TRANSFORMATION OF TRADITIONAL ARCHITECTURE IN SELF BUILT HOUSING
A Case Study from Ankara, Turkey.

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1- INTRODUCTION

Rapid urbanisation, which had become a problem for most parts of the developed world before the 1950's, still prevails in Turkey with a high rural to urban migration rate. With the rise in demand for work force by manufacturing and service sectors and the need for better quality of life, people migrate from rural to urban areas.

Ankara, the capital city of Turkey, also underwent this rapid increase in population, which it was not yet ready to house.

The central as well as local governments have not been able to tackle this problem. Thus, the immigrants-the newcomers to Ankara-have tried to solve their own shelter problem by using building methods derived from their own local traditional building characteristics. This low–income housing form, mentioned in the text as self-built houses, is called "*gecekondu*" which literally means 'to settle on by night'. This is a new form of house, built by using traditional layouts and elements in a new context.

Immigrants moving from the same locality develop a collective consciousness. This consciousness embodies both collective production and a model for maintenance.

During recent years a case study was initiated in the [a]Entepe district of Yenimahalle Municipality in Ankara by Gazi University and the municipality. Two settlements, namely Pamuklar and Barýþtepe quarters were selected for study. The objectives were to identify causes and effects of the transformation that took place in these areas and to make ways for housing project with the participation of the local people.

Surveys carried out in both of the quarters, demonstrated that the Figures of these self-built houses reflect the transformation of traditional architecture in Turkey. We term this transformation as the first generation in self-built housing. By the time this study concluded, these quarters faced a new plan lay out due to the emergence of city blocks and high rise buildings.

This article, has two purposes. First, to study reasons and consequences of the transformation process, and secondly, to promote more humane and livable solutions in opposition to the tower blocks as the only apparent answer for self built housing problems whenever they may evolve.

2. REASONS AND CONSEQUENCES OF THE SELF - BUILT HOUSING / *GECEKONDU* PROCESS: A HISTORICAL PERSPECTIVE.

After the 1940s, the attraction of larger towns increased due to the pull of the service sector including health, education, leisure and cultural facilities. Hence Ankara faced an increase in its population.

This high growth rate continued through the 1950's, the 1960's to the mid 1970's. Though the city's population is still increasing, the rate of growth has slowed down as compared to the total growth rates of the country's urban population.

The central and the local governments have not been able to overcome this problem, which in turn leads to the problem of inadequate shelter.

There are several reasons behind this. Firstly, in every figurening period, the city development Figures with their population targets, actually followed this real population increase rather than leading it.

Another reason is probably the lack of regional Figures. Ankara, like any other city in Turkey, relied solely on its own city figures, without consideration of intra-regional and inter-regional population mobility and its social and economic determinants.

There has also been a continuous scarcity of resources for both the land as well as the provision of housing.

Given this scenario, the new comers to Ankara have tried to solve their shelter problems on their own. Partly modified, rapid and simple self-help construction techniques have been brought by them into Ankara's urban space.

This self-built low income house is an entirely new form, achieved by using traditional/local architectural elements within a new context.

Though there are significant variants of this housing form owing to each immigrant's native context, it is the most dominant house form of Ankara's urban image. (Akcura, 1990).

Gecekondus in Ankara, especially after the mid – 1970s, due to legal flexibility of the central government's authorities and municipalities, have started to be built with better material on less rough and in some cases, even on level terrain; whereas originally they were built without infrastructure, with limited material and on rough terrain.

However, the legal laxity in imparting implementation, development control, and above all, the volatility in development regulations caused an invasion of migrants on unsettled urban land belonging to both the private and the public sectors. In this effect they have started to dictate the urban form on the outskirts of Ankara.

As a necessary consequence of the *gecekondu* house building process, a resultant sense of solidarity among the migrants from the same locality has come about. Whereas the municipalities and public authorities have increasingly resorted to demolition campaigns, both the above two processes seem to be reciprocal. He process of 'putting-up' and 'pulling-down' of gecekondu housing tend to have an endless relationship.

There have been legal regularizatins in 1948, 1949-1953, 1963, 1966 and 1976. However each one of these remissions has resulted in a new wave of migrant housing which in turn was again pulled down by relevant agencies, only to rise again and even receive a fresh legal protection. The legal legitimisation strategy has only helped to spread the *gecekondus* in urban area and its fringes.

3. CHARACTERISTICS OF THE STUDY AREA

3.1. Physical and Social Characteristics

The study area covers Pamuklar and Baristepe quarers of Sentepe district in Ankara. First settling in Pamuklar took place in 1951 on the valley slope facing southwest and the valley's entrance and in Baristepe between 1963-1976 on a terrain topographically smoother than that of Pamuklar.

Topographical difference between the two areas has influenced settlement pattern, spatial character and transportation infrastructure (Figure 1, 2 - photograph 1-5).

Pamuklar quarter shows an organic pattern due to its place on the slope of the valley. *Gecekondus* generally with two floors (Basement + Ground Floor) are situated in some parts close to each other, and in some other areas apart from each other, depending on the topographic condition. These are in detached order and are located in such a way that the view from each is not obstructed.

Curvilinear road system has been adopted due to the topography. Major roads exist parallel to the valley base and pedestrians axes with steps cross these roads at right angles and interconnect settlement blocks. Cul-de-sac, which is a component of traditional Anatolian City pattern, are present in several examples. They are present in places where topography prevents any other type of road or in areas where *gecekondus* belong to members of one large family (Figure 3). Baristepe quarter exhibits a gridiron road system and its associated subdivisions. The reasons for its presence could be two fold; its terrain is levelled

and the land has been developed in a period when development regulations mandated the gridiron system. Transportation and internal circulation here is thus convenient than Pamuklar quarter. This gridiron system has nevertheless dictated subdivision bounded housing settlement (Figure4).

Baristepe *gecekondus* are generally one-storey houses situated in large gardens and building quality of these houses is relatively higher as compared to the Pamuklar houses. However, spatial variety and positive qualitative values, largely owing to topographical difficulties in Pamuklar have to be mentioned here. With reference to social data, both quarters have similar social characteristics. Occupiers of these quarters are low-income groups and comprise the younger age groups.

Households are of 5 members at an average and medium level density is present according to persons/room ratio. In both quarters most of the people are self occupiers and owners. If a house is shared by tenants, (a rare situation in the area) they live at the ground floors whereas the owners live at the upper floor (Figure 5, 6) Traditional family type and nuclear family type both are in majority here.

For both of the quarters, the settlement model of immigrants who have moved from the same local area and prefer to live as neighbours, is valid (Figure 7, 8).

One of the distinguishing aspect calling for further research is the satisfaction or dissatisfaction level with the 'lived-in' environment. People who live in Pamuklar are comparatively more dissatisfied with their living environment (due to the lack of urban services, infrastructures etc.). On the other hand, good neighbourhood relations, clean air and feeling of happiness due to living in their own house are stated as the positive points of to their living environment by the dwellers from both quarters (Yeskep Report, 1997).

3.2. Spatial Organisational Relationship Between the Traditional House and the Gecekondu

Traditional house building is a starting point, which provides a database in which several reference points for a Figure layout are contained. Therefore it is necessary to define and explain the spatial organisational relationship between the traditional house and gecekondu.

Spatial organisation analysis of the Entepe survey results has shown that the figure layouts of the traditional houses from various local areas have been transferred into the *gecekondu* layouts by the gecekondu people originating from these areas (Photograph 6, 7).

3.2.1. The Spatial Organisation of Anatolian Houses

The Turkish house usually has only one storey. It was sometime ago, that the number of storeys increased and then, the upper floor was always considered the most important section by being the main living area. Thus, the characteristics of the Turkish house appear mostly on the upper floor. Viewed as organisation of spatial elements, there are fundamental units forming the structure; the courtyard/garden, "sofa", and rooms. Courtyard is the first part of the house. One enters the house through the courtyard. In the beginning the main façade was oriented toward the courtyard, so that the lighting and ventilation were facilitated through the courtyard. This space was generally located facing south. When the direction of the main façade turned towards the street, the function of the courtyard conferred into open space, which is separated by high walls from the exterior. The family carried its daily work in this introverted space in order to maintain the privacy. In the beginning this space was occupied by WC, kitchen, fountain, fireplace, etc. Starting from 18th century, some of these elements, as the WC and kitchen were taken inside to the ground floor which is allocated for service space and then to the upper floor.

"Sofa" is the distribution area between the rooms and in a sense it is the common extension of the street. It also serves as a meeting room. Sofa is the most important section, of the Turkish house. It was on open area until the 17th-18th centuries and was located at the southern part of the building facing the courtyard. With the passage of time, it was covered.

