CONSERVATION AND RESTORATION PROBLEMS OF KAYA KÖYÜ (LEVISSI) HOUSES

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
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BY

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FOR THE DEGREE OF MASTER OF SCIENCE
IN RESTORATION
THE DEPARTMENT OF ARCHITECTURE

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Approval of the Graduate School of Natural and Applied Sciences.

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

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This is to certify that we 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.

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ABSTRACT

CONSERVATION AND RESTORATION PROBLEMS OF KAYA KÖYÜ (LEVISSI) HOUSES

Saraç, Hakan

M.Sc. in Restoration, Architecture

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Kaya Köyü is an old Anatolian Greek settlement which has not been inhabited since the Greek-Turkish population exchange in 1923. It has the tragic unity of the physical destruction added to the untouched/intact nature because of solitude and isolation. It represents the physical trait of our social memory awaiting reminisce after it has been lost with the exchange of population.

The revelation of the values of Kaya Köyü Houses shall pave the way for a better understanding of the traditional housing architecture in

southern Aegean region. Such a revelation rise the hopes for giving a respite for the increasingly distorted architecture of the region; a new respite from the region's own past.

Discussions on the problems about the conservation and the restoration of Kaya Köyü Houses shall focus on almost all aspects of the term conservation, both in theory and in practice. The proposal of "assigning Kaya Köyü as the Village of Peace and Friendship", which has long been on the conservation agenda of our country, should be supported in the sense of awareness of and struggle for conservation. This study, which aims at a contribution for illuminating Kaya Köyü Housing Architecture and discussing the data that would facilitate a proper restoration work, has been drafted with the aim of being an elementary part of an entire conservation activity.

Contribution to the peace and fraternity between the Turkish and Greek people is the motivation behind this study.

Key words: Levissi, Kaya Köyü, Population Exchange, Conservation, Re-functioning, Traditional and Vernacular Architecture, Continuity in Conservation, Building Archaeology

ÖZ

KAYA KÖYÜ (LEVİSSİ) KONUTLARININ KORUMA VE RESTORASYON SORUNLARI

Saraç, Hakan

Yüksek Lisans Tezi, Restorasyon, Mimarlık

Tez Yoneticisi : Doç.Dr. Neriman Şahin Güçhan

Mayıs 2001, 281 sayfa

Kaya Köyü 1923 mübadelesinden bu yana kullanılmayan eski bir Anadolu Rum yerleşmesidir. Terkedilmişliğin getirdiği fiziki tahribatla, aynı sebepten beslenen bozulmamışlığın/müdahale görmemişliğin trajik birlikteliğine sahiptir. Mübadele sonucu kaybettiğimiz toplumsal hafızamızın canlandırılmayı bekleyen fiziki yönünü temsil etmektedir.

Kaya Köyü Konutları'nın sahip olduğu değerlerin ortaya çıkarılması güney ege geleneksel konut mimarisinin daha iyi anlaşılmasını sağlayacaktır. Bu sayede son yıllarda giderek yozlaşan bölge mimarisine kendi geçmişinden gelen ama taze bir soluk getirmesi ümit edilmektedir.

Kaya Köyü Konutları'nın koruma ve restorasyon sorunlarını tartışmak, teoride ve pratikte koruma olgusunun hemen hemen tüm

yönlerini irdelemek anlamına gelmektedir. Uzun yıllardır ülkemizin koruma gündeminde yer alan "Kaya Köyü Barış ve Dostluk Köyü olsun" önerisinin, koruma bilinci ve mücadelesi anlamında desteklenmesi gerekmektedir. Dolayısıyla Kaya Köyü Konut Mimarisi'nin tanınmasına katkı sağlamayı ve doğru restorasyon uygulamalarına imkan verecek verileri tartışmayı amaçlayan bu çalışma, bütüncül bir koruma eyleminin temel parçalarından biri olmayı amaçlamaktadır.

Bu sayede Türk ve Yunan halkları arasında kurulacak barış ve dostluk köprüsüne katkıda bulunabilmek, çalışma için itici güç oluşturmaktadır.

Anahtar kelimeler : Levissi, Kaya Köyü, Mübadele, Koruma, Yeniden İşlevlendirme, Geleneksel ve Yöresel Mimari, Sürdürülebilir Koruma, Bina Arkeolojisi

ACKNOWLEDGMENTS

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CHAPTER 1

INTRODUCTION

1.1. THE AIM AND SCOPE OF THE STUDY

The aim of this study is to define architectural characteristics, conservation and restoration problems of Kaya Köyü Houses and to develop conservation principles that will lead conservation decisions and restoration implementations.

In this context, the study has been carried out with the aim of being an elementary part of an entire and interdisciplinary conservation activity. The idea of conservation and restoration of Kaya Köyü, which was one of the prominent Anatolian Greek settlements in the region until the population exchange in 1923, has long been the subject of conservation agenda in Turkey. When this process is evaluated, it can be seen that these discussions reflect different aspects of conservation issues. In this sense, Kaya Köyü appears on a platform that would provide the most informative and progressive debates with respect to conservation and restoration activities.

Kaya Köyü is momentous and unique settlement because of its physical and historical characteristics. The settlement has been abandoned and has not been occupied later on. Its physical deterioration is high and widespread and its physical characteristics have not been documented effectively. Because of these reasons the settlement is worth documenting

as a whole. In addition to these features, different concerns of various groups, scale and diversity of the problems force to make special definitions for the conservation activities in Kaya Köyü, apart from the existing attitudes and methods of standard conservation plans.

Because of the complexity of the conservation problems of Kaya Köyü, this study will not propose any particular conservation plan that would include the planning and the implementation of the existing conservation proposals. Instead, in respect of the conservation discipline, it aims at identifying the problems of Kaya Köyü and *Kayaçukuru* and their values and characteristics that should be protected under various prospects of use. In other words, this study aims at gathering the "information" that would provide the basis for the decisions to be produced with the participation of different groups and disciplines, defining the values and the characteristics of the site in respect of the conservation discipline, and proposing solutions for the existing problems at different levels. Hence, this study involves various information, evaluations and conclusions with the aim of providing data for the restoration approaches regarding *Kayaçukuru* and Kaya Köyü in general and buildings one by one in particular.

Another practical aim of this study is to bring to all former studies on Kaya Köyü together, thus to be a reference to the future studies.

This study focuses on Kaya Köyü as a whole with its near surrounding, Fethiye Peninsula and *Kayaçukuru* where the village has been located (Figure 1.1). Within the scope of this study, the historical development of Kaya Köyü has been searched and evaluated to define the social, urban and architectural characteristics of the village. Such a study would also provide some of the necessary means for a better understanding of the vernacular architecture of southern Aegean region of Anatolia.

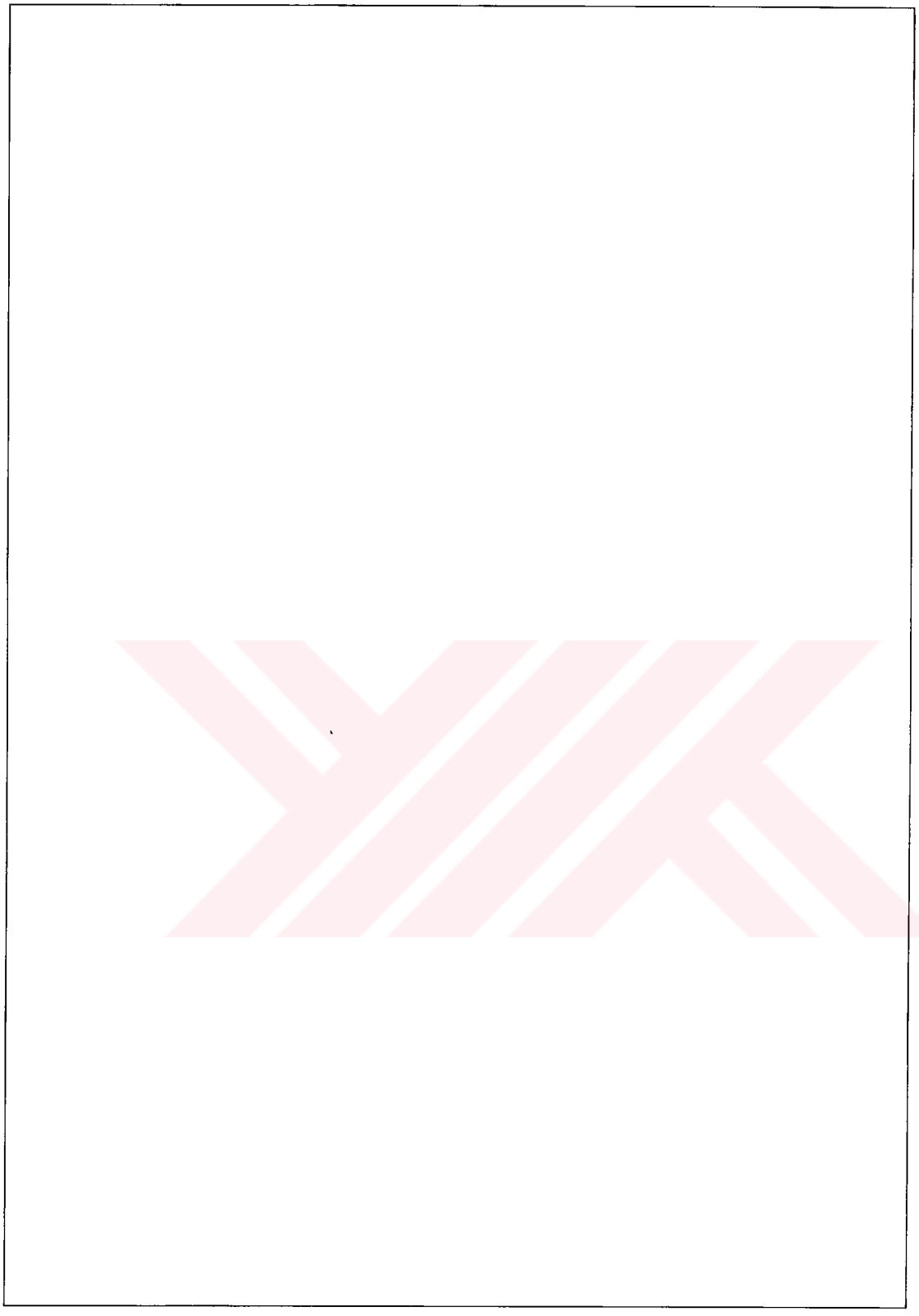
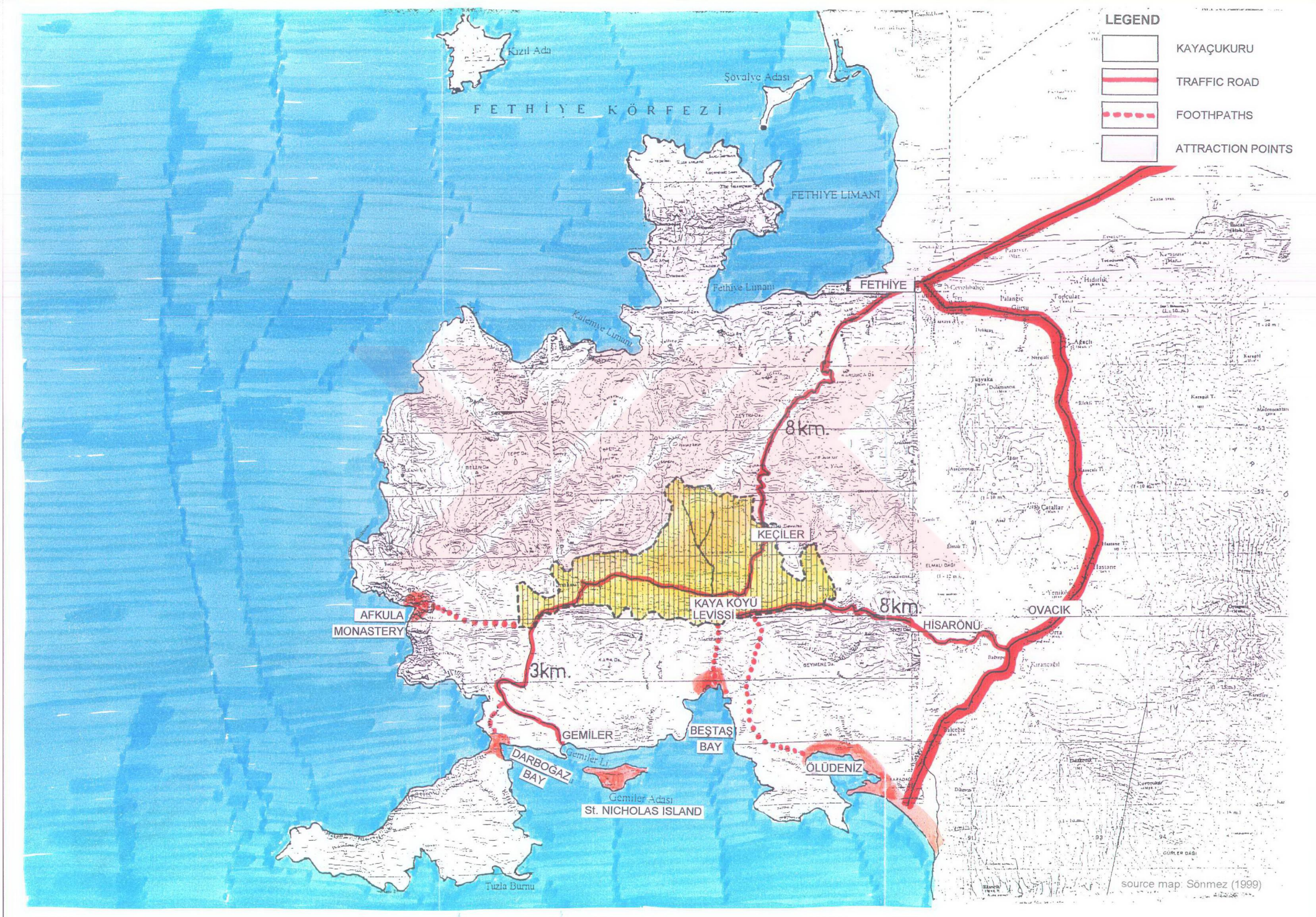


Figure 1.1 : Geographical Location of Kaya Köyü "Fethiye Peninsula"


LEGEND
KAYAÇUKURU
TRAFFIC ROAD
FOOTHPATHS
ATTRACTION POINTS
Kızıl Ada
Şövalye Adası
FETHİYE KÖRFEZİ
FETHİYE LİMANI
Fethiye Limanı
FETHİYE
Kalemlie Limanı
8km.
KEÇİLER
KAYA KÖYÜ
LEVİSSİ
8km.
OVACIK
HİSARÖNÜ
AFKULA
MONASTERY
3km.
GEMİLER
BEŞTAŞ
BAY
DARBOĞAZ
BAY
ÖLÜDENİZ
Gemiler Adası
St. NICHOLAS ISLAND
Tuzla Burnu
source map: Sönmez (1999)

This thesis, which has been written within this framework, contains six chapters. The first chapter involves the aim, scope and the method of study. The methodology has been determined prior to the site survey, and reorganized in line with the findings and certain prescient evaluations have come out within this course. Details of the methodology of the thesis and the problems regarding this methodology, which has been contrived because of the peculiar conditions of the study area, have been explained in detail in chapter 1.2.

The second chapter gives an account of the historical development of Kaya Köyü in the light of existing references, with an emphasize on the importance of the population exchange in the history of the settlement. Developments about the conservation and restoration of Kaya Köyü as well as the activities of conservation subsequent to a long period of solitude are listed chronologically in this chapter. This chapter also gives a compilation of information about the social and urban life in Kaya Köyü.

The third chapter aims to define the relationship between the site and its near surrounding and the general physical characteristics of the site and the buildings. Because of the peculiar conditions of the site, architectural characteristics of the buildings could be defined after the identification of existing spaces, architectural elements and traces. Hence, employing the data that came out of the comparative studies, certain presumptions have been made at this stage regarding the original characteristics of the buildings. This chapter ends with descriptions on construction techniques and material characteristics of Kaya Köyü buildings.

The fourth chapter involves evaluations of the site and the buildings. Different from the usual methodologies, in order to make evaluations on the general characteristics of the settlement, the data were evaluated in building scale. In this regard, first the assessments on the spatial characteristics, façade and plan typologies, construction techniques and

process have been described and comments have been made on the basic construction principles and process of Kaya Köyü houses in subsections. Then, also basing on these evaluations, the characteristics, problems and potentials have been defined in the scale of both the settlement and the building. Possible ways of re-use and related conservation policies have been discussed in general.

The fifth section aims that defining general approaches of intervention types and conservation principles on building scale with respect to various ways of restoration scenarios. In this regard, the conservation principles starting from the general to the specific details have been explained on a case study.

The final chapter gives a general evaluation of the thesis and lists other activities that are necessary for the conservation of Kaya Köyü.

1.2. METHODOLOGY

The methodology of this thesis has been based on the principles of continuous modification and progress because of the characteristic condition of the study area.

The method of the thesis contains five stages:

1. Preparation
2. Site Survey Studies
3. Presentation of Collected Data
4. Evaluation of Collected Data
5. General Attitudes of Conservation Treatments and Case Study

The information on the scope and the methods employed for these stages is explained in detail below. Yet, the general methodology of the thesis needs to be explained briefly here.

1.2.1. Preparation

All of the written documents and visual sources about Kaya Köyü and its near surrounding have been compiled during the preparation stage. After a study of this material, survey sheets and the map used during the site survey have been prepared.

The site survey has been conducted at different periods, and survey sheets, maps and photographs, which are the outcomes of the site survey, have been used in the evaluations on the study area and the buildings. Difficulties arose in defining certain characteristics of the buildings at the initial stage of the site survey as most of the buildings are almost in ruins. These difficulties inevitably affected the surveying method, which can be defined as building archaeology. The site survey stage was not only limited to the documentation of existing characteristics, but also involved an evaluation of the spaces, architectural elements and traces, and initial descriptions and evaluations about the buildings were made at the site. Hence, definition of the main problematic and evaluations (restitutions on the basis of buildings) had to be made at the site, and this obligation indirectly modified the surveying method.

Parallel with the completion of the site survey, the physical characteristics of the buildings and the site with its near surrounding have been grouped and described under different headings. This description, which rather concentrates on physical characteristics, has been supported with the historical investigation under the light of available literature for an attempt to explain the transformations that the site has gone through. The stage of evaluation has been an attempt to define the architectural characteristics and values that need to be conserved, problems facing the activity of conservation and decisions to be taken in this regard. Then, on

the basis of these definitions, certain proposals have been made for action on the scales of the site and individual buildings.

a. Pre-survey Studies: At this stage, all of the written, verbal and visual sources on Kaya Köyü and *Kayaçukuru* has been compiled and investigated in order to complete the preparations for the site survey. Various excursions have been carried out to the survey site under different purpose at different periods between 1992 and 1999. Gathering further information on the physical structure of Kaya Köyü was the motivation behind these excursions, having planned to use the information compiled through observations in preparing the surveying sheets, thus having the most information on the land and buildings before the site surveying has started.

a.1. Historic Survey and Former Studies: The limited quantity of written sources on Kaya Köyü, which contain information on the settlement and the region even if indirectly and which have been applied to in preparing this thesis, can be grouped as follows:

History of Kaya Köyü and Architectural Characteristics: Travelers such as Sanudo, Fellows, Texier, Ross, Saint-Martin and Evliya Çelebi are the oldest sources who had mentioned the history of the settlement in their books (Ekinci,1997:26; İlter,1991:474-475; Özcan,1994; Cengizkan, 1999:39). In addition to them, master's thesis of Kükrer (1991) on the relation of conservation and tourism at Kaya Köyü; İlter's (1991) article on the churches of Kaya Köyü; Ekinci's (1997) selection of his articles and certain other documents on the history and conservation of Kaya Köyü; the study of Galata Group on Kaya Köyü houses (Galata Bulletin, 94/1); Kaya Köyü Registration Sheets (Turkish Ministry of Culture, İzmir 2nd Council of Cultural and Natural Objects Preservation Council); "Survey on the Regulation and Action Plan for the Reconstruction of Fethiye-Kayaçukuru" (Sönmez, 1999); and student studies that have been conducted at different periods and kept in archives of the METU and ITU

are among the limited number of sources that have been referred to in defining the historical and architectural characteristics of Kaya Köyü. One of the most important sources in this regard is the *Nea Makri* (Former name of Fethiye) Association established in the town with the same name near Athens by the Anatolian Greek who came from Kaya Köyü and Fethiye after the population exchange. The Galata Group has maintained contact with this association during the study in 1993, and received information in two audiotapes, which are composed of answers of the Uncle Nicolas, who was born in *Levissi* in 1903, to the questionnaire sent to him formerly (Zerman, 1994).

Anatolian Greek Settlements and Population Exchange: The study of Özcan (1994) on the Greek settlements of the *Teke* Peninsula and monographies published by the Melissa Publications on the traditional housing architecture of the Aegean islands (Arnaoutoglas,1984; Didonis, 1985; Karadedos, 1990; Kartas, 1984; Kizis, 1991; Papaioannou, 1984; Philippides, 1985) are the main publications that are used for comparison in defining the vernacular architecture of Kaya Köyü. Arı's (1995) study that gives a general outline of the population exchange in 1923-25 and an emphasize to problems during this process is important in terms of this thesis, although it does no provide detailed information on Kaya Köyü in particular. "*Tarih İçinde Muğla* (Muğla in History)" a comprehensive edition on the history of the province of Muğla, provides clues on the history of Kaya Köyü (Aktüre, 1993; Bakırer, 1993; Faroqhi, 1993).

Conservation Activities: Since 1979, Kaya Köyü has attracted attention of the public institutions, non-governmental organizations and various experts. Various platforms have performed many activities about the conservation of the settlement, and the outcomes of these activities have been published usually but not regularly. These documents, which have are in different forms, are available with the title "Kaya Köyü File" at İstanbul and Ankara Branches of the Chamber of Architects. Among the documents in this file are the presentations and the final declaration of the

forum titled "*Kaya Köyü Barış ve Dostluk Köyü Olsun* (Kaya Köyü as the Village of Peace and Friendship)", newspaper clippings, and "Proposal of Conservation Plan of Kayaçukuru (Galata Voluntary Students Group, 1993-1994)". Apart from these documents, many articles on Kaya Köyü have appeared in periodicals. These articles are important for having kept Kaya Köyü on the conservation agenda of Turkey. In addition, they contain valuable information on the historical development and physical structure of Kaya Köyü and on conservation activities.

a.2. Verbal Sources and Documentary Film: During the site surveying, we had the chance to interview with and receive important information from Mehmet Gökçe, a Turkish inhabitant of Kaya Köyü who experienced those days. Besides, interviews were made by with natives of Kaya Köyü or people who have spent a long period of time there. These interviews provide certain information on Kaya Köyü.

In addition, "*Zamanın Durduğu Yer: Kaya Köy* (Kaya Köy: Where the Time has Stopped)" a 50-minute documentary film prepared by Mihriban Tanık from the Turkish Radio and Television Institution (TRT) in 1995, contains interviews with many Turkish people who witnessed the population exchange. This documentary film provides another source that enlightens the former social life of the *Levissi* (Tanık, 1995).

b. Preparation of Survey Map and Survey Sheets: The sample surveying sheets have been prepared in the light of the information compiled during the preliminary studies, and these sheets have been checked out in order to prepare the final surveying sheet that would provide the most effective documentation at the shortest period of time. The most appropriate surveying sheet has been re-prepared and copied in a format that could be changed and improved during the site surveying (Figure 1.2). Then the Key Map, that provided the basis of the site survey, has been prepared after receiving the current maps with the scale of 1:1000 from the Special Environment Protection Committee. Grids of 100x100 meters have

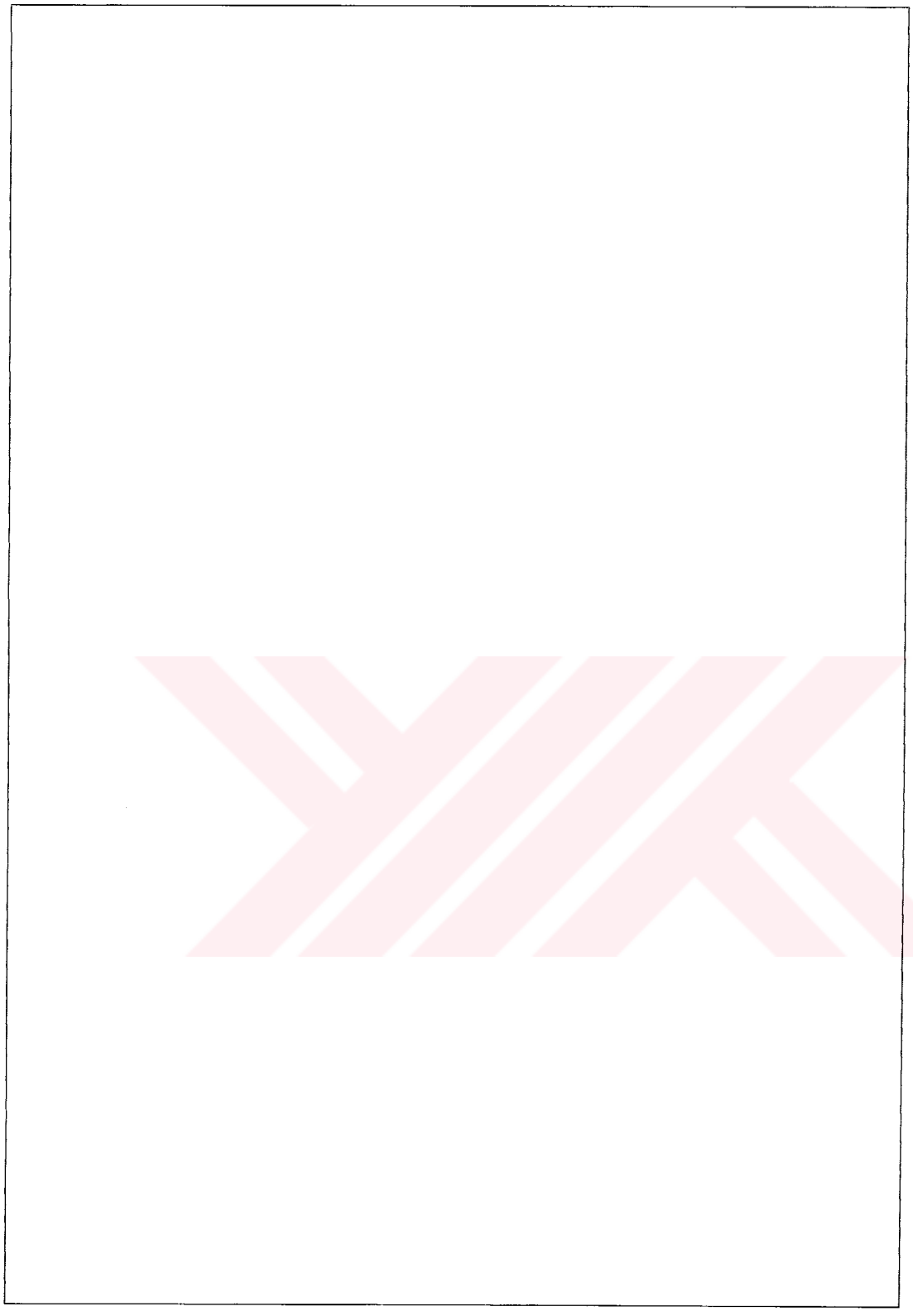
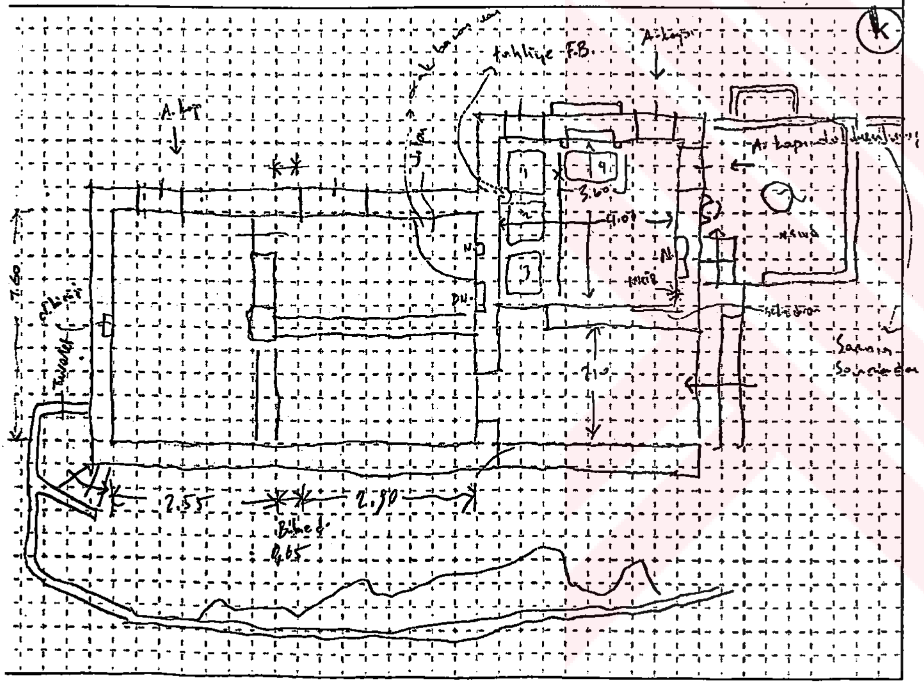


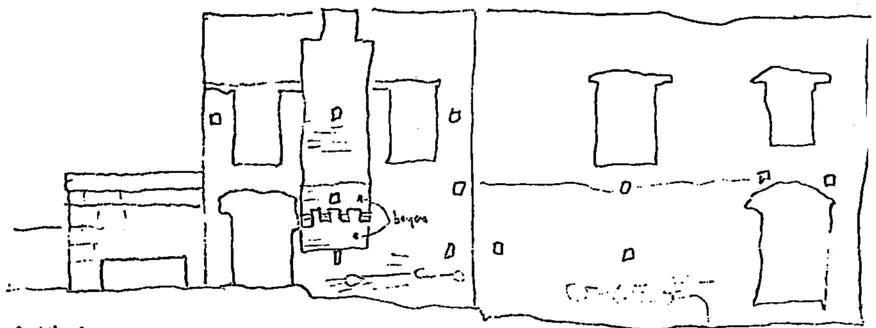
Figure 1.2 : Sample of "Survey Sheet"

"KAYAKÖY KONUTLARI KORUMA ENVANTERI"	ENVANTER NO : 13	YAPI KODU : D.3.13
	YAPI TURU : Konut	
ODTÜ MIMARLIK FAK. RESTORASYON A.B.D. Y.LISANS TEZ CALISMASI	MEVCUT ISLEV : Boş	TARIH : 7/9/1999
HAKAN SARAÇ 53109-5 Tez Danismani : Doç.Dr.NERİMAN ŞAHİN	KAT SAYISI : 1+B	YAPAN : H. SARAÇ

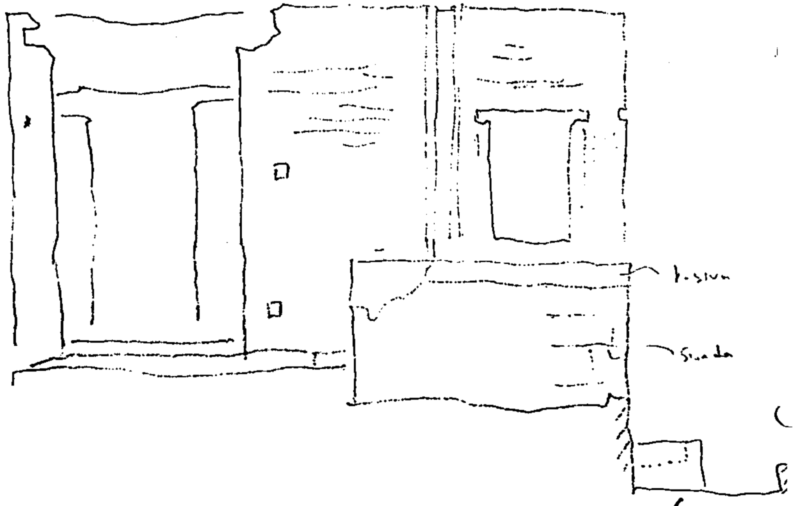
GENEL NOT : Ana mekanda bölme duvarından sonraki mekanın daha yüksek olduğu düşünülmekte. (*-Bu yapı detaylı çekilmeli)

DEGISMISLIK	YOK	EK YAPI	EKLEME	KISMI ONARIM	MIM.EL.DEGIS.:
	RESTORASYON:				
	DIGER				
YAPISAL DURUM	IYI	ORTA	KOTU	HARAP	KISMI YIKILMA
	STR.CATLAK AZ (✓) COK ( )		STR.MALZ.BOZ. AZ (✓) COK ( )		STR.AHS.KAYBI
	DIGER				
YAPIM TEK.&MALZ.	MOLOZ TAS YIGMA - TIP :				
	DIS SIVA - TIP: Arapisel-bozlukla(ar) / Şeritli				SIVASIZ
	IC SIVA - TIP/RENK: Düz mavi /				
	DIGER:				
MALZ.BOZULMALARI	SIVA DOKULMESI (AZ)(ORTA)(COK)		DERZ BOSALMASI(AZ)(ORTA)(COK)		
BOZULMA ETKENLERI	YAPISAL-AHSAP KAYBI		ZEMIN SUYU		BITKI
MIMARI ELEMANLAR	SARNIC :(BITISIK) (AYRI) (YOK)		OCAK :(KOSE) (ORTA) (YOK) orta		BALKON: (VAR) (YOK)
	TUVALET: (BITISIK) (AYRI) (YOK)		SERGEN VB. IZLER(YOK)(AZ)(COK)		BAHCE: (VAR) (YOK)
	TERAS: (SARNIC) (AYRI) (YOK)		BOLME DOLABI IZI(VAR)(YOK)		BODRUM GIRISI (V) (Y)
	SIVADA SUSLEME (IC) (DIS)				
	DIGER: Bahçede küçük yapı? (fırın?)				



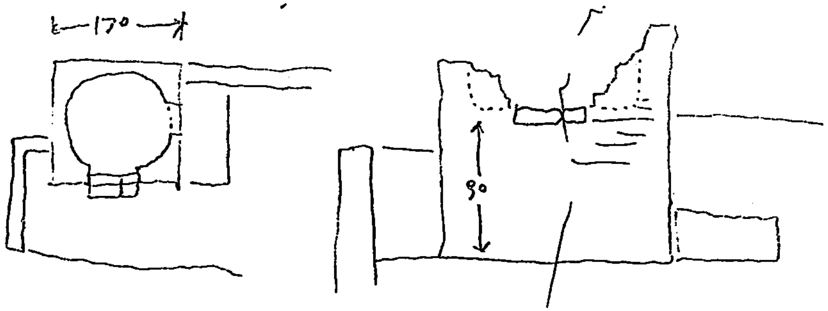


ANA C.



Giriş C.

Bahçe elemanı. Fırın?



been formed on the map, and these have been coded on the vertical and horizontal axes; thus the site survey has been divided into defined and coded sections on the map. Each building in the grids, which is shown as an independent massive building on the map, has been given a code, starting from 1 in each grid. Thus, each building that has been shown on the map has been given a code number (Figure 1.3). The code system has been designed in a way that can be expanded during the site survey. In case of noticing a building that has not been shown on the map, that building would be given a new code number continuing from the last number in that grid; and in case of seeing different buildings in a coded mass, the current code number would be divided into sections of A, B and so on; thus new survey sheets would be used for them. This method would prevent the contrariety that would be observed during the site survey from affecting the whole of the map. Besides, the coded grid reference system would provide the means of easily finding the buildings that are referred in the thesis. The student studies at the METU Restoration Archive would be marked on the map, and these buildings would be documented without making any sketch but only filling the survey sheets. Figure 1.4 "Methodology of Site Survey" shows that the surveying method of each buildings on the study area.

1.2.2. Site Survey Studies

A team composed of two persons started the initial stage of site survey and documentation on 06.09.1999 and completed this stage on 27.11.1999. During this period of time, 675 survey sheets have been filled (table 1.1). In addition to them, 110 survey sheets have been also filled in different order for the buildings documented by architectural students of METU. The information compiled during the documentation of the buildings

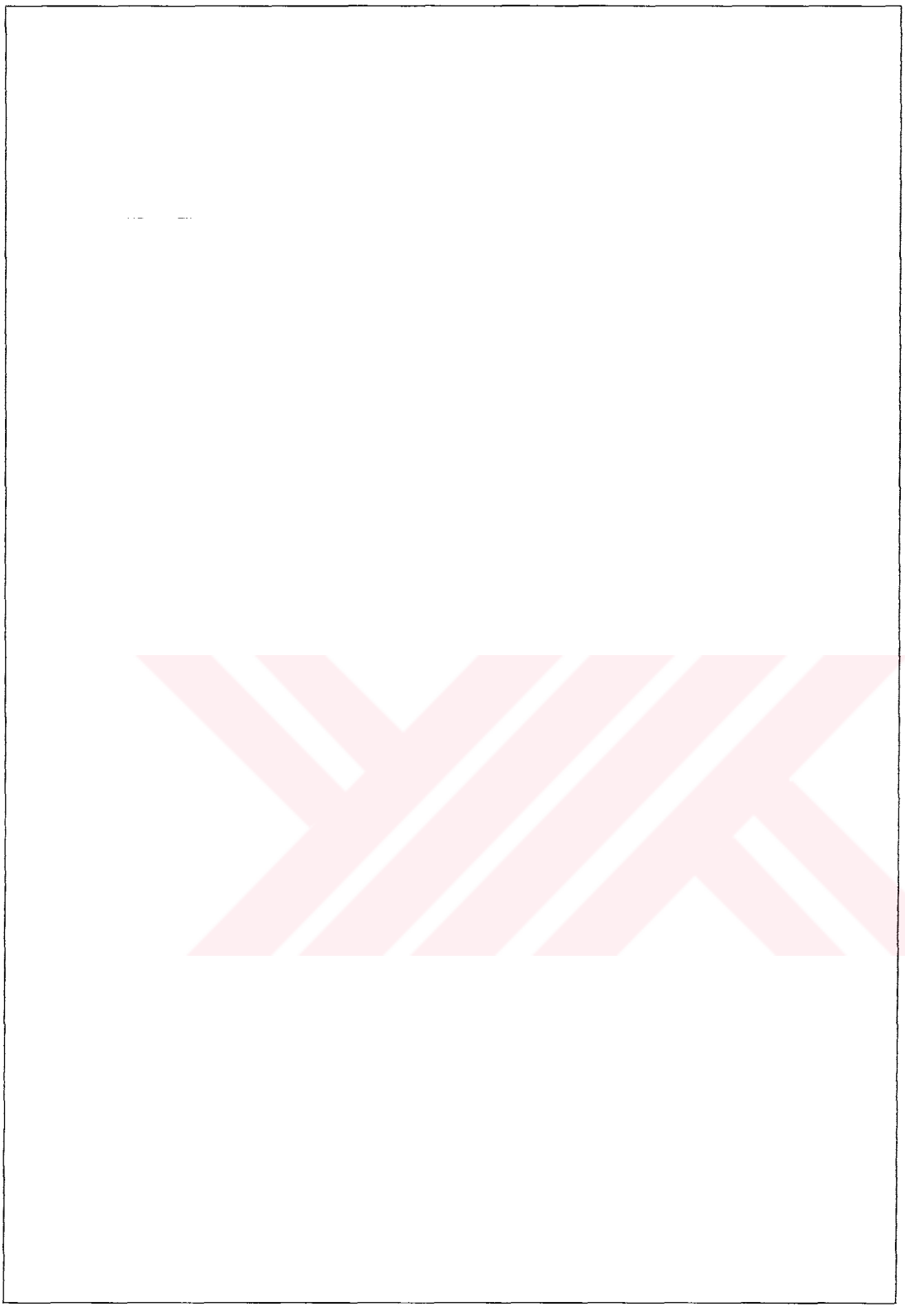


Figure 1.3 : Key Plan

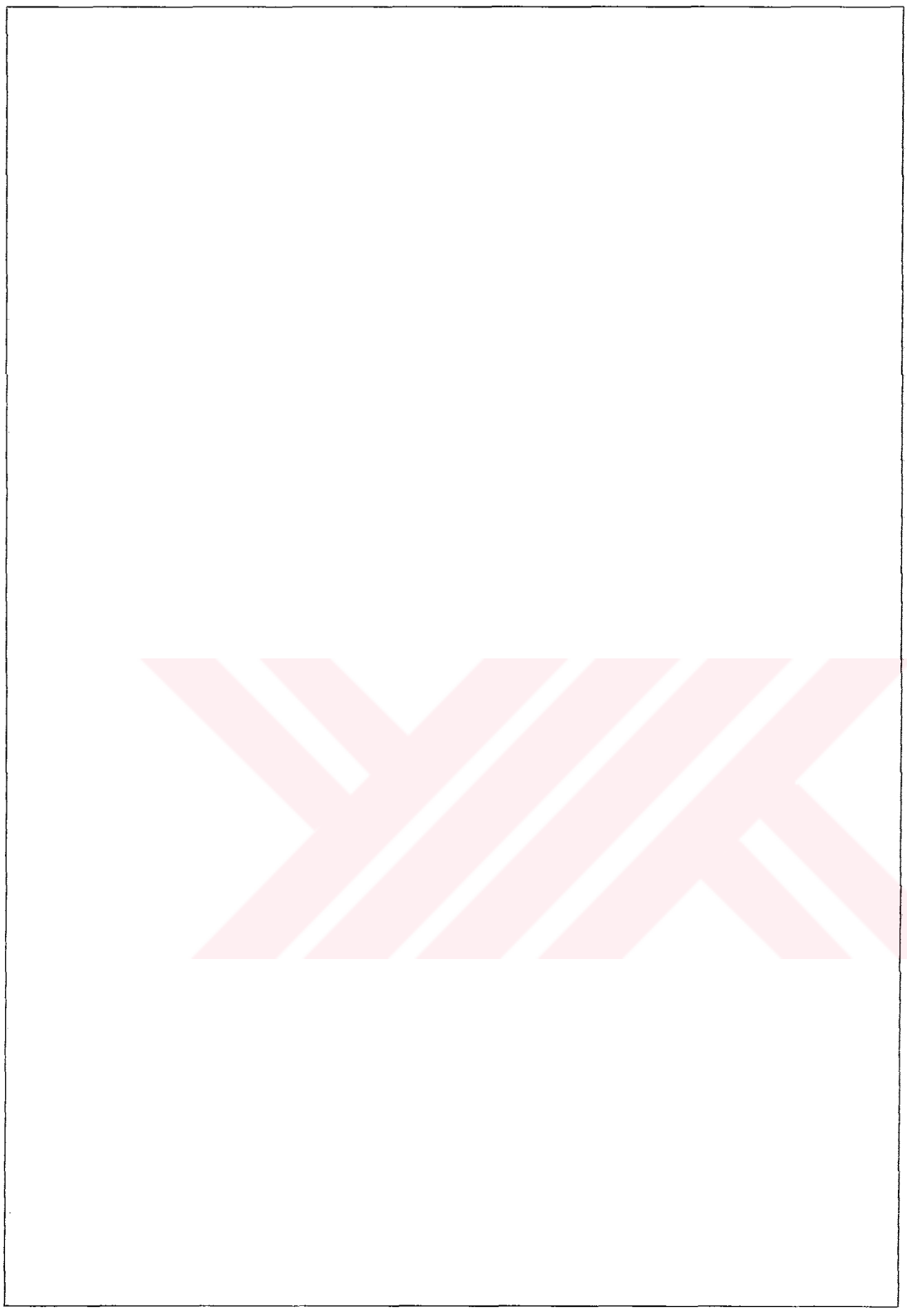
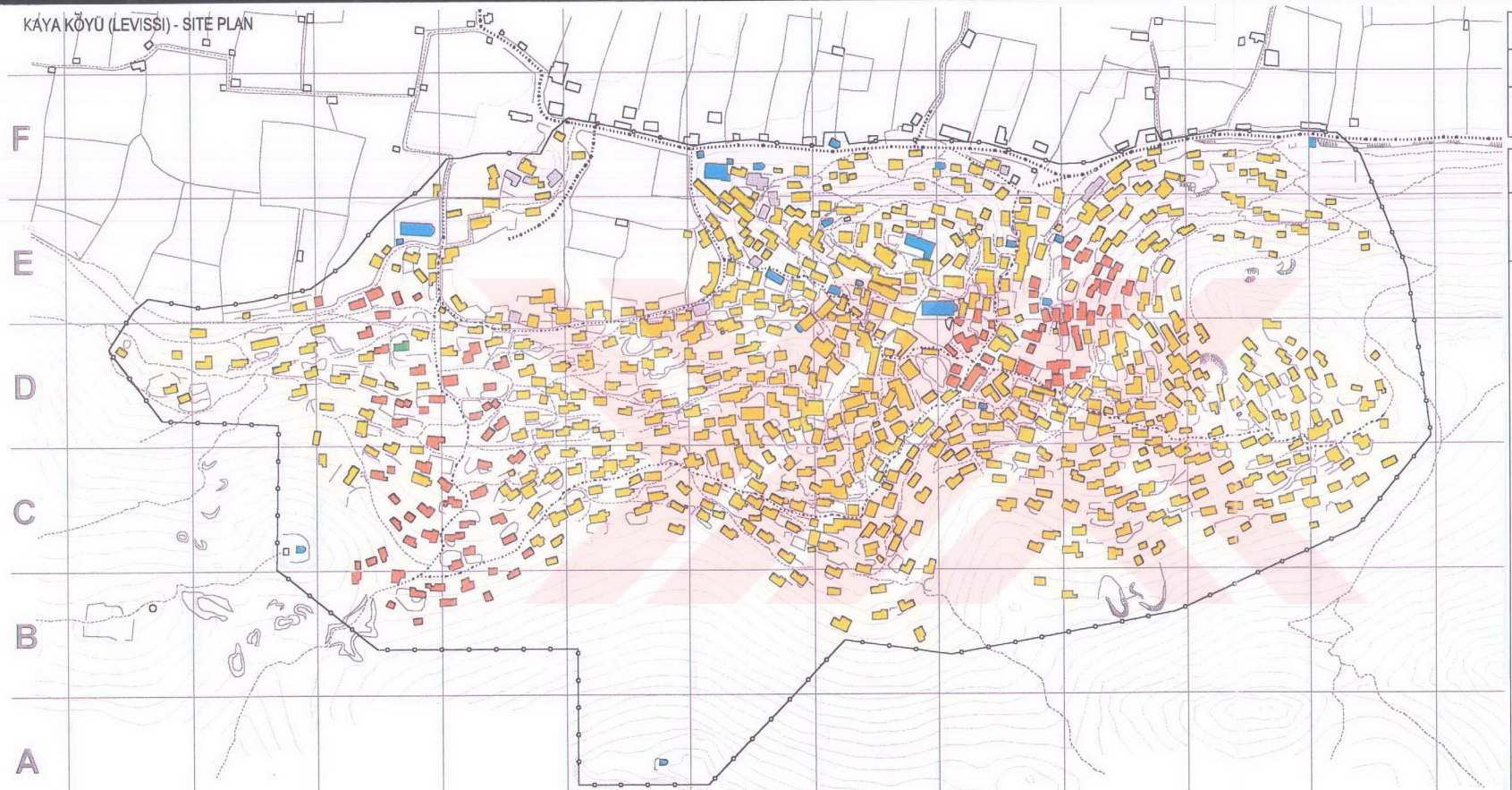


Figure 1.4 : Methodology of Site Survey

KAYA KÖYÜ (LEVISSI) - SITE PLAN



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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
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MAY 2001

submitted by
Hakan BARAÇ

supervisor
Assoc.Prof.Dr. Neriman ŞAHİN GÜÇHAN

PHASE OF STUDY :
● SURVEY ○ EVALUATION

SCALE :
0 10 50

N

TITLE:

METHODOLOGY OF SITE SURVEY

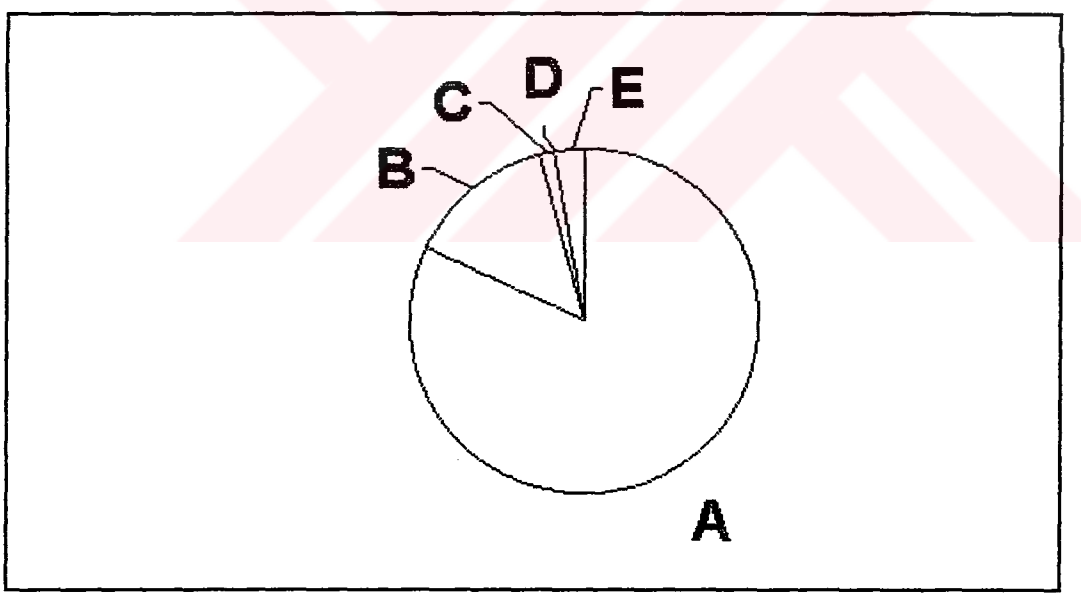
LEGEND:

- BOUNDRY OF THE STUDY AREA
- A- SURVEY SHEET IS GIVEN with PLAN LAYOUT (and facades where necesary)
- B- CHECK LIST IS GIVEN (documented by METU students, Restoration Archieve)
- C- STUDIED ONLY FROM OUTSIDE (could not be entered)
- D- STUDIED IN 1:50 SCALE (for proposal project)
- E- OUT OF SURVEY (Monumental Buildings, studied only for general evaluation)

Table 1.1 : Methodology of Site Survey

GROUP	DESCRIPTION	Quantity	Proportion
A	survey sheet is given with plan layout (and facades where necessary)	704	81,86%
B	checklist is given (documented by METU students)	119	13,84%
C	studied only from outside (could not be entered)	12	1,40%
D	detailed survey (for measured drawings)	1	0,12%
E	out of survey (monumental buildings)	24	2,79%
5	TOTAL	860	100,00%

number of units is studied under this title	860
number of units should be studied under this title	860
survey ratio	**100,00%**



has been evaluated on the same day, and the methodology of documentation has been reorganized continuously. This has resulted in a difference between the survey sheet numbered 01 and that numbered 675 with respect to scope of the information gathering and documentation techniques. For example, at the initial stages of the survey the buildings were documented by drawing plans and two main facades but after noticing the similarity in spatial and massive characteristics then they were only documented with plans; and simple drawing techniques and architectural element codes were used while drawing the plans of certain typical survey sheets as much as possible with respect to the importance of the modifications by re-evaluating of the site and the buildings.

1.2.3. Presentation of Collected Data

After the survey was completed, the data that has been collected during the survey has been brought together and evaluated. The data has been presented, accompanied by materials in written and visual forms. These visual materials are illustrations, tables, charts, sheets and photographs.

The data that has been collected on the scale of a total of 860 buildings has been classified under approximately 250 informative groups in order to create a database, and this table has been presented in Appendix A. This database has been designed with the consideration that it would contribute to the further studies on Kaya Köyü buildings. The distribution of the various data groups of the table, their numeric and proportional values in respect of the site have been submitted in related sections. The physical characteristics of Kaya Köyü and *Kayaçukuru* have been shown on maps; the evaluation and objective descriptions have been

given in the third chapter of this thesis. At this stage, which aimed at providing information about the physical characteristics of the site without making any comments, the collected data has been classified and presented under different titles in these sheet of maps. Below are the titles of the maps and their contents in brief. These sheets, which compose a part of this thesis, are also placed in the flow of the text as much as possible.

Key Plan of Survey (Figure 1.3) presents the boundaries of the study area and the codes of the studied buildings.

Methodology of Site Survey (Figure 1.4) presents the surveying groups and the distribution of the buildings in connection with the methodology of site survey.

Geographical Location of Kaya Köyü (Figure 1.1) and Near Surroundings of Kaya Köyü (Figure 3.2) presents physical characteristics of the near surroundings of *Kayaçukuru* and Kaya Köyü.

Topography of Study Area (Figure 3.4) and Slope Proportions of the Study Area (Figure 3.5) present the topographical characteristics of the settlement.

Open Built-Up Areas (Figure 3.6), Building Density Areal and Numeric Ratio (Figure 3.7) and presents the relationship between open and built-up areas and building density in the settlement.

Physical Hierarchy and Characteristics of Streets and Open Areas (Figure 3.8) and Current Use of Streets (Figure 3.13) present the characteristics of open spaces and street pattern and their current uses.

Cadastre order (Figure 3.21) presents the information about the borders of properties and data on ownership of property in the study area, most parts of which have the status of public property lacking a cadastre map on the basis of buildings.

Current use of Buildings (Figure 3.14) presents the currents use of buildings.

Number of Floors (Figure 3.19) presents the number of floors in buildings, which have been determined after the assessment of the existing traces.

Structural Conditions (Figure 3.20) presents the findings on the structural conditions and the massive entirety of the buildings. Monumental buildings and currently using buildings are excluded from this sheet in accordance with the methodology.

Building Types 1 (Figure 3.18): Buildings such as church, chapel, school, fountain and rock-cut-tomb, the original uses of which can be defined easily with respect to the architectural characteristics, are classified in this stage of the study. Other buildings (houses, auxiliaries, shops or workshops, etc.), the original uses of which cannot be easily defined in this respect are named "unidentified" at this stage. Evaluations on these buildings will be made in the future, after different and further information on them are considered.

Ground Floor Plans (Appendix B): It has been planned to present this presentation in a way to cover the entire study area, but the sampling only covered a limited area-includes only 33 coded buildings in 1:200 scale- for practical reasons. Identifiable architectural spaces and elements were signed on these plans. The sample area has been chosen amidst the areas that have not been documented previously, and carefully for not choosing a complex one. Information about the buildings that are not covered in this plan with that scale is available in the database given in Appendix A.

Gardens and Courtyard and Building Relations (Appendix C) As the original ownerships of the buildings are unknown (see Figure 3.21: Cadastre Order), the borders of the open areas of the buildings have been tried to be defined by tracing of existing ruins of courtyard walls. The areas, on which the traces of courtyard walls have not been observed, have not been drawn as gardens in order to avoid any mistake. These data, which have been

presented with the scale of 1:1000 do not cover the whole for practical reasons.

1.2.4. Evaluation of Collected Data

After the stage of presentation of collected datas, aiming to present the data on the whole study area and the buildings without any comments has been concluded. Different characteristics of the area and their relationship with each other have been examined and the information obtained within this respect has been presented in a written form and by presenting visual materials. At this stage, historical information on Kaya Köyü and monographies on similar settlements have been taken into account. Evaluations made in this respect have been classified and presented in the text of the thesis under different headings. The names and the contents of the plans which have been defined in line with the evaluations, are explained in brief below:

Building Types 2 (Figure 4.9): Buildings, exact types of which were not defined at the preceding stage, have been re-evaluated in the light of the data and the discussions presented in the work titled architectural spaces and elements, and their types have been determined. Hence, the original residential pattern of Kaya Köyü has been identified.

Plan Typologies (Figure 4.14): In order to evaluate the buildings in terms their sizes, locations, elements and existing traces, first the spaces of the priority buildings have been defined and then the relationship of these spaces with each other has been analyzed. Hence, the original plan outline and typologies of Kaya Köyü Houses have been identified. The distribution of the plan typologies on the study area has been shown in order to determine the existing relationships in the settlement. As the criterion of

determining the plan typologies of the buildings, an order has been searched in the buildings starting from those with single and simple space towards the complex ones with multiple spaces.

Stages of Constructional Process (Figure 4.19): Construction processes and usages of the buildings have been determined after an evaluation of the plan typologies and characteristics and traces of architectural and construction techniques of the buildings. These evaluations have been classified and their distribution in the study area has been identified. This stage has produced information on the design and construction processes of Kaya Köyü Houses.

Building Groups (Figure 4.20): The buildings and the building groups have been classified in terms of architectural spaces, elements and plan typologies. The purpose of such an attempt was to figure out if the buildings were independent units or constitute a group of a number of buildings.

Environmental Values and Potentials (Figure 4.34 and 4.35) and Environmental Problems (Figure 4.37): Positive and negative circumstances that have been observed in Kaya Köyü, *Kayaçukuru* and near surrounding, values and potentials have been classified. The aim of such an evaluation is to provide the basis for the future decisions and actions to be taken for the conservation of the entire area and the buildings.

1.2.5. General Attitudes of Conservation Treatments and Case Study

As mentioned above, the aim of this thesis is to determine the general criteria that would form at different levels the frame of the possible future conservation activities at Kaya Köyü. In this respect, the thesis consciously avoided any mention of definite action plans for the re-

functioning of the area and the buildings. It seems that determining the prerequisites of conservation has the priority and is much more important than producing decisions of re-functioning for Kaya Köyü, which has different potentials for various groups. Thus, this section has concentrated on the discussion of various proposals and alternatives that have been voiced for the conservation of Kaya Köyü, and possible effects of these alternatives on the area have been explained.

Here, the possibility of implementing these proposals one by one or concurrently and the necessary restrictions in their implementation in terms of the conservation of the area as a whole will be discussed.

Within the framework of the general principles list above for the conservation of Kaya Köyü, one of the buildings has been selected (D.3.15) in order to determine the essential intervention alternatives for the conservation and restoration of the buildings in the area and produce proposals for the necessary approaches towards the buildings without considering their function. Proposals have been made regarding the possible intervention types on the basis of this building.

First, measured drawings and restitution study have been prepared and conservation and restoration problems have been defined. Then, basing on these problems and the general conservation principles that have been explained in Chapter 5, restoration approaches and possible intervention types have been set out for this building.

CHAPTER 2

HISTORY OF KAYA KÖYÜ AND PLANNING ACTIVITIES

2.1. HISTORICAL BACKGROUND OF KAYA KÖYÜ

There is limited information about the history of Kaya Köyü. The rock-cut tombs and graves existing in Kaya Köyü and *Kayaçukuru* gave clues about an ancient Lycian settlement. In spite of the non-existence of any other source, it was probably that the settlement; named as "*Karmylassos*" mentioned in the history of Herodotus and notes of Strabon (Ruge, 1919) had been located around Kaya Köyü. Fellows passing through Kaya Köyü in 1850 stated that the settlement might have been constructed on the ruins of antique site "*Cissidae*" (Fellows, 1852).

Kaya Köyü was firstly mentioned as "*Levissi*" in the notes of an Italian traveler Sanudo (Ekinci, 1997: 26) visiting the region in the 14th Century. Referring to his notes, it is possible to admit that Christian society had used to live in the area at least since 13th Century. There is a common agreement that the citizens of *Levissi* are Anatolian Greeks, because of the characteristics of their dialects and double "s" in the name of *Levissi*. Historian Dilek Yarcan stated "*the society of Levissi might have settled at this region protected from the sea and the land passing through central Anatolia in the 11th and 12th Centuries*". She shows the evidence of this assumption as the common features in the dialects of "*Silli*" (an early Anatolian Greek settlement near *Konya*) and *Levissi*" (Ekinci, 1997:26). The settlement was in the boundaries of *Menteşe* Principality in the middle

ages and after 1424 Ottomans conquest the area and it was included in the boundaries of *Menteşe* Sanjak of the Ottoman Empire (Bakırer, 1993; Faroqhi, 1993). In the map of John Speed dated 1626, *Levissi* was defined as an extensive settlement (Ekinci, 1997:26). Evliya Çelebi visiting the region in the third quarter of 17th Century mentioned the settlement name as "*Kaya*" (Ekinci, 1997:26). In 1841, Kiepert determined that there was a population more than 2000 living in 350-400 houses (Aktüre, 1993:63). It is not certain that if the whole *Kayaçukuru* or *Levissi* is included in these population estimations. In the same source, the population of *Makri* (*Fethiye*) was given as 400 and the number of houses as 70-80 in the same period. According to the registrations of 1844 (Tanık, 1995), there were 400 Greek and 120 Turkish houses in Kaya Köyü. The number of houses in *Makri* was determined as 50 in the same registrations.

There was not enough information how *Kayaçukuru* and *Levissi* were affected from the earthquake in 1852, which effected *Makri* to a great extend (Özcan, 1994). It was possible to state that after 1852, *Levissi* began a rapid development in terms of population increase and physical structure. If we assumed that no new buildings were constructed to the settlement after the population exchange in 1922, there were about 900 houses only in *Levissi*. Considering the common features in the construction techniques and general architectural characteristics of these houses, it was possible that most of these buildings were built in the same period or simultaneously. The building coded as C.7.16 can be an example of the buildings that were built in that period, because the date 1865 marked on its façade by using small pieces of tiles (Figure 2.1). Also the two big churches were dated in the second half of 19th Century. Although the date 1888 marked at the entrance floor of Lower Church was stated as the construction date according to some sources (İlter, 1991:479); oral sources declared that it was the restoration date (Zerman, 1994:45). Parallel to the development of the physical structure, the population of the settlement reached to 6500 people in 1912 (Ekinci, 1997:26). These

Figure 2.1 : Date on façade (C.7.16)

numbers shows that in an almost 70 years period of time the number of houses doubled and the population increased more than three times. The possible reasons of this growth in the second half of the 19th Century in *Levissi* is the improved circumstances of the Christian societies effected by the declaration Reforms Firman (*Islahat Fermanı*) in 1856 and Land Decree (*Arazi Kararnamesi*) in 1858 and the immigration from the near islands and Crete. An author and journalist Sami Karaören, born in Kaya Köyü, mentions that Kaya was one of the places that brought together most of the population migrating from the Aegean Islands after İzmir and Ayvalık (*Karaören*, 1995). The discovery of chrome mines around *Makri* by *Lövisidises* of *Levissi* in 1878 (Cengizkan, 1999:39) was probably another important factor causing development of the settlement. A detailed

research of this period will be helpful to enlighten the recent history of *Levissi.*

The First World War negatively affected the social and economical development of Kaya Köyü like the other Anatolian settlements because of the male population of *Levissi* was called for military service for the war in 1916 (Tanık, 1995). At the end of the war, during the invasion of the settlement by Italian and Greek armies and the following Turkish War of Independence, many Christian men were sent to Anatolia for exile. In sequence with the end of Turkish War of Independence in September 1920 and the end of invasion of Greek Army in Anatolia and Eastern Thrace, the Anatolian Greeks forced to migrate to Greece. These mutual immigrations were begun firstly from west Anatolia and Marmara then Eastern Thrace and Black Sea regions. Till the end of 1922, total number of immigrants exceeded 1 million and this number reached to 1 million 250 thousand after the completion of population exchange according to Laussanne Treaty signed in 30 January 1923 (Arı, 1995:8). The citizens of *Levissi* were in the first group of the immigrants that had to migrate before the exchange. According to the witnesses living in that period, they went to Greece in October – November 1922 by sea transport passing through *Makri.* The immigrants from *Makri* and Levissi settled in a region near Athens called their new settlements as *Nea-Makri* and *Nea-Levissi* (Tanık, 1995).

After Laussanne Treaty, starting from 1923, 2.000 Greek Moslems were settled in Kaya Köyü. According to Mehmet Gökçe, who was born in *Kayaçukuru* and witnessed to that period, 5 acres of land inside the *Levissi* and 10 acres land from the plain were given to the immigrants from Thessalonica. However, most of the immigrants could not adapt to the environment because of several reasons such as different living and production conditions that they were familiar. Mehmet Gökçe told that after the completion of registration, most of the immigrants sold as much as land as they could and left Kaya Köyü within 10-15 days. The rest of the migrants preferred to settle to the plain or the other villages around. During

this abandonment, all timber elements of the buildings were taken off for different purposes and especially as fuel for fireplaces causing great damage. Mehmet Gökçe told that the immigrants and many of the other villagers did not go to forest for collecting woods as fuel for 10 years and the poor people of *Ovacık* ruined for the purpose of gathering the remaining goods and finding a fortune. He also added that the road that can be depicted today between *Ovacık* and Kaya Köyü formed during that period.

During site survey, except for a few houses near the plain, no information or trace was observed about any further settlement in Kaya Köyü after the abandonment. But the Lower Church was being used as a mosque till 1970's. Parallel to the abandonment, *Kayaçukuru*, which was the agricultural hinterland of Kaya Köyü, has also begun to change in socio-economic context. The inhabitants of the other settlements at *Kayaçukuru* also migrated to Fethiye and other regions. Production of tobacco and industrial plantation took the place of gardening and viticulture and this affected the physical structure negatively (Sönmez, 1999:8). By these transformations *Kayaçukuru*, which was formerly a rural settlement, started to degrade and many of the traditional houses at the north edges became abandoned. Thus Kaya Köyü lost its legal status, which was an administrative center as a sub district of Fethiye till 1940'ies. Oral sources mention that the earthquake in 1957 caused important damages especially on the buildings located at the plain. New constructions increased at the plain and at the edges of the main traffic axis by the effect of tourism in the 1980's. But the buildings in *Kayaçukuru* never subjected to the interventions and destructions as seen in examples of *Ovacık*, *Hisarönü* and *Ölüdeniz*.

2.2. PLANNING ACTIVITIES

Apart from the level of physical degradation, Kaya Köyü is an important part of Turkey's cultural and natural heritage. Owing to this Ministry of Culture designated Kaya Köyü (*Levissi*) as a 3rd degree Urban Site in October 14th 1978. Then different people and NGOs brought forth several arguments for the preservation of Kaya Köyü.

Drawing attention to the cultural values and abandonment of Kaya Köyü, the poet and the architect Cengiz Bektaş (1979), recommended the preservation of the settlement as an example of "Aegean, Mediterranean Peace City".

Kaya Köyü and near surroundings were defined as a holiday village - possessing a capacity of 12.000 bed- in "Fethiye-Dalaman Environment Master Plan" prepared in the scale of 1:25.000 and approved by the Ministry of Tourism in September 24th 1984. The enormity of the bed capacity proposed for Kaya Köyü in 1984 can be easily understood comparing to the bed capacity of *Fethiye* (including its environment) which was 26.163 in 1997 (Sönmez, 1999:50).

Ministry of Public Works designated the area as a tourism center by the "Akkulak-Gemiler Bay - Kayaköy Tourism Center Plan" dated September 25th 1987. Consequently, the settlement was integrated within the boundaries of "Fethiye-Göcek Special Environment Protection Region (*Fethiye-Göcek Özel Çevre Koruma Bölgesi*) by the Special Environment Protection Region Committee of the Prime Ministry (Başbakanlık Özel Çevre Koruma Bölgesi Başkanlığı) in July 5th 1988 [1]

After the approval of these plans, feasibility research for an international holiday village started by various tourism investors. The research revealed that realization of a holiday village project was not easy;

considering the distance of Kaya Köyü to the sea and the difficulty of construction of infrastructure to the existing physical pattern. These developments activated people and institutions that were sensitive about the protection of historical and cultural values of Kaya Köyü.

Great efforts shown by the Chamber of Architects and a survey trip followed by a forum was organized in October 2nd 1988, with the idea of preserving Kaya Köyü as "Turkish-Greek Peace and Friendship Village". Great participation provided in these activities. Citizens of Kaya, architects, artists, authors, journalists, students, Turkish-Greek Peace and Friendship Society members, official representatives, including two tourism investors that have planned touristic facilities attended this forum and they found the opportunity to discuss and share their opinions and proposals. The proposal that was aiming to preserve the Kaya Köyü as a "Turkish-Greek Peace and Friendship Village" brought by the Chamber of Architects was approved and all partners joined to this forum signed the final declaration. Later the concept of the project was developed and transformed in to an "Aegean Cultures Research Center and an International Educational Center" in which history of art and culture, architecture, plastic arts, archaeology and similar subjects would be studied on the level of masters' degree. At the first item of the decisions section of the final report of the forum, it was stated that " *the efforts and initiatives of revival of* Kaya Köyü *in a whole and continuous economic, social and cultural developing process will help to construct the peace and friendship between two countries and societies and this effort is evaluated as a help for world peace and will be supported*" (Ekinci, 1997:13).

The final declaration of the forum was sent to all related official and non-governmental organizations. The first official consent was taken from the Ministry of Public Works in November 29th 1988, mentioning that the Ministry was positive in supporting the planning process. Another important development at the same date was the approval of the "Protocol of Special Protection Areas in Mediterranean" signed by the Turkish Government in

October 17th 1988. Greece was one of the counterparts of this protocol that was aiming a close cooperation at regional scale in the preservation of the cultural heritage of Mediterranean countries. Then, the possibility of an international support for the preservation activities in Kaya Köyü became possible by the recognition of this protocol. The project of Kaya Köyü Peace and Friendship Village included by the support of Chamber of Architects in the "10 World Years of Cultural Development Program" (1988-1997) of UNESCO was one of the international support opportunities. But the necessity of this program could not be achieved in that period.

On December 2nd 1989 a solidarity protocol signed between the Chamber of Architects and Fethiye Municipality, which was an important development for the realization of the decisions, produced at Kaya Köyü Forum. In September 30th 1990, Fethiye Municipality organized some activities followed by a forum. Within these activities, a prayer meeting was performed in Kaya Köyü Churches accompanied by Imam of Fethiye and the priest of Rhodes and a Greek tourist group of composed of 110 people.

