have some basic tasks of housing policy and aid in dwelling with special needs that may be summed up as follows; (88)

- to provide an adequate number and variety of dwellings, other than conventional family dwellings, for particular groups of the population;

- to provide financial assistance for the building of special housing so as to keep it on the cost level of ordinary family dwellings, in view of the relatively higher costs of small size housing and the low incomes of most of these groups;

- to enable persons needing aid or financial assistance to rent dwellings of adequate quality and size by lowering their expenditure on their housing;

- to keep the policy of social and financial aid for special housing closely integrated with the general assumptions of housing policy and the housing programme as a matter of growing importance.

The carrying out of these tasks should be closely connected with housing policy in general.

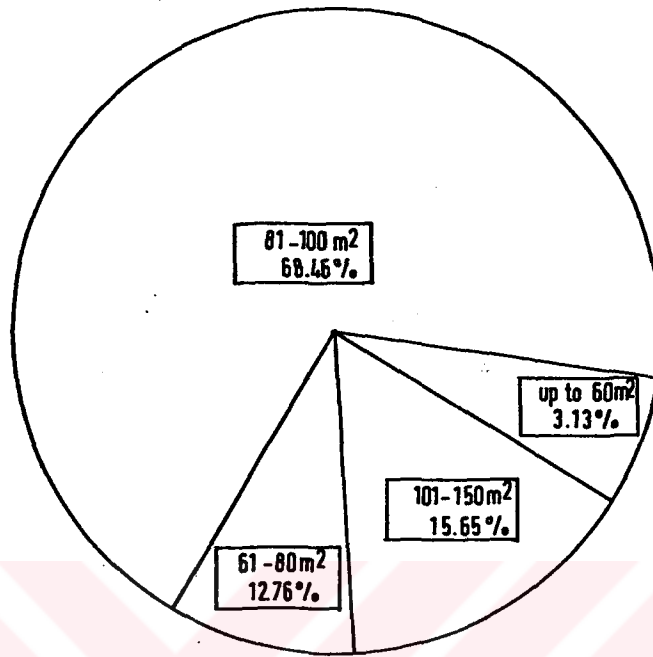


Figure 6: Distribution of the Housing Credits According to the Magnitudes of the Dwellings. (Source: "Hürriyet" Newspaper, September, 1987)

CHAPTER 4

ANALYSIS OF THE HOUSING CONDITIONS IN TURKEY

4.1. ORIGIN OF HOUSING NEEDS IN RELATION TO OVERALL HOUSING POLICY IN TURKEY

The process of urbanization appeared in Turkey in 1950s. It has the factors which underlie the origin of the flow of people from the rural areas and the rapid increase of the urban population leading to a growing shelter problem in the country.

When city centers were filled with overflowing migrants establishing their own living quarters on the outskirts of the city, thereby urbanization entered the era of squatter housing. The first reaction of the government was clearly negative. "It was impossible to build hundreds of thousands of housing units and to obtain the necessary capital to establish the infrastructure these required at the same time, it was necessary to directly allocate it to productive branches of economy. The character of production since the late 1950's has shifted from agricultural to industrial" (89).

The theory of self-help housing introduced as a solution to the housing problem and John F. Turner was the principle proponent of this theory in America. In his studies, he arrived at the conclusion that, what the new

urbanities had done as their shelters, met their housing requirements. The view that efforts to live in squatter housing is the best solution for the migrants rests on two premises. One is economics, those squatters whose income is irregular or low could not pay for public housing. If they tried to it, would necessitate their cutting down on their expenditures or investments. The second premise has related to the social aspect, there was an almost total absence of the basic necessities and amenities required by the new urbanities in the public housing units constructed by the government.

In 1960's we see a continued planning for squatter developments in urban areas. There have been efforts to expand the public sector of extending credit and setting up cooperatives for the evolution of squatter settlements and housing policies. In this framework the housing policy and the economic and social aspects of the system carried out the demand for certain rights and 'Right to Housing' is one of these rights. For the individuals or families in need of shelter, the price of a suitable housing should not be based upon its market cost, but upon the size of his income. This housing principle itself implies that a significant portion of public housing expenditure will be met by the state.

"As a result, the need for more housing units is

caused by three important factors. The dominant one which has been discussed to an extend, is the population growth. The second one is the urban migration. The third factor is the replacement of housing units which are not equal with the minimum housing standards of our society" (90).

4.2. DEMOGRAPHICAL DATA

In the housing market there are standard types of houses built without taking into account the type, size and economic position of different types of families. It is almost impossible for newly married couples, for small families and for single-people to find small and practical houses proportionate to their income. That gives direction to this study and with the purpose in mind, the housing situation in Turkey has been examined in three stages.

ANALYSIS: In this part, the statistical methods have been used and the numerical values in statistical data and graphics have been compiled.

SYNTHESIS: At this stage the interpretation of statistical data has been made.

EVALUATION: In the evaluation, the physical realities were translated into a solution. As a solution to the problem, the necessity for small size housing has been touched upon and investigations and applications have been briefly reviewed.

4.2.1. Population Growth of Turkey

4.2.1.1. Total Population:

One of the main reasons of housing problem is rapid growth of population in Turkey. Table 4 shows the distribution of urban and rural population and growth percentages between 1927-1985 in Turkey. As it is seen in the table, within last twenty five years, Turkey's population has risen from 27.7 million to 50.6 million. In 1985 Turkey's population has reached 50.6 million with the share of urban population as 53.0 %. The annual increase of the total population has been around 2.6 %. The urban population has risen from 3.923.852 in 1950 to 26.865.757 in 1985. About 80 % of the total population increase has been in the urban areas in the last 20 years.

The social and economic consequences of the policies developed after the Second World War had a significant effect on urban development. With improvements in public health and an increase of income, annual population growth jumped to almost 3 percent. The previous rate between 1927-1950 was 1.7 percent.

4.2.1.2. Urban-Rural Population:

The result of the high rate of migration to urban areas has allowed little time for planning to accomodate the thousands of new comers, since housing was very scarce in the cities, the migrants built their squatters on the

Table 4: The Distribution of Urban and Rural Population and Growth Percentages Between 1927-85 in Turkey
(Source: DIE Population Census)

| Year | Total Population | URBAN | | | RURAL | | |
|------|------------------|------------------|-------------------------------|-------------|------------------|-------------------------------|-------------|
| | | Urban Population | Population Growth Rate Ratios | Per year(%) | Rural Population | Population Growth Rate Ratios | Per year(%) |
| 1927 | 13.648.280 | 2.218.108 | 16.25 | - | 11.430.172 | 83.75 | - |
| 1935 | 16.158.018 | 2.683.872 | 16.61 | 1.8 | 13.474.146 | 83.39 | 2.2 |
| 1940 | 17.280.950 | 3.215.962 | 18.05 | 2.7 | 14.604.988 | 81.95 | 1.7 |
| 1945 | 18.790.174 | 3.466.046 | 18.45 | 1.5 | 15.324.128 | 81.55 | 9.1 |
| 1950 | 20.947.188 | 3.923.852 | 18.73 | 2.3 | 17.023.366 | 81.27 | 2.2 |
| 1955 | 24.064.763 | 5.425.125 | 22.54 | 5.6 | 18.639.638 | 77.46 | 1.8 |
| 1960 | 27.754.820 | 7.307.619 | 26.33 | 4.9 | 20.447.202 | 73.67 | 2.0 |
| 1965 | 31.391.421 | 9.383.161 | 29.89 | 4.0 | 22.008.260 | 70.11 | 1.7 |
| 1970 | 35.605.176 | 12.760.652 | 35.84 | 4.7 | 22.844.524 | 64.16 | 1.3 |
| 1975 | 40.347.719 | 17.176.103 | 42.57 | 4.2 | 23.171.616 | 57.43 | 1.4 |
| 1980 | 44.736.957 | 20.779.234 | 46.45 | 3.1 | 23.957.723 | 53.55 | 1.3 |
| 1985 | 50.664.458 | 26.865.757 | 53.00 | 6.3 | 23.798.701 | 47.00 | -1.1 |

land which is usually owned by the government.

As Table 4 shows the annual increase of the urban population is 6.0 % while the annual increase of the rural population is -0.1 %.

4.2.2. Households Survey

The distribution of households (house-owners and tenants) according to the income groups are shown in Table 5. As it is seen in the table houseowners are mostly of high income group or low income group, and tenants mostly belong to the low-middle and middle income groups. It is observed that 58.94 % of the households are owners and 35.90 % of them are tenants. Homeownership ratio is higher in rural areas and, on the total, the ratio of tenants increase as the size of the city gets larger.

Table 5: The Distribution of Households (Houseowners and Tenants) According to the Income Groups (Source: DPT, 1986)

| Income | Number of Households | Ratio of Households (%) | House Owners (%) | Tenants (%) | Unknown (%) |
|-------------|----------------------|-------------------------|------------------|-------------|-------------|
| Low | 301.664 | 8.88 | 63.81 | 27.70 | 8.48 |
| Low-Middle | 880.636 | 25.92 | 54.81 | 39.63 | 5.56 |
| Middle | 1.304.737 | 38.41 | 38.73 | 36.50 | 4.77 |
| High-Middle | 807.600 | 21.13 | 62.99 | 32.61 | 4.40 |
| High | 192.257 | 5.66 | 63.74 | 30.58 | 5.68 |
| Total | 3.396.984 | 100.00 | 58.94 | 35.90 | 5.16 |

The distribution of the households according to their income levels and sizes of the dwellings in urban areas in Turkey are shown in Table 6. The majority of the one and two room dwellings belong to the low and low-middle income groups, and the ones having three rooms belong to the middle income group, four and five room dwellings mostly belong to the middle and high-middle income groups. Mainly financial possibilities have determined the distribution of households according to their incomes and sizes of the dwellings.

Table 6: The Distribution of Households According to their Income Levels and Magnitudes of the Dwellings In Urban Areas (Source: Dar Gelirliiler Sempozyumu, 1986, M. Balamir. p.217)

| Income Groups | Number of Households | 1Room | 2Rooms | 3Rooms | 4Rooms | 5Rooms |
|---------------|----------------------|--------|--------|--------|--------|--------|
| Low | 8.88 | 29.64 | 16.49 | 8.09 | 4.77 | 4.69 |
| Low-Middle | 25.92 | 44.67 | 37.23 | 26.88 | 18.97 | 16.22 |
| Middle | 38.41 | 19.62 | 33.38 | 40.33 | 39.73 | 39.56 |
| High-Middle | 21.13 | 5.47 | 11.24 | 20.33 | 28.08 | 26.88 |
| High | 5.66 | 0.60 | 1.66 | 4.12 | 8.45 | 12.65 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

The distribution of the households according to their incomes and sizes are given in Table 7. As can be seen in the table, households which have three members has

the highest number of the total households. This shows that, the need of housing units concentrates on households with three members.

Table 7 also shows that, small households are mostly of low-middle and middle income groups.

Table 7: The Distribution of Households According to Their Income and Their Sizes 1979 (Source: Dar Gelirliler Sempozyumu, 1986, T. Dinç, p.11)

| Income Group | Ratios of the Households (%) | Size of the Households | | | | |
|--------------|------------------------------|------------------------|----------|----------|----------|----------|
| | | 3 person | 4 person | 5 person | 6 person | 7 person |
| Low | 8.88 | 4.26 | 1.65 | 1.59 | 0.78 | 0.60 |
| Low-Middle | 25.92 | 8.55 | 7.04 | 4.88 | 2.97 | 2.49 |
| Middle | 38.41 | 10.42 | 9.96 | 8.18 | 4.88 | 4.97 |
| High-Middle | 21.13 | 5.08 | 5.28 | 4.67 | 2.94 | 3.16 |
| High | 5.66 | 1.30 | 1.37 | 1.84 | 0.98 | 0.86 |
| Total | 100.00 | 29.62 | 25.30 | 20.45 | 12.55 | 12.08 |

4.3. HOUSING DATA

4.3.1. Housing Requirement

As can be seen in the previous explanation of urbanization process in Turkey, the major problem in the housing situation seems in the urban areas, (settlements with more than 10.000 population). Although the rural housing situation is in worse conditions, the dynamic,

spatial and demographic structure of the urban housing problem, puts it forward as the prime concern. "In the year 2000 it is expected that the urban population will be about 70 % of the total population and will be about 45.5 million" (91).

Table 8 shows the annual housing requirements for urban areas, resulting from demographic changes and renovation of unusable dwellings in the fifth five year development plan (1985-1989). According to the estimations, total housing requirement of Turkey will be 1.5 million dwellings in this period and annual requirement will be around 320.000 units.

In 1961, Parker Morris minimal space standards which were not different from the Tudor Walters' 1920 optimal recommendations, accepted 15 sq. meters per person as an average floor space requirement. Later, according to certain reseraches on minimum space standards it was determined that flat area requirement is 14 sq. meters per person (Le Corbusier (1964), (Anon) 1975)). This shows that families, up to four members require small size dwellings (56 sq. meter and less than 56 sq. meter). It is also seen in Table 9 which shows the floor area requirements according to the size of households if we use the above standards. In Table 10 which shows the housing requirement according to the income groups and unit magnitudes, it is seen that the greater need of urban housing units

concentrated on 42. sq. meters dwellings.

Consequently, it is obvious that there is an absolute and urgent need of small size dwellings in Turkey. In spite of these facts, we see that the houses built are quite large. In Ankara, houses of 100-119 sq. meters make up the largest section with over 40 % in the annual increase, then comes the houses of 75-99 sq. meters with 35 %. The necessity of the 99 sq. meter limitation from the view point of physical planning has not been decided by any particular study. It has simply been accepted as a standard for social housing. The annual average floor area for a housing unit has often exceeded 100 sq. meters in Turkey. "Whereas in many more developed countries where the housing problem is not that severe, the average housing floor areas are much less and more housing units may be constructed with the same resources." (92).

Table 8: Housing Requirement in Urban Areas (More than 10.000 People) 1985-1989 (Source: DIE 1985)

| Years | Housing Requir. from Demographic Changes | Housing Requir. from Renovation | Total Housing Requirement |
|-------|--|------------------------------------|------------------------------|
| 1985 | 183.523 | 102.372 | 285.895 |
| 1986 | 191.509 | 102.372 | 293.881 |
| 1987 | 199.645 | 102.372 | 302.017 |
| 1988 | 217.128 | 102.372 | 319.500 |
| 1989 | 226.361 | 102.372 | 328.733 |
| Total | 1.018.226 | 511.860 | 1.530.086 |

Table 9: Housing Requirement According to the Size of Households (Source: Dar Gelirlilere Konut Sempozyumu 1986, T. Dinç, p.11)

| Size of the Households | Required space (m2) |
|---------------------------|------------------------|
| 3 | 42 |
| 4 | 56 |
| 5 | 70 |
| 6 | 84 |
| 7 | 98 |

Table 10: Housing Requirement According to the Income Groups and Unit Magnitudes in Urban Areas, 1985
 (Source: Dar Gelirilire Konut Sempozyumu, 1986, T. Dinç, p. 11)

| Income Groups | Housing Requirements | Sizes of the Dwellings | | | | |
|---------------|----------------------|------------------------|------------------|------------------|------------------|------------------|
| | | 42m ² | 56m ² | 70m ² | 84m ² | 98m ² |
| Low | 25.159 | 12.179 | 4.717 | 4.546 | 2.230 | 1.715 |
| Low-Middle | 74.104 | 24.444 | 20.127 | 13.952 | 8.491 | 7.119 |
| Middle | 109.812 | 29.790 | 28.475 | 23.386 | 13.952 | 14.209 |
| High-middle | 60.410 | 14.523 | 15.095 | 13.351 | 8.405 | 9.034 |
| High | 16.182 | 3.717 | 3.917 | 3.259 | 2.802 | 2.459 |
| Total | 285.895 | 84.653 | 72.331 | 58.494 | 35.880 | 34.536 |

4.3.2. Housing Stock

Housing Stock of Turkey in 1984 is shown in Table 11. In the table, it can be seen that number of houses at provinces are more than cities, (urban areas), sub-districts and villages.

Table 11: Housing Stock 1984 (Source: DIE 1984 Binalar sayımı 1986, Ankara)

| | Number of Houses | Ratios (%) |
|--------------------------|------------------|------------|
| Total | 7.096.277 | 100.0 |
| City | 2.234.130 | 31.5 |
| Province | 3.938.844 | 55.5 |
| Sub-district and village | 923.303 | 13.0 |

It is necessary to take into account the population changes of the cities while determining the amount of housing need. Today large cities like Ankara, Istanbul and Izmir, confront perhaps the most serious housing shortage.

4.3.3. Housing Production. Construction Materials and General Indices

Between 1976 and 1986, 2.391.325 houses were produced in Turkey. Distribution of this production according to years is given in Figure 7. As it is seen in the figure, the number of housing units produced in 1986 has reached 335.490. This shows the great increase in the housing production in recent years.

HOUSING PRODUCTION BETWEEN 1976 - 1986

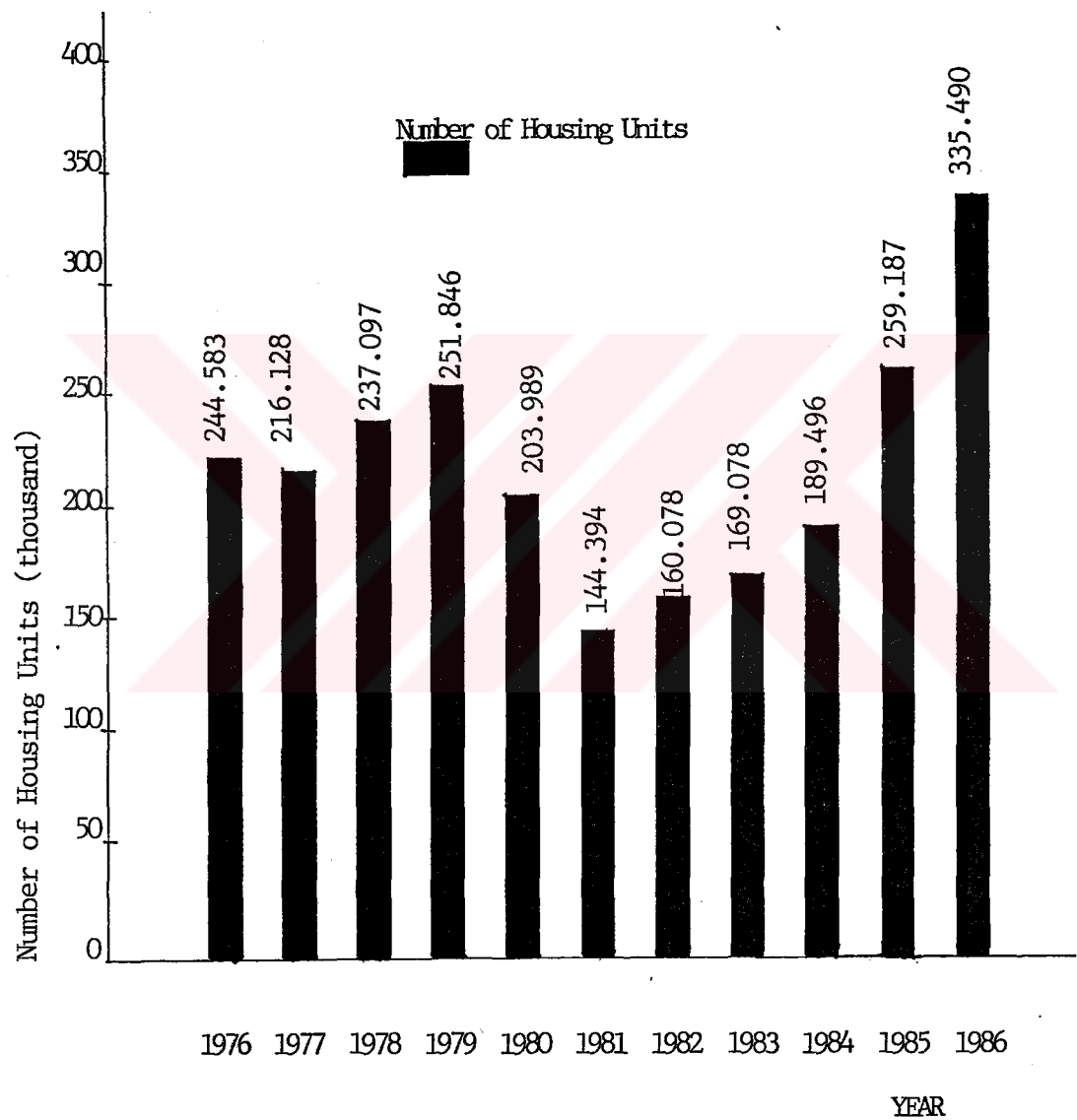


Figure 7: Housing Production Between 1976-1986 (Source: DPT and Kent-KOOP/ADS)

Housing production needs basic capital finance and material. "But in general as in many developing countries, the economy is not adequate to meet the actual needs of housing production" (93). The conception of housing production, reflects the idea of focusing the attentions on all processes relevant to planning, realization and operation of built environments constituted by housing units. In order to find a satisfactory solution to the problem of satisfying a vast housing need in a short time, with limited resources and also by improving quality, it is necessary to reduce the housing production costs. The changes in the rate of housing cost per sq. meter is mainly affected by the construction material indices.

Construction material index and general index are shown in Figure 8, where as in Figure 9 the income, construction materials and rent relation can be seen. Both of the figures show the increase in the construction material index in the recent years. But the increase of average family income can not cope with the increasing housing costs or rents at the same time. "Consequently, this necessitates to reduce the housing production costs to levels that would make their offering possible at the prices determined with respect to family incomes and available subsidies, without lowering the minimum standards" (94).

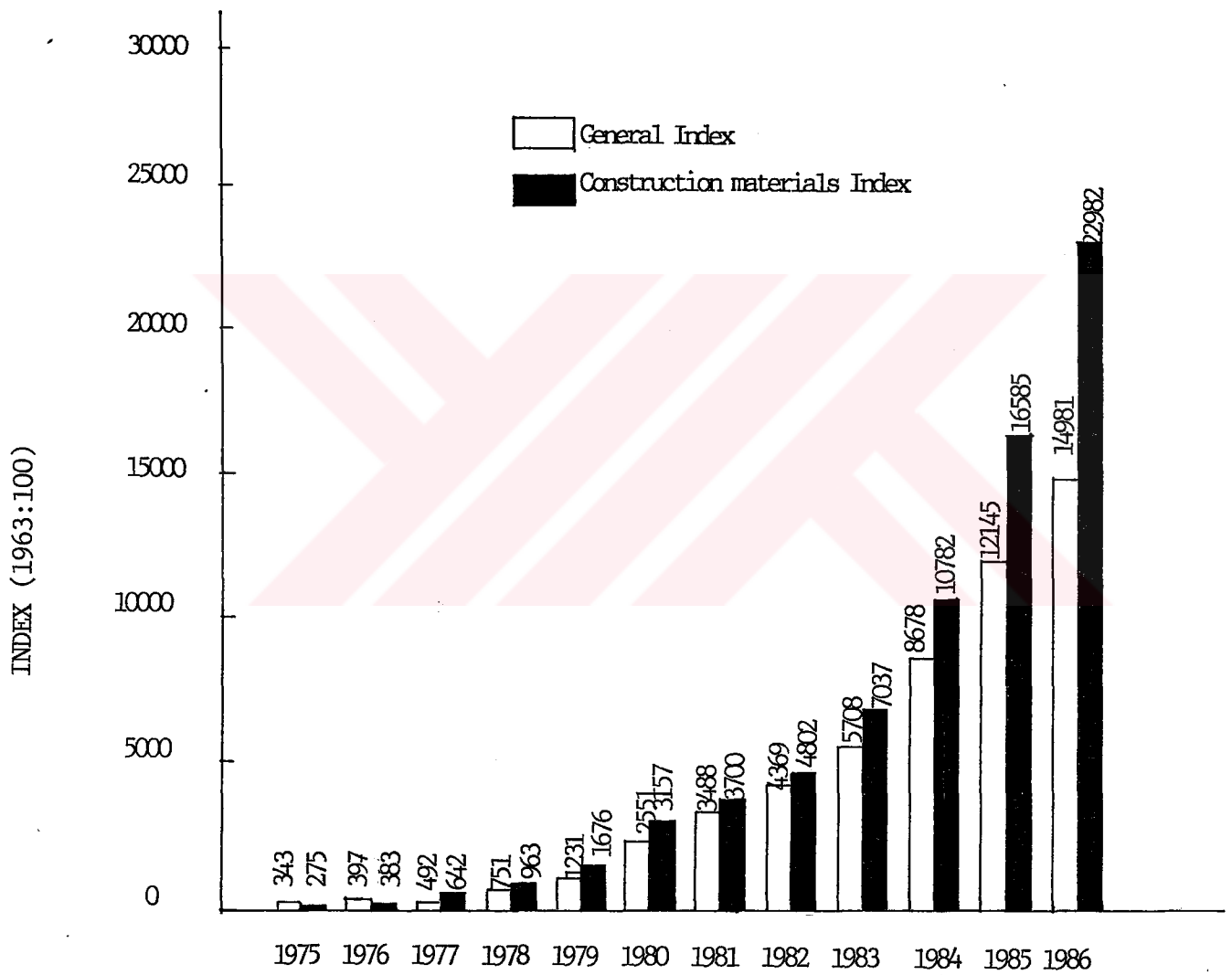


Figure 8: Construction Materials and General Indices
(Source: DIE and KENT-KOOP/ADS)

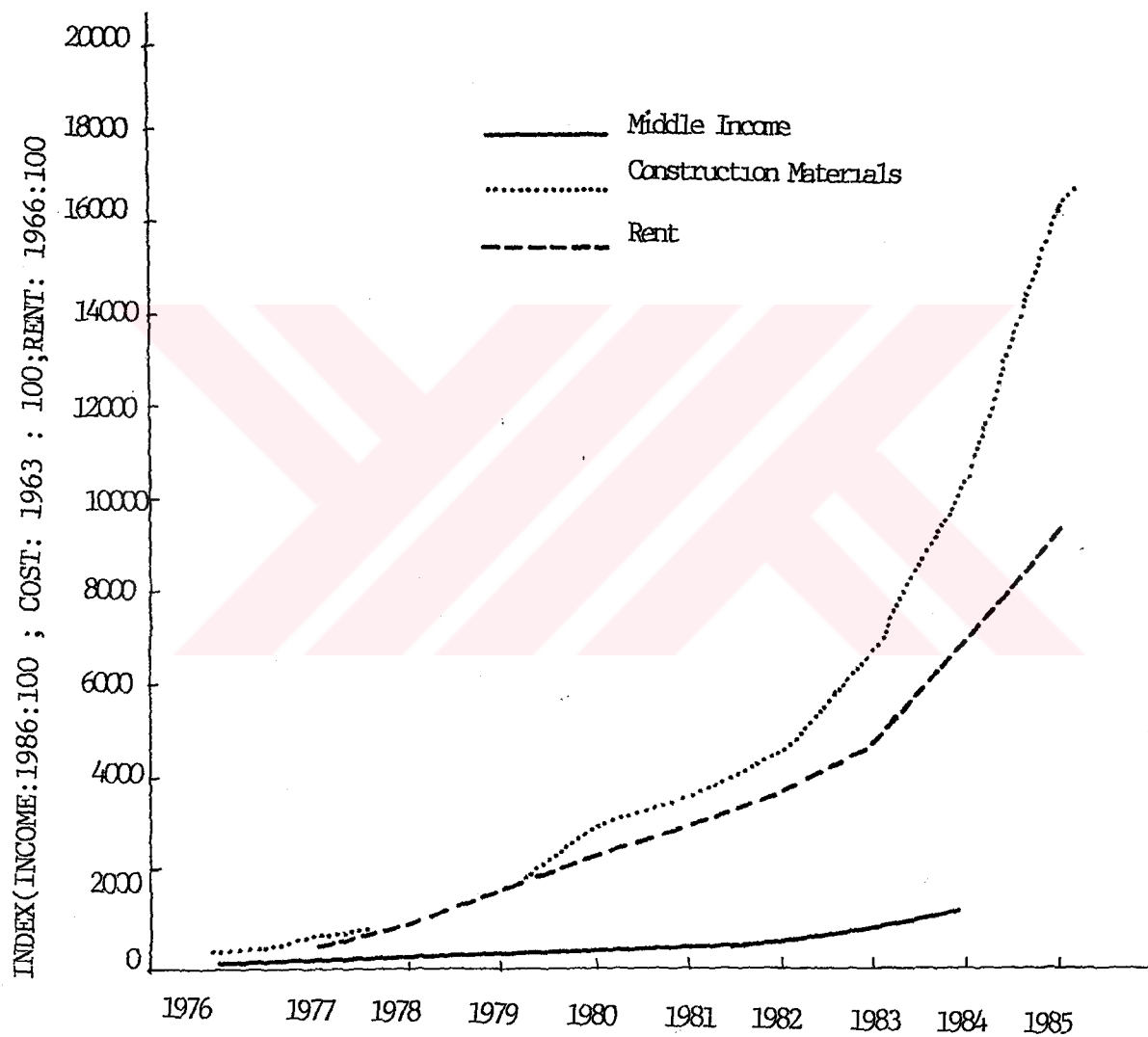


Figure 9: Income-Construction Materials and Rent Relations
(Source: DIE and KENT-KOOP/ADS)

4.4. HOUSING POLICY, FINANCIAL OPPORTUNITIES AND RESTRICTIONS

After 1950, Turkey entered a dynamic development process. The social economical, spatial and demographical structures began to change in a rapid way. The population growth and rapid urbanization process caused an urban housing shortage. The realization and development of the informal sector with squatter housing and to find solutions for preventing this development became the major concern.

The establishment of the Bank of Real Estate and Credit (today, the Real Estate Bank) in 1946, and the Social Security Organization in 1945, have been quite effective in housing construction, by their credit programmes. The Bank has taken part in the production of 350.000 housing units and the Social Security Organization 170.000 units since their establishment dates until now. "The Ministry of Reconstruction and Resettlement established in 1958 after the recognition of the increasing urban problems" (95). The Ministry of Reconstruction and Resettlement has been building low-cost housing units through its local-regional offices with the cooperation of the municipalities. "The Ministry and municipalities also implement sites and services, core-house projects in order to prevent squatter housing spread" (96).