Rooms are independent units functioning for eating, sleeping, working and sitting. For this reason they are constrained with built-in elements such as "seki" (raised sitting platform), cupboards, shelves and fireplaces etc.

The design of the Turkish house possesses a close relationship with the structure of the family also. The houses were built for extended families. Fathers, mothers, children, sons and daughter-in-laws gathered under one roof and each room under this roof acted as a house for each couple of the family.

The individual members of the family were graded according to their importance by the man of the house and his wife. Being the most important member of the household the man had the best-assigned room. The room known as the "*bas oda*" (chief room) or "selamlik" (reception room) took a form which reflected the relationship between master, guest and servant. Its main function was to provide a place for male gatherings. The differentiation of various activities inside the house is at its greatest in this room; the areas allotted to servants, guests and the master of the house are clearly defined and designed accordingly. In time the "*bas oda*" experienced changes of function and form. Whereas, it was originally used for sitting and assembly, it soon became the equivalent of the "sofa" (Irkli, and Aksulu, 1996).

The lady of the house was the second member of the household and most of her life was spent indoors. Larger houses were divided into the *"selamlik"* and the *"harem"* and she occupied the latter part. According to social values the "harem" rooms were more modest but they were so arranged as to allow flexibility of use for sitting, eating and sleeping. The relationship between Lady Guest and servant was not so apparent from the arrangement as is the "selamlik"; the furnishings were simpler, the floors and ceilings were purely functional and no special care was given to their construction. After the Proclamation of Republic in 1923 woman took her place outside the house thus, an important step was realised in the introverted life of a Turkish family.

3.2.2 Traditional House Figure Types

Plan types of the traditional Turkish houses in Anatolia can be classified into two main groups.

i.Houses with courtyards.
Living spaces allocated at the sides or around the courtyard.

ii. Houses with a sofa
Figure type with a sofa can further be grouped into three-Figure types, by taking living floor types into consideration.

(a) Inner (interior) sofa Figure type
(b) Outer (exterior) sofa Figure type
(c) Central sofa Figure type (Chart 1)

Houses with sofa, are the type which were transformed in the self built housing in the study areas.

3.3. Spatial Organisation of the Houses in Pamuklar and Baristepe

The ªentepe survey results show that in both of the districts there are two types of spatial organisation. These are:

i. The type in which the house has an entrance through its garden (with landing, veranda or staircase)
ii. The type which is directly entered from the street (with raised platform).

The first type is mostly found in Pamuklar and second type in Baristepe. The orientation however deviates from the traditional one. Traditionally houses are oriented towards south, whereas in the surveyed quarters, it is at random.

3.4. Plan Layouts

Analysis of the survey results show that besides two traditional major Figure types, such as outer sofa and inner sofa Figure type, there are some other Figure types which have been developed, as derivatives of the above mentioned types, by gecekondu people in relation with their space use needs.

In fact, sofa as a traditional house Figure concept and as a major determinant for traditional Figure types, continues to be practised by the immigrants, albeit with variations. It can be stated then, that the sofa is a "unifying/widespread/ permanent" characteristic of Turkish vernacular architecture.

The traditional layout is rationalised/adapted by adding a corridor or night hall in *gecekondu* layout. Moreover, by using the sofa as a pivot, a dwelling expansion flexibility has been developed in such a way that adding rooms later has become possible. Thus, these spatial organisational layouts have provided a good solution to the requirements for dwelling extension.

Another finding from the survey shows that the older *gecekondu* is the more tied up it is with the traditional Figure type. The newer *gecekondu*s of Barýþtepe quarter show Figure characteristics of a corridor like sofa, as an axis into which rooms open. Some smaller halls function as interconnecters to the more interrelated spaces. By such a layout, wet areas and daily living areas are separated from each other (Chart 2, 3 Figure 9-12).

3.5. Structural System

The structural system being employed in the *gecekondu* building is varied. For the study area, this variation is as below (in descending order):
i. Concrete-mass walling
ii. Brick-mass walling
iii. Reinforced concrete-structure

Roofing structure is generally a wood-framed construction covered with roof tiles. Roof span is traversed by wooden material (Figure 13, 14). Due to the inefficiency in construction techniques they usually do not show good quality. In general, the study area necessitates both construction improvement and housing rehabilitation.

4. Evaluation and Conclusion

Due to short-time production, *gecekondu*s in the study area have mainly two featchers.
i) Generally a corrupt construction, structural deficiency and lack of hygienic conditions.
ii) Economic speculations/rent expectations by the *gecekondu* owners function as a deterrent for improvements. This factor has a role in line with the legal laxity, which has a political context.

For these reasons, the users gradually become dissatisfied with the prevalent conditions. This discontent usually provides the starting point for the build-and-sell attempt towards apartment type of housing.

At present then, the danger for the study area is that instead of improving on the existing positive social and environmental ingredients which are contained in space and spatial organisation, there is a trend towards dense apartment buildings.

In other words, this situation motivates vertical urban expansion whereas; gecekondu people can capture spatial development and quality through lateral solutions in their neighbourhood bounded with close neighbourly relations. The present database for an improvement has the ingredients for lateral solutions; hence the transformation should take place in this direction. Gecekondu, with its dynamics, originality and cultural structure embodies varied performances. In this context, these two quarters have internal spatial richness, social cavities / hidden spaces that have to be preserved, potential spaces that have to be improved, and Figures and projects ought to pave the way for positive transformation. In this way, traditional typologies / cultural forms can be carried into the collective memory of the city.

The starting point to do so has its origins in the "correlation" in which house/my home and city/my town is equalised.

The unjust and speculative land and property development process incorporating unlicensed building remissions coupled with dense and high rise development permission negates the Figurening itself and baffles all Figurening implementation and development control attempts. Degeneration of the HOUSE through this process also amounts to a deformation of the townscape and degradation of urbanity. The component-whole relationship between the house and the city becomes more and more insignificant in the context of my home/my town. A house is the primary

"micro" cosmos for humanity, it exists in reality with rich extensions to the imaginary and there it belongs to those who are capable of imagination. Memory and imagination intermingle and deeply support each other.

The gecekondus embody humane concepts and have a flexibility to develop further and to adjust to the city. That flexibility has the potential to provoke the re-exploration of feelings/capabilities related to the socio-spatial settings of traditional accumulation. What does that provocation mean? It means reformation in such a "resemblance" process to understand ourselves as architects benefiting from the lessons of traditional assets, to understand and make the use of and to strengthen our "types", that is the existence, the existence of "house" and its transformation. In this way, the existence of the livable and sustainable cities may be understood.

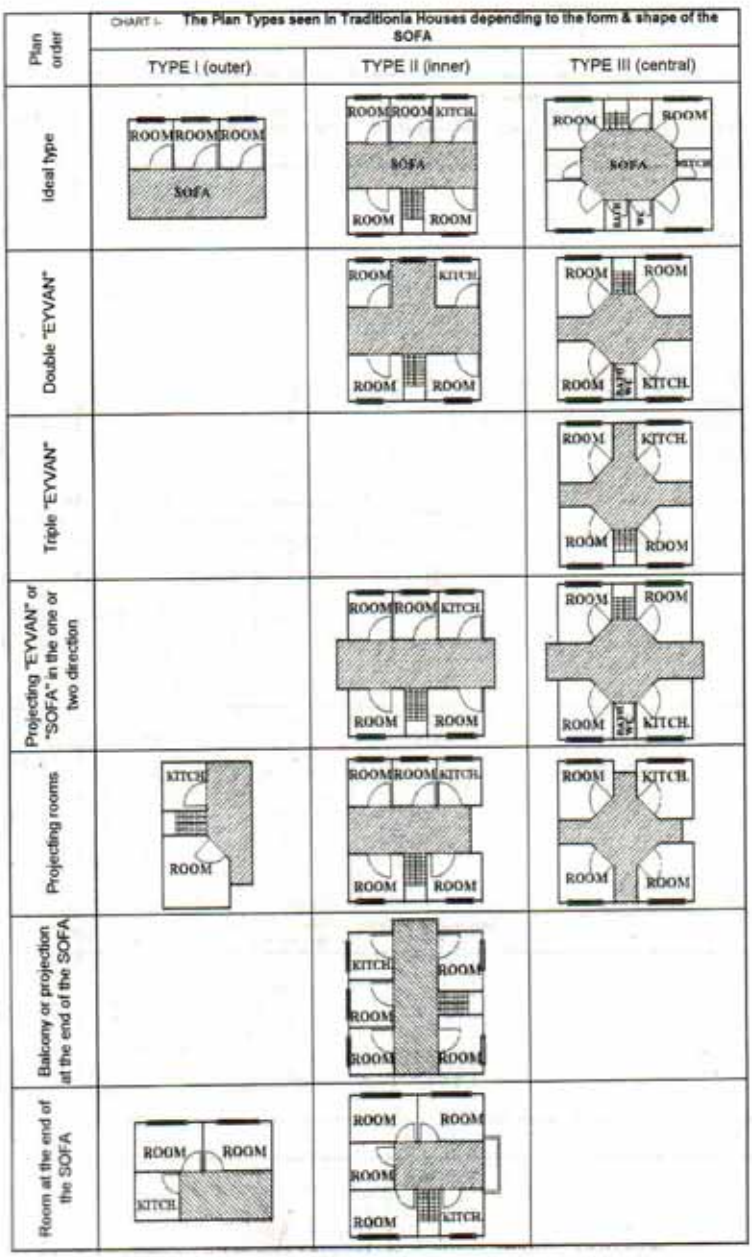
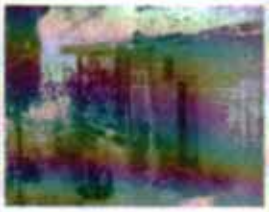