The region including Kaya Köyü was defined as a "Special Project Area" in "Fethiye-Dalaman Environment Master Plan Revision (*Fethiye-Dalaman Çevre Düzeni Nazım İmar Planı Revizyonu*)" prepared in the scale of 1:25.000 and approved by the Ministry of Tourism in September 19th 1989 (Figure 2.2). In that area, the authority was given to the Special Environment Protection Committee of the Ministry of Environment. In June 12th 1991 Kaya Köyü was designated as 3rd degree "Archaeological and Urban Site" by İzmir 2nd Council of Cultural and Natural Objects Preservation Council.

In the following years, studies concerning the technical aspects of the preservation of Kaya Köyü were started. With the cooperation of Ministry of Culture and Special Environment Protection Committee, 1:1000 scaled maps showing the existing situation were prepared; the Ministry of

Culture completed the inventory and registration of the immovable cultural properties.

In June 25th 1994, Galata Voluntary Students Group organized panels and forums in İstanbul. The final declaration of these meetings includes general decisions and attitudes about the preservation of Kaya Köyü (Ekinci, 1997:49-53 ; *Galata Bülteni*, 95/1:44). One of the practical decisions of this declaration was to establish a center to collect all the former studies and to organize the future researches. Galata Voluntary Students Group prepared the "Kayaçukuru Preservation Plan" in 1994 and presented it to Special Environment Protection Committee. This study was an important source defining the social, economic and physical characteristics of the area. Galata Voluntary Students Group also prepared the measured drawings of 83 buildings in 1:50 scale and site plans and published this documentation in their own bulletin (Kuyumcu, 1994). A similar research, including measured drawings of the buildings near Upper Church in the scale of 1:200, was carried out by İstanbul Technical University. In the Documentation Center of Graduate Program in Restoration at METU, there are measured drawings at 1:50 scale of about 120 buildings prepared by the METU students in 1995 and 1996 academic year. In addition to them there are panoramic drawings of Kaya Köyü, prepared by the Photogrammetry Center of METU, Faculty of Architecture in 1996.

In 1994, "Kaya Tourism Development Cooperation" was established with the participation of inhabitants of Kaya and *Keçiler* villages. The aim of this cooperation is to increase the income of the inhabitants by improving tourism facilities and to solve the current problems. A festival was organized as "Kaya Culture and Art Days" to celebrate the establishment of the cooperation and to attract public interest. At the end of the festival, a panel was also organized. In the final declaration of the panel, it was stated that Kaya Köyü should be preserved with its natural and cultural values as

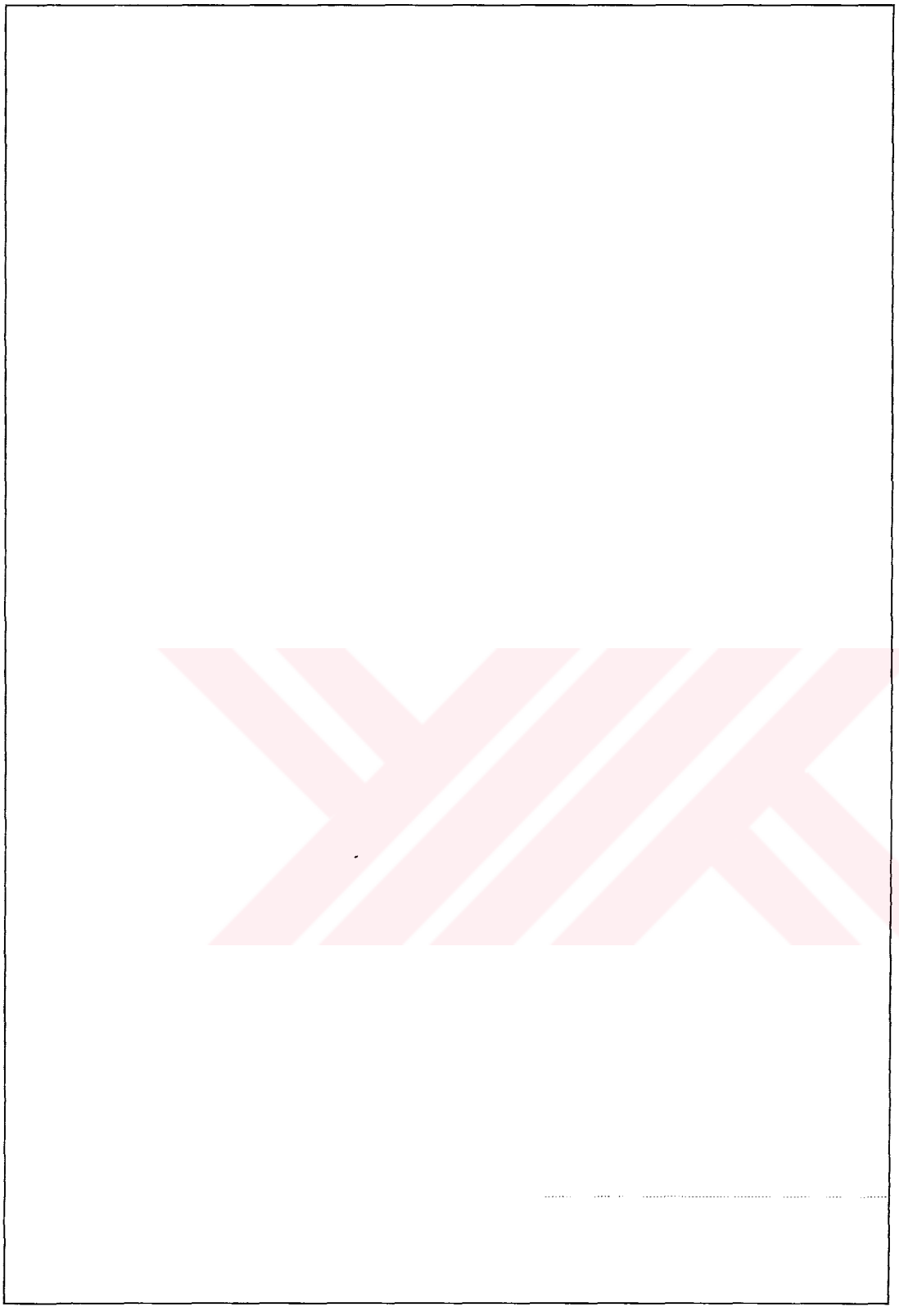


Figure 2.2 : Fethiye-Dalaman Environment Master Plan Revision

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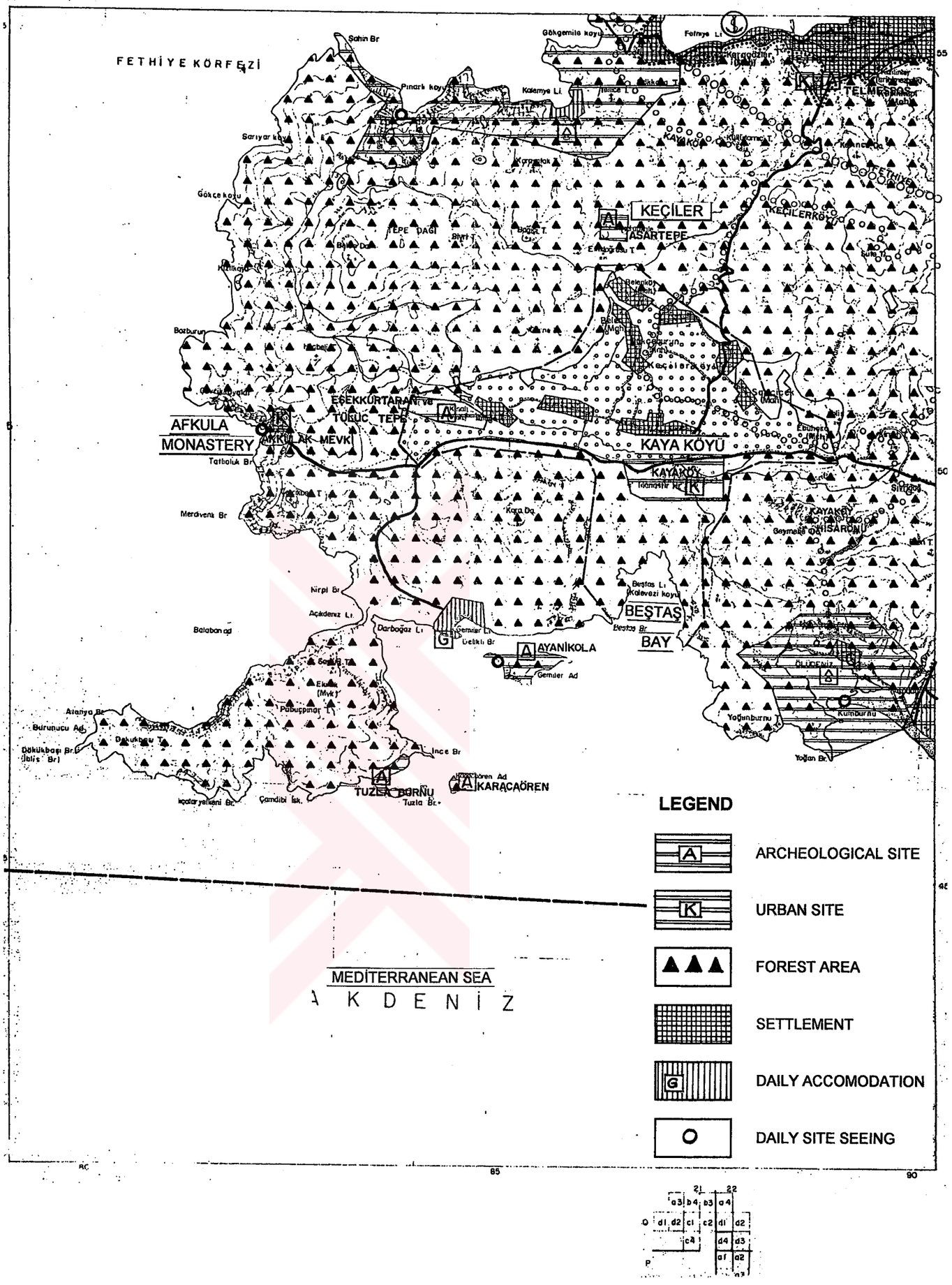


an alternative tourism center by setting peace and friendship between the Aegean cultures (*Galata Bülteni*, 95/1:44).

There is a master thesis (Kükrer, 1991) on Kaya Köyü searching the relation between tourism and preservation and presented in an international conference in Thessalonica in 1993 (Gülersoy and Kükrer, 1993). The results of a tourism-based preservation planning in Kaya Köyü can be discussed depending on this study.

Aiming to prepare a conservation master plan and to control the implementation, Special Environment Protection Committee organized a research in 1998 (Sönmez, 1997).

The Meeting of Turkish Architectural Students (TMÖB), organized by a voluntary student group, was held between the dates of 10-21.08.1998. During this meeting, which was carried out under the supervision of some architects and realized by the participation of 150 students, some workshops and competitions were organized focusing on the problems of preservation of and abandonment of Kaya Köyü (*Mimarlık*, 99/04:42-49).

A part of the forthcoming UIA Congress, which will focus on preservation alternatives of Kaya Köyü, will be held in İstanbul in 2005.

The two big churches of Kaya Köyü are the biggest ones located between the Virgin Marry Church at *Selçuk* and the Saint Nicholas Church at *Demre*. It is certain that with the restoration either one or both of these churches within the context of "Anatolia 2000 Religious Tourism", Kaya Köyü will be an important tourism center. With this idea, under the sponsorship of Executive Committee of TURSAB and with the support of Ministry of Culture and the Chamber of Architects, the studies for the restoration of the churches of Kaya Köyü and a few traditional houses have begun. Within this context the project started in April 1999 and continued with the completion of the measured surveys in summer 2000. The measured drawings of Upper and Lower Churches in addition with the six

traditional buildings located adjacent to Lower Church were completed and the restoration projects have begun. The measured drawings of the two churches and three buildings were carried out by the study group of Istanbul Metropolitan Municipality and Fethiye Branch of the Chamber of Architects while the measured drawings of the other three buildings were carried out by member of the architects and students of Union of Mediterranean Architects. Studies are still being continued in January 2001. Another aim of this organization is to establish a documentation center by collecting all related studies on Kaya Köyü.

History of Kaya Köyü and the short description of the planning works and conservation activities mentioned above shows that Kaya Köyü became a focus for different disciplines and groups because of its historical, cultural, touristic and architectural characteristics and be subject of different publications. Collecting all these studies in a documentary center will obviously be very important for the future studies.

2.3. SOCIAL LIFE IN KAYA KÖYÜ BEFORE POPULATION EXCHANGE

The aim of this section is to give a brief summary about the social life in Kaya Köyü prior to the population exchange. Most of the verbal and written sources on Kaya Köyü focuses on the second half of the 19th Century and the beginning of the 20th Century. This era can be accepted as one of the most prosperous period in the urban history of Kaya Köyü. For the detailed informations on the social life of Kaya Köyü inhabitants before the population exchange, the memories of Uncle Nicolas, who was born in *Levissi* in 1903, is the most important source (Zerman, 1994:42-54; Ekinci, 1997:36-40 ; Tanık,1995).

The historic settlement of Kaya Köyü has two main sections: the urban settlement on the hillside and the dispersed settlement on the plain. Surrounded by the low walls, the gardens and the fields are on the plain and most of them include the ruin of a 2-storied house, which are similar to the ones on the hillside in construction technique but different in plan scheme. The inhabitants of *Levissi* and *Makri* had used to live these houses in summertime because of the production activities that take place in the plain and its microclimate. The ones who had no houses on the plain were erecting temporary shelters in to their gardens and/or fields. This habit partly continues today and the families coming from Fethiye use Kaya Köyü especially in summertime.

There are two big churches in Kaya Köyü: "*Panaia Pirgiotissa*" in the lower part of the village and "*Taxiarhis*" in the upper part (Figure 2.3, Figure 2.4). Both churches are among the most prominent religious buildings in the region with respect to their size and architectural characteristics. The chapels of Kaya Köyü are vaulted small structures with a single apse. Each of them has the name of a different sacred religious leader and they are still visited by Christians to celebrate the St. Saint's day. There are 15 chapels in the historical site of Kaya Köyü. Two of which located at the top of the southern hills directed to the sea and the others are at the inner sections of the settlement (Figure 2.5). There are few other chapels spreading out in *Kayaçukuru*.

In addition to these buildings, another building that had an important location in the religious life of the inhabitants of the Kaya Köyü is the Monastery of *Hagios Elefteryos (Afkula)* in the west of the peninsula (Figure 2.6). This place was used to be visited on special days (Zerman, 1994: 45).

There are two big school buildings in Kaya Köyü, one of which was for girls and the other for boys. Oral sources mentions that these schools had given primary education, and most of the children from the Kaya Köyü had been sent to Rhodes, İstanbul and Athens for their higher education.

Figure 2.3 : *Panayia Pirgiotissa* (Lower Church)

Besides, there was a rich library in Kaya Köyü. Another symbol about the culture level of the inhabitants of Kaya Köyü that a newspaper entitled "*Karya*" had been published and distributed to the region (Ekinci, 1997: 27).

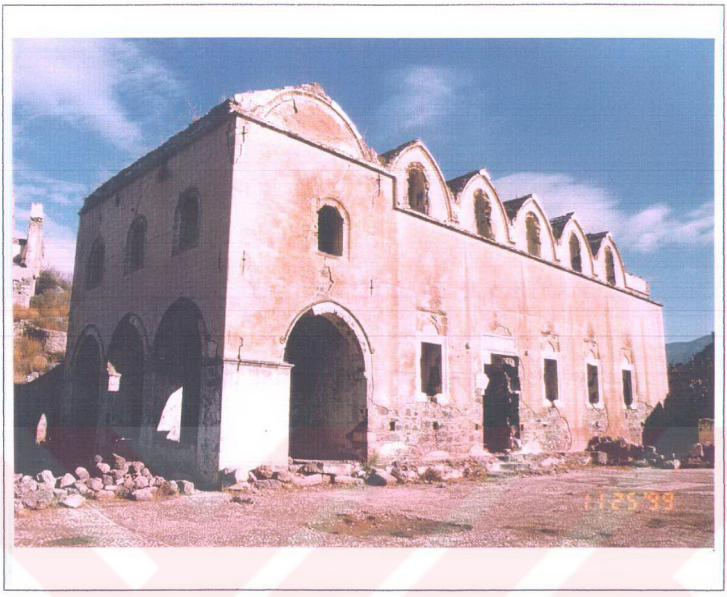


Figure 2.4 : *Taxiarhis* (Upper Church)

Tinsmith, copper, leather and textile production and building mastership were the main crafts in Kaya Köyü and most of the inhabitants were craftsmen. The men of Kaya Köyü used to spend most of the year by performing their crafts at the Turkish villages on the highlands around, and they had turned to their village at the end of the summer in caravans with the earnings such as money, cereals, products etc. In winters, they spend the time for preparation for the following summer. Most of the women had been good at textile work, especially with the silk. It is also known that during the last years of Anatolian Greek inhabitance, some of the men and women had worked as technical staff and workers at the chromium mine belonging to the Anatolian Greeks of Kaya. In addition, there had been two

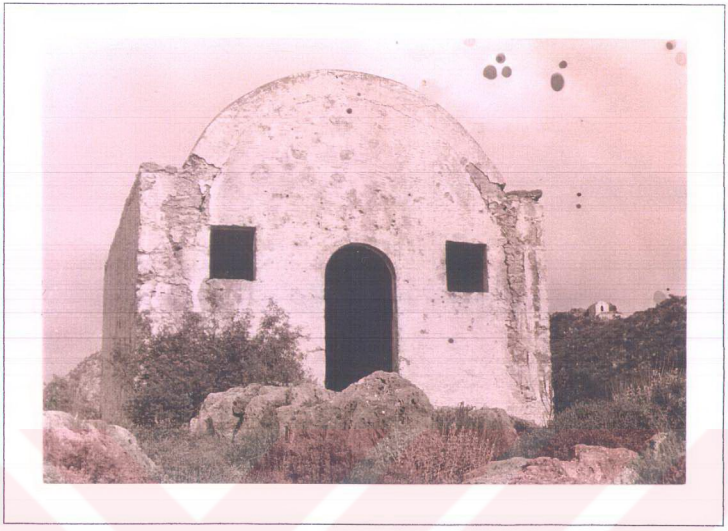


Figure 2.5 : Chapels (C.2.1, A.5.1)

doctors and a pharmacy in Kaya Köyü. Kaya Köyü had also an important position with in the social and economic life of the region with also its shops and bazaar.

Teahouses at *Kuyubaşı* and *Üçkavaklar* regions are the places where Anatolian Greeks of the Kaya Köyü and Turks in the vicinity had gathered, played cards and billiards and had a chat. Oral sources expresses that these teahouses had been constructed with simple material for summers, and the winter teahouses had been in the center of the village near the Upper Church. Although they had a relation of reciprocal respect and trust, the Anatolian Greeks and Turks had not married into each other, most probably because of the religious difference (Zerman, 1997:49; Tanık, 1995). However, they had partied together in each other's marriage ceremony (Tanık,1995).

Figure 2.6 : *Afkula* Monastery

Endnotes:

[1] The status of the Special Environment Protection Region Committee altered in 13.11.1989, it transferred from Prime Ministry to Ministry of Environment. For the related topics see: "*Özel Çevre Koruma Bölgeleri*", prepared and published by "*T.C. Çevre Bakanlığı Özel Çevre Koruma Kurumu Başkanlığı*" (1992), Ankara.

CHAPTER 3

GENERAL PHYSICAL CHARACTERISTICS OF KAYAÇUKURU AND KAYA KÖYÜ

The aim of this chapter is to give a brief description about the general physical characteristics of *Kayaçukuru* and Kaya Köyü by the help of the information gathered through the site survey on the basis of each building with the observations on the entire area.

It has been concluded that the architectural and the urban values of Kaya Köyü constitute a significant place with in the traditional Anatolian and Southern Aegean architecture.

3.1. GEOGRAPHICAL LOCATION OF THE SITE

Kaya Köyü is located in *Kayaçukuru*, a small and closed river basin in the form of sediment plain at the midst of the Fethiye Peninsula in southwestern Anatolia. The center of Kaya Köyü is 143 meters above the sea level. *Kayaçukuru* is surrounded with *Karadağı* Hill and *Geymene* Hill in the south, *Belen* Hill and *Zeytin* Hill in the north and *Elmalı* Hill in the east (Sönmez, 1999:6). Fethiye is a settlement in the north and *Ovacık - Hisarönü* in the east. There are two traffic axes reaching to *Kayaçukuru* and Kaya Köyü from Fethiye. The first is 8 km towards *Keçiler* and the

Figure 3.1 : *Kayaçukuru* and Kaya Köyü, From the Northern Hills

second 13 km towards *Ovacık-Hisarönü*, which is the main road for public transportation provided by mini buses. *Ölüdeniz* in southern peninsula is 10 km away with the asphalt road towards *Ovacık-Hisarönü*, and *Gemiler* Bay in the southwest is 6 km away with the half-stabilized road towards *Kınalı*. It takes 30 minutes to reach *Beştaş* Bay and its environs at the south of Kaya Köyü by walking through a footpath. There are also footpaths leading to the *Ölüdeniz* at the south and *Afkula* Monastery at the west of the peninsula.

The historical Kaya Köyü (the former name was *Levissi*) is an abandoned settlement on the southern side of the plain (Figure 3.1). The settlement of Kaya Köyü, which is currently inhabited, starts from this abandoned settlement nearby the plain and extends towards the middle of


1120'89
1120'89

the plain. In addition to Kaya Köyü, *Kınalı* and *Keçiler* villages and *Gökçeburun* and *Belen* quarters of these villages are also located in *Kayaçukuru*. Similar to Kaya Köyü, these villages are also located on the sides of the plain and on lower hills. There are also abandoned but small settlements like *Ebehora* and *Değirmentepe* on the hills in the vicinity (Figure 3.2). These settlements have similar physical characteristics with Kaya Köyü.

Administratively, Kaya Köyü is a village affiliated to the Fethiye District. The entire *Kayaçukuru* has been declared as "Special Project Area" within the boundaries of "Fethiye-Göcek Special Environment Conservation Area".

An area of 92 hectares of Kaya Köyü, has the status of "3rd Degree Urban and Archeological Site". In addition to Kaya Köyü, the other related conservation areas and their status are: St. Nicolas *(Gemiler)* Island 1st Degree Archeological Site, *Karacaören* Island 1st Degree Archeological Site, *Tuzla Burnu* 1st Degree Archeological Site, *Eşekkurtaran Tepe* and *Tüllüce Tepe* 2nd Degree Archeological Site, *Keçiler Asar Tepe* 1st Degree Archeological Site. *Efkula* Monastery is a listed building and its near surrounding is also registered as urban site. Apart from these registered sites, in *Kayaçukuru* there are stone graves and tombs, monumental and residential buildings and monumental trees, which are registered by the Ministry of Culture.

Kayaçukuru is under the influence of Mediterranean climate; but it has a different microclimate from its environs because of its special location. As it has a more favorable microclimate especially in the summer, many people use *Kayaçukuru* as a summer pasture.

Kayaçukuru is rich with respect to the flora, containing almost all types of plants of the neighborhood. The forest area that expands towards the plain is composed of pine trees and various types of scrubs. Various types of plants can be found in the fertile plain, which is also cultivated

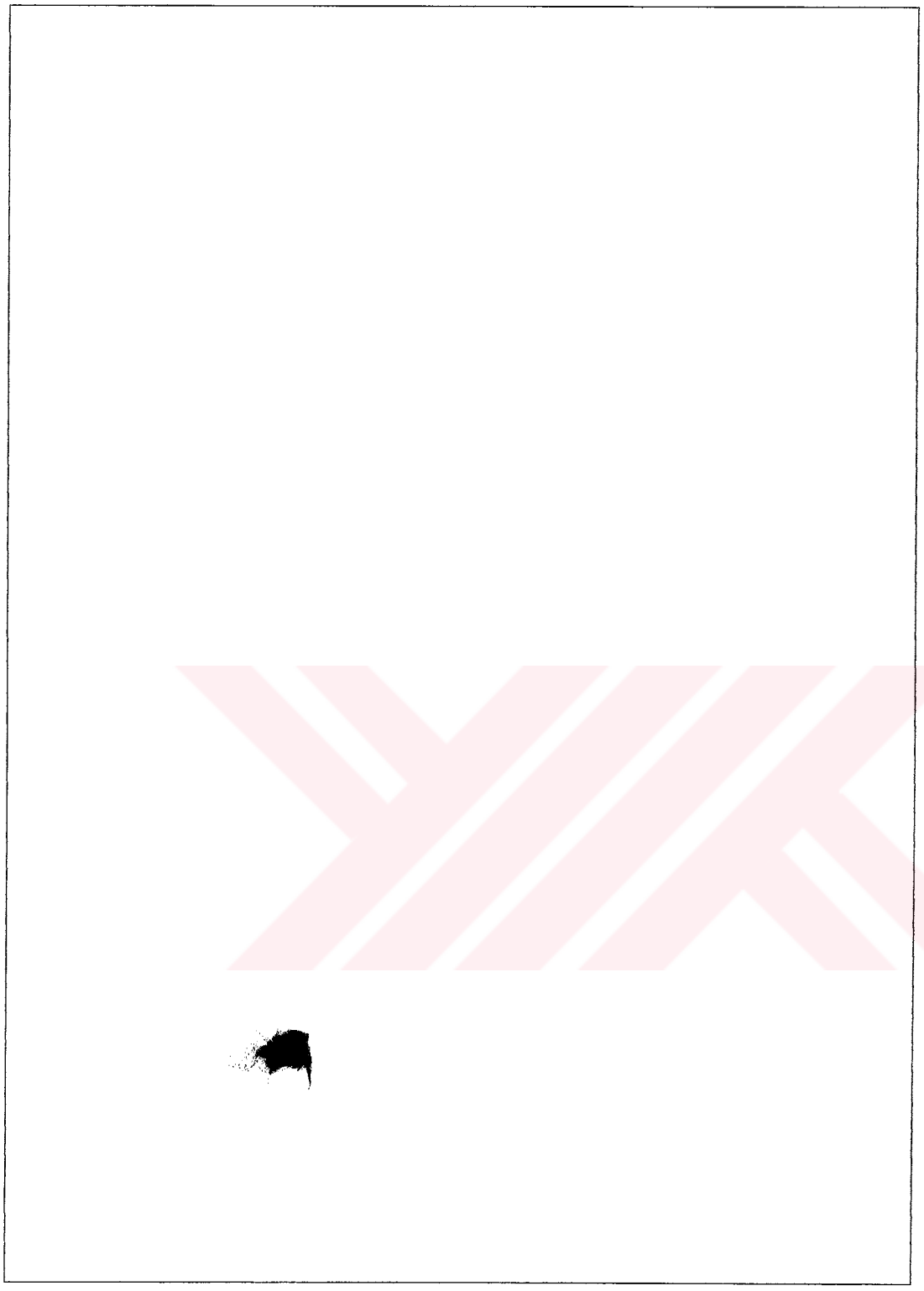
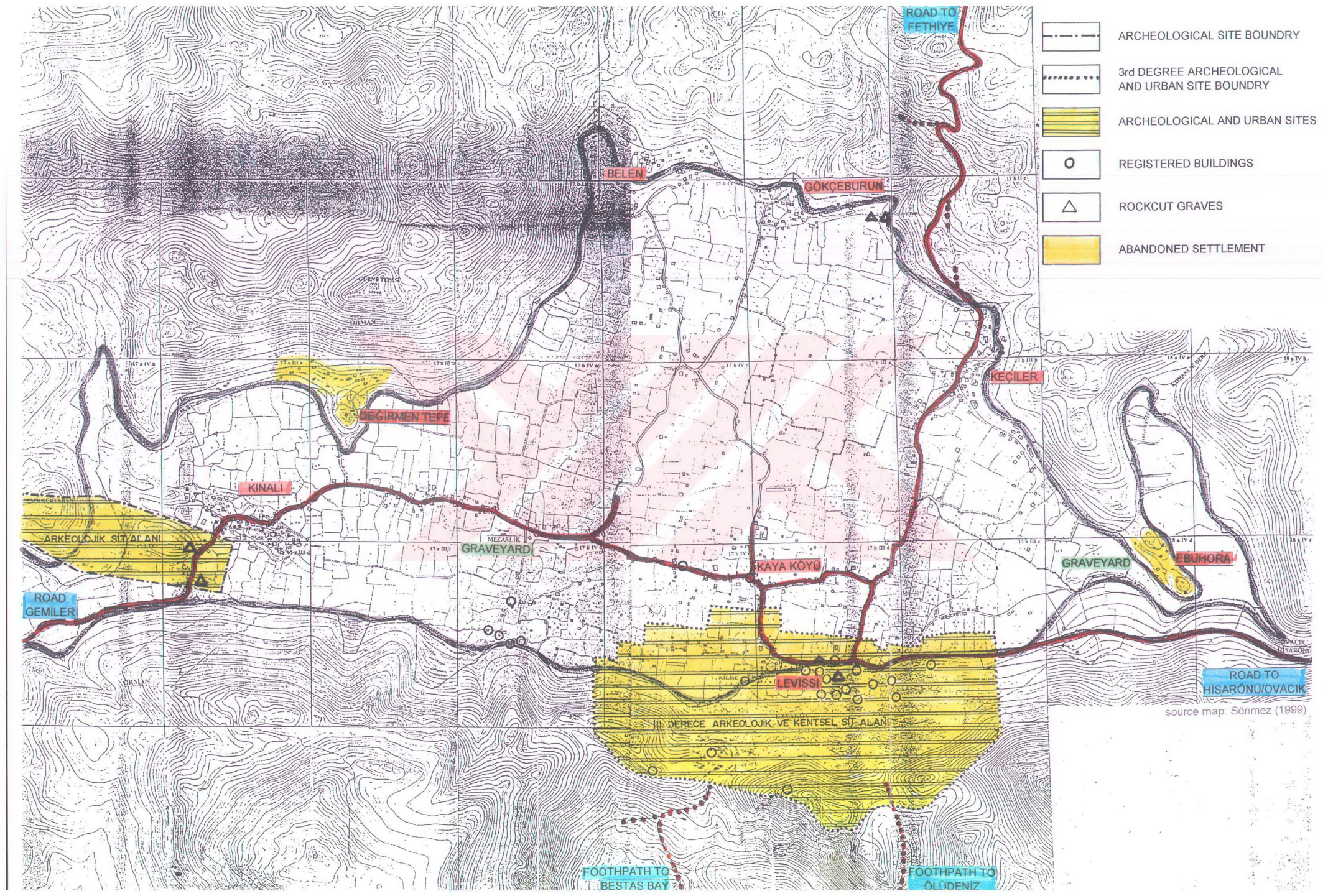


Figure 3.2 : Near Surroundings of Kaya Köyü, "*Kayaçukuru*"



source map: Sönmez (1999)

The population of *Kayaçukuru* is 752, according to the data of 1997 (Sönmez, 1999:27). 578 of these people inhabit in Kaya Köyü and 174 in *Keçiler.* When compared to the population data of the previous years, it can be observed that the population has been stable. The regression in cultivation and limited employment potential lead to migration from *Kayaçukuru.* Most of the population is composed of elderly people. For a better evaluation of the geographical, social and economic characteristics of Kaya Köyü and *Kayaçukuru,* the related chapters of the following sources can be used: "Report on the Kayaçukuru Conversation Plan" (which was prepared by Chamber of Architects İstanbul Metropolitan Branch Galata Voluntary Work Group after conducting surveys and fieldwork in August 1993-August 1994) and the "Survey on the Master Plan for the Fethiye-Kayaçukuru," (which was prepared by Urban Planner M. Remzi Sönmez in February 1999 upon the request of the Special Environment Protection Committee of the Ministry of Environment) (Sönmez, 1999).

The development of tourism after 1980'ies has brought a moderate action to the *Kayaçukuru.* Most of the households living in the urban conservation area of Kaya Köyü deal with tourism activity at different levels. The family pensions are getting widespread in the *Kayaçukuru.* In addition, some of the houses in the *Kayaçukuru* are the summer residences of families especially living in Fethiye.

The subject of this study has limited with the old Kaya Köyü settlement, however, it has been considered as a part of an entire plan of conservation and development of *Kayaçukuru* and its environs.

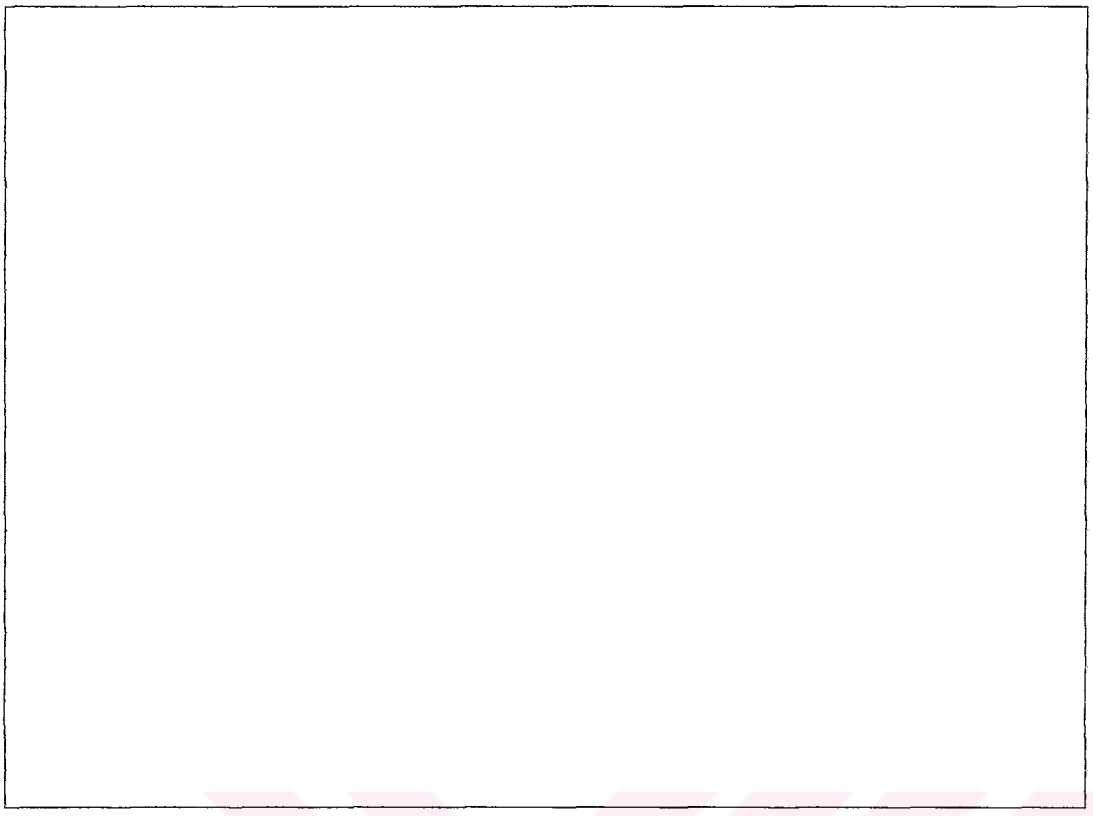
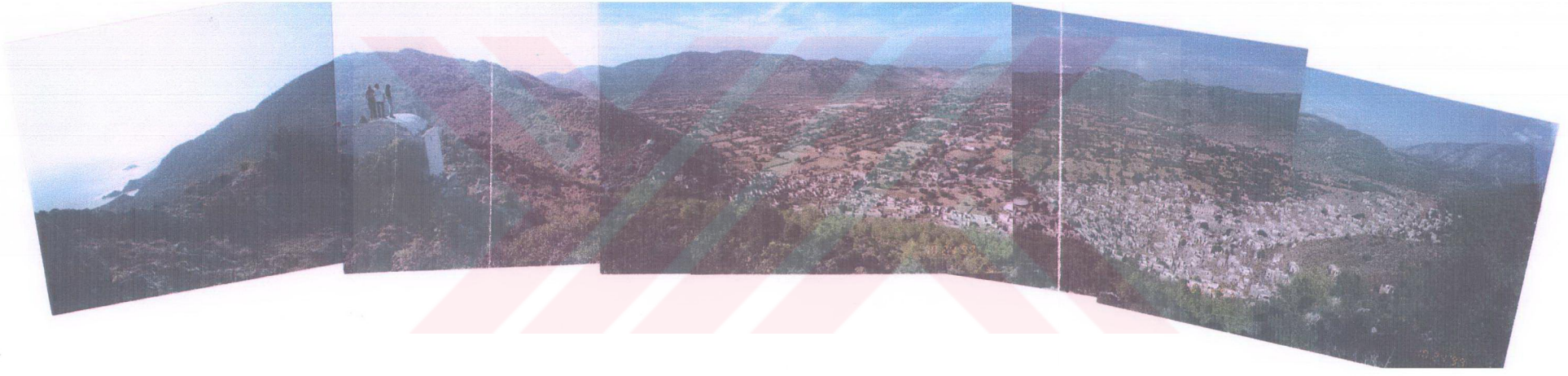


Figure 3.3 : *Kayaçukuru* and Kaya Köyü, From Southern Hills

3.2. GENERAL PHYSICAL CHARACTERISTICS OF THE SITE

This section will give a definition of the general physical characteristics of Kaya Köyü. Following are the preliminary notes that the readers of this thesis may find informative while evaluating the data given in these definitions.

The study area has been divided into 52 grids, 47 of which contain buildings. Each grid is 100x100 meters in size, covering an area of 10,000 sq meters. There are 802 buildings in the study area, whereas the number of the building units, which have been coded during the site survey, reached to 860. Different units in the same independent massive buildings

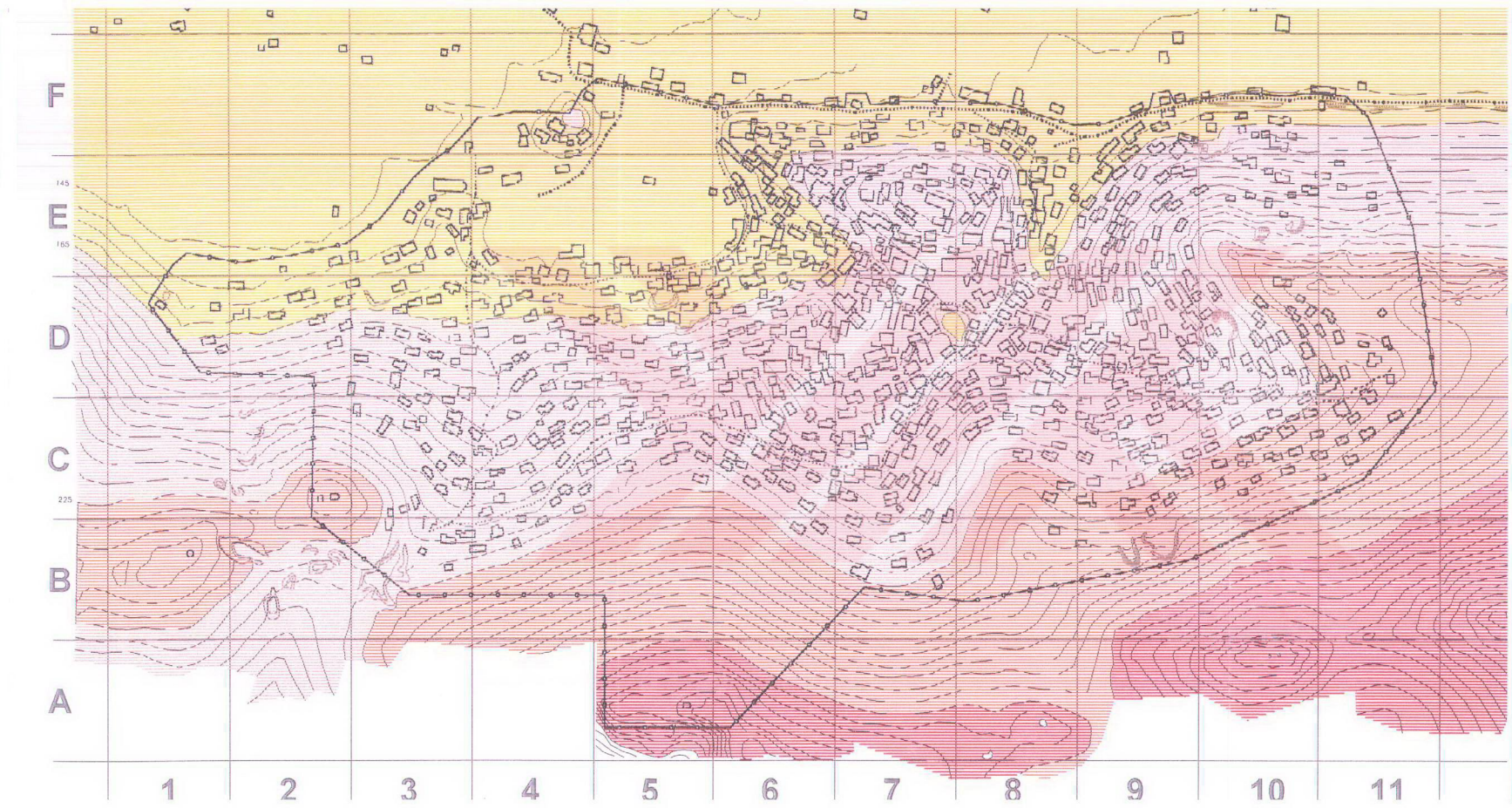


have also been coded, which is the reason for the difference between the total number of the buildings and the coded units (see Figure 1.4). The settlement of Kaya Köyü is on the southern hillside of *Kayaçukuru* (Figure 3.3.). The distance between the bottom of the slope and the heights of the settlement is about 100 meters (Figure 3.4). The hill where the Boys' School is located is 45 meters and the Upper Church is 30 meters above the bottom, whereas the chapels are at heights of 95 and 160 meters above the road. *Tellaltepe* within the grid F-4 is at the height of 20 meters, yet it is one of the important topographic elements of Kaya Köyü as it is surrounded by a plain. Among other topographically important formations are the area called "*Stumbo Çukuru*"-grid D-7/8- a plain enclosed by a sharp rockies and "*İlfara*" -grid code B-3- a passage just like a small canyon. In addition to these natural formations, there are large man-made banks inside the settlement and right out of the area for the removal of "*Argilo* (*Dargilli*)" sand, which has been used in plasters and mortars. The flat area with the grid code E-4/5 is another significant natural form of the settlement.

The relationship between the settlement and the topography has been presented in figure 3.4, and the slope proportions on the basis of grids have been presented in figure3.5. In these sheets, it can be seen that, apart from the spot differentiations, the slopes within the settlement can get as high as 50% on the basis of grids (i.e. 50 meters difference in altitude at 100 meters). 42.31% of the study area is composed of a land with a high slope proportion of 40% and over, 36.54% with a medium slope proportion between 25-35%, and the rest of the area have low slope proportion or are almost flat. In the case of buildings, it has been determined that 46.38% of them are located in areas with medium slope, and 33.29% of them are located in areas with high slope (Table 3.1).

Characteristics of Open areas: The distribution of open and built-up areas in Kaya Köyü settlement has been given in (Figure 3.6). The built-

Figure 3.4 : Topography of the Site



PROBLEMS ON CONSERVATION AND RESTORATION OF KAYA KÖYÜ (LEVISSI) HOUSES

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN RESTORATION THE DEPARTMENT OF ARCHITECTURE
MAY 2001

submitted by
Hakan SARAÇ
supervisor
Assoc.Prof.Dr. Neriman ŞAHİN GÜÇHAN

PHASE OF STUDY : ● SURVEY ○ EVALUATION

SCALE : 0 10 50

N

TITLE:

TOPOGRAPHY OF THE STUDY AREA

LEGEND:

- BOUNDRY OF THE STUDY AREA
- LOW (145-160m)
- MEDIUM (165-220m)
- HIGH (225-275m)
- PEAK (280-315m)

NOTE : ELEVATION OF PLAIN LAND AT NEW VILLAGE CENTER IS APPROX. 143-144 m ABOVE THE SEA LEVEL

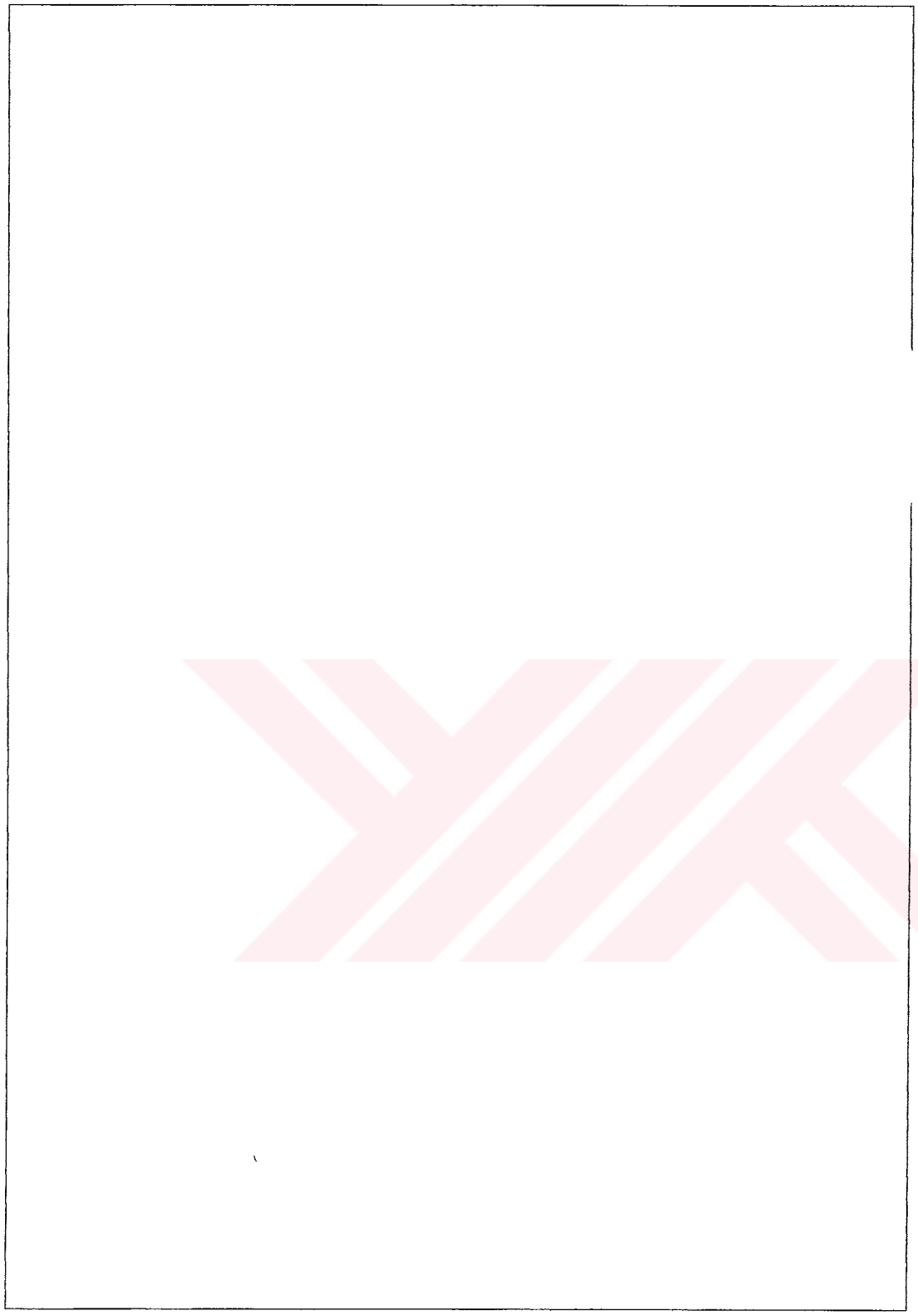
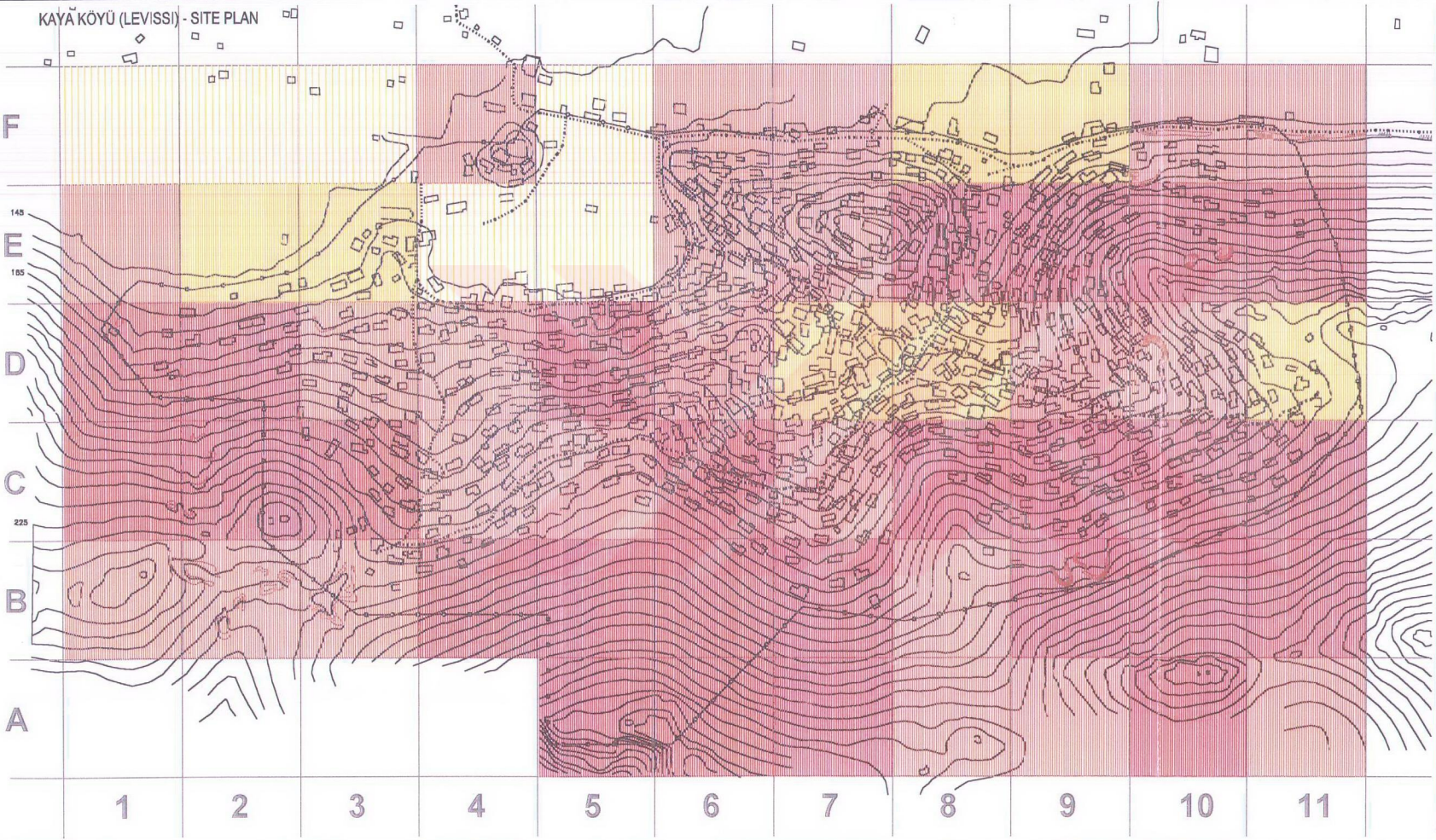


Figure 3.5 : Slope Proportion of the Site

KAYA KÖYÜ (LEVISSI) - SITE PLAN



A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
THE MIDDLE EAST TECHNICAL UNIVEVERSITY

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PHASE OF STUDY :
○ SURVEY ● EVALUATION

SCALE : 0 10 50

N

TITLE:

SLOPE PROPORTIONS OF THE STUDY AREA

LEGEND:

- BOUNDRY OF THE STUDY AREA
- ALMOST FLAT (% 0 - 5)
- LOW (% 10 - 20)
- MEDIUM (% 25 - 35)
- HIGH (% 40 OR MORE)
- NATURAL OR MAN-MADE BANKS

Table 3.1 : Topography of the Site

GROUP	DESCRIPTION	QUANTITY (GRID)	Percentage	QUANTITY (# of bldg.)	Percentage
A	ALMOST FLAT (0 - 5 %)	4	7,69%	29	3,62%
B	LOW (10 - 20 %)	7	13,46%	134	16,71%
C	MEDIUM (25 - 35 %)	19	36,54%	372	46,38%
D	HIGH (40 % OR MORE)	22	42,31%	267	33,29%
4	TOTAL	52	100,00%	802	100,00%

number of units is studied under this title	52
number of units should be studied under this title	52
survey ratio	100,00%

number of units is studied under this title	802
number of units should be studied under this title	802
survey ratio	100,00%

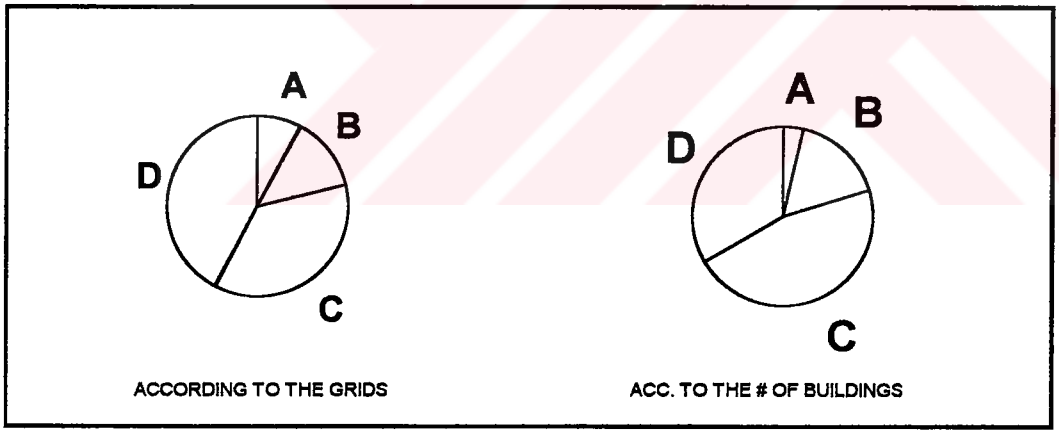
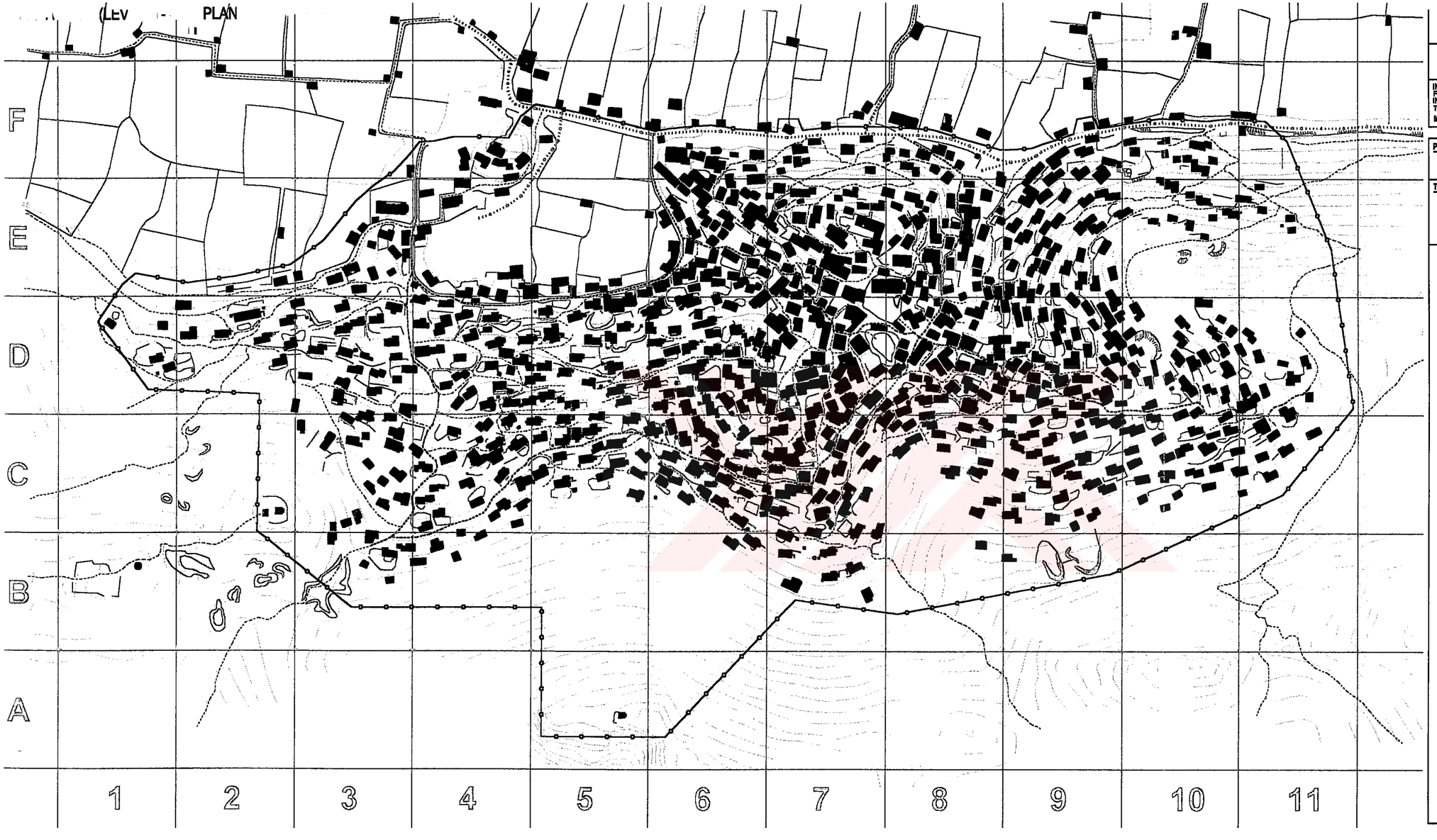


Figure 3.6 : Open Built Up Areas



THE GRADUATE SCHOOL OF APPLIED SCIENCES
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MAY 2001

submitted by
Hakan SARAÇ
supervisor
Assoc.Prof.Dr. Nerman ŞAHİN GÜÇHAN

PHASE OF STUDY :
● SURVEY ○ EVALUATION

SCALE :
0 10 50

N

TITLE:

OPEN / BUILT-UP AREAS

LEGEND:

BOUNDRY OF THE STUDY AREA

1- BUILT-UP AREAS

up areas are about 56,541 m^2 (15%) within the study area, which covers about 368,000 m^2. The number of buildings in grids is between 1 and 42 and the building density of each grid varies between 1% to 33% (Figure 3.7). The maximum number of buildings in grids is 34.04, which is within the building density range of 5%-15%, and the average building density is 12% (Table 3.2 , Table 3.3). With reference to these figures, it can be concluded that the density of the built-up area is high for central sections, and it falls towards the areas near the edges of the settlement.

Apart from the asphalted traffic road, the streets within the settlement can be classified in 3 main groups with respect to their physical characteristics: stone paved streets, partly stabilized streets and footpaths (Figure 3.8).

Stone paved streets are the main axes that are usually perpendicular to the slope. They have steps that vary according to the slope (Figure 3.9). There are gentle slopes in between the steps (Figure 3.10). These ramps diminish the number of steps and heights so enable an easy climb. There is a channel marked in the grid with the reference number C-4, which has been opened under the street for the drainage of the rain without giving any harm to the street. Other than this channel, no visible drainage application has been observed for the streets. Except for the ones that have been used as steps, the paving stones have usually been applied in their natural forms. Streets, other than the stone paved ones, have generally been given the shape and the nature of the ground. It is possible that in the same axis of a street, it may have rocky and soil parts together, or even paved parts can be observed. The underneath of the streets have been filled and supported by small retaining walls to get flat surfaces where needed (Figure 3.11). Such interventions are rare at the parts that lay parallel with the contours of the ground. There is no obvious difference between stone paved streets and partially stabilized ones with respect to their widths. The width of the streets differs from 1,20 to 3,50 meters. It has been observed that the definite streets disappear

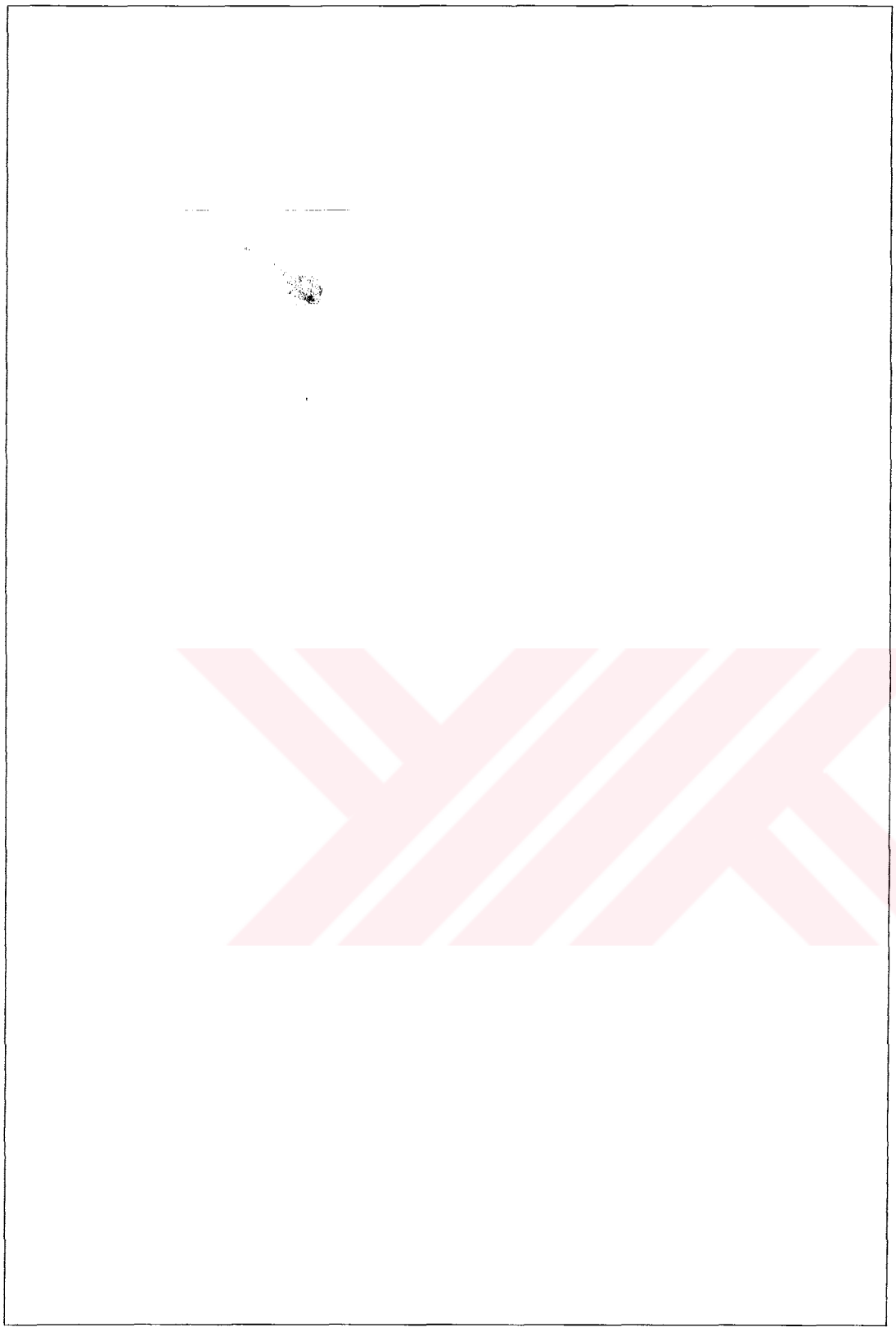
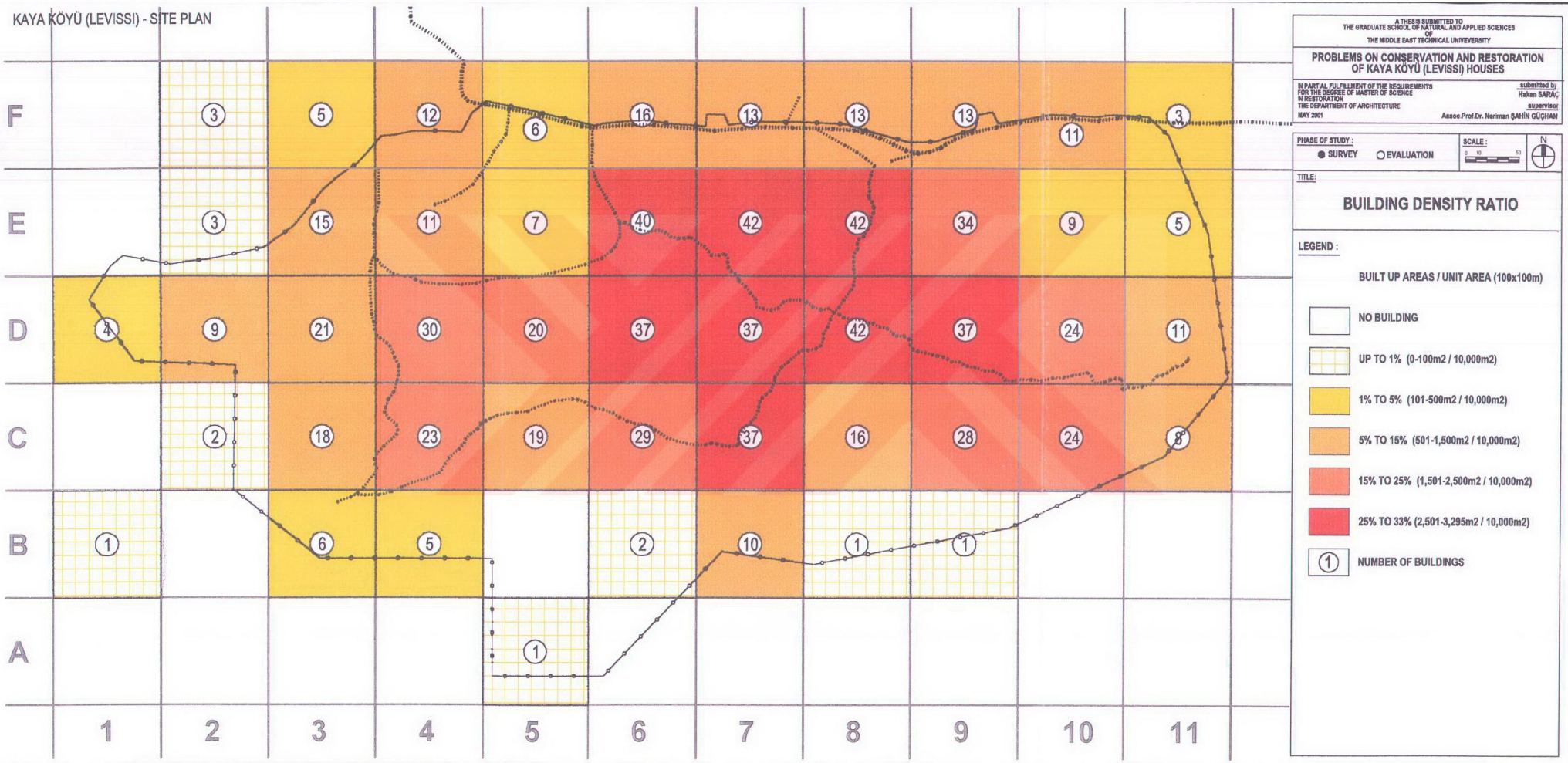


Figure 3.7 : Building Density Areal and Numeric Ratio


KAYA KÖYÜ (LEVISSI) - SITE PLAN
F
E
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C
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A THESIS SUBMITTED TO
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Hakan SARAÇ
supervisor
Assoc.Prof.Dr. Neriman ŞAHİN GÜÇHAN
PHASE OF STUDY :
SURVEY
EVALUATION
SCALE :
N
TITLE:
BUILDING DENSITY RATIO
LEGEND :
BUILT UP AREAS / UNIT AREA (100x100m)
NO BUILDING
UP TO 1% (0-100m2 / 10,000m2)
1% TO 5% (101-500m2 / 10,000m2)
5% TO 15% (501-1,500m2 / 10,000m2)
15% TO 25% (1,501-2,500m2 / 10,000m2)
25% TO 33% (2,501-3,295m2 / 10,000m2)
NUMBER OF BUILDINGS

Table 3.2 : Building Density -1

GROUP	DESCRIPTION (TOTAL AREA OF BUILDINGS / 10,000m2 GRID)	QUANTITY (GRID)	Percentage
A	NO BUILDING	5	OUT
B	UP TO 1% (0-100m2)	6	12,77%
C	1% TO 5% (101-500m2)	9	19,15%
D	5% TO 15% (501-1,500m2)	16	34,04%
E	15% TO 25% (1,501-2,501m2)	8	17,02%
F	25% TO 33% (2,501-3,295m2)	8	17,02%
6	TOTAL	52	100,00%

number of units is studied under this title	52
number of units should be studied under this title	52
survey ratio	**100,00%**

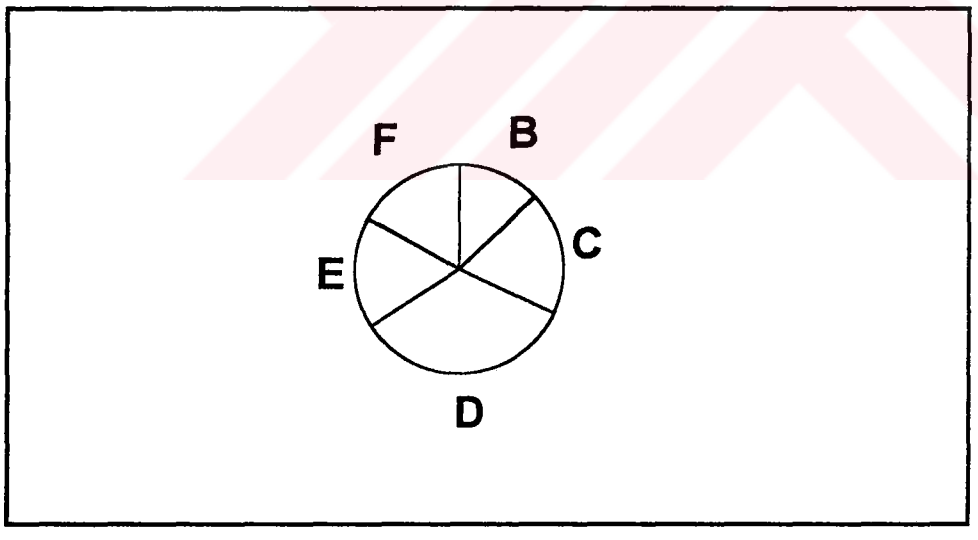
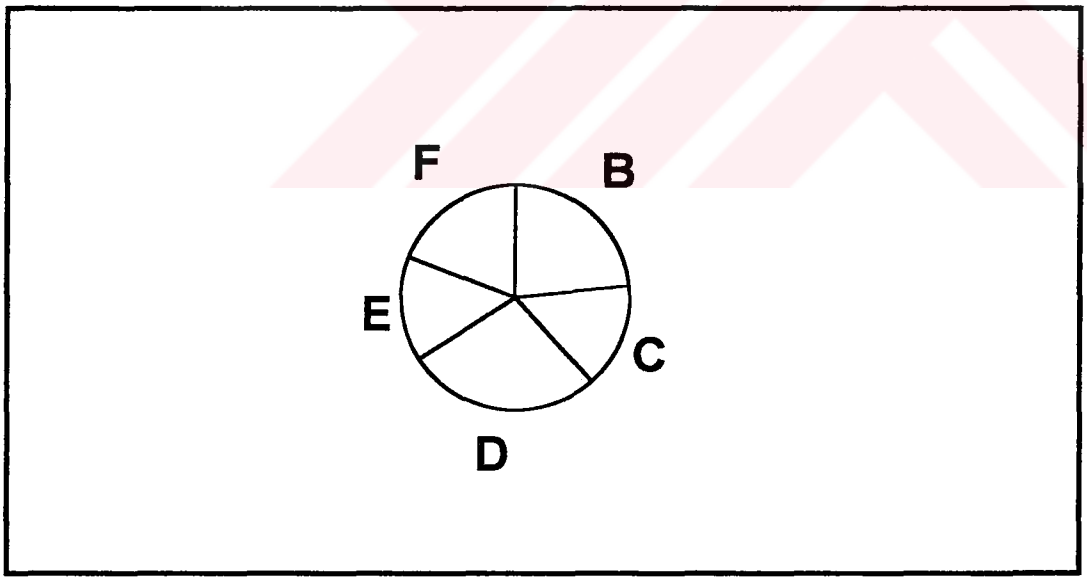


Table 3.3 : Building Density –2

GROUP	DESCRIPTION (NUMBER OF BUILDINGS / 10,000m2 GRID)	QUANTITY (GRID)	Percentage
A	NO BUILDING	5	OUT
B	UP TO 5	11	23,40%
C	6 TO 10	7	14,89%
D	11 TO 20	13	27,66%
E	21 TO 30	7	14,89%
F	31 TO 42	9	19,15%
6	TOTAL	52	100,00%

number of units is studied under this title	52
number of units should be studied under this title	52
survey ratio	**100,00%**



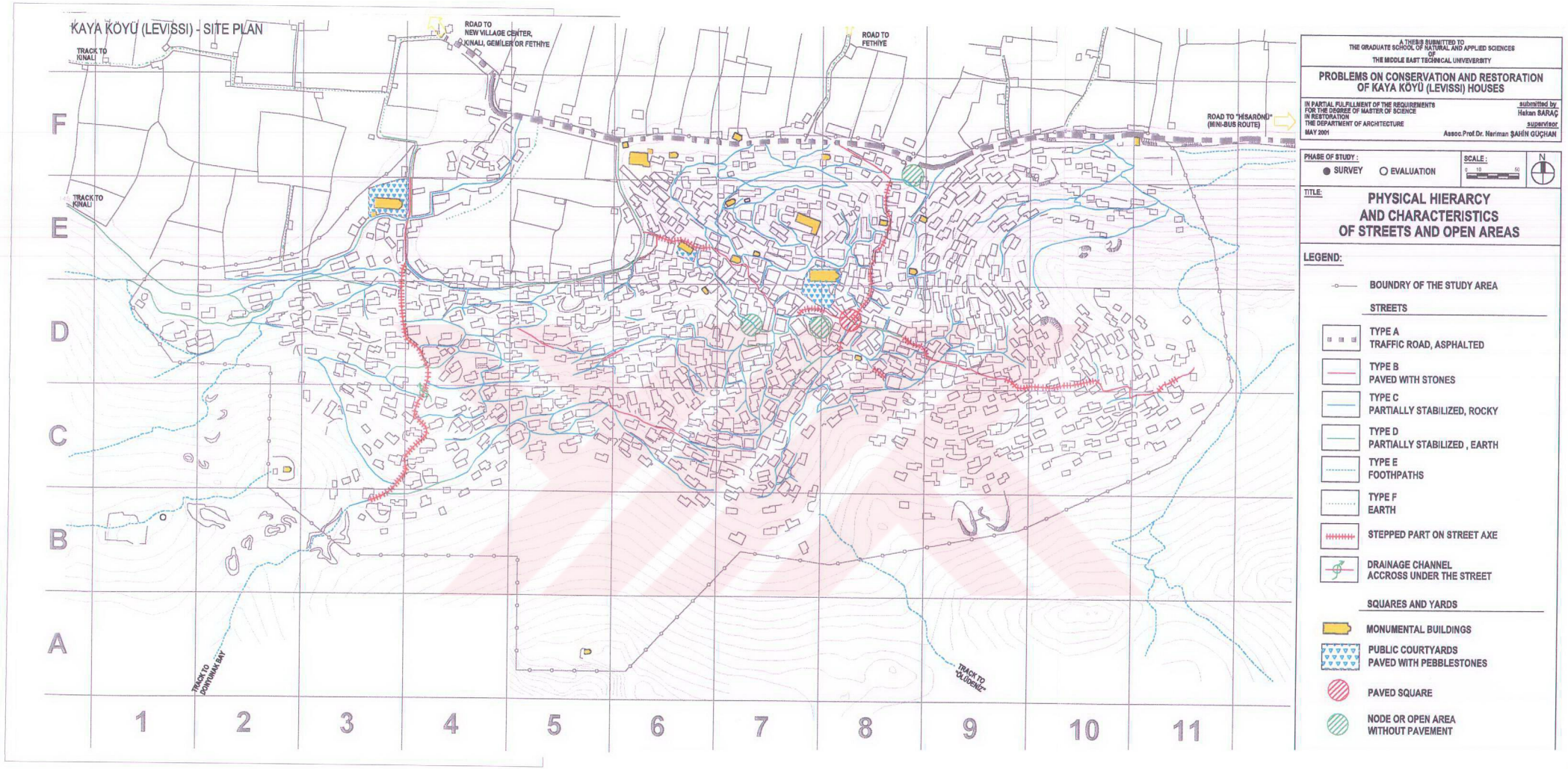


Figure 3.8 : Physical Hierarchy and Characteristics of Streets and Open Areas

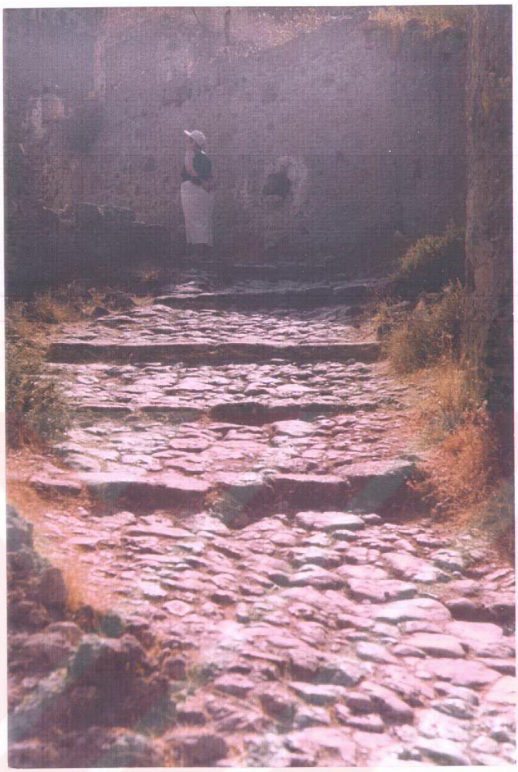


Figure 3.9 : Stone Paved and Stepped Street

towards the outer skirts of the settlement. In these sections lay footpaths, which vary according to characteristics of the ground.