The problem of housing development, considered as a constitutional responsibility of the state, and was taken up on a priority basis in the government programme. "In order to secure a long term solution to this problem, a non-budgetary and a stable fund was created to under take the financing of the housing projects" (97). That was the Prime Ministry Housing Development and Public Participation Administration (Başbakanlık Toplu Konut ve Kamu Ortaklığı İdaresi).

"The Institutions main features of the housing policy can be described as follows"(98);

- Providing for the housing needs primarily and particularly of the low-income and medium income groups,
- Expansion of recovery areas in slum areas, speeding up to work in other existing slum sites, paving the way for a faster solution of the title deed and acquisition process and drafting legislations for this purpose,
- Taking into account the reality that housing construction specifically involves the solution of financing needs, an effort to further entrench and complement the existing public resources, on the other hand, and creating new sources and mobilizing all means for that objective, on the other,

- To facilitate the citizens' house purchase prospects by increasing the number of houses available and simplifying the construction procedures and to reduce the costs, to extend cheaper land for mass housing projects, to arrange for new settlement sites, and to review and to arrange for a re-definition and re-classification of all construction and building standards,
- To take new measures and devise a new role for the state in infrastructure services,
- Giving priority to, encouragement and support of an industrial construction for bringing about a development in technology suitable for mass housing development and the conditions and the raw materials existing in our country,
- A revision of city plans to conform with this purpose, and allowing for a self developing urbanization process in sites designated for development,
- Taking measures for our migrant workers employed abroad to buy with confidence and ease, houses in their homeland,
- Taking measures to introduce a required order and discipline to the housing sector and a state supervision and to arrange for the creation of

such an organization.

- Directing and development of the necessary housing, materials and order standards.

The financing possibilities of house production depends on the personal savings. To be a houseowner, user is in need of credit supports or savings. In our country there had been 3 major credit resources for housing;

- Banks
- Social Security Agencies
- The Prime Ministry of Republic of Turkey, Housing Development Fund and Public Participation Administration.

Real Estate Credit Bank (Tekbank) has financed 5.5 % of annual housing in Turkey, (between 1980-1988, 50.000 houses produced by Tekbank, 500.000 houses had been given credits). The repayment term is 15 years and the interest rate which differs between 12 % and 26 % is quite low compared with the general interest rates.

The credits given by the Social Security Agencies have been increased upto 90 % of the total cost of a housing unit, in 1960 s. But later, it is decreased to 15-20 % of the cost of a housing unit.

Since 1981 a new credit system was accepted by the government. A separate governmental institution, the Prime Ministry Housing Development and Public Participation Administration was established, for the purpose of

realizing the new credit system, with the "Housing Development Law" No. 2985 on March 17, 1984. According to this system, the dwellings which are less than 150 sq. meters gross area can make use of the credits given by the government. The credit limits and the interest rates are shown in Table 12. The ratio of the credits to the total cost of a housing unit is given in the same table. As it is seen in the table the ratio of credits to the total costs of housing units is very low.

Table 12: Credits Given by the Prime Ministry Housing Development Fund and Public Participation Administration, January, 1989. (Source: Yeniden Yapılanma, Vol.5, p.10)

| Dwelling size (Gross sq. m.) | Credit Limit (TL) | Interest Rate (%) | Repayment period (year) | Credits Ratio (%) |
|---------------------------------|----------------------|-------------------------|-------------------------------|-------------------------|
| Smaller Than 60 sq. m. | 4.500.000 | 15 | 15 | 47 |
| 61-80 sq. m. | 4.500.000 | 17 | 15 | 35 |
| 81-100 sq. m. | 4.500.000 | 20 | 15 | 28 |
| 101-150 sq. m. | 4.500.000 | 25 | 15 | 19 |

As it is seen, the amount of credit given by the institution to small size houses has reached 4.5 million, which constitutes 47 % of the total cost of the housing unit within 1988 prices. However, with support credits, the

total credits given to small size houses reaches 7.5 million. Also with the purpose of facilitating the home purchase capabilities of workers and civil servants, an interest-free credit line of 1 million TL. was introduced. In 1986, an interest free loan was extended to a total of 26.035 applicants, including 18.900 civil servants, 4.971 insured workers, and 2.164 employees of state agencies and companies who were deemed as eligible to benefit from this facility. In Table 13 the distribution of the total credits given by the institutions are shown.

Table 13: The Distribution of the Credits for Mass Housing
(Source: Kent-Koop)

| Name of the Institution | Approximate Number of Houses Given Credits | Year of Credits | Average Number of Houses Given Credits for one Year |
|-------------------------|--|-----------------|---|
| Toplu Konut Idaresi | 346.033 | 1984-1989 | 173.016 |
| SSK | 225.300 | 1961-1984 | 9.795 |
| Tekbank | 24.000 | 1947-1985 | 632 |
| Tekbank | 395.204 | 1947-1985 | 10.400 |
| Oyak | 40.192 | 1963-1985 | 1.827 |
| Bağ-Kur | 9.000 | 1975-1982 | 1.286 |
| Total | 1.039.729 | | 196.956 |

At the present, the Fund is preparing new regulations for housing credits. "The following objectives

will be emphasized" (99).

1. Infrastructural development and environmental design will be emphasized and encouraged.
2. Preparations will be made to develop new financial systems which will encourage public savings to be directed towards housing projects.
3. Low and fixed income groups will be assisted in building their own homes as construction costs rise. Small size houses will be encouraged.

Besides the financial opportunities of the government, increase in the cost of construction bring the solution of decreasing unit area. Nearly all housing credits given by the institutions were arranged in order to discourage large dwellings.

It will be possible to build functional small spaces by eliminating the unnecessary areas and by minimizing the loss of space, because of the continuous increase in the cost of construction per square meter.

4.5. EXAMPLES OF SMALL SIZE DWELLINGS IN TURKEY

With the aim of searching for the housing conditions of the small size dwellings in the housing environment in Turkey, design examples of small size houses and housing environments were examined. It has been tried to find answers to certain questions while studying these examples such as;

1. The demand for small size dwellings and its reasons.

2. The type of family needing small size housing.
3. Construction rate of the small size dwellings.
4. The cost of construction.
5. The time when the construction is completed.
6. The construction techniques.
7. Plan types and the housing environment.

Although the Ministry of Reconstruction and Resettlement (Bayındırlık ve İskan Bakanlığı) and the Prime Ministry Housing Development and Public Participation Administration have accepted 60 sq.meters as a maximum limit of small size dwellings, in this research, dwellings upto 75 sq. meters were examined.

The last three examples of the govermental housing efforts Ataköy/Istanbul Deniz Bostanlığı/Izmir, and Yeni Batı/Ankara were examined here.

4.5.1. Ataköy Realization in Istanbul

Ataköy is the biggest and modern suburb of such a site situated on Marmara Sea shore and 20 km from city center. Design, engineering and construction was undertaken by TIMLO, Inc. a subsidiary of TEB and some private contractors. The land was 3.769.483 m². The dwelling units constructed at five districts were 7.126 at the end of 1984. There will be 6.150 dwellings at districts 9-10. The construction process of 3.511 dwellings are still continuing.

The total number of dwelling units constructed by

MESA (Mesken Sanayi A.Ş. / Housing Industries Inc.) in Ataköy settlement are 500. One hundred of them are small size dwellings. So the ratio of small size dwellings to the total dwelling units in Ataköy in 1987 is 1/5. Table 14 shows the number of dwellings constructed between 1962-1984 in Ataköy, Istanbul.

The small size dwellings in Ataköy which are constructed by MESA A.Ş. have various occupants who are mostly single people, students living apart from their families, business-men and business-women, new married couples and retired workers. According to the households survey, made by C. Hasan Dörter, Türkan Turuthan and Alper Ünü, in Ataköy 35 sq. meters dwelling units, in 1988, it is found that the average household size is 1.75. In the same survey it is found that 63.25 % of the households are between 19-40 years old and this shows that the majority of the households are adults. Single people constitute 46.4 % of the surveyed 28 families (n=13) and two person households are 14.3 % (n=4). 61 % of the households are tenants and 39 % are homeowners. This shows that the majority of the small families are tenants (Dörter C., Turuthan T., Ünü A., "Küçük Konutta Yaşam", İTÜ Mim. Fak. 1988).

Tunnel mould which is an industrial construction technique is used through the project. In this system the basic element is the half-tunnel form, comprising a

combined vertical and a horizontal panel. "Two half tunnel elements locked together to form single unit walls, and slabs are poured in the same operation, the result is a stable monolithic structure" (100). The construction cost of each small size unit was about 4-5 million TL and they were sold 10 million TL in 1986. In 1989 they are sold approximately 60-70 million TL.

Table 14: Number of Dwelling Units Constructed in Ataköy, Istanbul (Source: Emlak Bankası, 1986)

| | Years | Number of Dwellings |
|--------------|-------|---------------------|
| District I | 1962 | 662 |
| District II | 1964 | 852 |
| District III | 1966 | 738 |
| District IV | 1969 | 120 |
| | 1970 | 500 |
| | 1972 | 1.261 |
| District V | 1984 | 2.993 |
| Total | -- | 7.126 |

4.5.2. Deniz Bostanlığı Realization in Izmir

Deniz Bostanlığı situated near Karsiyaka, Izmir on a land of 248 hectares. The construction studies has started in 1972 and 150 dwellings were constructed in the same year. Table 15 shows the number of dwellings constructed between 1972 and 1984. The construction process of the

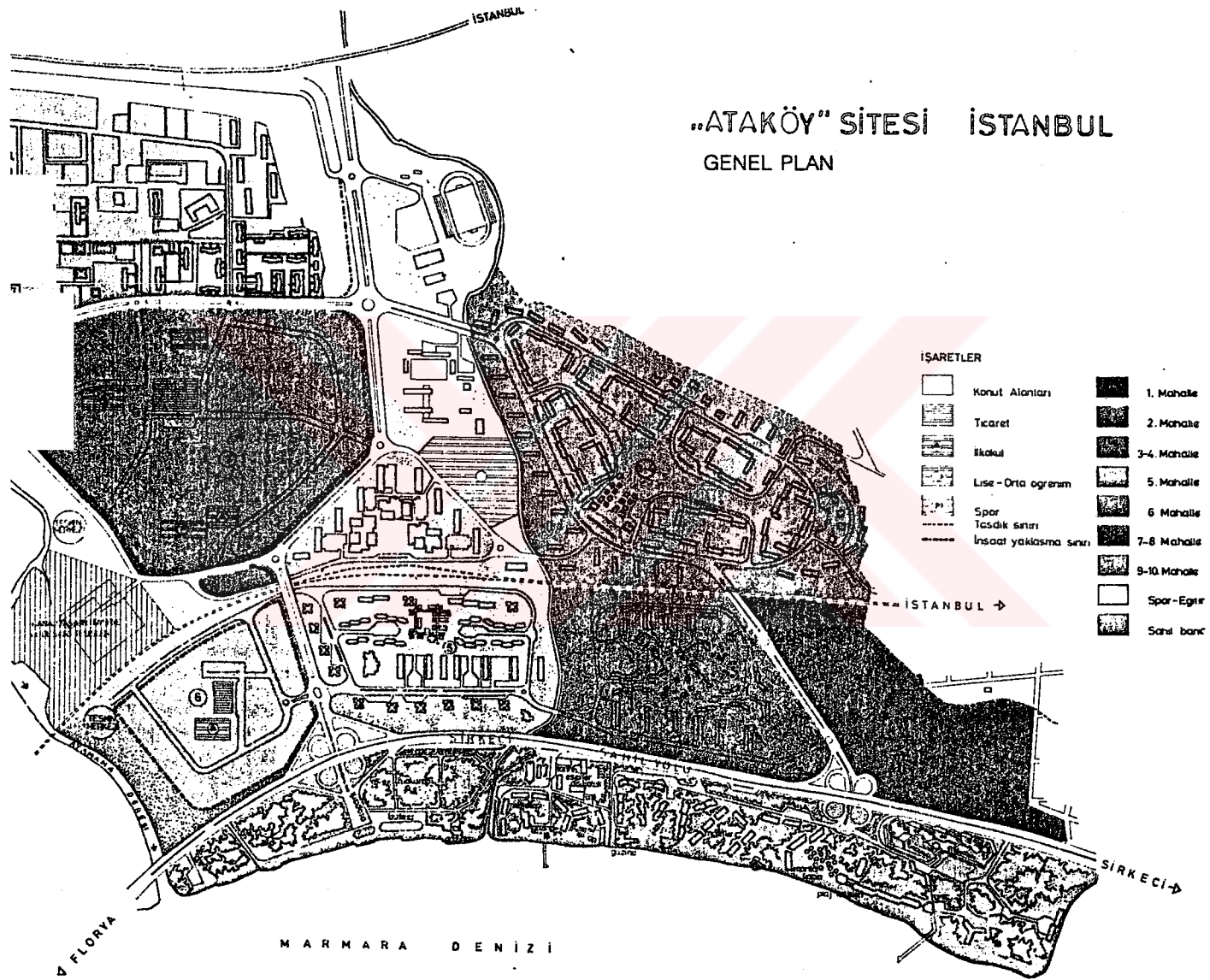


Figure 10: Site Plan of Ataköy Settlement in İstanbul
(Source: Turkish Real Estate and Credit Bank)

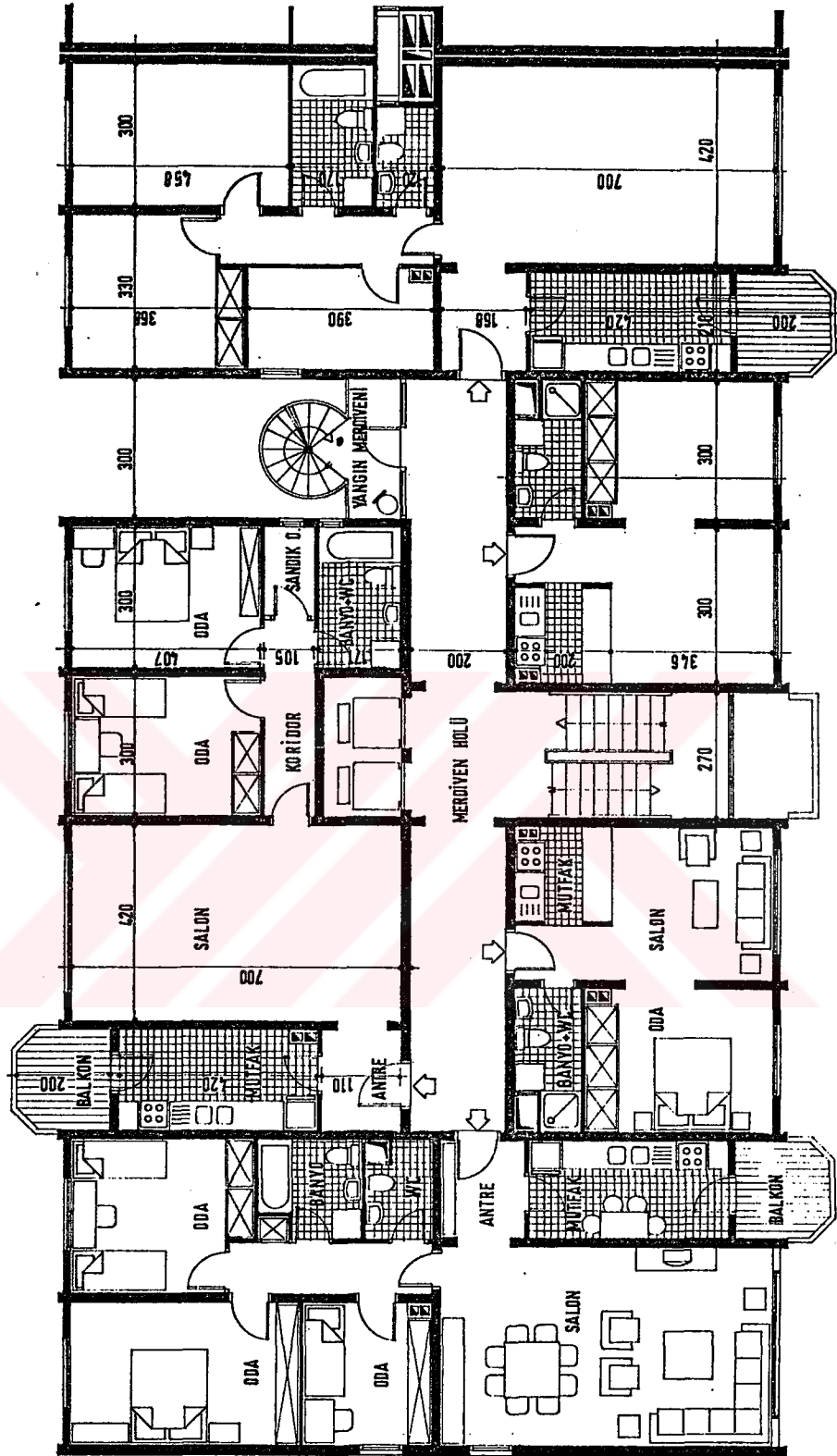


Figure 11: Typical Floor Plan of the Dwellings of Ataköy
Istanbul (Scale 1/200)

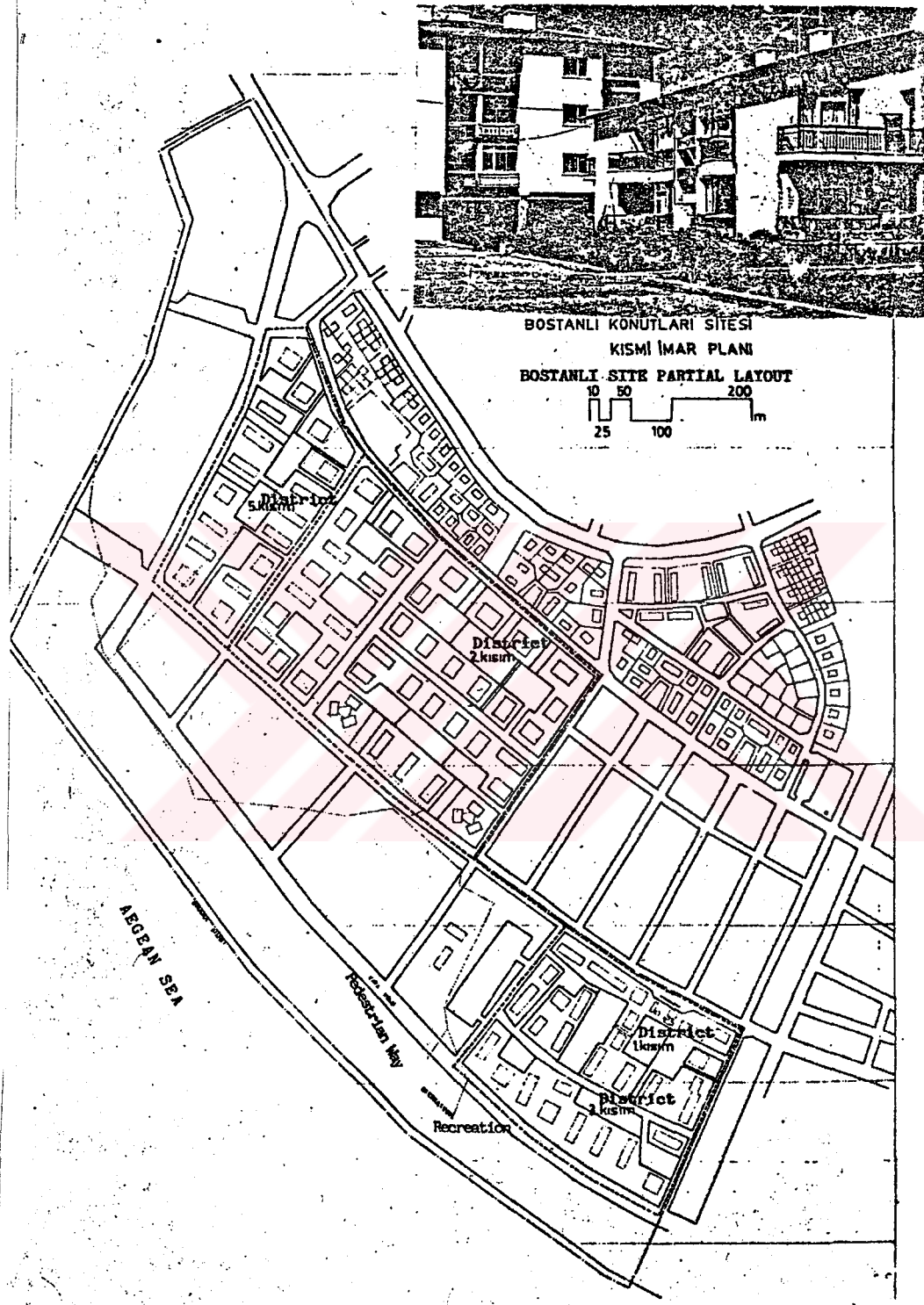


Figure 12 : Site Plan of Deniz Bostanlığı in Izmir

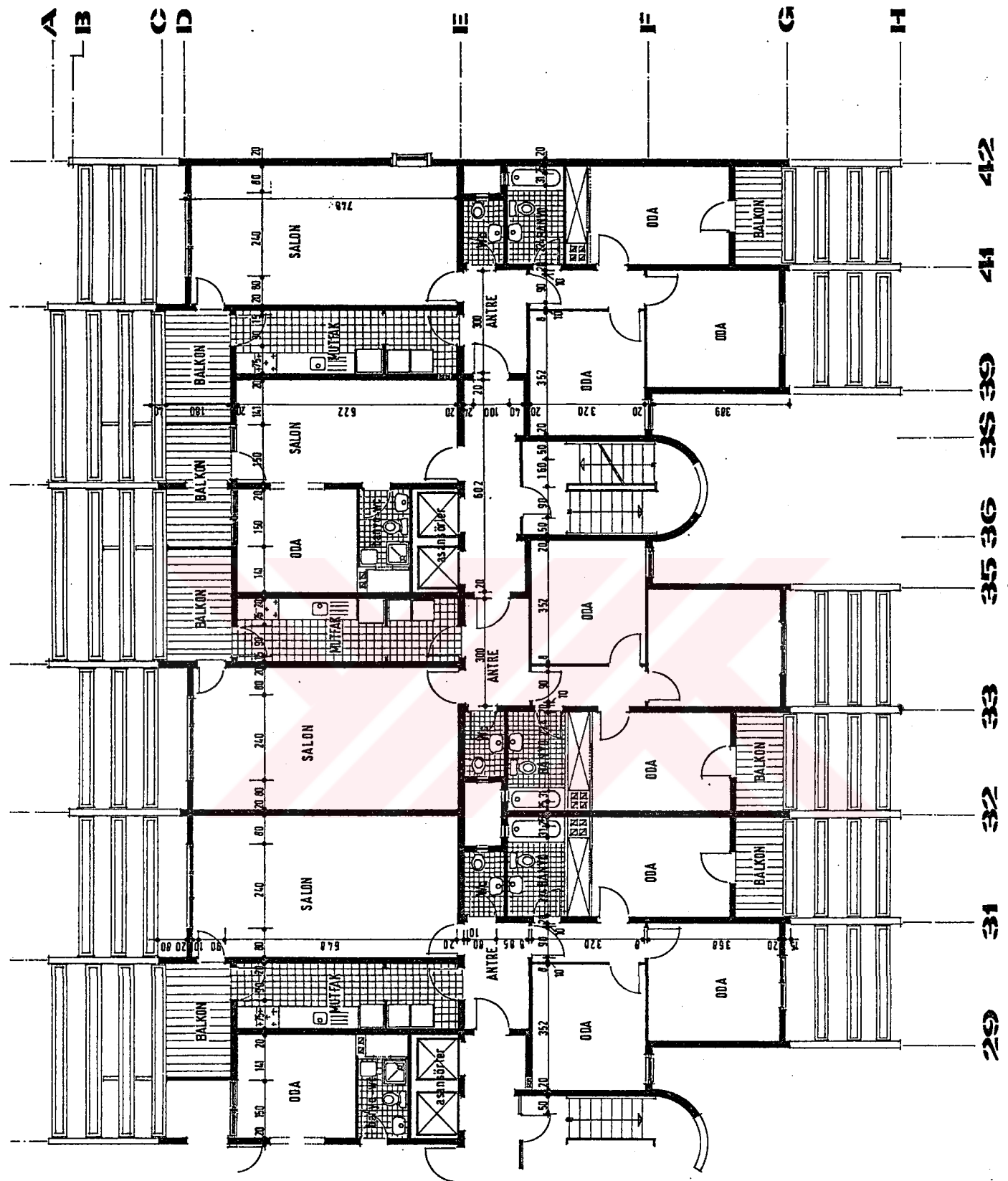


Figure 13: Typical Floor Plan of the Dwellings in Deniz Bostanlığı, Izmir (Scale 1/200)

small size dwellings of Mesa in Denizbostanlısı, Izmir has started in 1986, and completed in 1988. The number of dwellings constructed in the settlement by MESA is 1071. The number of small size dwellings is 553, so the ratio of small size dwellings to the whole is 1/2. The occupants of small size dwellings are generally elderly couples, business-men, business-women, single-people and other small households. Some companies use small size units as a guest-house in the settlement.

The construction technique was tunnel moulds.

Table 15: Number of Dwelling Units Constructed in Deniz Bostanlısı, Izmir. (Source: Emlak Bankası, 1986)

| | Years | Number of Dwellings |
|--------------|-------|---------------------|
| District I | 1972 | 150 |
| District II | 1977 | 285 |
| | 1978 | 228 |
| District III | 1979 | 230 |
| District IV | 1980 | 336 |
| | 1982 | 200 |
| | 1984 | 70 |

4.5.3. Yeni Batı Proposal in Ankara

Since Yeni Batı Cooperative has been cancelled in 1987 the project will not be constructed. However, it may

be useful to review the aim and decisions of the cooperative in designing small size dwelling units as a project.

The aim was mainly to take use of the credit advantages of the government which support small size dwellings besides the other types of dwellings.

As it can be seen in Figure 14 the location of the settlement would be on the western corridor, in the north of Ankara-Istanbul highway. There would be 1504 dwelling units to be constructed and the accepted population would be 7.500. So the density was accepted to be 230 inhabitants per hectar. They were planning to build 288 dwellings in the first two years (1988-1989). There were three types of small size dwellings. There would be 18 (D1 type) 60.26 sq. meters, 32 (D2 type) 63.2 sq. meters, and 16 (E1 type) 52.13 sq. meters units. They can be seen in Figure 15.

So, the ratio of small size dwellings to the whole was 1/22.8. In the construction process tunnel moulds were planned to be used.