CHART II-

PLAN TYPES OF "GECEKONDU" FROM TRACED TO THE APARTMENT HOUSE

Plan Order	Ideal Type	Service spaces at the end of the living room	Separated service hall connecting the services part to the central living room	with the potential for easy extension spatial organisatioal incompleteness at one side central living room	Rooms are entered from the living room
Type I outer SOFA					
Type II inner SOFA					
Plan Order	Entrance from the narrow side of the corridor	Service spaces allocated at the end of the corridor	Preparation for the entrance space		
Corridor Type					
Plan Order	Entrance through the hall	Entrance through the hall	Entrance through the corridor		
Entrance+Corridor Type					
Plan Order	General Type	Transformation from corridor to hall	Specialization of living room		
"L" Shaped Corridor Type					
Plan Order	Variant I	Variant II	Variant III		
Hall as an extension Type					

CHART III-	TRANSFORMATION FROM TRADITIONAL HOUSE TO GECEKONDU & APARTMENT HOUSE		
FORMAL CHANCE			
HOUSE/ MAIN ELEMENTS	TRADITIONAL TURKISH HOUSE	SELF BUILT HOUSE "GECEKONDU" PAMUKLAR&BARIŞTEPE	APARTMENT HOUSE
COUNTRYARD	Direct entrance to the building *An intorverted space,separeted by high walls from the street *Occupies service areas, (wc, owen, kitchen, storages)	*Convertion of intorverted use of the space *Some of the service areas are still allocated in the space	Courtyard no longer exists.(do not occupy any of these spaces)
"SOFA"	*Common extension of the street *The distribution area between the rooms. *A meeting place	*Traditional function has changed, the space turned into living rooms	
ROOMS	"HOUSE in a HOUSE" *Multi-functional (living, sitting, eating, bathing&sleeping) *There is a hierarchy; one of the rooms (Turkish :eyvan) or "ivan" considered important	*Hierarchy of the rooms *Functional specialisation of rooms as living, dining, sleeping, etc.	*Hierarchy of the rooms functional specialisation of the rooms *Specialised living room (lounge:guest room)
STRUCTURAL & QUALITIVE CONDITIONS			
STRUCTURE	*Timber frame (timber, brick & mudbrick in fill) *Masonry (mudbrick,stone&brick)	*Masonry- "Briquet" brick&mudbrick	*Reinforced concrete skeleton *Brick masonry
ARTICULATION	*Sofa, room and ivan connected projections expresses plan dynamics on the façade	*Simplicity *Articulation do not exist	*do not occupy any relation with the traditional formation *only balconies are projections
QUALITY	*High quality construction is realized by the building craftsmen (masonry&carpenters)	*Low quality *Personal "imece" shared aid in building the house	*Although technical aid has provided the quality is low
USE VALUE	*Produced for household's own cunsumption, not for the market	*Produced for household's own consumption, not for the market	*Produced as a marketable commodity specualtion "rent/value"

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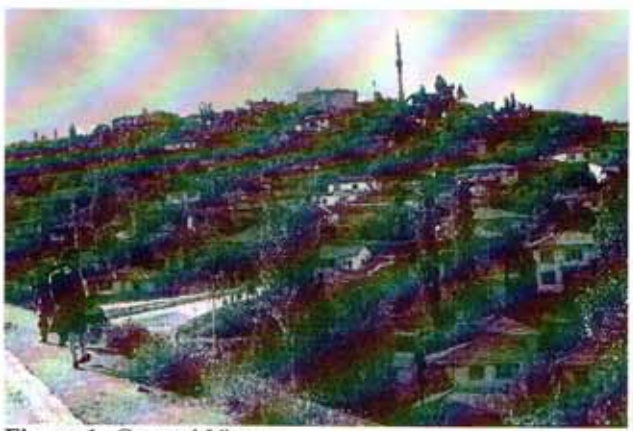


Figure 1: General View.

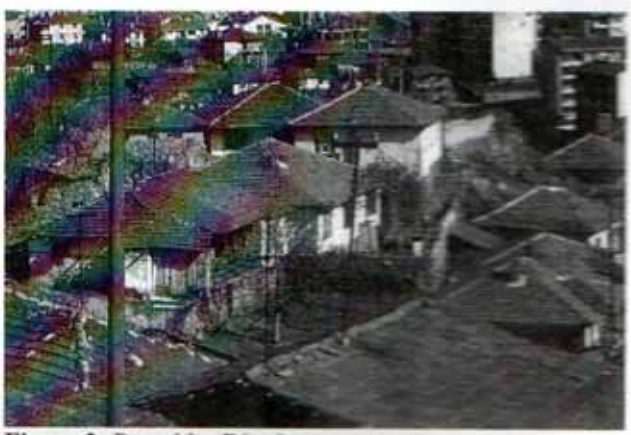


Figure 2: Pamuklar District.

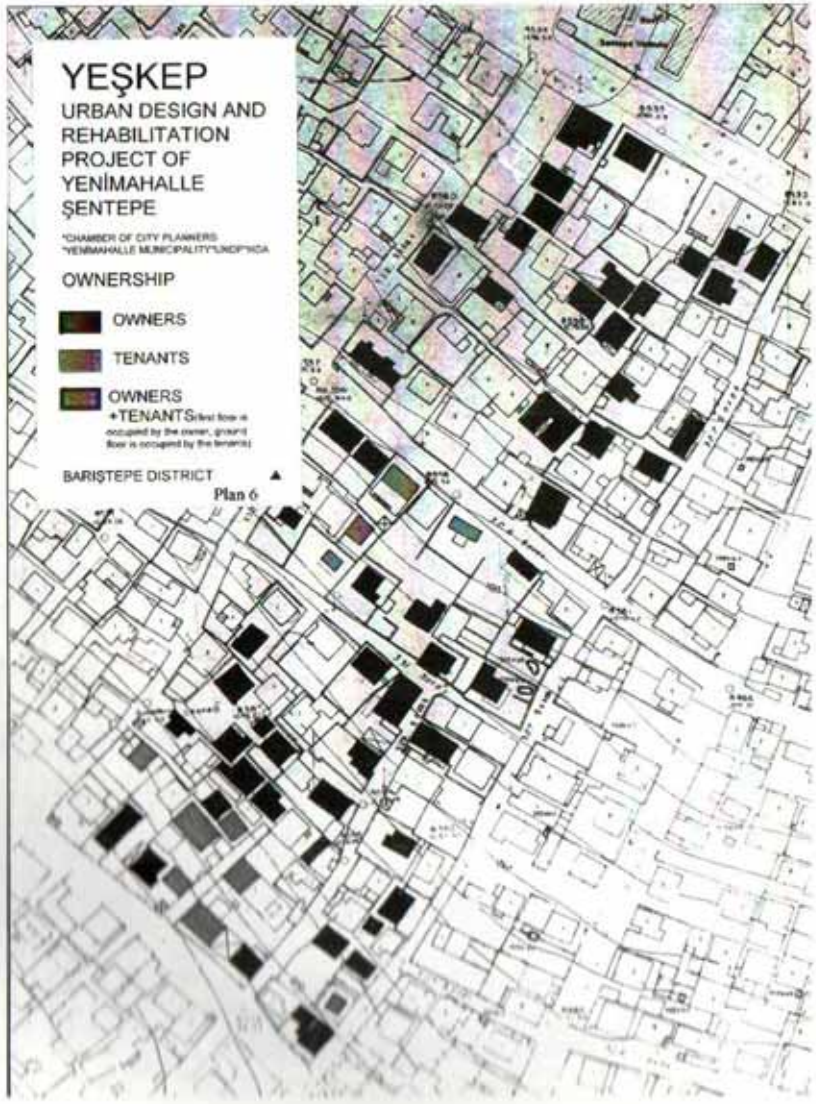
Figure 3: Pamuklar District.