Church courtyards constitute the most important open public spaces of the settlement with respect to their dimensions, pebbled stone pavements and masonry stone courtyard walls. The heights of these walls

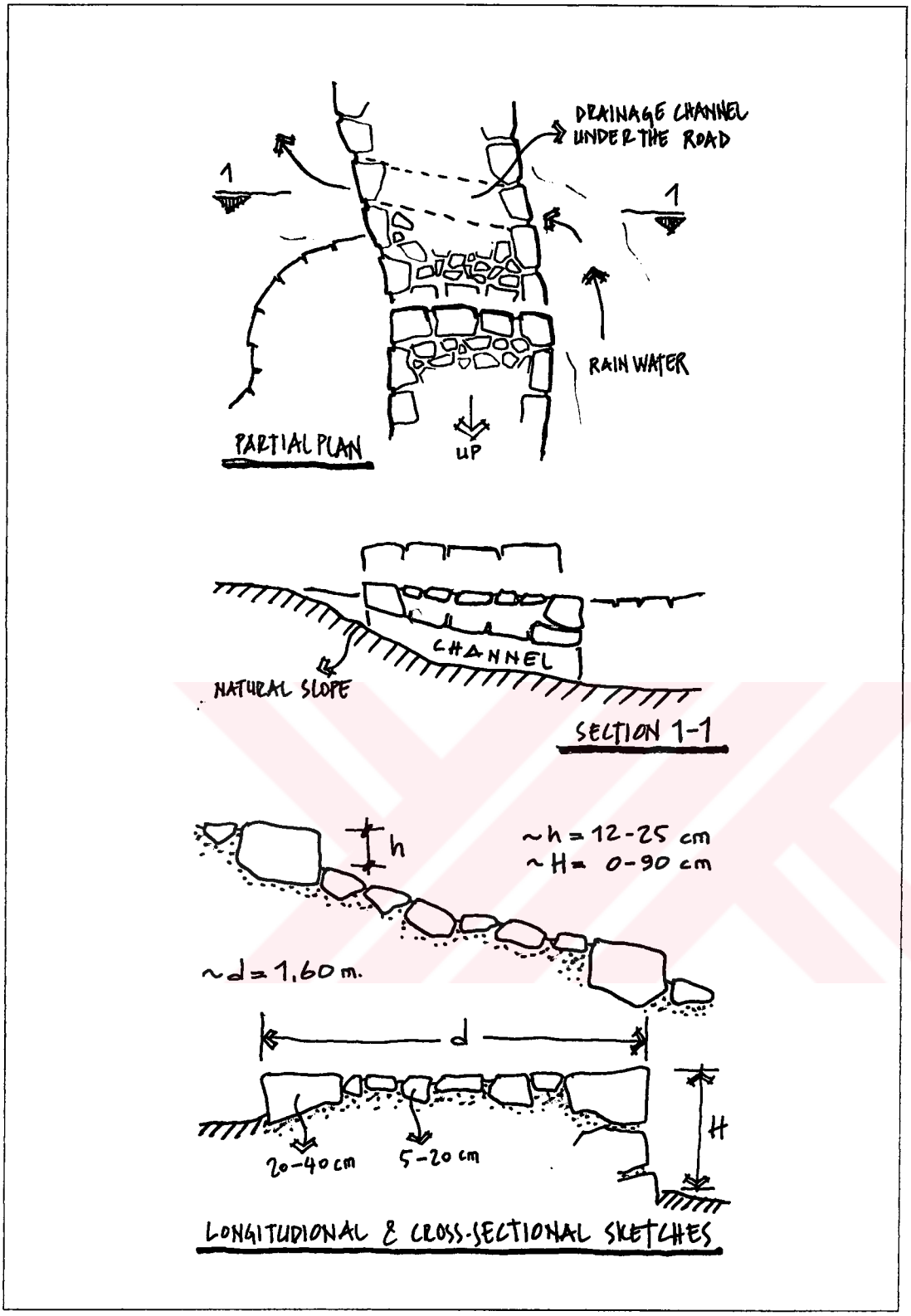


Figure 3.10 : Stone Paved and Stepped Street (Drawn by Hakan Saraç)

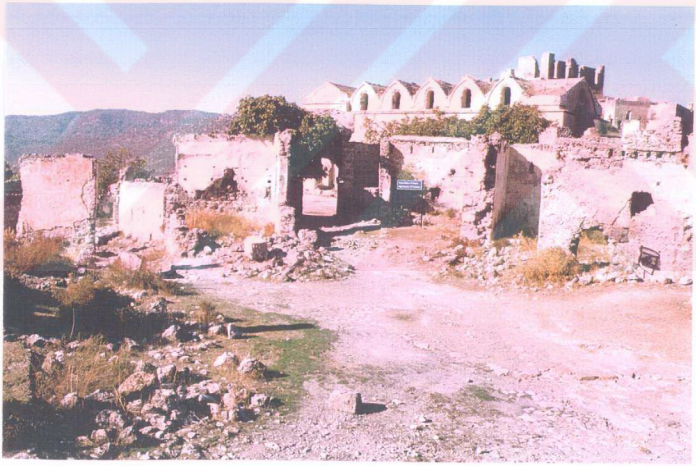


Figure 3.11 : Small Retaining Walls

Figure 3.12 : Crossroads Outside the Upper Church

reach to 2,50 meters in some parts. In addition, another remarkable urban open space in Kaya Köyü is the crossroads outside the Upper Church (Figure: 3.12). The ground of this open area has been paved with stones that are respectively flat than the ones used at streets. There is a large area with natural soil ground near to the Upper Church square and "*Stumbo*" region (Grid D-7). *Dibektaşı* region (Grid F-8) currently seems like an open area; yet the existence of the ruined buildings and according to the oral sources this area had full of buildings in the past.

The physical characteristics of the streets and open areas in Kaya Köyü and the evaluations in this respect have been presented in figure 3.8 the sheet named "Physical Hierarchy and Characteristics of Streets and Open Areas". Also, observations on the current use of the streets have been presented in figure 3.13 named "Current Use of Streets".

Current Uses of the Buildings: Of the total of 860 buildings within the study area, 806 (93.72%) are not currently in use (Table 3.4). The remaining 54 ones that are in use located at the north and the lower parts of the settlement (Figure 3.14). 27 of them are barns or depots of the villagers. The number of the buildings that are currently used as residence is 10. Four buildings provide touristic services such as cafe, whereas 2 of them are used as residences in addition to their touristic functions. The number of the buildings that are used as seasonal residence is 9 (Figure: 3.15). These numbers are limited with the study area and do not include the houses in the plain. Right across the asphalt-covered street, which constitutes the border of the study area, there are more residences, seasonal residences and buildings used for commercial purposes. One of the two fountains of Kaya Köyü is currently in use. Upper Church and Lower Church are in use as museums, which are governed by Muğla Provincial Administration and they can be visited by paying ticket fee.

Building Types: The number of the buildings have been distinguished from the rest within the study area at the initial stage of the

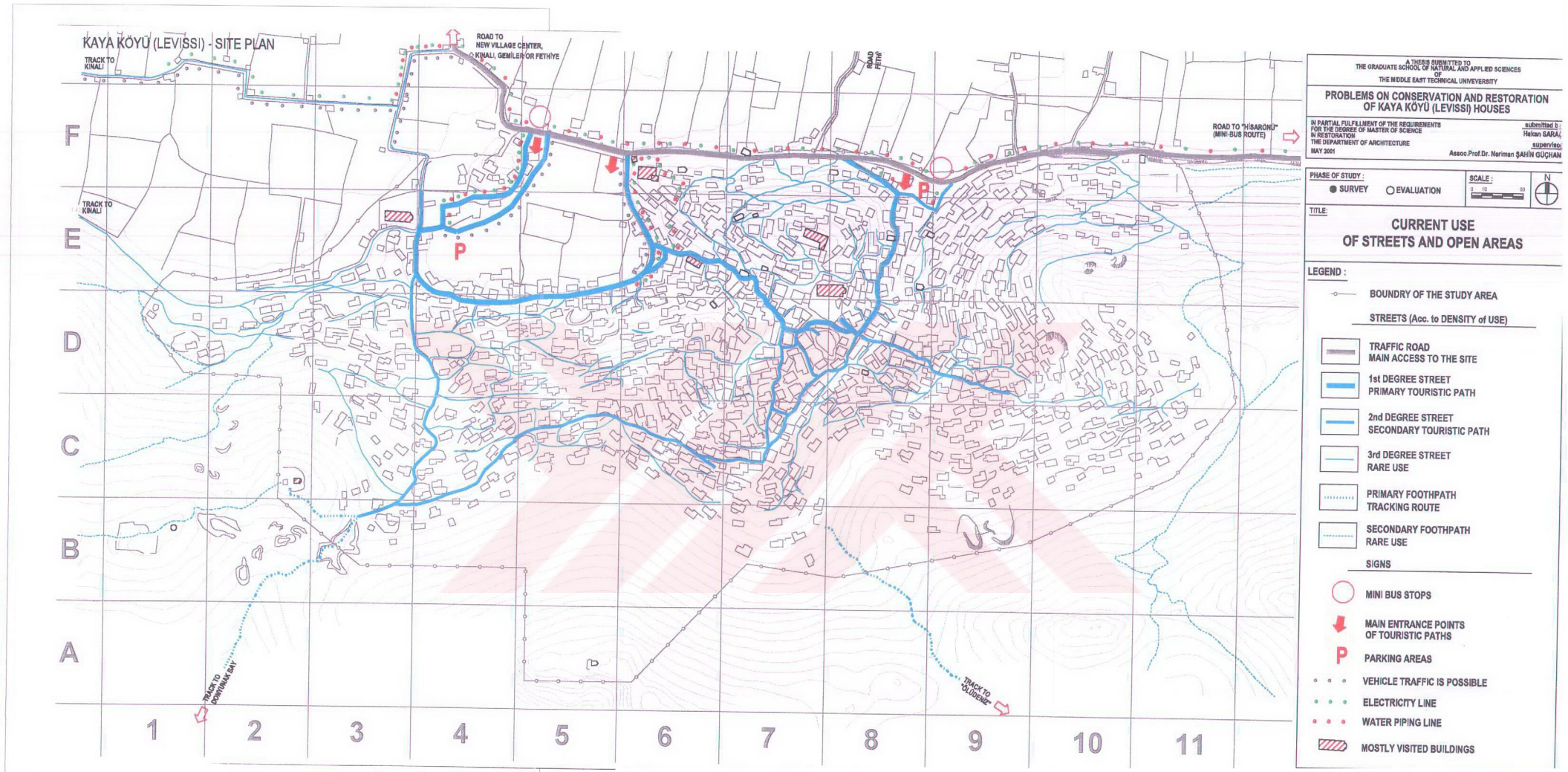
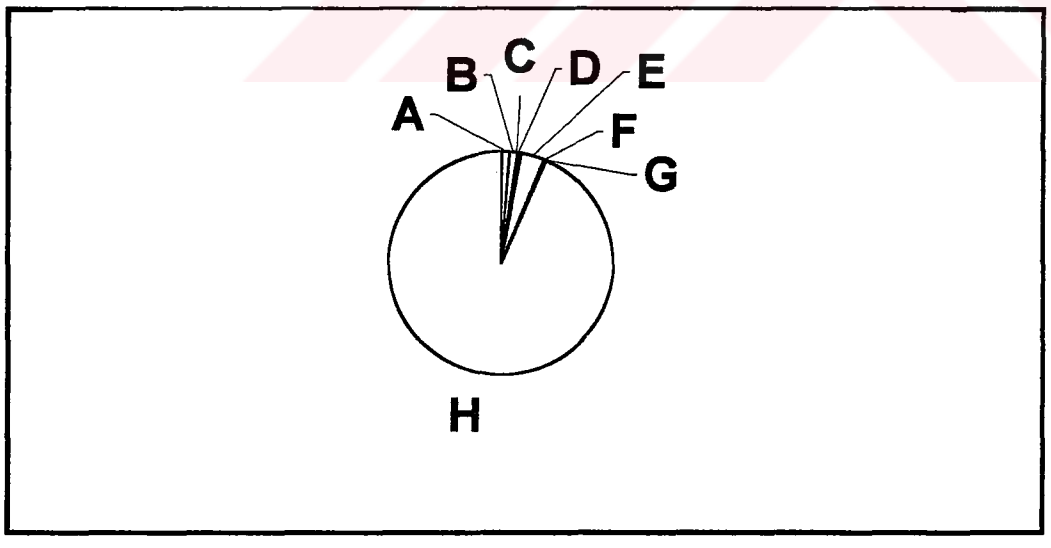


Figure 3.13 : Current Use of Streets

Table 3.4 : Current Uses

GROUP	DESCRIPTION	QUANTITY	Percentage
A	RESIDENTAL	10	1,16%
B	SEASONAL RESIDENTAL	9	1,05%
C	RESIDENTAL + COMMERCIAL	2	0,23%
D	COMMERCIAL	4	0,47%
E	BARN / STORE	27	3,14%
F	OPEN MUSEUM	1	0,12%
G	FOUNTAIN	1	0,12%
H	EMPTY / OUT OF USE	806	93,72%
8	TOTAL	860	100,00%

number of units is studied under this title	860
number of units should be studied under this title	860
survey ratio	**100,00%**



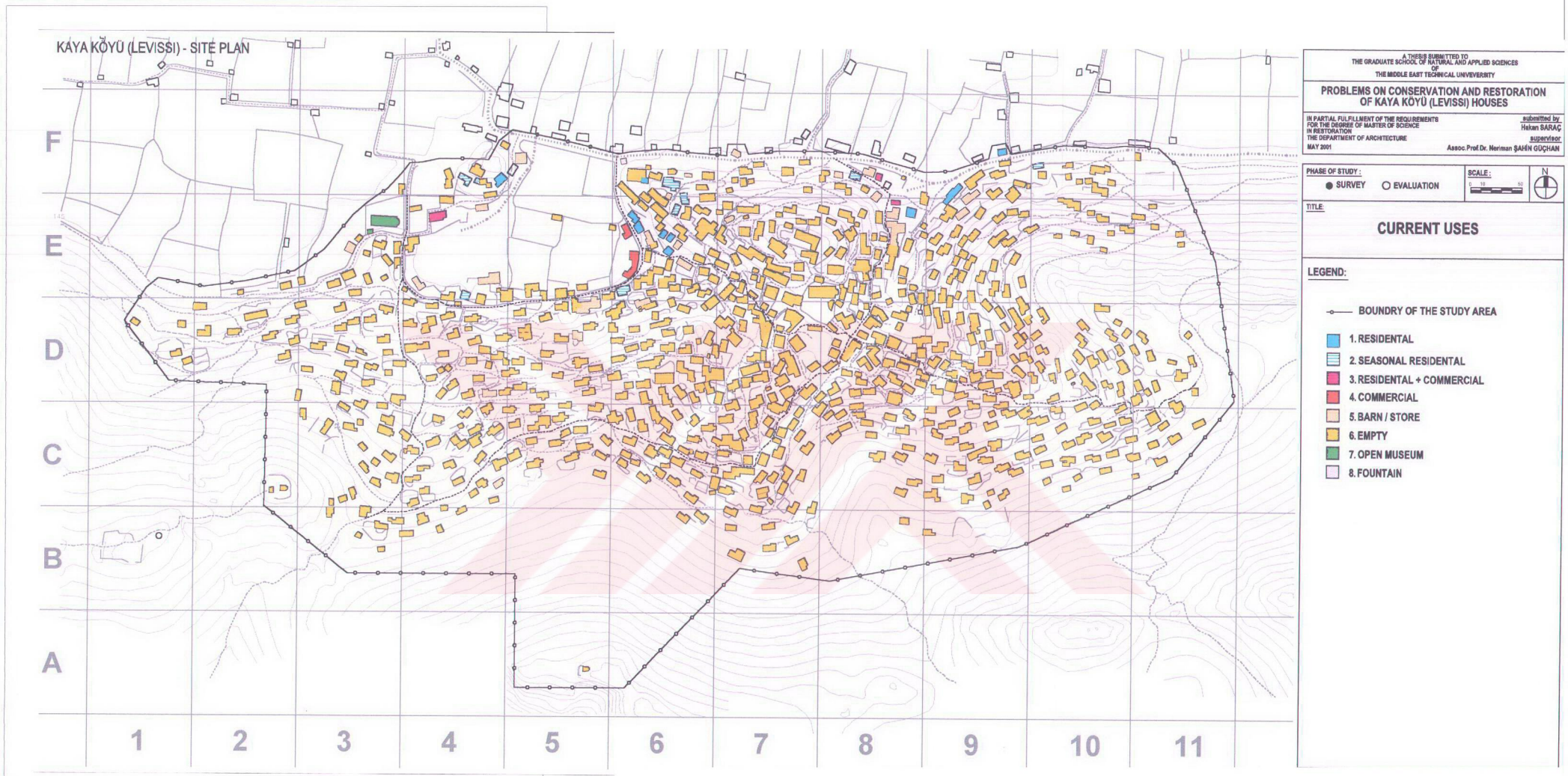


Figure 3.14 : Current Use of Buildings

Figure 3.15 : Buildings That are Used as Seasonal Residence (E.6.1)

survey is 24, basing on the information given by written and oral sources regarding their original functions and architectural characteristics. These are as follows: A total of 18 are the religious buildings, including 2 big and 1 small churches and 15 chapels; 2 are the schools; one for girls and the other for boys; and 2 are the fountains (Figure: 3.16). Besides, there are 2 rock-cut tombs seeing the plain on the hill where the schools are located (Figure: 3.17). One of these tombs, the one placed near to the street, is within a single spaced building. The remaining 836 buildings, which compose 97.21% of the total buildings within the study area, have common physical characteristics. The original functions and the types of these buildings, the structural entirety and the architectural elements of which have been damaged, were defined at a later stage of the survey, after a

Figure 3.16 : Girls School and Fountain

Figure 3.17 : Rock Cut Tomb (E.7.41)

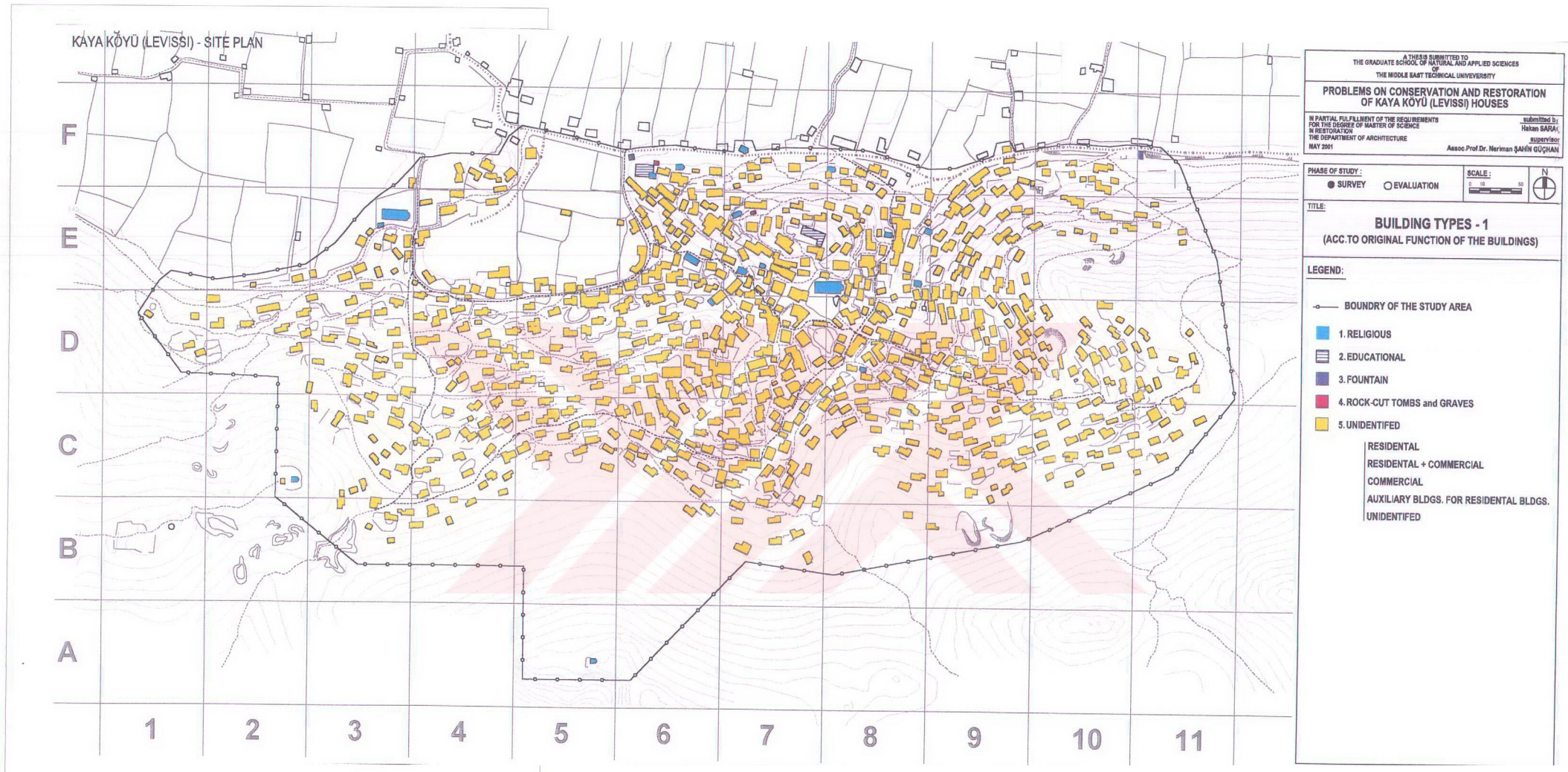


Figure 3.18 : Building Types 1

detailed examination and evaluation. Thus, these buildings have been listed as "unidentified" at this stage. Information on the types of these buildings has been presented in figure 3.18 named Building Types 1.

Number of Floors: The monumental buildings were regarded as out of evaluation during the study conducted for determining the number of floors within the study area, as they should have different criteria. Buildings in ruin condition and the ones which are up to ground floor were also regarded as out of evaluation, as they have no floors.

The buildings that are currently in use have floors, thus the number of floors were determined easily. However, for the majority of the buildings that have been damaged and inhabited, the number of floors was determined on the basis of traces of the floor and ceiling beams and architectural elements such as doors and windows.

The number of floors of 818 buildings was determined. 102 of these buildings (12.20%) have single storey without any basement floor. Almost all of the buildings within the study area had been built on the slope. Because of this situation, the basement floors appears at the lower part of the buildings, while the entrance of the ground floor is at the upper part of the slope. The height of the basement floors differs, depending on the slope. In some of the buildings, the ground floor had been raised with steps, thus the height of the basement floor had been risen. These buildings generally have two storey and they can be classified in two sub-groups, depending on the architectural and spatial characteristics of their basements. The first group of buildings has a ground floor, which had been used evidently as the living space, and a basement floor, which had been allocated evidently for service use. The number of buildings in this group is 666, and this group constitutes the most frequent type with a ratio of 81.47%. The basement floors usually do not have any window. In the second group of two-storey buildings, there are basement floors which had been evidently used vastly or which had windows. The number of buildings

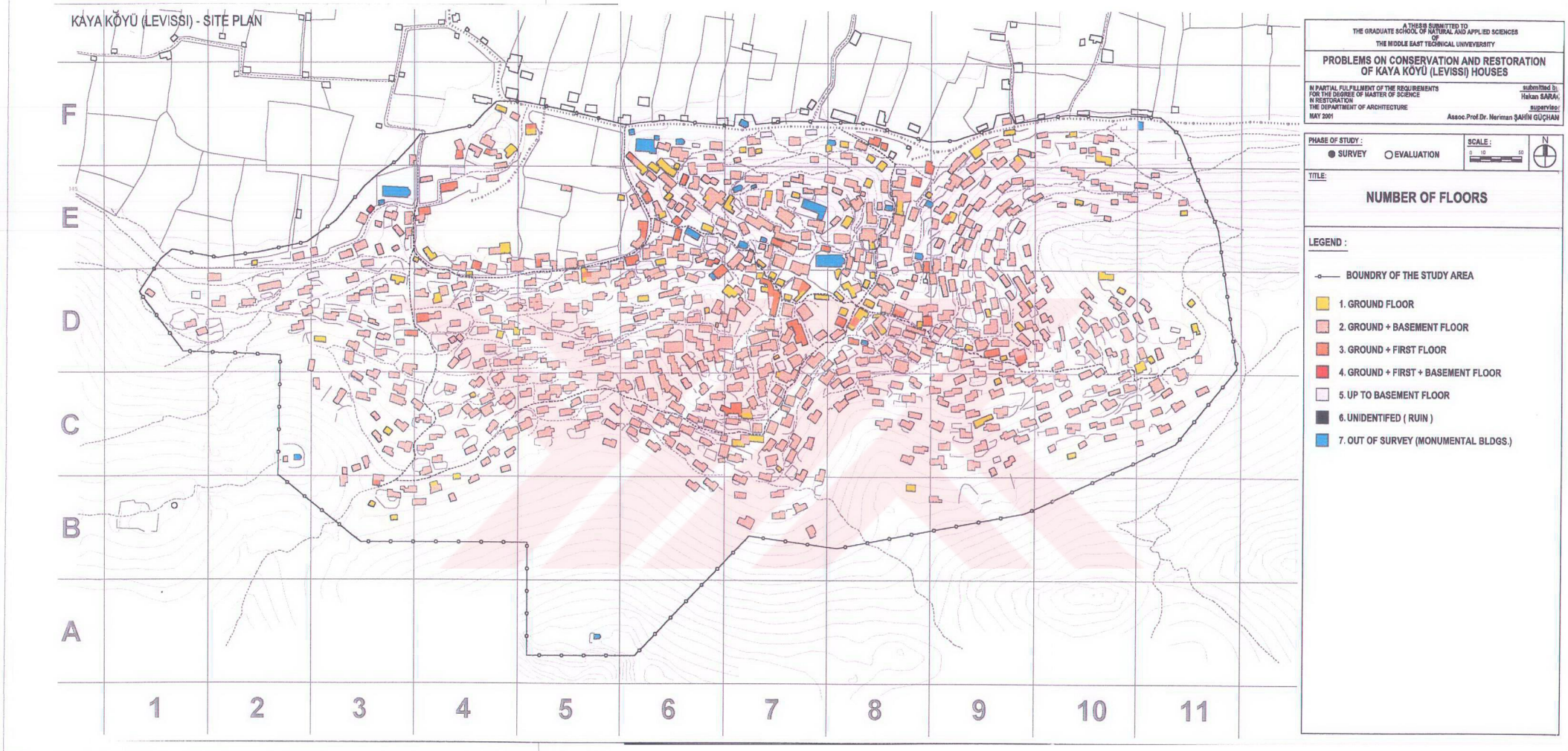
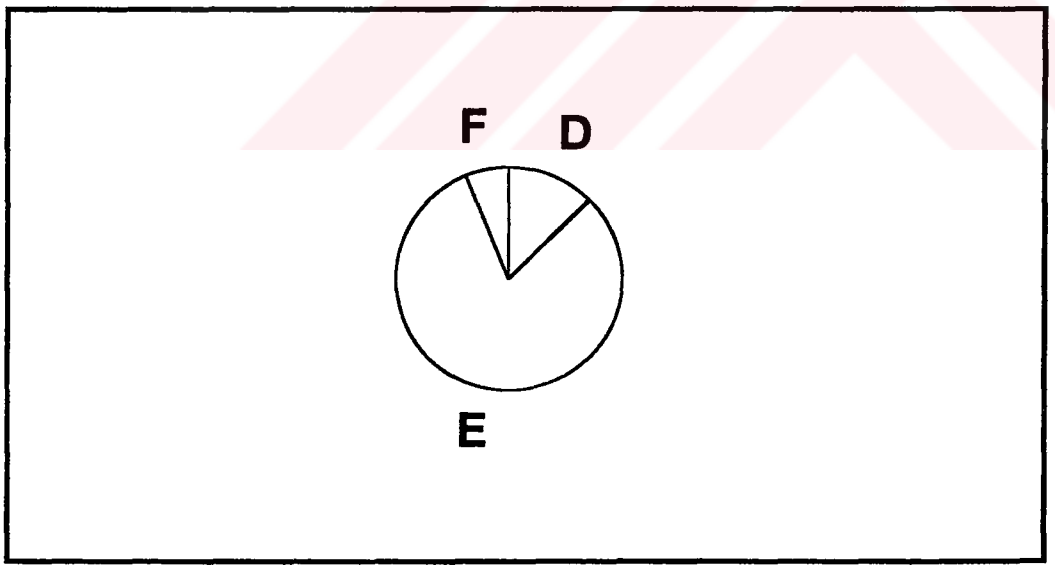


Figure 3.19 : Number of Floors

Table 3.5 : Number of Floors

GROUP	DESCRIPTION	QUANTITY	Percentage
A	OUT OF EVALUATION (MONUMENTALS)	24	OUT
B	UP TO GROUND FLOOR	14	OUT
C	RUIN	4	OUT
D	GROUND FLOOR(living)	102	12,47%
E	GROUND(living) + BASEMENT	666	81,42%
F	GROUND + FIRST(living)	49	5,99%
G	GROUND + FIRST(living) + BASEMENT	1	0,12%
7	TOTAL	860	100,00%

number of units is studied under this title	860
number of units should be studied under this title	860
survey ratio	**100,00%**



in this group is 49 (5.86%). There is only one building that has three storeys, including the basement floor (E.3.11). The information and the evaluations on the number of floors have been given in figure 3.19 and table 3.5.

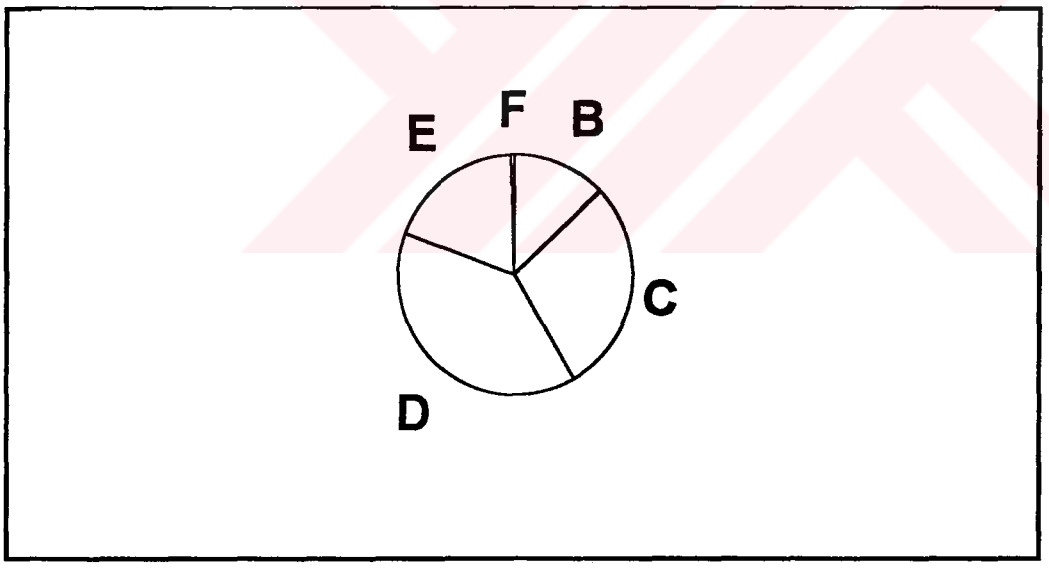
Structural Condition of the Buildings: As the structural condition of the buildings varies extensively, different evaluation criteria have been applied during the survey. First of all the monumental buildings and the buildings which are in use, have been regarded as out of survey because they should have different evaluation criteria. The rest have similar physical characteristics. As the wooden elements of the buildings had been destroyed, it is not possible to talk about the architectural elements such as floors, upper structures and doors or windows. For this reason, the evaluation has been limited to the criteria such as the massive entirety and decay in stone walls. The buildings have been classified in 5 groups, starting from the ones in good condition, which have structural entirety and less-damaged elements, and ending with the ones in ruins (table 3.6). According to this classification, 93 (12.79%) of the buildings within the study area are in good condition, 209 (28,75%) in medium condition, 284 (39,06%) in poor condition, 137 (18,84%) are in bad condition, whereas 4 buildings are completely in ruin condition. In general, there is homogeneity in the distribution of the buildings within the study area with respect to their structural conditions. These data have been presented in details in figure 3.20 named Structural Conditions.

Cadastre Order: The current cadastre order had been determined and registered in 1950s, according to the accounts of authorities from Fethiye Title-Deed and Cadastre Directorate and verbal sources. Yet, it could not possible to determine the exact date because of the official problems. The current cadastre order is comprised of big lots, most of which belong streets together. It was not possible to compile concrete information about how the land and the buildings had been distributed among migrants after the population exchange in 1923 and how the

Table 3.6 : Structural Conditions

GROUP	GROUP TITLE	DESCRIPTION	QUANTITY	Percentage
A	OUT OF SURVEY	monumentals buildings, repaired or restored buildings for use, buildings up to ground floor	84	OUT
B	GOOD CONDITION	massive entirety : good degree of deterioration : low or medium	93	12,79%
C	MODERATE CONDITION	massive entirety : good or medium degree of deterioration : low or medium or high	209	28,75%
D	POOR CONDITION	massive entirety : poor degree of deterioration : low or medium or high	284	39,06%
E	BAD CONDITION	massive entirety : poor or close to ruin degree of deterioration : low or medium or high	137	18,84%
F	RUIN	massive entirety : ruin	4	0,55%
6		TOTAL	811	100,00%

number of units is studied under this title	811
number of units should be studied under this title	860
survey ratio	94,30%



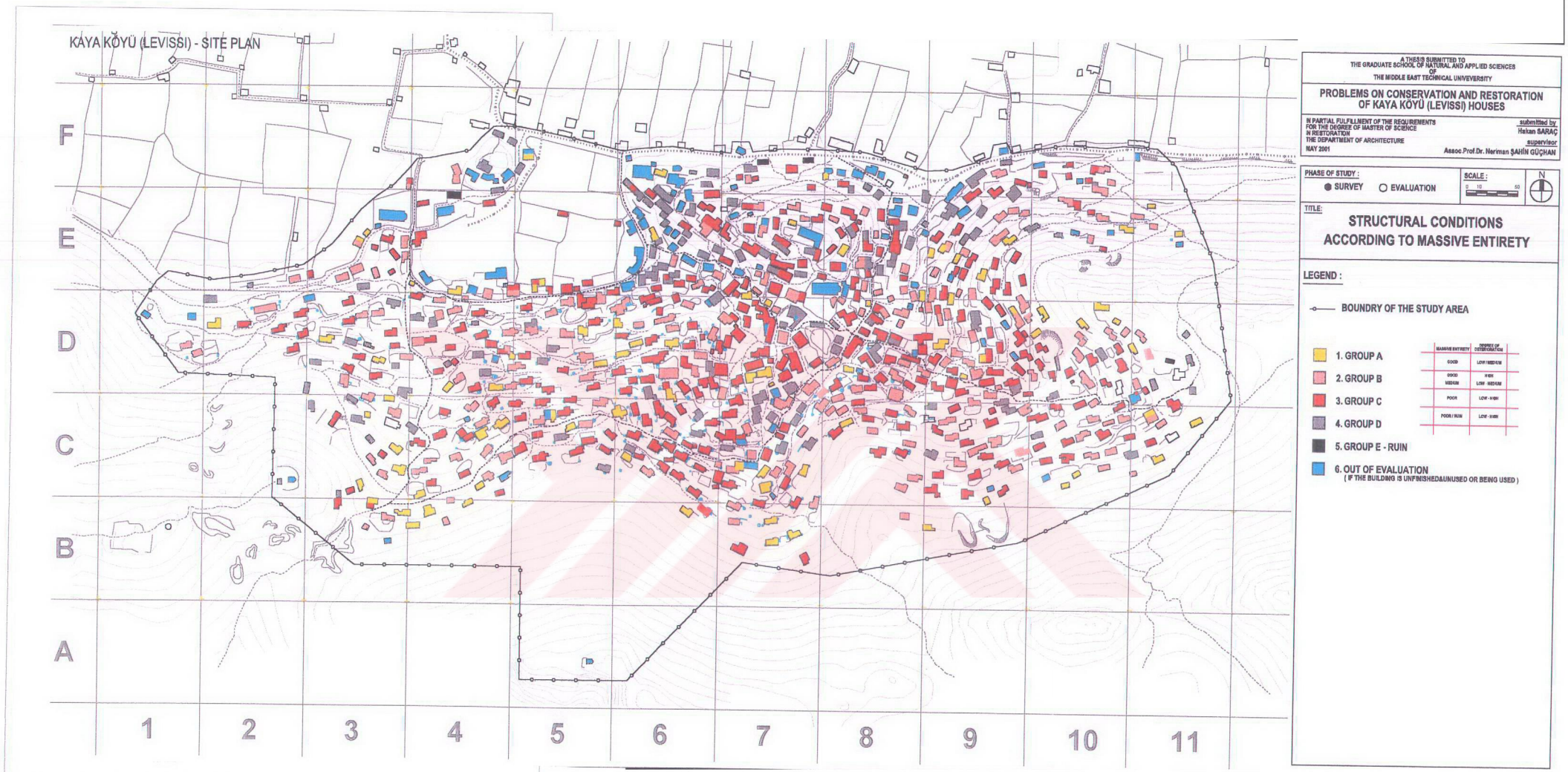


Figure 3.20 : Structural Conditions

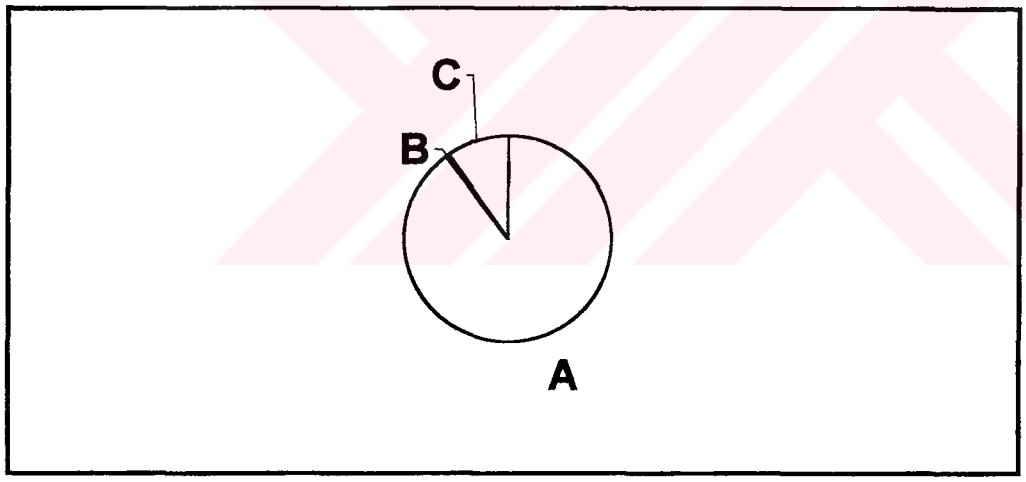
borders of properties had been determined. It should be expected that the property ownership should have been registered properly in the course of the population exchange. However, it could not possible to find such documents during this study. As the information on the cadastre order is lacking, it has been difficult to define the buildings as entireties together with their open areas. In order to overcome this problem, first the existing cadastre information has been gathered, and then estimations have been made about the possible open area of each building, after examining the courtyard/terrace walls and service elements (toilets, auxiliaries, cisterns, so on) which are next to the buildings (See. Chapter 4). As a part of methodology, information from the existing cadastre order has been given at this stage.

Out of a total of 59 lots within the boundaries of the study area, 23 are public property belonging to the treasury, 32 are private property and 4 are public property belonging to legal entities (Table 3.7). The lots that belong to the treasury cover 89.79% of the total lot area. There are large lots of the treasury that contain many buildings. Lots that contain Lower Church and the fountains belong to the legal entity of Kaya Köyü. The lot, which contains a building that had been used as a school for a certain period of time after the exchange of population and named as "Kuşlu Saray" by the villagers, belongs to the legal entity of Muğla Province. 9.74% of the total lot area within the study area belongs to private property. Private properties are mainly consisted of buildings currently in use and gardens on the lower part of the settlement. 2 of the abandoned buildings within the settlement belong to private property (E.7.25 and E.8.8). The buildings that have been listed in the original cadastre order are given in figure 3.21 that contains information about lots.

Table : 3.7 : Cadastre Order

GROUP	GROUP TITLE	DESCRIPTION	QUANTITY (m2)	Percentage
A	PUBLIC PROPERTY	total number of plots inside the study area = 23	282.040	89,79%
B	CORPORATE PROPERTY	total number of plots inside the study area = 4	1.475	0,47%
C	SPECIAL PROPERTY	total number of plots inside the study area = 32	30.600	9,74%
D	FOREST AREA	no plotting	35.762	OUT
E	COMMON ROADS	roads bettween the plots	18.803	OUT
6		TOTAL	368.680	100,00%

area have been studied under this title	368.680
area should be studied under this title	368.680
survey ratio	100,00%



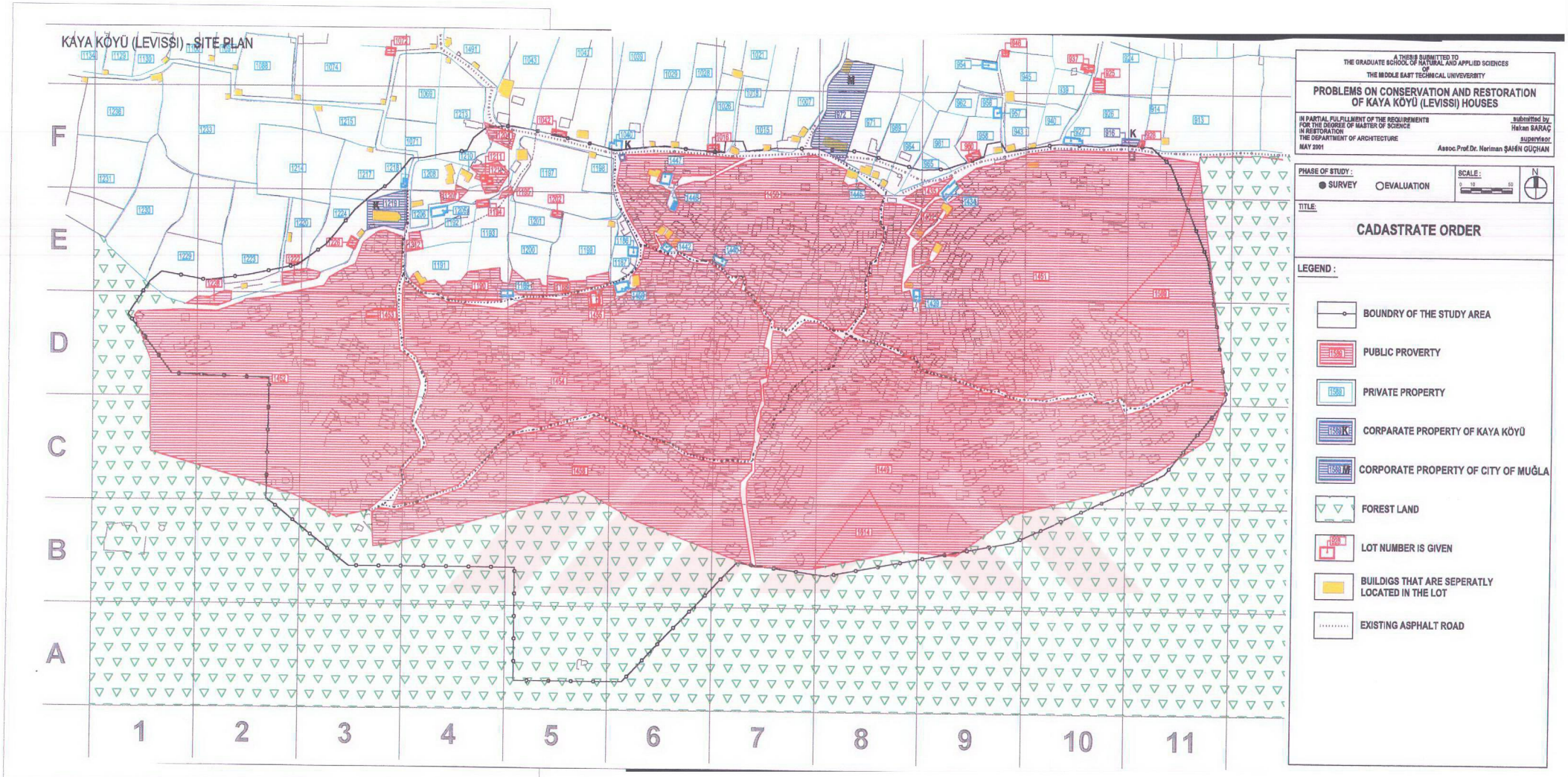


Figure 3.21 : Cadastre Order

3.3. ARCHITECTURAL CHARACTERISTICS OF THE BUILDINGS

The information collected on the basis of buildings have been classified and presented in this section. In order to make a definition of the spatial and structural characteristics of the buildings, first the existing spaces and architectural elements of the buildings have been determined. Then, identifiable architectural traces of the buildings and the information that has been obtained via comparative study have been assessed together and presented. As the vast majority of the architectural elements had been destroyed, it has proved out to be a necessity to make comparisons, evaluations and interpretations at this stage of the study as a part of the methodology that is peculiar to Kaya Köyü. Not all of the information that has been compiled in the course of the study could be transferred on plans, due to certain practical reasons such as abundance and diversity of information determined about the buildings, the enormity of the study area and the limit of time. However, all of this information has been given in Database Table in Appendix A, which can be used for various purposes in further studies. Yet, the identifiable architectural elements and traces have been presented in the plans in a case study area (Appendix B).

As mentioned in Section 3.2, the original functions of the buildings other than the monumental buildings such as churches, chapels, fountains and schools were not defined at this stage. On the other hand, spaces and elements such as toilets, cisterns and ovens, which are components of these buildings, are identifiable, as they have not been damaged. In addition, basing on the spatial and architectural characteristics of the basement floors, it can be concluded that some of them had not been used for living but for service purposes such as allocating them as depots or stables. At this stage of the study, spaces other than these ones can only

be defined with respect to their spatial characteristics such as closed spaces, semi-open spaces or terraces. Definite descriptions of these spaces can only be made after defining, evaluating and classifying the existing architectural elements and traces. Subsequently, the spaces to which they belonged can be set out on the basis of these definitions and classifications. And, under the guidance of the descriptions of spaces, the original functions of the buildings and their characteristics can be explained. This method has been chosen, as it is the most systematic one not only in terms of a better evaluation of the buildings but also of the presentation of the thesis.

As can be seen in figure 3.21, most of Kaya Köyü buildings are located on large lots of the treasury. That is to say, the original lot relationships are unknown for the vast majority of the buildings. For this reason, in order to find out the relationship between the buildings and their open areas, entrances of the ground floors and basement floors, elements such as cisterns, toilets and ovens, and existing courtyard walls have been determined and the spaces they occupy have been estimated as an attempt to define the borders of the open areas. For practical reasons, this study could not be extended to cover the entire study area, and it has been illustrated for a limited area, which has been presented in Appendix C as Gardens and Courtyards.

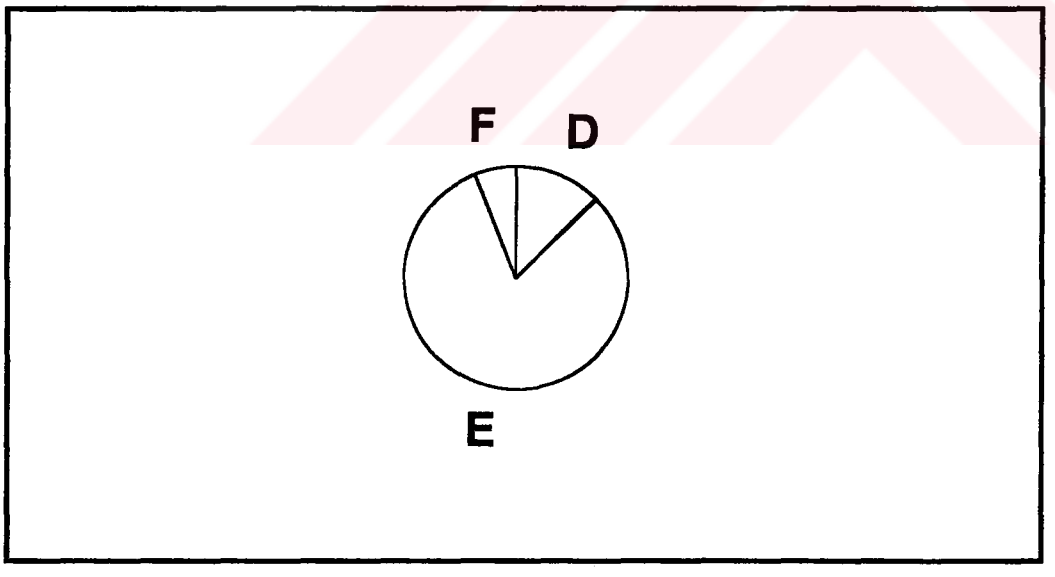
Before starting to describe the spatial and architectural characteristics, it would be useful to give certain general observations on the mass organization and orientation of Kaya Köyü buildings.

The buildings of Kaya Köyü had been generally built parallel to the slope of the land. It means that, the main building contours follow the topographic contours. It can be clearly observed on all of the site drawings containing the contour lines. This orientation is an important preference that had shaped the mass organization. The hillside façade of the buildings are low, whereas their plain side façade are higher. The hillside façades

Table 3.8 : Number of Floors

GROUP	DESCRIPTION	QUANTITY	Percentage
A	OUT OF EVALUATION (MONUMENTALS)	24	OUT
B	UP TO GROUND FLOOR	14	OUT
C	RUIN	4	OUT
D	GROUND FLOOR(living)	102	12,47%
E	GROUND(living) + BASEMENT	666	81,42%
F	GROUND + FIRST(living)	49	5,99%
G	GROUND + FIRST(living) + BASEMENT	1	0,12%
7	TOTAL	860	100,00%

number of units is studied under this title	860
number of units should be studied under this title	860
survey ratio	**100,00%**



are usually blind ones. Except for a few type of buildings, they do not have any openings. Plain side façades are the ones where the indoor spaces open to outside. For this reason, they defined as the main or front façade of these buildings within this study.

These buildings are generally consisted of ground floors and basement floors (Table 3.8). Spatial characteristics of basement floors generally vary depending on the slope. Entries into ground floors are usually parallel to the slope. For this reason, these façades can be defined as entrance façades. The entrance façade of certain buildings are also the main façade or the hillside façade. As the settlement has been located on the southern hillside of *Kayaçukuru*, the main façade of the majority of the buildings views the north whereas the blind façade views the south. However, it should not be considered that such an orientation had been preferred in line with the position of the sun. Indeed, some of the buildings in the northern hillside within the settlement also have the same orientation. The main façade of these buildings facing towards to the south while the blind ones to the north. Thus, it can be concluded that the most important criterion in the orientation of the buildings is the topography, i.e. the contour directions of the slope.

3.3.1. Identifiable Spaces and the Components of Kaya Köyü Buildings

Some of Kaya Köyü buildings have certain spaces and elements, which can be identified as purposes in their construction and their original functions can easily be distinguished with respect to their structural conditions and architectural elements. Cisterns, toilets and service spaces in the basement floors are spaces that can be identified in this respect. Other spaces will be classified as "unidentified spaces" at this stage of the

study if their original functions and usage cannot be distinguished easily. This section will give an account of characteristics of the spaces in both groups.

Extant and identifiable components and/or elements of buildings, on the other hand, are fireplaces and chimneys, door and window openings and niches. The characteristics of these extant elements will also be classified and explained in this section.

3.3.1.1.Cisterns:

Cisterns had been constructed in order to collect the rainwater. The rainwater collected on the roof had been transferred into the cisterns via vertical drain channels. These drain channels are significant façade elements (Figure 3.22). They had been built of water permeable plaster and designed in a way that water can flow easily. In some of the buildings these channels are earthenware pipes which had been placed inside the walls (Figure 3.23). Cisterns had been constructed by rubble stone masonry. The water permeable plaster had also been applied on their internal surfaces. Cisterns have openings on top of them for taking the water out. It has been considered that water collected in cisterns had been carried out by letting a bucket down from these open parts. There might have been wooden lids on these open spaces for security reasons. Internal space of cisterns has a form that narrows towards these open spaces. It has been determined that corbelling technique had been used in some cisterns in order to give this form (Figure 3.24). There are parapets with the height of 15-20 cm around cisterns. Small drainage holes had been opened on parapets in order to remove the water collected on cisterns

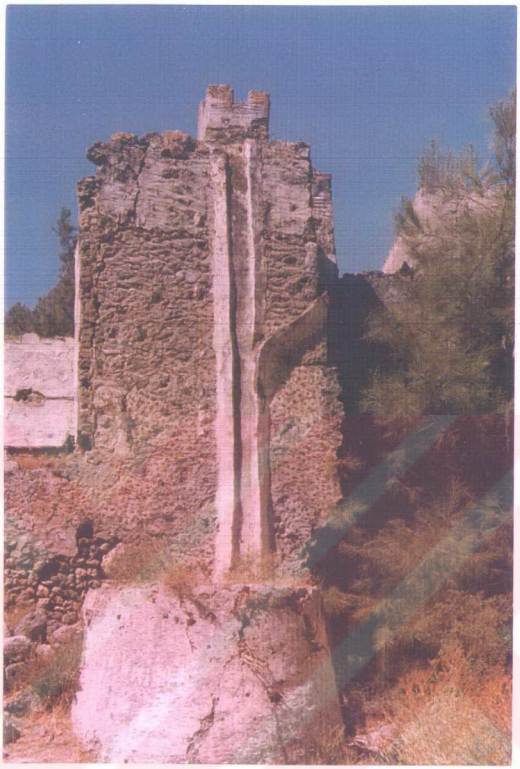


Figure 3.22 : Drain Channels as Façade Elements

It has been determined that 401 (48.26%) of the 831 buildings (the total number of buildings after excluding the monumental buildings and the ones that could not be examined) have cisterns. The relationships between cisterns and the buildings have been investigated for 351 of these buildings that have cisterns. It has been determined that cisterns had been built

Figure 3.23 : Earthenware Pipes for Cisterns

Figure 3.24 : Corbelling Technique of a Cistern

attached to the building in 80.97% of them, and detached in 12.78%. Buildings that have cisterns inside them have the ratio of 6.25% (Table 3.9). Cisterns that are attached to the buildings are generally close to the entrance spaces. As for the cisterns that had been built detached to the buildings, the rainwater collected on the roof had been transferred to them through the channels passing over the courtyard walls and doors in some buildings (i.e. C.5.16) or under the ground in some others (Figure 3.25).

Cisterns may have cubic prism, curvilinear or conic forms. The distribution of cisterns with respect to their forms has been presented in table 3.9 below. Accordingly, the most frequent cistern form in Kaya Köyü is cubic prism.

Cistern platforms are generally above the ground level and there are stone stairs to reach the raised platforms. These stairs can be inside or outside the cisterns. The most frequent cistern types are given with samples in figure 3.26.

The dimensions of cisterns vary to a great extent. Nevertheless, it has been determined that cisterns in the rectangular form are generally 2,50 m² and 2-2,50 meters deep. The average internal space is 8 cubic meters.

272 cisterns have been examined in order to determine the distribution of their top coverings. In 191 (70,22%) of them, water permeable plasters had been used as floor covering. Earthenware pieces had been added into the floor covering mortar in 32 (11,76%) cisterns, and pieces of stones had been added in 8 (2,94%). 10 (3,68%) of the cisterns have slate stone pavement. The most interesting floor pavement in cisterns is ornamented pebbled stone ones. This pavement has been observed at church floors and courtyards. This may lead us to conclude that cisterns constitute an important part of Kaya Köyü buildings.

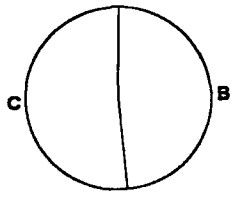
It has been observed that most of the cisterns face the view directly. They also see the entrance of the buildings. As a common feature, there

Table 3.9 : Cisterns

CISTERNS (existence)

GROUP	DESCRIPTION	QUANTITY	Percentage
A	out of evaluation (monumental buildings)	24	OUT
B	number of buildings that cistern EXIST	401	48,26%
C	number of buildings that cistern NOT EXIST	430	51,74%
3	TOTAL	855	100,00%

units have been studied under this title	855
units have been studied under this title	860
survey ratio	99,42%



CISTERNS (placement)

GROUP	DESCRIPTION	QUANTITY	Percentage
A	could not be studied (documented by METU students)	50	out
B	INSIDE THE BUILDING	22	6,25%
C	ATTACHED TO THE BUILDING	285	80,97%
D	SEPERATED FROM THE BUILDING	45	12,78%
4	TOTAL	402	100,00%

units have been studied under this title	352
units have been studied under this title	402
survey ratio	87,56%

CISTERNS (geometrical form)

GROUP	DESCRIPTION	QUANTITY	Percentage
A	CURVELINEAR FORM	131	37,32%
B	RECTANGULAR	200	56,98%
C	HIDDEN (BURRIED)	20	5,70%
4	TOTAL	351	100,00%

units have been studied under this title	351
units have been studied under this title	352
survey ratio	99,72%

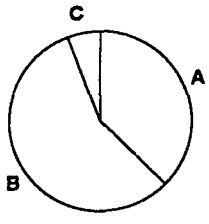


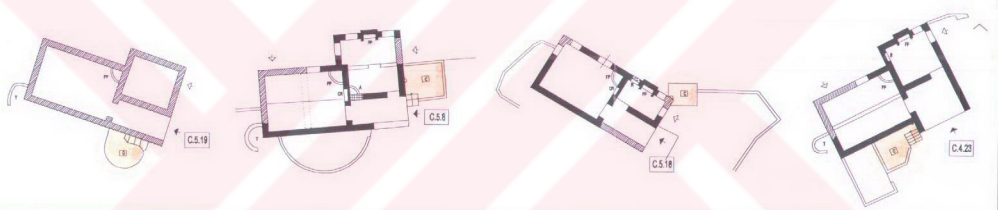
Figure 3.25 : Drain Channel for a Detached Cistern

are door type windows that provide direct access from inside to the cistern. The relationship of the cisterns with the main building, their floor pavement and their position facing the view lead us to conclude that cisterns, in addition to their main function, had been used as terraces. As an example supporting this suggestion, a stone bench, which had been positioned

CISTERNS PLACEMENT ACCORDING TO THE BUILDING

A INSIDE THE BUILDING

B ATTACHED TO THE BUILDING



C SEPERATED FROM THE BUILDING TO THE BUILDING

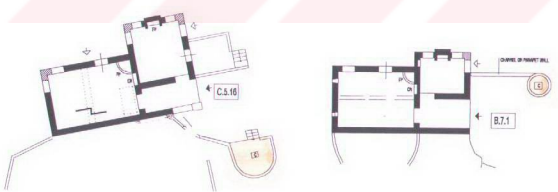


Figure 3.26 : Cistern Types

facing the view, has been observed on the cistern, which has a pebbled stone floor pavement, of the building coded C.5.9. Similar benches have also been observed on some of the other cisterns.

The façade textures of cisterns differ from the main building's façade textures. The ratio of such a difference is as high as 87.31%. It has been regarded that such a difference may originate from different construction processes of the buildings and the cisterns, and of the importance attached to the cisterns. Parapets of cisterns generally have rough plasters and they differ from main façade textures of the cisterns. The most frequent plaster of cistern façades is fine plaster with 48%. Rendering the exterior façades of the cisterns with pseudo-joints is another common application (22%).

3.3.1.2. Toilets:

Only in 4% of the buildings within the study area, the toilets are inside the buildings. However, these toilets are not original, as they had been built at a later period. The original toilets of Kaya Köyü are at the outside of the buildings. 424 (50.90%) of the buildings within the study area have toilets. These toilets had generally been built attached to the corner at the back of the house or at a far point in the garden. The number of the toilets that had been built attached to the building is 256 (68.63%). The remaining 117 (31,37%) toilets are separated from the building. Most of them had been built attached to the wall of the courtyard. Entrances of toilets can be at the gardens, or at the street if the building has no garden. On the other hand, some of the toilets had been built almost at the midst of the street. For example, there is a road at the both sides of the toilet which is regarded as a part of the building coded C.5.13. The distribution of the building-toilet relationship can be seen in Appendix B and Appendix C.

Figure 3.27 : Attached Toilet

Toilets had been constructed by rubble stone masonry. They generally have cylindrical forms. Many of these toilets had been built in the spiral form, hiding the entrance. They have quite a narrow inner space (approximately 90 centimeters long). Their walls are thinner than those of buildings (25-35 cm). They are approximately 1.60-1.80 meters high up to

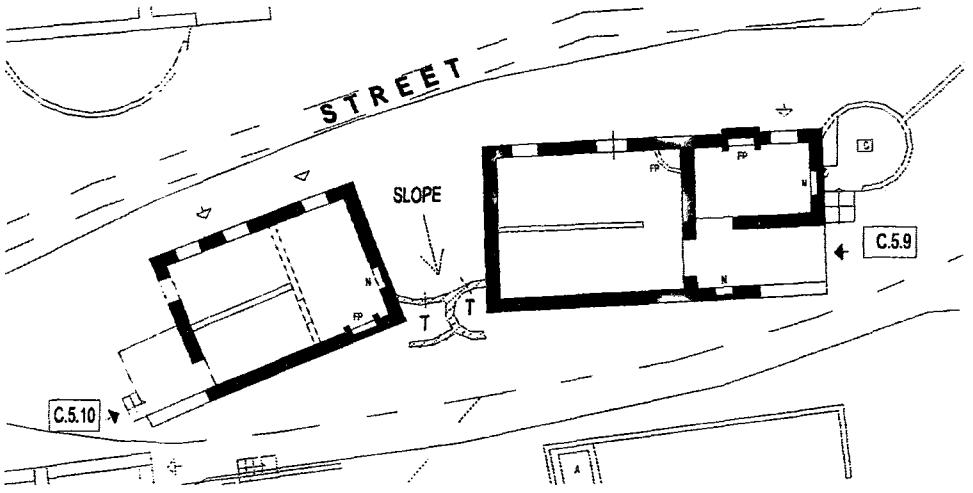


Figure 3.28 : Sharing the Toilet Walls

the level of upper structures. It has been observed that only 3 toilets have structural entirety. These have dome like roof structure made in rubble stone (Figure 3.27). The upper structures of toilets, other than these 3 ones, had been damaged. As far as discovered from the traces of the damaged upper structures of the toilets, wooden elements had been used in forming the upper structures of many of them. Many of them still have the traces of wooden doors and door lintels. There is no special application for their façade texture. Rough plaster had been applied on them if not, just like the courtyard walls.