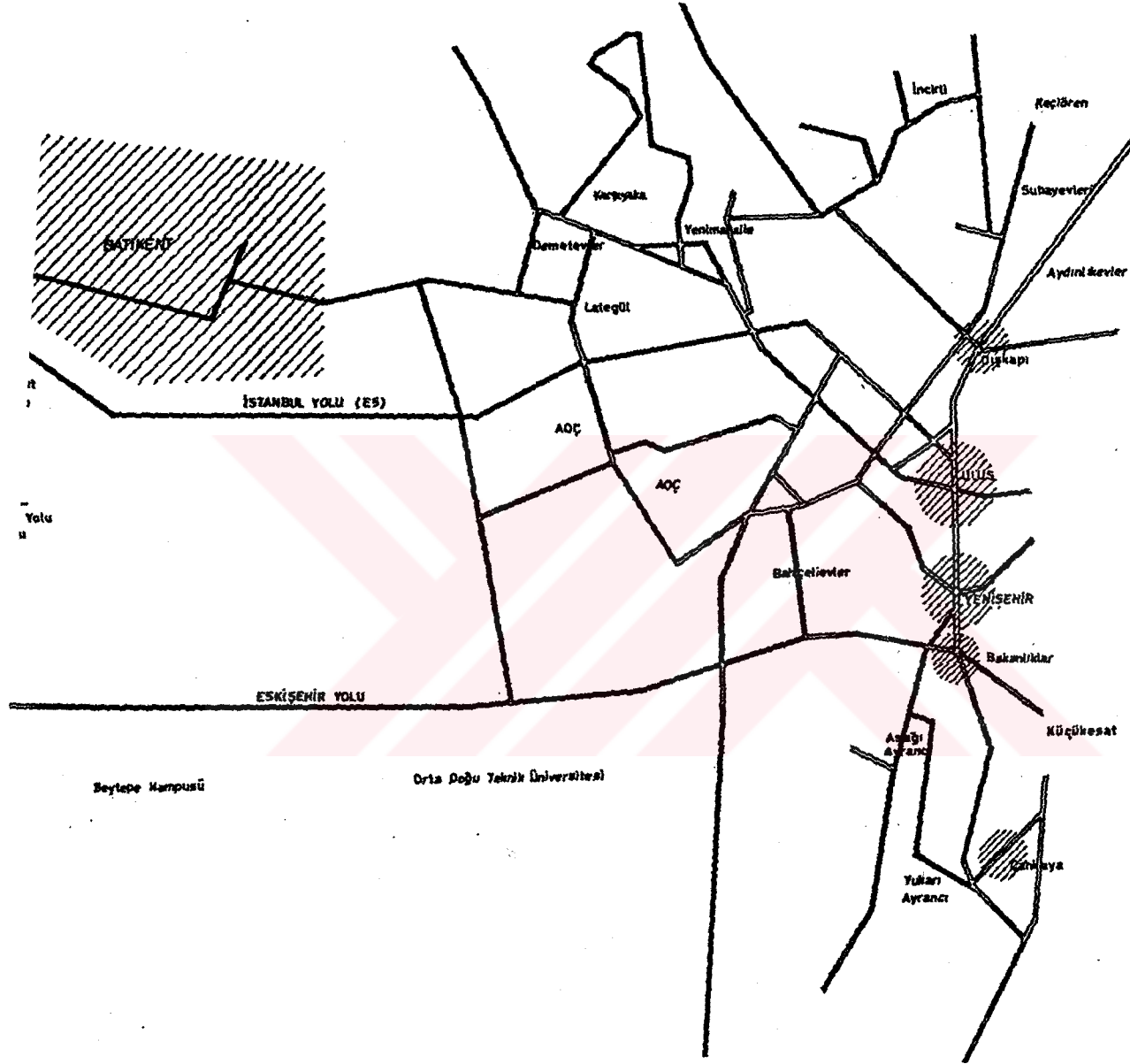
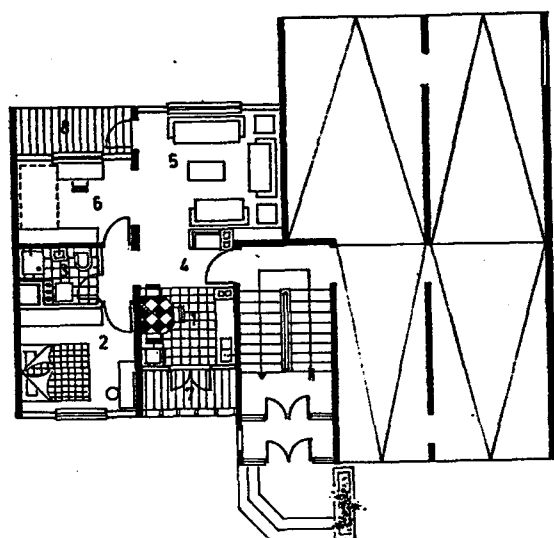
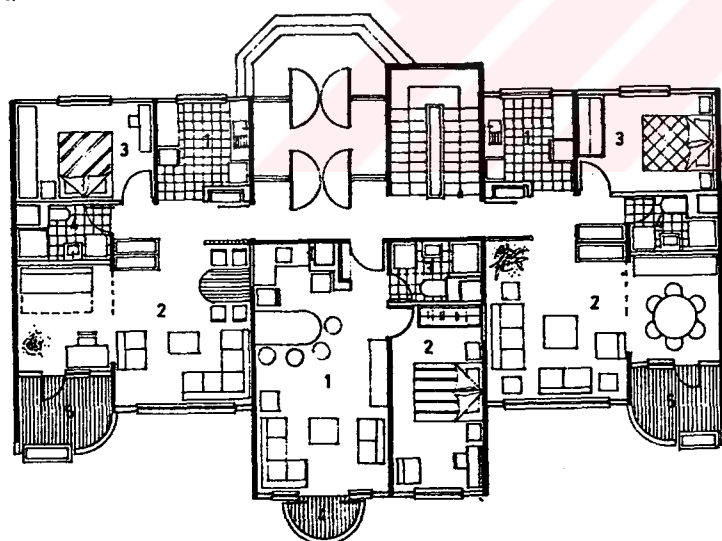


Figure 14: General Layout of Yeni Batı Settlement in Ankara (Source: KENT-KOOP, 1986)



| D1 TYPE (18 units) | | USABLE FLOOR AREA (m ²) |
|-----------------------|---|---|
| KITCHEN | 1 | 5.72 |
| BEDROOM | 2 | 10.2 |
| BATHROOM | 3 | 3.91 |
| ENTRANCE | 4 | 3.25 |
| LIVING ROOM | 5 | 20.5 |
| STUDY ROOM | 6 | 7.02 |
| BALCONY | 7 | 4.76 |
| SERVICE B. | 8 | 3.64 |
| NET FLOOR AREA | | 59.00 |
| GROSS FLOOR AREA | | 60.26 |



| D2 TYPE (32 units) | | USABLE FLOOR AREA (m ²) |
|-----------------------|---|---|
| KITCHEN | 1 | 7 |
| LIVING ROOM | 2 | 29 |
| BEDROOM | 3 | 11.2 |
| BATHROOM | 4 | 3.67 |
| BALCONY | 5 | 5.33 |
| NET FLOOR AREA | | 56.2 |
| GROSS FLOOR AREA | | 53.2 |

| E1 TYPE (16 units) | | USABLE FLOOR AREA (m ²) |
|-----------------------|---|---|
| L.R. & KITCH. | 1 | 28.8 |
| BEDROOM | 2 | 14.56 |
| BATHROOM | 3 | 3.67 |
| BALCONY | 4 | 1.8 |
| NET FLOOR AREA | | 48.84 |
| GROSS FLOOR AREA | | 52.13 |

Figure 15: Plan Types of Small Size Dwellings in Yeni Batı

(Source: Kent-Koop, 1986).

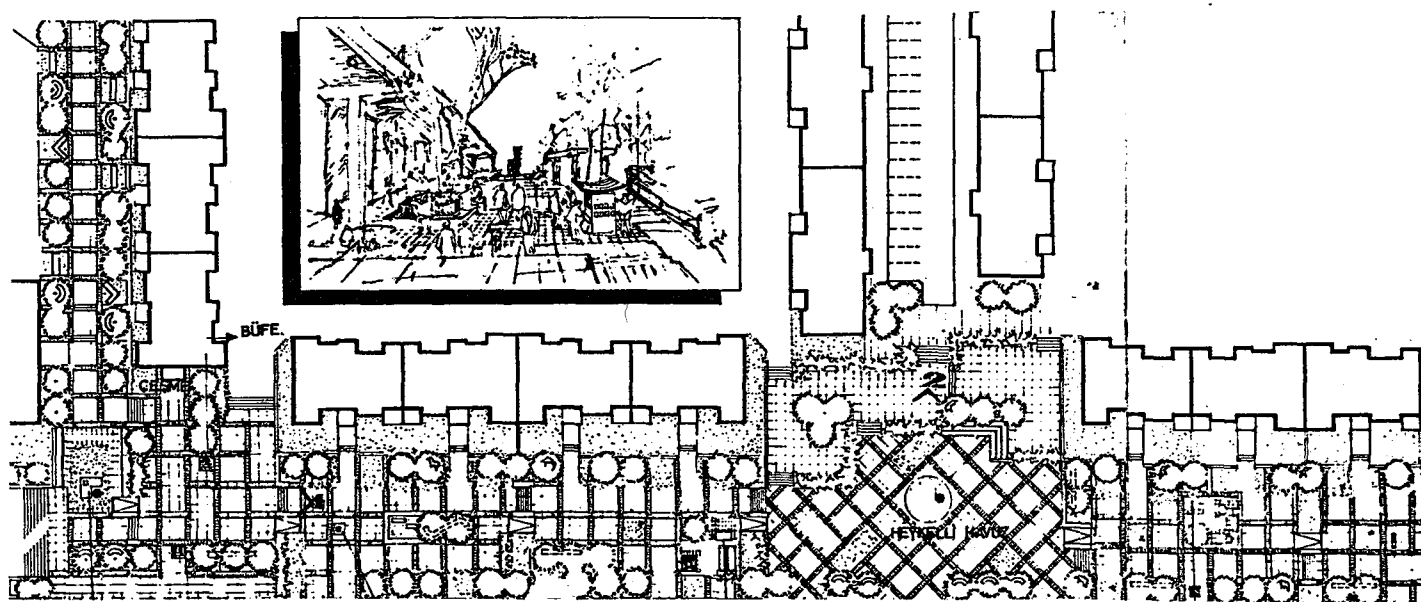


Figure 16: Site Plan, Yeni Batı (Source: KENT-KOOP 1986)

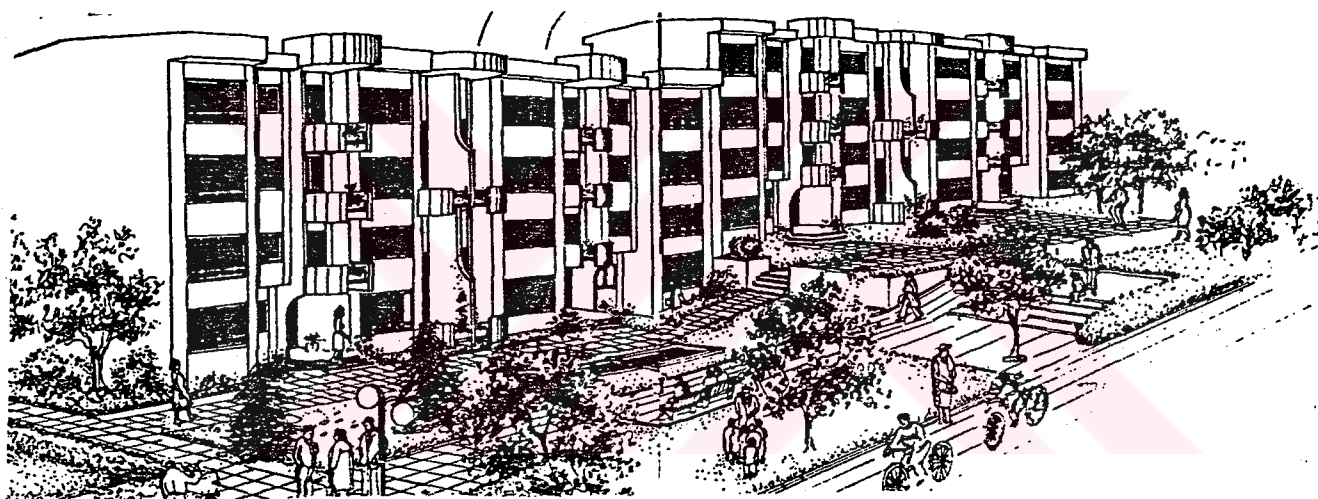


Figure 17: A Perspective from the Housing Environment, Yeni Batı (Source: Kent-Koop 1986).

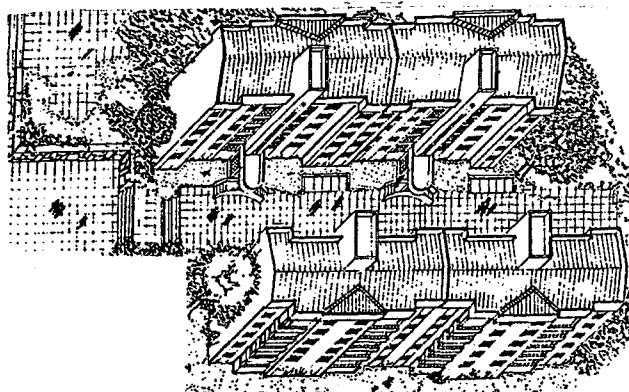


Figure 18: An Axonometric View from the Housing Environment, Yeni Batı. (Source: KENT-KOOP, 1986)

CHAPTER 5

ESTABLISHING USER REQUIREMENTS AND DEMAND FOR SMALL SIZE HOUSES

In the previous sections the housing need of special groups of the population and their growth in demographic terms has been examined. The housing conditions in Turkey and the increase in the cost of construction with the consequent decrease in the purchasing power has been explained with numerical values. For housing the special groups of the population who require small size dwellings rather than conventional family dwellings, it is necessary to produce considerable number of small size dwellings, with different alternatives. Also small size dwellings should have the quality in answering the needs of users in an optimum way. In this section user needs related to the inner house activities will be investigated.

5.1. ANALYSIS OF BEHAVIORAL ASPECTS IN DWELLINGS

It is recognized that any serious attempt to make the environment work or any design process must begin with a statement of user needs. There are different names for that; performance specifications, design goals, requirements, activities or simply "needs".

In a given opportunity people will try to satisfy their needs. So, every need, in this manner is an active force which we call as tendency. The idea of tendency is active. A tendency therefore is an operational version of a need and can be tested.

Since man is an adapting organism he is capable of meeting his needs, in the environment which he lives. So tendencies become activities in his specific environment. "The home and its physical environment is the single context in which the largest range of human needs are met and the largest part of human life is lived" (101). As Alexander C. says in relation to this, "Dwelling unit takes the form belonging to the family living in it" (102).

Internal activities of the unit can be examined as individual activities and common activities which are needed for the interaction of the family members. "If we examine the living activities from specific to general and from zone to zone, the activities are ranged as; special, semi-special, functional, semi-open to public and open to public activities" (103).

This classification gives the functional schema of individual or collective actions of members in a unit which can be separated into zones. So many activities can overlap from zone to zone depending on personal preference, the number of people in the family, and their income levels.

T. C.
Yükseköğretim Kurulu
Dokümantasyon Merkezi

Table 16: The Classification of Living Activities (Source: Cavdar, T. , " The Determination of Housing Standards in City", ITU Arch-Dept., First Housing Panel 1981)

| ZONE | PERSONS | | | | | | | ACTIONS | ACTIVITIES NECESSARY FOR ACTION |
|--------------------------|---------------|--------|--------|---------------|---------------|----------------|---------|------------------------------|---|
| | TO BE SEEN BY | TO SEE | TO SEE | TO BE SEEN BY | TO BE SEEN BY | TO BE HEARD BY | TO HEAR | | |
| A SPECIAL ZONE | | | | | | | | A1 TO DO NOTHING | Resting or going round in unit. |
| | | | | | | | | A2 TO EXAMINE | Doing homework, writing, collecting something |
| | | | | | | | | A3 TO LAY DOWN RESTING | By reading listening to the radio during illness. |
| B SEMI-SPECIAL ZONE | | | | | | | | B1 TO HAVE A BATH | Having a shower bath, washing completely, resting in basin, Having sun-bathe. |
| | | | | | | | | B2 TO GO TO WC | |
| | | | | | | | | B3 DRESSING | Undressing, dressing, arranging the dresses, polishing shoes |
| | | | | | | | | B4 PERSONAL CLEANING | Attention, having meal, combing hair, brushing teeth, making up, shaving. |
| C FUNCTIONAL ZONE | | | | | | | | C1 HOUSEWORKS | Cleaning the floors, glasses, sweeping, dusting, repairing anything, putting away clothes and taking them out by seasons, treatment of all tool and instruments. |
| | | | | | | | | C2 WASHING | Collecting dirty things, washing drying ironing and arranging the same |
| | | | | | | | | C3 CRAATIVE ACTIONS | Sewing, playing an instrument, drawing, trying garden all kinds of hobbies. |
| | | | | | | | | C4 CHILD NURSING | Eating, cleaning, bathing, dressing, sleeping |
| | | | | | | | | C5 COOKING | Buying, arranging, storing, cooking, setting the table, washing dishes, other cleaping activities, pickling fruits or vegetables, making jam... and season preparations.... |
| | | | | | | | | C6 HAVING MEAL | Having breakfast, dinner and lunch, tea break milk-time for children. |
| | | | | | | | | C7 ADMINISTRATIVE ACTIONS | Arranging budget and accounting. |
| D SEMI OPEN TO PUBLIC | | | | | | | | D1 CHILDREN EDUCATION | Showing the way, giving advace, arranging plays, studing, playing, helping the children's home-work. |
| | | | | | | | | D2 RESTING | Chees, playing cards reading telling stories. |
| | | | | | | | | D3 GAME | Dancing, sporting, activities. |
| | | | | | | | | D4 DRINKING | Beverage containing alcohol or not, smoking cigarette, pipe nargile (hookah) |
| E OPEN TO PUBLIC | | | | | | | | E1 ENTRANCE/EXIT | Taking on or off coat or storing these things. |
| | | | | | | | | | MOST SOCIALITY |

5.2. AIMS AND METHOD OF OBSERVING USER REQUIREMENTS OF THE FAMILIES NEEDING SMALL SIZE HOUSES

The aim of this study is to find out the minimum desirable house-flat size having both optimum dimensions and standards to meet the requirements of special groups of the population who do not fit to the average family pattern.

In order to establish the requirements of the family type to live in such dwellings, an environmental behaviour research has been carried out concerning two particular groups of population namely; recently married couples, and families of retired workers.

Environmental behaviour research is the study of mutual relations between people and physical environment and applications to improve the quality of life through environmental policy, planning and design. "Within architecture there are a number of major areas of environment behaviour research, including the development of theory about the relation of architecture to human behaviour, substantive research on place issues, human group issues and social and behavioral issues and process research on methods and applications" (104).

Environmental-behaviour research methods used in this study are;

- Observations (investigating user behaviour)
- User Interviews (questionnaire-study covers the

qualification of the families, life styles, activities inside the house, and opinions and intentions on interior and exterior housing environments)

The questionnaire-study (within the interview) which is a survey research method, chosen to evaluate individuals' reactions to a physical or psychological situation or an environment, is carried on certain steps; (105).

- a) Identify the design decisions and patterns that are to be influenced by replies while preparing the questionnaire.
- b) Circulate a pilot questionnaire to test the questions, the variability of the answers, and the method of analysis.
- c) Select an appropriate sample for the information that is sought.
- d) Collect replies to the questionnaire by interview.
- e) Extract from the replies, the data that is most helpful to the architectural design (evaluation).

Any environmental-behaviour research question can be couched in terms of four dimensions of place, people, behaviour and time. "All issues of interest to architecture concern the creation of place, or with particular types of environments (housing, health care facilities, neighbourhoods, landscapes, regions) with particular groups of people (children, adults, elderly,

disabled, etc. who are to inhabit the type of environment under consideration), with the social and behavioral phenomena involved in the interaction of those people with that environment and with time" (106).

The sample selected for the questionnaire-study are 40 recently married couples and 30 families of retired workers.

In the survey, recently married couples are rather loosely defined as under 35 years of age, having either no or single child. Retired workers' families are defined as over 45 years receiving social insurance, old age, or disablement pensions.

The questionnaires were given during the week-ends at the hours when both wives and husbands were at home. By doing so the joint decisions of the family members were taken.

Some families have given the interviewer, the permission to take photographs in their houses. These photographs are given in Appendix I.

5.3. QUESTIONNAIRE-STUDY MADE WITH THE FAMILIES OF RECENTLY MARRIED COUPLES AND RETIRED WORKERS

5.3.1. Purpose and Programme of the Questionnaire

We can assume that small size houses can be a solution to the needs of certain groups of people who have limited financial possibilities. For this reason families

with two or three households, belonging to those special groups of the population, such as the elderly, young married couples, single people, etc. were selected for interviews and a survey was carried out in order to design a programme in the direction of their needs and wishes. The main purpose of this questionnaire was to establish the conditions and requirements of the families of recently married couples and retired workers, to obtain general principles, to be used in the design of houses for these groups.

40 recently married couples were interviewed. They were all under the age of 35 years and had no or a single child. The other group was 30 families of retired workers having social insurance, old age or disablement pensions. The ages of retired persons were over 45 years.

The purpose of the questions in the first part of the questionnaire was to point out the personal properties and the social and economical status of the inhabitants. The aim of the second part was to determine the lifestyles of the inhabitants and to be able to get some idea on the usage of spaces. In the third section, activities inside the house according to the individual sections were examined and the usage of these spaces were asked. The purpose of the questions in the fourth section was to learn about the inhabitants' opinions and intentions concerning the interior and exterior housing environment.

At the end of each question an interpretation of the answer was given. After each question group an evaluation of the answers was added in order to obtain better, healthy and comparable solutions. It also eliminated the misunderstanding and conflicts coming from different question groups. Firstly the results were evaluated then turned into usable data of design criteria, in the last section.

5.3.2. Selection of the Study-Area

Batıkent settlement was chosen as the pilot area for the survey. The main reasons for preferring that settlement were as follows;

- The settlement contains a great number of housing units with different sizes, having different types of households.

- The members of the cooperatives in the settlement are generally workers' families who have limited financial possibilities.

- The houses chosen for the survey have small floor area (having fewer sq. meters than the other examples in Batıkent or in the city).

The Municipality of Ankara, according to the master plan "Ankara 1990" principles which was prepared by the Master Planning Bureau of Ankara Metropolitan Area, initiated action for a settlement called as Batıkent "It

is one of the solution proposals developed as a result of rapid urbanization where employment could absorb and offset rural migrants from the countryside" (107).

The location of Batıkent which lies on the western corridor in the north of Ankara-Istanbul highway near the village of Ergazi aims to facilitate the expansion of the city of Ankara towards the west in order to get rid of air pollution in the direction of Ankara Master Plan decisions. The location of Batıkent is shown in Figure 14 in section 4 and the site plan is given in Figure 19.

The general approach in establishing Batıkent, was to create a better housing environment with infrastructure and amenities and dwellings for the low income groups to replace squatter housing.

The union of cooperatives which is shortly called Kent-Koop was established in 1979. Kent-Koop and the municipality aimed to provide housing units for low and middle income groups to form a public fund through all public funds and savings of the families, to develop the adequate urban environment and the social housing.

Within the five years after the establishment of Kent-Koop the number of housing cooperatives have reached to 88. The members of these cooperatives belong the Social Insurance Association (SSK) and the tradesmen and artisans under Bağ-Kur (a kind of Social Security Fund for free enterprise sector) and the Governmental Officials and Army

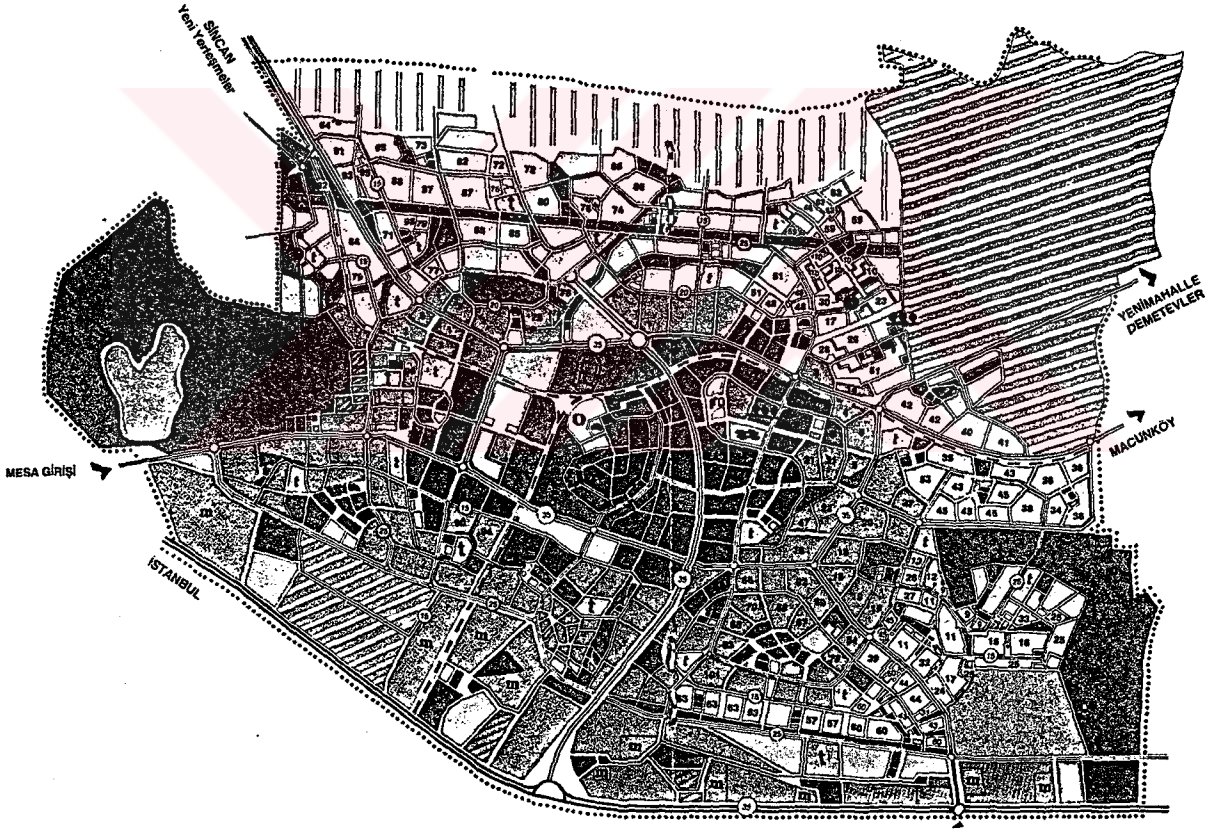


Figure 19: Batıkent Master Plan (After Batıkent Nazım
İmar Planı Açıklama Raporu, 1979)

Officers and civil components under the Retirement Fund (Emekli Sandığı).

The architectural and infrastructure projects and structural calculations of buildings were made in Kent-Koop's technical departments. In addition feasibility studies have been prepared in the office by considering the city plans, amenities such as schools, kinder-gartens, mosques, sport areas, housing types.

In Batıkent, two fundamental kinds of housing are envisaged for the houses built under credits and for collective housing. The collective houses are generally low density and low rise. They are two-storey houses having a maximum 100 sq. meters and a small garden. The density is around 350 inhabitants per hectare. Total number of these type of dwelling units in Batıkent are 18.000. The low density housing areas are in the north and north-east according to the master plan of Batıkent.

The high density areas are located around the center. The high-rise apartments have five or ten storeys. The area of dwellings are around 425 inhabitants per hectare, and there are 28.000 dwelling units of this type.

The cooperative houses choosen for the survey belong to the "Harb-İş 28" cooperative in Batıkent.

When Kent-Koop was established in 1979, one of the members of the cooperatives was the Army Officers and Workers Cooperative that is called shortly "Harb-İş 28".

The construction process of the dwelling units was completed in 1986. But the construction process of the open spaces and outdoor arrangements such as, green areas, service areas, parks, roads, pedestrian paths has not begun yet.

The settlement contains 481 housing units which are all delivered and 391 of the families moved to their dwellings. The houses built under credits have been reserved to the cooperatives. The members of the cooperative made use of the credit institutions, and the dwellings will be on the property of the members.

As there is no headmen of district (muhtar) in the settlement for supplying information about newly married couples and families of retired workers, all 23 blocks (481 housing units) were investigated one by one. At the end of the investigation 40 recently married couples and 30 retired workers' families were selected.

5.3.3. Characteristics of the Dwellings

The dwellings in "Harb-İş 28" cooperative flats are one of the smallest types in Batıkent. They are about 83 sq. meters and each block has 5 storeys. They are centrally heated. The flats are randomly distributed to the owners.

In each dwelling unit there is a living room which is about 23.7 sq. meters; two bedrooms, one being 12.64 sq. meters and the other 11.2 sq. meters, a kitchen that

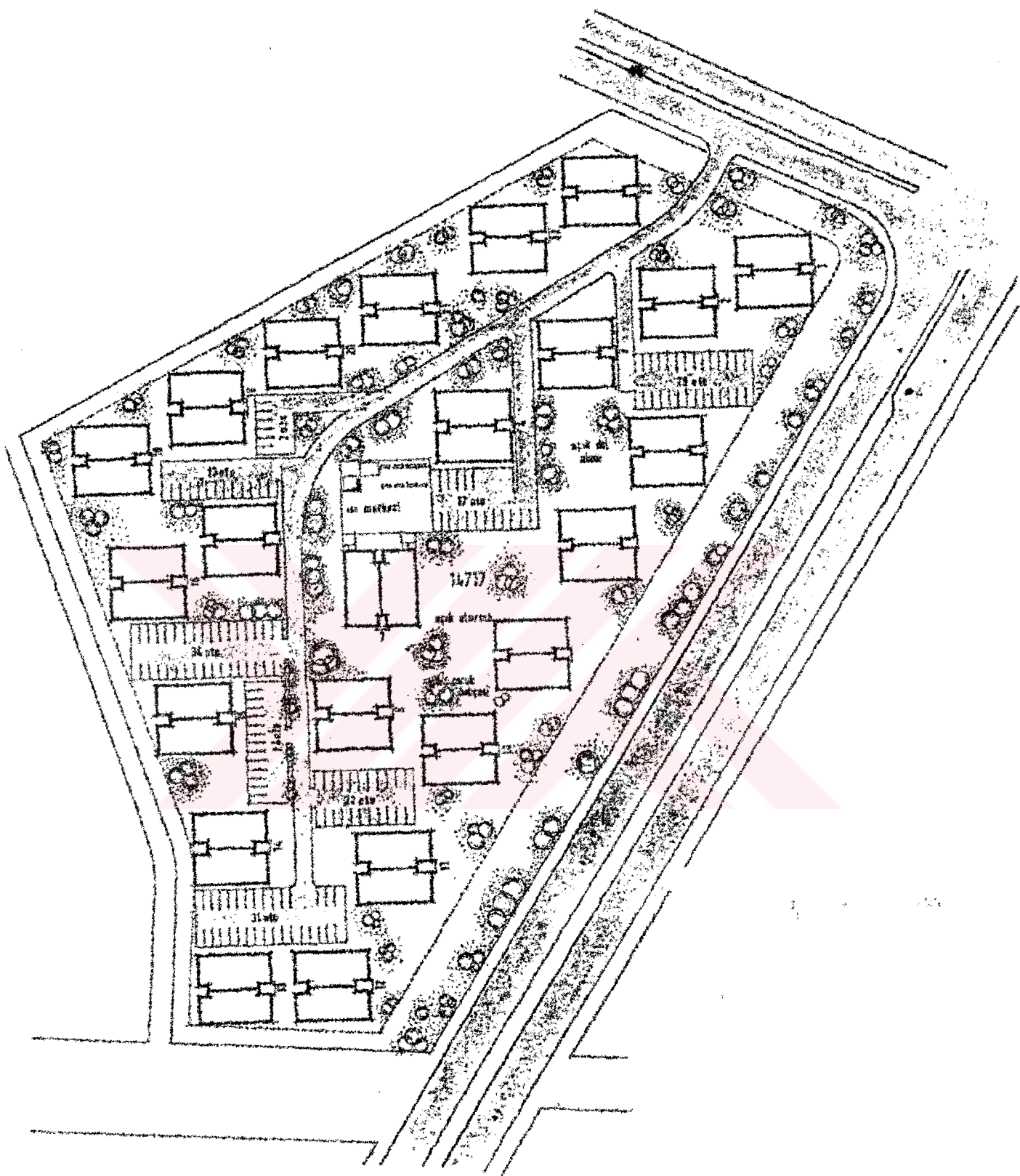


Figure 20: Site Plan of "Hart-Is 28" Cooperative Houses in Batıkent, Ankara (Scale 1/10000).