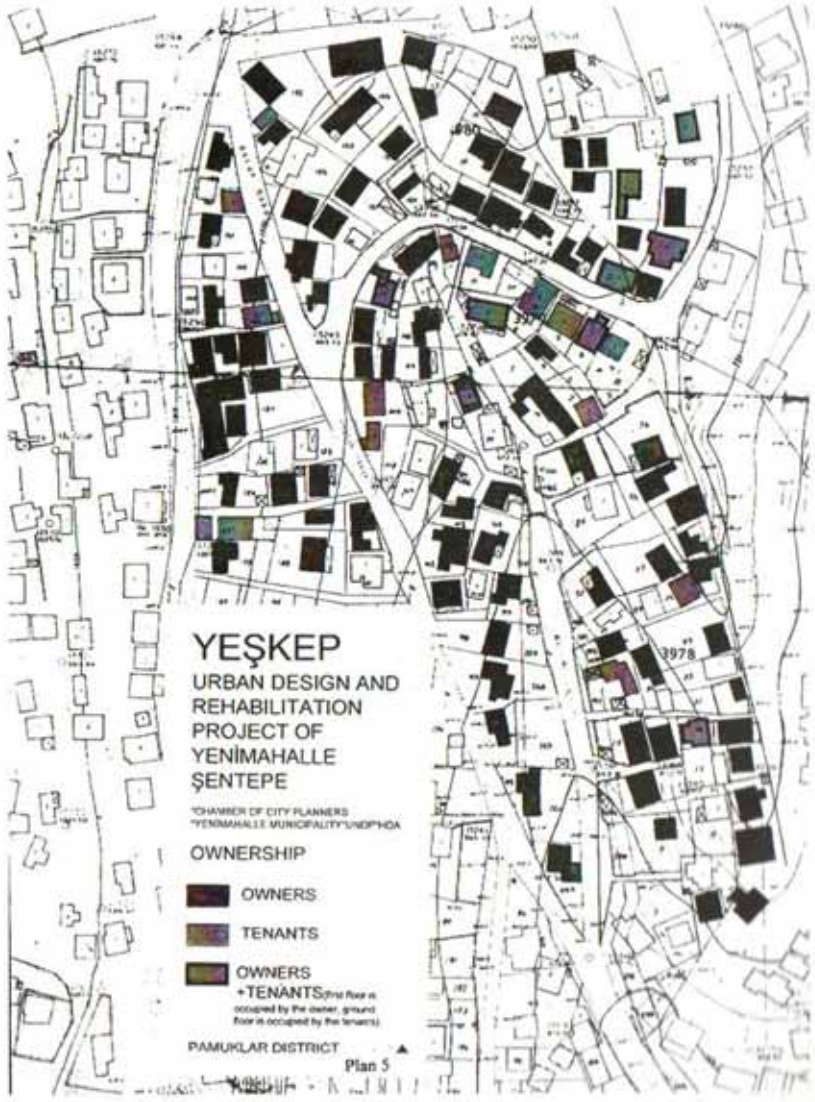
Figure 4: Baristepe District.

Figure 5: Baristepe District.

Figure 6: General view from a Traditional Environment.

Figure 7: General view from a Traditional Environment.