Kaya Köyü settlement does not have a sewage system. Toilets have small septic tanks. It has been observed that these tanks have an open drainage hole in the back of toilets. It has been regarded that these drainage holes had been opened to clean the septic tanks occasionally. The entrances of the toilets are at the higher side of the slope, and the holes slope down. Thus, it can be considered that wastewater had been carried away from these holes at least with intervals. Probably because of

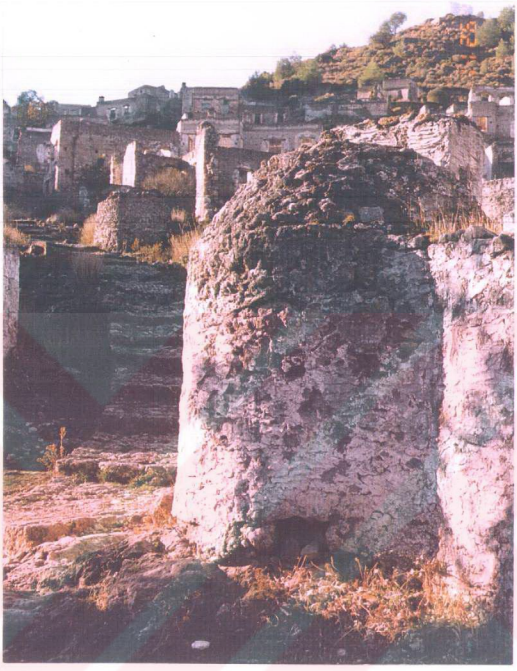


Figure 3.29 : Toilet Drainage Hole Running Down to the Street

the septic tanks and the flow of wastewater, toilets had been built far from entrance spaces and openings and wherever the slope is suitable. It is a remarkable application that none of the entrance spaces of the buildings had been positioned on the direction of the flow of wastewater. It is a common characteristic in the settlement that some of the buildings had

been constructed back to back and they share toilet walls (Figure 3.28). The positions of the toilets had always been considered even in the sections where the building density is high. However, it has been observed that the drainage holes of some of the buildings run down to the streets (Figure 3.29).

3.3.1.3. Basement Floor Spaces:

The ground floors of Kaya Köyü buildings had always been built above the natural ground level. For this reason, all of the buildings have a basement floor with different volumes and spaces under the ground floor. If these spaces have some spatial characteristics that are sufficient enough to define them as separate floors, they are named as basement floor. The dimensions and the spatial characteristics of the basement floors vary, depending on the slope. Yet, it can be said that these spaces had generally been used for service, such as depots and workshops. It has been determined that the buildings which are currently used as houses and which have ground and basement floors, the basement floors are used as depots and barns (Figure 3.30). Depending on certain elements that have been observed in other buildings within the study area, it can be concluded that the basement floors, in addition to the functions mentioned above, were the spaces where production activities had been carried out. This function is an important feature of the vernacular architecture in the region and Aegean islands.

Basement floors generally do not have windows. The floor is covered either stone or compressed earth. Walls generally do not have plaster or they are only rough plastered. The heights of basement floors vary, yet it has been observed that they are generally lower than the living floor above. They are generally 1.50-2.00 meters high, yet some of them

Figure 3.30 : Basement Floors Used as Depots and Barns

Figure 3.31 : *Alaf* on the Basement Floors

get as low as 1.20 meters. Rarely, there are some basement floors that are higher than ground floor. On the other hand, the height of basement floor increases in some buildings because of the level differences at ground floor.

The most common architectural element of the basement floors is "*alaf*", which is a local name. "*Alaf*" is a tank that has dimensions of 60-80 cm and is approximately 50-60 cm deep, built with rubble stone masonry, and plastered with a water permeable material (Figure 3.31). The number of tanks in the basement floor varies between 1 and 6. Native of Kaya, Mehmet Gökçe reports that the "*alaf*"s had been used in leather processing, during which fruits of oak tree ("*palamut*"; acorn) had been employed. In the course of the examination of 580 buildings, it has been registered that 136 buildings have *"alaf"*s in their basement floors, 18 in their gardens, and 8 in their auxiliaries. Considering the fact that one in each three buildings has *"alaf"*s, it can be concluded that leather processing was an important production activity in Kaya Köyü, if *"alaf"*s had not any other functions.

In addition to the basement floors described above, there are others that have windows, high ceilings and fireplaces. With respect to the elements and characteristics, these spaces are also regarded as having been used for service.

3.3.1.4. Unidentifiable Spaces:

The original functions of these spaces could not be determined definitely, and their characteristics have been explained after the architectural elements and traces defined and evaluated. For this reason, this section describes the elements and traces of Kaya Köyü buildings at

the first hand. In parallel to the evaluation this information, discussions on the characteristics of these spaces will be given in Chapter 4. Yet, it can be said at this stage that the spaces which have been grouped as unidentifiable spaces can be classified as main room, secondary room, entrance space, terrace and "*hayat*", with respect to their prevalence and spatial characteristics.

3.3.2. Identifiable Architectural Elements of Kaya Köyü Buildings:

In this section, architectural elements of Kaya Köyü buildings are defined and discussed in comparison with similar buildings.

3.3.2.1. Fireplaces and Chimneys:

There are two types of fireplaces in Kaya Köyü buildings: corner type fireplace and wall type fireplace (Figure 3.32). No traces of a fireplace have been observed in 74 of the 860 buildings (the total number of buildings after excluding the monumental buildings and the ones which could not be examined). On the other hand, a total of 966 fire places, 737 of which are corner type fire place and 229 are wall type fire place, have been found in other buildings. These figures reveal that corner type fireplaces were widely used in Kaya Köyü buildings.

Both types of fireplaces consist of 4 parts:

1. Sub structure of hearth stone
2. Hearth stone

Figure 3.32 : Corner Type Fireplace (E.5.2.C) and Wall Type Fireplace (D.3.7)

3. Canopy/curtain
4. Chimney

In the corner type fireplace, sub-structure of hearthstone is a wall which had been built with rubble stone masonry and generally circular formed inside of which had been filled in with earth. Timber joists had been placed under hearthstone if it was necessary to keep the below of fire place empty because of the function of the basement floor (i.e. if there is a door under it). Hearthstones of Kaya Köyü buildings are artificial stones that had been made by special mortar (Figure 3.33). They are placed on the masonry sub structure or timber joists. The canopy that is in conical

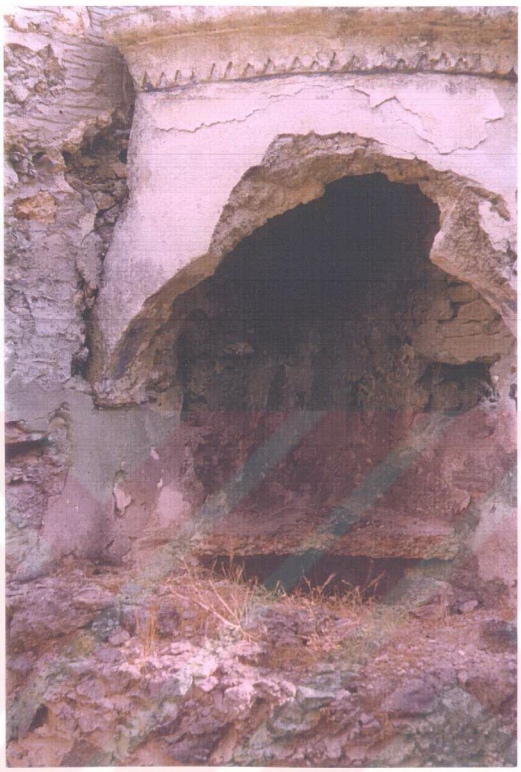


Figure 3.33 : Hearth Stone of a Fireplace

form and has an arched opening had been constructed by rubble stone masonry on the profiled console stones between two crossing walls. Niches on which these stones would be placed are made as the main load carriers while the wall is being built (Figure 3.34). However, the rest of the fireplace is made after the walls are built completely. Canopies have

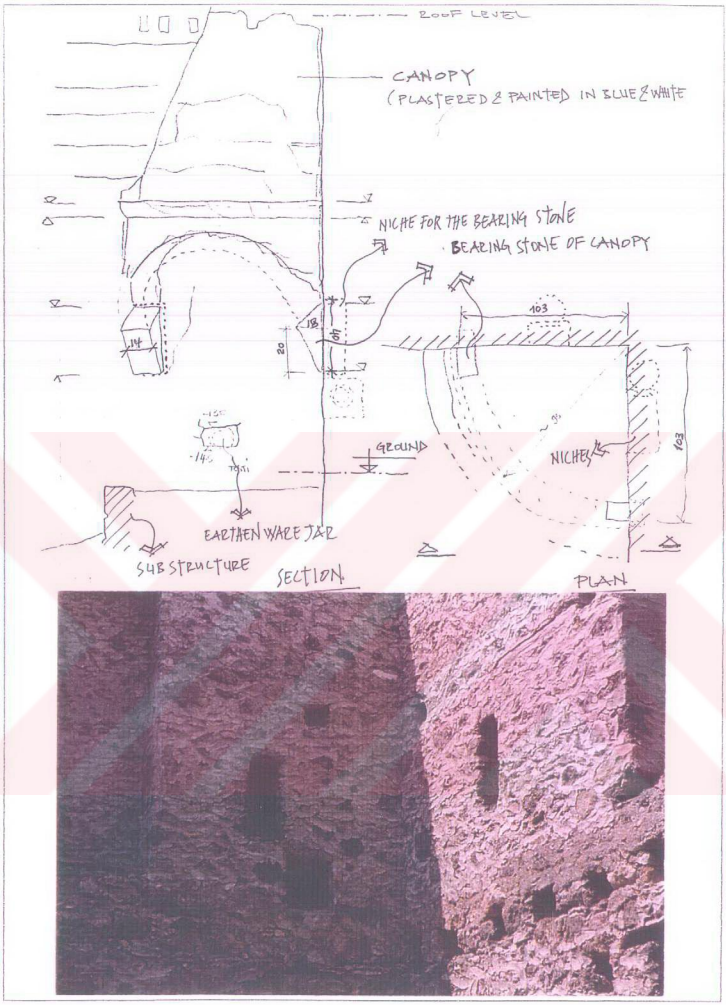


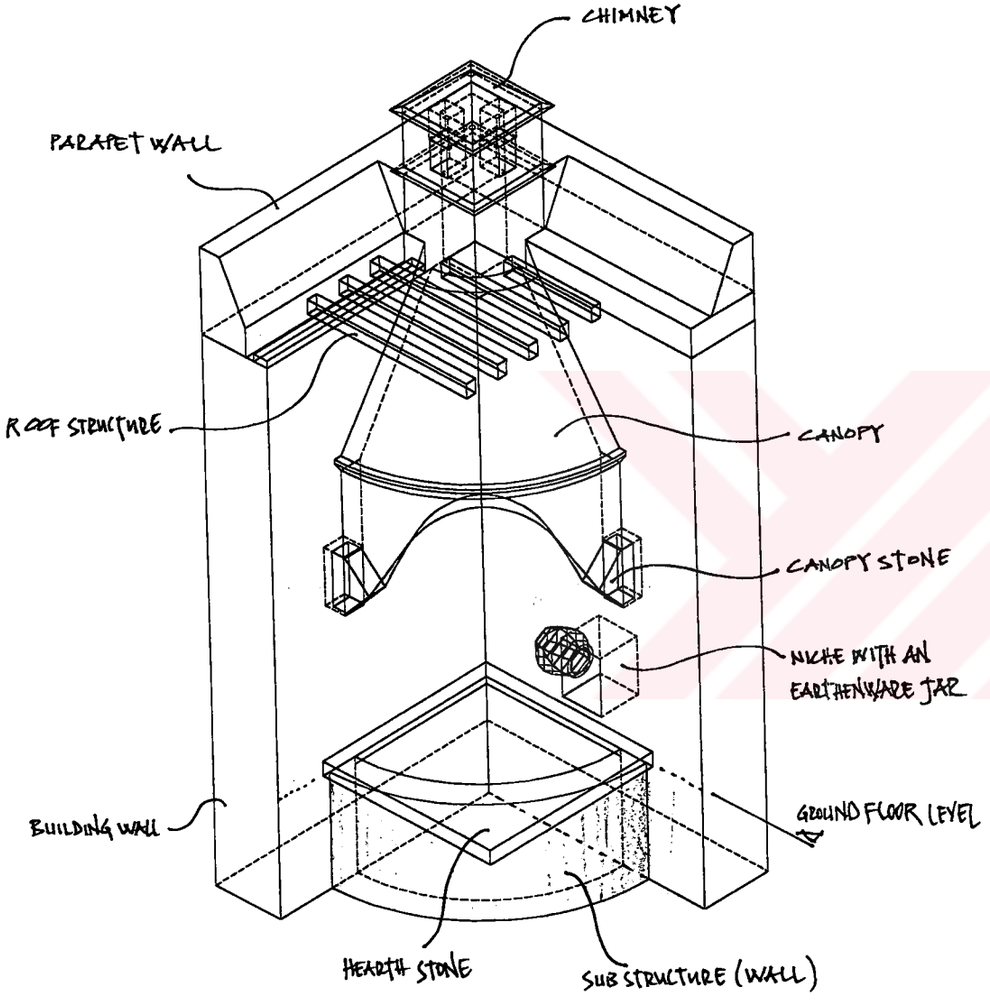
Figure 3.34 : Corner Type Fireplace of D.3.15 (drawn by H. Saraç)

Figure 3.35 : Unfinished Construction of Corner Type Fireplace (C.5.7B)

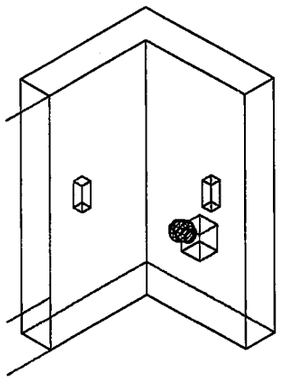
shelves and ornaments on them, which had been made with plaster. If there are wooden elements such as "sergen" (is a set of open shelves in timber) on the walls of the space, the walls are built completely. These details can be observed easily in buildings that had been abandoned before the completion of the construction (Figure 3.35). Canopies have shelves and ornaments on them, made with plaster. If there are wooden elements such as "*sergen*" (is a set of open shelves in timber) on the walls of the space, these elements usually continue on the canopy. There is a niche right above the hearthstone, which generally have an earthenware jar inside. The canopy narrows towards the roof beams. At this level, it takes a rectangular form in a way to make the chimney. The inner surfaces of the canopy and the chimney had been fine plastered (Figure: 3.36).

The wall type fireplaces have a construction process that integrates with the building more than the corner type ones do (Figure 3.37). These fireplaces had been located in to the exterior walls that have an average thickness of 50 cm, and they had been projected outwards in order to avoid the narrowing of the interior space. Thus, they become elements affecting the façade. Walls on which these fire place had been constructed much thicker, starting from the lower part. The effects of wall

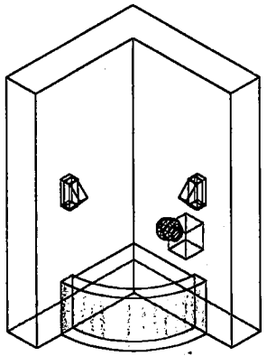
type fireplaces on the façade and mass organization of the buildings will be discussed in forthcoming sections. Hearthstones of wall type fireplaces are smaller than the ones of corner type fireplaces. A part of the hearth stone places had been set on an indentation on the wall. For this reason, different from the corner type, wall type fireplaces do not have a foundation that is separate from the wall of the building. There is an arched opening flat canopy on the profiled console stone stands on the both side of the fireplace opening. The top of the arch generally ends up with an ornamented shelf. Wall type fireplaces do not occupy a huge space at the inside. The shelves are generally 10-20 cm wide.



CORNER TYPE FIRE PLACE



STAGE 1



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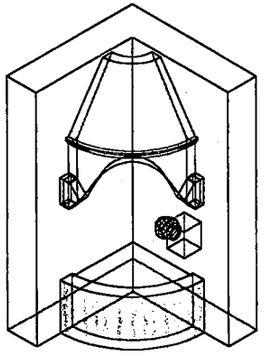

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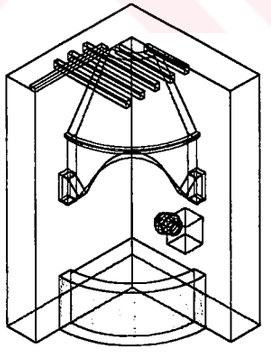

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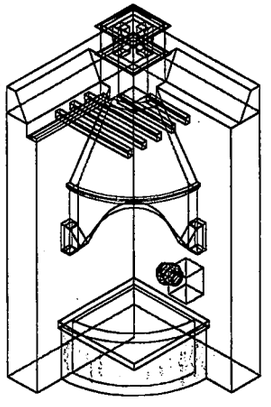

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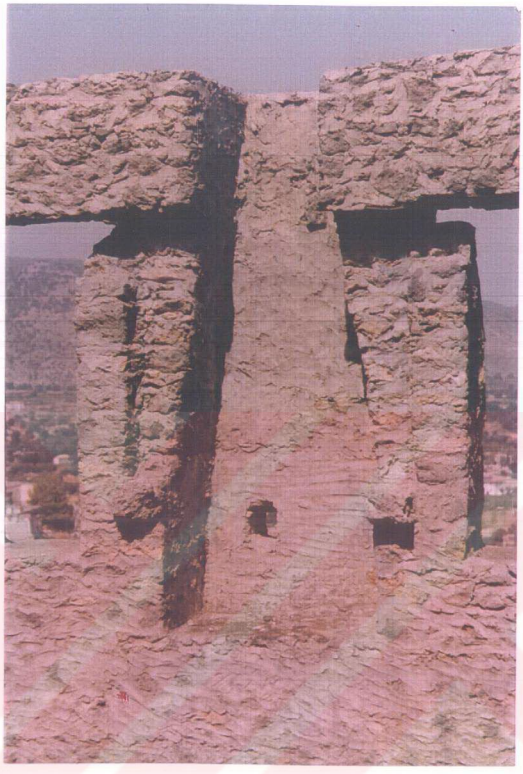


Figure 3.37 : Unfinished Construction of Wall Type Fire Place

Original corner type and wall type fireplaces are extant in most of Kaya Köyü houses that are inhabited currently. The fireplaces of the abandoned buildings are also illustrative of original characteristics as they are the least destroyed elements. In addition, same types of fireplaces are widely used in Southern-Aegean Region as well as in Aegean islands

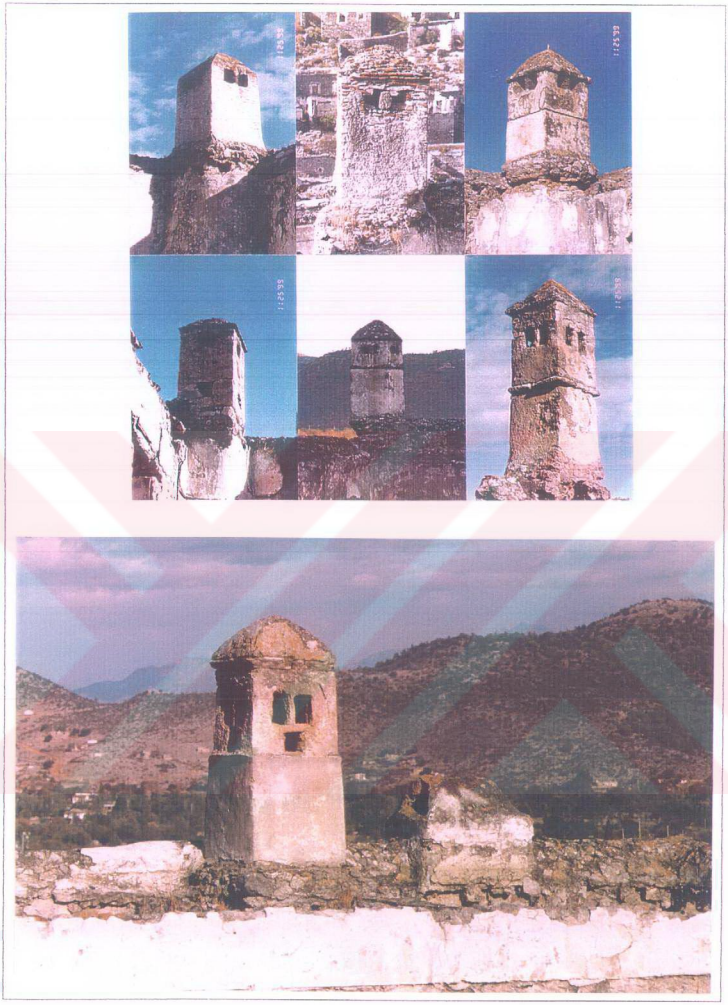


Figure 3.38 : Samples of Chimney Types

Figure 3.39 : Differences in Chimneys at the Same Building (D.4.6)

vernacular houses. It is possible to see exactly the same corner type fireplaces in the Aegean island of *Samos* (Papaioannou, 1984:18) and wall type of fireplaces in *Samothrace* (Kizis, 1991:22).

The chimney forms of Kaya Köyü buildings do not vary according to the type of fireplace. Cubical forms with pyramidal chimney caps are common. Cylindrical caps and triangular caps have also been observed (Figure 3.38). Chimneys of two fireplaces within the same building generally differ from each other (Figure 3.39).

3.3.2.2. Door and Window Openings:

As the timber elements of the buildings had been plundered, Kaya Köyü buildings are not illustrative of particularly the sashes and casings of doors and windows. Extant wooden sash and casings of currently inhabited several buildings can be the reference of a comparative study in order to interpret the empty openings of the buildings. At this stage, general information about the dimensions of doors and windows will be

and the principles of placement of them will be described. However, no detailed explanation about doors and windows will be made. Such an explanation requires a more explicit survey.

Above all, it should be noted that doors and windows that will be described here only refer to the empty openings of existing stonewalls. It should be remembered that there could have been timber framed partition walls which could have doors and windows and which could have been plundered.

Except for the churches and two arched openings on the exterior walls of the building coded E.9.5.A, door and window openings of Kaya

Figure 3.40 : Wooden Shutters (E.6.23)

Köyü buildings are in rectangular form. In some of the buildings, the places below the stairs and entrance platforms had been built by using arches (i.e. E.7.29).

The average wall thickness of Kaya Köyü buildings is approximately 50 cm. The opening lintels are in timber, as far as understood from the traces. Door and window frames placed on one side of these openings. The traces have been observed to indicate that door frames had been affixed to outer side. For this reason, it has been concluded that door wings had swung inside the space. Indeed, this is case for most of the buildings that are currently inhabited. Window frames had generally been affixed inner part of the openings, and window shutters had been opened towards outside (Figure 3.40). However, traces of timber casing have been

observed at the outside of some buildings. It has also been observed that timber shutters of some of the inhabited buildings have been affixed outside (F.8.8). It has been considered that the window shutters were made of wood, as is the case for some of the currently inhabited buildings.

For practical reasons, measured dimensional data could not be extended to cover the study area. Openings of 10 (1.25%) buildings have been measured, whereas spatial measures of 30 (3.74%) buildings have been taken. On the other hand, the number of buildings, of which façade sketches have been drafted, is 150 (18.70%). The types of openings have been listed in the plan drawings of 820 (100%) buildings. The location of openings in the plan and façade organization has been described. Information on their dimensions has been determined after comparing them with each other. According to these findings, existing openings of Kaya Köyü buildings can be classified in 4 main groups:

1. Door openings
2. Window openings
3. Door like window openings
4. Crenel type openings

Entrances of the closed spaces of Kaya Köyü buildings are generally directly from outside, or from semi-open entrance spaces or terraces (*hayat*). For this reason, it is not possible to say that there is only one main entrance door for the building. Door openings can be classified as ground floor spaces entrance doors and basement floor spaces entrance doors. Ground floor door openings are approximately 105-120 cm wide and 180-210 cm high. The width-height ratio is approximately 1:1,5. Basement floor doors vary, depending on the height of the basement floor space. They are generally narrower and shorter than the ground floor doors.

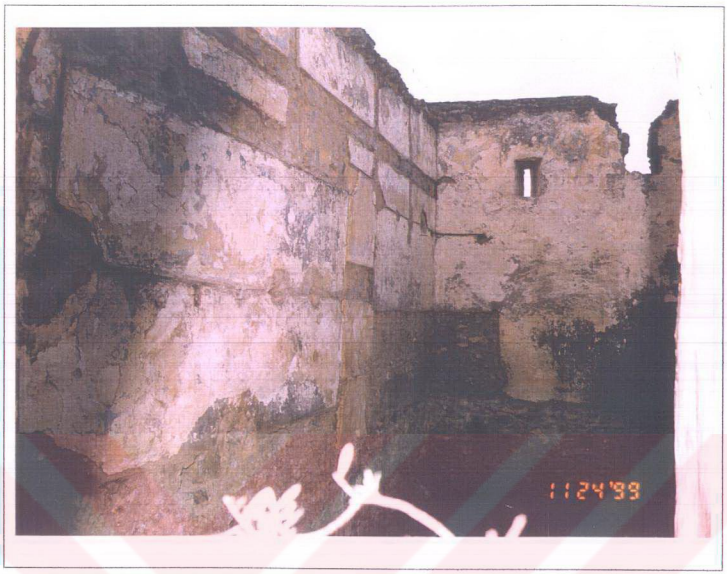


Figure 3.41 : Crenel Type Opening on the Opposite Wall (C.3.7)

The width-height ratio of window openings is about 1/1.5. Two groups appear when the relationship between windowsill and floor level is considered. In the first group of windows, the distance between floor and windowsill is about 45-70 cm. The second group is door like windows. In this group, the distance between windowsill and floor decreases below 40 cm, and in most of the buildings they are at the same level.

Crenel type openings are narrow and long clefts that are close to the ceiling surface. They get narrower towards outside (Figure 3.41). No traces of casings have been observed on these openings, which would have indicated that they had wooden shutters. For this reason, it has been concluded that they had been opened because of the purpose of maintaining cross-ventilation.

The use order of the door and window openings in plan and façade organization will be presented in forthcoming chapters.

3.3.2.3 Niches:

Niches that have been observed in Kaya Köyü buildings can be classified in four groups:

1. Simple niches
2. Niches with water drainage hole
3. Fire place niches
4. Hidden niches

Internal surfaces of "simple niches" had been plastered and painted same as the walls. They can be put into two groups, according to the place they are found. First group of niches are the ones that are observed in semi-open entrance spaces. Except for a few buildings (i.e. D.1.2, D.5.11), they are on the exterior wall of the entrance space. They are generally single, yet two niches have been observed next to each other in some of the buildings (i.e. D.2.2 and C.8.8). They are 30-40 cm wide and 15-25 cm deep, and small niches in the square like or arched form. Their numerical distribution could not be determined; yet it can be said that they are widespread. For example, among the 21 buildings which have been given in figure 3.22 and the exterior walls of which are not destroyed, 7 (33.33%) have entrance space niches. Apart from these niches, there are also niches with similar characteristics inside the buildings. Yet they are not as widespread as the entrance space niches.

Niches with water drainage hole at the bottom are found at the inside of the buildings. They have niche counters that had been formed

Figure 3.42 : Niche with Counter and Water Drainage (B.4.3.B)

with the mortar similar to that had been used in cistern channels. In some buildings, similar niches with water drainage holes have been observed in front of windows (i.e. D.5.16, D.7.22). However, niches that are mentioned here are much smaller and generally arched (Figure 3.42). It has been observed that windows of some of the buildings had been closed with walls at a later time and turned into niches with water drainage holes.

Fireplace niches are either inside the corner type fireplace or just next to it, and most probably fireplace tools had been put in them. Their dimensions are about 20-30 cm and they are in a square like form. Niches in which earthenware jar had been put and which have been described above in the section on corner type fireplaces, can be found next to these niches (see Figure 3.34).

All of the niches described above are at ground floors. However, small and hidden niches can be found at basement floors.

The place of niches within buildings will be presented in the forthcoming section on the spatial characteristics of the buildings.

3.3.3. Identifiable Architectural Traces of Kaya Köyü Buildings:

Some of the architectural elements of Kaya Köyü buildings which are not extant currently are attempted top be defined via their traces on the buildings. In this respect, existing elements of the buildings that are currently inhabited have been examined and information that has been collected through comparative study has been employed. The spatial definitions have been possible after these descriptions have been compiled. However, there are certain traces that could not be defined despite all efforts.

3.3.3.1 Floorings:

Floorings of Kaya Köyü buildings are wooden floorboards that had been set on wooden beams. It has been possible to define the changes in the level of floorings after determining the traces of floor beams on the walls and heights of floor support walls at the basement floors. Two main changes of floorings have been observed after these determinations:

1. A part in front of the entrance door lies at the same level with door threshold level for about 1 meter, and then the flooring raises about 15-25 cm. It has been concluded that this low section is the part that has been

defined as "*pabuçluk*" in the traditional Anatolian architecture. Indeed, "*pabuçluk*" has been found in one of the houses that are currently used (E.6.28).

2. If the section that is raised after "*pabuçluk*" is defined as main floor level, another floor level is observed in its continuation, which is raised about 25-70 cm. This section continues until the end of the space, and it is an average 2.50 meters long. This area can be the same as the elevated sleeping space, "*soupha*," which is very common in the vernacular architecture of Aegean Islands (Papaioannou, 1984:18; Kartas, 1984:27; Philippidies, 1985:14; Didonis, 1985:50). Spaces similar to "*soupha*" are also named as "*krevvatos*" or "*mousandra*" in some of the Aegean Islands (Özcan, 1994).

Such level differences at floors have been examined on the basis of typical main spaces, which are very common among Kaya Köyü buildings. This space will be described in forthcoming sections. Within this framework, traces of "*pabuçluk*" and elevated floors have been sought at 369 typical main spaces. "*Pabuçluk*" has been found in 166 (44.99%) spaces, whereas elevated floors have been found in 286 (77.51%) ones. Depending on these findings, we can classify the differing floors of typical main spaces in 4 groups:

1. Spaces with flat flooring (21,14%)
2. Spaces with only "pabuçluk" (1,36%)
3. Spaces with only elevated part (43,63%)
4. Spaces that have both "*pabuçluk*" and elevated part (33,88%)

The distribution of levels of floorings at main spaces within the sample area has been presented in Appendix B, and all of the findings has been given in the database table in Appendix A. Details on the construction of floorings will be set out in forthcoming chapters.

Figure 3.43 : Pitched Roof Alteration on the Existing Flat Roof (E.6.23)

3.3.3.2 Roof:

Flat roof is the most common feature of Aegean architecture and called the "*liakos*" (Arnaoutoglas, 1984). The buildings within the study area are generally flat roofed, except for a few cases. The buildings that are currently inhabited have generally pitched roof with tiles. However, it has been determined that the pitched roof trusses of the building coded E.6.23, which is reported to have been used until recent period, had been set on the existing flat roof (Figure 3.43). This case indicates that a study should be conducted about the originality of the buildings that are currently used.

Abandoned buildings that had pitched roofs have been distinguished with respect to gable walls and details of parapets (i.e. F.7.8, D.8.39.A, D.9.5).

Descriptions about the roof floors can be done on the basis of traces of roof floor beams. Sectional dimensions of wooden beams are about 6x10-8x10 cm and their spacing is about 20-30 cm. The beam holes are on the long side walls of the space, indicating that cross beams had been placed parallel to the short side. At the middle of short side walls are traces of a beam under the level of beam holes, which is bigger than these cross beams. Remains of this beam can be seen in the building coded D.11.10 (Figure 3.44). It is also possible to see the crossbeam system in some of the currently inhabited buildings. It has been determined that sectional dimensions of the main beam at the building coded E.6.24 are 15x20 cm, and dimensions of the support element (bolster) under the main beam are 15x10 cm. This support element generally has a typical profile. Beam sections can increase depending on the dimensions of the space. For example, the dimensions of the main beam of the building coded E.6.16.A is quite high. Roof floor may directly start without necessitating a main beam at the spaces that have low dimensions (2-2,5 m) such as the entrance space. However, as for the spaces such as the typical main space, which has a short edge of about 4-5 m, main beams are necessary in order to extend the cross beams. In certain spaces, span of the main beam can continue 3 or 4 meters without a support. However, in spaces such as the typical main space that has a long edge that is about 6-7 meters, the main beam should also be attached and supported. It has been determined that some of the buildings had even needed more than one wooden post and support (C.4.12.A). This extension can be done with a wooden post that had been set up at the middle of the space and a support element that sets on it. It is possible to see these elements in some of the currently inhabited buildings (i.e. F.8.7). According to the samples at currently inhabited buildings, the sectional dimensions of wooden post are about 15x15-20 cm. The place of the wooden post can be determined

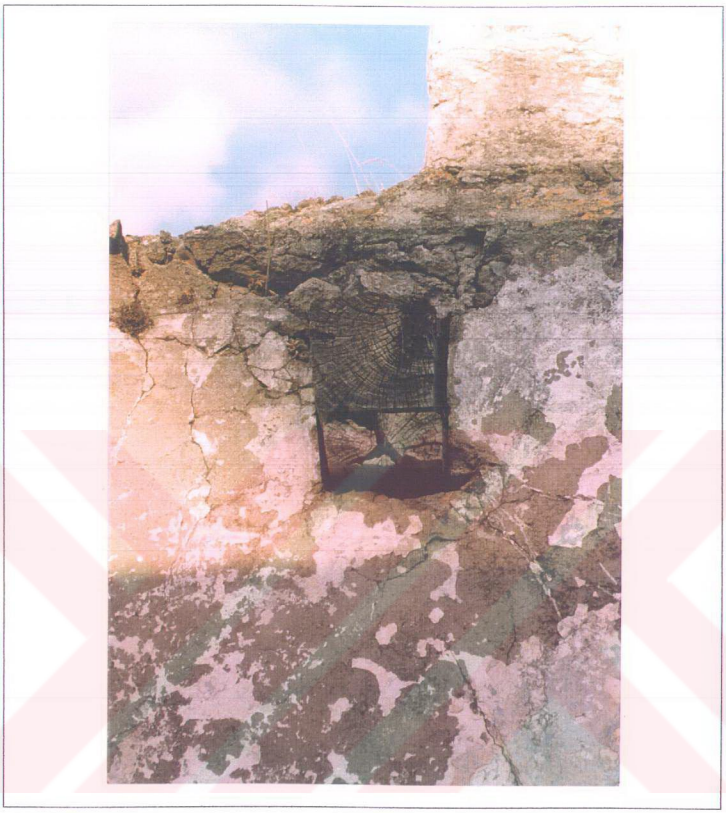


Figure 3.44 : Trace of the Main Beam of the Roof (D.11.10)

according to the footing stone that it based on. At the spaces having elevated floors, the wooden post had not been set up right in the middle of the space, but at the section where the flooring level changes. As for the spaces that do not have elevated floors, it is placed inside or near the wooden partition wall or wardrobe (i.e.E.6.24, E.6.16.A). The structure of

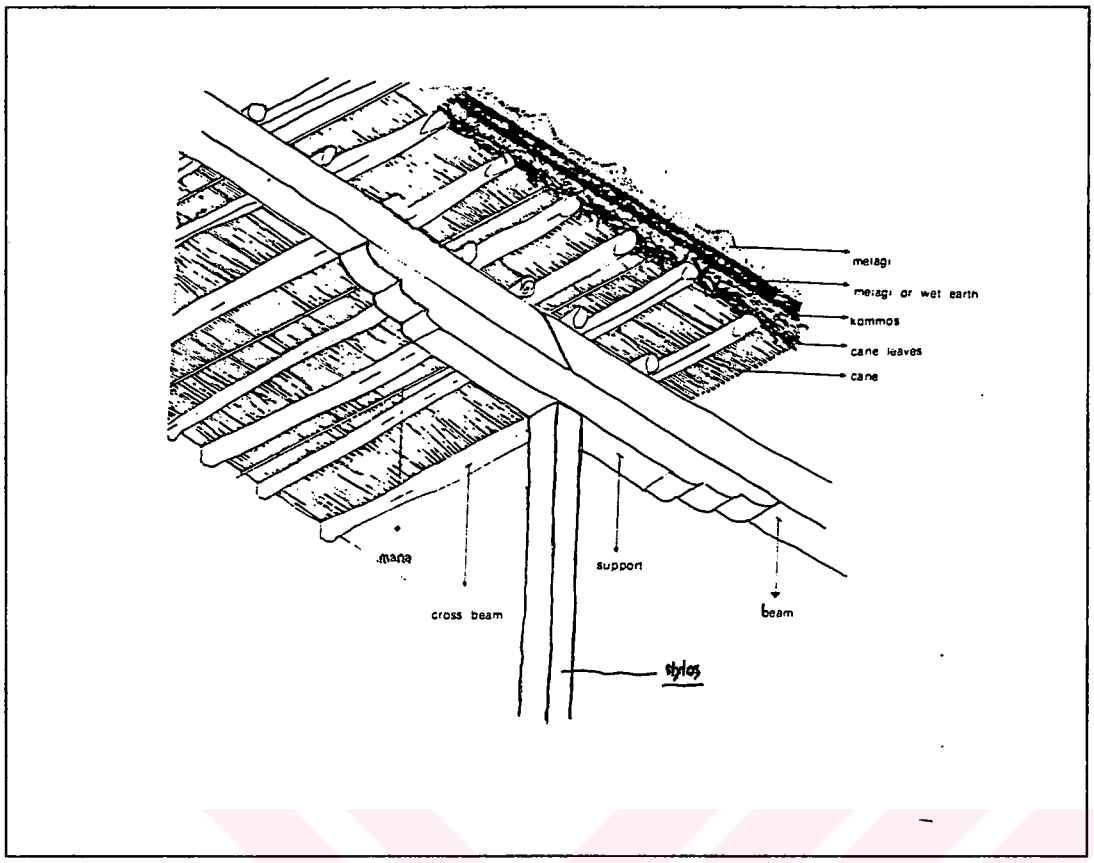


Figure 3.45 : Bearing Structure of the Roof in *Skyros*

(source: Arnaoutoglas(1984))

roof floor beams that are consisted of footing stone, wooden post, support elements, main beam and cross beams is exactly the same for the traditional houses of most of the Aegean Islands. *Skyros* (Arnaoutoglas, 1984:27-28), *Samothrace* (Kizis, 1991:21-24), *Karpathos* (Philippidies, 1985:14-18) are some of these islands. According to the definitions given by Arnaoutoglas and Kizis, the components of this system are named as follows at *Skyros* and *Karpathos*, which are parts of the vernacular architecture of the Aegean islands:

While the wooden post is called as "*stylos*" in both islands; support and balance elements are called as "*proskefali*" in *Skyros*, and as

"*papa(d)ouki*" in *Karpathos*. The main beam is called as "*korfari*" in *Skyros*, and as "*mesea*" in *Karpathos*. The cross beams located at the uppermost level is called as "*kontaria*" in *Skyros*, and as "*traes*" in *Karpathos*.

Arnaoutoglas(1984), defines this system as such:

> "*The stylos and the proskefali are of finely worked wood and are often carved, while the korfari is of thick, unworked wood with a cross section of approximately 20-25cm.*" (Figure 3.45)

This definition is also valid for the houses in Kaya Köyü, but these houses the main beam is also ornamented (i.e. E.6.16.A, E.6.24, F.8.27) Still having the original flat roof, the building coded E.6.23 demonstrates the construction system of the roof structure in Kaya Köyü. As it is seen in this house, the roof beams are covered with timber boards. Then to complete the roof structure, compressed earth was laid on top in the form of several layers. According to the parapet detail of the building coded D.3.15 (selected building for case study), the total thickness of these layers is about 15 to 20cm. The marble cylinders found in the site prove that these earthen layers were periodically maintained to prevent water penetration. One example of these marble cylinders can still be found on the roof of the building coded E.6.23 (see Figure 3.43). Decreasing towards the cisterns' side, a slight slope is observed on the roof by following the traces of the roof beams. The inner side of the roof parapet is rendered with a waterproof plaster, which is similar to the drain channels' and cisterns' plasters. A hypothetical drawing showing the details of the roof structure and its elements are given in the following sections.

3.3.3.3 Wall Cupboards:

Apart from the niches described above, niches in rectangular forms, which have bigger dimensions, are also widespread in the buildings within the study area. It has been determined that 23 (72%) of the 32 buildings within the sample area have these niches (figure: ground floors). These niches are about 60-70 cm wide, 120-150 cm high and about 30-35 cm deep. Depending on traces on these niches, it can be said that originally they had been covered with timber panels and they had shelves. They are generally located beside the corner type fire places. It is also possible to see similar niches, which have wooden shutters, wooden covers and shelves, next to the corner type fire places in the buildings that are currently in use (Figure 3.46).

3.3.3.4 Built-in Furniture: Partition Cupboards/Walls-Panels; Timber Boarding:

Traces at Kaya Köyü buildings reveal that these buildings had fixed built-in furniture, cupboards and wall-panels that had different features. Traces of the wooden elements which had been taken apart are still visible on the walls. These traces have been observed on the walls of almost all spaces at the buildings within the study area (Figure 3.47). These traces have been evaluated and tried to be defined on the basis of similar elements and information compiled after comparative studies.

It is common for Kaya Köyü houses that are currently in use that the walls of indoor spaces are covered with timber boarding. Widespread

Figure 3.46 : Wall Cupboard and Timber Boarding (E.6.16.A)

Figure 3.47 Traces Of Architectural Elements On Walls (D.8.3.A)

traces on the walls of typical main room with corner type fire place indicate that these walls had been covered with timber up to a certain level: i.e., above the door level. As for the typical main spaces that are also common for Kaya Köyü houses, it has been observed that the section that include the side with the entrance door, the wall cupboard and the fire place, as well as the section that starts from the fire place and includes the door type window had generally been covered with timber.

Traces of wooden shelves have been observed on the sections that had not been covered with timber. The prevalence of traces of wooden shelves indicates that all the walls of the typical main space had many shelves on them. This feature of Kaya Köyü buildings is also common for the region and the traditional housing architecture of the Aegean Islands. Holes that are about 5-10 cm have been observed at about 40-60 cm intervals under traces which are similar to a band and which are supposedly remains of shelves. These holes should have been braces on which the shelves had been placed.

Generally there is another trace on the middle of the typical main space, which is parallel to the short side and about 50-60 cm wide. This trace is at the same level with the elevated floor and the main post (*stylos*) that have been described above. The original partition cupboard at the upper floor of the house, which is currently in use and coded F.8.8, is the most important example for the definition of these types of traces (Figure 3.48). This partition cupboard, which has a door inside, divides the typical main space into two. This cupboard, which constitutes a visual barrier and which does not reach the ceiling, is about 2,30 meters high. On the side next to the corner type fireplace, there are closed and open cupboard spaces and *yüklük*, a large closet where the beds and cushions are kept. On the other side on which the door is not located is a cupboard with shutters. On the same side there is also a shelf that is 1.95 m high and lies from one end to the other. The partition cupboard, which is an entirely

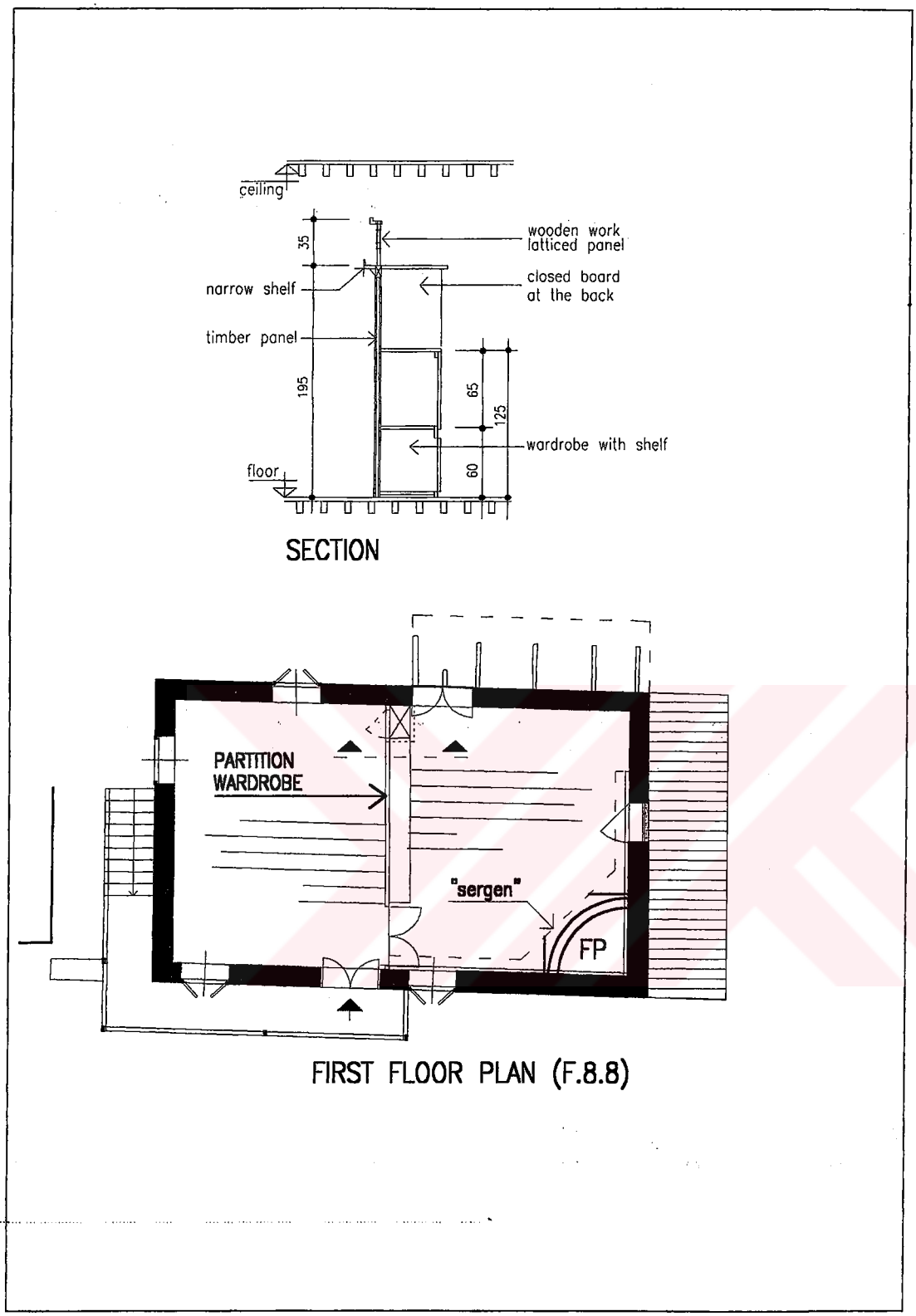


Figure 3.48 : Plan Scheme and the Partition Wardrobe of F.8.8

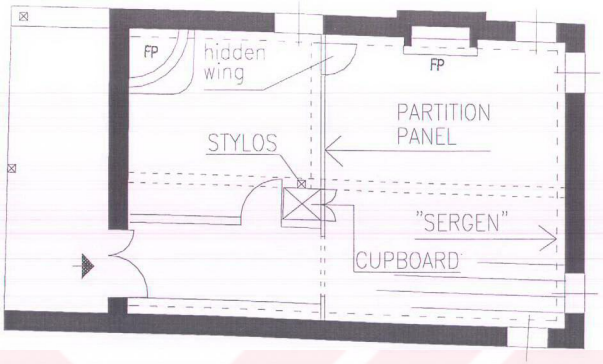
ornamented element, ends up at the highest level with an ornamented lattice panel that is about 35 cm high.

Dividing the main space into smaller sections with a timber partition wall and/or elements of partition is a feature that can also be observed at the traditional buildings of Kaya Köyü that are currently in use. The main space of the building coded E.6.24 has been divided into 3 small sections with timber partition elements(Figure 3.49). One of these spaces has corner type fireplace inside and a window, the other has wall type fireplace and numerous windows. The first section that is at the entrance is an entrance hall that connects the entrance with these spaces. However, the partition elements that have been used in this building are generally timber partition panels. Only at one certain section there is a cupboard with dimensions of 50x50 cm. The timber partition panels do not reach the ceiling. The partition walls end up with an ornamented lattice panel at the upper level. There is a shutter between the partition panels and the two divided sections. This shutter, which is between the section with the corner type fireplace and the one with the wall type fireplace and numerous windows, indicates the service relationship between the two sections.

The partition element of the building coded F.9.3 is also in the form of timber partition panel. There is no cupboard or a shutter on the panel. It has shelves on and a lattice at the upper side. These shelves merge with the set of open shelves in timber called *sergen* that are on the walls of the space which has the corner type fire place inside.

There is a similar partition panel in the building coded E.6.16.A. The below part of this panel had been destroyed completely, whereas the lattices at the upper level still exist. The lattice panel sets on a wooden beam that lies along the partition wall.

Traces of wooden partition wardrobes have been observed in 11 of the 33 buildings within the sample area (see Appendix B). However, this number does not include the timber partition panels. Determination of



GROUND FLOOR PLAN

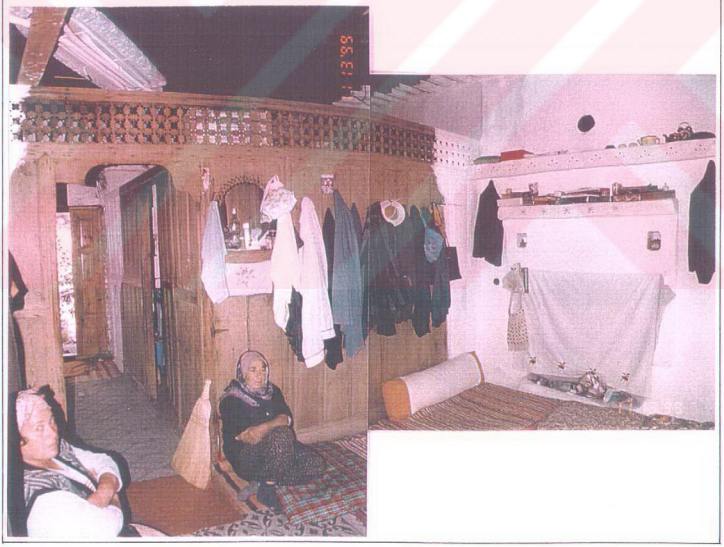


Figure 3.49 : Plan Scheme and the Partition Panel of E.6.24

traces of panels requires a detailed survey. The prevalence of the partition wardrobes can be seen at the database table that is given in Appendix A. Accordingly, traces of these elements have been observed in 408 (76,80%) of 531 buildings, which have been surveyed with respect to the partition wardrobes. It is also a feature of the traditional housing architecture of Aegean islands to divide the main space with timber partition panels and wardrobes. In his description of the traditional housing architecture of *Samos* Island, Papaioannou (1984) lists examples of partition elements and wardrobes (Figure 3.50)

Although the door wings on partition panels are rectangular, the upper side of door space had been formed with a profiled timber panel. This type of door is also used for similar door spaces of the buildings at Aegean islands.

Another element of Kaya Köyü buildings, which can be identified on the basis of its position and traces, is a timber bench, which is called "*pangos*" in Greek. In his account of the traditional housing architecture of the Aegean island *Karpathos*, Phillippides (1985) defines "*pangos*" as fixed furniture that has been designed for important guests (Figure 3.51). This bench, which is right at the entrance of the main space, has an arm rest on the one side and a space that is suitable for keeping cereals and similar stuff under it. The traces, which have been determined on the wall after the "*pabuçluk*" at the entrance of the main space is, conform to the definition given by Phillippides. Unfortunately, such an element could not be found out in the buildings of Kaya Köyü that are currently in use.

Another traditional wardrobe element, which has been placed, separate or within the partition wardrobe is also common for the currently inhabited buildings of Kaya Köyü. This wardrobe with dimensions of about 50x50 cm and height of 2 m, which has been built in accordance with the heights of partition walls or *sergen* at the space, is composed of 3 main parts. At the lower part is a section with a shutter, at the middle is a drawer,

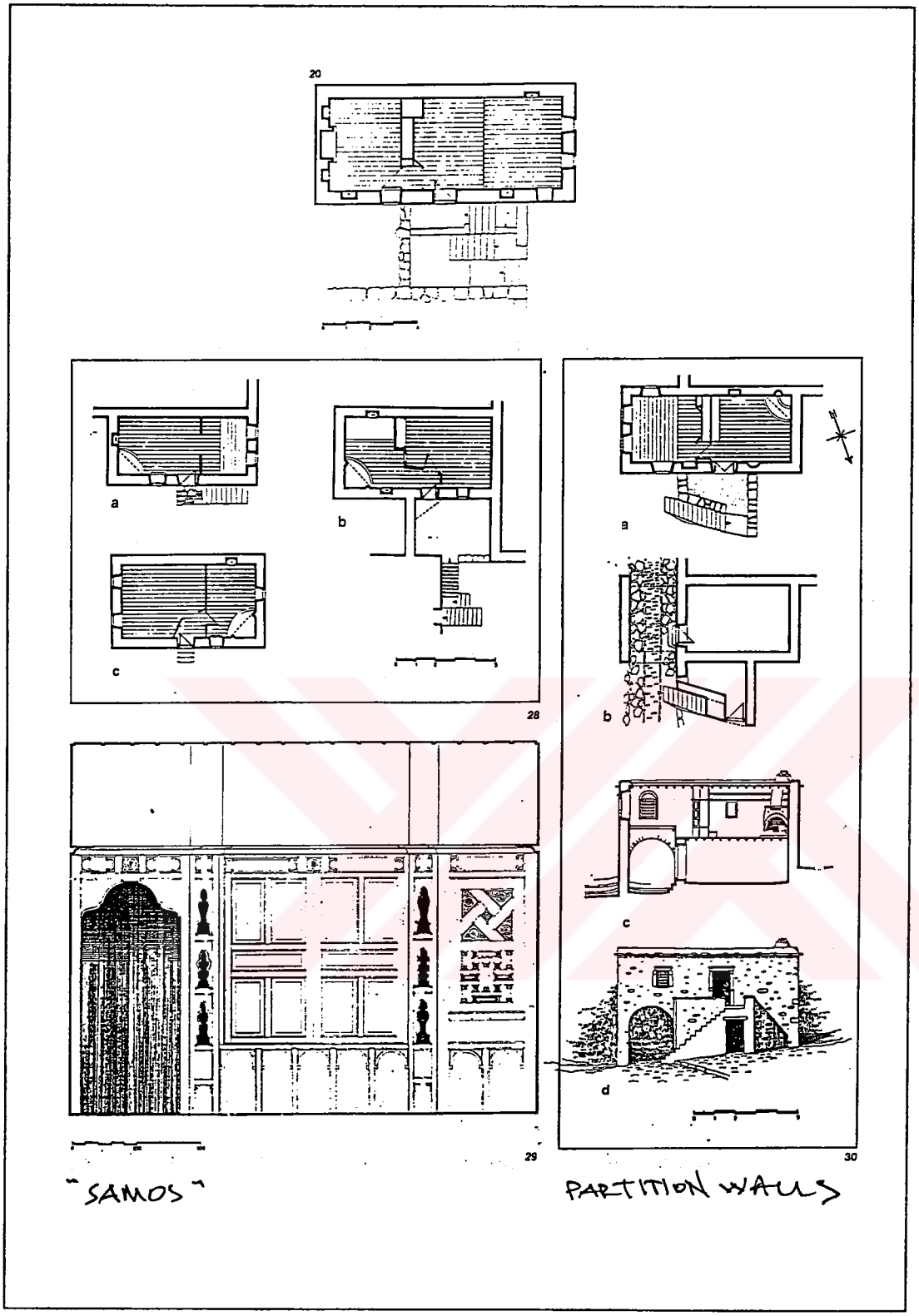
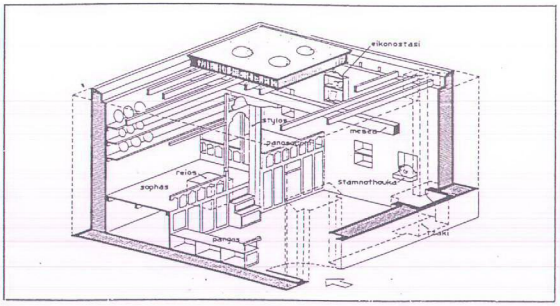


Figure 3.50 : The Partition Walls and Wardrobes in *Samos* Island
(source: Papaionanou (1984))



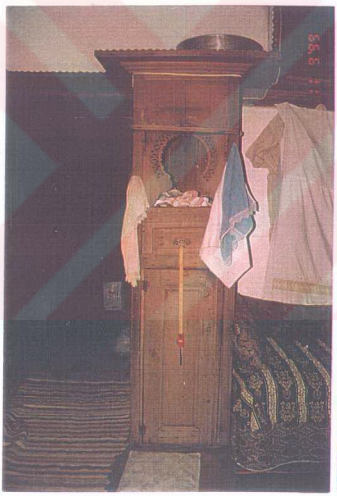


Figure 3.51 : Typical *Karpathos* Island House Including the "*Pangos*"

Figure 3.52 : A Typical Wardrobe of Kaya Köyü Houses (F.9.3, F.10.9)

and at the upper part is an ornamented arch, which is open (Figure 3.52). This element might have also been widely used at the abandoned buildings, yet no trace of this element has been observed in the buildings that have been examined. It is most probable that this element had been placed inside or next to the timber boarding on the wall or partition wall/wardrobe.

In the building coded F.8.7 which is currently inhabited, a *gusulhane* - the small niche recession in the rooms used for bathing facilities - has been determined inside the wardrobe at the corner of the main space. It is not known whether the *gusulhane* of this building, which has been used after the exchange of population, is an original one or not. It leads us to consider that this *gusulhane* had been made after the exchange of population as Uncle Nicolas, who gave an account of the daily life of Kaya Köyü before the exchange of population (Galata Bülteni, 94/1), related that "people had been washed in basins at anywhere within the building," and there is no other example of it.

The last trace, which will be described here, is generally at the elevated section above the partition cupboard and panel and is about 60-80 cm high and 50-60 cm wide. No element of the currently inhabited buildings of Kaya Köyü reminds or can be associated with that trace. While talking about the traditional houses of *Samos*, Papaioannou (1984) remarks on wardrobes similar to *yüklük*, which are at the elevated sleeping spaces that are called "*soupha*" in Greek and in which beds had been kept during the daytime after the sleep. These traces, which have been defined with respect to location and form, might belong to a fixed *yüklük* (closet, cupboard where the beds and cushions are kept), which had been used for this purpose (see Figure 3.41).

In connection with the fixed wooden furniture of Kaya Köyü buildings, original examples that are extant in currently inhabited buildings should be documented in details, a literature survey should be made and a

Figure 3.53 : Ornamentations on Interior Walls

comparative study should be carried out for a better description of these elements. Information that has been compiled for the sections up to here and the evaluations given in Chapter 4 have been employed in order to describe the original spaces of Kaya Köyü buildings and their functions.

Ornaments in the form of relief have been observed on the walls of indoor spaces. It has been considered that they had been formed with a profiled element before the plaster dried. Please see Appendix A for the list of the buildings that have these ornaments. In addition to their decorative use, these ornaments are also important with respect to the meaning they symbolize. These motives should be evaluated and defined by experts (Figure 3.53).

3.3.4. Construction Technique and Materials

Because of the peculiar status of Kaya Köyü buildings, evaluation on construction techniques and materials have been made after comparing them with similar buildings, and definite descriptions have been produced in this way. As the wooden elements had been destroyed almost completely and as the buildings had lost their structural unity (see table: 3.6), architectural elements and traces that have been described above have been used as data while composing this section.

The monumental buildings, which require separate evaluations although they have certain common characteristics with other buildings, have been excluded from this section because of the method of the thesis. Other buildings, which have great similarities with respect to the construction techniques and materials, are the main subjects of this section.

Apart from partial differences that have been observed at certain buildings, the main construction material of Kaya Köyü buildings is stone and the main construction technique is rubble stone masonry. It has been determined that rough-cut corner stones had been used in certain buildings, especially at the corners where the height of building increases because of the slope. However, this is not a systematical practice that had been applied for all of the buildings.

Kaya native Mehmet Gökçe has expressed that rough-cut corner stones had been removed from sections of *Kayaçukuru* that are close to *Kınalı* settlement, nearby an area which is called "the lake"[1] by the local people.[2] Dimensions of rubble stones that had been used in buildings vary. The use of wood is not common in the rubble stone masonry, except for the window and door openings. Wooden beams have been observed within the rubble stonewalls in a small number of buildings.

In the construction of rough stone masonry, mortar is used as binding material. According to verbal and written sources, this mortar had been simply made of lime, sand and water. No specific examination other than the visual survey has been carried out as to the mortar in the course of this study.

The sand that is used in the mortar has been obtained from certain sand quarries and it is called "*kara kum*" or "*dargilli*" in Turkish by the local people and referred to as "*argilo*" sand in the written sources. It is taken out mainly from holes and cavities of various sizes within "*Stumbo çukuru*" region and certain areas within the settlement. Very small sand quarries have also been observed on the backyard of certain buildings. It has been stated that the mortar, which has been produced by processing this special sand with lime and water at a certain proportion, is a very strong binding material. It is extremely important that the characteristics of this sand and mortar should be determined at a laboratory before starting any restoration activity in the region.

Façade textures of Kaya Köyü buildings had generally been applied plaster although ravaged by time. Internal surfaces had been plastered entirely. That is to say, the use of plaster is a common feature in Kaya Köyü.

Although no laboratory analysis has been conducted, it has been observed that lime, "*argilo*" sand and water had been used in producing the plaster. Visual analysis has revealed that small brick aggregates had been added to the plaster, although the basic material is the same, at certain occasions depending on the location. It can be seen that the plaster with brick aggregates had been used at spaces and areas such as cisterns, drain channels, parapets, etc, which require waterproofing.

The buildings can be divided into groups with respect to the application techniques of the plasters and their texture (Figure 3.54). Within this framework 179 buildings were studied. Main groups can be listed as follows:

1. Unplastered surfaces (6,70%)
   - 1.a. with pointing
   - 1.b. without pointing
2. Fine plastered surfaces (4,47%)
   - 2.a. colored
   - 2.b. false cut-stone
3. Rough plastered surfaces (70,95%)
   - 3.a. rough waved
   - 3.b. nailed
4. Surfaces textured with small pieces of tiles (6,15%)
   - 4.a. only in joints
   - 4.b. entire surface

The use of different plaster textures on the same façade or on the different facades of the same building is common feature. For this reason,

Figure 3.54 : Facade Textures by Using Nailing (*çivileme*) Technique

the most common plaster type used on the main façades of the buildings has been taken as the basis in evaluation of plasters.

Another common façade characteristics observed in Kaya Köyü buildings is the application of plasters in the form of horizontal strips (Figure 3.55). Especially the parapet plasters vary in a way that can be observed by looking at the surface from the front façade. The variations in color and texture of the plasters show that they were applied at different periods of time.

The site survey reveals that the most common type applied on Kaya Köyü buildings is the rough plaster which is also observed on the surfaces where the fine plaster had cracked (including the entrances and the indoor

Figure 3.55 : Horizontal Strips of Plaster on Facade

spaces). The common use of rough plaster with patterns made by some hand tools like trowel –called as "*çivileme*" in Turkish- is probably not only an aesthetic choice but also a functional one. This pattern is used to obtain a rough surface on which the fine plaster can easily be applied.

202 buildings have been surveyed with respect to the application of plaster at indoor spaces, and it has been determined that fine plaster and dye had been applied on rough plaster at 191 (94,55%) buildings. Rough plaster has been observed even under the timber boarding. The most prevalent colors that had been used in dyeing indoor spaces are blue (46.76%) and yellow (43.98). However, it has also been considered that the color that has been defined as yellow could in fact been white wash, which had been discolored because of the sun and rain.

Observations on the façade textures reveal that façades of most of the buildings (92,39%) had not been dyed. On the other hand, surroundings of window openings had been whitewashed at almost all of the buildings. In addition, entrance façades, semi-open entrance spaces and terraces (*hayat*), in other words all the surfaces of the spaces where the daily life continued, had almost been dyed up to an available level. White had been used for this purpose. On the façades where dye had been applied over fine plaster, yellow, tile red, etc. had generally been preferred. At this type of buildings, it can also be seen that motives had been made on the dye.

Information compiled via comparative study has also been employed to a great extent while determining the façade elements of Kaya Köyü buildings. In some buildings, stone slabs, which are 30-40 cm wide, have been observed near the window openings (Figure 3.56). Kartas (1984), defines this elements as such:

> *"... In each house there are one or two skalounia, stone slabs planted in the wall of the courtyard or the steadi (about 2m. from the ground) or even on the balconies right and left of the door or the windows. These skalounia are used on summer nights to hold food, mainly milk, so it will not go of..."*

Figure 3.56 : *Skalouina* (E.4.1)

Another figure, which has been widely observed, is ornaments on the window lentos. Some of them had been made with plaster. The motive is generally in the form of a cross. In addition, there are motives that had been made with pieces of tiles and bricks and evidently during the construction of stonewalls. These motives are generally in the form of a triangle, yet there are also round or arched ones (Figure 3.57).

Chamfered corners, most probably for easing the flow of street, have been observed in a small number of buildings. The chamfered corner of the building coded D.7.27 is the quite notable.

In a few buildings, especially over the entrance doors of basement floors, plaster remains of a rain shield for the protection of door opening

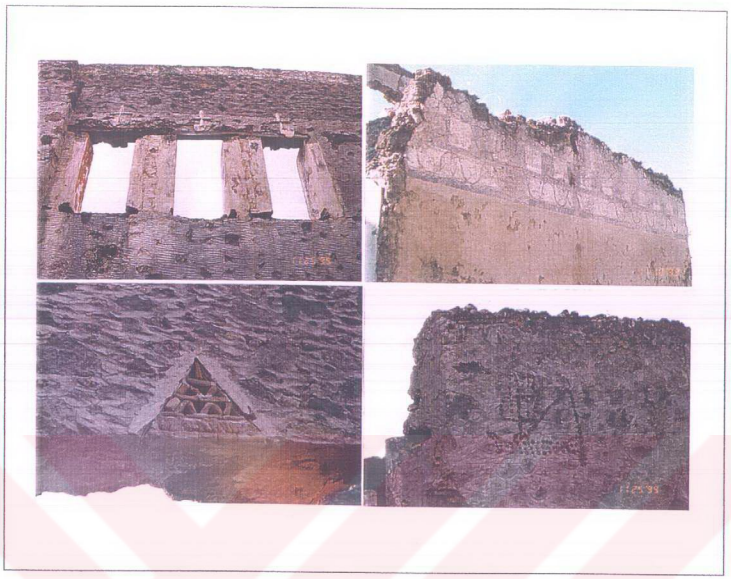


Figure 3.57 : Articulations on Facades

from the rain have been observed, as its probably wooden elements had been destroyed.

Information on traces of floor and ceiling systems of the buildings and evaluations about them has been stated in Section 3.3.3 above. There is no other detailed information as to the floors and ceilings that can be mentioned in this section. For this reason, evaluations on the original flooring system of the buildings will be given in Chapter 4.

Endnotes:

[1] Because of the geological and hydrological characteristics of *Kayaçukuru*, this region turns into a bog when the underground water rises seasonally. For a detailed account of this subject, please see Sönmez, M. Remzi (1999). "Fethiye-Kayaçukuru Nazım ve Uygulama İmar Planı Araştırması", T.C. Çevre Bakanlığı Özel Çevre Koruma Kurumu Başkanlığı, unpublished.

[2] The same source relates that a Greek from Kaya Köyü settlement had undertook the work of carrying these stones to Kaya Köyü, and he had many mules for this job. This information is valuable with respect to the construction techniques and materials of Kaya Köyü buildings, but also with respect to the spatial evaluations and social life in Kaya Köyü.

CHAPTER 4

GENERAL EVALUATION OF THE BUILDINGS AND THE SITE

In this chapter, assessment and the buildings of Kaya Köyü as a whole will be given on the basis of information, comparative studies and pre-evaluations presented in Chapter 3. As the method of this chapter, evaluations of individual buildings will be presented first and then, basing on these evaluations, problems and values of the environment will be defined.

4.1. Evaluation of Construction Technique and Construction Process in Kaya Köyü

Descriptions on the construction material and techniques used in Kaya Köyü have been given in detail in Chapter 3.3.4. This section aims at making assessments and giving definitions of the original characteristics, after making a summary of the construction technique of Kaya Köyü buildings with reference to the definitions listed in previous chapters. Parallel to this, in the light of the above-established data, the evaluations, interpretations and a set of propositions developed by the writer about the construction process of Kaya Köyü houses are given with the help of some illustrations.

4.1.1. Evaluation of Construction Technique of Buildings in Kaya Köyü

Characteristics of construction technique of Kaya Köyü buildings can be defined briefly as follows: Kaya Köyü buildings had been constructed with rubble stone masonry. The hillside buildings, which set on a rocky ground, do not have foundation and in many buildings, rocks on the ground constitute a component of the space.