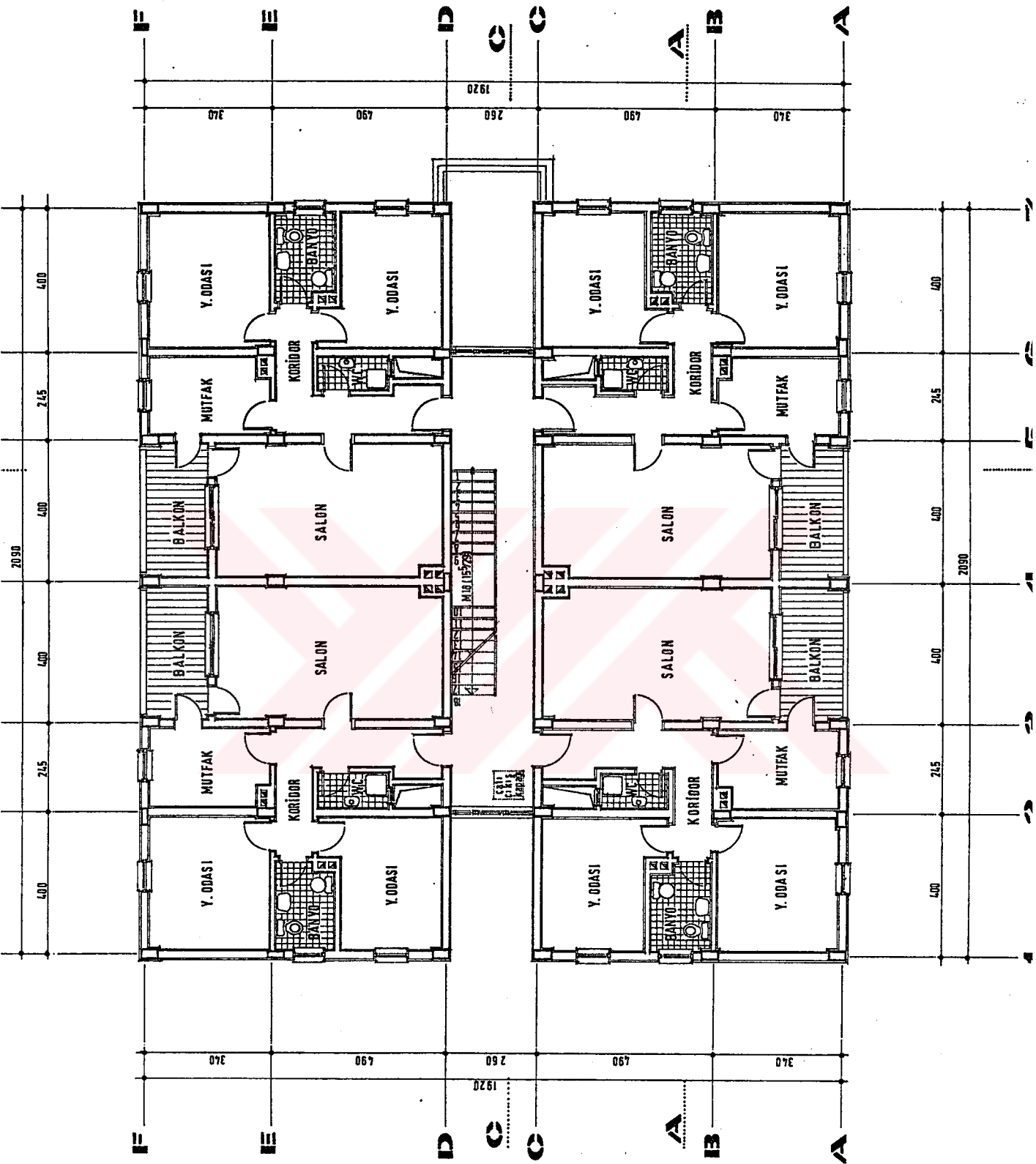


Figure 21: Typical Floor Plan of " Harb-iş 28" Cooperative Houses (Scale 1/200).

is 7.4 sq. meters, a bathroom of 4.15 sq. meters and a wc which is 2.16 sq. meters, an L-shaped corridor about 8.4 sq. meters and a balcony which is 7.24 sq. meters. The total of the inside areas of each unit is 73.25 sq. meters (including half of the areas of balconies). The site plan of "Harb-Is 28" cooperative is shown in Figure 20 and the typical floor plan is shown in Figure 21.

Firstly, a pilot questionnaire has been circulated among those families, to test the questions and variability of answers. Then the replies to the questionnaire were collected by interviewing both with the wives and husbands of those selected families. The factors influenced the families in preferring 83 sq. meter flats and choosing to live outside the city, in Batıkent were asked. All families interviewed have stated that they have chosen to live away from the city because they could not find houses they could afford (either the rents or the cost of a housing unit) within the city limits. All the retired worker's families have stated that, mostly economic factors influenced them in choosing 83 sq. meter flats. However the majority of the recently married couples who were mostly tenants have stated that besides the economic factors they were also satisfied with the plan type of the flats in choosing these houses.

The distribution of the families to the storeys of the cooperative houses are shown in Table 17.

Table 17 : The Distribution of the Families of Recently Married Couples and of Retired Workers to Storeys of the Blocks In "Harb-İş 28" Cooperative in Batıkent, Ankara.

| FLOORS | NUMBERS OF RECENTLY MARRIED COUPLES | NUMBERS OF RETIRED WORKER'S FAMILIES |
|--------------|-------------------------------------|--------------------------------------|
| 5th floor | 6 | 2 |
| 4th floor | 9 | 3 |
| 3th floor | 14 | 8 |
| 2th floor | 5 | 5 |
| 1th floor | 4 | 6 |
| Ground Floor | 2 | 8 |

5.3.4. Questionnaire-Study Made With The Families of Recently Married Couples

5.3.4.1. User's Qualification:

The young married couples who are just at the start of their independent, social, and professional lives and of the development of the family cycle; help to create the demand for new dwellings suited to their characteristic requirements and wishes.

Their housing need occurs at a difficult time, at the establishment phase of the family, so they have a growing expenditure and their financial possibilities are limited.

1. Average Age

The average age of the interviewed young (recently)

married couples on the site was 26.14 years (The average ages for men was 28 and for women 24).

Out of the 40 families, the number of those without children were 23. The number of families having one child was 17. The average age of these children was 3.23 years.

2. Education

The education level of the couples can be seen in Table 18. The professions and employments of the couples are shown in Table 19.

Table 18: Education Level of Recently Married Couples
in Harb-İş 28 Coop. in Batıkent, Ankara.

| | MEN | | WOMEN | |
|------------------------------------|-------------------|---------------|-------------------|---------------|
| | in percentages | in numbers | in percentages | in numbers |
| NOT ATTENDED ANY SCHOOL | — | — | 2.5 | 1 |
| PRIMARY SCHOOL | 22.5 | 9 | 42.5 | 17 |
| SECONDARY SCHOOL | 10 | 4 | 10 | 4 |
| HIGH SCHOOL OR TECHNICAL SCHOOL | 55 | 22 | 40 | 16 |
| UNIVERSITY | 12.5 | 5 | 5 | 2 |
| TOTAL | 100 | 40 | 100 | 40 |

3. Professions And Employment

Table 19: The Professions and Employments of Recently Couples in Harb-İş 28 Coop. in Batıkent, Ankara.

| PROFESSIONS AND EMPLOYMENTS | MEN | | WOMEN | |
|--------------------------------------|-------------------|---------------|-------------------|---------------|
| | in percentages | in numbers | in percentages | in numbers |
| WORKERS | 45 | 18 | 20 | 8 |
| GOVERNMENT OFFI- CIALS AND CLERKS | 27.5 | 11 | 15 | 6 |
| FREE-LANCE | 20 | 8 | 0 | --- |
| KENT-KOOP MEMBERS | 5 | 2 | 5 | 2 |
| NOT EMPLOYED | 2.5 | 1 | 60 | 24 |
| TOTAL | 100 | 40 | 100 | 40 |

4. Income Level

The average monthly income of young married couples (of both wife and the husband) was between 100.000 TL and 200.000 TL. The lowest income earned was 70.000 TL (5 % (n=2) of the families) and the highest was 500.000 TL. (n=1)

The monthly income of 35 % (n=14) of the total families was 100.000 TL. The Income of 60 % (n=24) of the

total families was more than 100.000 TL. Income of 5 % (n=2) of the families was less than 100.000 TL.

Frequency distribution of the interviewed families' incomes can be seen in Figure 22.

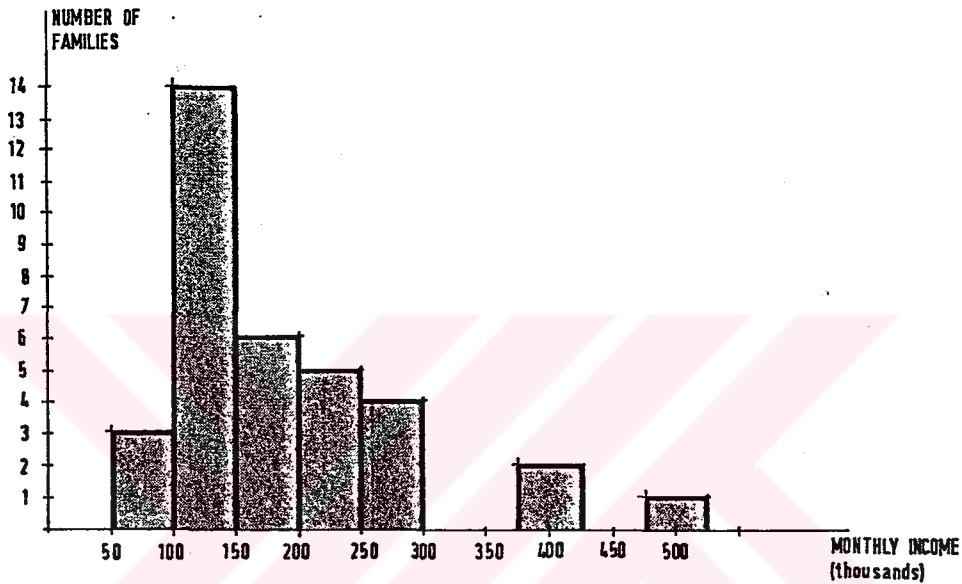


Figure 22: Frequency Distribution of Family Incomes in Harb-İş 28 Coop. in Batıkent, Ankara.

5. Financial Support

Only three of the families had financial support in addition to their earnings. Two of them got the support from the part time jobs they worked besides their own jobs. It varied between 100.000 TL and 200.000 TL per year. One of them got financial support from their fields in Bağla Villages amounting to 500.000 TL per year.

6. Rates of Tenants And Households

65 % of the interviewed families (n=26) were tenants. The remaining 35 % (n=14) were owners of the

dwellings.

None of the families possessed any other house. The rents vary between 50.000 TL to 70.000 TL due to the orientation of their flats. If the flat receives sunlight and if it is on the upper floors the rent increases. The heating expenditure of the families for the central heating is about 10.000 TL and 15.000 TL.

5.3.4.2. Life Style:

A number of questions were addressed to young couples and to see how they use the main spaces of a flat. The evaluation of replies helped to describe and interpret their life styles. The questions with their interpretations are placed in Appendix I.

5.3.4.3. General Evaluation of the Questions Related to the Life-Style:

As a result of the questions asked to find out the characteristic life-styles of the young married couples, it is seen that families tended to use small spaces such as the second bedrooms as the sitting room both in winter and summer time. One of the reasons of their preference of small spaces is the heating deficiencies in flats in winter time. Although there was a central heating, families were obliged to place electric heaters or stoves in the second bedrooms (sitting room) in winter. Another reason may be their limited financial possibilities; as they are

the newly married couples, at the begining of their professional lives. Because of limited income a majority could not furnish all the spaces at their homes. One may say that, if there is no heating deficiency and if there is suitable furnishing, families may prefer to use their living rooms daily as sitting rooms both in winter and summer. According to the results balconies appeared as an important place in their lives. Because of the need of fresh air and sunlight the project must include a balcony or a garden as prior elements.

Bedrooms were not used in day-time. Neither did they have much things to store in bedrooms. Generally families were using the second bedrooms daily as sitting rooms (the proportion was given in Appendix I). When they were using the living rooms daily (as sitting room), they did not use the second bedroom for any purposes.

The questionnaire results have shown that the bathroom sizes were insufficient for putting the washing machines in. As the majority had small washing machines, they were able to place them in bathrooms. So they could wash the clothes in the bathroom.

The results indicated that the second wc's were not absolute necessity for these small families and they were not used unless they had guests.

The majority of the families had guests staying overnight. Mostly the second bedroom, if they had suitable

furniture was assigned for those guests. If not, families kept bed sheets in the living room. In general families had some difficulties in receiving night guests, mainly due to economic inadequacies and difficulties in having adequate furniture, in their homes.

In general, the recently married young families were trying to adjust themselves to their limited financial possibilities, although their aspirations were high. They did not use all the spaces at home as they did not have sufficient furnishing, and sufficient equipments because of the financial inadequacies. Another reason for not using the spaces seems the shortage of time spent in the house, as the majority of the couples were both working.

5.3.4.4. The Study of the Activities Inside the House According to Individual Sections:

In this part questions were asked in order to find out the activities carried out in each space at home. The questions and interpretations are given in Appendix I.

5.3.4.5. General Evaluation of the Questions Related to the Study of Activities Inside the House According to Individual Sections:

The results indicated that the time spent by the families of recently married couples at home was very short, especially when husbands and wives were both working. Even if the wives were not working, the activities

and functions served were less than an average size family as they were small households with two persons only. In other words, since the young couples were generally both working they had limited activities and limited times at home. In particular the activities such as cooking, washing, and ironing were carried out on certain days and at certain hours of the week.

As the time spent at home was little, the families were not in need of a separate special room for their hobbies. They were all satisfied with a small section in the living room where they could deal with the matters in which they were interested.

A general attitude was to use wardrobes or to have built-in wardrobes and cupboards in the kitchen. There should be sufficient cupboards for the foodstuffs in the kitchen.

The families preferred having their meals in the places where they mostly spent their time. So instead of eating in kitchen they tend to use the living or sitting rooms or the balcony for this purpose. The time spent in the kitchen was short. It was used once a day, approximately two or three hours for cooking purposes, especially when the couples were both working.

Generally the families placed the instruments such as radio, tape recorder or TV. sets where they mostly spent their time (into the living room or sitting room).

Also it is necessary to consider the subjects of both receiving guests and placing these instruments together. The families wanted to place the washing machine into the bathroom. The places of other items were mostly suitable and did not create any problems.

5.3.4.6. User's Opinions and Intentions on Interior and Exterior Housing Environments:

A number of questions were asked to the families in order to determine the inhabitants opinions and intentions about the dwellings and their environments. They are also necessary to understand their sense of comfort and their wishes about the housing environment. The evaluation of the replies will also help me to determine some major design criteria. The questions and interpretations are given in Appendix I.

5.3.4.7. General Evaluation of the Questions Related to the User's Opinion and Intentions on Interior and Exterior Housing Environments:

The families of recently married couples were generally satisfied with the planning and sizes of their houses. Their complaints were about; the darkness of the living rooms because of the small sizes of the windows, and the existing balcony in front of them. They also complained about the sizes of the kitchens which were unsuitable for placing a table and necessary kitchen

equipments. Another shortcoming was the smallness of the bathroom which was not suitable for placing the washing machine. The darkness and narrowness of the entrance and corridor, and the orientation of the flats and the smallness of the windows which had negative effects on the illumination of the interior spaces and on heating (since the flats could not receive sunlight) were other complaints.

Generally families were not in need of larger spaces, they were looking for practical and functional rooms and furnishings. Instead of a larger living room and bedroom, they all preferred smaller but functional and comfortable ones.

Families were generally satisfied with the existing cup-boards but in winter as they store foodstuffs, they needed some more cup-boards.

The majority of the families preferred the connection of the living room with kitchen, as they generally preferred having their meals in the places where they mostly spent their time such as the living rooms or sitting rooms instead of kitchens.

In the bathroom bath-tubs for sitting or showers were preferred. The occidental type of water closet in the bathroom may be more appropriate for them especially for the ones having a child.

The families agreed upon the idea of having a direct

entry to the living room, identified by flexible furniture instead of a separate entrance, on the condition that the heat loss could be prevented. It will be advantageous for space saving and functional usage.

The families mostly wished to live in three or four storey houses, having a plan type in which the living room and the kitchen were used as a single space and the bedroom, bathroom and wc. as separate spaces. Most of them wanted the living room to be the largest space inside the house. Families preferred central heating system from the view points of uniform heating and easiness of cleaning and economic purposes.

The families of recently married couples have all agreed upon that they were in need of small size houses and from the view points of cleaning, heating and especially financial matters small houses seem to be suitable for them.

This group of people wanted to have a common laundry, a kitchen-cafeteria and a guest-house. These facilities seem to help to diminish the size of the flat area, decrease the financial cost, and especially meet the requirements of working couples.

All the families complained about the housing environment in Batikent, since they do not have walking paths, parks, sport facilities, social facilities, etc. The families want all those facilities around their

housing environment.

5.3.5. General Evaluation of the Questionnaire Carried Out With The Recently Married Couples

The recently married couples are at the initial stage of their independent social and professional lives. They have financial inadequacies since their unavoidable expenditure is growing without a proportionate rise in their income. Mostly both the husbands and wives are working and therefore the time spent in the house is limited. Because of their limited financial possibilities and being at the start of the family cycle, they do not have adequate furniture in dwellings. They all prefer smaller and practical spaces to larger ones at home.

Generally recently married couples have preferred small size dwellings, suited to their needs and financial possibilities. They want to live in three or four storey apartment buildings, having a plan type in which the living room and the kitchen is used as a single space and the bedroom, bathroom and wc as separate spaces.

They also prefer the joint use of common service places such as the common laundry, kitchen-cafeteria and a guest house since they are necessary for meeting the requirements of recently married couples, for creating a social contact (between them) and diminishing the housing area. They all want to have green areas, sport areas, social facilities and parks in the housing environment.

It is believed that the design criteria obtained from the results of the survey will be useful in proposing design patterns of the dwelling units and their environment.

5.3.6. Questionnaire-Study Made With The Families of Retired Workers

One of the special groups of the population with significant housing needs are the elderly. Generally they have brought up their children and were abandoned by them when these youngsters established their own families. They are at the diminishing phase of their family-cycle and that is the main factor that affects their lifestyles. They have economic independence due to their social insurance, old age or disablement pensions.

The retired couples generally want to leave their old home; when their houses gradually become too large or require too much work, and hence they desire to move to a smaller, more favourably situated dwellings.

The families of retired workers were living in the same cooperative houses (Harb-Is 28) with the recently married couples. The questionnaires were given at the hours when both wives and husbands of the 30 families were at home. So the joint decisions of the family members were taken.

5.3.6.1. User's Qualification:

1. Average Age

The average age of the interviewed retired couples in the settlement was 48.18 years. The average age of the women was 45.13 and the men's was 51.23 years.

The number of families consisting of only a husband and a wife was 7. Families having one child were 8. Families having two children were 8 in number, families with three children were 5, and families with five children were 2.

2. Education

The education level of the retired couples are shown in Table 20.

Table 20: The Education Level of Retired Workers' Families in 'Harb-İş 28' Coop. in Batıkent, Ankara.

| | MEN | | WOMEN | |
|---------------------------------|----------------|------------|----------------|------------|
| | in percentages | in numbers | in percentages | in numbers |
| Not Attended Any School | 10 | 3 | 10 | 3 |
| Primary School | 70 | 21 | 73.4 | 22 |
| Secondary School | 16.7 | 5 | 13.3 | 4 |
| High School Or Technical School | — | — | 3.3 | 1 |
| University | 3.3 | 1 | -- | -- |
| TOTAL | 100 | 30 | 100 | 30 |

3. Professions And Employment (The Labour Branches That Workers Retired From)

93.4 % of the husbands (n=28) were getting their retirement payments from the Social Insurance Institution (SSK). The other two were getting their retirement payments from Bağ-Kur. The majority of the husbands were the workers of the factories of the Army.

10 % of the wives (n=3) were getting retirement payments from the Social Insurance Institution (SSK). These three were workers of the factories of the army like ASELSAN.

40 % of the husbands (n=12) were already employed in another job. 5 of them got between 50.000-100.000 TL. per month; 4 of them got 100.000 TL per month, and 3 of them got between 150.000 TL and 290.000 TL.

4. Income Level

The monthly retirement payment of the families varied between 32.000 TL and 40.000 TL per month. The average monthly income of the families, including the other payments coming from an extra job was 154.900 TL.

Monthly income of two families were between 250-300.000 TL. Only one family's monthly income was 400.000 TL and one family got 32.000 TL per month as a retirement payment. Frequency distribution of the interviewed families incomes can be seen in Figure 23.

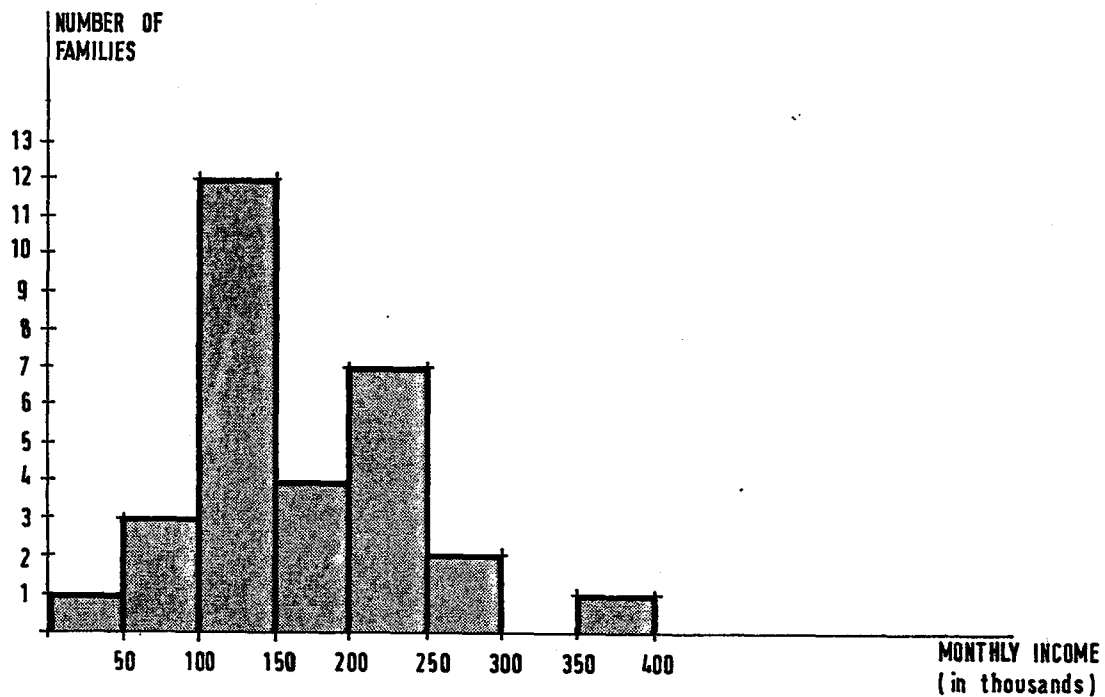


Figure 23: Frequency Distribution of Family Incomes in "Harb-Is 28" Coop in Batıkent, Ankara.

5. Financial Support

The financial support of 12 families out of 40 were the payments coming from the extra jobs that they were employed in. The retirement salaries of wives in three families were other sources of finance for those families.

6. Rates of Tenants And Households

80 % of the families (n=24) were owners, the remaining 20 % (n=6) were tenants.

The rents paid by tenants varied between 50.000 TL and 70.000 TL according to the position of flats. If the flats were on the upper floors and received sunlight the rents were generally high. The heating expenses for central heating was 10.000 TL per month.

None of the families owned another house.

5.3.6.2. Life-Style:

In this section the questions were asked to describe the characteristic life styles of families of retired workers and to see how they used the main spaces in flats. The evaluation of replies helped to interpret their life-style. Questions and interpretations are given in Appendix I.

5.3.6.3. General Evaluation of the Questions Related to the Life-Style:

According to the results of the questions related to the life styles of the retired workers' families, it is seen that the families have spent most of their time in the living rooms which is the largest space at home. The balcony or garden also carry an important role in their lives; because of the need of fresh air, sunlight and good view.

According to the results, bedrooms were not used in day-time. The first bedroom was used for sleeping and the second bedroom was used for the activities such as sewing and ironing or mainly as a guest room and sitting room especially in winter time. If the living rooms were suitable for these activities, and had functional planning and sufficient sizes, perhaps the families would not be in need of a second bedroom.

The results indicated that, the bathroom sizes should be sufficient for keeping and washing the dirty clothes. Families are not in need of a second toilet in their houses.

In receiving guests staying overnight, the traditional hospitality has been continued by the families. They generally assign the second bedrooms for their guests. Although, houses are suitable for receiving night guests they have other difficulties such as; difficulty to serve guests and manage the housework as old age advances and financial difficulties in entertaining them.

5.3.6.4. Study of the Activities Inside the House According to the Individual Sections:

In this part the questions were asked in order to find out, the activities carried out by the families in each interior section. Questions and interpretations are in Appendix I.

5.3.6.5. General Evaluation of the Questions Related to the Study of the Activities According to the Individual Sections:

In this section the replies will be used to determine the activities that the families carry out in each interior section. The results of the replies indicated that retired workers' families were in need of

small sections in living rooms to deal with the matters in which they are interested. It is also necessary for them to keep themselves busy, to spend their time at home and enjoy themselves.

All the families wanted to have built-in wardrobes instead of using wardrobes or chests. They are all in need of a sufficient storage space in the kitchen for the foodstuffs, as seasonal foodstuffs were being stored by every family.

Families had their meals mostly in the living room or kitchen. Even they had heating deficiencies at the flats in winter, they preferred larger spaces for eating activities, as well as for sitting, watching TV. and other activities. The families whose children have left the house, spent only a few hours in the kitchen for cooking purposes.

Families preferred the living rooms for placing the radio, tape-recorder and TV. which were also used for entertaining the guests. The bathroom sizes were insufficient for placing washing machines. So the families were obliged to place the washing machines in the bedrooms or corridors and this caused some difficulties in the usage of these spaces and the equipment.

5.3.6.6. User's Opinions and Intentions on Interior and Exterior Housing Environments:

In this section, questions were directed to

families in order to determine their opinions and intentions about the housing environments and make it possible to establish their wishes and senses of comfort in housing.

5.3.6.7. General Evaluation of the Questions Related to the User's Opinions and Intentions on Interior and Exterior Housing Environments:

Generally families were satisfied with the planning of their houses. But they had some complaints about the individual interior spaces or sections. The complaints were generally about the darkness of the living rooms, because of the smallness of the windows and the projecting upper floor balcony in front of them. They also complained about the smallness of the kitchen which is unsuitable for placing a table and about the impossibility of placing the washing machine in the bathroom. The narrowness and darkness of the entrance and corridor and the orientation of the flats which had a negative effect on heating and illuminating the flats, were other complaints.

Generally the families of this group were not in need of larger living rooms. They preferred having smaller but more practical bedrooms with well-designed furniture, such as built-in wardrobes, portable beds etc. The majority of the families used the living rooms for their daily activities.

As the majority of the families stored the seasonal

foodstuffs they were all in need of a storage in the kitchen instead of using the balcony for that purpose. Families wanted the connection of the living rooms and the kitchens with an eating place where they would have all the meals. So, they would not have difficulties in preparing table and carrying the dishes back to the kitchen and would not be bored in a small kitchen while having meals.

Families preferred bath-tubs for sitting or showers and occidental type of water closets in the bathrooms. Instead of a separate entrance, they wanted an entrance which was identified and separated from the living room with a flexible separating panel or furniture if the heat loss could be prevented.

Most of the families wanted the living rooms to be the largest spaces in the houses. They all accepted the plan type in which the living room and kitchen was used as a single space and others; bedrooms and bathroom-wc all separated. The majority of them preferred three or four storey houses since they did not want to climb up many stairs. They all preferred central heating system from the view points of uniform heating, easiness of cleaning and economics.

The retired families were conscious of the housing type suitable and necessary for themselves. They all wanted to have small size dwellings also from the view

points of cleaning, managing the housework, heating and economics. The majority of this group was inclined to use common-service places like a common laundry, a kitchen-cafeteria and a guest-house within the newly planned settlement area, close to their dwellings. They did not like the environment they were living in. They all wanted their social needs to be met in the housing environment, having a beautiful outdoor arrangement like areas for walking, parks, greenary, etc.

5.3.7. General Evaluation of the Questionnaire Carried Out with the Retired Workers' Families

The aim of the questionnaire was to establish the family requirements and to find wishes of the family members.

Generally these families have brought up their children and begin to be abandoned by them. The decrease in the number of family members and limited income due to their retirement led them to make changes in their lifestyles. Families were conscious of the physical and mental changes in their existing situations and their economic weaknesses.

They all agreed upon the idea that small size dwellings were valid for retired workers' families. They did not want to walk up many stories since it would cause extra physiological demands. And they did not want to live in multi-storey flats since they were afraid of getting

stuck in lifts. So they preferred to live at most three or four storey apartment blocks. The place where the families mostly spent their time was the living room. They all preferred to have a plan type in which the kitchen and living rooms were used as a single space and the bedroom and bathroom-wc as separate spaces.

The decrease in ability and increase in physiological difficulties in doing housework because of ageing may lead the removal of certain services from the house outside and reducing the amount of housework. So families mostly prefer the joint use of common service facilities such as the common laundry kitchen-cafeteria and a guest-house.

Families were not pleased with the environment they were living in. They all preferred a housing environment having all the social and health facilities and open green areas and parks.

It is essential to care for these elderly families in view of the special requirements of their health, their psychological and social environments. The design criteria obtained from the survey will be useful to propose the model of such an environment. For introducing the design patterns all the criteria determined by the users will be taken into consideration.

CHAPTER 6

DESIGN PRINCIPLES

In this chapter, the design criteria obtained from the results of the survey and from previous studies are put in the form of design patterns. Some of these criteria of primary importance, some are of secondary importance. The design criteria of primary importance are compiled with C. Alexander's concept of 'pattern', and put forward as proposals. Those of secondary importance are omitted to put a limit to the criteria to be used in the design.

First the patterns related to the housing environment, then those related to the dwellings will be discussed. Each pattern has been given a number. Then these patterns are introduced and utilized in the arrangement of alternative proposals of the dwellings and the housing environment.