YEŞKEP
URBAN DESIGN AND REHABILITATION PROJECT OF YENİMAHALLE ŞENTEPE
*CHAMBER OF CITY PLANNERS
*YENİMAHALLE MUNICIPALITY*UNDP*HDA
OWNERSHIP
OWNERS
TENANTS
OWNERS +TENANTS(first floor is occupied by the owner, ground floor is occupied by the tenants)
BARIŞTEPE DISTRICT
Plan 6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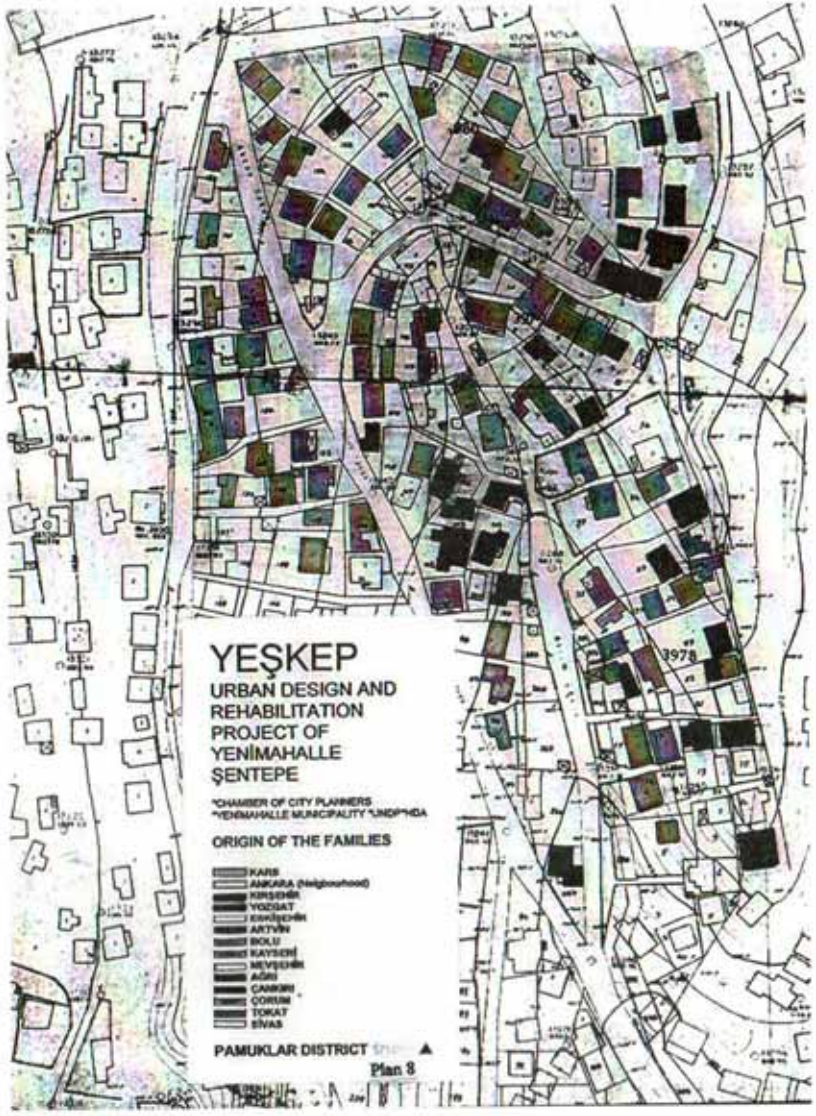
OWNERSHIP
OWNERS
TENANTS
OWNERS +TENANTS(first floor is occupied by the owner, ground floor is occupied by the tenants)
PAMUKLAR DISTRICT
Plan 5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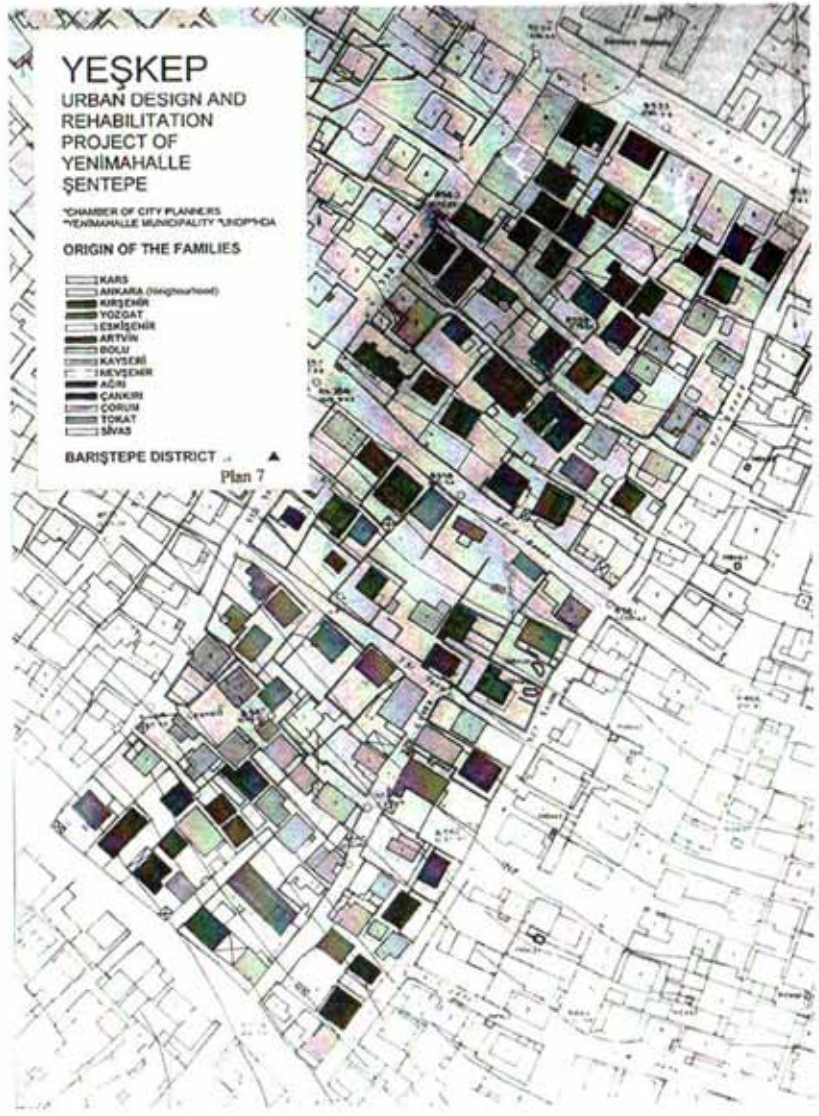
ORIGIN OF THE FAMILIES
KARS
ANKARA (Neighbourhood)
KIRŞEHİR
YOZGAT
ESKİŞEHİR
ARTVİN
BOLU
KAYSERİ
NEVŞEHİR
AĞRI
ÇANKIRI
ÇORUM
TOKAT
SİVAS
PAMUKLAR DISTRICT
Plan 8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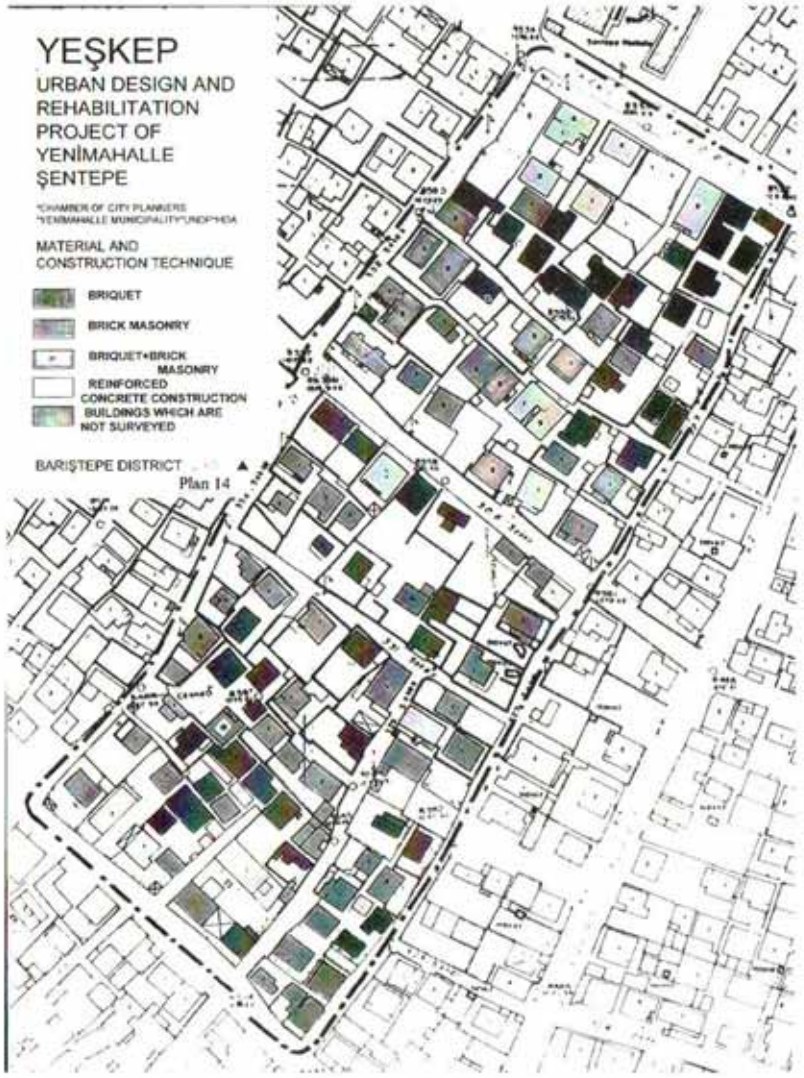
BOLU
KAYSERİ
NEVŞEHİR
AĞRI
ÇANKIRI
ÇORUM
TOKAT
SİVAS
BARIŞTEPE DISTRICT
Plan 7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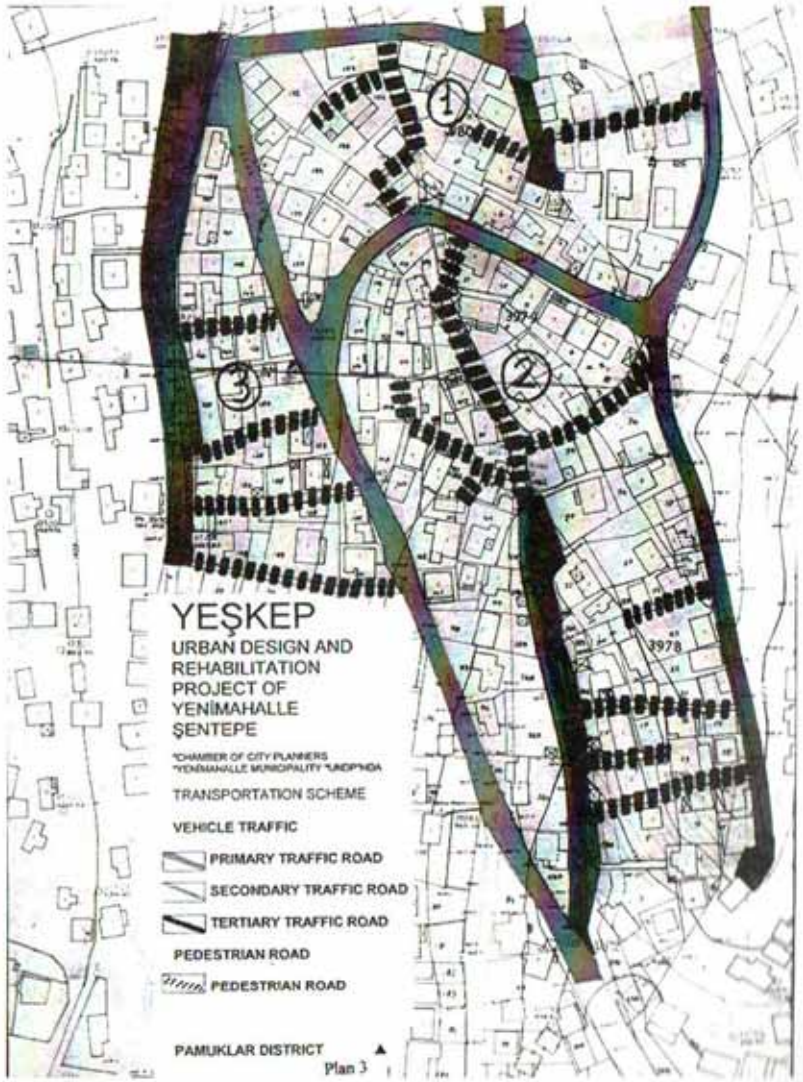
MATERIAL AND CONSTRUCTION TECHNIQUE
BRIQUET
BRICK MASONRY
BRIQUET+BRICK MASONRY
REINFORCED CONCRETE CONSTRUCTION
BUILDINGS WHICH ARE NOT SURVEYED
BARIŞTEPE DISTRICT