Floorings had been constructed with timber floorboards that had been set on timber floor beams. Only the floor beams had been used in spans of small-size spaces; whereas a rubble stonewall which is about 40cm wide had been erected up to the lower part of the floor beams in order to support them at broader spaces. This wall had been designed in accordance with the levels of the flooring, if floor level differences had been planned. Such a flooring support wall and beams can be seen at the basement floor of the building E.6.24 which is currently in use (see Figure 3.30). This wall lies from one end to the other in many of the buildings. Yet, it can also be partial with respect to the spatial requirements, especially if the basement floor is high. Some of the buildings, especially those that do not have an elevated floor, do not have floorings support walls. Traces indicate that large timber beams had been used in these buildings instead of the flooring support walls. Some other buildings do not have flooring support walls, and floor beams had been supported only with main beams and posts. These buildings should have been the ones of which the basement floors had been used more.

Timber partition walls or wardrobes, which had been constructed in indoor spaces and generally did not reach the ceiling, had been used in order to divide the spaces according to different functions.

Kaya Köyü buildings are generally flat roofed, except for a few cases. The roof covering material is generally earth. The spaces with short spans have singular roof beams that lie parallel to the short edge, whereas two pieces of beams that are supported with a main beam had been used at spaces with long spans. This main beam had been supported with a main post almost always (for details see chapter 3.3.2). The main post - *stylos*- element that supports the roof has also a symbolic importance in the cultures of Anatolia and Aegean Islands. Indeed, the motive of a tree that has been observed on the main post of the building coded F.8.7, which still have most of the original elements, should refer to a "life tree" as a symbolic expression.

Door and window openings had been formed with wooden lintels. Door casings and wings are also wooden. Windows have wooden shutters.

Façades of the buildings had been generally rendered. A pattern made by a nail or trowel had been common in rendering application. Indoor spaces, on the other hand, had been covered with fine plaster and whitewashed. Wooden wall coverings of spaces and use of wooden shelves and niches on the walls are typical features of Kaya Köyü buildings.

4.1.2. Evaluation of Construction Process of Buildings in Kaya Köyü

It is possible to make an assessment of the construction process of Kaya Köyü buildings on the basis of the information given and evaluations made above. Assessments and remarks of the writer, made particularly after an evaluation of the traces on the buildings, are given below in accompany of illustrative hypothetical sketches:

A number of holes, which are 15-20 cm wide, have been observed on the façades of most of Kaya Köyü buildings. These holes, which have been considered as a part of the construction process, are called "construction holes" in this study. This type of construction holes has been observed at 354 (88.06%) of the 402 buildings, which have been surveyed with this respect, whereas 48 (11.94%) of the buildings had no such traces. These holes continue at regular intervals at the same level and on a number of lines (photograph 4.4). Despite some exceptions, the distance between lines are about 1.5 m, and the intervals between the holes are about 2 m. The holes at the level of ground floor had generally been closed from the inside, whereas the ones at the level of basement floor had been kept open.

It has been considered that these holes are the construction holes of the wooden scaffoldings which had been used while building the rubble stone masonry walls, and they had the function of a scaffolding which had been raised as with the walls (Figure 4.1). The holes at the level of basement floors should have been kept open for ventilation. Keeping them closed just from the inside at the upper levels might indicate that they had been kept ready for the further repair work when deemed necessary.

It has been pointed out that application of different plasters, which have different colors and texture, on the same façade is a common feature of rendered façades. It has been observed that the difference in the application of plaster is parallel to the level of scaffolding on the façades, which have construction holes. This indicates that application of plaster had been carried out concurrently with the building of the wall, and that a plaster artisan had followed masonry artisan, if they were not the same person. As evidence supporting this argument, it has been observed at the buildings that had been left unfinished that walls, which had not been completed, had been plastered (Figure 4.2). It has been determined that the façades which do not have construction holes had been applied

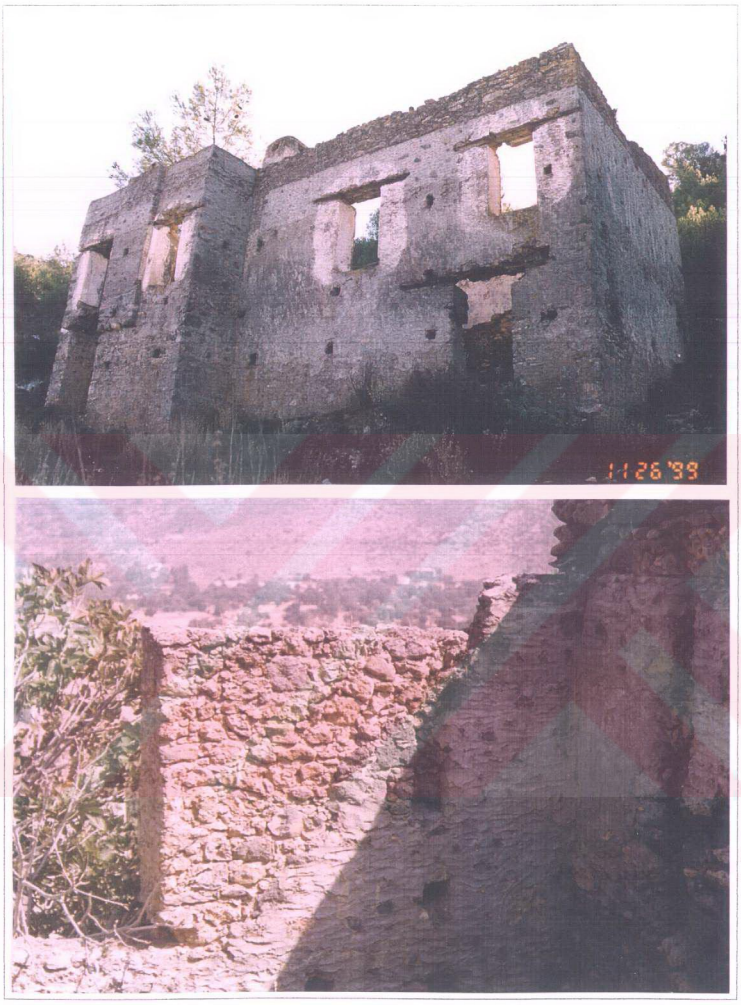


Figure 4.1: Construction Holes on the Main Facade (B.7.8)

Figure 4.2: Unfinished Plasterwork in an Unfinished Building

plasters in the form of horizontal strips, which differ in color and texture. This provides similar evidence regarding the pattern of walls and plasters, although the construction holes had been closed.

There are horizontal joints alongside some of the walls of certain buildings (Figure 4.3). These joints have not been observed of the walls of the buildings that had been normally built at once with rubble stone masonry, and they indicate that a particular wall had been built at different periods of time. Traces of this type of joints have been observed generally on the front façades and at the level of ground floor covering. Basing on these traces, it can be concluded that basement floor and the ground floor of these buildings had been constructed at different periods of time. The building coded C.3.4 can be shown as an example of this case. It has been observed this building has an unfinished space at the level of basement floor, in addition to the completed spaces, which had been in use (Figure 4.4).

From this point of view, it can be concluded that some of the buildings within the study area might have unfinished walls, roofs or floor coverings of some of them might be lacking, or they might be some spaces and buildings which had not been used although they seem completed. It has been determined that some of the buildings have unfinished spaces along with the completed ones which had been used.

For example, it has been observed in a building, which has an incomplete space that the other spaces have different layers of color. This situation indicates that the space had been dyed many times, thus it had been in use. Yet, it can also be said according to the layers of plaster and dye that there are also certain buildings, which had been constructed up to the ground level and then left unfinished, as well as those that had been almost completed but had never been used.

It is possible to conclude that Kaya Köyü, similar to any of the living provinces, had been a scene of different stages of construction activities

Figure 4.3: Horizontal Joints on Masonry Wall (E.9.7)

Figure 4.4:Unfinished Space up to Ground Level (C.3.4)

(new constructions, repairs) prior to the people exchange, but these buildings had been left unfinished because of the unexpected migration.

A total of 836 buildings have been examined in order to determine the stages of construction (table 4.1). 34(4,07 %) of these buildings, which are currently in use and which could have been subjected to interventions in time, have been excluded from this evaluation. 36 (4,31%) of the remaining buildings had not been completed and never been used. It has been determined that 121 (14,47%) buildings have spaces which had been used, in addition to the incomplete spaces. It seems that 645 (77,15%) buildings had been completed before the people exchange and all of their spaces had been used.

The following can be said after an evaluation of the traces on the sections where the external walls reach and end up at the roof level: Rubble stone external walls end up forming a flat level at the height of the roof girders. After the roof beams are placed on this level, parapet walls are built according to the spaces between them (figure 4.). In many of the buildings, the level of parapet wall is distinguished from the main façade with respect to the differing wall pattern. Indeed, it has been observed that parapet walls of many buildings had been demolished at this level, forming a flat level. These examples support the observation that walls and parapets had been built at different periods of the construction process.

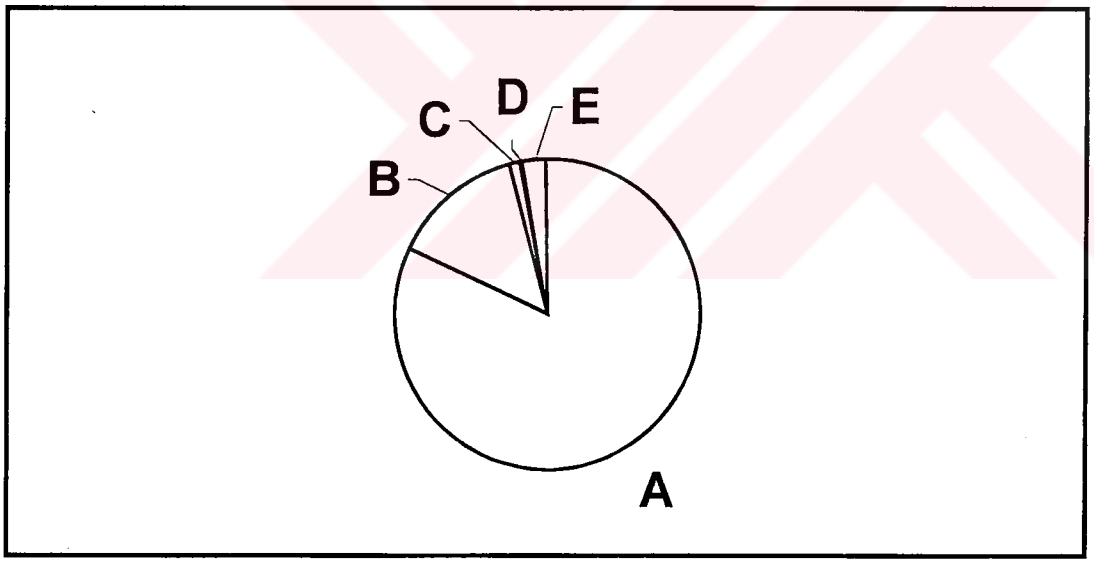
Information on the construction processes of corner and wall types of fireplaces, which are among the important architectural elements of Kaya Köyü buildings, has been given in Chapter 3.3.2. The followings assessments can be added to them, in line with the evaluation of the traces: In the buildings, hearthstones of both types of fireplaces should have been placed after the flooring had been constructed. The roof beams, which pierce into canopies, indicate that canopies had been built before the roof construction had been completed. It has also been included that chimneys had been built prior to the construction of the roof.

Table 4.1:. Stages of Construction Process

STAGES OF CONSTRUCTION

GROUP	DESCRIPTION	Quantity	Proportion
A	survey sheet is given with plan layout (and facades where necessary)	704	81,86%
B	checklist is given (documented by METU students)	119	13,84%
C	studied only from outside (could not be entered)	12	1,40%
D	detailed survey (for measured drawings)	1	0,12%
E	out of survey (monumental buildings)	24	2,79%
5	TOTAL	860	100,00%

number of units is studied under this title	860
number of units should be studied under this title	860
survey ratio	**100,00%**



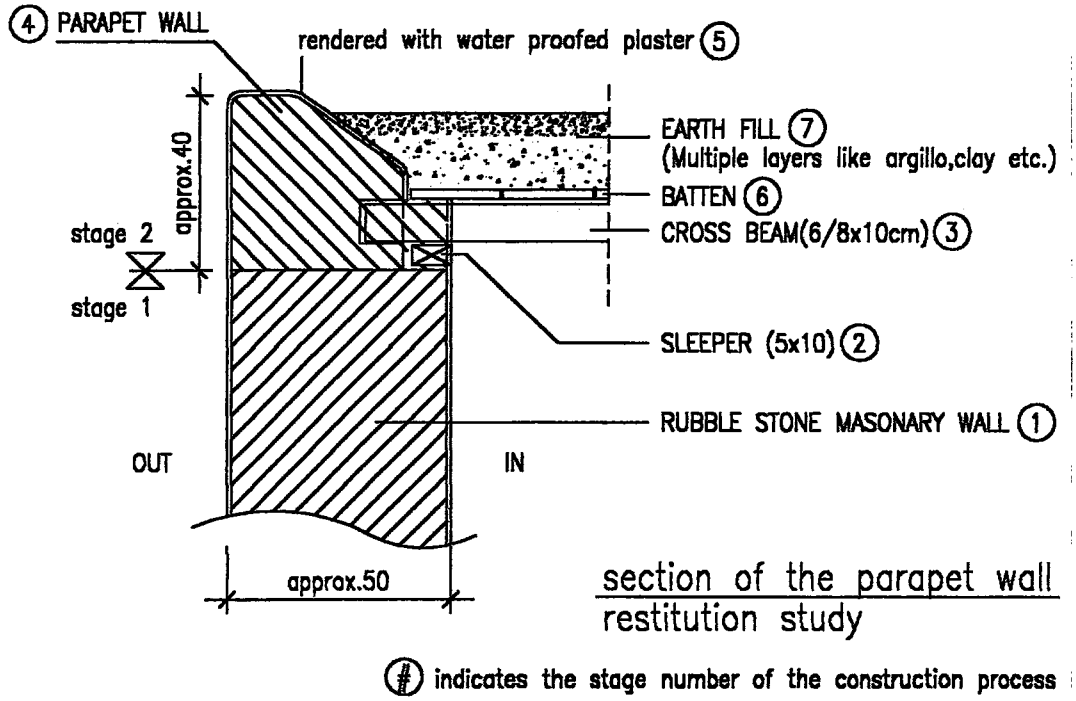


Figure 4.5: Construction Process of Parapet Wall

As mentioned before, roof coverings had been completed after the roof beams had been placed and parapet walls had been built (see Chapter 3.3.2). However, it should be noted that this was the process only for the flat roofed buildings. No detailed examinations have been carried out during this study with respect to the buildings that originally had tile covered gable and hip roofs.

An evaluation of traces of buildings leads us to conclude that door and window openings had been formed with wooden lintels, and frames, casings and wings had been affixed at a late stage of the construction process. In the same way, built-in furniture, partition cupboards and walls, timber wall paneling and shelves should have been built after the roof had been covered up at a later stage of construction.

When it is remembered that rough plaster had also been applied on the walls which had been behind the wooden elements, it can be said that

fine plastering, white washing and wall painting had been applied after all of the wooden elements had been completed at the latest stage of construction process.

Cisterns, toilets and courtyard walls have no interlocking connection with the walls of the buildings. This situation demonstrates that other parts and walls had been constructed after the construction of the main building had been completed. Thus, as stated above in details, the pattern of these walls and the mortar and plaster applied on them are different.

These assessments on the construction process of Kaya Köyü buildings have been illustrated in Figure 4.6, the sketch of a building that has a typical main space.

4.2. Evaluation of Spatial Characteristics of Kaya Köyü Houses

This section aims at defining spatial and architectural characteristics of a Kaya Köyü House, in the light of the descriptions of spaces, architectural elements and traces given in Chapter 3 and the assessments made in Chapter 4.1. To this end, assessments have been made after a discussion of space, building and plot respectively. As a method, information given at various stages previously has been reevaluated with the aim of defining the original characteristics of the buildings, these evaluations have been developed after making the comparisons with similar examples and they have been presented in subsections.

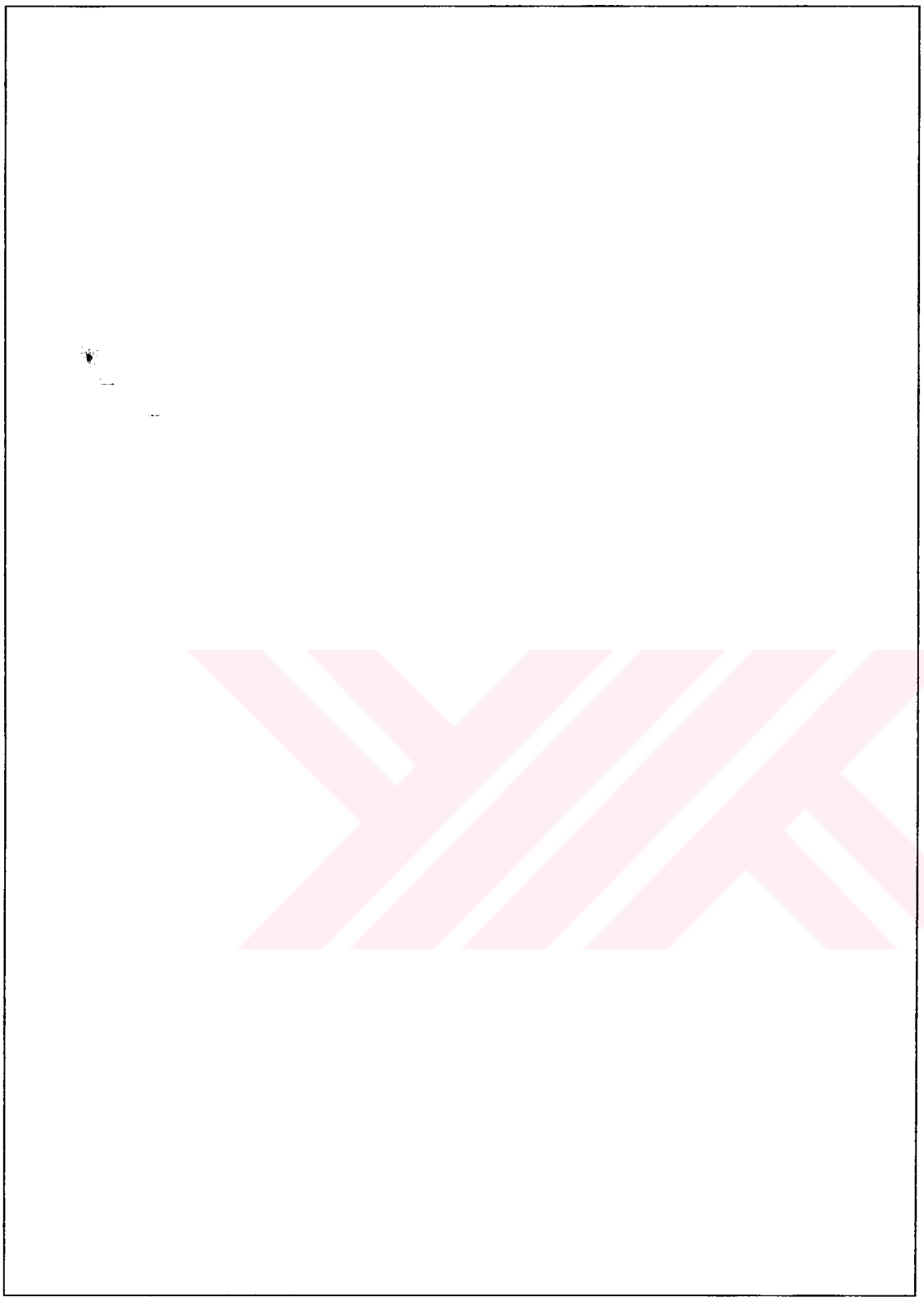
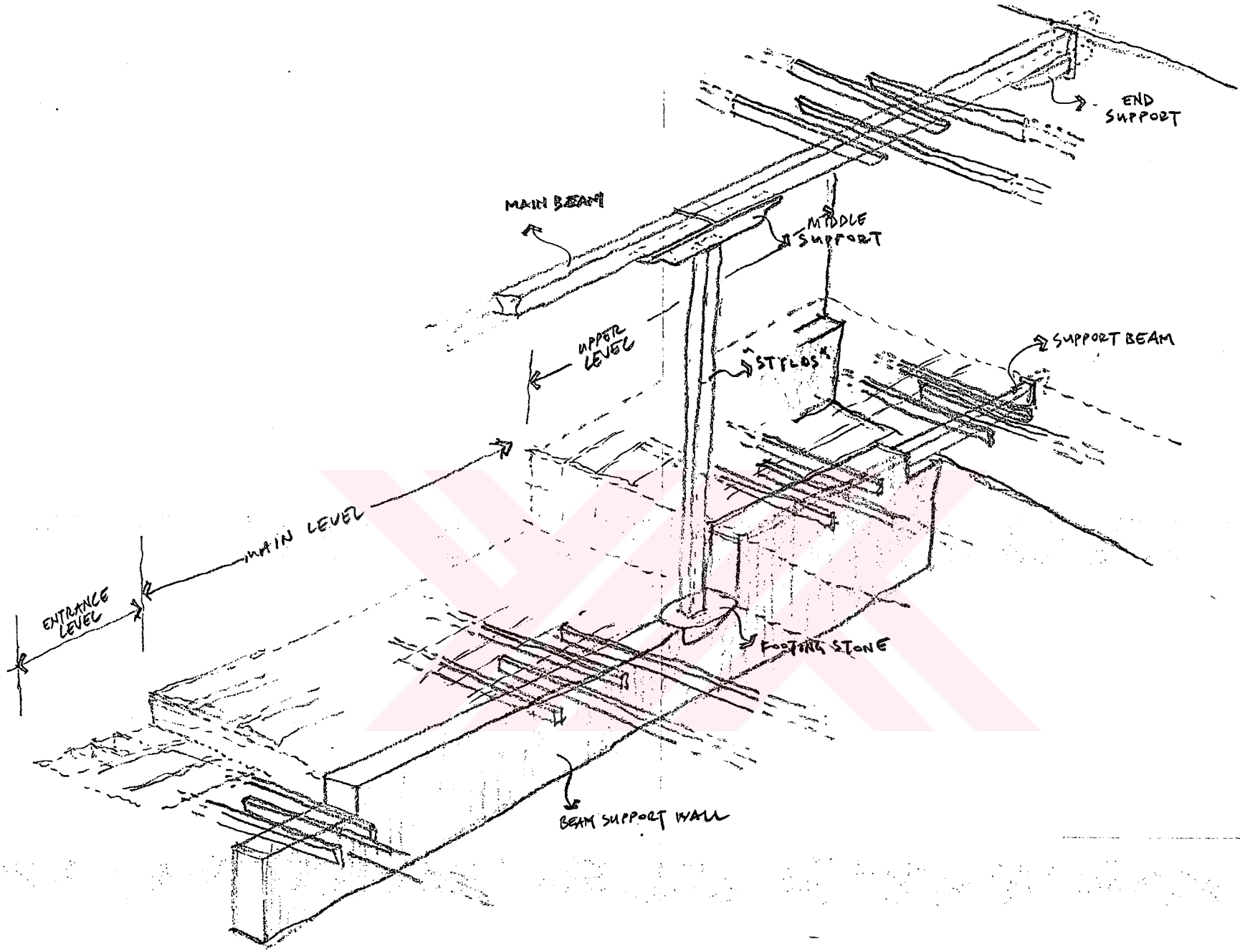
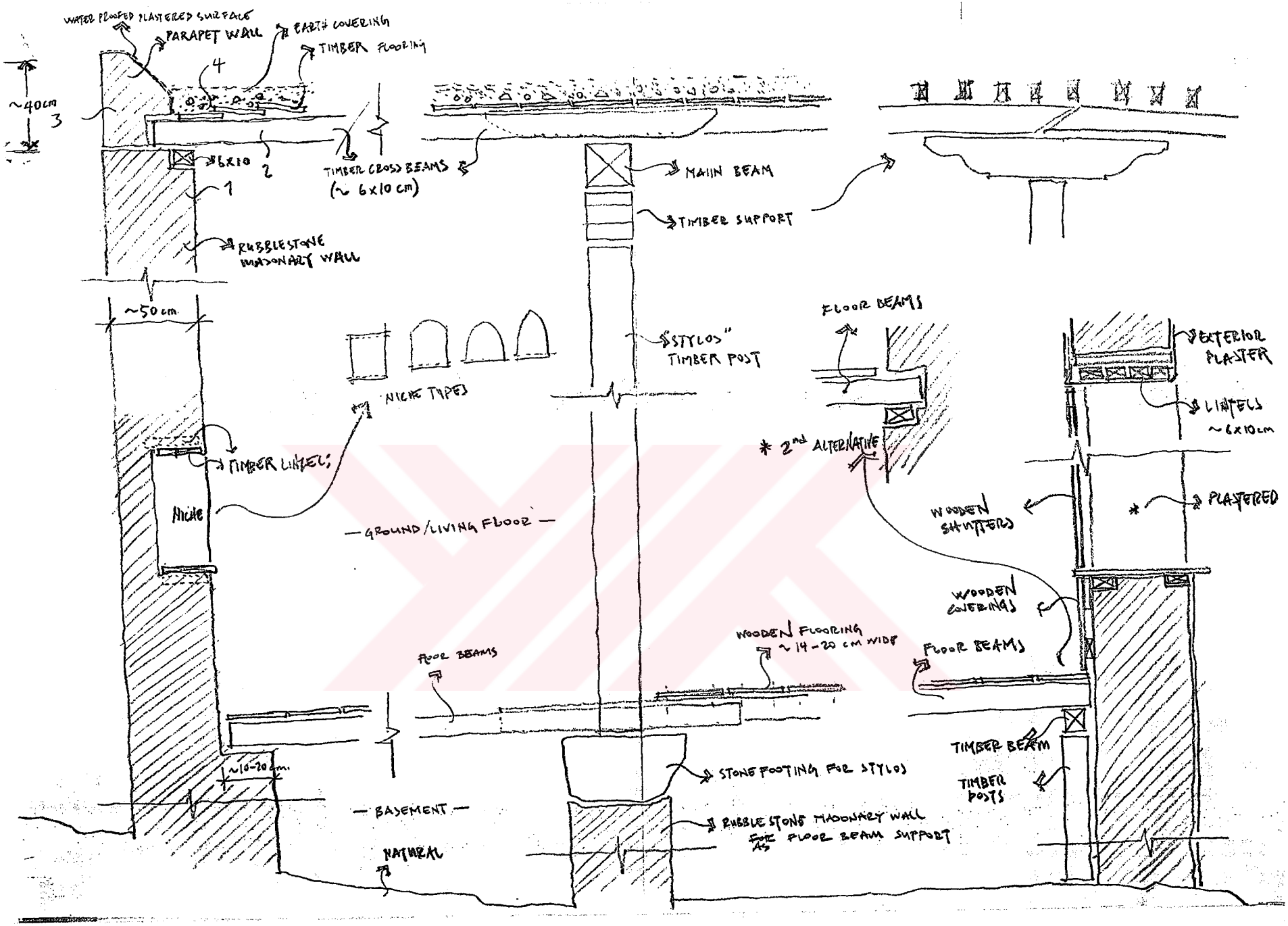


Figure 4.6:. Hypotetical Sketches of a Construction (drawn by H. Saraç)


END SUPPORT
MAIN BEAM
MIDDLE SUPPORT
UPPER LEVEL
STEPS
SUPPORT BEAM
MAIN LEVEL
ENTRANCE LEVEL
FOOTING STONE
BEAM SUPPORT WALL


WATER PROOFED PLASTERED SURFACE
PARAPET WALL
EARTH COVERING
TIMBER FLOORING
~40cm
3
4
6x10
2
1
TIMBER CROSS BEAMS (~ 6x10 cm)
RUBBLESTONE MASONARY WALL
~50 cm
MAIN BEAM
TIMBER SUPPORT
"STYLOS" TIMBER POST
NICHE TYPES
TIMBER LINTEL
Niche
— GROUND / LIVING FLOOR —
FLOOR BEAMS
* 2nd ALTERNATIVE
EXTERIOR PLASTER
LINTELS ~6x10cm
WOODEN SHUTTERS
* PLASTERED
WOODEN COVERING
WOODEN FLOORING ~ 14 - 20 cm WIDE
FLOOR BEAMS
TIMBER BEAM
TIMBER POSTS
floor BEAMS
~10-20 cm
STONE FOOTING FOR STYLOS
— BASEMENT —
RUBBLE STONE MASONARY WALL FOR FLOOR BEAM SUPPORT
NATURAL

4.2.1. Spaces Forming Kaya Köyü House:

Spaces that constitute a Kaya Köyü House can be classified in 3 main groups as closed spaces, semi-open spaces and open spaces.

The characteristics of identifiable closed spaces such as cisterns, toilets and basement floor service spaces of Kaya Köyü buildings, which are generally consisted of a basement floor and a ground floor, have been presented in details in Chapter 3.3.1. In the same chapter, closed spaces which are located in the basement floor but the original functions of which could not be determined, as they have been destroyed, have been grouped as unidentifiable spaces. This section will particularly focus on the characteristics of these unidentifiable spaces and try to produce descriptions regarding their original forms.

Thus, it is necessary to emphasize in the first place that spaces which have been defined as "closed spaces" in this thesis refer to the elements which had been built apparently via rubble stone masonry. Detailed descriptions of this type of closed spaces, such as cisterns, toilets, basement floor service elements, are not repeated here, but characteristics of closed spaces, which have been formerly defined as "unidentifiable spaces", are given.

Within this frame, spaces which are given and defined as "closed spaces" in this section consist of single spaces divided by timber partition walls and/or cupboards, which had been built by rubble stone masonry, and again single spaces which had been built by rubble stone masonry. As the wooden elements of Kaya Köyü buildings had been destroyed, it is possible to determine the divided spaces on the basis of traces on the wall. These elements are timber partition walls or cupboards, which do not reach the ceiling (see Chapter 3.3.3.).

Within this frame, "closed spaces" which are at the ground floor, the main living floor of Kaya Köyü buildings, and evaluations on architectural characteristics of which will given in this section, are named as follows:

- Characteristic main room,
- Secondary living room,
- Divided single space with partitions,
- Previously identified spaces toilets, cisterns, basement floor service spaces (auxiliaries and workshops)
- Shops

Spaces which are at the ground floor of Kaya Köyü buildings, which had been built by rubble stone masonry, upper side of which had been covered and which have one or more than one open sides are defined as "Semi Open Spaces". These spaces, evaluations on architectural characteristics of which will given in this section, are named as follows:

- Entrance spaces,
- *Hayat*,

Spaces that are not among the closed or semi-open spaces that constitute the main building, and which are inside the courtyard walls that define the building as a unit, are defined as "Open Spaces." These are:

- Courtyards and gardens

4.2.1.1. Closed Spaces:

a) **Characteristic main room:** It is the living space, which is very common for Kaya Köyü buildings. This space, which is in the rectangular form, has been defined as " characteristic main room" in this thesis. Characteristic main room has been determined in 584 (82,37%) of the 702 buildings, which have been examined with respect to this space. Characteristic main room has quite well defined dimensions as an important characteristic. 22 of the characteristic main rooms have been measured. Accordingly, the width of this room is between 4,10 - 4,60 m and the length is between 5,70 m - 6,90 m.[1] The average area of the room is 27,41 m^2. The height of the room differs, depending on the levels of the flooring. It is about 2,40-2,70 m high at low sections and about 2,50-2,80 m high at higher sections. The architectural elements of this space, such as *pabuçluk*, fireplace, levels of floorings, built-in furniture, have been defined in Chapter 3.3. previously. The spatial characteristics of this room are given below.

Entrance of the room, which is in the form of a rectangle, is from the corner of the short edge. Generally the *pabuçluk* space is at the entrance. At the other corner of the edge, which has the entrance door, there is a corner type fireplace. It is common that there lies a cupboard, which has shutters and shelves, between the door and the fireplace. The level of the main flooring where the fireplace is located is about 15-20 cm above the level of *pabuçluk*. This area, which has corner type fireplace and a cupboard with shutters, must be the equivalent of the living space that is named *parastia* in the vernacular housing architecture of Aegean Islands. Papaioannou (1984) defines *parastia* as the multi-functional living space that is used as kitchen, dining room and daily room. He continues stating that *parastia* generally has corner type fire place inside, but wall type fire

places are also seen but rare in these spaces. Özcan (1994), in his definition of *monospito* type of houses, which have single space, at *Dodecanese*, states that the wall type fire place in a similar room has been defined as *parastia* in the standard *monospito* plan.

Next to the corner type fireplace, there is a "door type window" at the long edge of the room. It has been determined that some of the buildings have traces which might indicate that there had been balconies outside these openings. It is a common feature that the wall with the entrance and the fireplace had been covered with timber panels up to the level of door type window. Next to *pabuçluk* is the seating bench *pangos*, which had been fixed on the wall.

On the edge of the characteristic main room facing the entrance there are elevated floor and *krevvatos*. Özcan (1994) defines *krevvatos* as "*the sleeping space, which is higher than the rest of the room.*" This type of elevated spaces, which are also named as *soupha* in vernacular housing architecture of Aegean Islands, are quite important characteristics (see Chapter 3.3.3).

Krevvatos has been separated from *parastia* with a partition cupboard or panel. These partition elements are important elements of characteristic main rooms. The main post -*stylos*- that supports the roof is at the same level with this partition element. The partition element, i.e. *krevvatos*, defines the position of *stylos*. *Yüklük*, which is in *krevvatos* space, is the place where cushions and beds had been kept during the daytime.

The long edge of the characteristic main room at the side of the entrance door is solid. There is no opening on it. Shelves had been placed on this wall, except for the sections that have *pangos*, partition element and *yüklük*. The short facing the entrance are either blind or they have a door type window similar to the one on the long edge at the corner with the long edge. Within the sample area, this type of windows has been

observed in 12 (57,14%) of the 21 characteristic main rooms. In some of the buildings, niches with water drainage holes have been observed in front of this window. In some other buildings, windows had been closed with walls and turned into niches with water drainage holes. Another type of window that can be seen at the same façade is crenel type openings. There are generally two of these openings at the upper level close to the ceiling and on the both sides of the main roof beam. The other long side, which facade views the landscape, is the main façade of the building. There are generally 2 openings on this side: door type window at *parastia* and normal window at *krevvatos*.

According to the descriptions given above as to its elements, it can be seen that the characteristic main room is a space which generally has a corner type fire place, is divided into two sections with a partition cupboard or a panel, has a sleeping section which is elevated with regards to the living section, and dimensions of which is about 4.50x6.50m (Figure 4.7).

b) Secondary living room: In Kaya Köyü houses, the most prevalent space after the characteristic main room is the "secondary living room", which generally exists along with the characteristic main room. This room, which is entered from the entrance space, had always been constructed next to the short side of the characteristic main room[2] It has been observed in some buildings that the original entrance door of the secondary living room, which is at the semi-open entrance space, had been taken outside had been extended towards outside. Such alterations are described in details in Chapter 4.2.4. The dimensions of the secondary living room are always smaller than the dimensions of the characteristic main room. The secondary living room may have two different geometrical forms. The first group has the shape of almost a square and juts out from the line of the characteristic main room of the front façade of the building. Dimensions of this type of spaces are about 3,5-4,0 m. Excluding a few buildings and alterations, there is a wall type fireplace at the middle of the

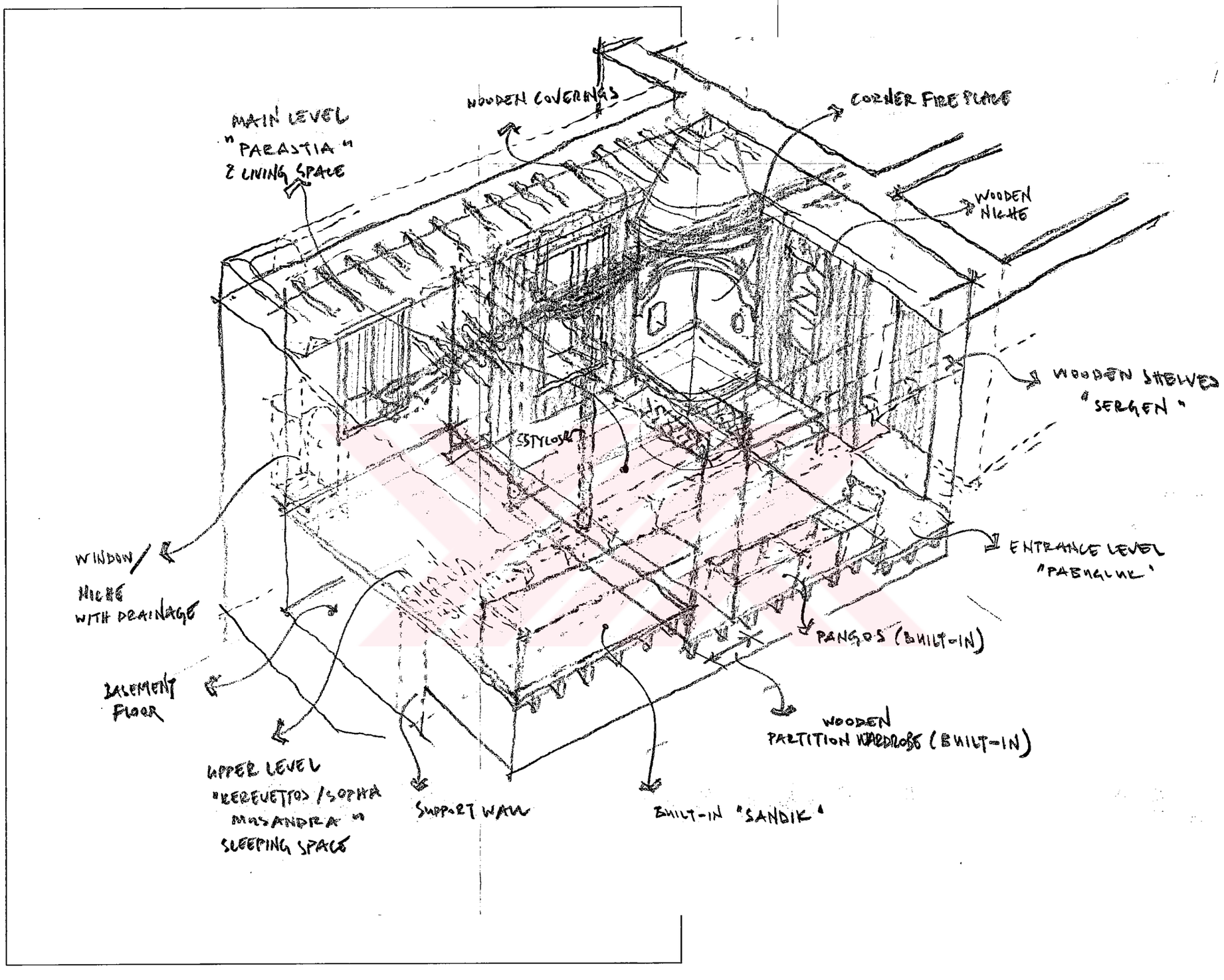


Figure 4.7:. Hypotetical Sketch of a Characteristic Main Room

(drawn by H. Saraç)

front façade wall, and this is the most typical characteristic of this type of spaces. As another typical characteristic, there are windows on the both sides of the fireplace. It is also common that there are windows on the corners of the sidewalls, which jut out. If the building has a cistern terrace, it is common that a door type window that is on the entrance façade wall opens out onto this terrace. Because of this window, it can be thought that there had been a relationship between the secondary living floor and cisterns with regards to the daily work. The height of the space is generally the same with the height of the characteristic main room. However, it has been observed that many of the secondary living rooms had been raised in way that can be reached through the steps at the entrance space. No wooden posts have been observed, as the dimensions of the space are convenient and the ceiling coverings needed no support. However, traces at some of the secondary living rooms indicate that main beams had been used in order to set roof girders on them. It has been observed that traces of wooden elements such as shelves, etc. are lesser in these spaces. Notwithstanding, there are buildings in which traces of *sedir*, a built-in sitting place or *yüklük* have been determined, although at different positions.

The second type of secondary living rooms does not jut out from the main façade line; thus they are smaller than the first type and in the shape of a rectangle. The dimensions of this type are about 2,0x3,50 m. The same type of fireplace is common at the same position with that of the first type. The number of windows can be lesser. When compared to the first type, they are relatively simple.

There are also certain examples that do not comply with the characteristics of the both type of secondary living rooms. It has been determined that the place of the wall type fire place changes in some of them; some have corner type fire places; and some others do not have any fire place at all. However, it can be observed from the traces in many

buildings that corner type fireplaces had been added to these spaces with later interventions.

c) Divided single space with partition walls/cupboards: Some of the buildings within the study area consist of spaces which had been divided into more than one small spaces with partition panels and cupboards which have bee described in Chapter 3.3.3. These spaces are generally bigger than the characteristic main room. It has been determined that some of the spaces have more than one fireplaces. It can be seen from the traces on the walls that there had been partition walls and/or cupboards, which did not reach the ceiling. Some of them have more than one entrance doors. In the light of these findings, it has been concluded that these bigger spaces had been divided with partition panels and cupboards. Indeed, the building coded F.9.3, which is currently in use, is a single space, which has been divided in this way (Figure 4.8). However, it is not possible to make an assessment on the partition of these spaces, as the traces of partition panels at the buildings within the study area have not been evaluated in details.

d) Previously identified spaces toilets, cisterns, basement floor service spaces (auxiliaries and workshops): While carrying out the site survey, some spaces of Kaya Köyü buildings could be identified easily during the initial examinations, and the characteristics of these spaces have been presented in Chapter 3.3.1.2. These spaces, the original functions of which could be identified, are toilets, cisterns, basement floor service spaces (auxiliaries and workshops). The most important assessment that should be added to the previous definitions is related to the basement floor service spaces. Certain traces have been observed in some of the buildings in a way to indicate that the space below the characteristic main room had also been used; but it was not possible to determine a separate entrance door of this space. For this reason, it has been considered that there had been a connection like covered stairs between the basement floors and the living space of the ground floors.

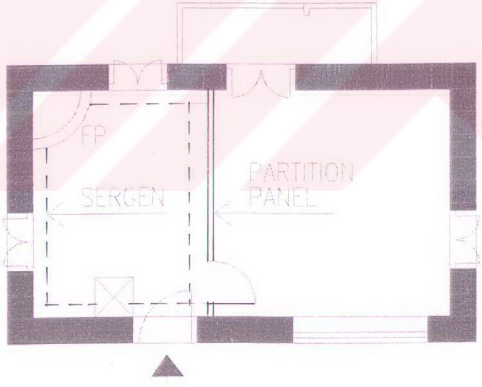


Figure 4.8: Partition Panels Dividing the Main Space (F.9.3)

e) Shops: During the site survey, it has been determined that some of the buildings especially on the main streets have broad openings, which do not have dimensions of standard doors or windows, at their basement floors or ground floors. Besides, there are also traces on the walls of these spaces, indicating a system of shelves with close intervals. Basing on these determinations, we can say that these spaces had commercial functions. The same findings, as well as small corner type fireplaces, have also been observed in some single storey and single space buildings. These spaces and buildings are most probably the shops, which have been described in verbal and written sources (see chapter 2.3.).

In the light of these findings and evaluations, it has been possible to define most of the 836 buildings, which could be referred as "unidentified in Chapter 3.2, with respect to their functions such as residential or commercial. However, 38 (4,42%) of these buildings could not be defined also at this stage, as they are in ruins, incomplete or had not been used at all. Of the remaining buildings, 720 (83,72%) could be defined as houses, 30 (3,49%) as houses having commercial spaces, 37 (4,30%) as shops, and 11 (1,28%) as auxiliaries of houses. The distribution of the buildings with respect to their functions within the study area is presented in Figure 4.9. According to this distribution, we can say that the commercial buildings in Kaya Köyü settlement intensify on the main streets, which cross in front of the Upper Church, and especially around *stumbo çukuru*.

4.2.1.2. Semi Open Spaces

a. **Entrance space:** It is common feature of Kaya Köyü buildings that the characteristic main rooms are entered through a semi-open entrance space. These spaces also provide the entrances of

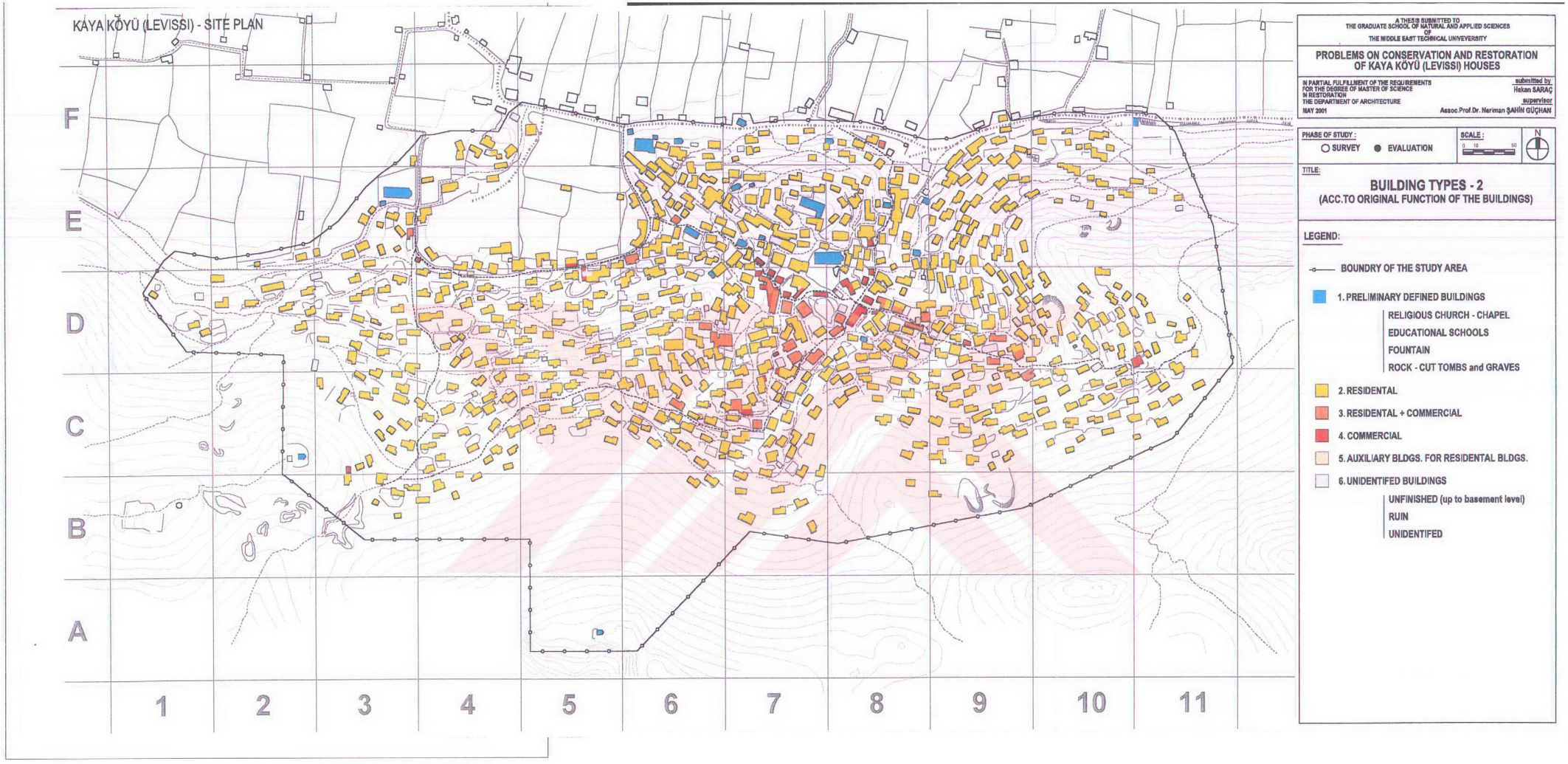


Figure 4.9:. Building Types 2

main room. Entrance space has the shape of a rectangle that lies parallel to the main space and covered with walls at three sides. It is covered with a flat roof, which merges with the roof of the main building. Its dimensions are about 2m x 4m. The entrance is generally from the narrow side facing the door of the main space, and generally there is no wall at this side. It has been determined in some buildings that the long side had been left short, and that a wooden post had been placed on the edge of the continuing parapet in order to support the roof covering. At some of the buildings, the long side of the entrance space is open depending on the topography and environment. The entrance spaces had been generally built 1 or 2 stairs above the ground level. Rare but entrance spaces whit higher stairs can also be seen (Figure 4.10).

The original ground floorings of entrance spaces can hardly be described as they had been covered up with the earth of the demolished roofs. The numerical distribution of the ground floorings could not be determined; yet it has been observed that the compressed earth grounds of these spaces had been covered with mortar that contains earthenware pieces and with stones. Except for a few buildings, entrance spaces had been fine plastered and whitewashed. The most prevalent color is white. One of the architectural elements of these spaces is simple niches (see chapter 3.3.2). It has been considered that these niches could have been used for putting lights (such as a lantern or a candle) while residents had come out to go to the cistern, toilet or the courtyard. Another common feature of these spaces is the panel over the door of the "characteristic main room". This element has two types. The first type is an ornament that had been made with plaster and dye, which has the shape of an arch, and which has religious figures or dates on them. The second type is a trace that should have belonged to a rectangular wooden frame. It has been considered this type of panel should also have religious figures and the date of the manufacture of the panel (and post probably the construction date of the building) on them (Figure 4.11).

Figure 4.10: Elevated Living Floor with Stairs(E.7.29)

At some buildings, traces of wooden casings have been observed on the open sections of the entrance spaces. Basing on these traces, it has been considered that some of the entrance spaces had been closed. However, it was not possible to determine whether these doors were original or not. (see Appendix B for typology and elements of entrance spaces).

b. *"Hayat":* *Hayat* has always been an important and constant space of vernacular architecture of Anatolia and of Aegea since ancient times. Thus, it is natural to find houses with *hayat* in Kaya Köyü settlement, which has the marks of Anatolian and Aegean cultures. As the wooden elements had been destroyed, it could not be possible to identify elements

Figure 4.11:. Panels and Traces on the Entrance Door of the Characteristic Main Room

such as upper structures, systems supporting the upper structures, banisters and stairs. Traces at the buildings have only indicated the existence of upper structures and stairs. Apart from these elements, it has been possible to identify elements, the construction material of which is stone. These are service wall, fireplace and workbench.

In the buildings which have cisterns and *hayat*, the cistern terrace generally forms a part of *hayat*, and the cistern opening is on the service space and if there is *hayat*. The floor covering material of *hayat* can be the same with those of the cistern, which have been described in Chapter 3.3.1, in the sections where the cisterns are located. As for the parts that do not have cisterns, the flooring material is timber boarding over timber beams.

*Hayat*s, which have been found at Kaya Köyü houses, have been classified with respect to the relationship between them and the buildings, their service elements and the position of the stairs (Figure 4.12). Of the 682 buildings within the study area, which have been surveyed on the basis of typology of space, *hayat*s have been found in 69 (10,11%) of them. According to the classification on the basis of the relationship between *hayat*s and the buildings, it has been determined that hayats have been positioned throughout the façade of the 41 (65,08%) buildings within 63 examined ones. In 17 (26,98%) of the buildings, *hayat*s cover only a part of the façade, whereas 5 (7,94%) buildings have *hayat*s that surround the building forming an "L" shape. According to the classification on the basis of service elements, no service element has been found in 27 (45,8%) of the buildings. In 29 (46,03%) of the buildings, a service wall along through one side of *hayat* has been determined. In 7 (11,11%) of the buildings, *hayat* is a semi-open service space (figure). Traces of stairs that reach to hayat have been found in 53 of the buildings. It has been observed that stairs are at the outside of the *hayat* wall in 52 (92,9%) of these buildings, whereas in 4 (7,1%) of the buildings they are at the inside.

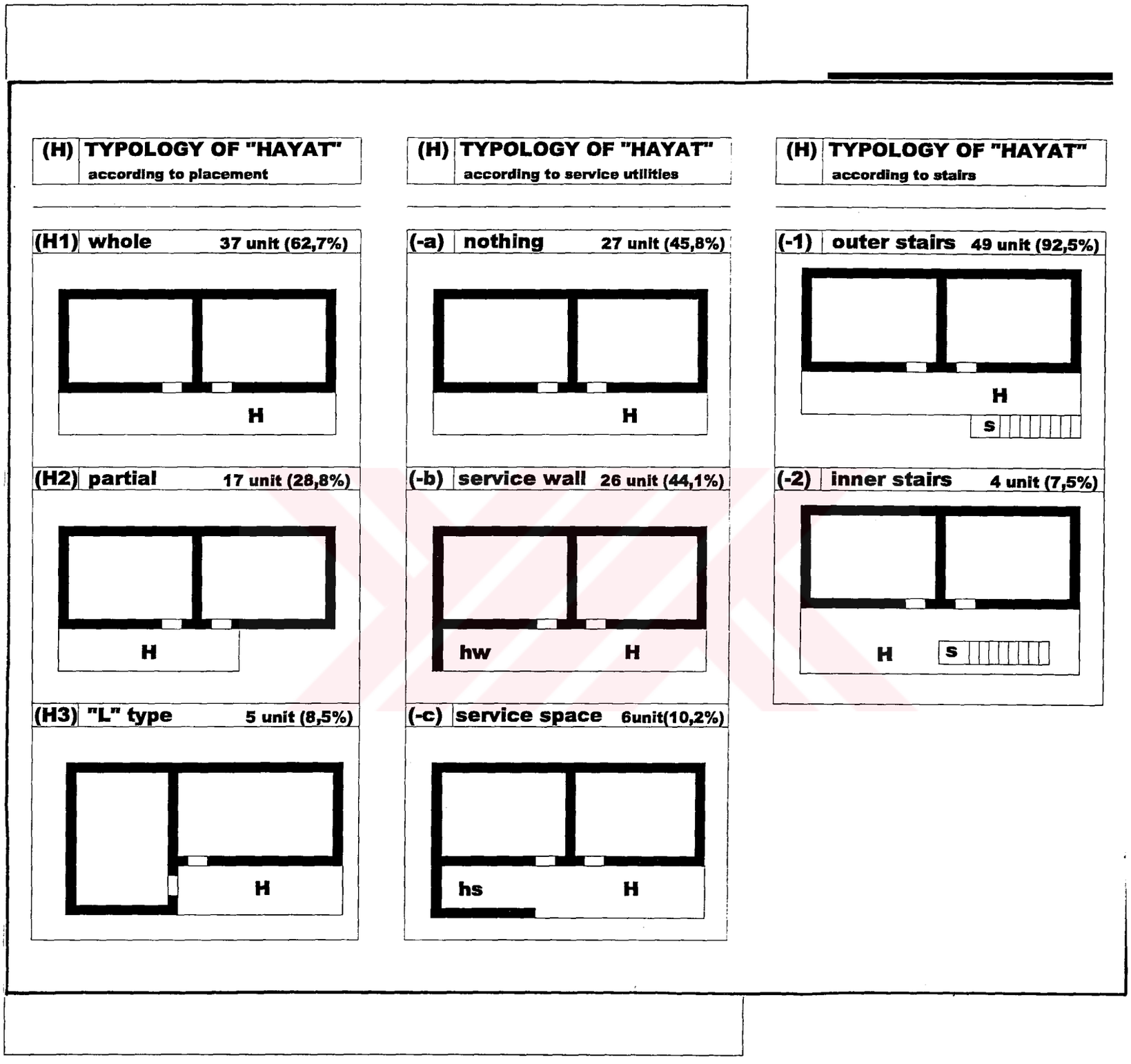


Figure 4.12: Typology of *Hayat*

4.2.1.3. Mass and Façade Characteristics of Kaya Köyü Houses

As the most important mass characteristic, Kaya Köyü buildings consist of simple cubic forms. This simple cubic mass organization, which is formed by square, rectangular or L-type plans rising 1, 1.5 or 2 storeys on the third dimension, provides a contrast to the natural hilly and sloping natural ground but at the same time it seems as if united with the same rocky ground. Circular toilets or cubic cisterns, which lie next to the cubic buildings or detached from them, shape the mass diversity in the area.

When the masses are examined on the basis of their façade characteristics, it can be seen that solid and void order, which is provided by openings, differs from façade to façade. Except for the buildings with *hayat* that have entrances at the hillside, façades of the buildings facing the hillside are generally blind. On the other hand, openings are on the main façades that face the landscape. Opening of the semi-open entrance spaces on the side façades has an important influence on the mass.

Mass organizations totally conform to the plan schemes. It is possible to be informed about the mass and façade of a building by looking at the plan scheme, and it is also possible to comment on the plan scheme by looking at the mass movement and openings. Levels of flooring at the characteristic main room also make a difference at the levels of windows, and this is also reflected on main façade. The façades of buildings lack the elements such as terraces that influence the mass, as the wooden elements had been destroyed. One of the most visible elements on the façades is the projection of the wall type fireplaces. In addition to the projections of fireplaces that are flat surfaces having a simple form, there are also fireplaces that set on stone braces with ornamented profiles. It is a typical feature that there are window openings on the both sides of the projection of fireplace. Other significant elements that can be observed on

the façade are the vertical drain channels of cisterns. Some of these elements have an articulate form at certain buildings.

4.2.2. Plan and Façade Typologies in Kaya Köyü Houses

It has been considered necessary that a survey should be carried out on the basis of plan and façade typologies of the buildings in order to define the elements of Kaya Köyü buildings that should be conserved and their common and rare characteristics. In the course of typology survey, spaces, which have been defined in previous sections, the spatial organization of these spaces and the diversity in this organization, have been evaluated.

Basic criteria that have been employed in describing the typologies are dimensions of spaces, architectural elements of spaces and their positions, entrances of spaces, and most importantly the number of spaces, respectively. It has been mentioned previously that Kaya Köyü buildings have only one living floor even though the number of storeys varies. Plan typologies have been described on the basis of this living floor -thus the ground floor.

It has been stated previously that the detailed survey on the basis of plan did not cover whole façades and masses because of certain practical reasons but mostly because of structural conditions of the buildings. However, façade typologies could be described in relation to the plan typologies, as it has been found out during the site survey that façade organization and plan schema have direct relation. Notwithstanding, it should be noted that a more detailed survey and evaluation can be carried out regarding the façade typologies.

4.2.2.1. Plan Typologies

Following are the main spaces that compose Kaya Köyü buildings, define subgroups in the plan typology and vary on the basis of architectural characteristics:

1. Typical / Characteristic Main Room: MR1
2. Semi open entrance spaces: E
3. Secondary Living Room: MR3
4. Main spaces which are similar to characteristic main rooms with regards to the area they cover, but differ from them with regards to their spatial characteristics and the organization of architectural elements (i.e. entrance of the space, position of fire place, organization of windows, etc.) (MR2)
5. Vast living spaces which had been divided with partition panels (MR4)
6. *Hayat*s (H)
7. Other spaces (O)

While describing the plan typology of Kaya Köyü buildings, main groups have been defined primarily on the basis of the number of spaces at the buildings (single spaced, double spaced, etc.) and of the organization of these spaces. Then subgroups have been defined on the basis of the characteristics of the closed spaces within these main groups. In this respect, we can classify Kaya Köyü buildings or houses in 8 main groups (See Figure 4.13. Plan Typology and Figure 4.14: distribution of plan typologies):

A. Single spaced houses
B. Single spaced houses with *hayat*

C. Single spaced houses with an entrance space

D. Double spaced houses with an entrance space

E. Three spaced houses with an entrance space

F. Three spaced houses

G. Double spaced houses

H. Double spaced houses with a *hayat*

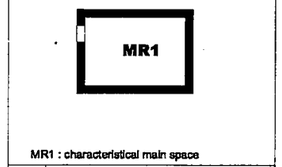
In this classification which has been made primarily on the basis of number of spaces, Group A consists of buildings which have single spaces, whereas Group B and Group C consist of buildings which have single closed spaces and semi-open spaces attached to them. Subgroups can also be defined for each of the main groups, depending on whether the semi-open spaces are hayats or entrance spaces and on the characteristics of the closed spaces (MR1, MR2, etc.).

In a similar way, the number of closed spaces and the type of semi-open space (entrance or *hayat*) have been determining in Groups D, E and H. In Groups F ad G, on the other hand, only the number of closed spaces varies, and they do not have any particular semi-open space. In Group G differences have been observed on the basis of the characteristics of closed spaces, and subgroups have been described as an attempt to illustrate this diversity.

Of the 720 houses and 30 shops within the study area, plan characteristics of 722 have been identified. 40 of 722 buildings have been regarded as out of evaluation because they have been ruined, unfinished or unused, and because it was not possible to enter them for identification.

Thus, 682 buildings have been evaluated with respect to the plan typology. Examples from the typology are given in Figure 4.15 in order to illustrate different variations.

A SINGLE SPACE
63 unit (9,24%)

A1 28 unit (4,11%)


MR1 : characteristical main space

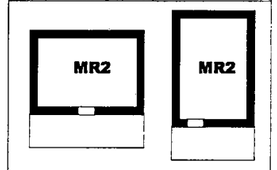
A2 22 unit (3,23%)


A3 9 unit (1,32%)

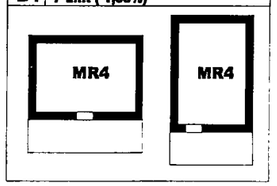

A4 4 unit (0,59%)


B SINGLE SPACE WITH "HAYAT"
33unit (4,85%)

B1 4 unit (0,59%)

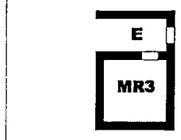

B2 13 unit (1,91%)


B3 8 unit (1,32%)

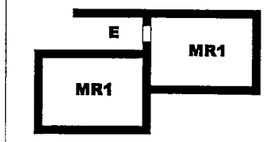

B4 7 unit (1,03%)


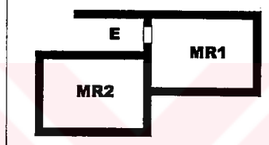
C SINGLE SPACE + ENTRANCE SPACE
100 unit (14,66%)

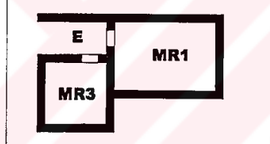
C1 88 unit (12,9%)

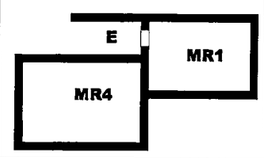

C2 12 unit (1,76%)


D DOUBLE SPACE + ENTRANCE SPACE
396 unit (58,06%)

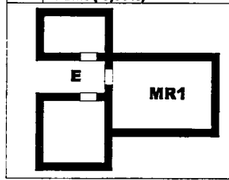
D1 4 unit (0,58%)


D2 4 unit (0,58%)


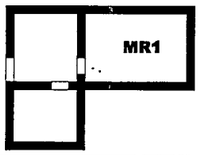
D3 383 unit (56,24%)


D4 5 unit (0,73%)


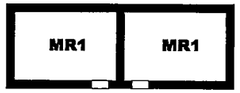
E TRIPLE SPACE + ENTRANCE SPACE
4 unit (0,59%)

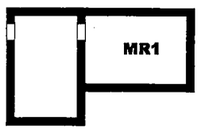
E1 4 unit (0,59%)


F TRIPLE SPACE
2 unit (0,29%)

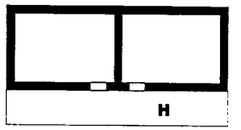
F1 2 unit (0,29%)


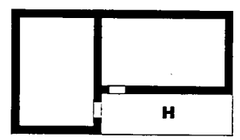
G DOUBLE SPACE
17 unit (2,49%)

G1 9 unit (1,32%)


G2 8 unit (1,17%)


H DOUBLE SPACE WITH "HAYAT"

H1 31 unit (4,55%)


H2 5 unit (0,73%)


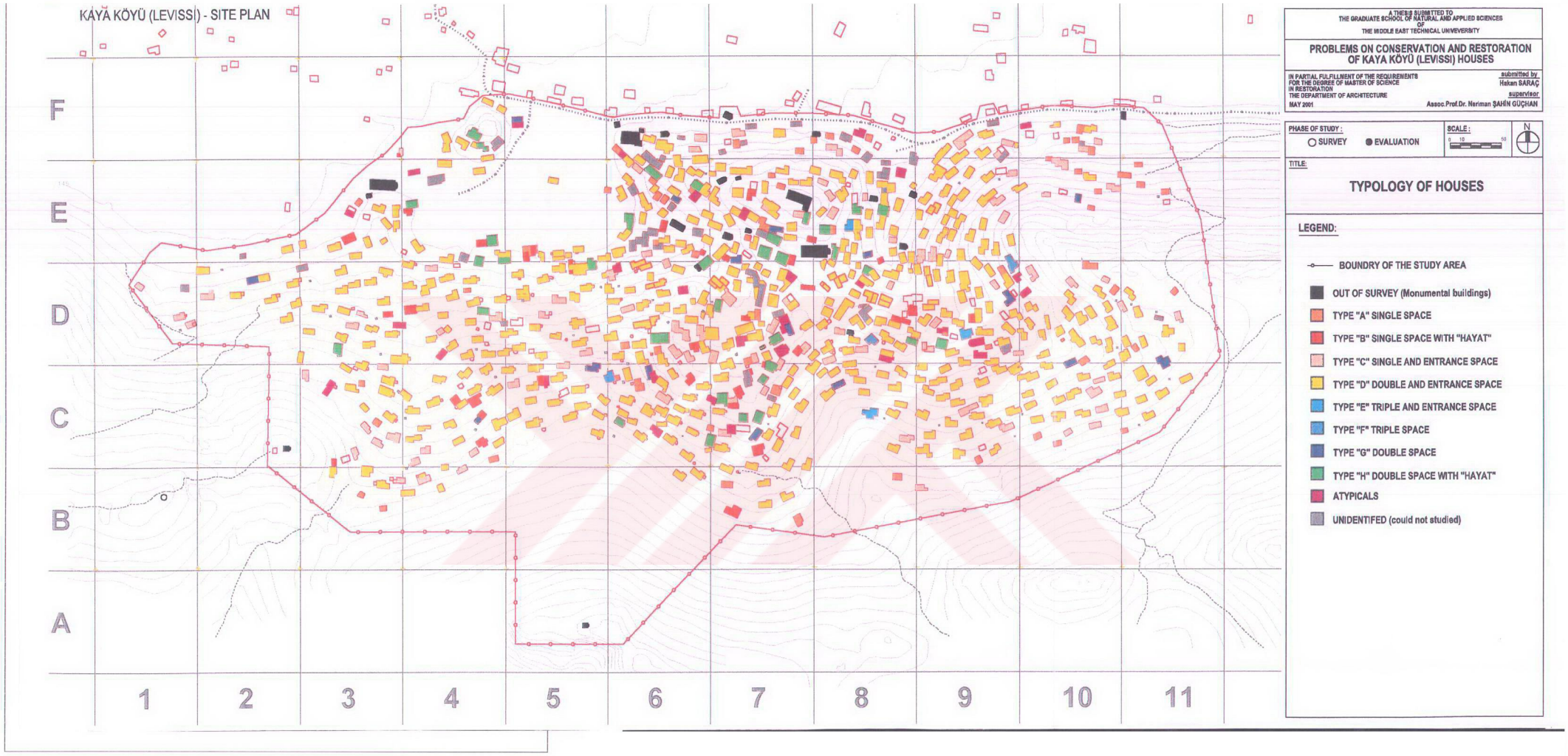


Figure 4.14:. Plan Typology Distribution of Kaya Köyü Houses

A. Single Spaced Houses: These are single spaced houses that had been constructed by rubble stone external walls. It has been observed that some of these houses had been divided with wooden partitions walls or wardrobes. Entry to the space is directly from outside. There is no entrance space. 63 (9,24%) of the buildings within the study area are this type of single spaced buildings. Certain subgroups (A1, A2, A3, etc.) can be defined on the basis of spatial characteristics of this type of buildings, which have been classified in Group A.

A1 type of buildings are the ones that have characteristic main rooms (MR1), and there are 28 (4,11%) such type buildings within the study area. A2 type of buildings are the ones which have main spaces that are similar to characteristic main rooms with regards to the area they cover, but differ from them with regards to their spatial characteristics and the organization of architectural elements (i.e. entrance of the space, position of fire place, organization of windows, etc.) (MR2), and there 22 (3,23%) such type buildings within the study area. A3 type of buildings has secondary living rooms (MR3), and there are 9 (1,32%) such type buildings within the study area. A4 type are the ones, which have vast living spaces that had been divided with partition panels (MR4), and there are 4 (0,59%) of them.

B. Single Spaced Houses with a *Hayat*: It can be said that this type of buildings had been formed simply attaching *hayat* to the Group A type single spaced houses. There are also buildings with a *hayat* among A2, A3, A4 types, but none of the buildings among A1 type has a *hayat*. Different from the buildings in Group A, entries to this group of buildings, which have been described as Group B type, are directly from *hayat*. 33 (4,85%) of the buildings within the study area are single spaced houses with a *hayat*. Buildings in Group B can be divided into subgroups with respect to the characteristics of the closed space.