6.1. PATTERNS RELATED TO THE HOUSING ENVIRONMENT

PATTERN 1: Reaching Public Transportation

Housing for special needs should be carefully sited in order to maintain or promote social integration and the provision of social services. Therefore adequate public transportation must be available in the housing environment. Public transportation is also a remedy for

congestion created by cars. Most people who work or live in a pedestrian district would prefer mass transportation.

In the design, the site at Dikmen is on the secondary traffic arteries which lead to the city center. An adequate public transportation is available in the area. That is the bus connection. The bus stop is placed on the road close to the social center, within a suitable distance to the dwellings. The activities and communal facilities at the center will encourage people to use public transportation and wait for the busses without being bored.

PATTERN 2: Network of Paths And Cars

In general, the aim must be to site the places where people spend a lot of their time, such as homes, offices, schools, and recreation areas, away from busy roads, since road traffic is the major source of both air pollution and noise in urban areas. The sight of moving vehicles, during day or night, can also be psychologically disturbing, especially where people are attempting to relax. Besides these, pedestrians and cyclists have difficulty in crossing busy roads and certainly experience delay and danger in going from one place to another.

However a complete segregation of pedestrians and vehicles is impractical. There should be collected and continuous crossings at frequent intervals, when they meet

at right angles.

There is a secondary road traffic on the periphery of the site in the design proposal. The network of paths in the site is designed only for pedestrians. There will be no vehicular traffic, except in cases of emergency, and for services, such as garbage collection in the site. Pedestrian paths are separated from the road with trees, shrubs and landscape elements. This provides a visual barrier between the dwellings and the road and safety for the pedestrians.

PATTERN 3: Arrangement of Parking Lots

Parking facilities are first of all required to be as close as possible to the housing units. Parking lots may be surrounded by garden walls, hedges, fences, slopes and trees so they provide visual and noise barriers.

In the design, parking lots are placed on the periphery of the housing area, and surrounded by landscape elements. They are close to the housing units and social center where common facilities are gathered, such as a public cafeteria, an open air cafe, and a guest-house.

PATTERN 4: Accessible Green Areas

Trees, hills and distant views are positive elements of social esthetics. The psychological factor of green areas is rather high.

"People need green open spaces, and within three

minutes walk, they are able to satisfy their needs, for access to a green" (108). But the increasing distance prevents them from meeting their need, especially if they are old people. In the design proposal, a hierarchy of green areas according to character, function, size and degrees of public use is provided. Hierarchy of green areas starts with a garden, a park, a playground then ends with a large green area. So different recreational activities and different vistas for special groups are provided. The recreation need of the families will be satisfied widely within suitable distances. Accessible green areas carry an important role especially for the elderly who are in need of different recreational activities close to their houses.

PATTERN 5: Playground Areas for Children

The visual and acoustic supervision of children at play is very important. Therefore playgrounds separated from the houses by a considerable distance should be avoided. Also there should be a connection between the playgrounds and the main network of paths.

Besides these factors creation of differentiated playing facilities in different spatial situations for playground areas are provided in the proposed housing environment. So, children will enjoy themselves with different types of play in a variety of playground areas in the settlement.

PATTERN 6: Hierarchy of Open Spaces

"In the smallest outdoor spaces, in private gardens, people feel comfortable since they have a natural back with a seat and have a view into a larger space, the street or a square" (109). So every space beginning from the smallest, has a view out into a larger one and all the spaces work together to form hierarchies.

In the proposal, there is a hierarchy of open spaces, starting with an access path to housing units, to open up an outdoor room, then a small public square and comes to a larger public square at the social center. The main pedestrian axis passes through the social center and reaches the open green area in the south.

PATTERN 7: Park Like Setting and Small Public Squares

The settlement should be arranged like a park way with open green areas with sitting places, ponds, fountains scattered around and along the walking paths. Where the pedestrian paths cross each other there should be small public squares to accommodate public gatherings. Small crowds in the public squares create a milieu for a good social contact.

In the proposal small public squares are designed at the places where pedestrian paths leading to the housing units cross the main path reaching the common center. There are also small public squares in front of each cluster of housing units. Small public squares have a very

important place in the life of the special groups from the view points of social contact and integration with each other. In the settlement there will be open green areas with landscape elements scattered around.

PATTERN 8: South Facing Outdoors and Sunny Places

People use open spaces if it is sunny and if not they do not use it. Therefore the favourite outdoor places should be in the direction of south. There is a special sunny place inside as south facing court or garden which gets the best sun. "For outdoor activities it is important to provide a place to work in the sun, to grow some special plants, and a place to sunbath" (110).

In the design, outdoor spaces in front of the houses and public open spaces face south to enable people, especially the elderly, to benefit from the sun.

PATTERN 9: Public Outdoor Room

"People are in need of public outdoor rooms in the neighbourhood where they can spend hours comfortably for sitting and talking" (111). Old people like to go to such a special spot where they can expect to find others; small children need sand lots, young mothers who go to watch their children often use such a place as an opportunity to meet and talk with other mothers. A partly enclosed place with a roof and columns without walls, beside an important path and within the view of many homes will provide the

necessary outdoor room.

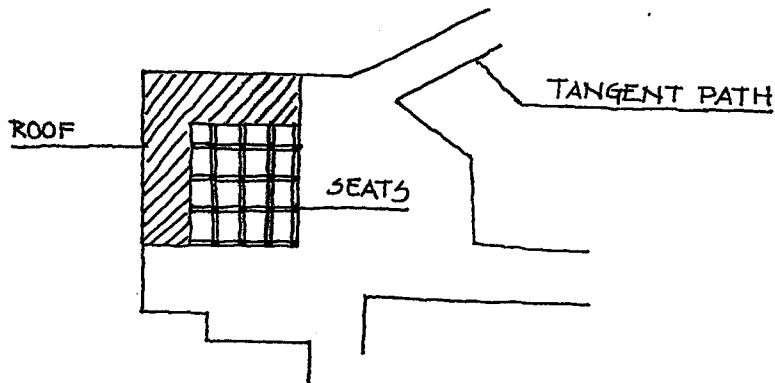


Figure 24: Public Outdoor Room.

In the proposal, public outdoor rooms are designed along the pedestrian paths near the green area. They are very close to the houses. There exist sand lots for children, besides the roofed sitting places.

PATTERN 10: Common Eating; A Public Cafeteria

It is clear that communal eating plays a vital role in human societies as a way of binding people together and creating a social contact. It gives people the opportunity of meeting each other and have meals jointly with their friends. The decrease in physical activities as old age advances, necessitates supporting of the elderly by providing certain services. It will be appropriate to provide a public cafeteria in the settlement which will bring the opportunity of eating meals without having any difficulties in cooking them and washing dishes.

In the survey the families' opinions on this matter have been questioned. Numerically 70 % of the recently

married couples (n=28) and 70 % of the retired workers' families (n=21), have given 'YES' reply to the idea of having a common cafeteria. In the design, a public cafeteria is considered in the central area close to several other activity centers and pedestrian paths.

PATTERN 11: Common Laundry

A common laundry is one of the social services which is necessary for these special groups, especially for the elderly, working young couples and for single people. The decrease in physical strength of the elderly makes it inevitable for them to carry out certain activities by mutual assistance. A common laundry also contributes to working young couples and students having limited time for managing the housework and limited financial possibilities. It will create a social contact among these people in the neighbourhood.

In this survey 70 % of the recently married couples (n=28) and 66.66 % of retired workers' families (n=20) agreed on the idea of a common laundry. In the design common laundry is considered in the central area close to other communal facilities.

PATTERN 12: Common Guest-House

The financial and physical difficulties in welcoming guests for night-stays necessitates the provision of a common guest-house in the settlement.

In the survey, 60 % of recently married couples (n=24) and, 60 % of the retired workers' families (n=18) agreed on the idea of a common guest house within the settlement. In the design a separate guest-house has been considered in the central area, close to other communal facilities.

PATTERN 13: Garbage Collection

The garbage container should be available near the service road to make the garbage removal vehicles move easier. The garbage container should contain a cover in order to prevent bad odours and spreading the garbage around.

In the proposal, garbage containers are placed close to the service entrances near the car-parking areas, where the families can easily reach from their houses. Garbage containers have lids on top and rollers underneath. They are placed in an area surrounded by a brick wall and greenery. So this arrangement provides a visual barrier and prevents the bad odours.

6.2. PATTERNS RELATED TO THE DWELLINGS

PATTERN 14: Household Mix

"...normal growth through the stages of life requires contact, at each stage, with people and institutions from all other ages of man. When the balance of life cycles is

is well related to the kinds of housing that are available in a neighbourhood, the possibilities for contact become concrete" (112).

It is clear that old people and young people need contact with each other. But the old people cannot be integrated socially to the young and others unless they are first integrated physically-unless they share the same streets, shops, services, and common land with everyone else. So it is necessary to have a mix of household types in every neighbourhood, and every cluster, so that one person households, couples, families with children and the elderly are side by side.

In the proposed settlement there is a balance of people at every stage of the life cycle, from infants to the old people.

PATTERN 15: Low Rise Dwellings

When building height exceeds four storeys it requires additional development of vertical elements (more stairs and lifts), which are for common use. The use is different for various groups of inhabitants. Two special groups of people who are especially dependent on neighbourhood contact, small children and old people often find it difficult to use stairs and lifts on their own. In the upper storeys, the contact by sight and voice between the child outside the building and the mother within the

dwelling is suspended. Children can not be properly supervised.

From another point of view, with an increasing number of storeys, the contact with open spaces, nature and the casual, everyday society breakdown. This situation negatively affects the mental and social health of the families. Especially the elderly, psychologically isolated from the environment.

"On the other hand properties of low buildings particularly privately usable open spaces and private access to the house or the apartment reinforce the feeling of individuality, identity and the sense of territory" (113).

The results of the survey verify this view 70% of the 40 recently married couples (n=28) and 76.66 % of the 30 families of retired workers (n=23) preferred three or four storey houses. In the proposal the houses for these special groups are designed as 3 storeys in the north and four storeys in the south by using the advantages of south facing slope of the site.

PATTERN 16: Smallness

In the survey, 95 % of the recently married couples (n=38) and 86.66 % of the retired workers' families (n=26) wanted to have small size dwellings which are suitable for their needs and wishes. Also they jointly agreed upon that from the view points of cleaning, heating, managing

the housework and financial matters small houses were ideal for them.

In the proposal, areas of dwelling units have been kept as small as possible. Three alternatives of small size dwellings were designed.

PATTERN 17: Indoor Sunlight

The rooms where people mostly spend their time at home must be placed along the south side of the building. Therefore bright, sunny and cheerful spaces will be obtained.

In the proposal, the living rooms and balconies where the families mostly spend their time are facing south. The extension of the living space as balcony creates a positive south facing outdoor.

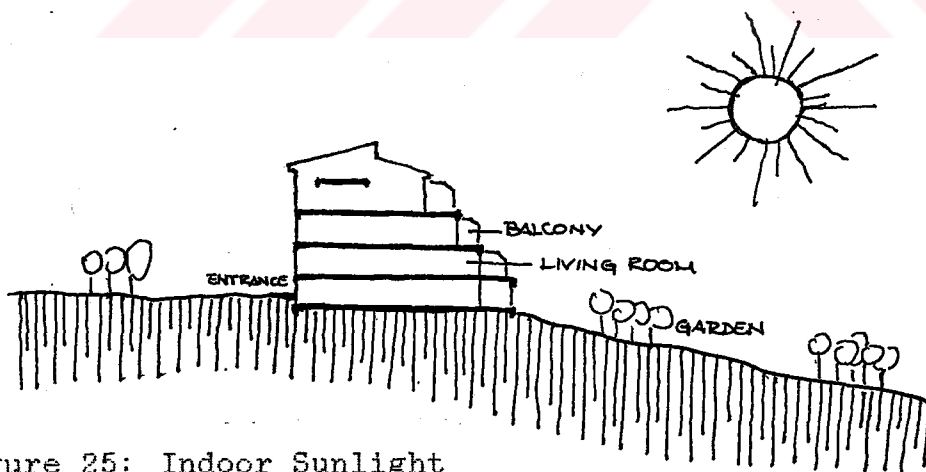


Figure 25: Indoor Sunlight

PATTERN 18: Living Room and Kitchen as a Single Space

According to the results of the survey 92.5 % of the recently married couples ($n=37$) and 86.66 % of the families of retired workers preferred to have a plan type

in which the living room and kitchen are used as a single space and the bedroom and bathroom-wc as separate spaces.

Again according to the results of the survey, 85 % of the recently married couples (n=34) and 90 % of the retired workers' families (n=27) wanted the connection of the living room and kitchen with an eating place. They preferred the eating place to be a part of the living room, but not separated from the kitchen. By this connection the elderly will not have difficulties in preparing the table and carrying the dishes back to the kitchen and the couples will have the opportunity of being together and seeing each other while one of the family members is busy in the kitchen or watching television while they are having their meals.

In the proposal, the living room and kitchen is conceived as a single space in which the living activities has been loosely distributed. The living rooms are very well illuminated, sunny spaces with the advantages of orienting towards the south. Also because of the south facing slope of the site people can benefit from the scenery at the same direction. The furnishing in the living rooms will be comfortable and attractive.

The survey results indicated that the time spent in the kitchen was only two or three hours in a day, both in the families of recently married couples and retired workers. Although the time spent in the kitchen is little,

it is still the heart of home life, especially for women. Sizes of the kitchen should be suitable and sufficient for placing the necessary counter space, storage space and a small dining table. Since the living room and kitchen is used as a single space, ventilation is necessary by means of doors, wall louvers or windows.

In the proposal, although the kitchens are small with the use of third dimension of spaces, closets are designed over the counter and eating place which is the extension of the counter space. They provide necessary storage space in the kitchen. Cup-boards over the counter have light fixtures underneath to illuminate the counter space. Necessary ventilation is provided by wall louvers against the draft shaft and by aspirators over the oven.

PATTERN 19: Balcony in the South

The aim of the balcony is to increase the living space of the dwelling by creating an outdoor room in front. In the survey 82.5 % of the recently married couples and all the retired workers' families spend most of their times in the balcony in summer time. Therefore a balcony carries an important place in their lives.

In the proposal, within the integration of the ground levels as a protected private garden and the upper levels as landscaped balconies and terraces each family have the advantages of using a private outdoor room within their dwellings. The projection of balconies in the upper

floors does not darken the space underneath. They are projected toward the south and have good vistas. They are wide enough to make people to sit and rest comfortable, or have meals in the balconies. Flowers may be placed around the edge of the rectangular concrete pots to give the space an attractive appearance.

PATTERN 20: Direct Access to the Living Room

According to the results of the survey 95 % of the recently married couples (n=38) and 86.66 % of the retired workers families agreed with the idea of having an entrance identified and separated from the living room with flexible partitions or furniture instead of a separate entrance. Such an entrance will be more practical and functional both for space saving and usage.

In the proposal the main door opens to the living space. There are flexible partitions to define the entrance.

PATTERN 21: Bedroom

In the survey, it is seen that bedrooms are generally reserved for storing and changing clothes, for sleeping and were empty nearly all day.

92.5 % of the recently married couples (n=37) and 86.66 % of the retired workers' families preferred having small and practical bedrooms with well-designed furniture. Again according to the results of the survey all the

families want to have a separate private bedroom.

In the proposal there are three alternatives of bedrooms, which are all small in size and have well designed furniture. There is a storage space near bed and a closet space of 7.3 sq. meters. A more efficient use of closet space can provide additional comfort and convenience. In the proposal, drawers are designed for the use of waste space under the hangers in built-in wardrobes.

PATTERN 22: Bathroom-Wc

The survey result indicated that families of recently married couples and retired workers used the bathrooms also for keeping and washing dirty clothes. Generally the families preferred showers or sitting type bathtubs and occidental type of water closet in the bathroom-wc.

In the proposal, the sizes of the bathroom-wc are suitable for placing the washing machines. Showers and occidental type of water closet are provided. The bathroom door should be fitted with a lock that can be opened from the outside in case of emergency.

The old people and little children often need to go to the WC during the night. Therefore it is conveniently placed in relation to bedrooms, in the design.

PATTERN 23: One's Own Alcove as a Hobby Room

For the mental health of old people there should be

a small space where they can deal with their hobbies to keep themselves busy, and enjoy themselves instead of being bored at home.

82.5 % of the families of recently married couples (n=33) and 80 % of the families of retired workers do not have a separate place for carrying out their hobbies.

In the design, a small section in the living room with small cupboards has been considered as a small hobby alcove. Also these people can deal with flowers and plants in the balconies.

PATTERN 24: Flexible Furniture

A three dimensional usage of space in small houses often serves a wide variety of functions for general needs and activities. Interior spaces should be separated from each other with functional, well-designed furniture which can add a better use of the living area and empty walls. The furniture must be adaptable in type and size to a number of different purposes. Therefore the furniture must be flexible and imply the multi-function uses in different spaces. All the families, in the survey preferred having flexible furniture.

In the proposal, the idea of saving space with such type of furniture has been considered. (Figures:26,27,28)

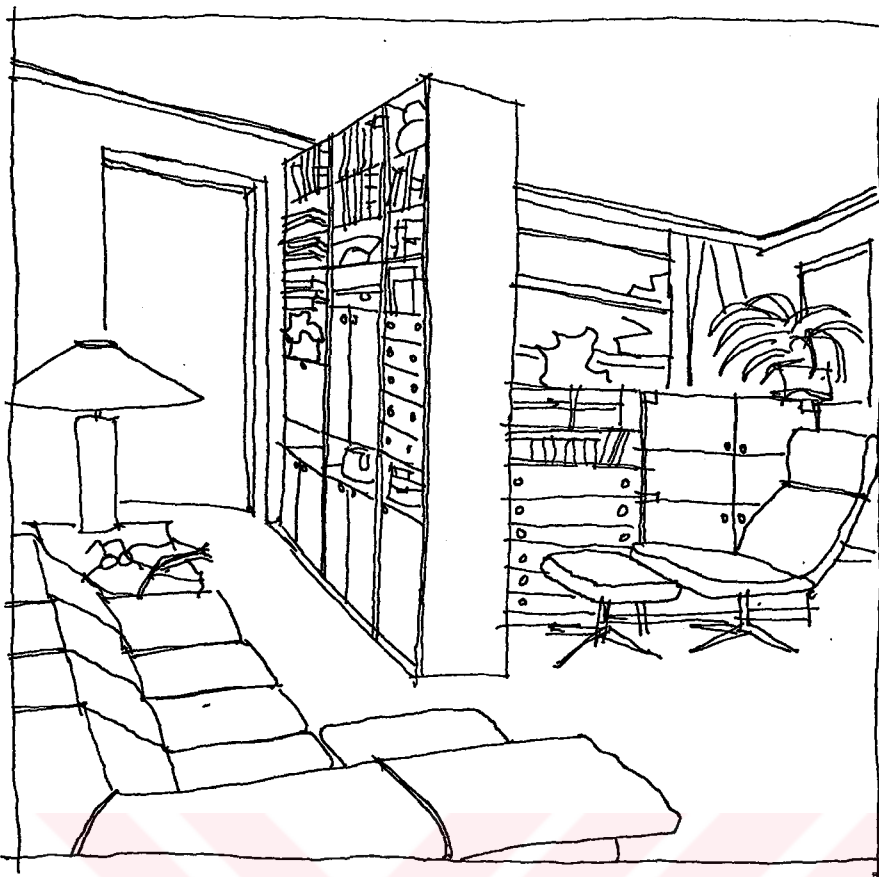


Figure 26.: Cup-boards as Space Dividing Elements

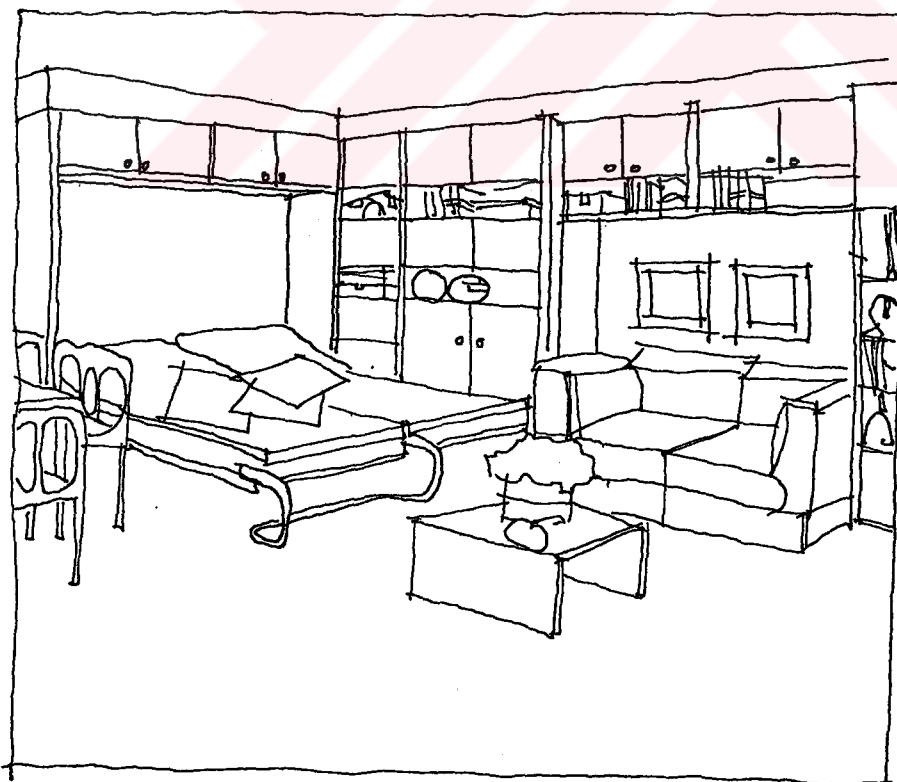


Figure 27: Wardrobe-Bed Design

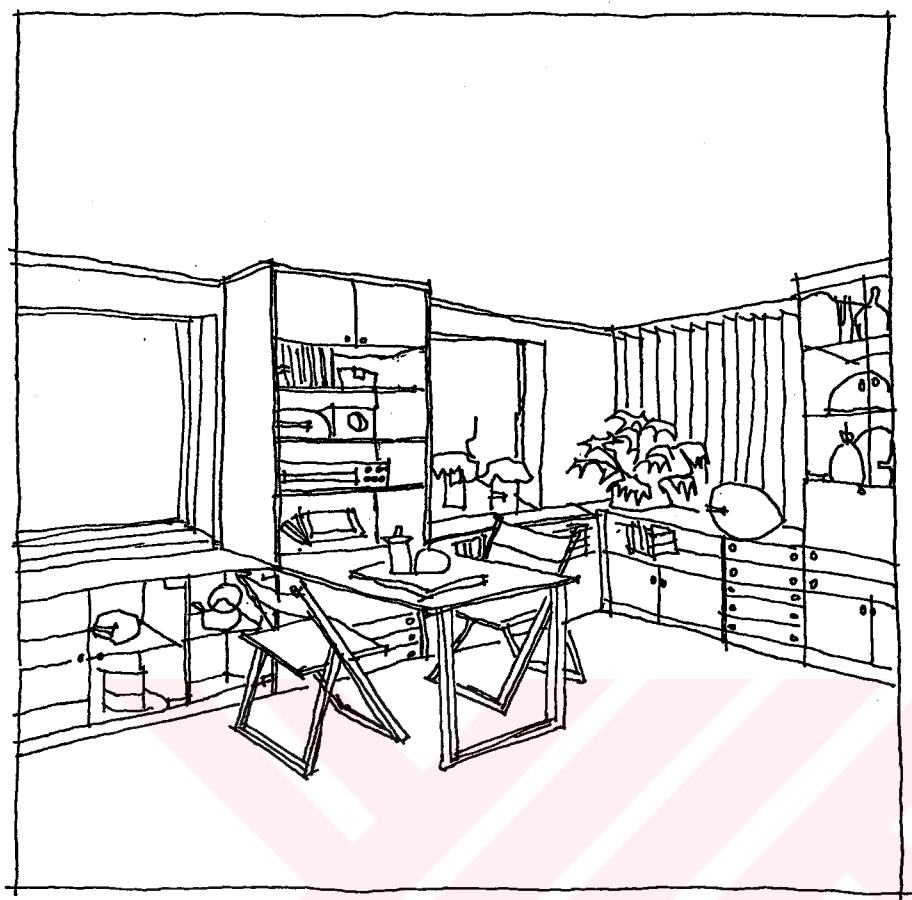


Figure 28: Storage Space-Table Design.

CHAPTER 7

DESIGN PROPOSAL

As have been discussed in the previous sections, housing for special groups is a subject of social and financial governmental policy in Turkey. Also these tasks involve the supply of social services and support and usually come under more than one ministry or government department. Therefore co-ordination at national and local level is essential.

Special groups of the population may accept to be tenants instead of being homeowners because of their financial inadequacies or their need for temporary residences suitable to their requirements. A large number of them are in city centers and have low or middle incomes. To enable special groups of the population needing aid and financial assistance to rent dwellings of adequate quality and size certain policies are implemented by the governments in housing sector.

"In housing, given perfect market conditions, the fundamental choice would be between renting and buying. But market imperfections and virtual demise of the private sector have removed this choice in the private sector. Only the public provision of rental

accomodation can ensure that the most households who can not or do not prefer to buy are supplied with housing at a rent within their means" (114).

Especially the public sector should satisfy the need for rental accomodation for the elderly, students, young couples, businessmen and single-people. In performing this role municipal housing is the most important sector. But in Turkey municipal authorities can not satisfy the demand of households because of their financial inadequacies. Then housing associations provide an alternative choice to households who accept to rent than buy, either through choice or necessity.

From the point of view that rental accomodation can be more suitable for special group of the population, the proposed policy will be to provide rental dwellings in the design proposal of small size houses.

"The housing strategy developed in our country aims not only at providing housing to those virtually in need of shelter but also setting the stage for those who live in low-standard houses with inadequate infrastructure. The objective involves laying the foundations for properly planned urban centers with complete technical and social

infrastructure facilities through building modern, contemporary and healthy houses for the ultimate aim of upgrading living standards" (115).

As it is mentioned before, to realize these objectives, The Housing Development and Public Participation Administration, attached to Prime Ministry, was established to create a separate and non-budgetary source of funds for the problem.

In the proposed policy, the Housing Development and Public Participation Administration, as a housing association will provide small rental dwellings in the design proposal. A basic objective of the proposed policy is that housing of families and individuals with special needs.

The proposed housing policy will have the following objectives;

1. To build small size units for rent to these special groups of the population (the elderly, disabled, young couples, single people, etc.) on available land, meeting the demand for small houses and recognising changes in household size.
2. To encourage other agencies, especially Housing Associations to meet part of the demand for specialized housing needs and providing a wide choice of tenure.
3. To increase the range of tenure choice by developing

more flexible policies for provision of home loans and by encouraging the activity of public sector and the private sector. This would encourage new forms of tenure such as equity sharing, co-ownership and co-operatives and to provide assistance to people like young couples.

4. To provide flexibility in the public stock and to encourage movement between sectors where this would tend to reduce overcrowding, multi-occupancy and under-occupancy.

5. To achieve a better estimation and understanding of housing needs in the country.

The following objectives relating to housing are;

1. Quality: The small size units will have the quality that will meet the requirements of the special groups of the population with best use of resources. Sub-standard housing conditions will be discarded. Also there will be significant qualities in the housing environment, such as;

i. Common social facilities: These groups may find economic and social advantages in shared common facilities like guest-house, laundry, public cafeteria, etc.

ii. Outdoor space arrangements: Outdoor space is important for a multitude of activities. Children's play, leisure time activities, hobbies, solitude, nature study, sport facilities are all good reasons for needing outdoor space arrangements.

iii. Privacy: Adequate privacy is a good quality for

housing environment sufficient distances between the building fronts are of great importance to the living quality of a building.

iv. Flexibility in housing layout and internal design: It is important to allow for variety and freedom in the design of housing areas. Related to this is the need for flexibility in the internal layout of houses. In many cases this will mean having enough space available to adjust the layout to special landscape or open space requirements or to achieve a particular grouping or character in a housing area.

2. Variety: A wide choice of size type and form of rental dwellings must be available in the settlement.

3. Mix of households: Mix of households will move to the variety of house types in the settlement. This means that the housing programme at any point in time should include a wide range of house types for example, there must be houses suited to young families, to the elderly, to students and other single person household and so on.

4. Mobility: Provision must be made for people to change their houses or tenure arrangements as their needs, resources and preferences change.

" Architects of such facilities agree that the most important aspect in designing for any special population is the creation of an environment that is sensitive to the needs, feelings and dignity of the people who will use the

space" (110). A consideration of user preference and satisfaction is fundamental to the provision of housing for the special groups of the population, services or facilities.

The location of the dwellings in relation to the community or city, its orientation, its fitness to the natural and built environment, its connections to social and community services are of critical significance. Living is not restricted only to the dwelling itself. Living means activities, contacts and relations in the environment. People do not live only in apartments but also on the playgrounds, the paths and squares, the public gardens and so on.

7.1. SITE CHARACTERISTICS

The area selected for the proposed housing environment has a favourable location, a good accessibility, at slight distance from public facilities. The site is in Çankaya, Dikmen mass housing area. It was expropriated by the government and assigned to the Housing Development and Public Participation Administration.

The proposal site is situated at the southern outskirts of Ankara, beside TBMM Lojmanları. At one end the length of the area reaches 330 meters and on the other 160 meters.

The site is on the secondary traffic arteries which lead to the city center. Adequate public transportation is

available. The major one is the bus connection. There exist short link routes to shopping, schools, and the parks. The nearest shopping area is at Dikmen.

The main topographic advantages of the site is its orientation towards south with a south facing slope of 12 %, (maximum slope is 25 %). Also, the site has a beautiful scenery in the south direction.

At the south-end of the project area, where the site reaches its maximum slope of 25 %, there is an open green area with seats, fountains, and other landscape elements all scattered among the greenery and small public squares around the pedestrian paths. The major pedestrian axis is in the north-south direction.

7.2. POPULATION DENSITY

The site is approximately 49.000 sq. meters (5ha). In the proposal, 320 units of housing has been considered in 40 blocks. Assuming that these special group occupants consist of 2-3 members, we may say that the proposed site can serve approximately 800 people with a density of 165 person/ha. So there are 65 houses per hectar in the proposed site.