Plan 14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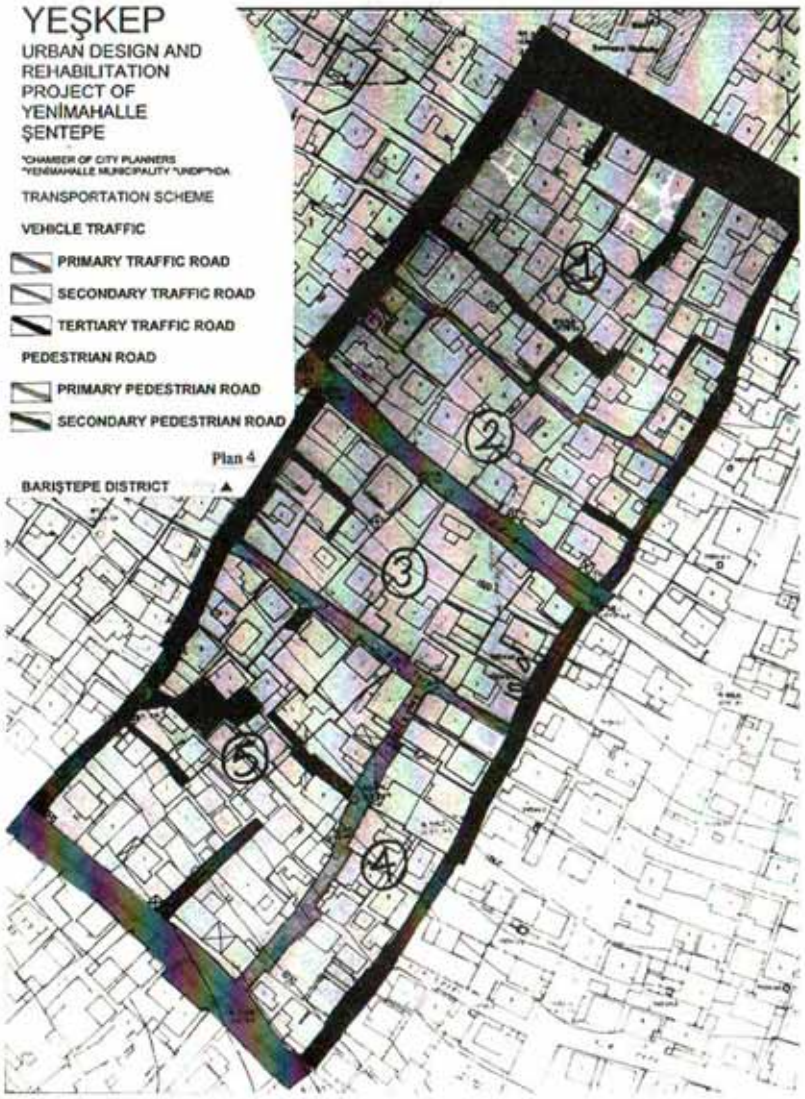
TRANSPORTATION SCHEME
VEHICLE TRAFFIC
PRIMARY TRAFFIC ROAD
SECONDARY TRAFFIC ROAD
TERTIARY TRAFFIC ROAD
PEDESTRIAN ROAD
PEDESTRIAN ROAD
PAMUKLAR DISTRICT
Plan 3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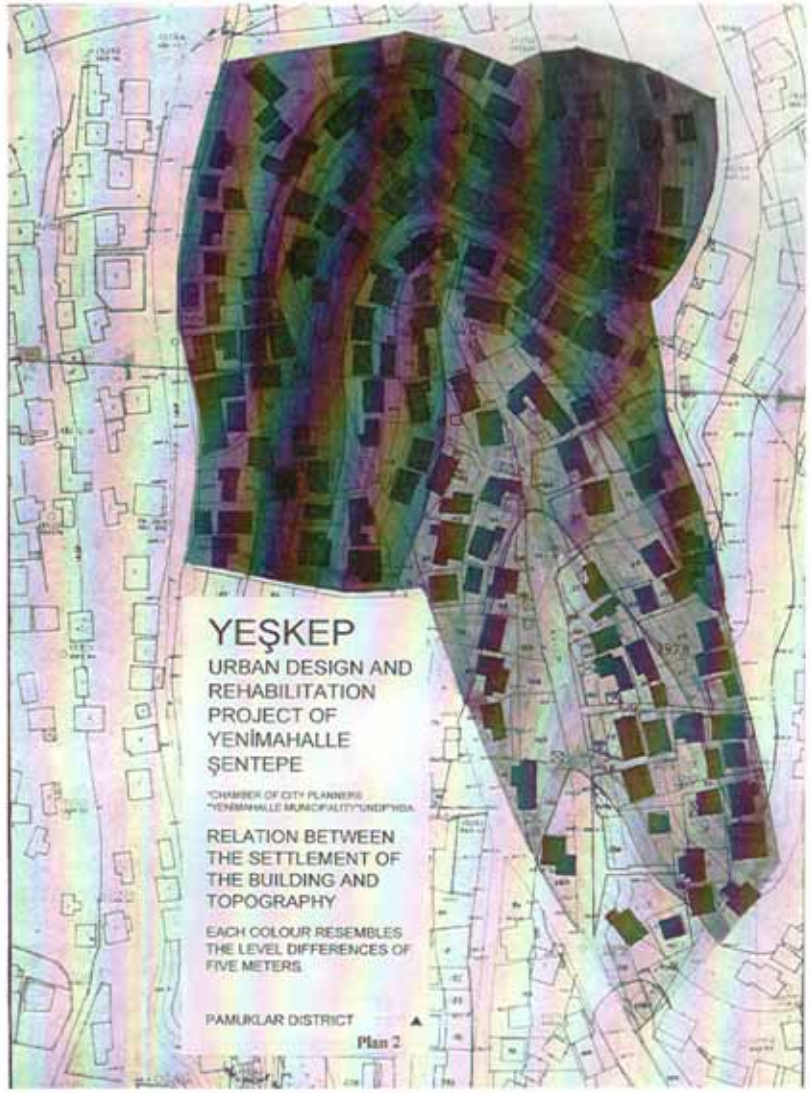
TRANSPORTATION SCHEME
VEHICLE TRAFFIC
PRIMARY TRAFFIC ROAD
SECONDARY TRAFFIC ROAD
TERTIARY TRAFFIC ROAD
PEDESTRIAN ROAD
PRIMARY PEDESTRIAN ROAD
SECONDARY PEDESTRIAN ROAD
Plan 4
BARIŞTEPE DISTRICT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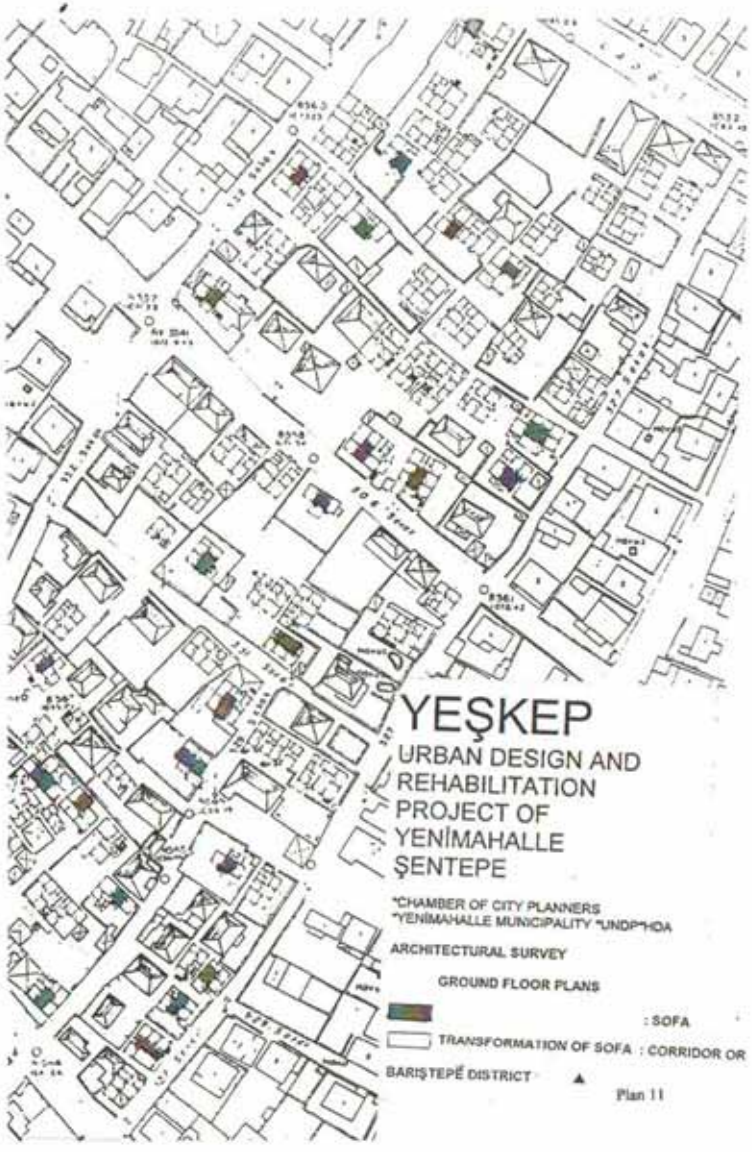
*YENİMAHALLE MUNICIPALITY*UNDP*HDA
RELATION BETWEEN THE SETTLEMENT OF THE BUILDING AND TOPOGRAPHY
EACH COLOUR RESEMBLES THE LEVEL DIFFERENCES OF FIVE METERS
PAMUKLAR DISTRICT
Plan 2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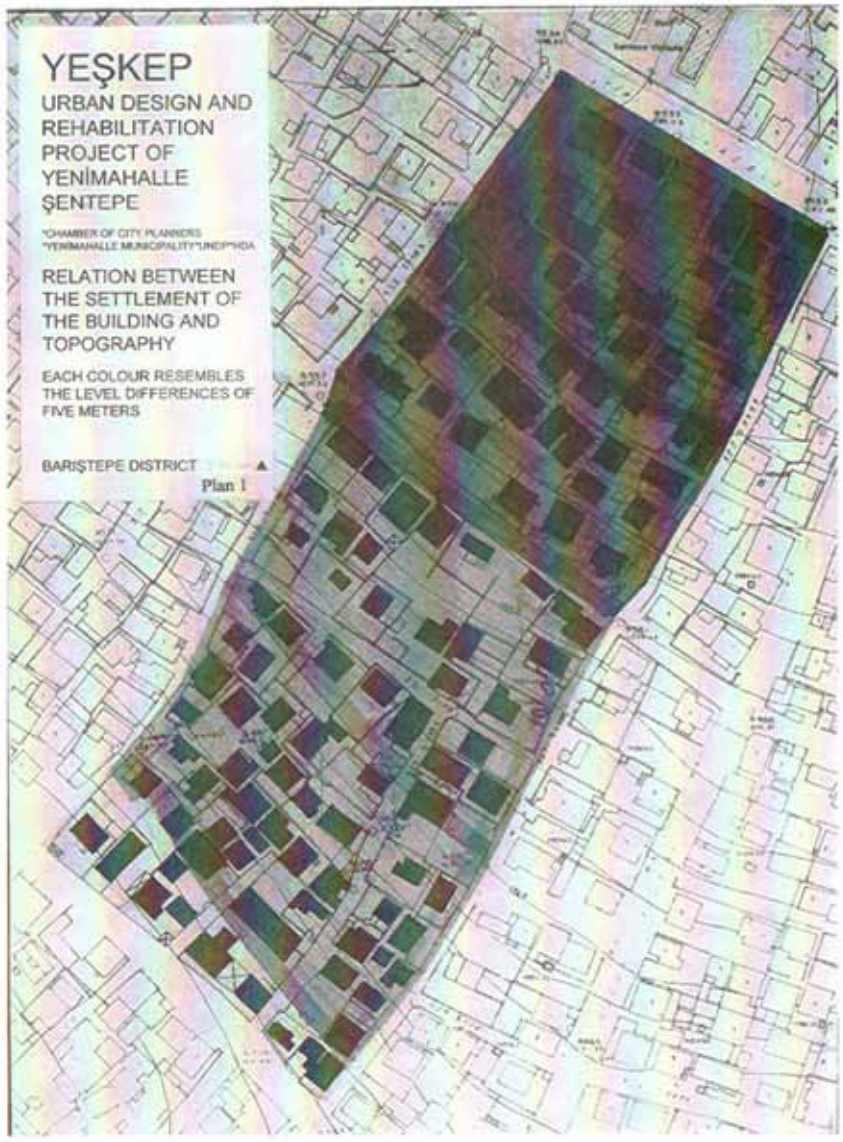
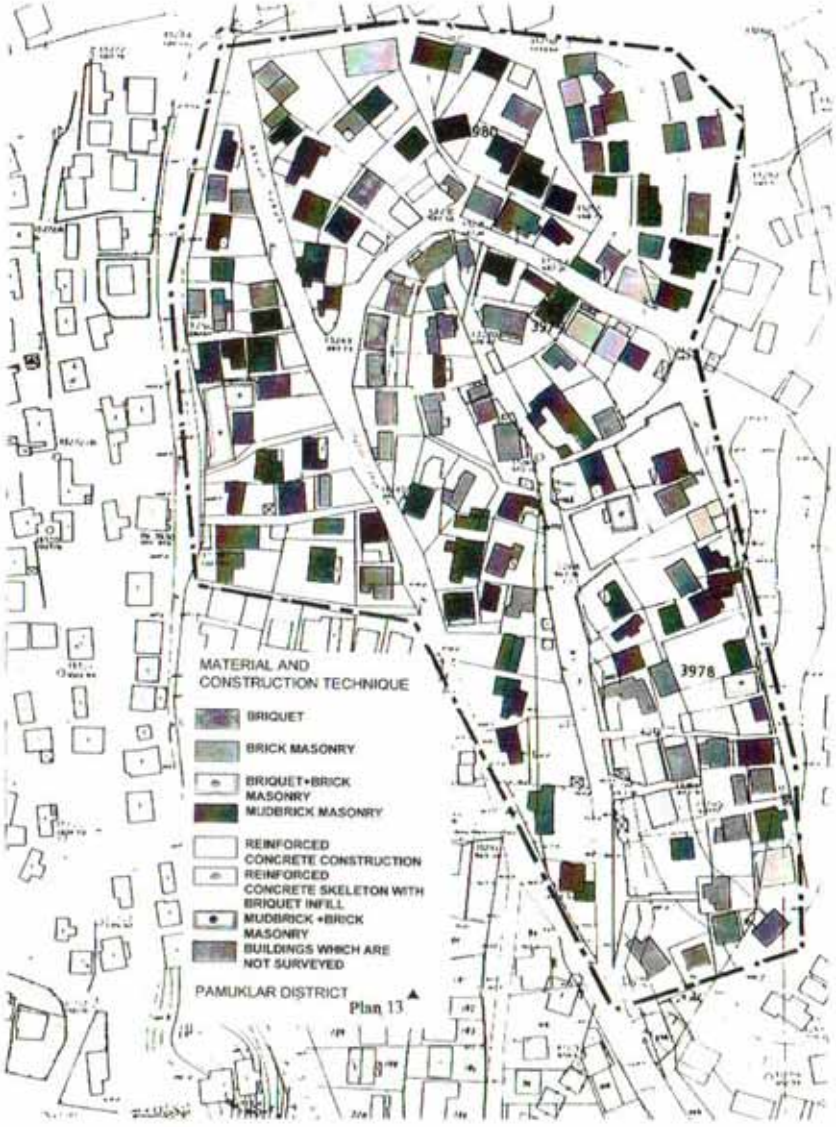
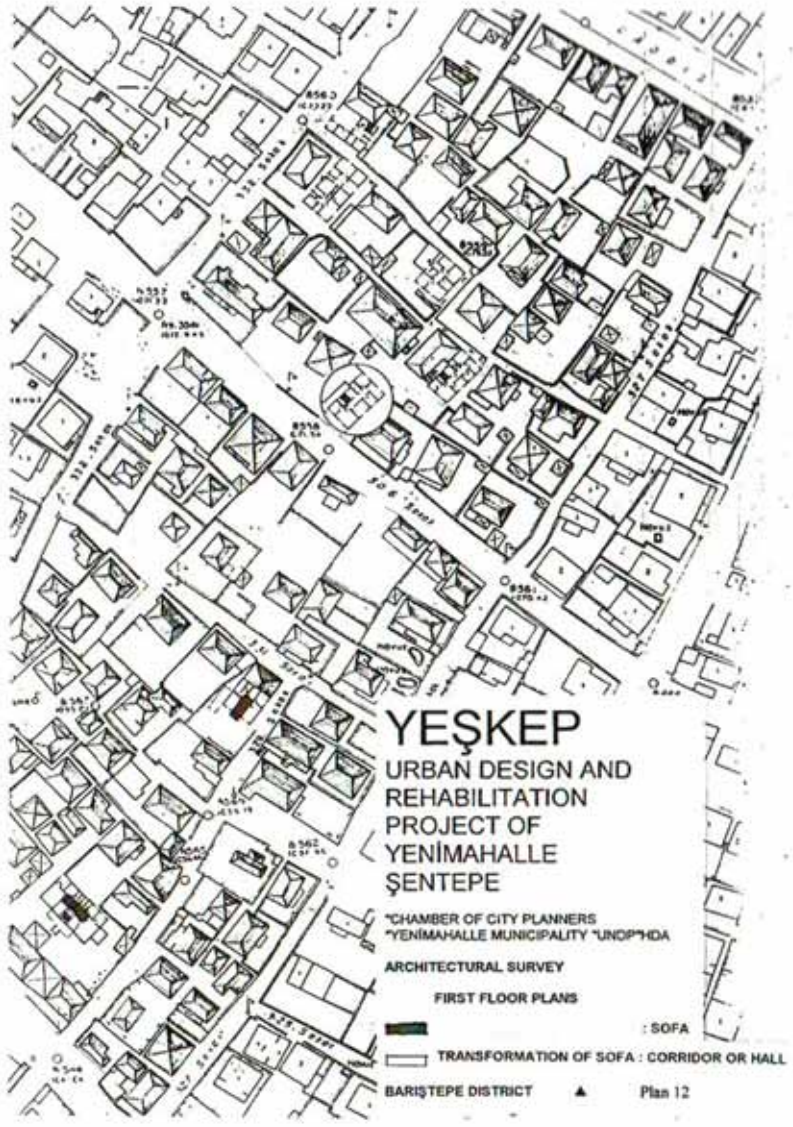
URBAN DESIGN AND REHABILITATION PROJECT OF YENİMAHALLE ŞENTEPE
*CHAMBER OF CITY PLANNERS
*YENİMAHALLE MUNICIPALITY *UNDP*HOA
ARCHITECTURAL SURVEY
GROUND FLOOR PLANS
: SOFA
TRANSFORMATION OF SOFA : CORRIDOR OR
BARIŞTEPE DISTRICT
Plan II