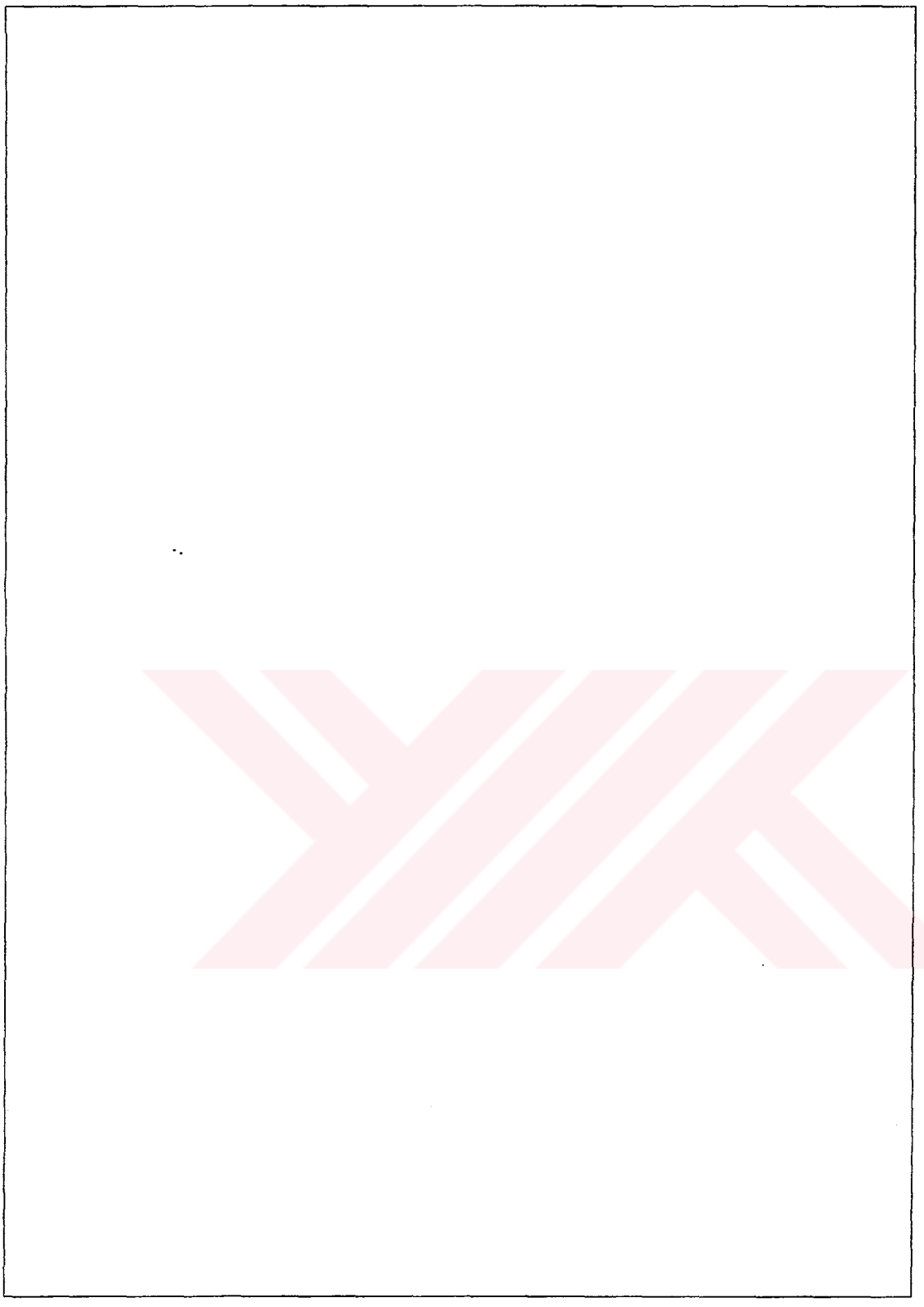
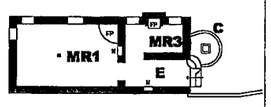


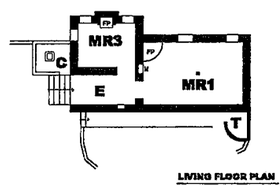
Figure 4.15: Samples of Typologic Plan Schemes

TYPOLOGICAL GROUP :	D3	BLDG. CODE :	E.8.29
		CASE NO :	1 / 6



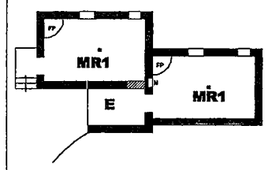
LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	D3	BLDG. CODE :	C.4.16
		CASE NO :	4 / 6



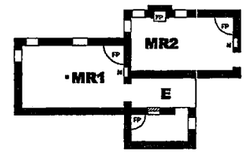
LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	D1	BLDG. CODE :	C.10.7
		CASE NO :	1 / 2



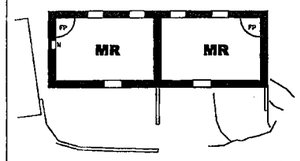
LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	E1	BLDG. CODE :	C.8.4
		CASE NO :	1 / 1



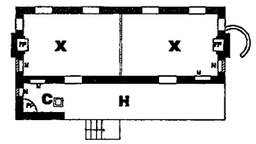
LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	G1	BLDG. CODE :	C.8.15
		CASE NO :	1 / 1



LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	H1	BLDG. CODE :	C.7.16
		CASE NO :	1 / 2



LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	D3	BLDG. CODE :	E.8.29
		CASE NO :	2 / 6

LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	D3	BLDG. CODE :	D.4.19
		CASE NO :	5 / 6

LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	D2	BLDG. CODE :	C.3.14
		CASE NO :	1 / 1

LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	F1	BLDG. CODE :	D.8.11
		CASE NO :	1 / 1

LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	G2	BLDG. CODE :	C.7.22
		CASE NO :	1 / 1

LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	H2	BLDG. CODE :	E.8.16.A
		CASE NO :	2 / 2

LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	D3	BLDG. CODE :	D.3.13
		CASE NO :	3 / 6

LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	D3	BLDG. CODE :	D.8.15
		CASE NO :	5 / 8

LIVING FLOOR PLAN

TYPOLOGICAL GROUP :	D4	BLDG. CODE :	F.4.2
		CASE NO :	1 / 1

LIVING FLOOR PLAN

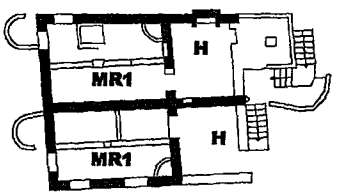
TYPOLOGICAL GROUP :	H3	BLDG. CODE :	E.7.22.A
		CASE NO :	1 / 1

LIVING FLOOR PLAN

TYPOLOGICAL GROUP : A1	BLDG. CODE :	E.11.4
	CASE NO :	1 / 1

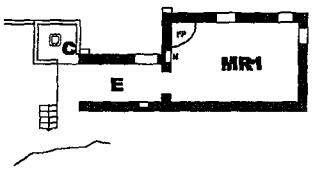
LIVING FLOOR PLAN

TYPOLOGICAL GROUP : B1	BLDG. CODE :	C.4.16.A/B
	CASE NO :	1 / 1



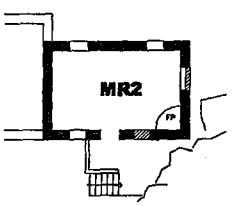
LIVING FLOOR PLAN

TYPOLOGICAL GROUP : C1	BLDG. CODE :	D.10.2/3
	CASE NO :	1 / 1



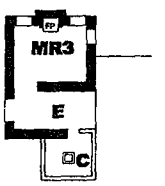
LIVING FLOOR PLAN

TYPOLOGICAL GROUP : A2	BLDG. CODE :	D.10.21
	CASE NO :	1 / 1



LIVING FLOOR PLAN

TYPOLOGICAL GROUP : C2	BLDG. CODE :	C.3.16
	CASE NO :	1 / 1

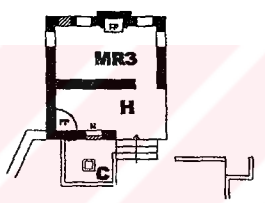


LIVING FLOOR PLAN

TYPOLOGICAL GROUP : A3	BLDG. CODE :	C.7.19
	CASE NO :	1 / 1

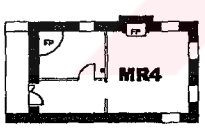
LIVING FLOOR PLAN

TYPOLOGICAL GROUP : B3	BLDG. CODE :	C.7.7
	CASE NO :	1 / 1



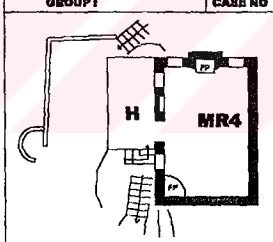
LIVING FLOOR PLAN

TYPOLOGICAL GROUP : A4	BLDG. CODE :	E.6.24
	CASE NO :	1 / 1



LIVING FLOOR PLAN

TYPOLOGICAL GROUP : B4	BLDG. CODE :	E.7.11.a
	CASE NO :	1 / 1



LIVING FLOOR PLAN

B1 type of buildings has a characteristic main space and a *hayat*, and there are 4 (0,59%) of them within the study area. B2 type MR2 and a *hayat*, and there are 13 (1,91%) of them. B2 type of buildings has a space with the characteristics of MR3 and a *hayat*, and there are 9 (1,32%) of them. B3 type of buildings has a space with the characteristics of MR4 and a *hayat*, and there are 7 (1,03%) of them.

C. Single Spaced Houses with an Entrance Space: The buildings in this group had been formed by attaching a semi-open entrance space (E) to a single spaced house (MR1 or MR3). 100 (14,66%) of the buildings within the study are in Group C. Following subgroups can be defined with respect to the type of the closed space:

C1 type of buildings is the combination of MR1 space and a semi-open space, and there are 88 (12,9%) of them within the study area. C2 type of buildings is the combination of MR3 space and a semi-open entrance space, and there are 12 (1,76%) of them within the study area.

D. Double Space Houses with Entrance Space: The buildings in this group have two closed spaces and a semi-open entrance space; and it can be said that they are derivatives of C1 type of buildings in a sense. Buildings, which are similar to those C1 type of buildings, are defined as Group D type if another closed space had been attached to them at the main façade side of the semi-open entrance space. This is the most prevalent type of buildings within the study area with 396 (58,06%) samples. Certain subgroups can be defined with respect to the types of MR1 closed space and the closed space attached to the E space.

D1 type is the one which has a second characteristic main room (MR1) attached to the characteristic main room (MR1) and the entrance space (E). Entry to the second MR1 space is not from the entrance space as it is a characteristic main room, but from the short side of the opposite façade. There are only 4 (0,59%) such type of buildings. D2 type is the one which has a MR2 attached to the MR1 and E spaces. Entrance of MR2

space varies. There are also 4 (0,59%) such type of buildings. D3 is the most prevalent type within the study area with 383 (56,16%) samples. This type consists of a characteristic main room (MR1) that is entered from a semi-open entrance space and a second living space (MR3). Some of the buildings had been subjected to alterations; yet, in the original form of this type of buildings, entry to the MR3 space is always from the entrance space (E). D4 type consists of MR1 and E spaces and an MR4 space, which had been divided by partition walls. Entry to MR4 space can be from the E space or directly from outside. There are also 5 (0,73%) such D4 type of buildings within the study area.

E. Three Spaced Houses with an Entrance: The buildings in this group have three closed spaces and a semi-open entrance space (E); and it can be said that they are derivatives of Group D type of buildings. This type of buildings has a third closed space attached to the other side of the entrance space (E), and there are 4 (0.59%) of them within the study area.

F. Three Spaced Houses: In this type of buildings, which consist of three closed spaces, entries to the closed spaces are from each other. One of the closed spaces is the characteristic main room (MR1). These characteristics have been observed only in 2 (0,29%) of the buildings within the study area.

G. Double Spaced Houses: This group of buildings has two living spaces. Characteristics of these spaces are variable. This group of 17 (2,49%) buildings within the study area can be divided into two subgroups with respect to the entry to the spaces. G1 type of 9 (1,32%) buildings consists of two living spaces, which have independent entrances. In the G2 type of buildings, entry to the characteristic main room (MR1) is from another closed space. There are 8 (1,17%) such type of buildings within the study area.

H. Double Spaced Houses with a *Hayat*: This group of buildings consists of two living spaces, which are entered from *hayat*. The

characteristics of these spaces are variable. They can be defined in two subgroups with respect to the organization of closed spaces and *hayat*.

In H1 type of buildings, *hayat* lies alongside the closed spaces, and there are 31 (4,55%) of them within the study area. In H2 type, closed spaces surround *hayat* in the form of "L", and there are 5 (0,73%) of them within the study area.

When the plan typologies that have been defined above on the basis of number of spaces and their types are evaluated, it can be seen that D3 type of building, which consists of a characteristic main room that is entered from a semi-open entrance space and a second living space, is predominant with respect to its prevalence and influence on other types. It has been considered this type is the most common or ideal type of Kaya Köyü buildings. There are types which attempted to adopt the plan scheme of D3 type or which had been derived from this plan scheme. Findings, which support this hypothesis, will be given in the following chapters while describing the design decisions about the buildings, construction processes and alterations. At this point, following assessments can be made with regards to the ideal D3 type:

a. Among the single spaced houses, A1 and A3 types of buildings have plan schemes, which can transform D3 type potentially. Traces at some of these buildings indicate that such a growth had been planned.

b. C1 and C2 types of buildings, which consist of a semi-open entrance space and a closed space, have plan schemes, which can transform D3 type potentially. In all of these buildings, traces indicate such a growth had been planned.

c. In the ideal plan schemes of D1, D3 and D4 types of buildings, which are in the same group with the D3 type, the secondary living room had been replaced with bigger spaces. Traces, which are identical to the traces observed in secondary living rooms, have been determined in some of the mentioned bigger spaces.

d. It is evident that the plan scheme of Group E type of buildings, which consist of a semi-open entrance space and three closed spaces, had been derived D3 type of building by adding a space at the other side of the entrance space.

e. Traces, which have been observed in buildings that have the plan scheme of G2 type of building, indicate that the space in front of the characteristic main room had been composed without the wall between the entrance space and the secondary living room.

The ideal D3 type is the most common type of building in the study area with 56,16%. When the buildings listed above with respect to their relations with the plan scheme of D3 type of building are taken into consideration, the number of buildings which have an ideal plan scheme, which have potentials to transform this plan scheme or which have been derived from this scheme, rises to 550 (80,65%). In this respect, it would not be wrong to identify the buildings that have the plan scheme of D3 type as the "Characteristic Kaya Köyü House." The characteristics of the characteristic Kaya Köyü House have played a decisive role in many of the descriptions and assessments in this study. For example, this type has been taken as the basis for the evaluations on the façade descriptions. A detailed assessment on this type has been presented in Chapter 4.2.5.

4.2.2.2. Façade Typologies

In this chapter, façade typologies of Kaya Köyü buildings have been evaluated in the light of the definitions of façades presented in Chapter 3.3. and assessments in Chapter 4.2.1. Because of the reasons mentioned previously, this evaluation does not base on a detailed and widespread survey, unlike to that of the plan survey. As the method, projection of

certain identifiable spaces on façade order has been given at the first hand before the façades are evaluated as a whole, because a regular relation has been determined between plan schemes and façade organizations. In this way, it has become much easier to define façade organizations, which consist of identifiable spaces that have been grouped in a certain order.

Spaces of Kaya Köyü buildings that are determining because of their prevalence are "characteristic main room", "semi-open entrance space" and "secondary living room" (see chapter 4.2.1). These spaces are also typical with respect to their location on the topography. Following are the common characteristics of these spaces within the façade organizations:

a. Characteristic main room: The main façade of this space consist of the door type window at the daily room *parastia*, which has a corner type fireplace, and of a window at the sleeping space *krevvatos*, which has an elevated floor. The window at the *krevvatos* is at a higher level because of the elevated floor and small. Some of the buildings have traces that indicate that there had been a wooden terrace in front of the door type window. The hillside façade is always blind. The side façade vary depending on the characteristics of *krevvatos*. In many buildings, there is a window at the main façade side of the facade. This window is identical to the *krevvatos* window that is at the main façade. It has been determined in a few cases that there is only one window at the side façade of *krevvatos* and there is no *krevvatos* window at the main façade. Crenel type windows, which have been determined in some buildings, are always on the wall of the side façade of *krevvatos*.

b. Secondary living room: The typical main façade order of this space consists of a door type fireplace and windows at the both sides of it. There are also spaces that have one window or no at all at this façade. Besides, in some spaces fireplaces are not at the main façade. There is one window at the entrance façade, generally at the corner of main façade.

Two windows have been determined in some of the buildings. On the other hand, there are buildings that do not have any opening at the entrance façade. If there is a cistern at the entrance façade, there can be seen a door type window leading to the cistern terrace. In a few buildings, the entrance door of the secondary living room is at this façade.

c. Semi-open entrance space: There is an opening at the entrance façade, which has width and height the same with the space. In some cases, a section of the hillside façade is in the form of a parapet. The entrance of this space is at the hillside façade in some buildings; and in this case, the side façade, which is defined as entrance façade, is blind.

c. Other spaces: Façade organizations of other defined or undefined spaces may vary extensively, depending on the characteristics of the spaces. However, dimensions of windows and their proportion, architectural elements such as fireplaces effect the façade organization on the basis of their characteristics, which have been described in Chapter 3.3. Elements such as toilets and cisterns effect the façade organization in a different way, depending on their positions and forms in the plan scheme. In this thesis, the effects of these elements on the façades have been evaluated on the basis of their relation with the prevalent type and their positions. It is possible to describe façade typology of Kaya Köyü houses, according to the characteristics listed above. However, only the façade typology of the type that has been defined as the characteristic Kaya Köyü house will be presented here, because of the practical reasons that have been explained previously. In this study, 4 different façades have been evaluated within themselves.

a. Main façade: This façade, which consists of the characteristic main room, secondary living room and a cistern if there is one, may have single or two storeys. Height of the façades, thus the proportions are not related to the number of storeys but to the slope. The determining features at this façade are the façade orders of the secondary living room and the

Figure 4.16:. Main and Entrance Facades of Characteristic Kaya Köyü Houses

basement floor. Existence of a basement floor only relates to the height of the façade. The entrance doors of basement floors only relates to the solid and void order. Entrances of basement floors, which are beneath the characteristic main rooms and the secondary living rooms, can locate either at the main façade or at the side façades. It is a common feature that the door of the basement floor is located under the *krevvatos* section of the characteristic main room. The reason for such prevalence is the relatively high height of the basement floor at that section.

b. Entrance façade: This façade consists of the façades of semi-open entrance space, secondary living room and a cistern if there is one. As the entrance space is always at the hillside, the façade height increases towards the main façade. There are samples of single and two storey façades. At the building where the entrance space opens onto this façade -which is the common case-, this opening determines the solid and void relation and order. The secondary living room opens onto the entrance façade with one or two windows; yet the wall of entrance façade is blind in a few cases. Entry to the basement floor that is beneath the secondary living room is generally from this façade. At the buildings that have cisterns, the cistern itself and the vertical drain channels are the elements that effect the façade.

c. Hillside façade: This façade consists of the façades of semi-open entrance space, characteristic main room and toilet if there is one. It is single storey because of the slope. At the buildings where the entries are from the side or front façades, this façade is generally blind. At a few number of buildings where the entries are from the hillside façade, the solid and void effect of the semi-open space is determining factor in the façade order.

d. Side façade: It is the façade of the *krevvatos*, which is the elevated sleeping space of the characteristic main room. It is relatively high at the main façade side because of the slope. Basement floor doors are

rarely located at this façade. *Krevvatos* windows and crenel type windows are determining openings.

4.2.3. Lot Characteristics and Open and Built-Up Areas

As explained previously, cadastre pattern of Kaya Köyü settlement does not provide information for the determination of open areas of the buildings (see chapter 3.2). For this reason, it is not possible to define the borders of original lots when we attempt the buildings and their open areas as a whole. Despite this fact, we have tried to define the open areas of the buildings after determining the open areas that have been surrounded by courtyard walls almost at all buildings. Partially or entirely ruined courtyard walls cast a difficulty for determining these areas. Assessments on the courtyard areas, which could be defined notwithstanding these difficulties, are presented in Gardens and Courtyards, Appendix C.

Looking at this distribution it is possible to say that Kaya Köyü buildings have defined open spaces. Open areas of the buildings, i.e. the courtyards, get smaller at the center of the settlement where the building density is high. On the hand, it has been observed that the courtyard areas get larger and even increases by number towards the outer skirts of the settlement where the building density is low.

Almost all of the buildings within the study area set on the slope. Living floors and basement floors can be reached from different levels. This feature, which is related to the slope, is also evident for the open space order. The buildings generally have 3 types of potential open areas: lower area, entrance area and upper area. These areas have been evaluated on the basis of the relations of the buildings with the street and other buildings.

The lower are is the one where the basement floor service space opens onto. The garden that is defined here should have been used designed on the basis of the function of the basement floor. For example, *alaf*s (leather processing units) have been at the lower garden of the building coded C.5.16. These units have also been found in the basement floor space of this building. For this reason, it can be concluded that the production activity that had been carried out in the basement floor had also continued in the garden.

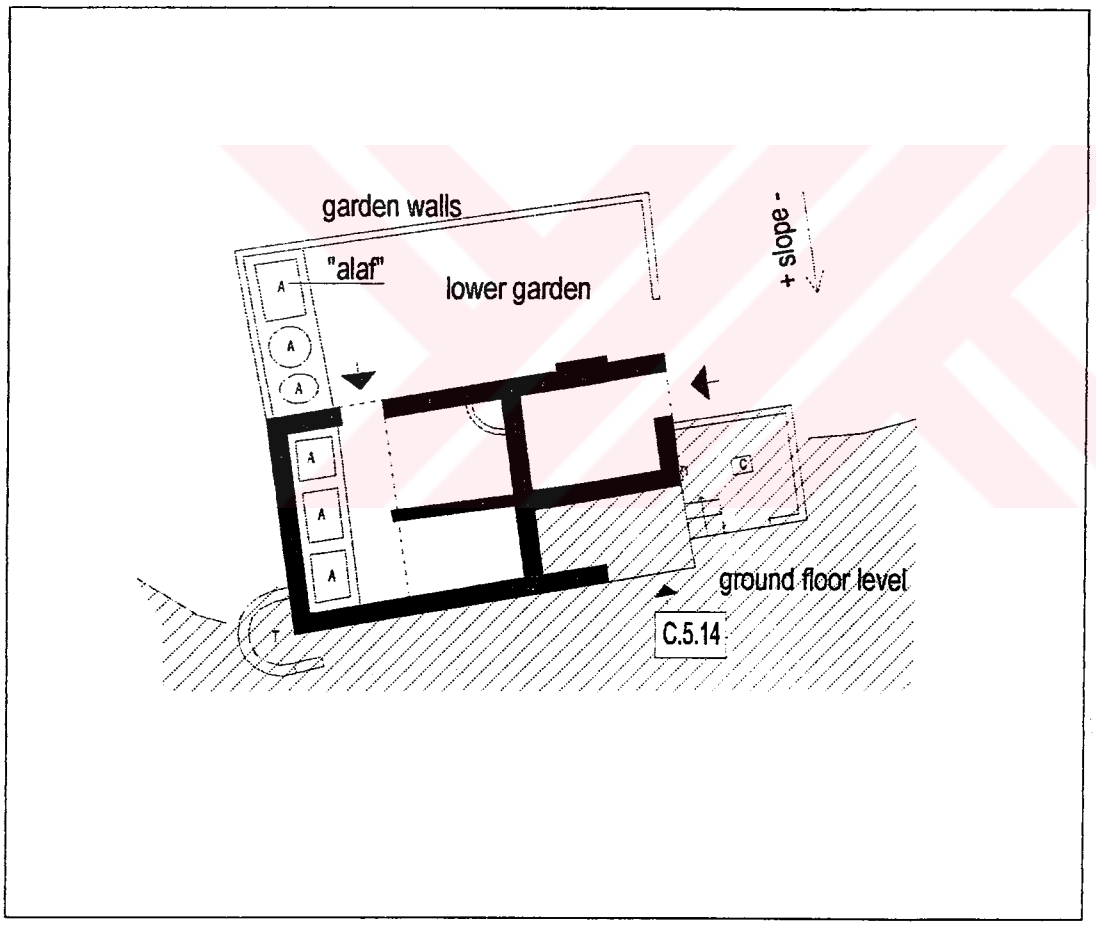


Figure 4.17 : Basement-lower garden relation (C.5.16)

The entrance area is the front garden, which had been organized, especially at some buildings that have the plan scheme of the characteristic Kaya Köyü House, in a way to include the entrance space and the cistern. Ovens can also be seen as a component of this area. Ovens are occasional components of this area. Besides, there are "service walls", which have niches and niche counters on them and which have connections with the oven and the auxiliary in certain cases, at a place that is not far from the entrance of the building (Figure 4.18).

The upper areas have similar defined gardens. These gardens generally lead to the toilets that are attached at the back corner of the building.

These gardens, which have been defined on the basis of their position and certain general characteristics, are not surrounded by courtyard walls in certain buildings. Yet, they are perceivable as the open areas of the buildings because of the natural ground and the topography. In some of the buildings, these gardens are surrounded by a single courtyard wall. In addition, it has been observed that there are gardens and open areas which are separated from the buildings. The relationship between buildings and their gardens are presented in "gardens and courtyards" sheet in Appendix C.

4.2.4. Design and Construction Process in Kaya Köyü Houses and Alterations

This chapter will make assessments of design and construction process in Kaya Köyü houses in parallel to the construction process, which have been described in Chapter 4.1. In this respect, relations between typologies , which have been described in Chapter 4.2.2, have been

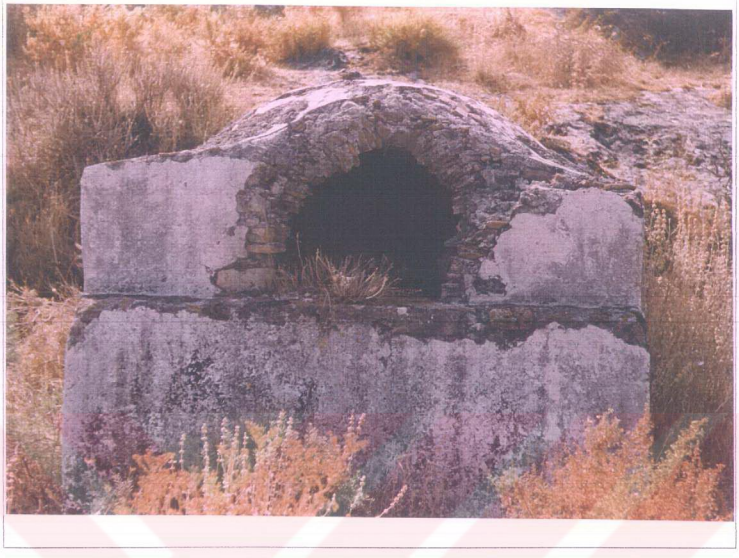


Figure 4.18: Oven at the garden

reevaluated, on the basis of the characteristic Kaya Köyü House coded D3 type, which has been defined as the ideal type and on which we have utmost information. Before the assessments on the characteristic Kaya Köyü House, general evaluations on the construction process, building groups and alterations will be presented.

The numerical distribution of the unfinished buildings within the study area with respect to the construction stages has been presented in Chapter 4.1 (see Table 4.1). And the distribution of these buildings within the study are has been presented in Figure 4.19. Accordingly, it can be seen that almost all areas of the study area involve unfinished but used buildings as well as unfinished and unused buildings. Not withstanding, it

has been seen that the unfinished buildings are relatively widespread towards the outer skirts of the settlement and at centers where the building density is high. On the basis of this observation, it can be concluded that the population of Kaya Köyü had been growing prior to the people exchange, and that the city center had become crowded parallel to this growth of population.

Similar to the houses, it is also possible to evaluate the construction process of monumental buildings. Indeed, building coded D.6.35 is a chapel that had not been left during the construction stage.

Determinations on the building density (see Figure 3.7) also support the assessment which is stated above and which indicates that the settlement had been crowded at certain centers. Another study in this respect has been carried out about building groups. It has been determined in the light of the typological study on description of spaces and plan schemes that certain units of buildings had been constructed attached to each other or one within the other. On the basis of these determinations, the building units can be classified in two groups with respect to the relation between them. These are single building units and units which are parts of a building group. Accordingly, out of the 836 buildings within the study area, excluding the monumental buildings, 621 (74,28%) are single building units whereas 215 (25,72%) are parts of a building group. We can also classify the building groups in 3 groups.

a. Building groups with 2 units (58 units - 69,88%)

b. Building groups with 3 units (17 units - 20,48%)

c. Building groups with 4 or more units (8 units - 9,64%)

The distribution of the building groups within the study area has been presented in Figure 4.20. Accordingly, it can be concluded that building groups are common at the central areas of the settlement and they have a significant role in the increase of the building density.

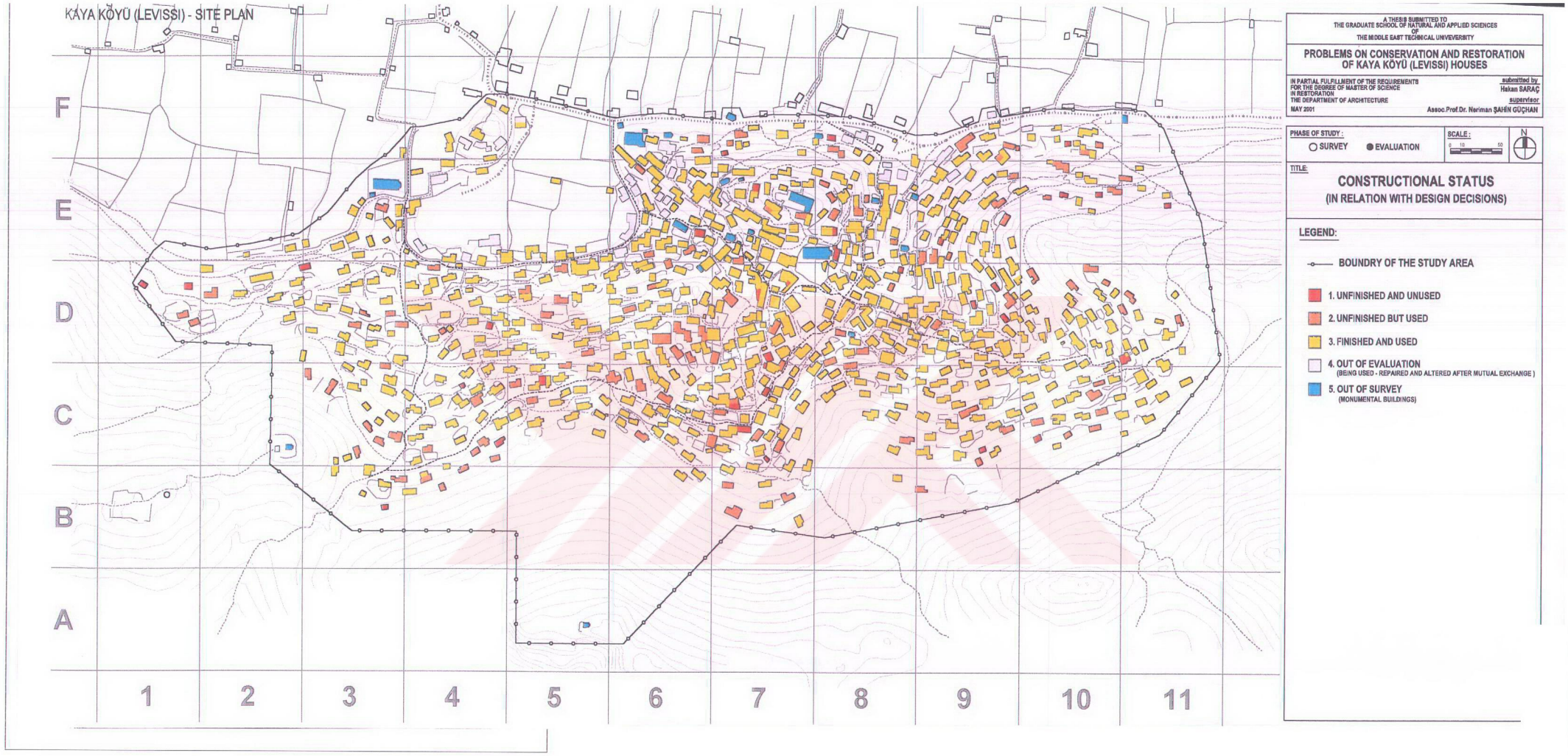


Figure 4.19: .Stages of Constructional Process

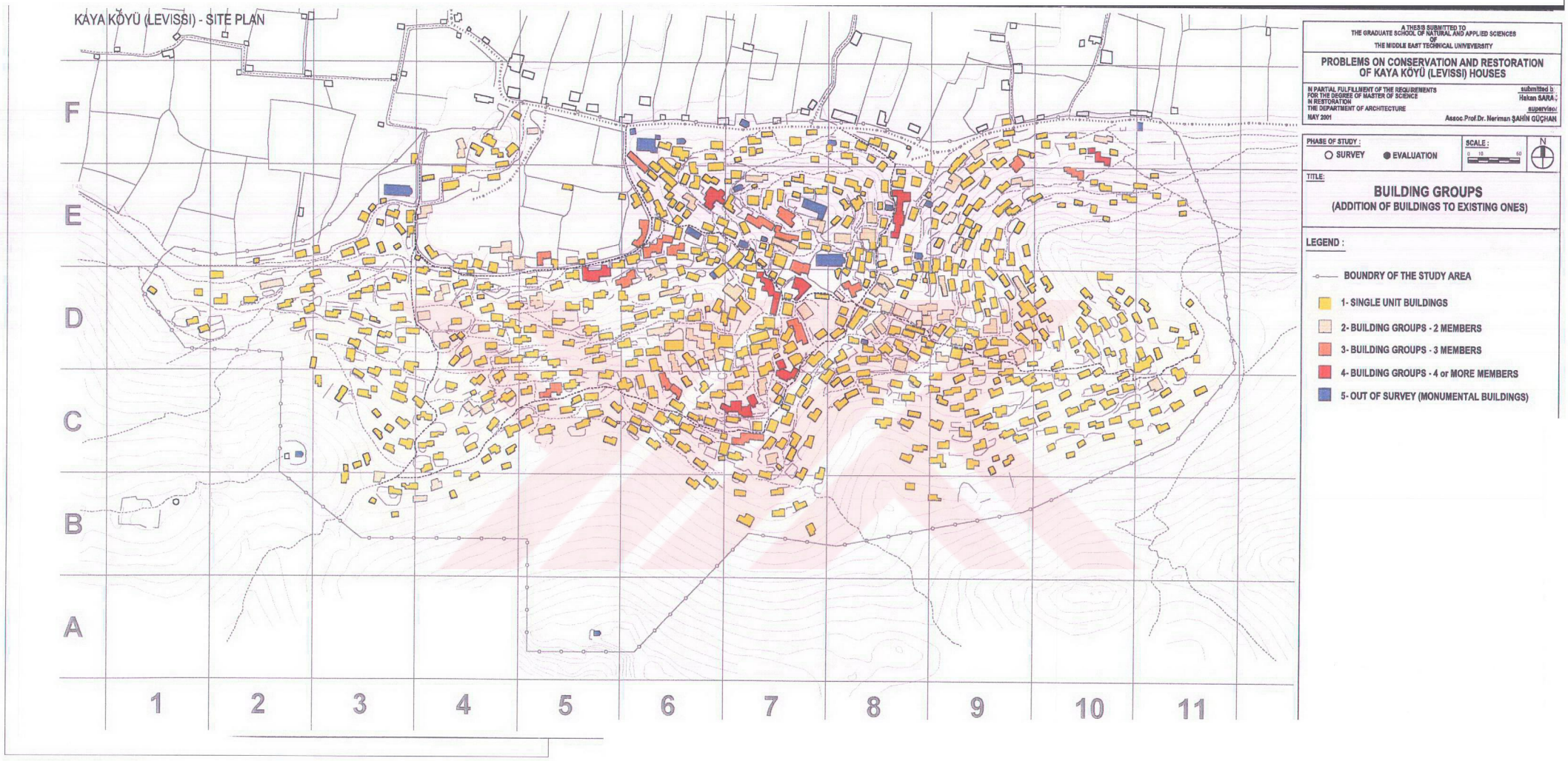


Figure 4.20: The Distribution of the Building Groups within the Study Area

The building group that is composed of buildings coded C.4.16.A and C.4.16.B can be given as an example of the first group of building groups with 2 units(Figure 4.21). In this example, the building coded C.4.16.B has a characteristic main room and a *hayat*. It has been regarded that this building is the first unit of the building group as it has the general characteristics, which have been defined in Chapter 4.2.12. The building coded C.4.16.A has also a characteristic main room and a *hayat*, and it had been constructed in a way to share the blind hillside façade of the earlier building. It has typical spatial characteristics of the characteristic main room, but its orientation differs from the general characteristics. It is the only characteristic main room within the study area that orients to the upper side of the slope. The two buildings use the same cistern. Besides, there is a door between the basement floors that connect them to each other. For this reason, it can be concluded that there is a relationship between the owners of the buildings in this example and in other building groups.

The building group that is composed of buildings coded C.5.6, C.5.7.A and B can be given as an example of the second group of building groups with 3units (Figure 4.22). In this case, it can be said with respect to its typological characteristics that the building coded C.5.6 is the first unit of the building group. It is an example of the characteristic Kaya Köyü House. The building coded C.5.7.A is an atypical building, which had been constructed as neighboring the one, coded C.5.6. Between them the building coded C.5.7.B had been constructed and thus the 3 buildings had been connected. As to the building coded C.5.7.B that had been left unfinished, construction of a cistern could not be determined. It can be concluded that there is a relationship between the owners of these units.

The building group, which is in D.5. grid and on the main street connecting the Upper and Lower Churches, and which is composed of 6 buildings can be given as an example of the third group of building groups

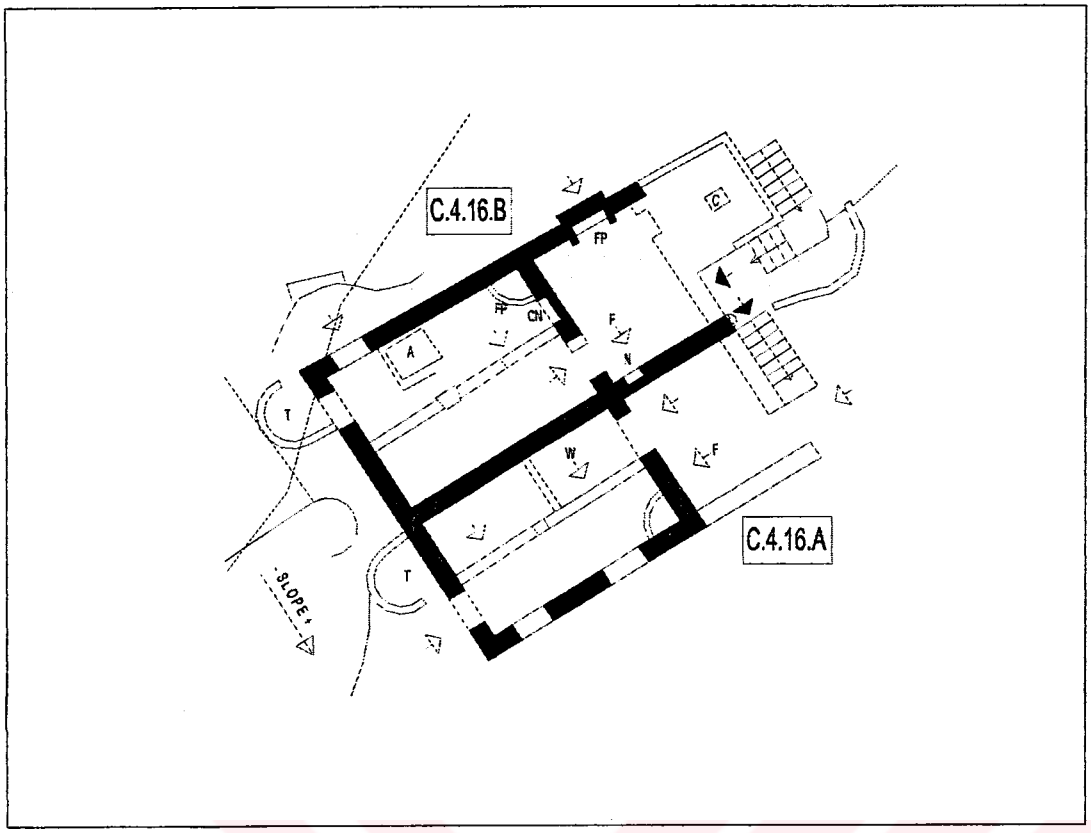


Figure 4.21 : Building group with 2 units

with 4units (Figure 4.23). The first units of this group are the buildings coded D.5.4.a and B. The building A is the type of a partial *hayat* and a large living space building, and B is an example of the characteristic Kaya Köyü House. Subsequently the building coded C, which also has the characteristic plan scheme, had been constructed attached to the front façade of the building coded B. At this stage, the characteristic main room window of the building coded B had been still in use. Lastly, buildings coded D, E and F had been added to the building group, but the row of their construction is not known. The building coded F is an unfinished building. All of these 3 buildings are shops have the characteristics of a shop. They should have been constructed as a result of the developing commercial life at the center of the settlement. When the building coded D

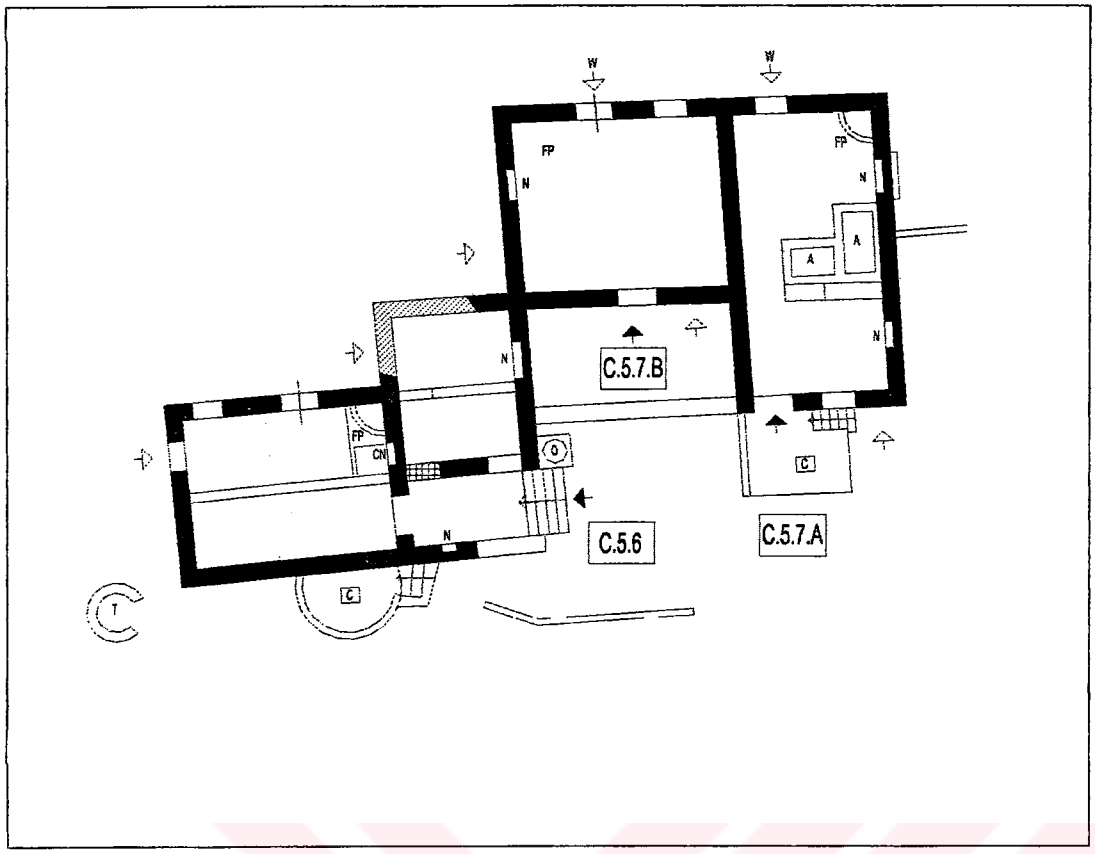


Figure 4.22 : Building group with 3 units

had been added to the group, the door type window at the characteristic main room of the building coded B, which has a characteristic plan scheme, had been closed. Probably for this reason, a new window had been opened at this space at the hillside.

Building groups effect the physical structure by increasing the building density and changing the open and built-up area relationship. Buildings had also been subjected to interventions in time. The alterations that had been formed as a result of these interventions are classified in three groups: Architectural element alterations, spatial alterations and mass alterations.

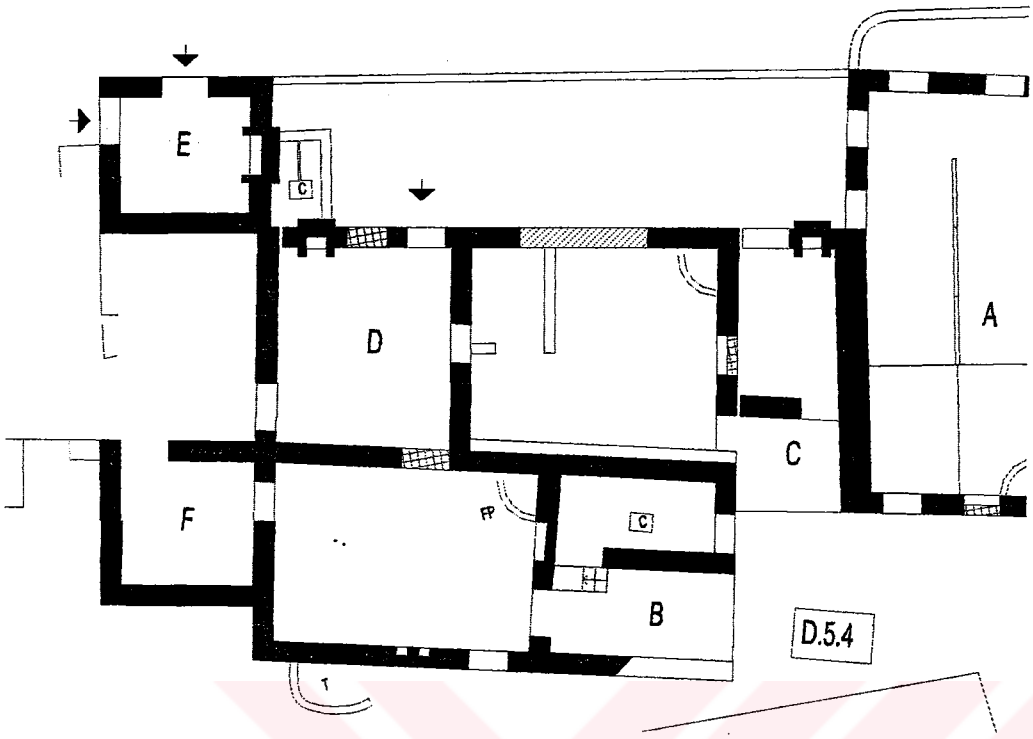


Figure 4.23 : Building group with 6 units

The monumental buildings, the buildings in use, unfinished and unused buildings and the buildings about which no information could be determined as they are in ruins are out of evaluation in this respect.

Alterations in the first group include the interventions on the architectural elements, such as closing door and window openings, making new openings, and changing windows into niches. Alterations of architectural elements have been observed in 200 (65,15%) of the 307 buildings that have been examined within this framework (Figure 4.22).

The second group of alterations are the spatial interventions such as changing the dimensions of spaces, rising the ceilings, dividing or expanding the spaces. Spatial alterations have been determined in 41 (13,35%) buildings.

The third group of alterations involves additional spaces and buildings that had been defined in the original plan scheme. The plan and façade typologies, which have been given in Chapter 4.2, have been taken as the basis while making this evaluation, and the information gathered from the intervention and dilatation traces on architectural elements have been added to them. Spatial alterations have been determined in 66 (21,50%) buildings.

As mentioned in Chapter 4.2, some of the buildings within the study area had not been finished but used. Traces have been observed in these buildings in a way to indicate that that had been used for many years without having been finished. Accordingly, it can be said that a construction process had been foreseen for them on the basis of decisions of design plans in line with a certain plan scheme. The building had been constructed partially at an initial stage in line with the needs, and it had been planned to expand it in a certain way whenever necessary. It has been seen after the determinations that the ideal type of building that had been projected for many of the unfinished buildings is the D3 type characteristic Kaya Köyü House that has been defined in Chapter 4.2. In this section, examples that would support this suggestion will be presented at the first hand.

The living floor of the characteristic Kaya Köyü House consists of ten characteristic main rooms, semi-open entrance space and secondary living room. There are basement floors that had been used partially or wholly, depending on the slope. Entries to these spaces are generally from outside. In the unfinished buildings, either the characteristic main room or secondary living room had been in use.

The most prevalent example is the C1 type building with 88 units (12,9%) and consists of the entrance space and the characteristic main room. A door opening had been carved on the wall of the entrance space for the section to which the secondary living room would have been added. In some buildings, this opening had been filled temporarily out of security reasons. In some buildings, the secondary living room had been constructed up to the ground level (Figure 4.24). In some buildings, jutting out stones had been left at the corner of the characteristic main room in the direction, which the secondary living room would have continued(Figure 4.25).

Another example is the C2 type of building (12 units-1,76%), and consists of semi-open space and secondary living room. There is the door of the characteristic main room, but the space does not exist at all or had

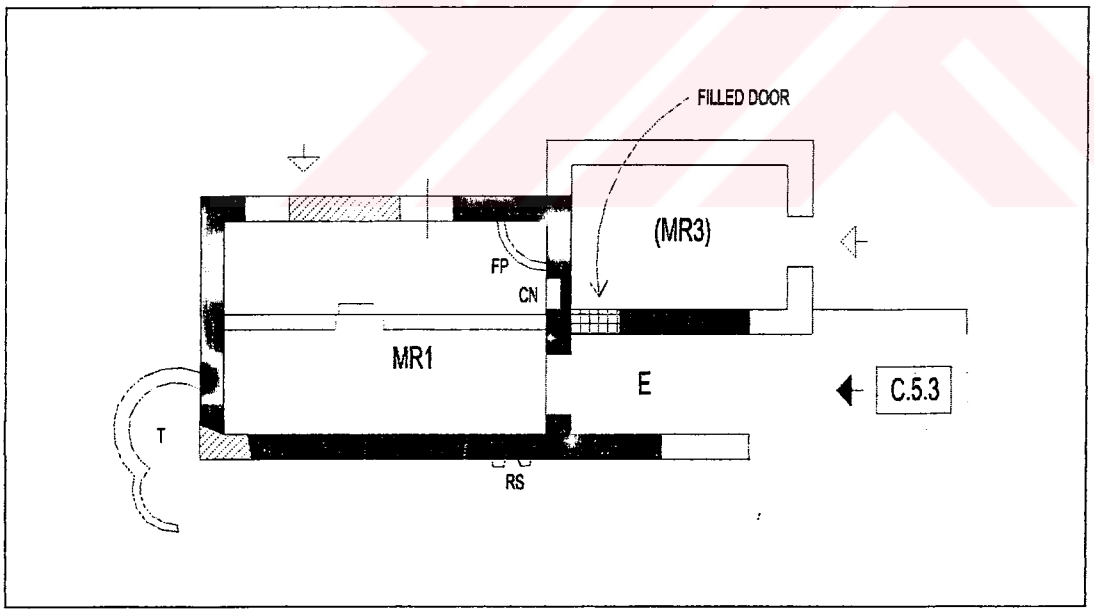


Figure 4.24: Preparations for the secondary living floor

constructed up to a certain level. The door had been filled up temporarily in at certain buildings. These examples are a dwelling, which does not have a corner type fire, i.e. *parastia*. This indicates that the cooking function had been performed in another building in the neighborhood, and that this unit could have been used for purposes other than those of the building having a *parastia*. It is regarded that corner type fireplace is required to talk about an independent dwelling. Another observation in connection with this suggestion will be presented while giving the definitions of alterations below.

Apart from these examples, buildings, which have the plan schemes of A1, A3, B1 and G2 types of buildings, have the potential to become the ideal type after certain tiny interventions. For example, in the G2 type of building the wall between the semi-open entrance space and the secondary living room had been removed and these spaces had been combined. Even in one example, these two spaces had been combined in this way even though the characteristic main room had not been finished. In some buildings groundwork for this purpose, such as wall projection has been determined.

In addition to this information gathered from the unfinished buildings, it is also possible to see the traces of this gradual construction process. For example, horizontal joints that have been determined at the ground floor level indicate that the building had been kept unfinished at this level for a while (Figure 4.26).

Design decisions and plans of gradual construction might change in certain cases. It is possible to see many traces of such changes of decision at the finished buildings. For example, projections of wall type fireplaces, which had been started but left unfinished, have been observed on the external façades of certain buildings. As mentioned in Chapter 3., the wall type fire place element on the main façade, which is the prevalent characteristic of the secondary living room, has been built in a form that

Figure 4.25:.Preperation for the Secondary Living Room (D.10.7)

Figure 4.26:.Traces That Reflect the Construction Process (E.9.7)

unites with the wall and makes a projection of about 20 cm on the wall. In order to put the hearthstone at the ground level, the outer construction of the fireplace should start between 50-100 cm below the ground. For this reason, it is normal to built a projection for the wall type fireplace at the secondary living room, which has been constructed up to the ground floor level in line with the design decisions and left unfinished at that level. If it is decided not to built this fire place while completing the construction of the building, the fire place projection is kept at this position and the wall on it continue regularly. The reason for relinquishing from the decision of building a wall type fireplace is mostly the decision of changing the space into a living space, which has a corner type fireplace. Cancellation of the wall type fire place and construction of a corner type fireplace instead has also been seen at the finished buildings (Figure 4.27).

As another alteration that can be observed at the spaces in which corner type fireplaces had been built instead of the wall type fireplaces, the places of entrance doors had been changed. It is a common alteration that doors which had been on the side of characteristic main room originally had been cancelled and formed at the opposite side of the entrance space or at the entrance façade. The reason for such an alteration should be the necessity to use the secondary living room as a separate dwelling. Taking the entrance door to a farther and private place in order to use this space, which is close to the characteristic main room, as a separate dwelling should have been preferred in order to secure the *privacy*. And the corner type fireplace should have been preferred as it is more functional than the wall type fireplace. From this point of view, it can be concluded that the corner type fire place had been a preference while forming a separate dwelling, as cooking function of this type of fire place had been much more satisfactory. Another suggestion for the alteration of transforming wall type fire places into corner type fire places at the secondary living rooms is as follows: if the door of this space had not been taken to the façade as a revision, there could have been the necessity to

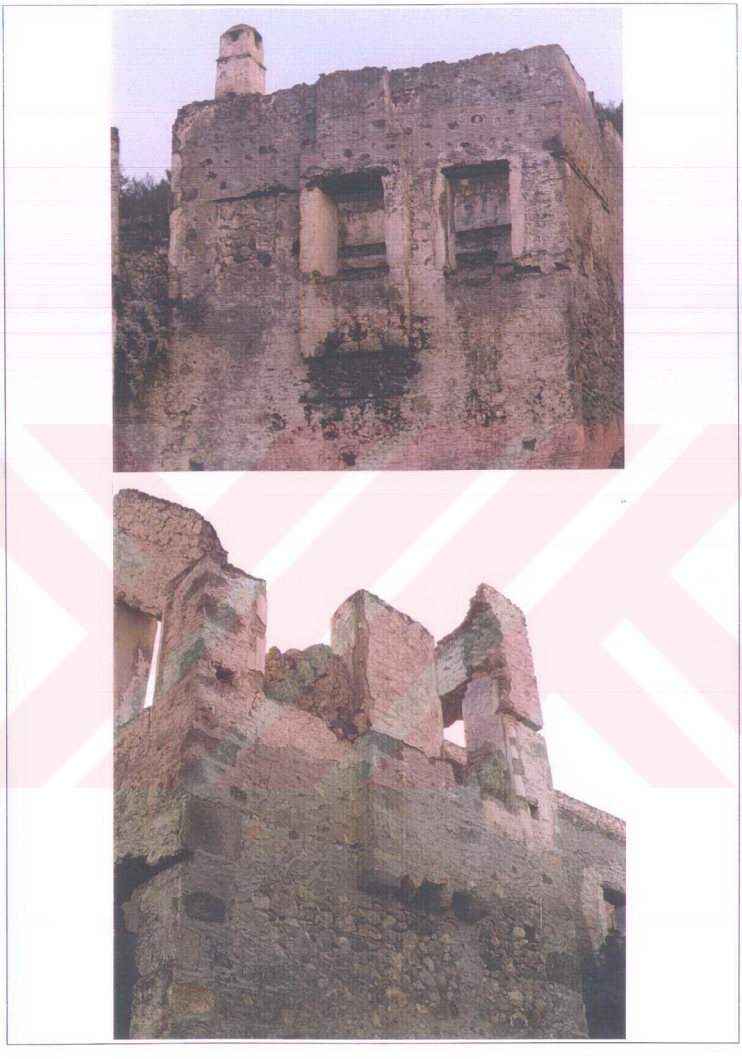


Figure 4.27: Cancellation of the Wall Type Fireplace

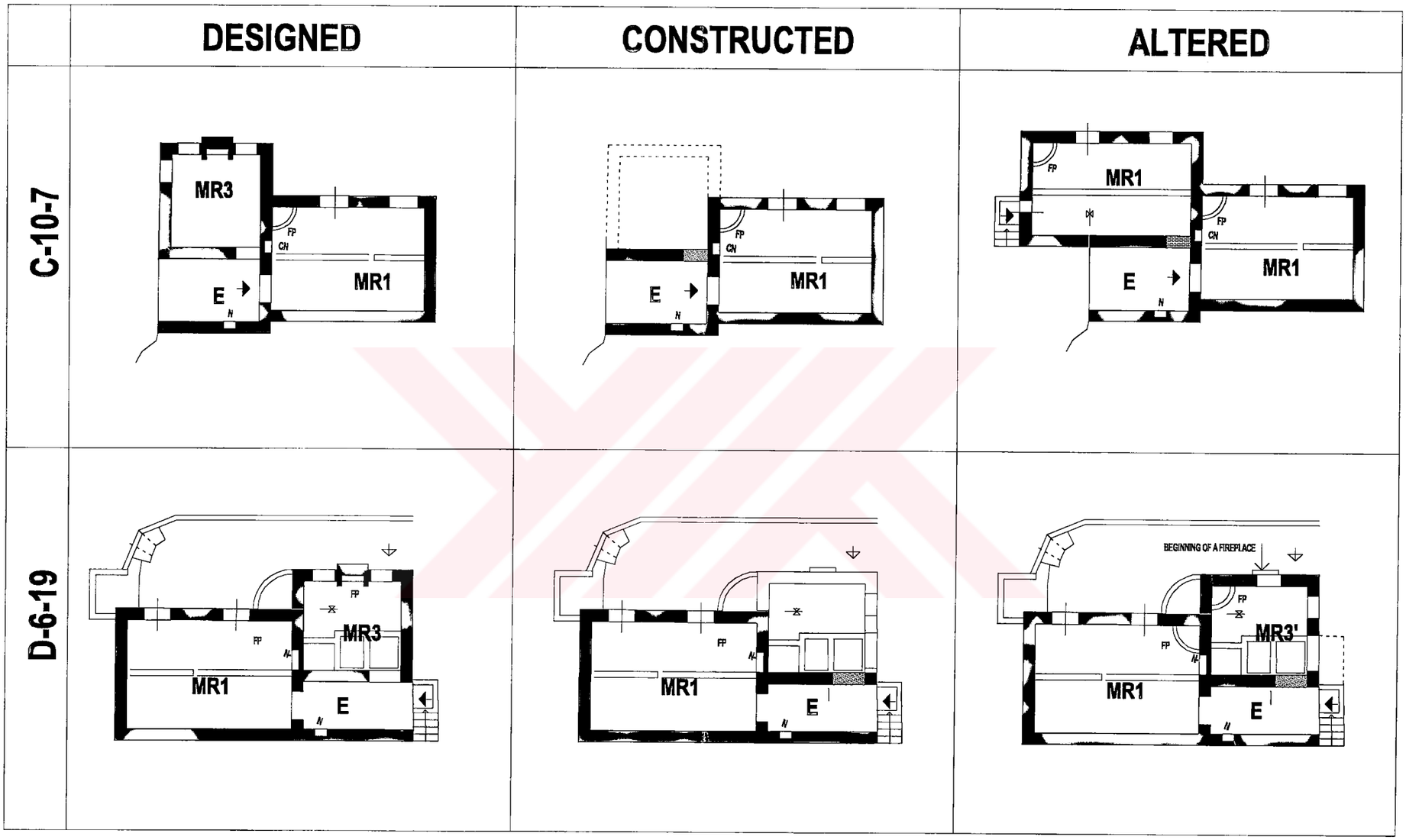


Figure 4.28: Design Decisions and Alterations in Construction Process

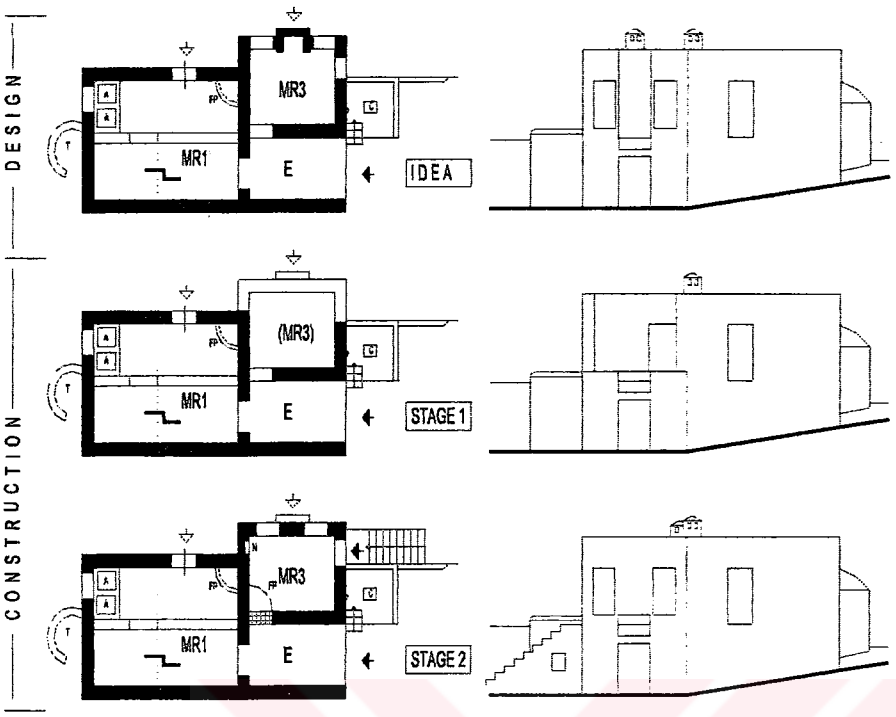


Figure 4.29: Decision of design and alterations (C.5.1)

transform this space into a service space such as a kitchen in the same dwelling.

Another alteration at the secondary living spaces is its construction bigger than the planned space. Horizontal joints of dilatation, which had been formed on the wall of the entrance space in the process of alteration, have been observed at the buildings, which had been altered in this way. Expansion of the secondary living room on the basis of decisions of plan brings forth types of buildings, which have been coded D1, D2 and D4 in the plan typology. For example, D1 type of building has two characteristic main rooms. The characteristic main room is the single and sufficient

space of one dwelling. According to this, it can be suggested that these types of buildings had been produced as a solution when it had been necessary to enable two dwellings to live in the same mass. If the buildings in these types are evaluated from this standpoint, it is possible to determine the changes in design and alterations of later periods.

Existence of the buildings which have the characteristics described above provides valuable information on the design and construction process of the traditional housing architecture of *Kaya Köyü* buildings. It has been possible to make assessments about the construction process in the light of this information and the definitions given in previous chapters (see chapter 3.3.4. and 4.1.1.). Some case studies, which sample these assessments and hypothetical illustrations, are presented in Figure 4.28, 4.29, 4.30,4.31, 4.32, 4.33)

4.3. Values, Potentials and Problems of Kaya Köyü as a Whole:

This section aims to present the evaluations on values, potentials and problems of *Kaya Köyü* on the scale of buildings and environs. This has been done with reference to all of the definitions and the evaluations given in previous sections.

4.3.1. Values and Potentials of Kaya Köyü:

Before giving the definitions of values that *Kaya Köyü* houses presumably have on the urban scale and the building scale, it is essential to explain the evaluations of Kaya Köyü Peninsula and *Kayaçukuru*, in which

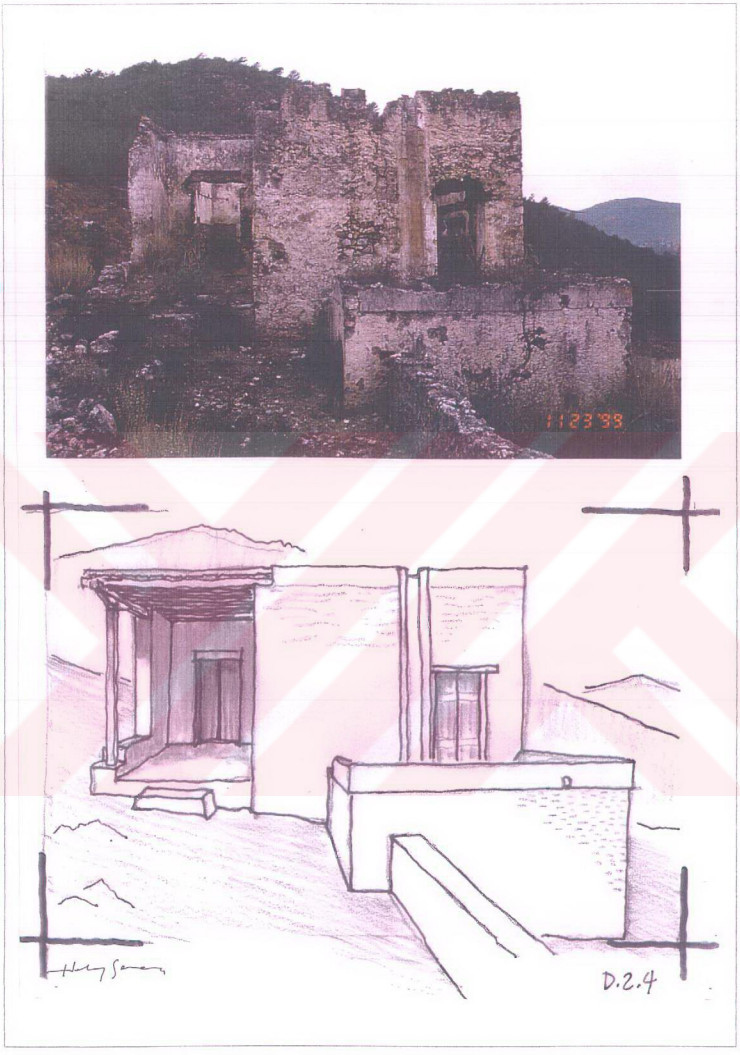


Figure 4.30: Hypothetical Drawing of house D.2.4 (drawn by H.Saraç)

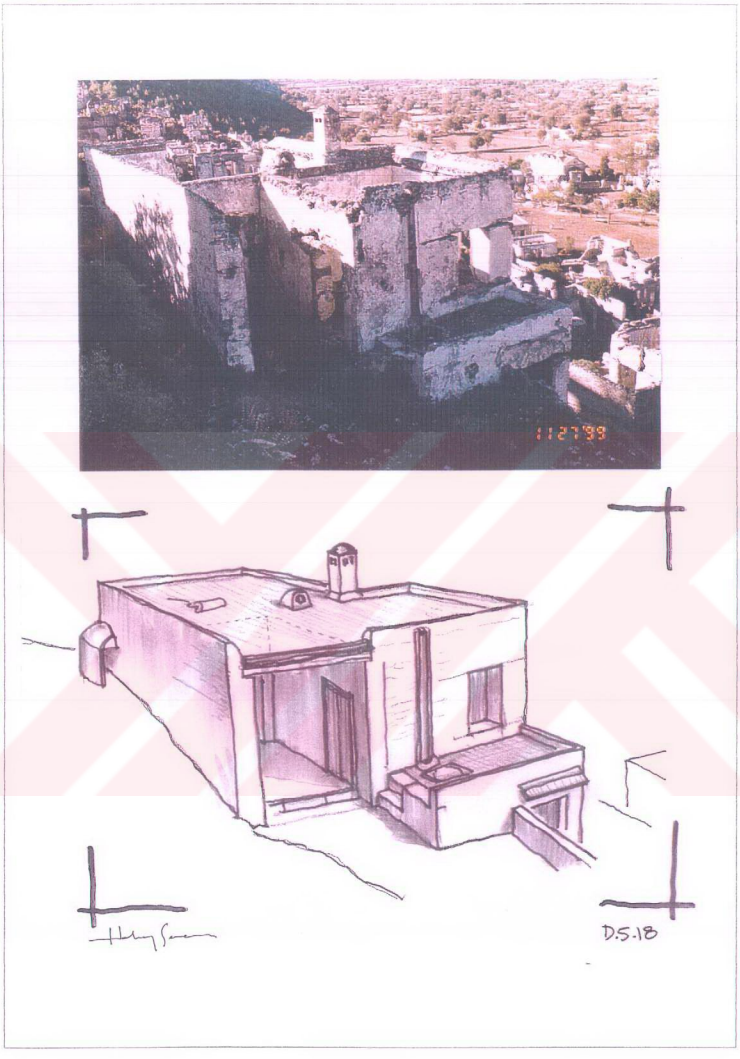


Figure 4.31: Hypothetical Drawing of house D.5.18 (drawn by H.Saraç)

Figure 4.32: Hypothetical Drawing of house C.7.3 (drawn by H.Saraç)

Figure 4.33: Hypothetical Drawing of house D.9.11 (drawn by H.Saraç)

Kaya Köyü is located. For this thesis considers *Kaya Köyü* as a whole with *Kayaçukuru* and its near vicinity.

4.3.1.1. Values and potentials of near vicinity of Kaya Köyü:

Within the above-mentioned context, main titles, which have been regarded as the values and potentials of Kaya Köyü Peninsula and Kayaçukuru, are listed below. The areas that are mentioned here are shown in Figure 1.1.and Figure 4.34.

1. Kaya Köyü Peninsula is an important part of the region, which had been known as *Karya* in the ancient times, and it has many historical sites both on the ground and beneath it. The historical and cultural continuity because of having been inhabited throughout the history, and the buildings and the settlements, which have witnessed to this continuity are regarded as a value.

2. Especially Kaya Köyü and *Ölüdeniz* have been the most appreciated tourist resorts of Turkey. Such an attraction is regarded as a potential that can be transformed into an economic value for *Kayaçukuru* and *Kaya Köyü*.

3. Natural properties of Kaya Köyü Peninsula, such as the coastline, which is comprised of many large and small bays and islands, its forests and flora, and the dilapidated condition of the buildings in *Kayaçukuru*, among other things, are regarded as an important value, despite the rapid and unplanned developments in certain sections.

4. *Gemiler* Island, which has the status of 1st Degree Archeological Site, is regarded as a value. Besides, the visual relationship between *Gemiler* Island and the chapels up on the hills of *Kaya Köyü* is regarded as a potential.