7.3. OPEN SPACES AND OUTDOOR ARRANGEMENTS

In the proposal, the assignment of accessible green areas from a private garden to the open green area in the south, establish a hierarchy of open green areas. They

provide necessary public recreation facilities integrated with other public services.

There are playground areas for children and open spaces like an outdoor room or a small public square for small gatherings. Such open spaces are necessary for the social integration of the special groups with each other. Especially the elderly who may feel isolated and lonely with old age psychology will have the opportunity of meeting their friends and the young in open spaces.

The main pedestrian path in the north-south direction comes to an end at the open green area in the south. It provides the necessary access to activities and facilities in the settlement and especially in the central area. There are places for different sport activities like, jogging paths, grounds for ball playing, cycling etc.

As old age advances, the physical and mental changes lead the elderly to have some physical difficulties in managing the housework. Also the working young couples have a limited time to spend for doing the housework. All these factors necessitate the removing of the services from inside the house to the outside, and a relative lessening of the housework. As a consequence, the elderly and recently married couples tend to prefer common service places close to their houses. In the proposal, common service facilities such as a public cafeteria, a common

laundry, common guest-house, a supermarket post office, and provision of a medical care has been considered in the social center.

Pedestrian and vehicle traffic have been consistently separated. The traffic road remains on the periphery of the site with car parking areas and service entrances. Another green area separates the dwellings from the main road.

7.4. DWELLINGS

Dwellings are designed as small units giving good quality living conditions to the special groups. The design criteria related to the dwellings in the survey has been taken into consideration.

Dwelling units are planned to be 3 storeys in the north and 4 in the south to fit the topography of the site. South facing slope is taken into consideration, and terraced units follow the natural slope and are reached by a network of stairs, ramps and landings.

All living spaces face south with an extension of a balcony in the same direction, and have vistas. The dwelling units become smaller in the upper floors. On top with the use of the third dimension of the spaces a small penthouse is designed under the roof. Larger units are designed at the ground level for the families having a child. Because they need to be adjacent to child's play and garden. Also the elderly may prefer to live on the

ground level for dealing with garden works, plants, flowers etc. Upper floors are for young couples.

There are three alternatives of dwelling units. The usable floor area of the dwellings and the interior spaces are given in Table 21.

Table 21: Usable Floor Areas of Three Types of Dwellings and Interior Spaces.

| | Type A | Type B | Type C |
|-------------|--------|--------|--------|
| Living Room | 24.0 | 21.6 | 17.1 |
| Kitchen | 6.6 | 6.3 | 6.3 |
| Bathroom-wc | 4.0 | 4.43 | 4.43 |
| Bedroom 1 | 9.88 | 12.96 | 12.96 |
| Bedroom 2 | 5.88 | --- | 8.46 |
| Entrance | 8.94 | 7.02 | 4.16 |
| Balcony | 7.2 | 7.2 | 7.2 |
| WC | --- | --- | 1.87 |
| Total Area | 59.30 | 52.31 | 55.28 |
| Gross Area | 67.32 | 59.16 | 63.84 |

The three alternatives of small size dwellings give these special groups of the population, the elderly, the young couples, single people, etc., to have a variety of small size dwellings suited to their needs and wishes, in the same housing environment.

CHAPTER 8

DISCUSSION

In this thesis, the housing need of special groups of the population with its physical, social and economic dimensions and the attempts to cope with the problem have been discussed. The demand for small size housing has been investigated and validity of a proposal has been supported by a research and a survey.

Until recent years the housing needs and requirements of special groups of the population was not taken into consideration by governments. But the demographic factors, especially the progressive ageing of the population, in most countries combined with socio-economic changes and the government authorities have given increasing attention to the quality of housing and to the special housing needs of certain population groups.

Today the government tries to encourage and support the subject of small size dwellings in Turkey. The housing credits given to small size dwellings are increased, the production of economic and practical furnishing types are encouraged, and new technologies are used to produce cheap and sound dwellings.

In spite of the government's encouraging attempts on this subject, the demand for small size housing can not be

met at a preferable level in Turkey. Mostly it is the economical factors not the individual needs that make these people prefer to live in small houses in our country. Because the housing problem is mainly defined by the restrictions of the economical factors apart from the social factors which shape it.

In order to establish user's requirements needing small size dwellings a survey was made with the recently married couples and retired workers' families in Batıkent. In the survey it has been seen that these groups preferred small and practical houses to larger ones.

It is the subject of governmental policy to enable those special groups of the population needing aid and financial assistance to provide dwellings of adequate quality and size. In the design proposal, from the point of view that rental accomodation can be more suitable for these special groups, small size dwellings are proposed as rental units.

The design criteria obtained from the results of the survey and from previous studies were put in the form of design patterns. Then, the design patterns were introduced and utilized in proposals of the dwellings of different sizes and the housing environment.

The subject of small sized dwellings for the special groups of the population had been investigated all through the thesis. All the studies and results of the survey

verified the validity of this proposal and gave the reasons to support the proposal. Both the inadequate supply of housing alternatives in the housing stock for the special groups of the population and their growth in demographic terms support the idea of the need for small size dwellings.

Design patterns which are based on the criteria obtained from the survey were put forward as proposals, and used in the design of small dwellings and their environment. Here, it is tried to be discussed and pointed out some of the results obtained from the survey which do not fit our conventional dwelling patterns and traditional life-style. Those results helped me in obtaining some of the design criteria for the proposed model of the housing environment; The connection of the kitchen to the living room as a single space is not a preferable design considering the ventilation problem caused by our traditional meal types. However families mostly preferred the plan type in which the kitchen and the living room is used as single space. Both of the couples have stated that they want to see each other and share the same space while the wife is busy in the kitchen and the husband is resting or busy with something else in the living room. Also the usage of the kitchen together with the living room will be practical in case of usage and heating. It will provide easiness of service, especially for old people and for the

families who have frequent guests.

Direct entry to the living room is not a preferable thing from the view points of heat loss and cleaning. But the majority of the retired workers' families preferred direct entry since they want to see and control every place and do not want to lose contact with the environment. Owing to their physical and economical weaknesses and with old age psychology, they may find themselves, isolated and lonely. So they become more impatient, easily annoyed and curious. Preference of greater volumes also, may have these aspects. For that reason it may be necessary to have a direct entry to the living room and design the living room sufficient to cover all these functions they need in that flat. The recently married couples have also preferred such an entrance from the view points of flexible furnishing, and a practical entrance.

The usage of common service places in a settlement is also not a usually existing pattern observed in Turkey. However, minimization of the flat area brings the necessity of usage of common service places. The majority preferred the joint use of common service places such as the joint laundry, public cafeteria and a guest-house. Retired workers' families agreed upon this from the view points of physiological difficulties in managing the housework, washing dishes, clothes, cooking meals or entertaining

guests, etc. Since the recently married couples are both working, the time spent at home is little. They have stated that having common service places within the settlement would help them to have more time to spend for themselves instead of houseworks.

The study and the proposed design have been made with the aim of meeting the housing need of special population suitable to their requirements and wishes. To provide variety of alternatives and an environment required by these families by taking into account their spiritual needs, social and economic conditions.

APPENDIX 1

QUESTIONNAIRE-STUDY MADE WITH THE FAMILIES OF RECENTLY MARRIED COUPLES AND RETIRED WORKERS

(Related to Chapter Five)

5.3.4.2. (5.3.6.2) Life-Style

In this section the questions were asked to find out the characteristic life-styles of the families of recently married couples and retired workers, to see how they use the main spaces of a flat

1. "Please write the places you spend most of your time at home in winter"

Recently Married Couples; The question was answered as follows; 42.5 % of the families (n=17) replied as the sitting room, 37.5 % of the families (n=15) replied as living room (salon), 12.5 % of the families (n=5) both the sitting room and kitchen, 7.5 % (n=3) said in the kitchen. Interpretation: Although the flats are centrally heated, there is a great heating problem in the units. Therefore most of the families tend to use smaller spaces such as the sitting room and kitchen instead of using the main living room in winter. Also as they are the new established family type through the initial stage, having very limited economic resources (or financial

possibilities), they might not have completed furnishing all the spaces at home. However furnishing a small space such as the sitting room is easier than furnishing a larger space like the living room. Placing two comfortable coaches will be enough for furnishing the sitting rooms. So this can be the other factor that influenced them in preferring to use one of the bedrooms as the sitting room.

We may say that the families spend most of their time in winter in the sitting room and kitchen. The main living rooms are used mostly when visitors come.

Retired Workers' Families; The replies were given in the following way. 46.66 % of the families (n=14) replied that they spent most of their time in the sitting room. 43.3 % of them (n=13) said in the living room (salon). 10 % of them (n=3) said in the kitchen.

Interpretation: The aged people prefer to live in smaller spaces in winter time. Since there is a great heating problem in the flats they tend to use one of the rooms as the sitting room and place their electric heaters or stoves there. The others place them in the living room (in winter) and they are able to use the living room in winter as well.

2. "Please write the places you spend most of your time at home in summer"

Recently Married Couples; This question was answered in

the following way; 30 % of the families (n=12) said both in the main living room and balcony. 7.5 % of the families (n=3) in the living room, 22.5 % (n=9) in the balcony, 30 % (n=12) in the sitting room, kitchen and balcony, 10 % (n=4) in the sitting room.

Interpretation: Different from the winter time in summer, the families spend most of their times in the balcony, than in sitting room. The usage of the living rooms are not differentiated much in winter and summer times.

Retired Workers' Families; Answers to this questions were as follows: 43.33 % of the families (n=13) said that they spent most of their times in the balcony. 36.66 of the families (n=11) said in the balcony and in the living room, 10 % of them (n=3) said in the balcony and sitting room. 10 % (n=3) said in the balcony and in the kitchen.

Interpretation: In summer the majority of the families spend their time in the balcony in open air as they are in need of fresh air. Since they are bored in small rooms they use the living room instead of the second bedroom in summer.

3. "For what purpose other than sleeping in, do you use your bedroom?"
 - nothing else
 - for sewing in
 - for ironing in

- for sitting
- as a storage room

Recently Married Couples; 77.5 % of the families (n=31) said only for sleeping, and for sewing in; 5 % (n=2) for ironing; 12.5 % (n=5) used their bedrooms as child's room as they had little babies.

Retired Workers' Families; All the families used their bedrooms only for sleeping in, except one family which also used the bedroom for sewing in.

4. "For what purposes do you use
your (second) other bedroom?"

- as sitting room
- for sewing in
- for ironing in
- as children's room
- as storage room
- we do not use it

Recently Married Couples; 45 % of the families (n=18) said as sitting, sewing and ironing; 22.5 % (n=9) said both as sitting room and child's room; 7.5 % (n=3) said only as child's room, 5 % (n=2) only as a storage room, 15 % (n=6) of the families did not use the second bedroom for any purposes.

Interpretation: Bedrooms are usually unused in day time.

They are generally used only for sleeping in. Most of the families use the second bedroom as the sitting room especially in winter, instead of using the living room. The families using the living room daily for sitting purposes, mostly do not use their second bedroom.

The families use either the living rooms or second bedrooms daily, (for several purposes). So if they are able to use the living rooms efficiently (not only for entertaining guests) and if there is not any heating deficiency in the flats, they do not need a separate sitting room.

Retired Workers' Families; 66.66 % of the families (n=20) said as sitting room, and for sewing and ironing in and for guests, 26.66 % of the families (n=8) said as child's room. One family said for sewing and for guests only. One family said only as a guest room.

Interpretation: Families are not using their bedroom for other activities in day-time. So the bedrooms are used only for sleeping in. Families are using the second bedroom mostly for the activities such as sewing, and ironing, or as a guest room. Because of the heating deficiencies they are using the second bedroom also as a sitting room in winter. From the answers to the previous questions we understand that the old people prefer living in the living room which is the largest in the house in summer time. So the living rooms must be designed

so efficiently that, the space should include every activity, and their psychological and social requirements.

5. "For what purposes other than bathing do you use your bathroom?"

- nothing else
- for keeping the dirty clothes
- for washing clothes
- as a storage space

Recently Married Couples; 95 % of the families (n=38) utilized the bathroom, for bathing and keeping the dirty clothes and washing them. Two of the families said only for taking a bath. As one of them placed the washing machine in the kitchen and the other family placed it in wc, they did not use the bathroom for washing clothes.

Interpretation: All families prefer washing their clothes in the bathroom. So the bathrooms are also used for keeping and washing dirty clothes.

Retired Workers' Families: Results indicated that families use the bathroom also for keeping and washing the dirty clothes, besides bathing. One family used the bathroom also as a storage space.

Interpretation: The general attitude is to wash and keep the dirty clothes in the bathroom. So the families are in need of suitable spaces for placing the washing machines and for storing dirty clothes

6. "Do you need a second toilet in your flat?

If your reply is 'YES' explain why."

-- YES

-- NO

Recently Married Couples; 12.5 % of the families (n=5) replied this question by saying 'YES', and the remaining 87.5 % (n=35) said 'NO'.

The four families that replied the question as 'YES' have stated that since they had very frequent guests visiting them, the second wc was an absolute necessity. The other family which has given 'YES' reply said, since the bathroom sizes were very small, they had discarded the water closet in the bathroom, as it made the usage difficult. So they were obliged to use the squatting water-closet in the second wc.

Interpretation: The second toilet is a necessity for crowded families. But it is not a necessity for small households like the families of recently married couples.

Retired Workers' Families; 23.34 % of the families (n=7) replied this question by saying 'YES'. The remaining 76.66 % (n=23) said 'NO' are not in need of a second toilet in their houses.

Interpretation: The retired workers' families are not in need of a second toilet in their houses.

7. "Do you have visitors staying overnight?"

-- YES

--NO

If your reply is 'YES' then:

-- "How frequently?"

-- "Where do they sleep?"

-- "Do you have difficulties in receiving
night guests?"

Recently Married Couples; 90 % of the families (n=36) replied this question as 'YES', the remaining 10 % (n=4) said 'NO'.

36.1 % of that 36 families (n=13) who had guests staying overnight, said that those guests visited them very frequently, (every week or very fifteen days), 44.5 % (n=16) said often (each month), 19.4 % (n=7) said rarely (two or three times in a year).

The night guests of 33.3 % of the families (n=12) slept in the second bedroom which they called the sitting room or guest room; those of 30.5 % (n=11) slept both in the living room and in the sitting room and; those of 25 % (n=9) slept in the living room only; 8.3 % (n=3) slept in the child's room. Only one family was assigning their own bedroom for their guests.

75 % of the families (n=27) of those receiving night guests have stated that they did not have any difficulties (economic or physical difficulties), or disturbed in receiving them. The remaining 25 % (n=9) had difficulties

in receiving night guests. They were disturbed and had economic difficulties.

Interpretation: Most of the families show the traditional hospitality originating from the social structure. Since they are small families consisting of two or three people, the dwellings are large enough to meet the requirements of both the family and the night guests. But families have other difficulties such as economic inadequacies and having inadequate furniture in their homes. In general the guests sleep in the guest rooms, in the rooms called the sitting room or in the living room where they have suitable furnishings.

Retired Workers' Families; 93.33 % of the families (n=28) had such guests, and the remaining did not have.

13 of those having guests overnight, have stated that, those guests visited them very frequently (each week or every-fifteen days) 33.3 % (n=11) of them said often (each month or once in a two months time), the remaining 21.4 % (n=6) said rarely (two or three times a year).

The night guests of 39.4 % (n=11) families slept in living rooms and second bedrooms, 7 slept in living room, 9 slept in second bedroom or as they call it guest room, and only one family's guests slept in their own bedroom.

Half of the families having guests overnight, have stated that, they did not have any difficulties in receiving those guests. The remaining, 53.6 % (n=15) have

stated that they have difficulties in receiving guests. Besides the economical difficulties they have physical difficulties in receiving night guests. As it gets difficult to serve guests and manage the housework as old age advances.

Interpretation: The majority of the families receive night guests with the traditional hospitality. Most of the families which have been very frequently receiving such guests assign the second bedroom. Other families, especially the ones who have a child, receive their guests in the living room. Most of the families have both economical and physical difficulties in receiving night guests.

5.3.4.4. (5.3.6.4) Study of the Activities Inside the House According to Individual Sections

In this part questions were asked in order to determine which activities carried out in each space at home.

1. "Is there a section or room at your house used for your hobbies?"

If 'YES' where?

-- YES

-- NO

Recently Married Couples; 82.5 % of the families (n=33) answered this question by saying 'NO'. The remaining 17.5 %

(n=9) said 'YES'.

Five of the families who have given 'YES' reply, had a small section in the living room for their hobbies, such as making traditional handworks, like knittings laceworks, flower-seramics etc. The remaining two used the second bedroom, one for making paintings and the other for collecting objects.

Interpretation: The recently married couples are not in need of a special separate hobby room. Instead of it they tend to use their living rooms or sitting rooms where they usually spend their times.

Retired Workers' Families; 80 % of the families (n=24) answered this question by saying 'NO' and the remaining 20 % (n=6) said 'YES'.

All, six of the families who have given 'YES' reply, used the living room for their hobbies. One of them also used the balcony for the hobbies, such as dealing with flowers. Two of them were producing hand-made paper flowers, the other three were dealing with fish in aquariums or birds in cages.

Interpretation: The retired workers' families are not in need of special, separate hobby rooms. A small section in the living room should be designed to keep themselves busy since it will be useful for them to enjoy themselves instead of feeling bored at home.

2. "Where do you keep your everyday clothes?"

-- in the built-in wardrobe

-- in chests

-- in wardrobe

-- others...

Recently Married Couples; 95 % of the families (n=38) kept them in wardrobe and the remaining 5 % (n=2) used chests for keeping their everyday clothes.

Interpretation: The majority use wardrobes for keeping clothes. But they say that they prefer built-in wardrobes during the interview.

Retired Workers' Families; 66.67 % of the families (n=20) kept their clothes in wardrobes only. 16.67 % of them (n=5) kept them both in the wardrobes and on the hangers at the back of the doors. 6.67 % of them (n=2) kept them only in chests and boxes.

Interpretation: The families keep their clothes in wardrobes or in chests. If they had built-in wardrobes they would probably prefer that.

3. "Do you store the foodstuffs
according to seasons?"

"If your reply is 'YES' where in?"

-- YES

-- NO

Recently Married Couples; 65 % of the families (n=26), has given 'YES' reply. Some of them said that their foodstuffs were brought from their villages and they did not need to buy them. 35 % of the families (n=14) replied as 'NO'. The reason was economic inadequacy. A few of them said there was not sufficient storage place in the kitchen.

Twelve families out of 26 who stored foodstuffs have stated that they kept them both in the balcony and in the kitchen; nine of them in the kitchen cupboards; and five of them in the balcony and in the bedrooms under the beds or in wardrobe.

Interpretation: Most of the families store either in the kitchen or in the balcony.

Retired Workers' Families; 73.34 % of the families (n=22) replied as 'YES'. The rest 26.66 % (n=8) gave 'NO' reply and complained about the insufficient cupboards and financial inadequacies in buying them.

Half of these 22 families who store foodstuffs, kept them in balconies and in kitchens. Three of the families kept them in balcony, kitchen and second bedroom; two of them in the balcony and living room; another two of the families kept them only in the kitchen and three of them only in the balcony.

Interpretation: The majority of the families has the habit of storing foodstuffs. The families prepare the foodstuffs

by themselves or bring them from their villages especially for winter time. As the kitchen cupboards are insufficient, families tend to use the balcony as a storage.

As a result families are in need of sufficient places in the kitchen for storing foodstuffs.

4. "Where do you have your breakfast,
lunch and dinner?"

Recently Married Couples; 40 % of the families (n=16) of both husbands and wives working did not have lunch at home except in weekends and holidays.

Because of heating deficiency in flats, families tend to have their breakfast lunch and dinner in the same places where they spent most of their time at home. So eating activities took place either in living room or in second bedroom (sitting room) (where they placed electric heaters or stoves for heating in winter). 40 % of the families (n=16) were using the sitting room for having their breakfast, lunch and dinner; 30 % (n=12) of them used the living room. Only 30 % (n=12) of the families had their breakfast, lunch and dinner in the kitchen in winter. In summer time, they were using the balcony and the kitchen.

Interpretation: Eating activities take place mostly in sitting room, then living room and kitchen in winter. In

summer time, mostly the balconies and kitchens and rarely the living rooms are used for eating purposes.

In general families tend to use those places where they mostly spend their time (such as the living room, sitting room or the balcony) also for eating purposes.

Retired Workers' Families; 33.33 % of the families (n=10) replied that they had all meals in the kitchen. When guests come they moved to the living room. 46.66 % (n=14) had their meals in the living room; 20 % (n=6) had them in the sitting room.

Interpretation: Generally retired workers' families use the living room and kitchen for eating activities. When guests come they all use the living room. There is not any winter-summer difference.

5. "How much of your daily time (day and night together) you spend in the kitchen?"

Recently Married Couples; 75 % of the families (n=30) said that they spent 2-3 hours in the kitchen. The remaining 25 % (n=10) said half of a day. The ones who said they were spending half of their day time were all housewives.

Interpretation: The time spent in the kitchen is not much especially when the husbands and wives are both working.

Retired Workers' Families; 50 % of the families (n=15)

said that they have spent half of their day-time in the kitchen; 40 % of them (n=12) said that they spent 2 or 3 hours in a day; and 10 % (n=3) spent approximately one or two hours.

Interpretation: Families have been using the kitchen once a day generally for cooking purposes. In the families whose children have left their home, the time spend in the kitchen is little.

6. "Which equipments mentioned below
do you have in your house and
where do you use them?"

| | |
|---------------------|--------------------|
| -- Furnace (hearth) | -- Washing machine |
| -- Owen | -- Vacuum cleaner |
| -- Refrigerator | -- Sewing machine |
| -- TV. sets | -- Iron |
| -- Video | -- Radio |
| -- Tape-Recorder | -- Record-Player |
| -- Telephone | |

Recently Married Couples; According to the replies 5 families had no oven, one had no refrigerator, 9 families had no washing machines, 14 families had no vacuum cleaners, 16 families had no sewing machine, 5 families had no tape recorder, 2 families had no TV.

Only 3 families had a video and a record player, none of the families had a telephone. The equipments in

the house and their places are shown in Table 22.

Interpretation: Most of the families have completed the kitchen equipments and the general requirements such as iron, radio, and refrigerator. Generally all the families, have radio, tape recorder, and TV-sets which are mostly placed in the sitting rooms, in the places where the family spent most of their time at home. The only problem in placing these equipments at home occurs in the bathroom. The bathroom is too small for the washing machine to be placed. Only, a small portable washing machine can be placed in the bathroom.

Retired Workers' Families: The equipments and their places according to the replies are shown in Table 23.

Interpretation: The majority of the families have the necessary equipment in their houses. Families mostly placed the radio, tape recorder and TV. sets in the living rooms. The vacuum cleaners, sewing machines and irons are usually placed in the bedrooms.

The places of these equipments do not create problems at home, except the bathroom which is not suitable for placing washing machines. If there is a storage water heater or an instantaneous water heater in the bathroom, only small portable washing machine can be placed.

Table 22: The Equipments and Their Places in the Houses of Recently Married Couples

PLACES OF THE EQUIPMENTS

| Equipments | Number of Families | | Kitchen | | Bathroom | | Bedroom | | Sittingroom | | Livingroom | | Entrance and corridor | |
|-----------------|--------------------|------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|-----------------------|------------|
| | In Percentages | In Numbers | In Percentages | In Numbers | In Percentages | In Numbers | In Percentages | In Numbers | In Percentages | In Numbers | In Percentages | In Numbers | In Percentages | In Numbers |
| Oven | 87.5 | n=35 | 87.5 | n=35 | | | | | | | | | | |
| Refrigrator | 97.5 | n=39 | 97.5 | n=39 | | | | | | | | | | |
| Washing Machine | 77.5 | n=31 | 2.5 | n=1 | 55 | n=22 | 15 | n=6 | 2.2 | n=1 | | | 2.5 | n=1 |
| Vacum Cleaners | 65 | n=26 | | | | | 40 | n=16 | 17.5 | n=7 | 7.5 | n=3 | | |
| Sewing Machine | 60 | n=24 | | | | | 10 | n=4 | 35 | n=14 | 15 | n=6 | | |
| Iron | 100 | n=40 | | | | | 57.5 | n=23 | 30 | n=12 | 12.5 | n=5 | | |
| Radio | 100 | n=40 | | | | | | | 42.5 | n=17 | 57.5 | n=23 | | |
| Tape Recorder | 87.5 | n=35 | | | | | | | 47.5 | n=19 | 40 | n=16 | | |
| TV | 95 | n=38 | | | | | | | 57.5 | n=23 | 37.5 | n=15 | | |
| Video | 7.5 | n=3 | | | | | | | | | 7.5 | n=3 | | |
| Record Player | 2.5 | n=3 | | | | | | | | | 7.5 | n=3 | | |

Table 23: The Equipments and Their Places in the Houses of Retired Workers' Families

PLACES OF THE EQUIPMENTS

| Equipments | Number of Families | | Kitchen | | Bathroom | | Bedroom | | Sittingroom | | Livingroom | | Entrance and corridor | |
|-----------------|--------------------|------------|---------------|------------|---------------|------------|---------------|------------|---------------|------------|---------------|------------|-----------------------|------------|
| | In Percentage | In Numbers | In Percentage | In Numbers | In Percentage | In Numbers | In Percentage | In Numbers | In Percentage | In Numbers | In Percentage | In Numbers | In Percentage | In Numbers |
| Oven | 86.66 | n=26 | 86.66 | n=26 | | | | | | | | | | |
| Refrigrator | 96.66 | n=29 | 96.66 | n=29 | | | | | | | | | | |
| Washine Machine | 86.66 | n=26 | | | 46.66 | n=14 | 20 | n=6 | 10 | n=3 | | 10 | n=3 | n=3 |
| Vacum Cleaners | 86.66 | n=26 | | | | | 50 | n=15 | 13.3 | n=4 | 16.66 | n=5 | 6.66 | n=2 |
| Sewing Machine | 86.66 | n=26 | | | | | 20 | n=6 | 56.66 | n=17 | 10 | n=3 | | |
| Iron | 93.33 | n=28 | | | | | 46.66 | n=14 | 33.33 | n=10 | 13.33 | n=4 | | |
| Radio | 96.66 | n=29 | | | | | | | 30 | n=9 | 66.66 | n=20 | | |
| Tape Recorder | 76.66 | n=23 | | | | | | | 26.66 | n=8 | 50 | n=15 | | |
| TV | 96.66 | n=29 | | | | | | | 40 | n=12 | 56.66 | n=17 | | |
| Video | 6.66 | n=2 | | | | | | | | | 6.66 | n=2 | | |
| Record Player | 3.33 | n=1 | | | | | | | | | 3.33 | n=1 | | |

5.3.4.6. (5.3.6.6) User's Opinions and Intentions on
Interior and Exterior Housing Environments

In this section a number of questions were asked to the families in order to determine the inhabitants opinions and intentions about the dwellings and their environments. They are also necessary to establish their sense of comfort as well as their wishes about the housing environment.

1. "Are you satisfied with the planning
of your house in general?"

-- YES

-- NO

Recently Married Couples; 87.5 % of the families (n=35) replied this question as 'YES'; and the remaining 12.5 % (n=5) of them said 'NO'. Explanation about the dissatisfaction was mainly due to the position of the bathroom between two bedrooms, and the smallness of the entrance and the bathroom.

Interpretation: Most of the families are satisfied with the planning and the sizes of the houses.

Retired Workers' Families; To this question; 90 % of the families (n=27) gave 'YES' reply and the rest 10 % (n=3) said 'NO'.

Interpretation: Families are satisfied with the planning of their houses.

2. "Which parts or aspects of your house do you complain about?"

Can you explain its reasons?

-- living room -- corridor and entrance
-- kitchen -- balcony
-- bathroom and WC. -- others...
-- bedroom

Recently Married Couples; All the families were complained about the heating deficiency of the flats in all parts of their houses.

--- Living room; 95 % of the families (n=34) said there was nothing to complain about the living room. 5 % of the families (n=2) complained about the position of the door in the living room since it divided the space when it was opened and destroyed the usage of the living room. 10 % of the families (n=4) complained that since the windows were small and the balcony was projected in front of the living room, the space could not be illuminated satisfactorily the living room could not receive the sunlight and became the darkest part of the house only one family said the living room was small in size.

Interpretation: The main problem is the darkness of the living room because of the smallness of the windows and the existence of balcony in front of them.

--- Kitchen: 15 % of the families (n=6) have complained

about the kitchen. 3 of them complained only about the smallness of the kitchen; they said when they put the refrigerator there was not any space left for the table. One of them said they could place only a small portable table. When guests visited them, they could not have their meals in the kitchen. 2 of them complained about the cupboards in the kitchen. They said they could only place the kitchen utensils in cupboards and not any food. One family complained about the smallness of the window and darkness of the kitchen.

Interpretation: The kitchen with its length and width should be suitable for the kitchen equipments and for the relevant furniture.

--- Bathroom-WC: 52.5 % of the families (n=19) have stated that they had no complaints about the bathrooms and WC's. 7.5 % of the families (n=3) have saved space by making some changes; 2 of them have taken the water closet out of the bathroom in order to save space for washing machines and for storage water heater (termosifon). One of the families has abandoned squatting watercloset in the second wc and placed the washing machine there.

The remaining 40 % of the families (n=16) had complaints about the bathroom and wc. 30 % of them (n=12) complained about the smallness of the bathrooms. As they could not place the washing machine and the storage water heater or instantaneous water heater in the bathroom. Two

of them also said that the bathroom and wc should not be together and one wc was enough at home. 5 % of the families (n=2) said that the bath-tub should not be placed in the bathroom as it has occupied too much space and made the bathroom small. Instead of a bath-tub there should be a shower or Turkish water-bowl (kurna). 5 % (n=2) complained about the position of the bathroom and wc. Since the bathroom was in the middle of the two bedrooms, the noise in the bathroom disturbed the people sleeping in the bedrooms.