YEŞKEP
URBAN DESIGN AND REHABILITATION PROJECT OF YENİMAHALLE ŞENTEPE
*CHAMBER OF CITY PLANNERS
*YENİMAHALLE MUNICIPALITY *UNDP*HOA
RELATION BETWEEN THE SETTLEMENT OF THE BUILDING AND TOPOGRAPHY
EACH COLOUR RESEMBLES THE LEVEL DIFFERENCES OF FIVE METERS
BARIŞTEPE DISTRICT
Plan I


MATERIAL AND
CONSTRUCTION TECHNIQUE
BRIQUET
BRICK MASONRY
BRIQUET+BRICK MASONRY
MUDBRICK MASONRY
REINFORCED CONCRETE CONSTRUCTION
REINFORCED CONCRETE SKELETON WITH BRIQUET INFILL
MUDBRICK +BRICK MASONRY
BUILDINGS WHICH ARE NOT SURVEYED
PAMUKLAR DISTRICT
Plan 13
3978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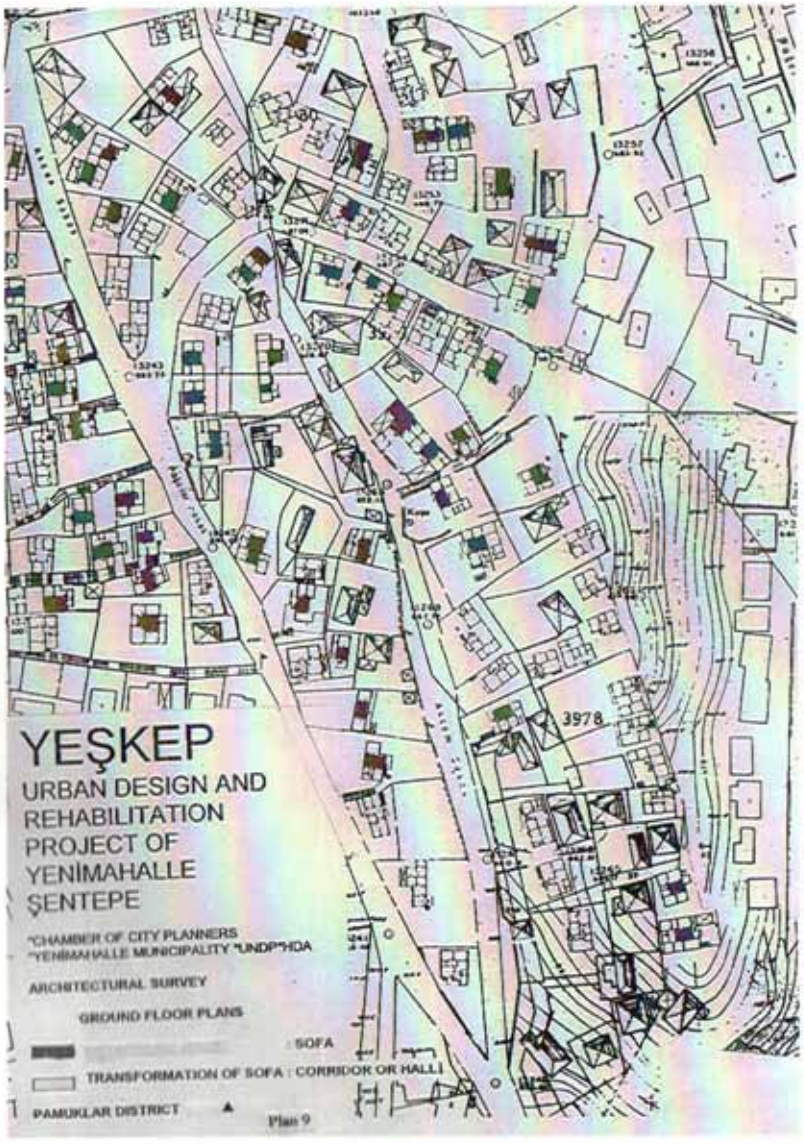
URBAN DESIGN AND REHABILITATION PROJECT OF YENİMAHALLE ŞENTEPE
*CHAMBER OF CITY PLANNERS
*YENİMAHALLE MUNICIPALITY *UNDP*HDA
ARCHITECTURAL SURVEY
FIRST FLOOR PLANS
: SOFA
TRANSFORMATION OF SOFA : CORRIDOR OR HALL
BARIŞTEPE DISTRICT
Plan 12