5. The identical value of *Afkula* Monastery (Hagios Elefterios), which had an important part in the religious and social culture of *Kayaçukuru* prior to the exchange of population, is considered as a cultural value of *Kaya Köyü*. In addition, it is regarded as a potential with respect to its physical structure as it had been carved out of the rocks on a steep hillside, to *ayazma*, which is located in the same area, to the footpath in the forest, and to the splendid panorama. Besides, the existence of one of the most wonderful scuba diving places in the region just in front of the hill where the Monastery is located is considered as a potential.

6. *Vai* or *Donyunak* Bay -current name is *Beştaş* Bay- has an identity value for occupying an important role in the social life of *Levissi* prior to the exchange of population as it had been the place where the *Levissi* women had whiten the fabrics. Besides, this place has a potential as it is the nearest seaside to Kaya Köyü.

7. The historical footpath, which starts from *Kaya Köyü* settlement and reaches *Ölüdeniz,* is regarded as a value and potential with respect to the unspoiled forests and the wonderful panorama on its route.

8. The historical road, which had reportedly been paved by *Levissi* women with stones and which is the shortest way between *Kayaçukuru* and Kaya Köyü -Greek name is *Makri*-, is regarded as a value and potential with respect to its route and preserved sections.

9. The protected sections of the historical road that connects *Kayaçukuru* and *Ovacık-Hisarönü* and that passes through the forest area, are regarded as a value and a potential.

10. All of the historical settlements within *Kayaçukuru*, namely *Keçiler, Kınalı, Gökçeburun* and Kaya Köyü, are regarded as a value and potential. In addition, *Değirmentepe* and *Ebehora*, which are abandoned small settlements like *Levissi*, are regarded as a value and potential with respect to their historical and physical characteristics.

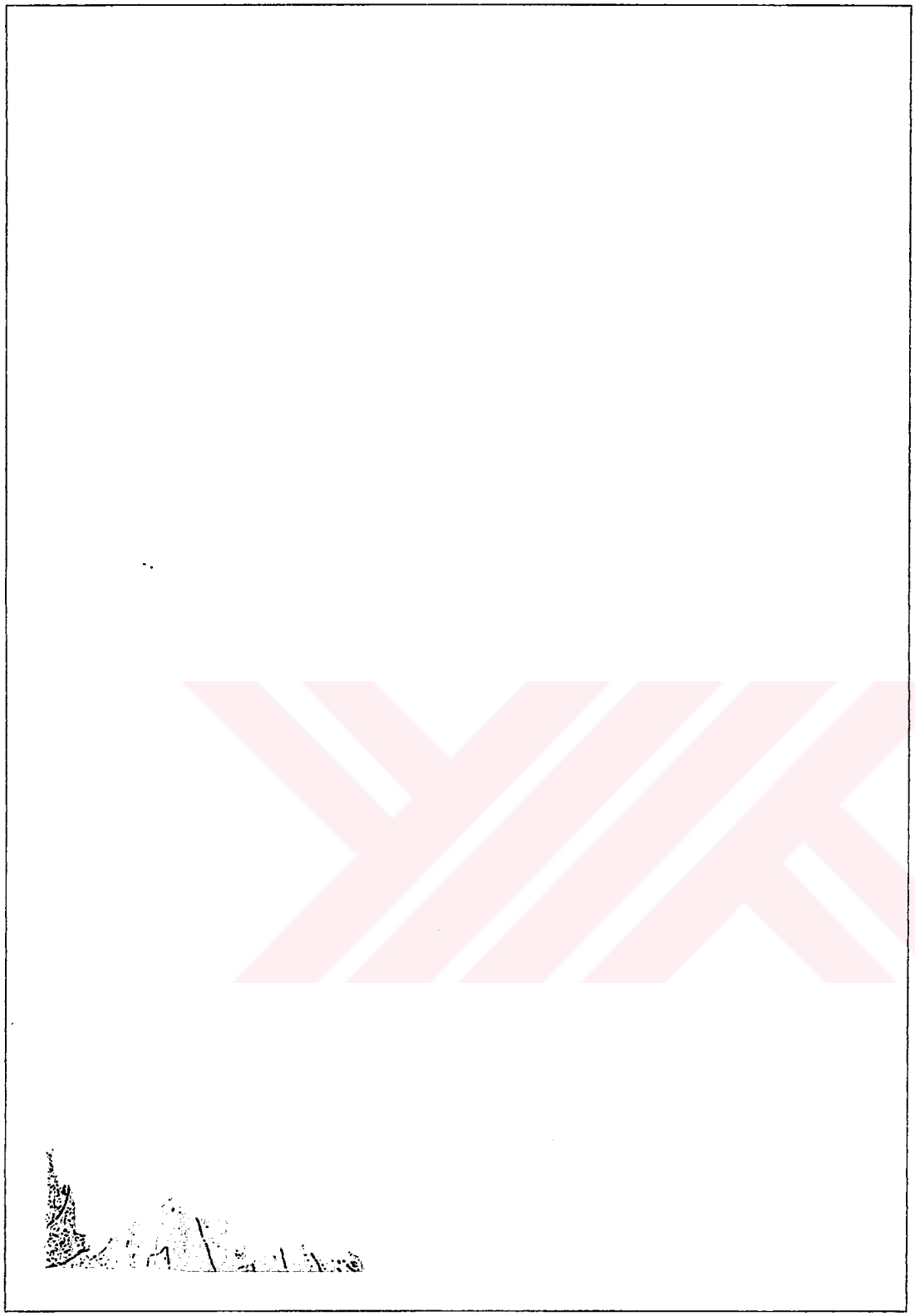
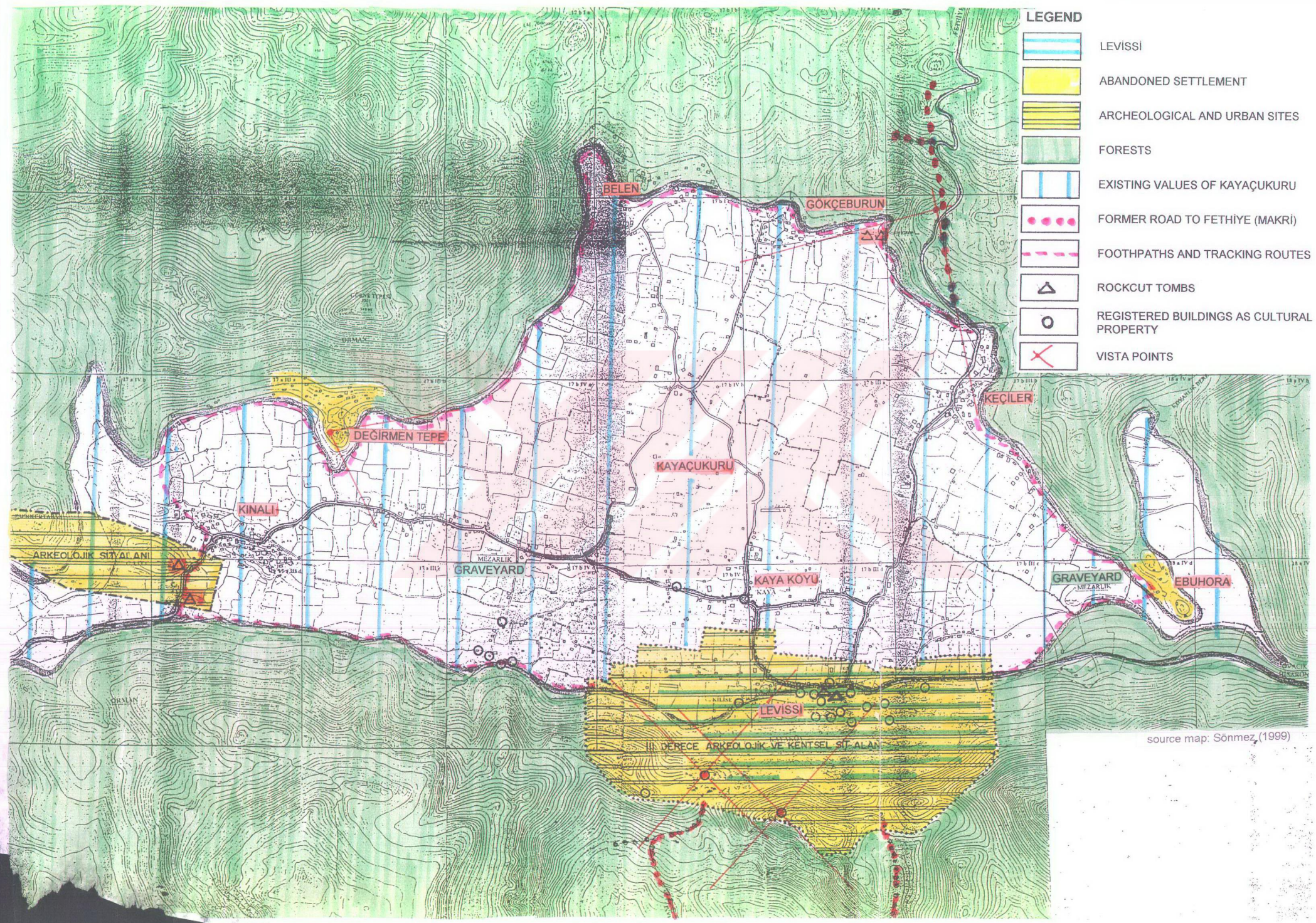


Figure 4.34: Values and Potentials of Near Vicinity of Kaya Köyü


LEGEND
LEVİSSİ
ABANDONED SETTLEMENT
ARCHEOLOGICAL AND URBAN SITES
FORESTS
EXISTING VALUES OF KAYAÇUKURU
FORMER ROAD TO FETHİYE (MAKRİ)
FOOTHPATHS AND TRACKING ROUTES
ROCKCUT TOMBS
REGISTERED BUILDINGS AS CULTURAL PROPERTY
VISTA POINTS
BELEN
GÖKÇEBURUN
KEÇİLER
DEĞİRMEN TEPE
KAYAÇUKURU
KINALI
ARKEOLOJİK SİTVAL ANI
MEZARLIK
GRAVEYARD
KAYA KÖYÜ
KAYA
GRAVEYARD
MEZARLIK
EBUHORA
LEVİSSİ
III. DERECE ARKEOLOJİK VE KENTSEL SİT ALANI
ORMAN
source map: Sönmez (1999)

11. The well-preserved structure of *Kayaçukuru*, which is consisted of small gardens surrounded by stone courtyard walls and many abandoned historical buildings that are similar to *Kaya Köyü* houses, is regarded as a value and potential.

12. The archeological and urban conservation areas, registered buildings and monumental trees within *Kayaçukuru* are regarded as a value and a potential.

4.3.1.2. Values and potentials of Kaya Köyü:

Values and potentials which have been defined for the historical *Kaya Köyü* settlement (former *Levissi*) are listed in three main groups. Cultural values of *Kaya Köyü* settlement are given in the first group, socio-economic values are given in the second group, and physical values are given in the third group[3]. It should be noted at the firsthand that *Kaya Köyü* is a value as a whole with all the physical components that compose and define itself and the historical, social and cultural meanings of these physical components. The values and the potentials of the study area have been listed in Figure 4.35.

Cultural Values of Kaya Köyü:

Kaya Köyü is an important settlement of Anatolian Greek culture, which is a component of the cultural mosaic of the Anatolia. It is a sentimental connection between the Turkish and Greek people as it has witnessed the exchange of population, a phenomenon that is of

indisputable importance with respect to the recent history and cultural identity of the both societies. Such a connection is the identity value of *Kaya Köyü*, which has attracted a prominent social attention to *Kaya Köyü*. This can also be seen with a glimpse at the development of conservation activities given in Chapter 2. Such an attention is regarded as an important potential for *Kaya Köyü*.

Another value that will be explained in this group is the "relative artistic or technical value" of Kaya Köyü. This value refers to the authenticity of the physical characteristics of Kaya Köyü and its importance within the traditional architecture of Southern Aegean Region.

Muslims who had migrated from Greece after the population exchange had been settled in the settlements, which had been abandoned by the Greeks earlier; and they had more or less altered the settlements at the first instance, and these settlements have reached the present with further alterations. As for Kaya Köyü, however, this settlement had not been inhabited after the population exchange, and for this reason it has a special importance for not having been subjected to interventions, leaving aside the physical decay in time. This unique status creates the rarity value of Kaya Köyü.

Contemporary Socio-economic values of Kaya Köyü:

In this respect, social and economical values of Kaya Köyü that cast an importance for current culture are evaluated.

Kaya Köyü is located in one of the most important regions of Turkey with respect to the tourism capacity. In addition, physical characteristics of *Kayaçukuru* and Kaya Köyü have important potentials for tourism. Indeed, as mentioned in Chapter 2, the master plan for Kaya Köyü, which had been

prepared before Kaya Köyü had been declared as "special project area", had proposed a tourism area with a capacity of 12.000 beds. Thus, the tourism potential of *Kayaçukuru* and Kaya Köyü creates an "economic value". At present, tourism becomes an important source of income for the people living in Kaya Köyü.

Kaya Köyü has also a great potential for cultural tourism with respect to its historical, cultural and architectural characteristics. This potential ever gains importance with Kaya Köyü's "documentary value" of being a source for the traditional architecture of Southern Aegean Region and Greek settlements in Anatolia.

With respect to their structural condition, buildings of Kaya Köyü have the potentiality of being used for various functions. For example, churches, chapels and the houses, which are in good structural condition can be used in line with their original functions or given different functions after the restoration. Indeed, churches, chapels, certain buildings, courtyards and open spaces in their current structural condition have the physical potentiality of being a scene for exhibitions and the audio-visual art performances. Such a potential increase the "functional value" of Kaya Köyü.

Kaya Köyü has also an important "political value" both for Turkey and Greece because of the exchange of population it witnessed. Both countries have been sentimentally affiliated with Kaya Köyü. For this reason, both countries have concerns about any type of restoration or re-functioning activity on the basis of Kaya Köyü. Such an activity will inevitably effect, either negatively or positively, the relations between the two countries. All the activities that are respectful of the cultural identity of Kaya Köyü will positively contribute to the relations between the Turkish and Greek people and governments. The "political value" of Kaya Köyü creates a potential with regards to the conservation activities.

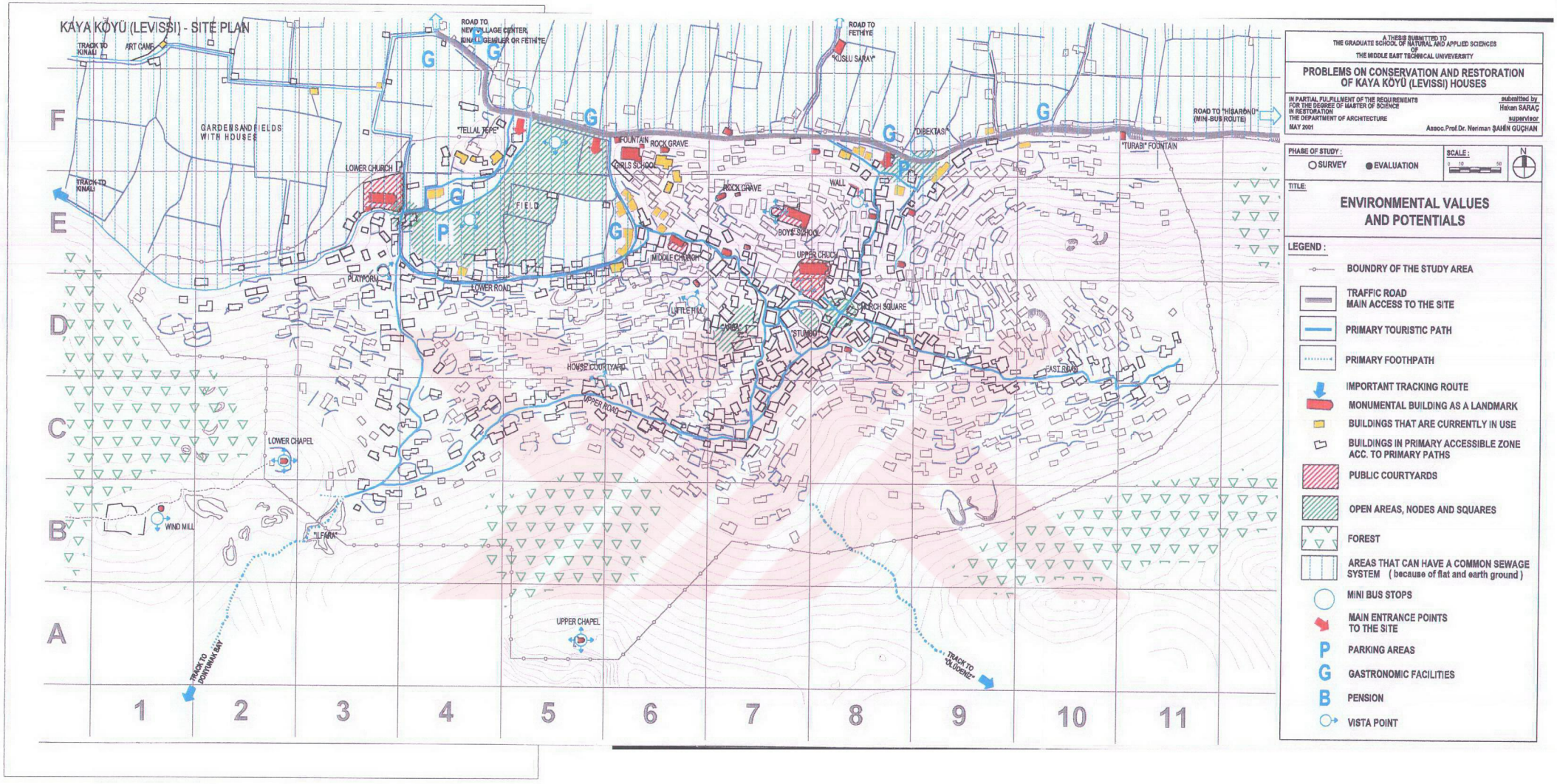


Figure 4.35 : Values and Potentials of Kaya Köyü

Physical Values of Kaya Köyü:

This section focuses on some of the important physical characteristics that make Kaya Köyü valuable.

a. Layout and orientation:

Kaya Köyü settlement had been laid out on a hillside and respectful of the fertile plain of *Kayaçukuru* as its source of life. For this reason, this layout is regarded as a value. Besides, the buildings set on a rocky ground, which also contributes to the value of the layout.

It can be perceived a whole, as it is a hillside settlement orienting towards *Kayaçukuru*, and this is regarded as a potential. In the same way, *Kayaçukuru* can be perceived from the settlement, which is also a value and a potential.

The topographical characteristics of the settlement, i.e. the hills, small valleys, small flat areas, are each regarded as values and potentials.

Layout of Kaya Köyü buildings in harmony with the topography and the natural ground, simple cubic forms they have and the contrast of this form to the hilly and steep natural ground are regarded as a value.

. The forest that starts wherever the settlement ends up at the upper and side directions are regarded as a value and a potential.

b. Accessibility:

Vehicles can reach to certain points within the settlement, and this is regarded as a potential as the buildings, which have such accessibility, have higher potentials of usage.

All of the streets and their pavements especially those that had been covered with stones and have steps, are regarded as a value. The main arteries had been designed in a way to provide access to all areas within

the settlement, and this is regarded as a value and a potential. With this respect, buildings and areas that are easily accessible by main arteries within the settlement are regarded as a potential.

Footpaths, which start from the settlement and reach *Ölüdeniz*, *Donyunak* and *Kınalı*, which are shown as values themselves in the near vicinity, are each regarded as values and potentials.

Infrastructure can be maintained quite easily towards the lower parts of the settlement where the ground gets flat, and this can be regarded as a potential at the firsthand. For this reason, the buildings in these areas are regarded as having a higher potentiality of usage with respect to this potential, in addition to their accessibility.

There are three spots within the settlement that can be regarded as main entrances. These are eastern part of the settlement and *Dibektaşı* region for Upper Church; middle part and fountain region for churches; and western part and *Tellaltepe* region for Lower Church and chapels on the hills. These spots are regarded as potential with respect to their current functions.

c. Landmarks, Vistas and Attraction Points:

Churches, chapels, school buildings and fountains, which are predominant with respect to their monumental characteristics and positions within the general physical structure of the settlement, are each regarded as a value and a potential. Despite the fact that they are not focal points with respect to their locations, two rock-cut tombs within the study area are also regarded as values and potentials. In addition to these buildings, the remains of a wall, which had been presumably a protection wall, seeing *Dibektaşı* region on the side of the hill with the grid reference E.8, and on which there is a house now, is also regarded to have a physical value and potential.

Buildings, which are currently used as houses, seasonal houses and commercial tourism buildings, form the main attraction points within the

panorama of the settlement because of their incompleteness. They increase the use density to the area they are located in, and for this reason they are regarded as potentials.

Courtyards of churches and the school, which are the meeting places within the social life of the people before the exchange of population, are each regarded as a value. Walls surrounding these courtyards and the material of the floor covering are also regarded as values and potentials. Especially the pebbled stone coverings ornamenting the floors of the courtyards of the churches are among the most important physical characteristics of Kaya Köyü.

In addition to the courtyards, stone paved squares at the nodes (i.e. the Upper Church square) and the open areas within the settlement (i.e. *Stumbo* hole) are regarded as values and potentials.

Buildings, which are in use at the lower levels of the settlement and cafés and restaurants around the squares, are regarded as potential.

The two chapels on the southern hills, which have the vistas directed to Kaya Köyü and *Kayaçukuru* as well as the sea at the backside, are each regarded as a value and a potential.

The remains of the mill, which is also on the southern hill on the side of the sea, is regarded as a value and a potential with respect to its role in the social and economical life of the people before the exchange of population and its physical structure.

Certain points, which are prominent within the study area with respect to their locations and the splendid panorama are referred as vista points and regarded as potentials. Among these vista points are the chapels on the hills, the courtyard of the Boys School, courtyard of the Upper Church, the square outside the Upper Church, the square outside the Lower Church, *Tellaltepe* and the open areas in front of *Tellaltepe*. Apart from these places, courtyards of many houses and cistern terraces have also wonderful vistas. To give an example, the courtyard of the

building with the grid reference C.5.4 is prominent among these vista points with respect to its position.

d. Physical Characteristics of the Buildings:

The architectural elements of the buildings, which have been used after the population exchange, especially the indoor elements, are original and have invaluable importance in terms of comparative studies. For this reason, such buildings are each regarded as a value and potential.

Buildings which have been noted during the site survey because of their massive entirety and the richness of architectural elements are each regarded as a value and a potential with respect to their documentary importance and potentials of use. The ones, which also have the advantage of accessibility, are regarded as potentials as they can be given priority during the restoration activity (Figure 4.36).

To sum up, all of the physical components of Kaya Köyü buildings, their architectural and structural characteristics, construction materials, construction techniques, spatial and massive characteristics, which are all explained in chapters 3 and 4, are each regard as values one by one and as a whole.

e. Status of Property Ownership:

Most of the open and built-up areas of Kaya Köyü are public property. This is regarded as a potential, as the conservation planning activities can be carried out by a single entity.

4.3.2. Problems of Kaya Köyü

Before defining the problems that Kaya Köyü buildings have presumably have on urban scale and building scale, it will be convenient to

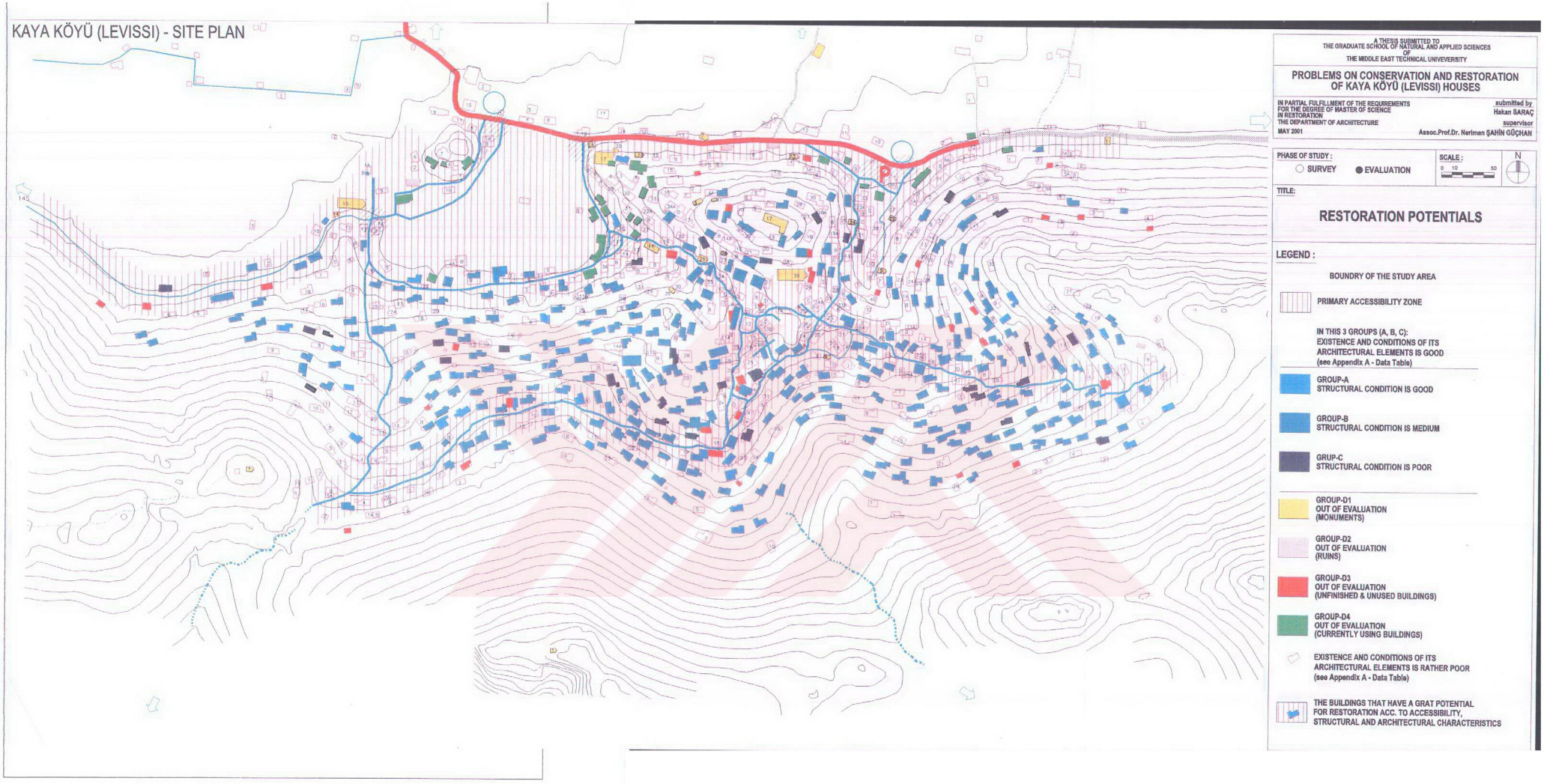


Figure 4.36 : Restoration Potentials of Kaya Köyü Buildings

explain the evaluations of Fethiye Peninsula and *Kayaçukuru*, in which Kaya Köyü is located. For this thesis considers Kaya Köyü as a whole with *Kayaçukuru* and its near vicinity.

4.3.2.1. Problems of Near Vicinity of Kaya Köyü:

In this respect, main problem definitions of Fethiye Peninsula and *Kayaçukuru* are listed below.

1. The increase in the tourism activity in the near vicinity of Fethiye and especially in *Ölüdeniz*, lack of effective planning in construction and infrastructure activities despite such an increase are regarded as sources of potential problems for *Kayaçukuru* and Kaya Köyü.

2. Illegal constructions and speculative pressures observed in the area despite the decisions of master plans and proclaiming the region as a conservation area are seen as a potential problem.

3. The plan that proposes expanding the current *Ovacık-Hisarönü* breach of Fethiye-*Ölüdeniz* highway in a route to pass through *Kayaçukuru* and reach *Gemiler* Bay is regarded as a serious problem for *Kayaçukuru* and its near vicinity. This road also passes through the border of Kaya Köyü settlement, demolishing the characteristics of *Kayaçukuru* that have been listed among values.

4. Villagers of *Kayaçukuru* leave the traditional production activities because of economical problems and involve in tourism activity. The traditional construction techniques are also left aside for the same reason. Demands for seasonal houses, pensions and restaurants and the pressure of implementations lead to a transition that has started to deform the quality of the physical structure the area, which has been regarded as a value. Such a transformation is regarded as a problem.

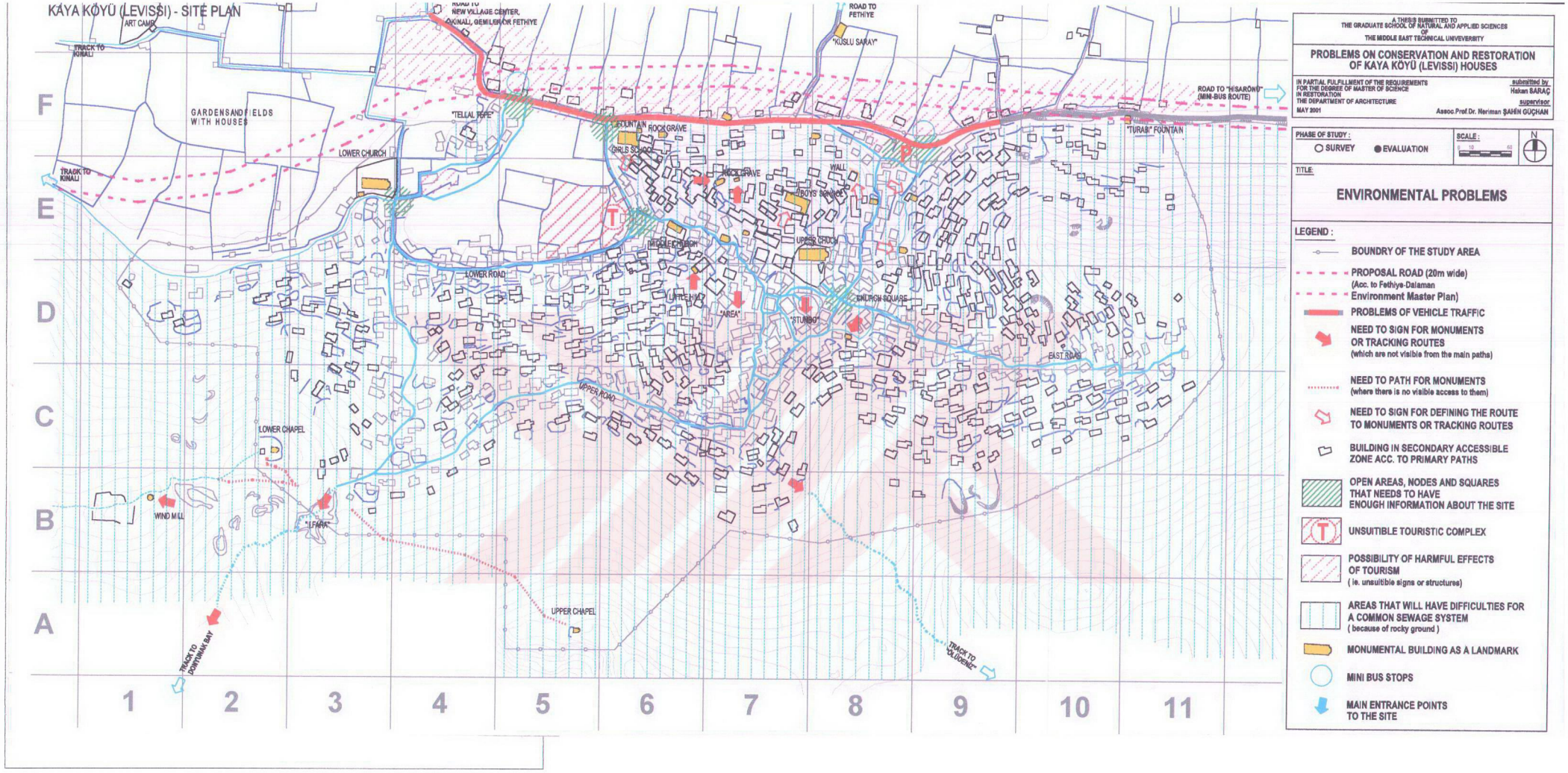


Figure 4.37: Problems of Kaya Köyü

4.3.2.2. Problems of Kaya Köyü:

The problems that have been defined in this respect are listed in Figure 4.37.

1. Current asphalt road that connects *Ovacık-Hisarönü* with *Kayaçukuru* is regarded as a source of problem because of the increase in the traffic. There have been accidents, which physically harmed the historical buildings on the sides of the road.

2. The proposed 20-meter highway, which has been defined as a source of problem in Chapter 2 and above, lies as the current road up to *Turabi* fountain; there it heads towards the plain and passes through the backside of the buildings currently nearby the road down to the Lower Church. Then it gets closer to the hillside and connects with the footpath which reaches *Kınalı* and which has been listed as a value. In addition to the general problems it creates, this proposed road passes through the historical Kaya Köyü settlement and destroyed the physical structure. For these reasons, it is regarded as a problem.

3. The speculative pressure of tourism on *Kayaçukuru*, which has been mentioned above, has started to be effective towards the lower levels of Kaya Köyü in a way to change the historical physical structure. Illegal and improper restoration activities, additional buildings, open area arrangements, commercial signs all contribute to the visual pollution. This is added to the noise pollution, and together they threaten the physical structure. For this reason, they are regarded as problems.

4. Currently Kaya Köyü is an open museum, which has been visited by a great number of people. In this respect, sings and informative panels that would give information on Kaya Köyü and direct the visitors are insufficient. Many of the visitors leave the settlement without seeing the

monumental buildings or reaching vista points that have been listed as values. The circulation route around the settlement is also unclear in a similar way, and these currently create a problem.

5. Topographic characteristics of Kaya Köyü, which have been listed as values and potentials, can be shown as sources of problem in certain aspects at the same time. If the most important criterion in this regard were accessibility, then buildings, which are located outside the regular road system and on the steep areas, would be potentially problematic buildings in terms of possible restoration activities or re-use.

6. As a sub-group of the topography and accessibility problems, the buildings in the problem areas will have infrastructure problems that would be different from those of the buildings at the lower levels during the restoration and re-functioning activities.

4.3.2.3. Problems of buildings in Kaya Köyü:

Problems of Kaya Köyü on the building scale are given as an outline in this section.

Physical decay: Kaya Köyü buildings face physical decay because they have been subjected to weathering, their wooden elements have been destroyed, and they have not been used for long years. This is the most important problem on the building scale. Some other problems that stem from this main problem can be summarized as follows:

1. Walls, which have been lost of their elements, such as timber frames and lentos have difficulties in maintaining their stability. Strong winds, rain, ground water or earthquakes weaken the walls in a way to cause further problems for the stability. For this reason, it has been observed that all of the buildings in this condition have been demolished

partially. These demolitions especially take place around windows and corners of the masses (Figure 4.38). These sections are the possible problem areas of the buildings, which are relatively in good condition. The partial demolitions can become extensive in many of the buildings

2. The grow of trees and plants is another factor that increases the physical decay of the buildings (Figure 4.39).

3. It has been observed that the walls, which have been subjected to extensive surface water and rain penetration have detached joints and for this reason they suffer from material loss. The sections affected from the water are usually the hillside façades and the inner parts of the front façades of the buildings (Figure 4.40)

4. Decays have been observed on the building material, especially on plasters. The possible reasons of such degradations should be investigated at a laboratory.

5. Villagers living in the neighborhood leave their sheep or goats inside Kaya Köyü settlement for grazing them freely. This activity damages the buildings on the one hand and increases the plant grow on the other.

6. One of the reasons for the decay by humans is the destruction of walls and grounds by people who search for a buried treasure.

Restitution problems: There is a general restitution problem because of the decay of the buildings. The widespread lack of architectural elements is also added to this problem.

Inappropriate interventions: Inappropriate interventions, which are not convenient with the original spaces and materials, have been observed in all of the buildings that have been subjected to restoration in order to be used as summer houses and/or touristic complexes. Some of these interventions are the alteration of architectural elements, addition of spaces and/or buildings and the use of improper materials (Figure 4.41).

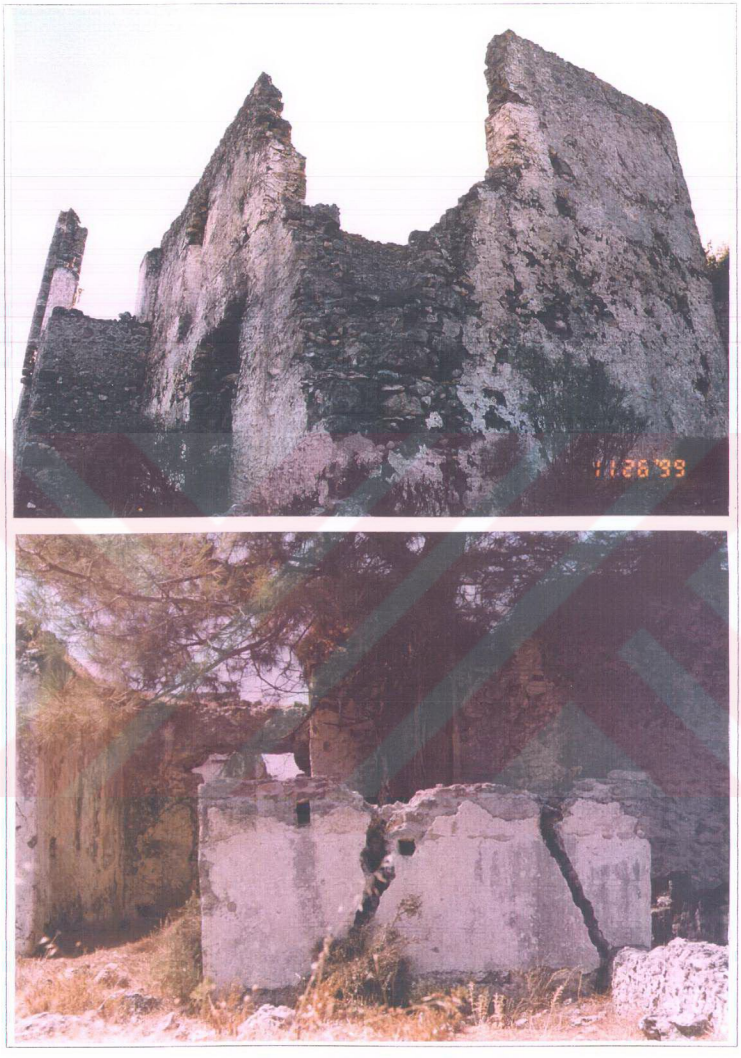


Figure 4.38: Partial Demolitions

Figure 4.39: Plantation

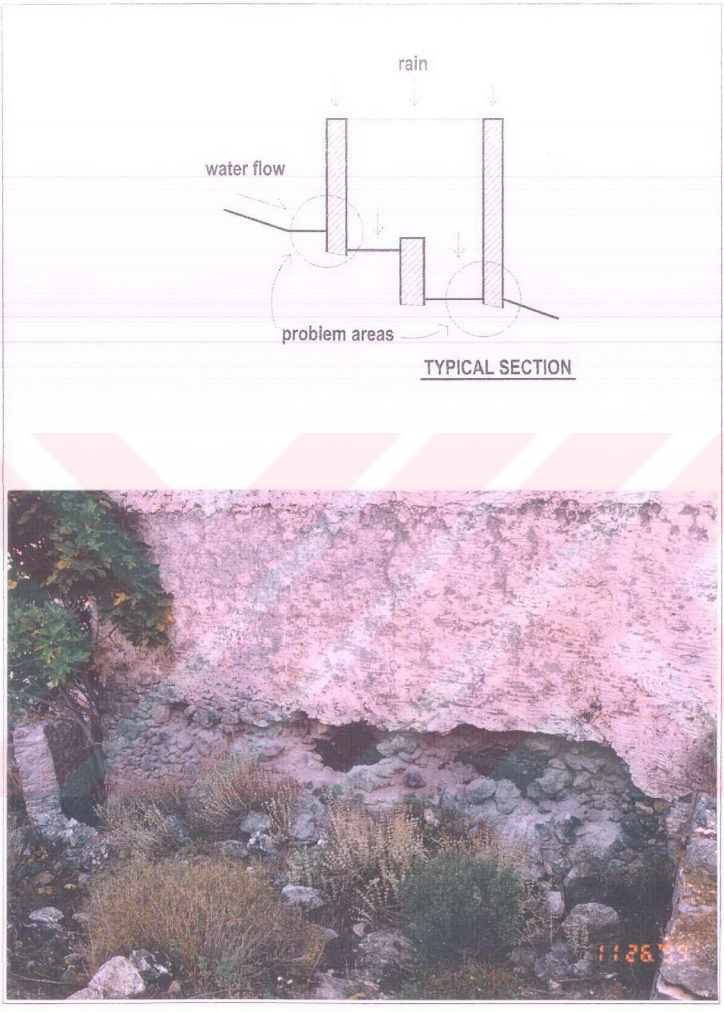


Figure 4.40 Typical problem areas in terms of the rain and ground water

Figure 4.41 : Elongation of Chimney (F.4.3.) and Additional Building (F.4.4)

The building with the grid reference E.6.15, which is currently under restoration, can be given as an example for the buildings, which have been registered as being subjected to inaccurate interventions. It has been observed that architectural elements, which are not extant in the original of this building, which has the plan scheme of characteristic Kaya Köyü House, have been added to it whereas the existing elements have been altered.

For practical reasons, it has not been possible to carry out a detailed survey in the buildings that are currently in use or under restorations. these buildings have different criteria of definition and evaluation. It has been considered that a detailed survey on these buildings, which have been given in Figure 3.14 Current Uses of the Buildings) can be illustrative in terms of possible restoration activities.

Endnotes:

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[1] The ratio of width to the length is between 1/1.26 and 1/1.57, and the average ratio is 1/1,43. Accordingly, the average area of the room is 27,41m^2.

[2] There are also some other spaces, which are at the same position with the secondary living room. However, these spaces are included in a different category and described below.

[3] The terminology developed by Feilden and Jokilehto (1993) on "value" definitions are used in this section.

CHAPTER 5

GENERAL APPROACHES FOR CONSERVATION AND RESTORATION ALTERNATIVES IN BUILDING SCALE

This chapter aims to summarize the general evaluations and approaches that should be considered in the preparation of a Conservation Master Plan and to define possible restoration approaches for the single buildings.

Within this aim, the first section of this chapter focuses on the evaluations and approaches in environmental scale and gives the clues necessary for conservation planning considering Kaya Köyü as a whole with *Kayaçukuru* in which it is located and its near vicinity. The organization and financing models, which are inseparable parts of the conservation planning, have been excluded from the scope of this study. It has been expected that it would be possible to develop a conservation management model on the basis of the information offered by this thesis. The only hint of criterion that should be given here about possible conservation activities is that: they should involve substantive and complete participation.

The second section of the chapter concentrates on evaluations and approaches in buildings scale and aims to describe restoration alternatives that should be used in Kaya Köyü. Under the light of the evaluations developed in building scale, the third section of this chapter demonstrates restoration alternatives by the help of a case study.

5.1. Approaches in Environmental Scale

In the light of the values, potentials and problems listed in Chapter 4.3, this section will stress on the issues in environmental scale that should be taken into consideration in the preparation of "A Conservation Master Plan" including management of conservation activities. The "Conservation Master Plan" should comprise the topics mentioned below.

5.1.1. In the Scale of *Kayaçukuru* and Its Near Vicinity

1. The only highway access to the archeological and natural conservation areas in Fethiye Peninsula such as *Gemiler* Island, *Tuzla Burnu*, *Gemiler* Bay, and *Darboğaz* is via the road through *Kayaçukuru*. For this reason, each of them has been regarded as an important value and potential and their conservation is a necessity.

2. The *Afkula* Monastery, which was an important ingredient of the religious and social life of *Kayaçukuru* prior to the exchange of population, should be preserved with a special emphasize on its integrity with Kaya Köyü.

3. *Beştaş-Soğuksu* (formerly name was *Donyunak* or *Vai*), which is the natural bay of Kaya Köyü, should be protected from the developments that would destroy the natural values.

4. The small abandoned settlements (i.e. *Değirmen Tepe* and *Ebuhora*) in *Kayaçukuru*, which are similar in characteristics to Kaya Köyü, should be considered as a value and potential in the course of conservation activities (see Figure 4.34).

5. Not only the historical buildings of *Kayaçukuru* but also the elements that form its natural physical structure, such as its flora, original courtyard walls, wells and cisterns, should be taken into consideration in conservation activities.

6. Mass tourism which is widespread in Fethiye Peninsula in general and which has a devastating pressure on natural and cultural properties should not be allowed to damage the current values of *Kayaçukuru*. The importance of tourism in terms of economical development should not be denied, but any approach in this respect should give particular importance to the local values and conservation.

7. It is not possible to give consent to the route and the width of the highway that has been proposed to reach *Gemiler* Bay via Kaya Köyü and *Kayaçukuru* (see Figure 2.2; Figure 4.37). Whatever be its route, such a highway will result in destruction of *Kayaçukuru* and its vicinity. Instead of it, current roads should be rehabilitated and the flow of traffic should be re-regulated.

8. Indeed, especially the asphalt road between *Dibektaşı* and *Tellal Tepe* currently radiates a problem for the structure of Kaya Köyü. The traffic in this route should be subjected to regulations that would decrease the flow of vehicles and control them.

9. The original road between *Kayaçukuru* and Fethiye should be included within the scope of any conservation activity and re-organized.

5.1.2. In the Scale of Kaya Köyü

1. All of the buildings in Kaya Köyü and their open spaces should be considered for an entire conservation activity. It should be a substantial criterion to emphasize not only on the value of the single buildings but also on the value of the entirety they constitute. Conservation and restoration activities, which are separate from each other, should not be allowed, and all of the activities should be carried out by a single entity within the entirety of Kaya Köyü.

2. Despite the severity of the physical decay and its abandoned state of being, Kaya Köyü has a documentary value in terms of its architectural elements. For this reason, "documentation" and "respecting of the traces" should be an important criterion also in the scale of the entire town.

3. The population exchange has an important part in the social and cultural history of Turkey and Greece. Kaya Köyü bears the traces of having witnessed such an episode. Conservation activities should be respectful of the cultural value of Kaya Köyü that has been explained in Chapter 4.

4. Restoration and re-functioning of Kaya Köyü buildings should not involve all of the buildings. Buildings that would be subjected to restoration and re-functioning activities should be chosen carefully after considering the location of any building, its potential of re-use, accessibility, structural condition and the richness of architectural characteristics (see Appendix A and Figure 4.36). Certain areas and buildings should be kept in their current physical form after the necessary consolidation treatments. Such an approach, which is also

appropriate in terms of practical reasons, will transmit the cultural and socio-economical heritage of Kaya Köyü from one generation to another. Thus, the vision of "ghost-town", which has been affiliated with Kaya Köyü and which is an important reason of attention and attraction, will be conserved.

5. Any activity such as festivities, exhibitions or audio-visual performances, which would be carried out in Kaya Köyü because of its cultural, socio-economic and especially functional value, should not be allowed to generate any physical harm to Kaya Köyü. It should also be considered that the purposes and scopes of such activities would not contrast with the identity and political value of Kaya Köyü.

6. Any restoration activity that would disturb the silhouette of Kaya Köyü settlement and structure should not be allowed. In particular, new constructions on the hillside should not be permitted.

7. Necessary interventions should be carried out in order to avoid any harm to the original routes of roads and materials in places where the roads are open to the traffic. Possible problems of the buildings near the roads, such as the vibration and accidents, should be determined and solutions should be developed in this regard.

8. It is important that the information and direction signs should be considered as a whole in the scale of *Kayaçukuru* and Kaya Köyü and then placed. For a respectful presentation of the site, these signs should be designed in way that they can be noticed but without disturbing the general sight.

9. *Dibektaşı* and *Tellaltepe* areas, which are the entrances to Kaya Köyü, should be subjected to re-designing activities that would be in harmony with the general structure. Car parks, especially those for

tourist coaches, should be designed outside the settlement as much as possible.

10. Commercial shops in Kaya Köyü that provide service to tourists, such as cafes, restaurants and teahouses, should be considered within the conservation activity in terms of their relationship with the general structure, such as garden designs and shop signs, and any practice that would give harm to the structure and the building should not be given permission.

5.2. Approaches in Building Scale

This section will explain the general approaches that would guide the conservation and restoration activities in buildings scale.

5.2.1. The Scope of Intervention

Certain priorities should be considered within the framework of the defined conservation approaches. Whatever be the scale of the intervention, the first priority should be given to a conservation approach that is respectful of the cultural values of Kaya Köyü. And the preliminary condition of such an approach is being considerate to the authenticity of the building and maintaining its structural and architectural integrity. The intervention pattern that would be chosen in this respect may vary,

depending on the condition of the building. Following are the general approaches in building scale:

Structural condition: Buildings, which are in ruins, should not be subjected to restoration with the aim of re-use. After these buildings are documented, the sections, which are in good condition, if there is any, should be subjected to urgent intervention in order to avoid any harm in case of collapsing. However, such an intervention should not be demolition in any case. If the building is in a condition that would not enable any intervention, then access to the building should be controlled.

Buildings, which are structurally in bad condition, should be considered within the scope of urgent intervention, and thus they should be conserved against the hazard of demolishing in ruins. The priority in this respect should be given to the buildings, which are important in terms of their architectural characteristics. Buildings which can be easily accessed but which are in bad structural condition can also be regarded within the scope of urgent conservation because of their potential of re-use (see Figure 4.36).

It has been observed that even the buildings, which are in good structural condition, suffer from partial collapses. For this reason, interventions that would strengthen the structural integrity and conserve the structural integrity during the consolidation activities will involve all of the buildings, although at different scales.

Stage of Construction: As mentioned in Chapter 4, it has been observed that some of the buildings within the study area had been abandoned before the construction process had come to an end. Unfinished buildings or spaces as such should not be subjected to restoring activity of completion, as they have a documentary value in terms of the processes of design and construction. They should be

consolidated, and then they should be exhibited in a way to emphasize their feature as such.

Excluding the wrong interventions that have corrupted the buildings, which are currently in use, all of the temporal alterations in the buildings that have been abandoned with the exchange of population should be shown respect during the restoration of the buildings. None of the sequential alterations should be destroyed. On the contrary, illustration of the traces of such alterations should be an approach.

In a similar way, building groups that are comprised of more than one unit have also been subjected to alterations, as mentioned in Chapter 4. The additional units have changed the spatial characteristics and architectural elements of the existing buildings. Such buildings can be considered within the scope of restorations aiming at re-use, provided that the building group will not be altered in accordance with its structure at a certain period of time, that the alterations are emphasized, and that none of the traces are destroyed.

Buildings That Are Currently In Use: Original buildings, which are currently in use, display different criteria from those of abandoned buildings in terms of description, evaluation and conservation approach. The buildings that are currently in use have not been examined in detailed in this study for practical reasons, but they are important as they constitute a part of Kaya Köyü as a whole. The original architectural elements of these buildings should be documented in detail and consolidated, as they are important for a comparative study in the course of the conservation and restoration activities involving other buildings. Repair work in these buildings should be controlled, and their owners should be provided with information and financial support regarding the maintenance of them.

Building Types and Typologies: Different types of buildings within the study area vary in terms of conservation and restoration activities. Especially the monumental buildings differ from others with respect to the construction techniques and architectural elements. Various functions can be attributed to these buildings as the prospects of conservation and re-use because of their characteristic of being a monumental building. Buildings other than the monumental ones, on the other hand, should be given functions on the basis of their original functions (see Figure 4.9). If possible, the original function can persist. For example, if it is decided that some of the buildings will be employed as residences, then it will be proper to choose them among the ones, which were originally used as houses.

Buildings, which have different building typologies, also vary on the basis of prospect of use. Single-spaced buildings, multi-spaced buildings or buildings with *hayat* have different potentials of use because of the number of spaces and the spatial characteristics. The spatial potentials of the buildings should be reviewed deliberately, and the functions that would be attributed to them should be in harmony with these potentials. The principles of conservation should never be ignored for the sake of functions.

Accessibility: Accessibility can be regarded as an important criterion in the selection of buildings that would be subjected to restoration. If the buildings, which would be re-functioned, are located in the easily accessible areas, this would be a potential for the proper use of the buildings. In addition, easy access to the buildings in terms of infrastructure is another factor that would determine the re-functioning alternatives.

5.2.2. Principles of Intervention

It should be cared that using of color, texture and form. Interventions that would be made within the scope of conservation activities should be respectful of the authenticity in material, construction technique and design.

The principle of reversibility of interventions is important for the buildings, which would be subjected to consolidation and restoration. The principle of respecting of traces should be achieved. This is crucial because of the fact that non-extant parts and architectural elements of Kaya Köyü buildings can only be identified via these traces.

Interventions should be distinguishable from the original parts and material. In this sense, accurate information can be transmitted for future evaluations and interventions.

Especially in the case of restoration, decisions on the implementation should be limited with only well-known issues. That is to say, implementations should be accurate, never conjecture. In this regard, definitions and evaluations given in the previous chapters of this thesis should be a guideline. It is of critical importance to take steps on the basis of accurate information especially in the process of reconstruction.

Treatment strategy: Treatments that can be employed in the case of Kaya Köyü buildings can be classified in three groups: Conservation, consolidation and restoration.

Conservation treatments aim at eliminating the reasons of material deterioration and physical decay, and ending any further

destruction of the building. All of the buildings within the study area necessitate conservation treatment.

Consolidation treatments aim at intervening the decayed parts of the buildings, which have already been subjected to conservation treatment, and thus improving their existing conditions and conserving their structural integrities. In this process, physical and chemical characteristics of the current material should be determined via laboratory tests and these characteristics should guide the consolidation treatment in the selection of the material to be used. In this way, it would be secured that the material that is used in the process would not corrupt the building physically. In the case of replacement of decayed material, it is important that the new material should be distinguishable from the older one in line with the general principles explained above. A slight difference in the color or the texture of the new material, for example, can be a distinguishing feature as such.

One of the important materials that will be used in the consolidation treatment of Kaya Köyü buildings is the mortar that is necessary for the consolidation of the stonewalls. As explained in the previous chapters, the mortar that had been used in the construction of Kaya Köyü buildings is a special one which had been produced by processing the *argilo* sand coming from small sand quarries in the settlement, with lime and water at a certain proportion. This feature of the mortar is illustrative in terms of the authenticity of the material and construction techniques of Kaya Köyü buildings. The author recommends the re-production of the characteristic *argilo* mortar of Kaya Köyü via laboratory studies and practical experiments as an approach in determining the mortar that would be used in consolidation treatment; yet this mortar should be given a different tone of the color as a distinctive feature. In this way, this type of mortar and plaster, which are

peculiar to vernacular construction techniques of Kaya Köyü, will continue to exist.

Restoration treatments aim at reconstructing the structural and architectural integrity of the building if it was destroyed or decayed. This process of reconstruction may involve a part or the whole of the building, depending on the accurate information that is obtained with an examination of the building. Conservation and consolidation treatments are a prerequisite for the restoration treatment of the building. All of the elements of the buildings, which can survive after a consolidation treatment, should be traded this way. Reconstruction should not be employed if not necessary. Replacement of materials should only cover the elements, which have been destroyed in way that they cannot be conserved. Elements, which are replaced via intervention, should be noticeable from the original ones.

Replacement of the materials of an existing building, such as a part of the wall or rubble stones or plasters, and adding distinguishing features to them is a relatively simple implementation. On the other hand, if the material or the element that would be renewed has no other sample for comparison, which is the case for the wooden elements of the vast majority of the buildings within the study area, then the approaches in the selection of material should vary. The author suggests the approach of re-production of the material that would be used in reconstruction, by employing the original material and construction techniques, which have been determined. However, slight differences in the details of new material should serve as a distinctive feature of the new material.

Conservation by re-functioning is an important issue in terms of the restoration treatment. The function that would be chosen should be in harmony with the values and potentials of the building. The principles

of conservation should never be ignored for the sake of functions. The restoration treatment of Kaya Köyü buildings should mainly aim at revealing its cultural values and be informative in exhibiting the original building. In order to secure such a purpose, the restoration approach should respect to the original materials, construction techniques and authenticity of the design.

It would be appropriate for the restoration treatment to consider each building separately within itself. For each building casts a different conservation problematic of its own. Before starting the conservation and restoration treatments, an original conservation strategy should be designed on the basis of internationally accepted basic principles of conservation and definitions of the values, potentials and problematic of Kaya Köyü. It would be much convenient to start the conservation and restoration treatments in the building scale within the framework of this strategy. The author considers it necessary that an interdisciplinary unit of decision-making and execution should be formed with utmost participation, and this unit should regulate the conservation and restoration activities in Kaya Köyü.

5.3. Restoration Alternatives in Building Scale: A Case Study

In this section, conservation and restoration interventions have been defined in the scale of a sample building in line with the values, potentials and problem definitions given in Chapter 4.3 and conservation principles explained in Chapter 5.1. and 5.2 As the method of this case study, no specific conservation scenario has been proposed, but proposals for the re-functioning and intervention patterns have been

developed on the basis of the building's own potentials. It has been considered that such an approach will also be valid for the buildings, which have similar characteristics in terms of values, potentials and problems. However, it should not be forgotten that different approaches can be developed without ignoring any general principle of conservation, if a building has values and problem definitions different from this one.

5.3.1. Choice of Case Study

Following criteria have been sought while choosing a building for the case study:

1. It would represent the most common type of buildings within the study area. That is to say, it should have been abandoned with the exchange of population, most of its wooden elements should have been destroyed, and it should not be in use currently.

2. The original function of the building should have been defined as a house.

3. The determinations and evaluations should have revealed that its construction process had been completed and it had been used with all of its spaces.

4. It should have been evaluated within the most common plan typology in order to provide a sample case for the highest number of buildings.

5. It should have had a flat roof.

6. It should have been in the hillside settlement setting on the slope.

7. It should have been not so much problematic in terms of structural condition and massive entirety.

8. It should have been rich in terms of identified architectural elements and architectural elements that could be identified via traces.

9. It should have contained elements that had contributed to the original function, such as toilet, cistern, garden, etc.

10. It should have been within the easily accessible group in terms of accessibility.

11. It should have not been a unit of a building group in order to avoid any complex data in terms of alterations and interventions.

12. It should have not been subjected to major interventions that had deformed the plan scheme and original mass characteristics.

13. It should have been close to the urban centers as much as possible in order to be given priority in the course of a possible conservation treatment.

Among the buildings, which meet these general criteria, the one with the grid reference D.3.15 has been chosen. The measured drawings have been taken by using conventional measurement techniques. All of the traces in the building have been documented and evaluated even with the scale of 1:1 for some details. However, not all of these details will be presented here, as this thesis, in line with its scope and methodology, does not aim at proposing a comprehensive restoration project.

Because of the same reason, materials have not been subjected to laboratory analysis. Such an analysis of the current materials like

mortar and plaster has been regarded as an accretion that would contribute to the general definitions and evaluations presented in this thesis.

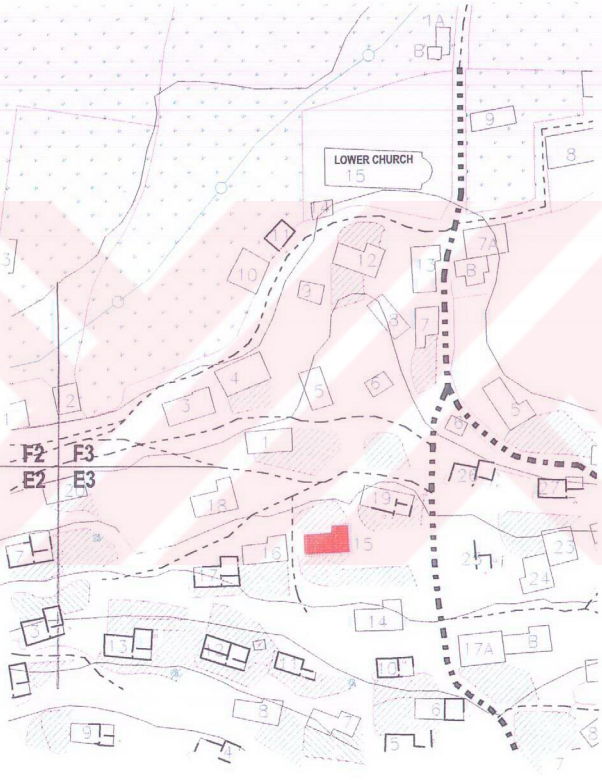


Figure 5.1: Site Plan of Selected House (D.3.15)

5.3.2. Description of the Selected Building

The building with the grid reference D.3.15 is located in the west of the historical Kaya Köyü settlement, in the garden which can be reached via stone paved and stepped road that starts from the Lower Church and leads to the chapel on the hill (figure 5.1). It lies on east-west direction in parallel to the contour lines. The orientation of its main façade is towards the north, and the entrance façade towards the east.

It has the plan scheme of D3 type; that is to say, it conforms with the definition of the characteristic Kaya Köyü House (Figure 5.2). It has a living floor and a basement floor. The living floor is comprised of two closed spaces, one of which is a characteristic main room (MR1), which can be reached via semi open entrance space, and the other is the secondary living room. The two service spaces in the basement floor are not connected to each other. Their entrances are from outside and they had been used separately.

The building has a flat roof. It has upper-courtyard at the backside and a front courtyard. There is a curvilinear toilet, which is attached to the corner of the building in the backyard. There is a cistern (C) at the main façade, which had been constructed attached to the wall of secondary living room. It is in the square form and has a terrace.

After such a general definition, the descriptions of spaces and mass of the building will be given on the basis of measured drawings. As a prerequisite of the scope and the methodology of this thesis, the description of spaces aims at revealing the general characteristics. Especially the dimensional information has not been included at length in this thesis. The measured drawings can be employed for such an

information (Figure 5.3, Figure 5.4, Figure 5.5). Detailed information on the definitions and evaluations about the elements and materials presented here can be found in the related sections of Chapter 4.

Characteristic Main Room (MR1): The length of this room measures 6,70 m and the width measures 4,72 m at the entrance wall and 4.52 m at the back wall. Basing on the traces alongside the long edge and the ground floor support wall, it has been concluded that the space had 3 different floor levels.