Interpretation: The sizes of the bathroom-wc should be suitable for placing the washing machines and for the storage water heaters as well as for shower and water-closet.

--- Bedroom: Only two families complained about the smallness of the bedrooms. Both of the families had little babies, sleeping in their bedrooms. Therefore the space left for circulation was very uncomfortable and they wanted some more space in their bedrooms.

Interpretation: Generally families are satisfied with their bedrooms.

--- The Entrance and Corridor: 15 % of the families (n=6) have complaints about the corridor and entrance. They all said that the width was very narrow and the corridor was very long and dark. Two of the families complained that

they did not have any suitable place for putting shoes at the entrance.

Interpretation: The entrance and corridors should not be narrow and dark spaces.

--- Balcony: 10 % of the families (n=4) had complaints about the balconies. As the balconies were built within the building line and not projecting out, the living rooms which had windows only on the balcony side, could not be illuminated satisfactorily. Especially when people washed clothes and hung them in the balcony for drying, the interior space could not receive sunlight and the living rooms became very dark.

Interpretation: The balconies which are not projected outside the building, create an illumination problem in the interior spaces.

--- Others: 15 % of the families (n=6) had other complaints such as the orientation of their flats. Since the flats were mostly placed on the north and north-east direction, they could not receive sunlight and were usually colder than the others. Four families also complained about the smallness of the windows and darkness of the interior spaces.

Interpretation: The orientation of the flats and the smallness of the windows have negative effects on the illumination of the interior spaces. Also the orientation

of the flats to the directions such as north and north-east have a negative effect on heating.

Retired Workers' Families; The answers to this question are as follows;

--- Living room: 20 % of the families (n=6) complained about the living rooms. The complaints were about the smallness of the windows and the darkness of the living room. They have stated that, when they washed their clothes and hung them in the balcony, which was in front of the windows of the living rooms, the interior space became dark and cold as it could not receive sunlight. Two families complained about the door of the living room as they disturbed the efficient usage of the space.

Interpretation: The living rooms should be spacious and sunny and there should not be small windows or balconies which darkens the interior space.

--- Kitchen: 13.33 % of the families (n=4) complained about the kitchens. The complaints were about the smallness of the kitchen and insufficient cupboards. When the families placed a dining table in the kitchen, the kitchen door could not be opened and people could not enter the kitchen. As a solution they opened the kitchen door and placed the table in front of it. But, this caused another important problem, the interior of the kitchen could be seen from the entrance door. When the table is

placed in such a position, that creates an undesirable appearance especially when guests come.

Interpretation: The size of kitchen should be suitable and sufficient for placing a dining table and various kitchen equipment.

--- Bathroom-WC.: 26.66 % of the families (n=8) complained about the bathrooms and wc's. These families could not wash and keep the dirty clothes, since they could not place the washing machines in bathrooms. They wanted to place the regular size washing machine not the small portable ones. Two families have complained about the position of the bathroom between two bedrooms. They said that the noise in the bathroom disturbed them in bedrooms.

Interpretation: The bathroom-wc size should be sufficient for placing washing machines and storage water heaters as well as a shower and water-closet.

--- Bedrooms: Only three families complained about the bedrooms. They have stated that there was not enough space to put all their furniture and that rooms did not get sunlight.

Interpretation: Generally families are satisfied with the sizes and planning of their bedrooms.

--- The Entrance and Corridor: Two families have complained about the narrowness and darkness of the entrance and the corridor.

Interpretation: One end of the corridor is used as the entrance space and it is very narrow and dark. Entrances should be comfortable and light spaces.

--- Balcony: Families have no complaints about the balconies except its position as it darkens the living room.

--- Others: 20 % of the families (n=6) have other means of complaints such as the position and orientation of their flats. Some flats were very close to the apartment blocks near them and did not receive sunlight. Three of them complained about the smallness of the windows.

Interpretation: The flats should receive sunlight and should be well illuminated.

3. "Are you in need of a bigger living room?"

"If your answer is 'YES', please explain why?"

-- YES

-- NO

Recently Married Couples; 92.5 % of the families (n=37) replied to this question as 'NO'. The remaining 7.5 % of them (n=3) said 'YES'. They have stated that because of their bulky furniture there was not sufficient circulation space left in the living room.

Interpretation: Generally families are not in need of a larger living room. (salon)

Retired Workers' Families; To this question, 90 % of the families (n=27) said 'NO'. The rest 10 % (n=3) said 'YES', and they complained about the insufficient circulation space left from their furniture.

Interpretation: Generally families are not in need of a bigger living room.

4. "Would you prefer a smaller but more practical living room having well-designed furniture (such as the coaches that can be used as armchairs in day time and as beds at night or built in wardrobes, etc.)

-- YES

-- NO

Recently Married Couples; 92.5 % of the families (n=37) have answered as 'YES', and the remaining 7.5 % (n=3) as 'NO'.

Interpretation: Generally families prefer smaller but comfortable and functional living-rooms with well-designed furniture. The majority of the recently married couples have insufficient furniture and their living rooms are usually empty spaces. The reason for this is either their financial inadequacy or their being the new established family type.

Retired Workers' Families; To this question 86.66 % of the

families (n=26) said 'YES', the rest 13.34 % said "NO".

Interpretation: The retired families seem very conscious about their demands perhaps due to the experience in life. They prefer smaller but more practical living rooms, having well-designed furniture. The replies to this question will be one of the important design criteria at the planning stage.

5. "Would you prefer a smaller but more practical bedroom, having well-designed furniture (such as portable beds, built-in wardrobes, closets etc.)?"

-- YES

-- NO

Recently Married Couples; 92.5 % of the families (n=37) said 'YES'. The remaining 7.5 % (n=3) said 'NO'.

The families that replied as 'NO', said that they did not like small bedrooms and portable beds or built in wardrobes.

Interpretation: Generally families prefer having small but more functional bedrooms with well designed furniture. This will be considered to be an important design criteria at the planning stage.

Retired Workers' Families; To this question 86.66 % of the families (n=26) said 'YES' and the remaining 13.34 % (n=4) said 'NO'.

Interpretation: Generally families prefer having smaller but more practical bedrooms with well-designed furniture this should be considered to be a design criteria at the planning stage.

6. "Can you store foodstuffs and utensils in the kitchen as you like. Are you in need of more cupboards in the kitchen?"
(Families have already 3.72 m2 cupboards in their kitchens)

-- YES

-- NO

Recently Married Couples; 65 % of the families (n=26) said 'YES' they can store foodstuffs and utensils in the kitchen as they like, and the remaining 35 % (n=14) said 'NO' and complained about the insufficient cupboards and counter space.

Interpretation: Families are generally satisfied with the existing cupboards but for foodstuffs they may prefer having some more cupboards.

Retired Workers' Families; To this question; 66.67 % of the families (n=20) have given 'YES' reply and 33.33 % of them (n=10) have given the 'NO' reply.

Interpretation: Families do not need more cupboards in the kitchen.

T. C.
Yükseköğretim Kurulu
Dokümantasyon Merkezi

7. "How should the kitchen and eating place be related?"

Recently Married Couples; 85 % of the families (n=34) wanted them to be close to one another and had a connection such as a service counter or window if the ventilation problem of the kitchens could be solved properly. The remaining 15 % of the families (n=6) said they preferred eating in the kitchen.

Interpretation: As seen in the answers to the previous questions, families generally prefer having their meals in the places where they mostly spend their times such as living rooms or sitting rooms. Generally they prefer the connection of the eating place, the living room with the kitchen.

So, the majority of the families prefer the connection of the living room with kitchen this subject should be taken into consideration at the planning stage.

Retired Workers' Families; In the answer to this question; 90% of the families (n=27) have stated that they preferred an eating place close to the kitchen with connection in the form of a service counter or a window. Instead of eating in the kitchen they have preferred the eating place to be a part of the living room, but not separated from the kitchen.

10 % of the families (n=3) said that the eating activities should take place in the kitchen.

Interpretation: Families want a connection between the living room and the kitchen. By this connection the retired families will not have difficulties in preparing the table and carrying the dishes back to the kitchen. Also they will not be bored in a small kitchen while having their meals. This subject should be taken into consideration as a design criteria at the planning stage.

8. "Which one would you like to have, in the bathroom?"

- a Turkish water-bowl (kurna)
- shower
- bath-tub
- bath-tub for sitting

Recently Married Couples; 20 % of the families (n=8) liked to have a shower, 40 % (n=16) preferred bath-tubs, 40 % (n=16) preferred bath-tubs for sitting, (the existing ones)

Interpretation: To plan the bathrooms with bath-tubs for sitting or with showers will meet the requirements of recently married couples.

Retired Workers' Families; The answers were as follows; 73.33 % of the families (n=22) preferred the bath-tubs for sitting, 13.33 % of them (n=4) preferred the Turkish water-bowl (kurna), two families preferred a regular bath-tub, two preferred a shower.

Interpretation: The bathrooms having bath-tubs for sitting, or showers will be suitable for retired workers' families.

9. "Which type of wc. would you prefer?"

-- oriental type

-- occidental type

Recently Married Couples; Half of the families (n=20) preferred the oriental type, the other half preferred the occidental type.

Interpretation: In the bathrooms occidental type of wc may be more appropriate.

Retired Workers' Families; 63.33 % of the families preferred the occidental type of wc. The remaining 36.67 % (n=11) preferred the oriental type.

Interpretation: Families prefer the occidental type of water-closet. The reason for this preference may be due to easiness of the usage especially in old ages.

10. "Would you agree with the idea of having
an entrance identified and separated
from the living room with a built-in
cupboard in which coats can be hung and
shoes can be put, instead of a separate
entrance at home?"

-- YES

-- NO

Recently Married Couples; 95 % of the families (n=38) have given 'YES' reply, if the only disadvantages of temperature loss could be solved. Also they all agreed upon the planning of a flexible arrangement with separating entrance with a panel or furniture. Only two families have given 'NO' reply.

Interpretation: Such an entry is more practical and functional both for space saving. This will be an important aspect, at the planning stage. The only disadvantage is the heat loss which should be solved by taking necessary measures in the landings of stairs and flat entrances.

Retired Workers' Families; To this question; 86.66 % of the families (n=26) have given 'YES' reply, and 13.34 % (n=4) have given 'NO' reply.

Interpretation: The reason of the preference of such an entry may be a space saving, a more functional usage. It is more practical to use such cupboards as space defining elements instead of using walls. It can be also a flexible separating panel or furniture.

11. "In your opinion, which place or room
in the house should be the largest."

Recently Married Couples; To this question 37.5 % of the families (n=15) have given the reply; as the living room; 22.5 % (n=9) as the sitting room, 15 % (n=6) as the living

room and the sitting room, 12.5 % (n=5) as the living room and kitchen, 12.5 % (n=5) said the sitting room plus kitchen.

Interpretation: According to the replies of the families living room should be the largest space in the house.

Retired Workers' Families; The answers to this question were in the following way; 40 % of the families (n=12) have given the reply as the living room; 23.33 % of the families (n=7) replied as the sitting room; 13.33 % (n=4) replied as the living room and the sitting room, 20 % (n=6) replied as the living room and the kitchen jointly. One family replied as the kitchen.

Interpretation: According to the replies, the largest space should be the living room.

12. "Which one do you prefer?"

- multi storey apartments (blocks)
with a lift
- three or four storey houses
- private two storey houses (dublex)

Recently Married Couples; Only one family preferred to live in the multi-storey apartments with a lift. 70 % of the families (n=28) preferred 3-4 storey houses and the remaining 27.5 % (n=11) preferred to live in two-storey private houses. The families which preferred three-four storey houses stated that the dublex houses seemed like

squatter especially the ones in Batikent.

Interpretation: In Turkey, especially the low income group; living in squatter housing as a result of rapid urbanization have tendencies to leave the squatter houses and start living on the apartment houses. So they prefer apartments as the apartments seem more prestigious to them. Another reason is the socio-cultural level of these families which affects the development of their environmental consciousness. The families are perhaps aware of the bad or good examples in Batikent not a better or a worse environment.

Retired Workers' Families; To this question; 76.66 % of the families (n=23) have stated that they preferred three or four storey houses (as they preferred climbing fewer stairs), 10 % (n=3) preferred multi-storey apartment blocks with a lift and the remaining 13.33 % (n=4) preferred duplex houses.

Interpretation: The majority of the families prefer three or four storey apartment houses.

13. "Which one would you prefer?"

-- a type of plan in which the living room and the kitchen is used as a single space and the bedrooms, bathroom, and wc a separate spaces.

-- a type of plan in which each space is made up of a separate room.

Recently Married Couples; 92.5 % of the families (n=37) preferred the first choice and the remaining 7.5 % (n=3) preferred the second choice.

Interpretation: The majority of the families prefer to have a type of plan in which the living room and the kitchen is used as a single space and the bedroom, bathroom and wc as separate spaces. This subject should be taken into consideration at the planning stage also.

Retired Workers' Families; The answers are in the following way; 86.66 % of the families (n=26) preferred the first choice; the remaining preferred the second plan type.

Interpretation: The majority of the families prefer to have the plan type in which the living room and kitchen are used as a single space and the bedroom, bathroom and wc are separated. This subject should be taken into consideration at the planning stage.

14. "Which one would you prefer?"

-- central heating system (existing condition)

-- independent heating units for each house, (such as electric heaters and stoves)

"Would you explain the reason of your choice?"

Recently Married Couples; 75 % of the families (n=30) preferred central heating system. Even they have heating problems with the existing condition, they prefer it

expecially from the view points of economics, comfort and cleaning.

The remaining 25 % (n=10) preferred the second as there would not be any heating problem in that case.

Interpretation: Generally central heating is preferred from the view points of uniform heating, easiness, cleaning and especially economics.

Retired Workers' Families; According to the answers 90 % of the families (n=27) preferred the central heating from the view points of economics, cleaning, and easiness. The remaining preferred independent heating units since there would not be any heating problems in that case.

Interpretation: Generally central heating system is preferred from the view points of cleaning, uniform heating, easiness, reliability and economics.

15. "Concerning about the construction and maintenance costs of the dwelling and its easy cleaning; do you want to have small size dwellings?"

-- YES, I want

-- NO, I do not

Recently Married Couples; 95 % of the families (n=38) wanted to have small size dwellings and the remaining 5 % (n=2) wanted larger houses.

Interpretation: Recently married couples are very well aware of their needs and the housing type suitable for themselves. Especially with regards to their financial possibilities and requirements they want to have small size houses. The majority of them are tenants and have financial inadequacies.

Retired Workers' Families; To this question; 86.66 % of the families (n=26) have chosen the first alternative and have stated that they wanted small size dwellings; the remaining 13.34 % (n=4) did not want to have small size dwellings.

Interpretation: The retired families are conscious of the housing type suitable and necessary for themselves. Hence they want small size dwellings.

16. "Do you want to use an automatic washing machine for washing large size clothes in a joint laundry, within the newly planned settlement area?"

-- YES

-- NO

Recently Married Couples; 70 % of the families (n=28) said 'YES', 30 % (n=12) said 'NO'.

Some wives especially the ones who are not working, have stated that the work of washing clothes was not

difficult if they could have automatic washing machine at home. But, since most of them did not have automatic washing machines because of their limited financial possibilities, those housewives also agreed upon the idea of having a common laundry in the settlement.

The husbands who agreed upon the idea, have stated that while their wives were working they could also wash the clothes in the common laundry by themselves and by the way they could help their wives with houseworks.

Interpretation: This question has been asked with the aim of establishing the situations of accepting the idea of the common laundry taking place in the proposed model of the joint dwellings.

The majority of the families agreed upon the idea of having a common laundry in the settlement.

Retired Workers Families; To this question; 66.66 % of the families (n=20) have given "YES" reply and the rest have given 'NO' reply.

Interpretation: Replies to this question helped me to establish the situations of accepting the idea of the laundry in the proposed model of joint dwellings. Two thirds of the families wanted to use a common laundry. As all of them have agreed upon the idea that the work of washing clothes which may be difficult mostly for the housewives as their age advances should be solved by means automatic machines in a joint laundry.

17. "Do you want to use a joint cafeteria kitchen in the new settlement which will satisfy your needs in addition to a small kitchen which you may be able to use at home?"

-- YES

-- NO

Recently Married Couples; 70 % of the families (n=28) replied as 'YES' and the remaining 30 % (n=12) as 'NO'. Interpretation: The majority of the families agreed on having a public cafeteria. This may make the kitchen at home comfortable with respect to cooking appliances.

Especially working families (in which both husbands and wives are working) preferred to use such a cafeteria. Some of the housewives also agree with the idea and have stated that they can go there whenever they have bored with cooking meals and washing dishes.

Retired Workers' Families; To this question; 70 % of the families (n=21) have given 'YES' reply and 30 % of them (n=9) have given 'NO' reply.

Interpretation: The majority of the families wanted to use the cafeteria.

Especially the women dwelled on the idea of joint cafeteria where they could go whenever they have been bored with cooking meals or when they are ill and unable

in doing houseworks.

- 18 (a). "Do you want to welcome your guests wishing to visit you in a joint guest-house to be constructed within the settlement, instead of receiving them in your house?"
- YES
- NO

Recently Married Couples; 60 % of the families (n=24) said 'YES', the rest 40 % (n=16) said 'NO'.

The families who said 'NO' to this question, have stated that they would not let their guests, especially if they are close relatives, for example mother or fathers, to stay somewhere else. They have stated that, that was against the traditional hospitality of their families. But if they were friends or other guests, they would agree upon this idea.

Interpretation: The majority of the families agreed upon the idea of welcoming their guests in a joint guest-house within the settlement, close to their houses. In this way the problems of washing bed-sheets or cooking meals privately, and financial difficulties of welcoming guests would have been eliminated.

- 18 (b). "Considering that the welcoming of the guests is a difficult task for

the elderly; do you want to welcome your guests wishing to visit you, in a joint guest-house to be constructed within the settlement area instead of your house."

-- YES

-- NO

Retired Workers' Families: To this question 60 % of the families (n=18) have given 'YES' reply and 40 % (n=12) have given 'NO' reply.

Interpretation: The families of retired workers agreed with the idea of a joint guest-house especially because of the difficulties in serving them at the old age. The guest-house in a separate place close to their houses may be suitable for receiving guests and the problems such as washing bed-sheets and cooking meals, etc., will have been eliminated.

19. "Are you pleased with the environment in which you live at the present and the atmosphere of the settlement (park, walking paths and sporting facilities)?"

-- YES

-- NO

Recently Married Couples: All the families replied this

question as 'NO'.

Interpretation: All the families complain about the environment in Batıkent, especially because of the unpaved muddy pedestrian paths and streets. There is no environmental planning no outdoor arrangements, no treatment on earth because of the continuing construction process of other cooperatives. The children are all playing in muddy, wet places.

There is not any areas to stroll, there are no sport or social facilities, no police station.

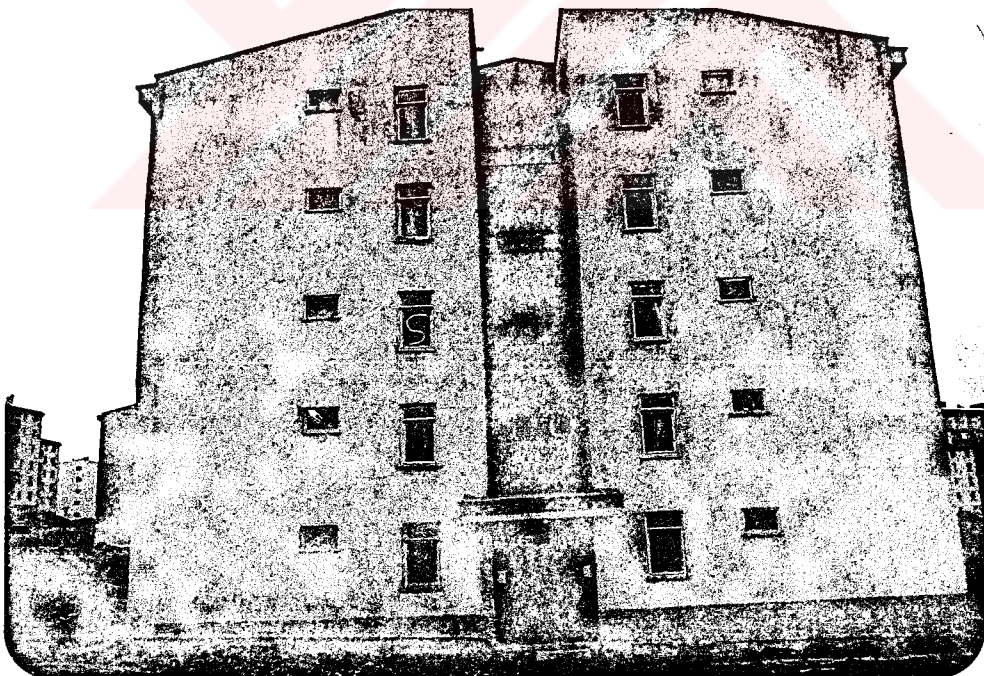
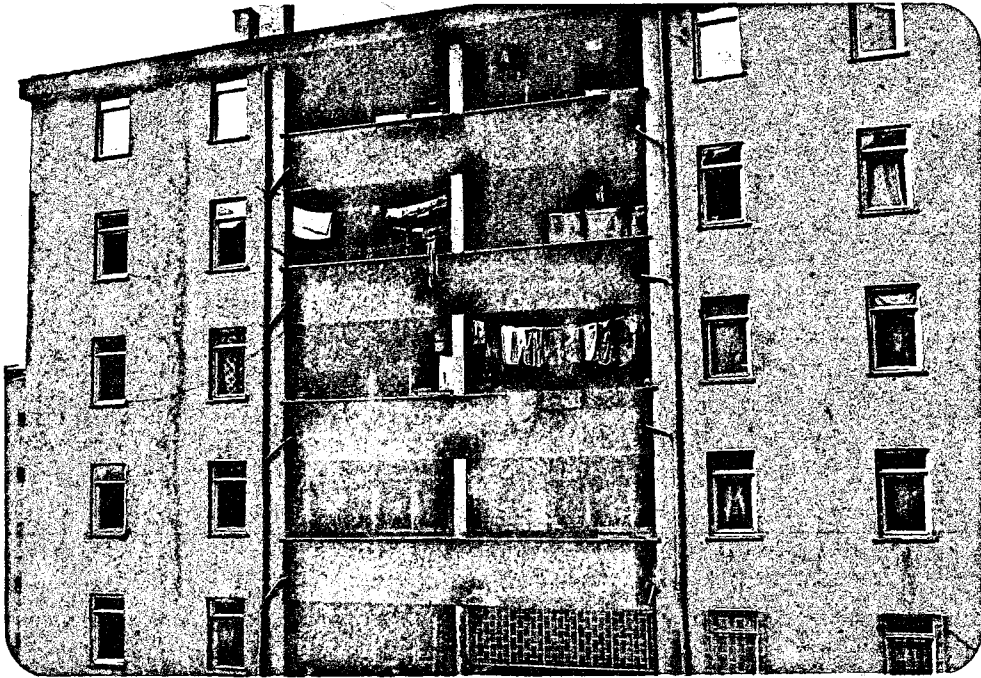
Retired Workers' Families: To this question, 93.33 % of the families (n=28) have given 'NO' reply. The remaining two families have given 'YES' reply.

Interpretation: All the families complained about the environment in which they are living now. The only thing satisfied the families was living away from the city of Ankara and therefore protected from the air pollution. They have stated that they have been wishing to live in an area where the pedestrian paths and streets are paved and cleaned from mud, and surrounded with green area and parks. Especially families want their social requirements to be met in the settlement, such as public outdoor spaces where they can have a social contact with each other, public transportation, shops, kiosks, post offices, etc.

PICTURES FROM THE HOUSING ENVIRONMENT AND
THE HOUSES OF THE SURVEYED FAMILIES

PICTURE 1: A View from the Housing, Environment of
'Harb-Is 28' Cooperative, Batıkent.

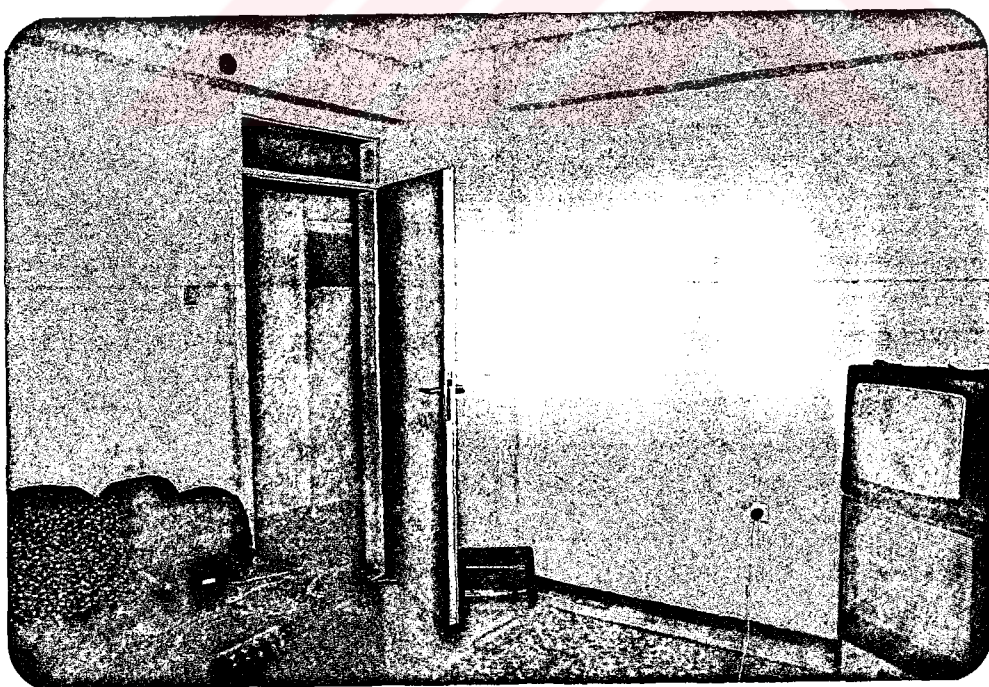
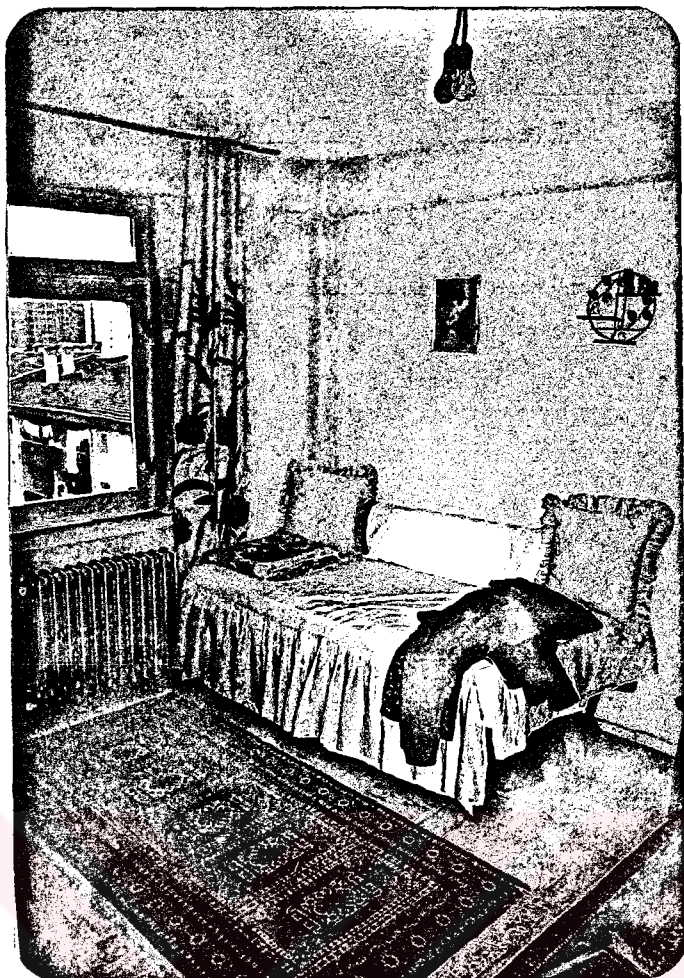




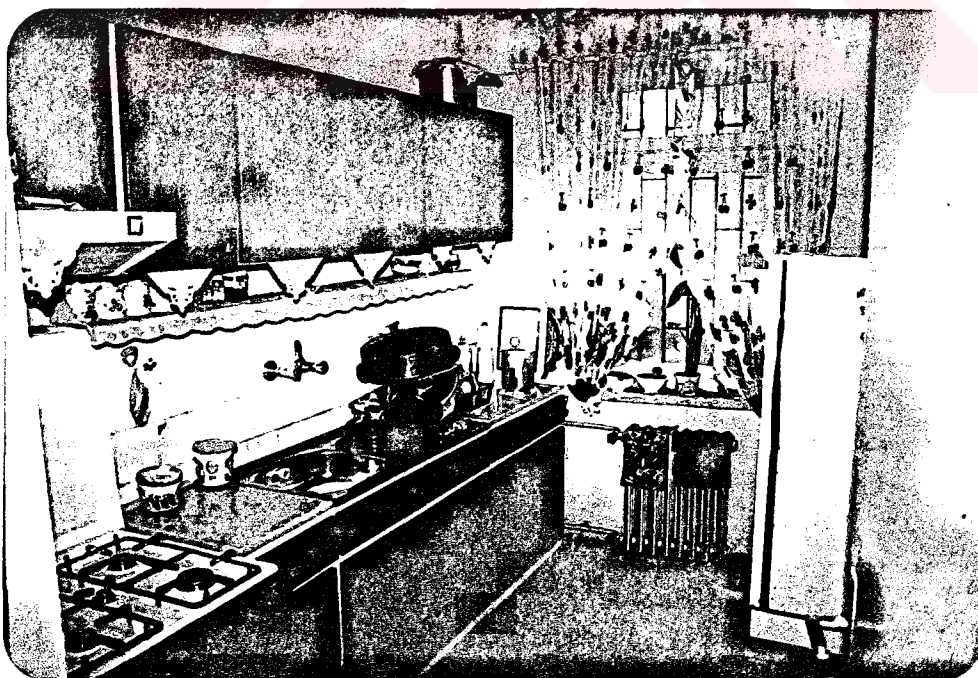
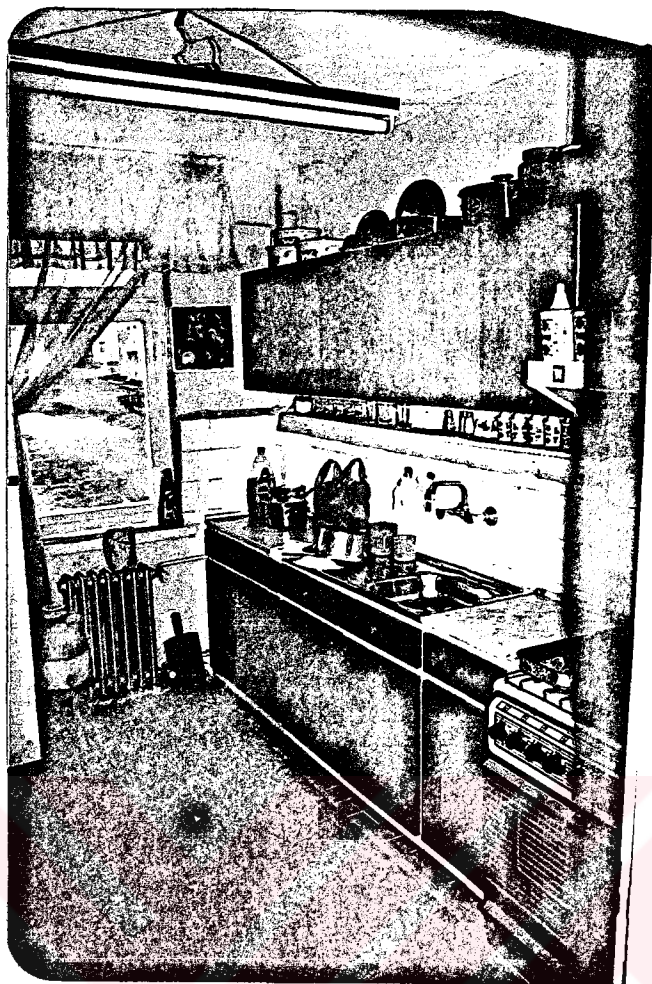
PICTURES 2-3: Views from the Apartment Blocks in 'Harb-Is 28'
Cooperative, Batıkent.