YEŞKEP
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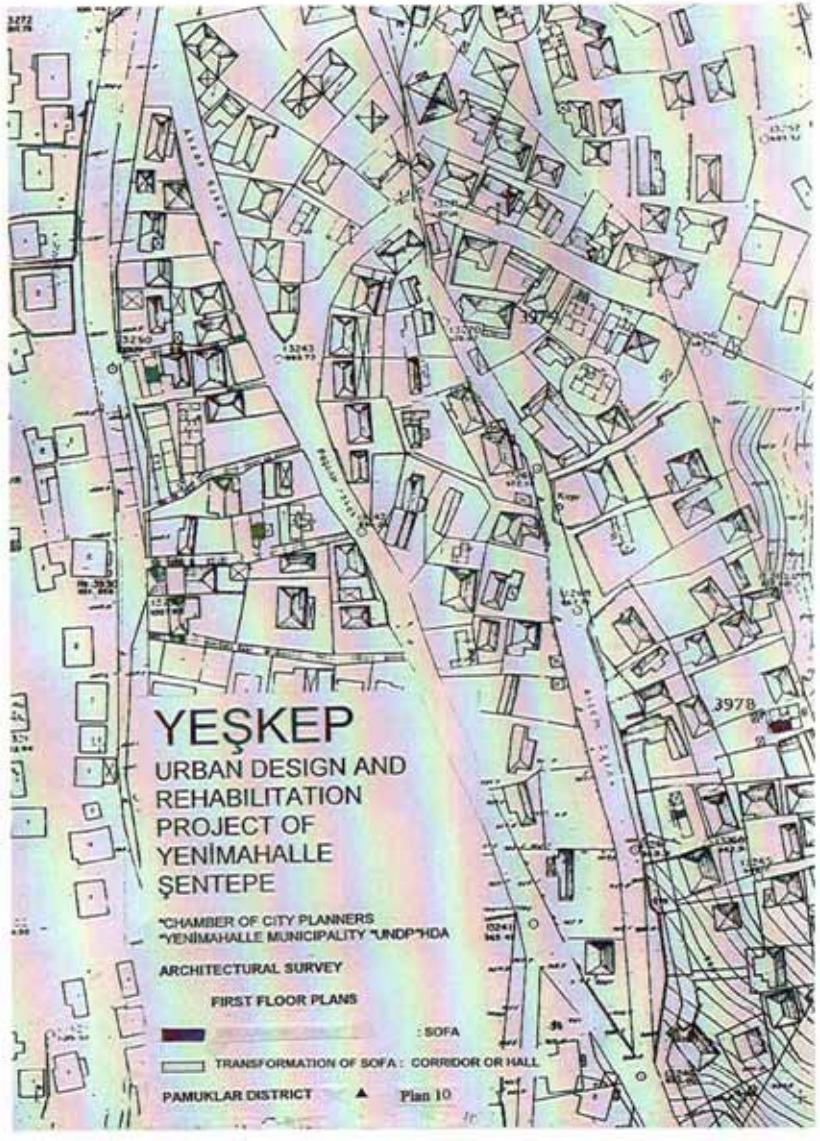
*YENİMAHALLE MUNICIPALITY *UNDP*HDA
ARCHITECTURAL SURVEY
GROUND FLOOR PLANS
: SOFA
TRANSFORMATION OF SOFA : CORRIDOR OR HALL
PAMUKLAR DISTRICT
Plan 9
3978


YEŞKEP
URBAN DESIGN AND REHABILITATION PROJECT OF YENİMAHALLE ŞENTEPE
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ARCHITECTURAL SURVEY
FIRST FLOOR PLANS
: SOFA
TRANSFORMATION OF SOFA : CORRIDOR OR HALL
PAMUKLAR DISTRICT
Plan 10
3978