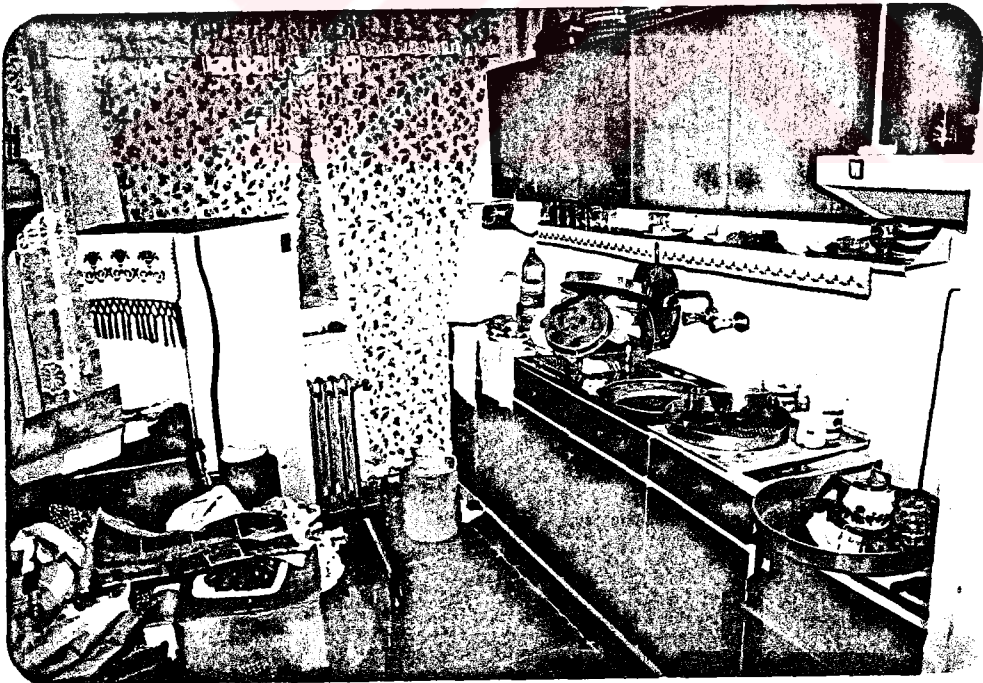
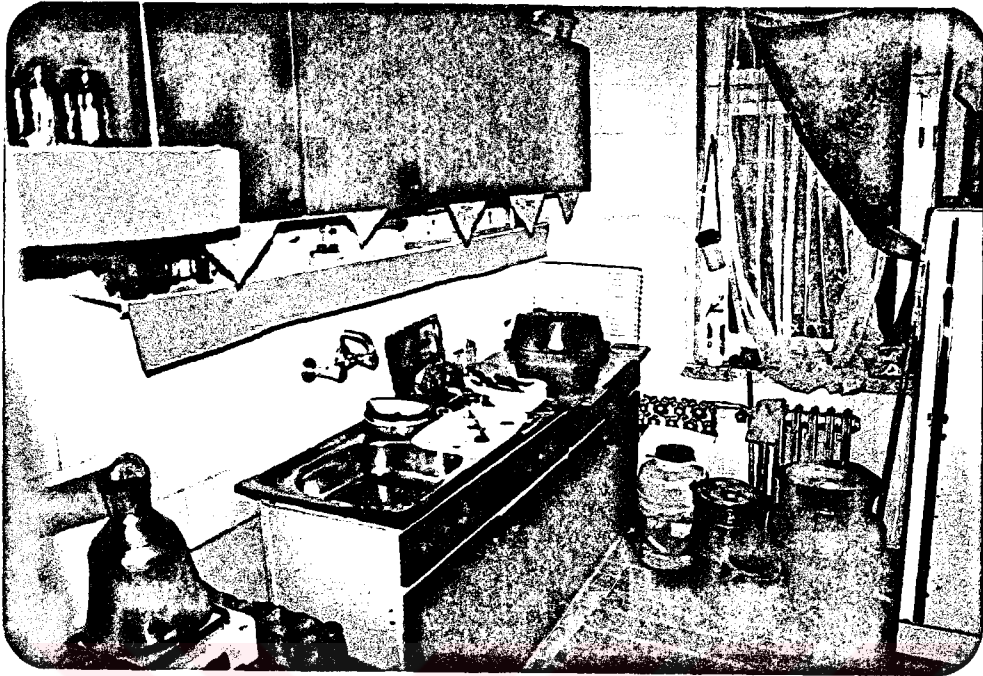
PICTURES 4-5: Views from the Living Room of a Recently Married Couple's House.



PICTURES 6-7: Views from the Sitting Rooms of Recently Married Couples.



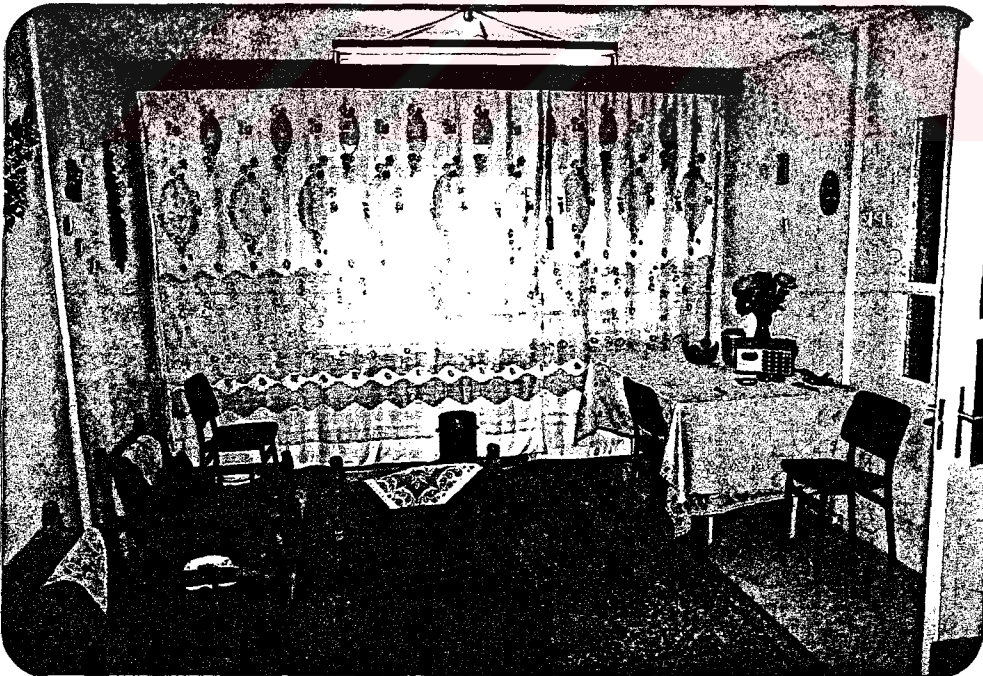
PICTURES 8-9: Views from the Kitchens of Recently Married Couples.



PICTURES 10-11: Views from the Kitchens of Retired
Workers' Families.



PICTURES 12-13: Views from the Bathrooms of Retired
Workers' Families.



PICTURES 14-15: Views from the Living Room of a Retired
Worker's Family House.

FOOTNOTES

- 1- Ed. HATCH, R. C., The Scope of Social Architecture. Publication of the New Jersey Institute of Technology, 1984, p.23.
- 2- A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups. Pergamon Press, N.Y., ;1977, p.1.
- 3- Ibid., p.117.
- 4- RCD Workshop on Low Cost Housing. Ankara; Building Research Institute Publication, 1977, p.111-8.
- 5- READMAN, P., "Minimum Standards of Improvements", Housing Review. July-August 1980, p.133.
- 6- FISHMAN, R., Urban Utopias in Twentieth Century. Basic Books Inc. Publishers, New York, 1977, pp.39-49.
- 7- Ibid., p.167.
- 8- TAGGART, R., Low Income Housing. The John Hopkins Press, London, 1970, p.2.
- 9- PAWLEY, M., Architecture Versus Housing. Preager Publishers, New York, 1971, p.23.
- 10- Ibid., p.23.
- 11- SCHUMACHER, E. F., Small is Beautiful (A Study of Economics as if People Mattered). Blond Briggs Ltd, London, 1977, p.30.
- 12- PAWLEY, M., Architecture Versus Housing. Preager Publishers, New York, 1971, p.24.
- 13- Ibid., p.28.
- 14- Ibid., p.33.
- 15- Ibid., p.37.
- 16- _____ Architecture Association Journal January, 1933.
- 17- BUMİN, K., Demokrasi Anlayışında Kent. Kent-Koop Yayinlari, Ankara, 1986, p.25.

- 18- LE CORBUSIER, The Modular I. A Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics. London, Faber and Faber Ltd., 1948, p.36.
- 19- ECKARDT, W.V., A Place to Live (The Crisis of the Cities). N.Y.: Delocorte Press, 1967, p.116.
- 20- LE CORBUSIER, The Modular II. London, Faber and Faber Ltd. 1948, p.19.
- 21- LE CORBUSIER, The Modular I. A Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics. London; Faber and Faber Ltd. 1948, p.116.
- 22- DOXIADIS, A.C., and DOUGLES, B.T., The New World of Urban Man. Philadelphia; United Church Press, 1966, p.66.
- 23- Ibid., p.59.
- 24- PARKER MORRIS REPORT, Homes for Today and Tomorrow. Department of the Environment, London, Her Majesty's Stationary Office, 1961, p.3.
- 25- READMAN, P., "Minimum Standards of Improvements" Housing Review, July- August 1980, p.133
- 26- Ed. by. SIMON, J.G., Conflicting Experiences of Space. 4th International Architecture Psychology Conference Catholic University of Louvain, 1979, p.35.
- 27- _____ Chine 1949-1979, L'Architecture D'Aujord'Hui. Feb., 1979, p.16.
- 28- _____ Chine 1949-1979 L'Architecture D'Aujourd'Hui. Feb. 1979. p.16-17.
- 29- LE CORBUSIER, The Modular I. London, Faber and Faber Ltd, 1948, p.54.
- 30- _____ "Semboku Kamagaye Aparments", Japan Architecture. Feb. 1981, p.54.
- 31- Ed. HATCH, Richard.C., The Scope of Social Architecture. Published by the New Jersey Institute of Technology, USA, 1984, p.29.

- 32- Ibid., p.29.
- 33- Ibid., p.49.
- 34- Ibid., p.50.
- 35- Ibid., p.51.
- 36- Ibid., pp.51-52.
- 37- Ibid., p.76.
- 38- Ibid., p.65.
- 39- A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, New York, 1977, p.89.
- 40- Ibid., p.89.
- 41- Ibid., p.89.
- 42- Ibid., p.7.
- 43- BOULLON,J., "Recent Developments in Methods of Evaluating Housing Needs and Their Application to the Needs of Special Groups of the Population", Belgium, 1976, ICA Housing Conference Hamburg, 1984 p.74.
- 44- NEMETHY,L., "Specific Housing Problems in Relation to Housing Policy in the Socialist Countries of Eastern Europe", Hungary, 1976, ICA Housing Conference Hamburg, p.51
- 45- NESMITH,L., "Designing for Special Populations", Architecture, January, 1987, p.62
- 46- Colloque Sur Le Logement des Personnes Age'es, ICA Housing Conference, Hamburg, 1984. p.15.
- 47- A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.51.
- 48- Ibid., p.55.
- 49- BARTON.D.,CZECZERDA,W., 'Social Principles Including Financial Aid', A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press,N.Y., 1977, p.91.

- 50- HSB and RICKSBYGGEN, "Some Aspects on Housing for Elderly in Sweden Prepared for the Conference on Housing for Special Groups Arranged by International Cooperative Housing Committee of the", ICA Housing Conference Hamburg, October, 12-13 1984, p.3
- 51- Ibid., p.3.
- 52- Ibid., p.5.
- 53- BARTON,D. "Synthesis Report", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, 1977, p.148.
- 54- Ibid, p.148.
- 55- HSB and RICKSBYGGEN, "Some Aspects on Housing for the Elderly in Sweden" Prepared for the Conference on Housing for Special Population Groups Arranged by International Cooperative Housing Committee of the ICA Housing Conference Hamburg, 1984, p.7.
- 56- VOGELAAR,G., "Special Housing Needs in Relation to Overall Housing Policy", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y.1977, p.31.
- 57- Ibid., p.31.
- 58- GRIGORIEV,Y.,TALESH,A., "Architectural Planning and Technical Aspects of Housing", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y. 1977,p.135.
- 59- BARTON,D.,CZECZERDA,W., "Social Principles Including Financial Aid" A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups,Pergamon Press, N.Y. 1977, p.96.
- 60- Ibid., p.96.

- 61- VOGELAAR, G., "Special Housing Needs in Relation to Overall Housing Policy", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.49.
- 62- BARTON, D. CZECHERDA, W., "Social Principles Including Financial Aid", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.96
- 63- Ibid., p.90.
- 64- Ibid., p.98.
- 65- BARTON, D., "Synthesis Report", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.156.
- 66- Ibid., pp.156-157.
- 67- "Considerations of Special Groups in Support Measures for Housing in Finland", Extract from the National Housing Programme for the Years 1976-1985, Housing for Special Groups, Pergamon Press N.Y., 1977, p.178.
- 68- Ibid., p.179.
- 69- BARTON, D. CZECHERDA, W., "Social Principles Including Financial Aid", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, pp.98-99.
- 70- BARTON, D., "Synthesis Report", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977; p.157.
- 71- BARTON, D. CZECHERDA, W., "Social Principles Including Financial Aid", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.99.
- 72- BARTON, D., "Synthesis Report", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.157.

- 73- BARTON,D.CZECZERDA.W. "Social Principles, Including Financial Aid", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups,Pergamon Press, N.Y., 1977, p.100.
- 74- Ibid., p.99.
- 75- BARTON,D., "Synthesis Report" A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.159.
- 76- CZECZERDA,W.,BARTON,D., "Social Principles Including Financial Aid", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.100.
- 77- BARTON,D. "Synthesis Report", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y. 1977, p.149
- 78- CZECZERDA,W.,BARTON.D. "Social Principles, Including Financial Aid", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups,Pergamon Press, N.Y., 1977, p.93.
- 79- Ibid., p.93.
- 80- Ibid., p.95.
- 81- VOGELAAR,G., "Special Housing Needs in Relation to the Overall Housing Policy", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y. 1977, p.35.
- 82- CZECZERDA-W.,BARTON.D., "Social Principles, Including Financial Aid", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups,Pergamon Press, N.Y., 1977, p.94.
- 83- Ibid., pp.95-96.
- 84- Ibid., p.96.
- 85- Ibid., p.95.

- 86- VOGELAAR,G. "Special Housing Needs in Relation to Overall Housing Policy", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, pp.35-36.
- 87- A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.16.
- 88- CZECHERDA,W.,BARTON,D., "Social Principles, Including Financial Aid", A Seminar of the United Nations Economic Commission for Europe, Housing for Special Groups, Pergamon Press, N.Y., 1977, p.102.
- 89- YERASIMOS,S., "On Urbanization and the Housing Problem in the Third World", Ceyre, Vol.4, Aug.1979, p.106.
- 90- RCD Workshop on Low Cost Housing, Building Research Institutes Publication, Ankara, Nov. 1977, p.1.
- 91- ERGÜDEN,S., An Overview of the Housing Sector in Turkey, ISOCARP, 18th International Congress, Istanbul, September 1982, p.1
- 92- Ibid., p.2.
- 93- AYAN.M., "The Reasons for the Present Housing Shortage of the Cities in Turkey", RCD Workshop on Low Cost Housing, Building Research Institutes Publication, Ankara, Nov. 1977, p.IV.5.
- 94- BERKÖZ,S.D,ÖZÜEKREN,S., "Technical Dimension of Low-Cost Housing Production Systems With Particular Reference to Turkey", RCD Workshop on Low-Cost Housing, Building Research Institutes Publication, Ankara, Nov. 1977, p.IV.11
- 95- ERGÜDEN,S., An Overview of the Housing Sector in Turkey, ISOCARP, 18th International Congress, Istanbul, September 1982, p.4.
- 96- DİNÇ,T., "Economic Aspect of Low-Cost Housing in Turkey", RCD Workshop on Low-Cost Housing, Building Research Institutes Publication, Ankara, Nov. 1977, p.V.19.

- 97- The Prime Ministry of the Republic of Turkey the Housing Development Fund and Public Participation Administration, Diyalog Publication, Ankara, 1984. pp.24-27.
- 98-The Prime Ministry of the Republic of Turkey The Housing Development Fund and Public Participation Administration, Annual Report, Ankara, 1986, p.2.
- 99- Financing Turkey's Restructuring Programme, The Prime Ministry of the Republic of Turkey, Housing Development and Public Participation Administration Publications, September 1988, p.139.
- 100- SAYIN, E., New Settlement Projects with Special Emphasis on Turkey, Kent-Koop Publication: 37, Ankara, 1984, p.147.
- 101- Report of an Ad Hoc Group of Experts on Housing and Urban Development, "Socio-Economic Aspects of Housing and Urban Development", United Nations Publications, New York, 1962, p.9.
- 102- ALEXANDER, C., "Thick Wall Pattern", Architectural Design, July, 1968, pp.324-326.
- 103- ÇAVDAR, T., The Determination of Housing Standards in City, ITU Architectural Department, Building Research Centers, First Housing Panel, 1981.
- 104- MOORE, T. G., New Directions for Environment Behaviour Research, University of Wisconsin-Milwaukee, 1975, p.95.
- 105- JONES, J. C., Design Methods, A Wiley Interscience Publications, 1980, p.221.
- 106- MOORE, T. G., New Directions for Environment Behaviour Research, University of Wisconsin-Milwaukee, 1975, p.98.
- 107- SAYIN, E., New Settlement Projects With Special Emphasis on Turkey, Kent-Koop Publications: 37, Ankara, 1984, p.47.
- 108- ALEXANDER, C., ISHIKAWA, S., A Pattern Language. Towns. Buildings. Constructions, Oxford University Press, New York, 1977, p.305

- 109- Ibid., pp.558-559.
- 110- Ibid., pp.759-760.
- 111- Ibid., p.349.
- 112- DIELMANN,H. , BICKENBACH,G. , Housing Groups,Karl
Kramer Verlag Publishings, Stuttgart,
1977, p.28.
- 113- ALEXANDER,C. , ISHIKAWA,S. ,A Pattern Language,Towns,
Building, Construction, Oxford
University Press, New York, 1977, p.189
- 114- BALCHIN,N. P. ,Housing Policy An Introduction,Croom
Helm Publishing, London, 1985, p.5.
- 115-The Prime Ministry of the Republic of Turkey The
Housing Development Fund and Public
Participation Administration, Diyalog
Publication, Ankara, 1984, p.23.
- 116- NESMITH,L. , "Designing for Special Populations",
Architecture, Jan. 1987, p.62.

BIBLIOGRAPHY

- AKTÜRE, S., Some Observations on the Squatter and their Environment in Ankara, ITU Building Research Center, Istanbul, 1977.
- ALEXANDER, C., "Thick Wall Pattern", Architectural Design, July, 1968.
- ALEXANDER, C., ISHIKAWA, S., A Pattern Language. Town. Buildings. Construction, Oxford University Press, N.Y., 1977.
- ANON, Halk Konutları Standartları, İmar ve İskan Bakanlığı, 16, Ankara, 1975.
- BALAMIR, M., Kentleşme, Kentsel Süreçler ve Kent Yapısı, Türkiye 1. Şehircilik Kongresi, ODTÜ Mimarlık Fakültesi, Ankara, 1973.
- BALCHIN, N., Housing Policy. And Introduction, Croom Helm Publishings, Great Britain, 1985.
- Doç. Dr. BİLGİN, N., Cesitli Sosyokültürel Gruplarda Esva Sistemleri ve İnsan Esva İlişkileri, 50. Kelebek Yılı Araştırma Ödülü, Kasım 1986.
- BUMİN, K., Demokrasi Arayışında Kent, Kent-Koop Publishings, Ankara, 1986.
- COOK, F., "Housing for Special Groups", Housing Review, Vol. 33., Oct. 1984.
- CARTWRIGHT, M. R., The Design of Urban Space, The Architectural Press Ltd., London, 1980.
- ÇAVDAR, T., The Determination of Housing Standards in City, ITU Architectural Department, Building Research Center, First Housing Panel, 1981.
- DIELMANN, H., BICKENBACH, G., Housing Groups, Karl Kramer Verlag Publishings, Stuttgart, 1977.
- DİNÇ, T., Türkiye'de Hane Halkı ve Sayısına Göre Konut İhtiyacı, TÜBİTAK Yapı Araştırma Kurumu, 1979.
- DOXIADIS, A. C., and DOUGLAS, B. T., The New World of Urban Man, United Church Press, Philadelphia, 1966.
- DOXIADIS, A. C., An Introduction to the Science of Human Settlements, Oxford University Press, London, 1968.

DÖRTER,C.,TURUTHAN,T.,ÜNLÜ,A., "Küçük Konutta Yaşam", İTÜ Mimarlık Fakültesi, İstanbul, 1988.

ECKARDT,W.V.,A Place to Live (The Crisis of the Cities), Delocorte Press, New York, 1967.

ERGÜDEN,S., An Overview of the Housing Sector in Turkey, ISOCARP, 18th International Congress, İstanbul, September1982.

Prof.Dr.ERİÇ,M.,Dr.ERSOY,H.Y.,YENER,N., Günümüz Konutunda Rasyonel Donatım, 50. Kelebek Yılı Araştırma Ödülü., Makro Design A.Ş., Kasım 1986. .

FISHMAN,R.,Urban Utopias In Twentieth Century, Basic Books INC. Publishers, N.Y.1977.

Ed.,GEORGI,Architecture and Comportement. Architecture and Behaviour. Georgi Publishing Company, Switzerland, 1982.

GOLD,M.S., Recreation Planning And Design,Mc. Grow-Hill Company, N.Y.,1980.

GOTTLIEB,L.D., Environment and Design in Housing, The Macmillan Company Publishing, N.Y.,1965.

Ed.HATCH,R.C.,The Scope of Social Architecture, Publication of Institute of Technology, New Jersey, 1984.

Ed.HUGHES,M.H., Cities and City Life, Sociological Resources for the Social Studies, Sponsored by the American Sociological Association, 1970.

JONES. J.C.,Design Methods. A Wiley Interscience Publications, 1980.

LE CORBUSIER,The Modular I. A Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics, Faber and Faber Ltd., London, 1948.

LE CORBUSIER, The Modular II., Faber and Faber Ltd. London, 1948.

LE CORBUSIER, The Radiant City, Orion Press, New York, 1964.

MOORE,T.G.,New Directions for Environment Behaviour Research. University of Wisconsin-Milwaukee, 1975.

- NESMITH, L., "Designing for Special Populations", Architecture, January, 1987.
- PAWLEY, M., Architecture Versus Housing. Preager Publishers, N.Y., 1971.
- PEPPER, S., Housing Improvement Goals and Strategy. George Wittenborn Inc., N.Y., 1979.
- READMAN, P., "Minimum Standards of Improvements", Housing Review, July-August, 1980.
- RICHARDSON, W., VIPOND, Y., FURBEY, R., Housing and Urban Spatial Structure A Case Study, Lexington Books, Farnbrough, 1981.
- SAYIN, E., New Settlement Projects with Special Emphasis on Turkey. Kent-Koop Publications, Ankara, 1984.
- SCHUMACHER, E. F., Small is Beautiful. (A Study of Economics as if People Mattered). Blond Briggs Ltd., London, 1977.
- SCHWAB, G., Differentiated Housing Estates. Karl Kramer Verlag Publications, Stuttgart, 1975.
- SCOBIA, R., Problem Tenants in Public Housing. Who. Where. and Why are They?. Preager Publishers, N.Y. 1975.
- Ed. SIMON, J. G., Conflicting Experiences of Space. 4th International Architecture Psychology Conference, Catholic University of Louvain, 1979.
- TAGGART, R., Low Income Housing. The John Hopkins Press, London, 1970.
- TOKMAN, B., RCD Workshop on Low Cost Housing. Building Research Institute, Ankara, 1977.
- TURNER, J., JARDINE, B., A New Life in Milton Keynes. Published by the People's Press of Milton Keynes, 1985.
- URAL, O., KRAPFENBAUER, R., Housing The Impact of Economy and Technology. Pergamon Press, N.Y., 1981.
- WOLFGANG, G., Patterns of Urban Living. University of Toronto Press, Canada, 1970.
- WOLMAN, L. H., Housing and Housing Policy in the US. and the UK. Lexington Book D.C. Heath and Company Press, 1976.

- YERASIMOS, S., "On Urbanisation and The Housing Problem in the Third World", Ceyre, August 1979.
- A Seminar of the United Nations Economic Commission for Europe, Housing For Special Groups, Pergamon Press, N.Y. 1977.
- "Colloque Sur Le Logement des Personnes Agees", ICA Housing Conference Hamburg, 1984.
- Izmir Dokuz Eylül Üniversitesi, Şehir ve Bölge Planlama Bölümü Öğrenci Çalışmaları; Türkiye'den Toplu Konut Örnekleri, Kent-Koop Yayınları, Ankara, 1984.
- Parker Morris Report, Homes for Today and Tomorrow, Department of the Environment, Her Majesty's Stationary Office, London, 1961.
- The Plan for Milton Keynes, Report of Evidence Presented by the Consultants to the Milton Keynes Development Corporation, March, 1970.
- The Prime Ministry Housing Development and Public Participation Administration, Annual Report, 1986.
- The Prime Ministry of the Republic of Turkey. The Housing Development Fund and Public Participation Administration, Diyalog Publication and Organization Ltd., Ankara, 1984.
- Financing Turkey's Restructuring Programme, The Prime Ministry of The Republic of Turkey, Housing Development and Public Participation Administration Publishings, September, 1988.
- Report of the AD Hoc Group of Experts On Housing and Urban Development, The Place of Housing and Urban, Development in National Development Policies and Programmes, United Nations Publications, N.Y. 1962.
- Symposium on Housing For Low Income Groups, Building Research Institute Publication, Ankara 1986.
- Third World Urban Housing. Aspirations. Resources. Programmes. Projects, Building Research Establishment, U.K., 1977.
- Architecture Association Journal January 1933.

- "Can we Afford Good Housing Standards?",
Housing Review, Vol 29, Sept-Oct. 1980.
- "Cheerful, Intricately Knitted Student
Housing", Architecture, April, 1987.
- "Chine 1949-1979" L'Architecture D'Aujourd'Hui,
Feb, 1979.
- Evimiz, Türkiye Emlak Kredi Bankası Yayını,
Ajanstürk, Ankara, 1986.
- "Helping The Elderly to be Independent", Report
of HCT Seminar on 28 November 1983, Housing
Review, Vol.33, March-April, 1984.
- "The Housing Difficulties Women Experience and
Some Remedies", Report of HCT Seminar on 9 July
1986, Housing Review, Vol 35, Nov.-Dec., 1986.
- "Housing for the Disabled", Report of a Housing
Centre Workshop, Housing Review, July-Aug. 1980.
- Konut 81, Kent Koop Yayınları: 20, Ankara, 1982.
- Konut Kurultayı, TMMOB, İnşaat Mühendisleri
Odası, 16-18, Nisan, 1982.
- "New Built for Single People", Housing Review,
Vol.33, Nov-Dec. 1984.
- "New Comers to Milton Keynes", Architectural
Design, Dec. 1975.
- Semboku Kamagaye Apartments, Japan
Architecture, Feb. 1981.
- State Statistical Institute, Bulletins (SSI),
1965-1985, Ankara.
- Statistical Pocket Book of Turkey, Prime
Ministry State Institute of Statistics,
Turkey, 1986.

T. C.
Yükseköğretim Kurulu
Dokümantasyon Merkezi