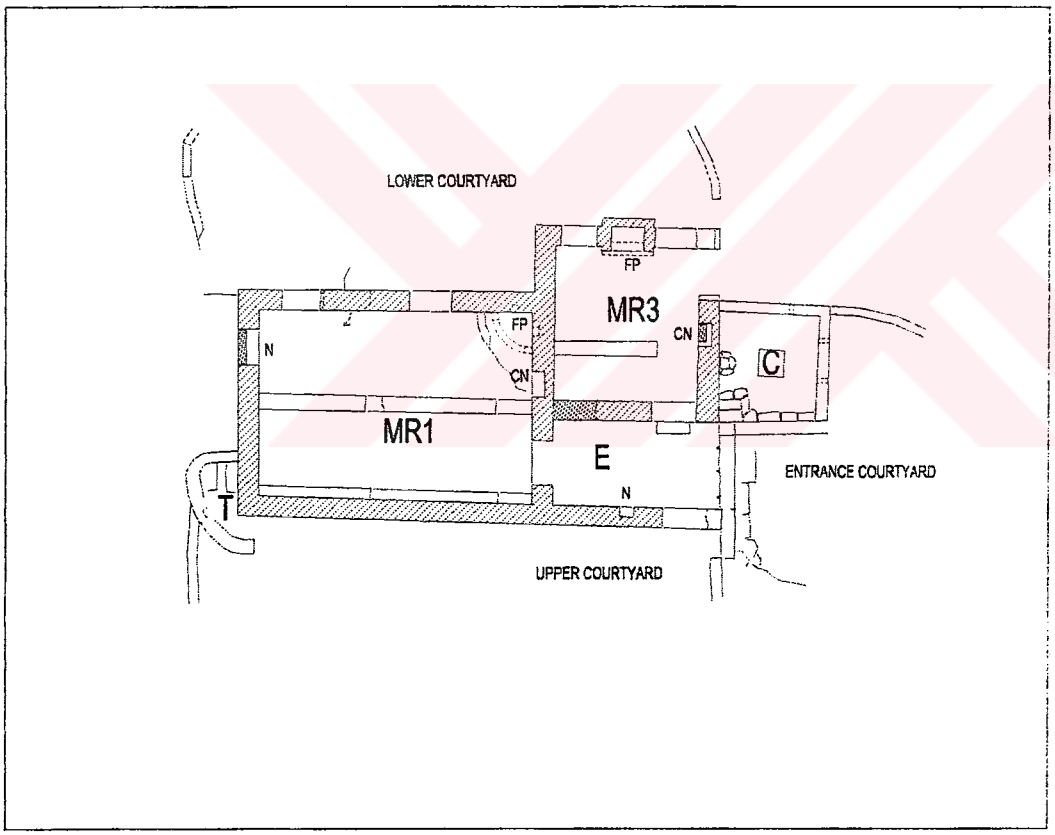


Figure 5.2: Plan Scheme of Selected House (D.3.15)

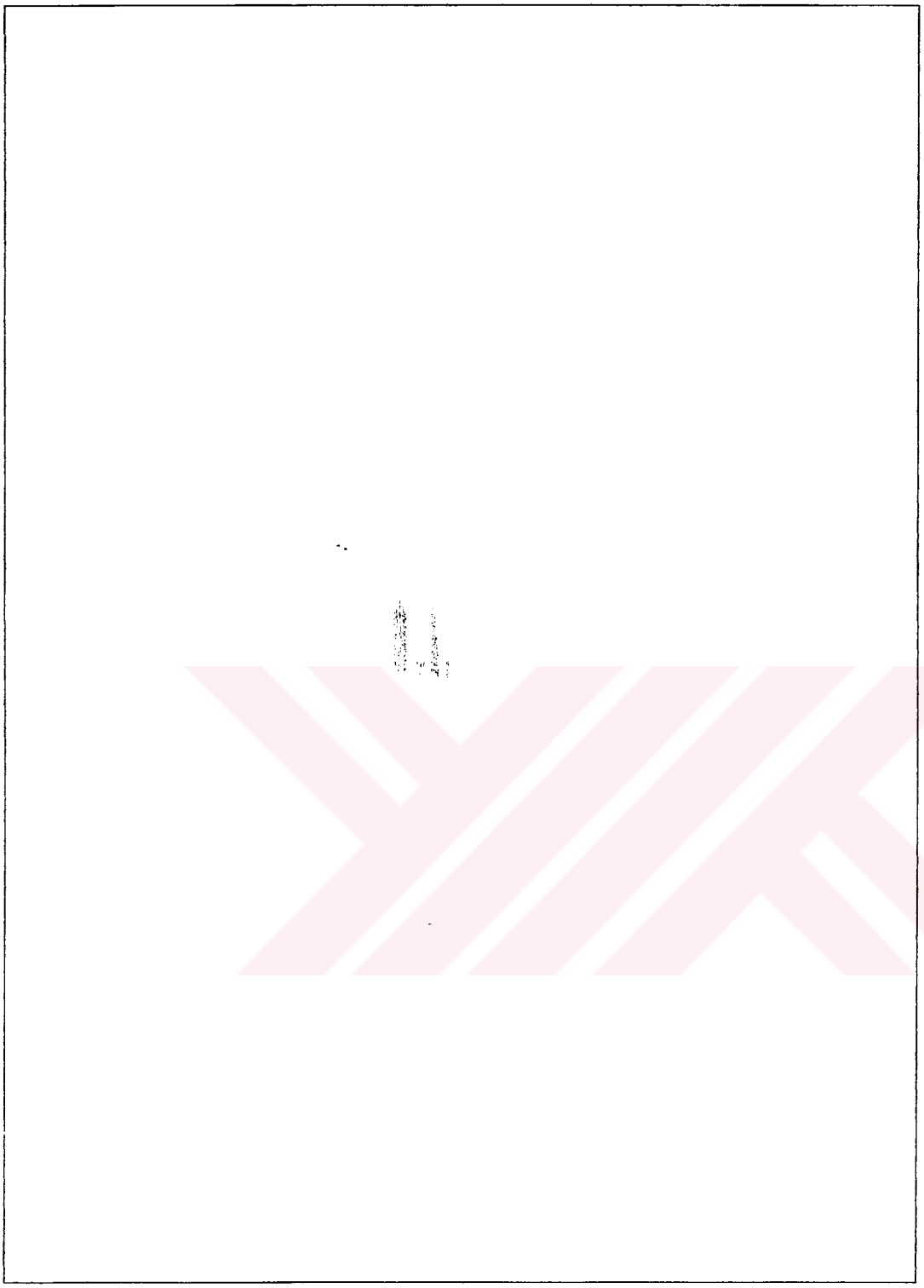
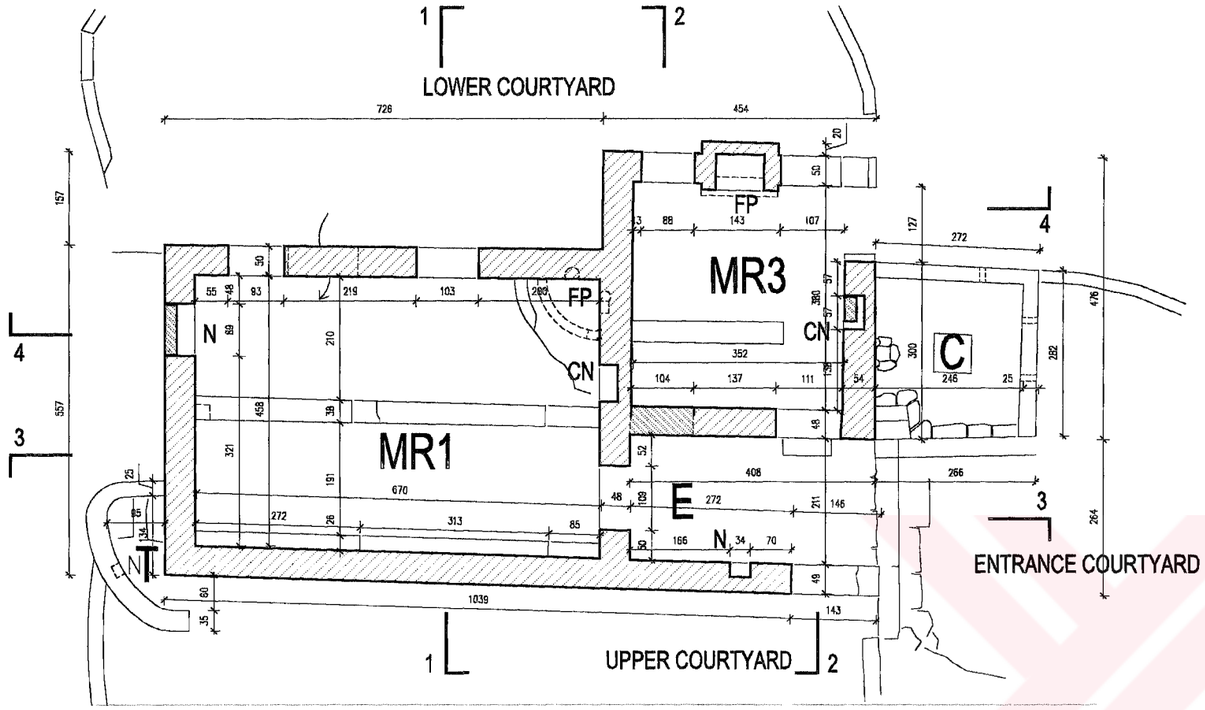
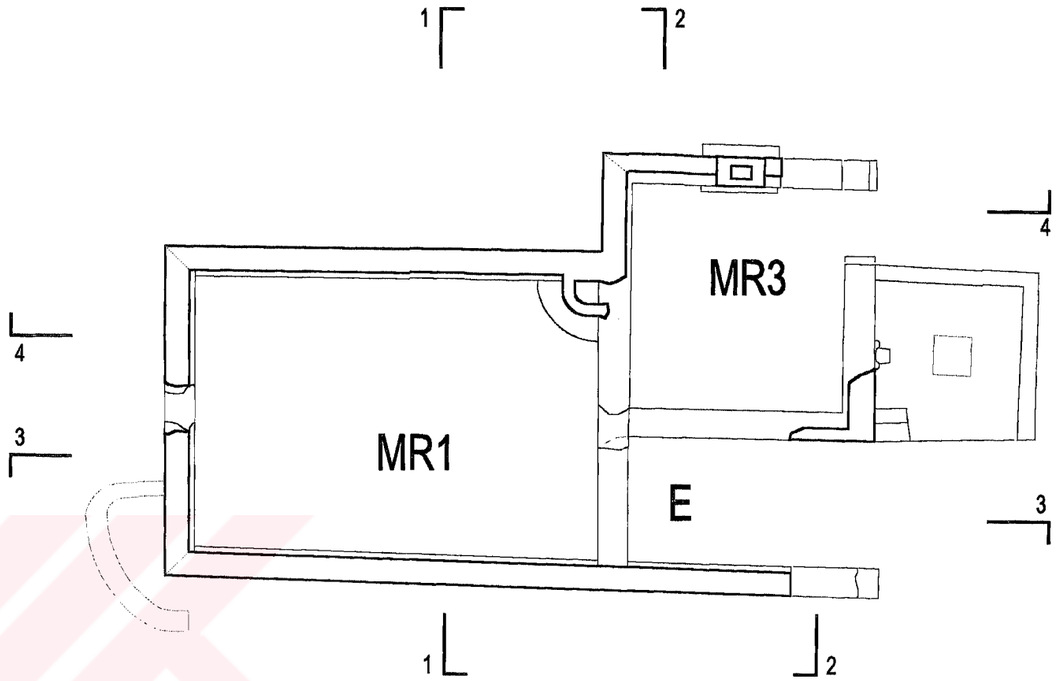


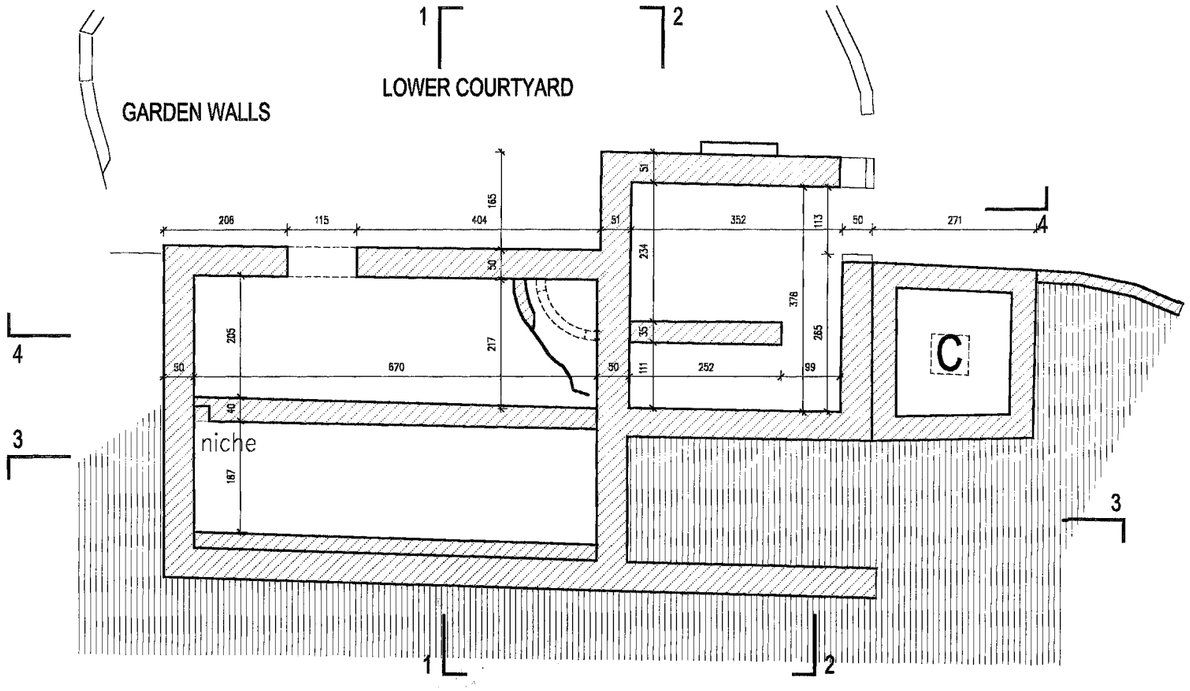
Figure 5.3: Measured Drawings of D.3.15 - Plans

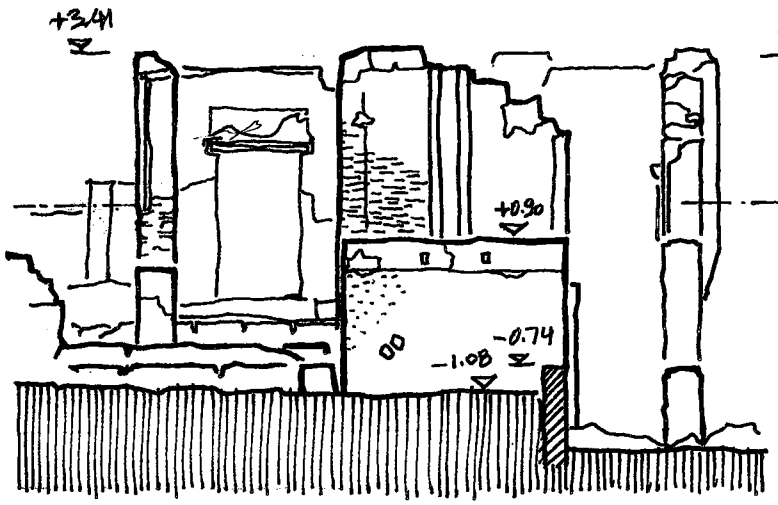


GROUND FLOOR PLAN 1:100

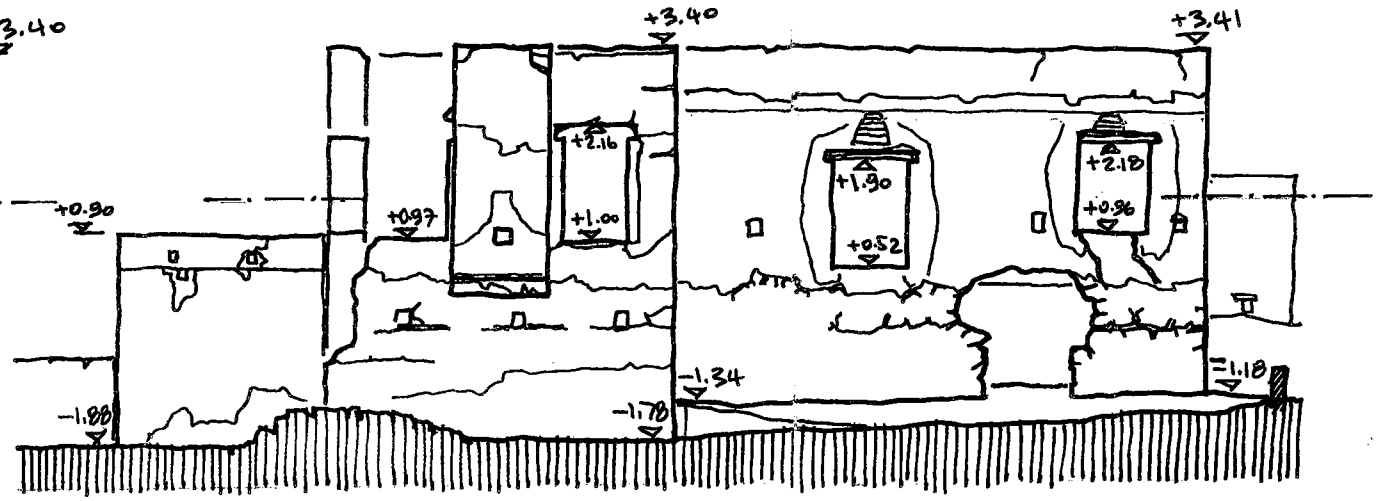


ROOF PLAN 1:100

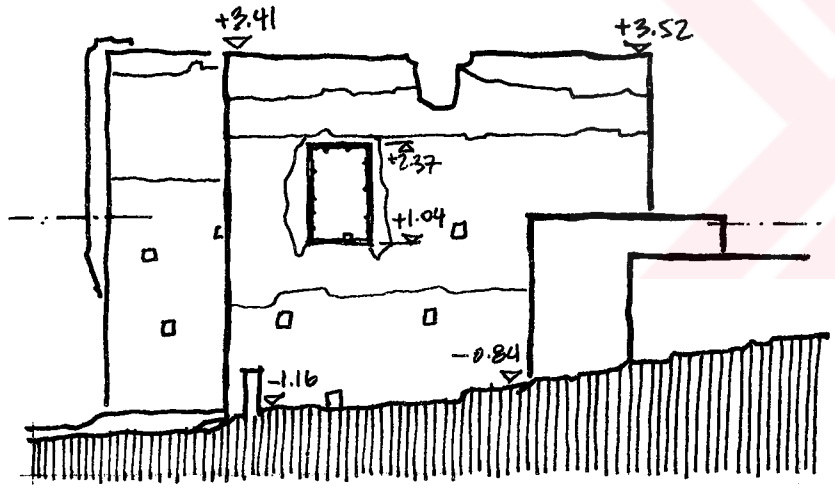




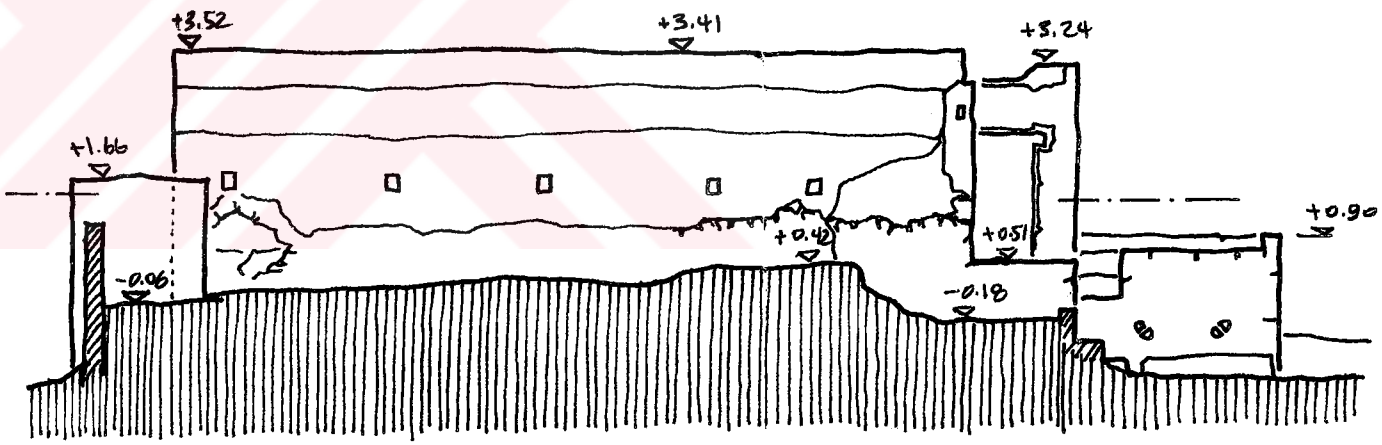
ENTRANCE (EAST) FACADE 1:100



MAIN (NORTH) FACADE 1:100

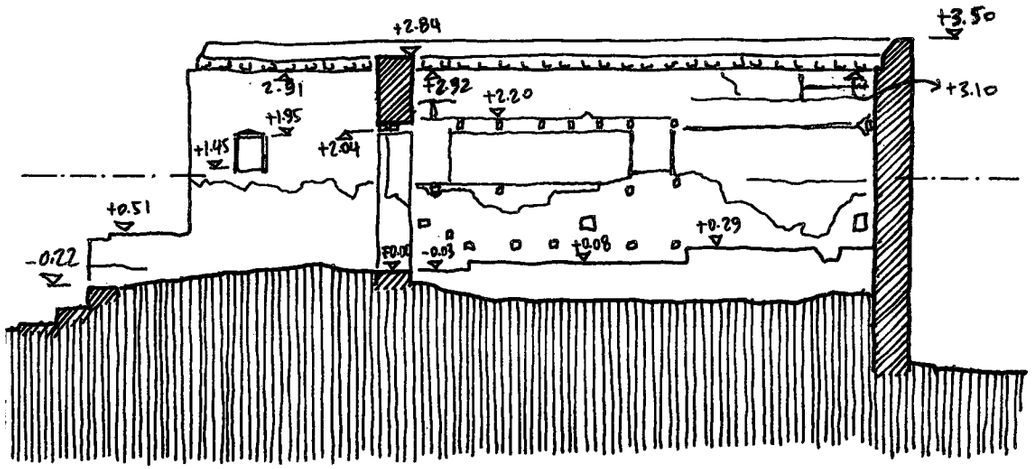


SIDE(WEST) FACADE 1:100

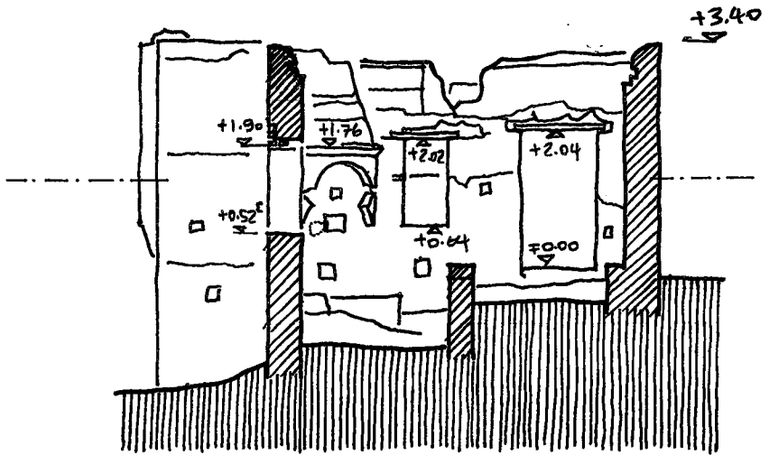


BACK (SOUTH) FACADE 1:100

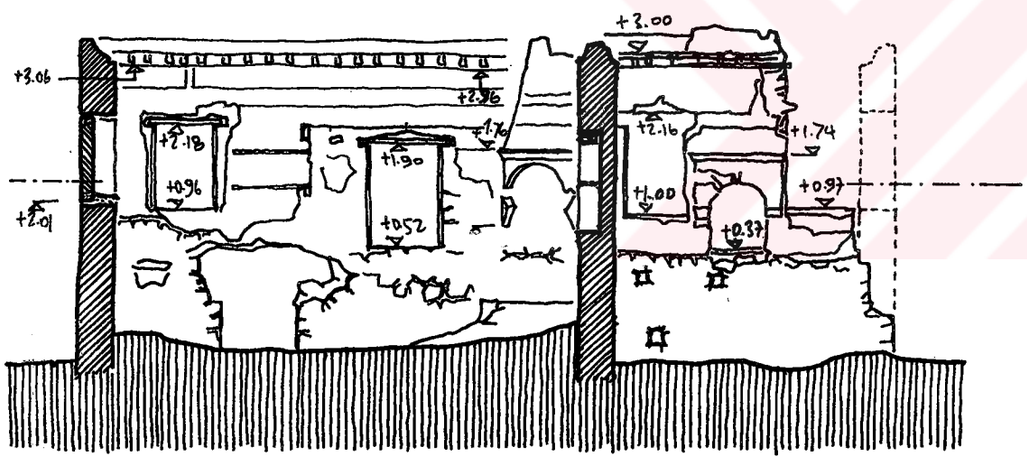
Figure 5.4: Measured Drawings of D.3.15 - Facades



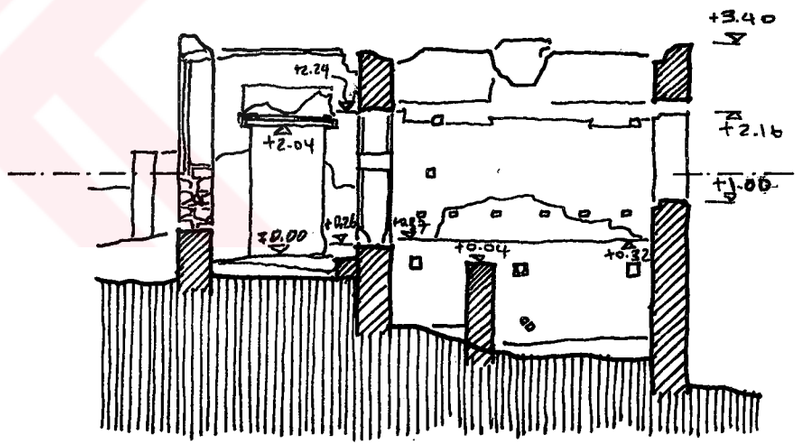
SECTION 3-3 1:100



SECTION 1-1 1:100



SECTION 4-4 1:100



SECTION 2-2 1:100

Figure 5.5: Measured Drawings of D.3.15 - Sections

The upper level of the traces of ground beams and the lower level of the traces of the roof beams has been taken into account while measuring the height of the space. Accordingly, the approximate height of the space measures 2,67 m at the first floor level, 2,60 m at the second level and 2,50 m at the third level. The roof beams get lower from the back wall towards the entrance wall so as to form a slope at the upper structure towards the cistern. The level difference between the two sides of the roof measures 18cm (2,69%). The difference of the floor levels is 11 cm between the first and the second levels, and 19cm between the second and the third level.

There is a cupboard niche and a corner type fireplace on the wall where the entrance door is located -eastern wall- (Figure 5.6). The cupboard niche is 62 cm wide, 130 cm high and 30 cm deep. It is possible to see traces of timber boarding and shelves inside it. Corner type fireplace sustains its form, despite the decay of the material of its elements. The sub-structure of hearthstone is a rounded wall, which has been filled in with soil.

Next to the corner type fireplace on the front façade wall (northern wall) is a door type window. After it, there is a window opening, which is relatively small.

There is a window opening on the western wall, which had been closed with a wall and turned into a niche with drainage. There is a partially destroyed workbench in front of this niche (Figure 5.7).

The floor beams support wall is 40cm wide. It is a rubble stone masonry wall, which had been given the shape of the floor levels. A wide and flat stone has been found on this wall between the second and the third floor levels. It has been considered that this is the place where *stylos*, which had supported the roof beams, had been set on.

Figure 5.6: Eastern Wall of Space MR1

Figure 5.7: Western Wall of Space MR1

There are also traces on the western and northern walls, which are presumably of the main roof beam.

All the walls except for the western wall have traces of wooden elements, which had been destroyed. It has been concluded that some of these traces are of the timber boards, which had continued up to a certain level, and some of the wooden shelves.

Except for the parts, which have the traces of timber boards, the walls are fine plastered and painted. The dominant color is blue, yet white has been observed at sub layers and at certain parts. All of the walls have traces of wooden shelves, which have various dimensions at various levels.

Semi Opened Entrance Space (E): It provides the entrances of MR1 and MR3 spaces. It has one open side and three closed sides, and a covered roof. It had been built two steps above the front courtyard. It is 4,16 m by 2,21 m, and it takes up 9,19 square meters. The southern wall gets lower at the entrance side in the form of a parapet wall. On this wall there is a niche, which is 34 cm wide, 50 cm high and 24 cm deep (figure 5.8). Its walls are rough plastered and painted white. The floor had been covered with the earth of the roof which had caved in. The original floor covering is a type of screed composed of *argilo* mortar and small pieces of rubble stones.

Secondary Living Space (MR3): It (MR3) is entered from the semi-open entrance space. It is 3,52 m by 3,80 m, taking up 13,38 square meters. The average height of this space is 2,50 m. The entrance door is located at the southern wall. The door had been elevated with a threshold stone. It has been determined that this wall had a door opening on the side of the characteristic main space, which had been closed later on. It has been concluded that the traces on the

Figure 5.8: Niche on the southern Wall of Space E

Figure 5.9: Northern Wall of Space MR3

western wall, which are 45 cm high, indicate that there had been a wooden sitting bench there. The same wall also has other traces, presumably of wooden shelves. Between the two windows at the wall of the front façade (northern wall) is a wall type fireplace (Figure 5.9). At the wall backing the cistern (eastern wall) there is a window towards the front façade side and a cupboard niche, which had been closed later on, at the middle. The niche, which had been closed, is 57 cm wide, 100 cm high and 33 cm deep. On the eastern and western walls there are traces, which are presumably of the main roof beam. The walls of the space are fine plastered and painted. The dominant color is white, yet blue has been observed at sub layers.

Basement Floor Service Spaces: At the basement floor of the building there are two spaces, which are entered from two separate entrances from the lower courtyard.

The door of the space, which is under the secondary living space, is next to the cistern at the entrance façade (northern façade). It has the same dimensions with the secondary living space. The highest point of the space measures 1,80 m. The space had been separated into two sections with a wall of 40 cm wide. One side of this wall is open as a connecting way. The section at the entrance side is larger. Its floor is earth. The walls of the space had not been plastered nor painted. There are no window openings, except for the construction holes at the northern and western façade.

The door of the basement floor space, which is under the characteristic main space, is at the front façade. The door had been placed beneath the highest floor level of the upper floor. The walls of the space had not been plastered nor painted. It had been separated into two by the ground floor support wall. In the section which is on the side of entrance door, the height of the space measures 1,60 m at the

western wall, which is the highest level of the space, and it measures around 1,00 m at the level on the side of the corner type fire place. Its floor is earth.

No openings had been left in order to provide access to the other side of the wall via the basement floor. The only evidence that would be regarded in terms of the function of this space is the hidden niches that has been found out at the corner where the ground floor support wall connects to the western wall (Figure 5.10). This space has no window openings, except for the construction holes.

Cistern (C): At the entrance façade (eastern façade) of the building there is a cistern, which had been attached to the building. It is 2,72 m by 2,82 m. Stone steps reach the terrace of the cistern. The opening of the cistern is in the middle of the terrace and it has the dimensions of 62 cm by 66 cm. It has a pebbled stone pavement (Figure 5.11). There is a parapet wall at the western and northern sides, which is 20 cm high. There are indentations, which had most probably been formed in order to tie horses or mules on the façades of the cistern at the entrance courtyard (Figure 5.12).

Toilet (T): There is a curvilinear toilet, which is attached to the southwestern corner of the building in the upper courtyard. The access to the toilet is from outside. The walls of the space are an average of 1,70 m high. There is a small niche on the wall inside the space. The upper structure has been destroyed entirely. The walls of the space had not been plastered nor painted. Its floor is earth and stone. There are two big stones, which had been used as toilet stones (Figure 5.13). The drain of the sewage hole, which is at the bottom of the space, is towards the western façade of the building.

Figure 5.10: Hidden Niche of Space MR1

Figure 5.11: Top View of the Cistern (C)

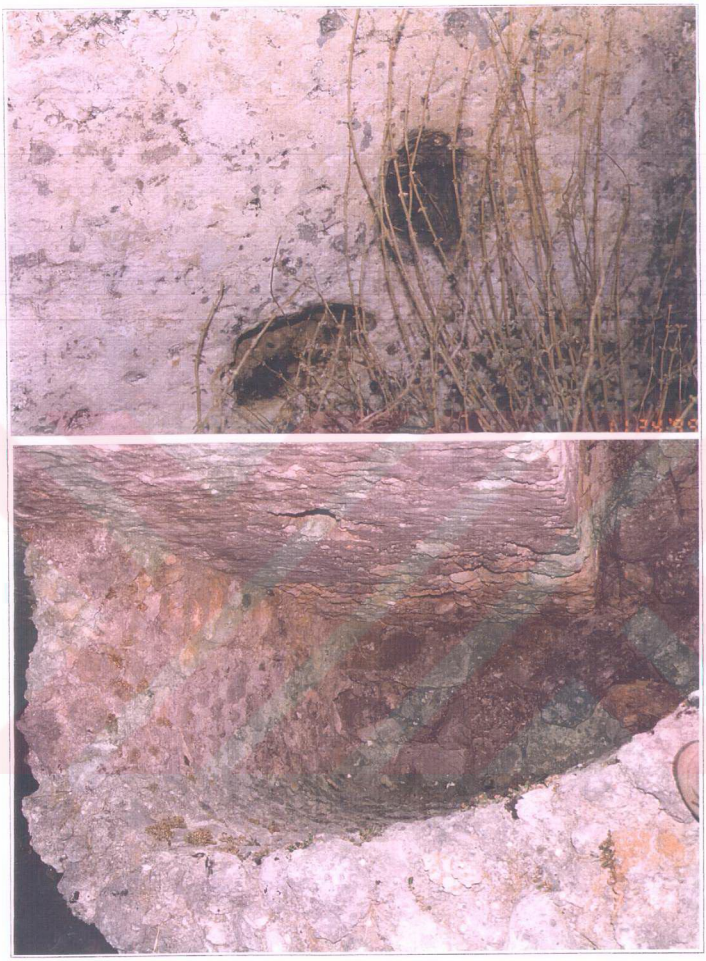


Figure 5.12: Holes on Cictern Walls toTie Horses or Mules

Figure 5.13: Top View of the Toilet (T)

to the toilet is from outside. The walls of the space are an average of 1,70 m high. There is a small niche on the wall inside the space. The upper structure has been destroyed entirely. The walls of the space had not been plastered nor painted. Its floor is earth and stone. There are two big stones, which had been used as toilet stones (Figure 5.13). The drain of the sewage hole, which is at the bottom of the space, is towards the western façade of the building.

Façades: In this section, the façades of the building will be defined in terms of mass arrangements, architectural elements and surface texture, respectively. The measured drawings are presented in Figure 5.4.

The entrance façade (eastern façade) is the most articulated façade of the building (Figure 5.14). The solid-void relation between masses of the cistern, secondary living space and the entrance space create a movement on this façade. The level difference between the ground of the entrance courtyard and the parapet of the roof is nearly 4,40 m. This difference reaches even 5,00 m at the northern corner. However, such a height differentiation may not be noticed because of the mass of the cistern and the steps of the entrance space. On northern side of this façade, the part where the window of the secondary living space and the doors of the basement floor service spaces are located, there is a partly demolished section. One of the main elements of this façade is the vertical drain channel of cistern. This façade had been rendered with nailing technique, except for the internal façades of the entrance space. The façade of the main building has a waved and linear texture, whereas the façade of the cistern had been subjected to pointed nailing. The cistern parapet is rough plastered. The façade had been painted completely. The dominant color is white, yet layers of blue have been determined.

Figure 5.14: Entrance (Eastern) Facade

Figure 5.15: Main (Northern) Facade

The main (northern) façade is the highest façade of the building (Figure 5.15). The level difference between the ground of lower courtyard and the roof parapet is high as 5,12 m. The mass of the secondary living space is about 1,65 m in the front of the characteristic main room façade line. The wall type fireplace in the secondary living space, which is between two windows, makes a projection on this façade as one of its main elements. There are ornaments, which are made with brick pieces, above the windows that are on the façade of the characteristic main room (Figure 5.16). The façade had been plastered and rendered with nailing technique. However, figures and textures, which are applied in the form of horizontal strips, at certain parts create a difference from the rest of the façade. There is also a noticeable dissimilarity at the roof parapet level. There are construction holes on the façade at certain intervals and levels. No trace of a balcony terrace has been observed. White and blue colors have been determined around the window openings. The rest of the façade is unpainted.

The western façade of the building does not directed to its courtyard. The height of the façade, which is 4,60 m at the northern corner, gets low as 3,30 m in the upper courtyard at the southern corner due to the slope. On northern side of this façade, there is a trace of a window, which had been closed formerly. The mass of the toilet is at the southern side. The façade had not been plastered nor painted. The only exemption is the closed window, around which white and blue colors have been determined (Figure 5.17).

The upper courtyard façade (southern façade) is the lowest façade of the building. At the lowest point its height gets low as 2,80 m. It is a blind façade, except for the opening above the parapet at the

Figure 5.16: Ornamentation Above the Main Facade Windows

Figure 5.17: Window Alteration on Western Facade

entrance space. There is a toilet mass at its western corner. Construction holes at certain intervals have been observed. It had been rendered with nailing technique. The differences of color and texture on this façade give the impression that it had been divided into horizontal strips of about 60cm high. The façade is unpainted, except for a small part towards the entrance space. Traces of wooden laths have been observed on the section, which gets lower with the parapet wall of the entrance space.

Courtyards: The building has three open spaces at three different levels and locations. Courtyard walls, which are about 25-30 cm wide, and an average of 1,00 m high surround these courtyards. The courtyard walls had been rough plastered but not painted. No service elements, such as an oven, have been found out in the courtyard.

Architectural Elements: As the wooden elements had been destroyed, window and door openings could only be evaluated on the basis of their openings. It has been determined that the door opening of the characteristic main room has the dimensions of 1,10 by 2,02 m; the opening of the door type window is 1,03 m by 1,41 m; one of the window openings at the upper floor level is 0,93 m by 1,24 m and the other is 0,84 m by 1,24 m. The door opening of the secondary living space is 1,08 m by 1,88 m, and the window openings of the front façade are 0,88 m by 1,39 m. As for the basement floor doors, the opening of the one under the secondary living space is 1,12 m by 1,86 m, and that of the one under the characteristic main room is 1,15 m by 1,65 m. Traces indicate that the door wings had been affixed outside the space, whereas window shutters had been affixed inside the space.

The traces of the elements such as shelves, cupboards and timber boarding can be observed. Canopies of the corner type and wall

type fire places still exist and the structural condition of these fireplaces are good. However, chimneys of both of fireplaces had been destroyed.

Construction Technique and Materials: In terms of the construction technique and materials, the building with the gird reference D.3.15 is a typical Kaya Köyü building that conforms to the definitions and evaluations that have been explained in Chapters 3.3.4 and 4.1.1. For this reason, these characteristics will not be repeated in this section, but the general definitions and observations about the building will be given here.

The walls of the building with the grid reference D.3.15 had been constructed with rubble stone masonry. The use of wooden elements in the walls has not been detected, except for the wooden lintels above the openings. Some parts of the wooden lintels of the door, windows and the cupboard niche of the characteristic main room, and of the niche in the entrance space still exist. Some of the wooden elements, which had been destroyed, however, have been determined thanks to their traces on the walls.

The mortar that had been used as the binding material had been produced with *argilo* sand that is a characteristic of the buildings in the region. The same special mixture mortar had also been employed in plasters.

Structural Problems and Deteriorations: This section focuses on the general problems related with structural system and the materials.

The most important structural problem that has been determined in this building is the partial demolitions resulted from the banishment of structural wooden elements. The demolition at the northeastern corner of the secondary living space is the most serious one. Another

problematic area in this context is the partial demolition that has taken place due to the expulsion of wooden lintel and the decay of material over the entrance door of the basement floor, which is under the characteristic main room. Small structural cracks have been observed, especially at certain parts on the front façade.

The most serious problematic parts of the building in terms of the decay of the materials are at the northern and southern façades, areas starting from the ground level up to 1,5 m high all across the façade. The decay in these areas is to an extent that has led to loss of materials.

It has been recognized that the reason of this decay is the decomposition of the binding material due to the rising damp. It will be necessary to make detailed laboratory analysis to define the possible causes of these problems and level of decay in these materials.

5.3.3. Evaluation of the Building

This section will present a general restitution study about the original condition of the building in the light of the evaluations of the traces defined in Chapter 5.2.2 and the information compiled via a comparative study (Figure 5.18).

By looking at the alterations of the window at the characteristic main room and the door at the secondary living space, it can be concluded that the building had at least two different periods. However, for the time being it will not be possible to comment on the sequence of these alterations and their connection to each other. In a similar way, it will not be accurate to conclude, after an evaluation of the door revision

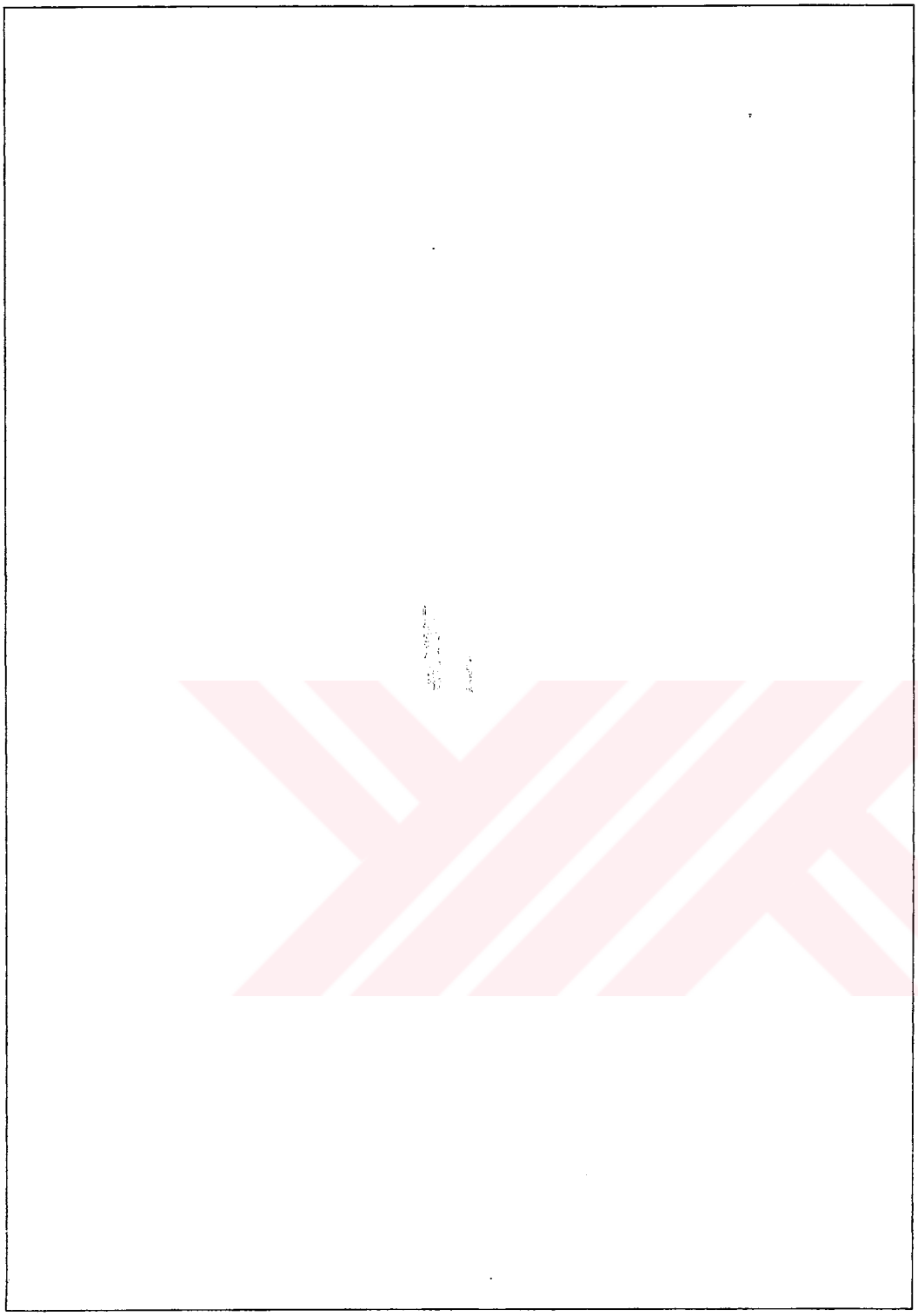
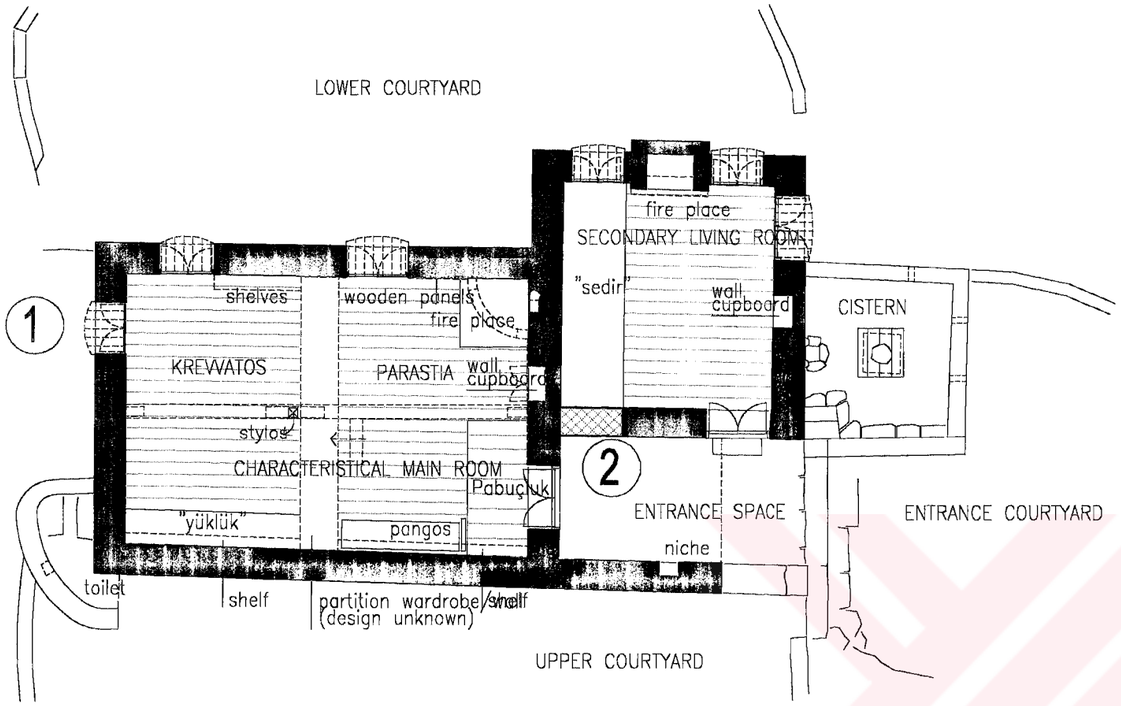
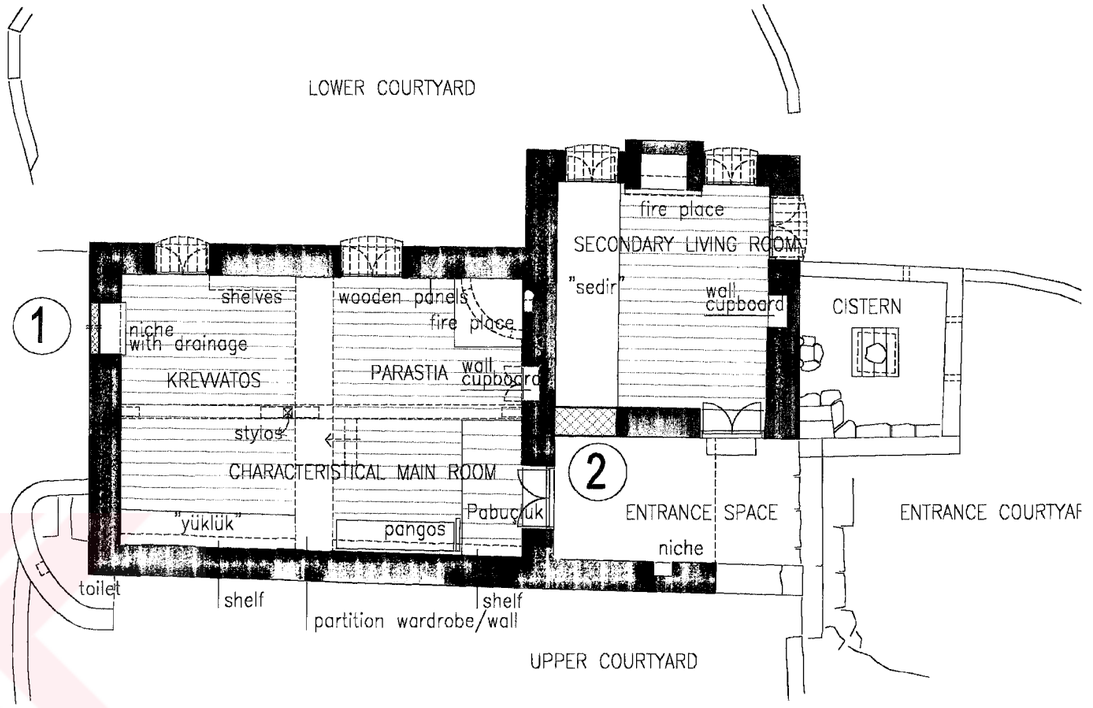


Figure 5.18: Restitution Study of D.3.15



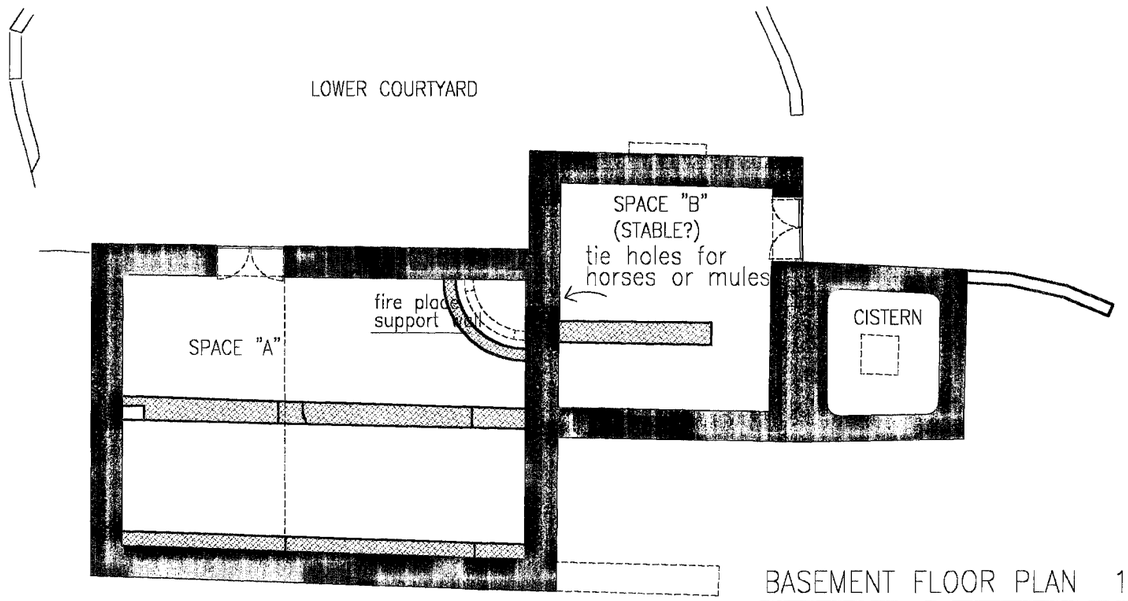
GROUND FLOOR PLAN 1:150

STAGE 1



GROUND FLOOR PLAN 1:

STAGE 2



BASEMENT FLOOR PLAN 1:150

STAGE 1 & 2

ALTERATIONS

1 WINDOW ⟶ NICHE WITH DRAINAGE AND COUNTER

2 FILLED DOOR OPENING (LESS INFORMATION ABOUT ITS ALTERATION SCENARIO/PREVIOUS SITUATION)

at the secondary living space, that this space had been subjected to the gradual construction process, which has been defined with examples in Chapter 4.2.4.

The difference between floor levels at MR1 illustrates the existence of spaces such as *pabuçluk*, *parastia* and *krevvatos*, which have been defined in Chapter 4.2.1. The wooden architectural elements, which do not exist currently but traces of which can be seen, can be defined as conforming with the characteristics described in Chapter 3.3.3. After an evaluation of the traces on the southern and northern walls, it can be stated that there had been a partition wardrobe between *parastia* and *krevvatos*, a *pangos* (wooden sitting bench with armrest) at *parastia* and a *yüklük* at *krevvatos*. In addition, there had been wooden shelves at different levels, especially on the southern wall. *Stylos*, which had supported the roof beams, is on the axis of the partition wardrobe. Thus, MR1 space seems to be a characteristic main room of Kaya Köyü houses with respect to its dimensions and architectural elements (see Figure 4.7).

Besides, MR3 space is a typical secondary living space. The wall type fireplace between two windows at the main façade of the space is a typical feature of these spaces. The load of the roof had been carried by roof beams, which had been supported by a main beam setting on the eastern and western walls, and which had laid on the north-south direction.

The mass restitution of the building has been presented in Figure 5.19. Accordingly, the building with the gird reference D.3.15 is a typical example to the characteristic Kaya Köyü House, which has been described in Chapter 4.2.

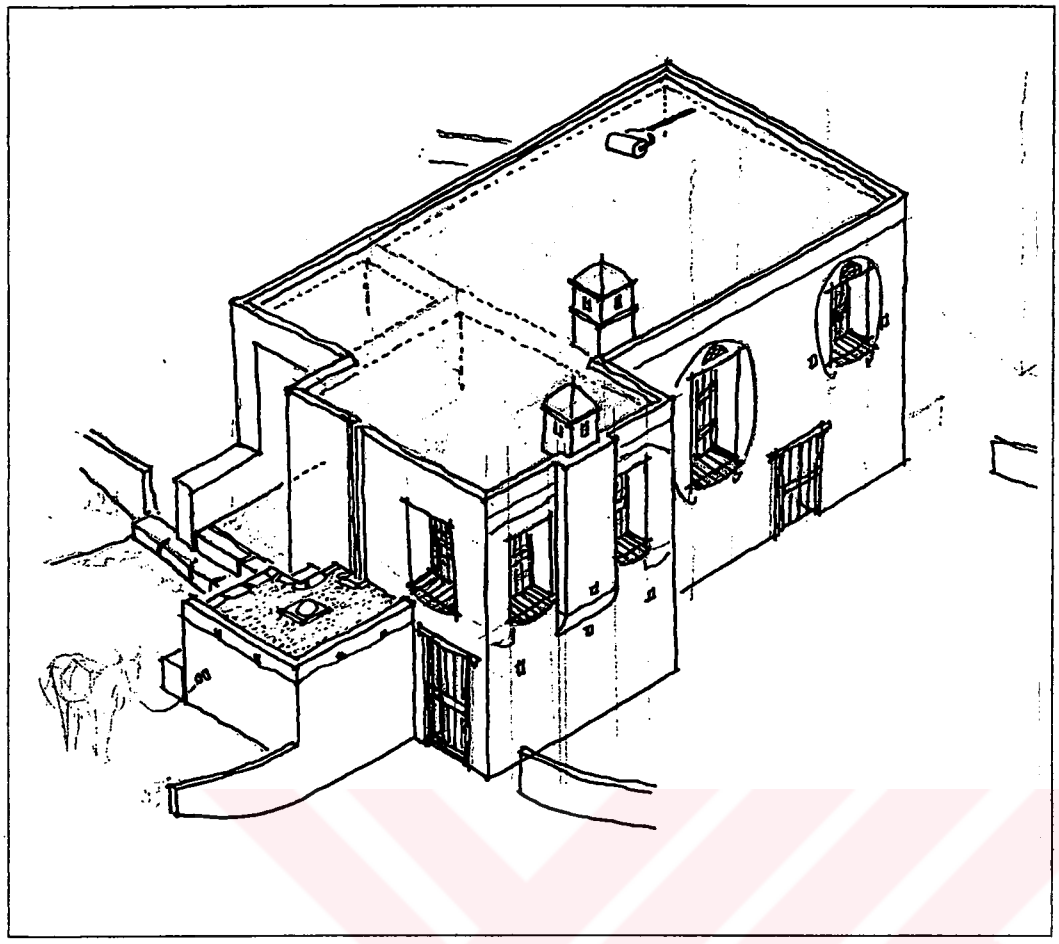


Figure 5.19: Hypotetical View of D.3.15 (drawn by H. Saraç)

5.3.4. Restoration Alternatives for Different Functions

Various alternatives, which have been developed within the framework of the general conservation principles which have been listed in Chapter 5.1.3, and on the basis of the measured drawings and restitution studies which have been described in Chapters 5.2.2 and 5.2.3, for conservation and restoration interventions will be presented in

this section. This presentation aims at forming sample case in line with the general principles with the purpose of being a guide for various conservation scenarios.

The intervention alternatives that have been developed in this context are as follows:

Intervention Type A proposes that the building is subjected to the conservation and consolidation interventions that have been defined 5.1.3.2, and then to a continuous and regular maintenance process (Figure 5.20).

The aim of this intervention at the initial stage is to determine the sources of decay and to eliminate them. In this respect, it has been observed that the most important reason of the decay on the walls of the building is the rising damp. It has been observed that the northern and southern façade walls had deteriorated because of this problem. In order to eliminate this problem, it has been proposed that a drainage system can be installed around the walls of the building, except for the western wall. It will be appropriate to determine the details of the drainage application after a comprehensive analysis at the site.

Parapets form the second problematic group, which suffers from the rain penetration. As the roof floor had been destroyed, the rainwater easily penetrates inside the walls from the parapets. Consolidation of the parapet detail is necessary for the elimination of this problem. For this reason, capping of the deteriorated sections with appropriate mortar and plaster and filling of the cracks can be proposed. It should be maintained that the mortar and the plaster that would be used in this repair work should be the same with the original ones, but they should be distinguishable from the original with a difference of color degree. Originally, the mortar that had been applied for cisterns were used in the

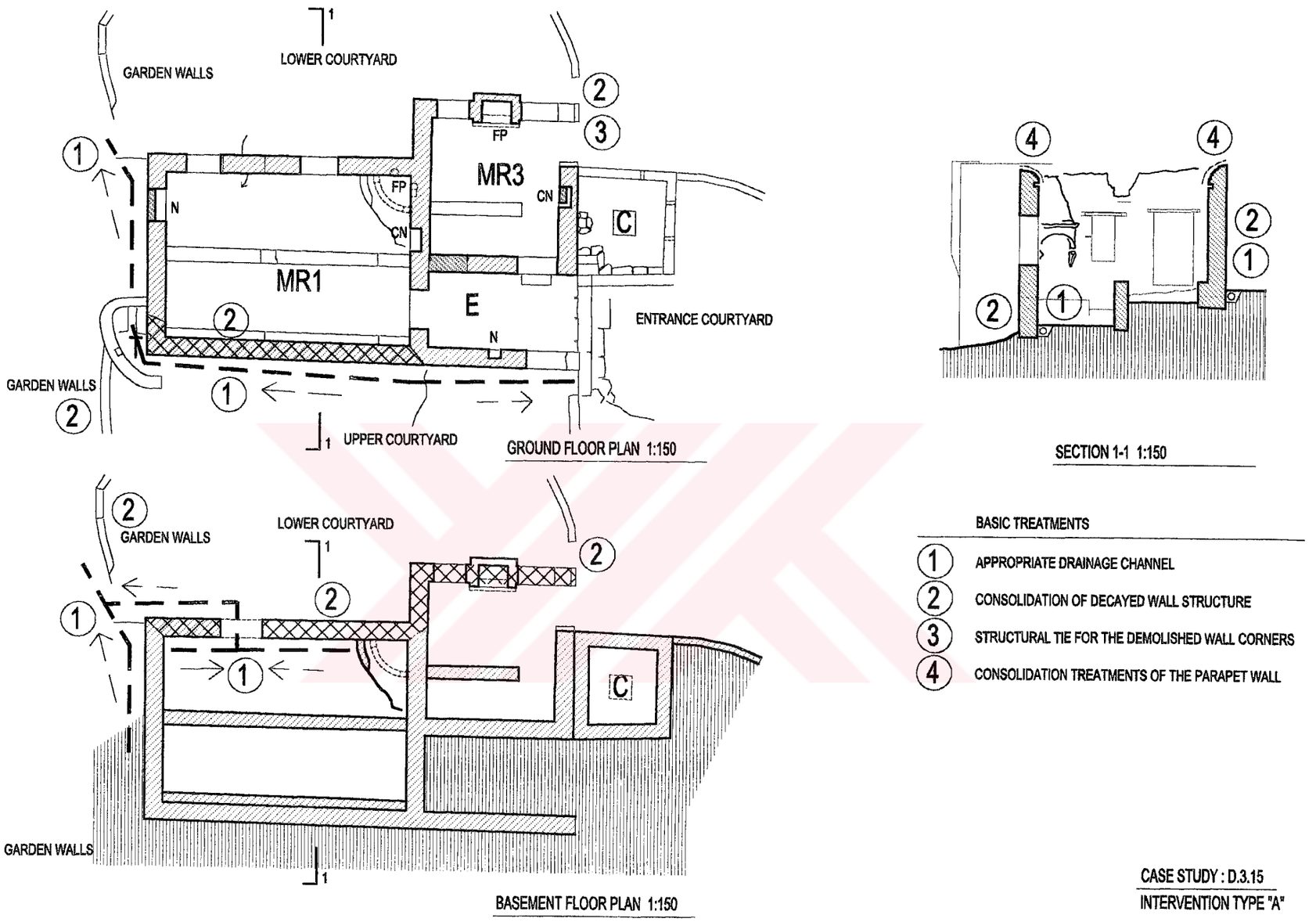


Figure 5.20: Intervention Type A

parapets to stop penetration of water. As there is no roof today, capping of the upper sections of the walls subjected to weathering with a waterproof material will be appropriate. Yet it should be secured by the laboratory studies that this material will be in harmony with the original materials.

After the elimination of the causes of decay, the deteriorated materials should be repaired and replaced. The most problematic parts in this respect are the lower sections of the northern and southern façade walls. These sections necessitate repair of mortar and replacement of missed rubble stones. As the construction technique is rubble stone masonry, it will be a practical solution to use the stones that can be found on the ground at the sections, which had been demolished.

The demolition that can be seen at the northwestern corner of the secondary living space of this building is a common decay type at Kaya Köyü buildings. Because of such a demolition, the remaining parts of the northern and western walls of the secondary living floor can hardly maintain their stability. After the consolidation treatment, these walls can be connected to each other at the parapet level. A more comprehensive static examination may necessary in order to determine the materials to be used and details of this reinforcement.

Intervention Type B proposes that temporary structures are formed in order to use the building for certain purposes, after the conservation and consolidation treatments that have been defined in Intervention Type A are performed (Figure 5.21). These temporary structures should stand-alone without any connection to the walls of the building in order to provide that they give no harm to the building or leave no trace behind whenever they are removed. This system is

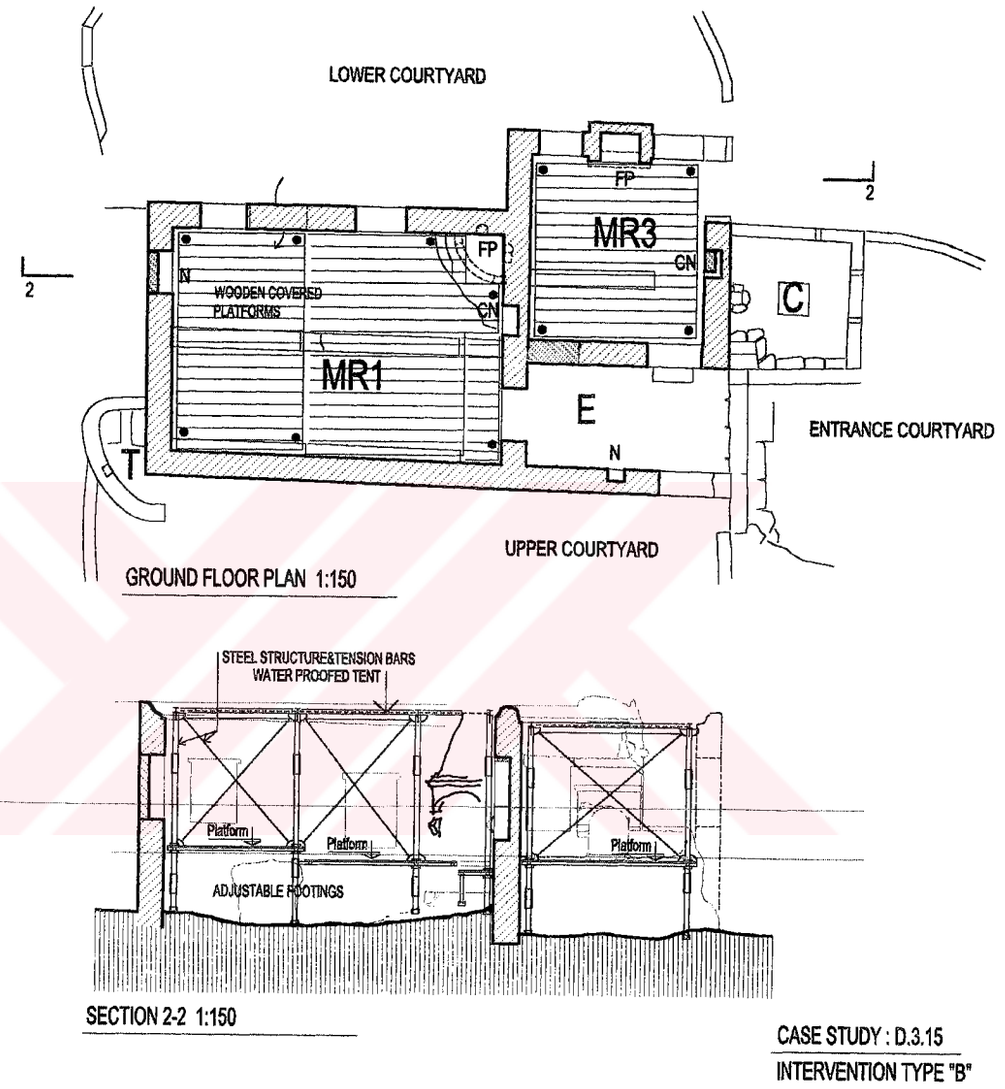


Figure 5.21: Intervention Type B

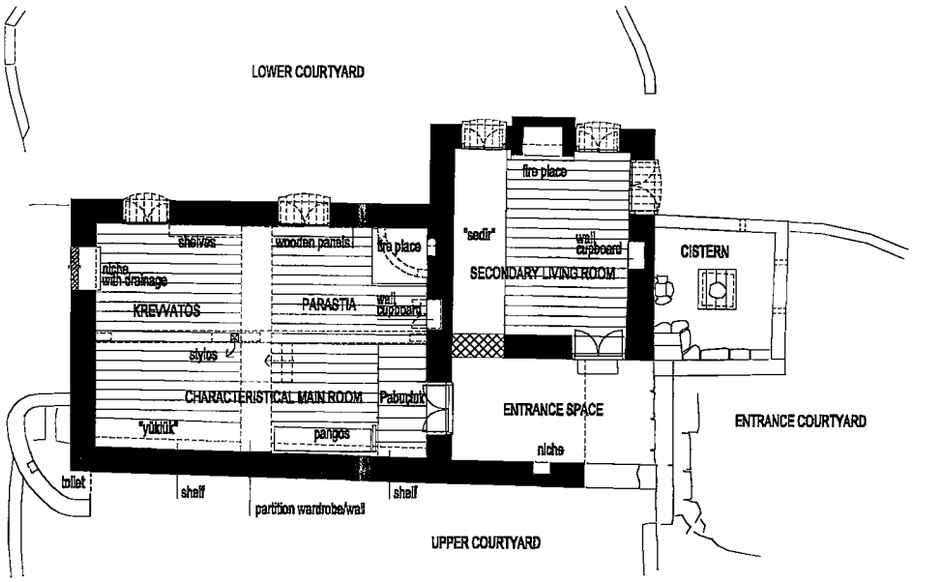
composed of wooden platforms that are set on adjustable steel posts and "water proofed tent shelter" that are stretched between steel frames. The rainwater that is collected on the tent will be drained via a pipe, which is made from the material of the tent. The platforms are adjusted in a form that provides the original floor levels. The steel corner posts of the construction and its steel tensile ropes provide that all of the walls of the building are visible and tangible. In this way, the massive entity of the building will be perceived, although temporarily.

Various activities such as workshops, exhibitions, audio-visual performances and lectures can be held in the sections where the temporary platforms and tents are set. The temporary constructions should be removable and also be employable in other buildings. In this way, many buildings in Kaya Köyü can be in use and alive.

Intervention Type C is the alternative, which proposes that the building is transformed its original form that has been described in restitution project (Figure 5.22). This alternative would mean that all of the spatial characteristics of the building and all of its architectural elements are completed respectfully of the materials, construction techniques and the authenticity of the design. This process would also necessitate the reconstruction of certain parts. In this process, the approaches that have been defined in Chapter 5.1.3.2 should be followed.

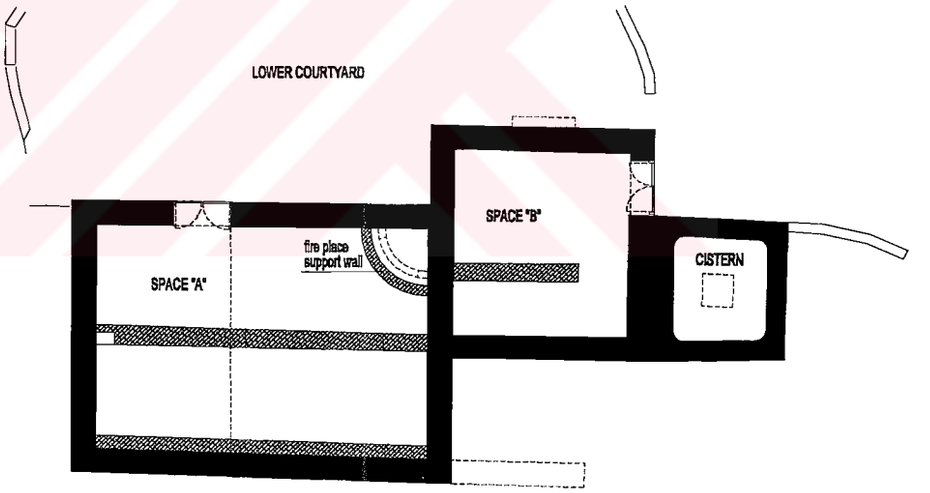
In this way, the building, after the restoration, will be an example of the characteristic Kaya Köyü House with the scale of 1:1, and become a museum that is exhibiting itself.

Intervention Type D proposes that the building is subjected to restoration by being re-functioned. The new function that is given to the building should be in conformity with the approaches explained in Chapter 5.1.3.2.



CASE STUDY : D.3.15
INTERVENTION TYPE "C"

GROUND FLOOR PLAN 1:150



CASE STUDY : D.3.15
INTERVENTION TYPE "C"

BASEMENT FLOOR PLAN 1:150

Figure 5.22: Intervention Type C

As an alternative function for Treatment D, two proposals are developed for the building with the grid reference D.3.15 to be used as a residence or a unit for temporary accommodation.

Alternative I:

In this alternative, the building will have living and sleeping spaces, a kitchenette that will not have the function of cooking, and the service spaces that can be used as depots or workshops (Figure 5.23). In order to minimize the interventions in this alternative, the spaces that require modern installations, such as a bathroom, toilet and kitchen, are not placed in to the building. This limitation will provide the preservation of the characteristics of the original spaces, architectural elements and functions of the building as much as possible. As a part of the scenario proposed here, it has been assumed that such service functions can be provided in the near vicinity of the building with the grid reference D.3.15 or in any other building that would be more appropriate for involving spaces for such functions. That is to say, this scenario proposes that the living units and service units are involved in different buildings and these buildings are close to each other.

It is important to note that the restoration alternative should involve interventions that are in conformity with the approaches described in Chapter 5.1.3.2. The spatial characteristics of the building are not altered in the restoration proposal. All of the spaces have been repaired in conformity with the original features and traces.

Traces of wooden laths on the northern wall of the semi-open entrance space are not subjected to interventions, as they could not be defined. All the other parts are consolidated.

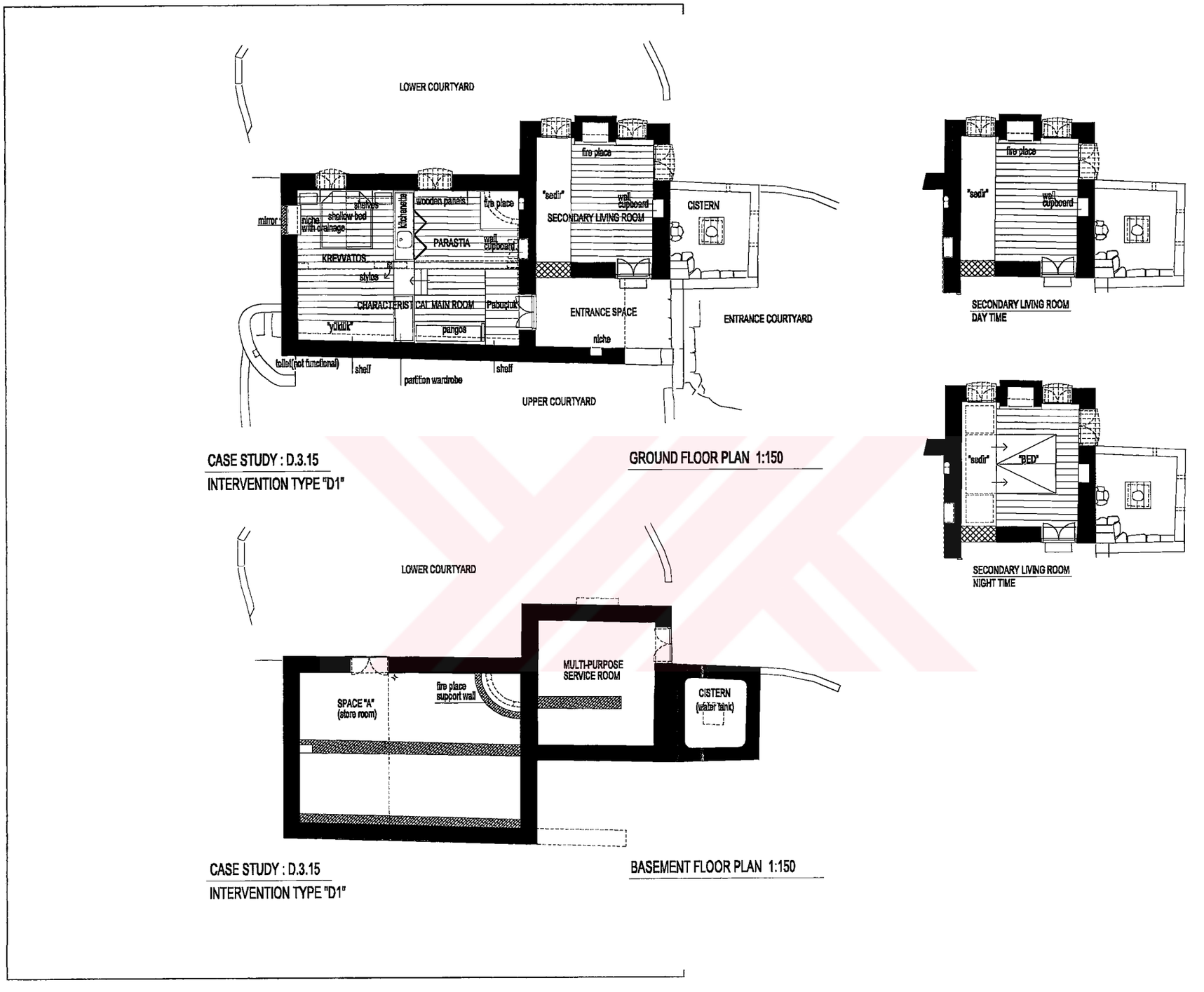


Figure 5.23: Intervention Type D – Alternative 1

In the characteristic main room, the floor has been designed in a way to indicate the spaces of *pabuçluk, parastia* and *krevvatos*. *Krevvatos* has been given the function of sleeping space, and *parastia* has been given the function of living space. The *Pangos,* in *parastia,* has been reproduced in line with the samples that have been determined via comparative studies. The details of replicas have been designed to indicate that the element is new. The partition wardrobe between *parastia* and *krevvatos* has been given the function of service, referring to its original function. A wardrobe with shutters is allocated in *krevvatos section*, and a kitchenette, which has sliding folder wings, is allocated in *parastia section.* The corner type fireplace will be used with its original function.

The secondary living space has the potential of being used for different functions, such as study room, children's bedroom and living room. Built-in sitting place (*sedir*), originally located on the western wall, can be added and detailed for multi-purposes. For example, it can be used as a sitting place during the day, whereas as a bed at night.

The service spaces in the basement floor can be designed according to the requirements of the inhabitants or the users. These spaces can easily be transformed into functional spaces after cleaning and leveling of the ground, and solving the lighting and ventilation problems properly.

Alternative II:

This alternative does not propose any different functions for the living floor, but a bathroom in the basement level to the space underneath the secondary room (Figure 5.24).

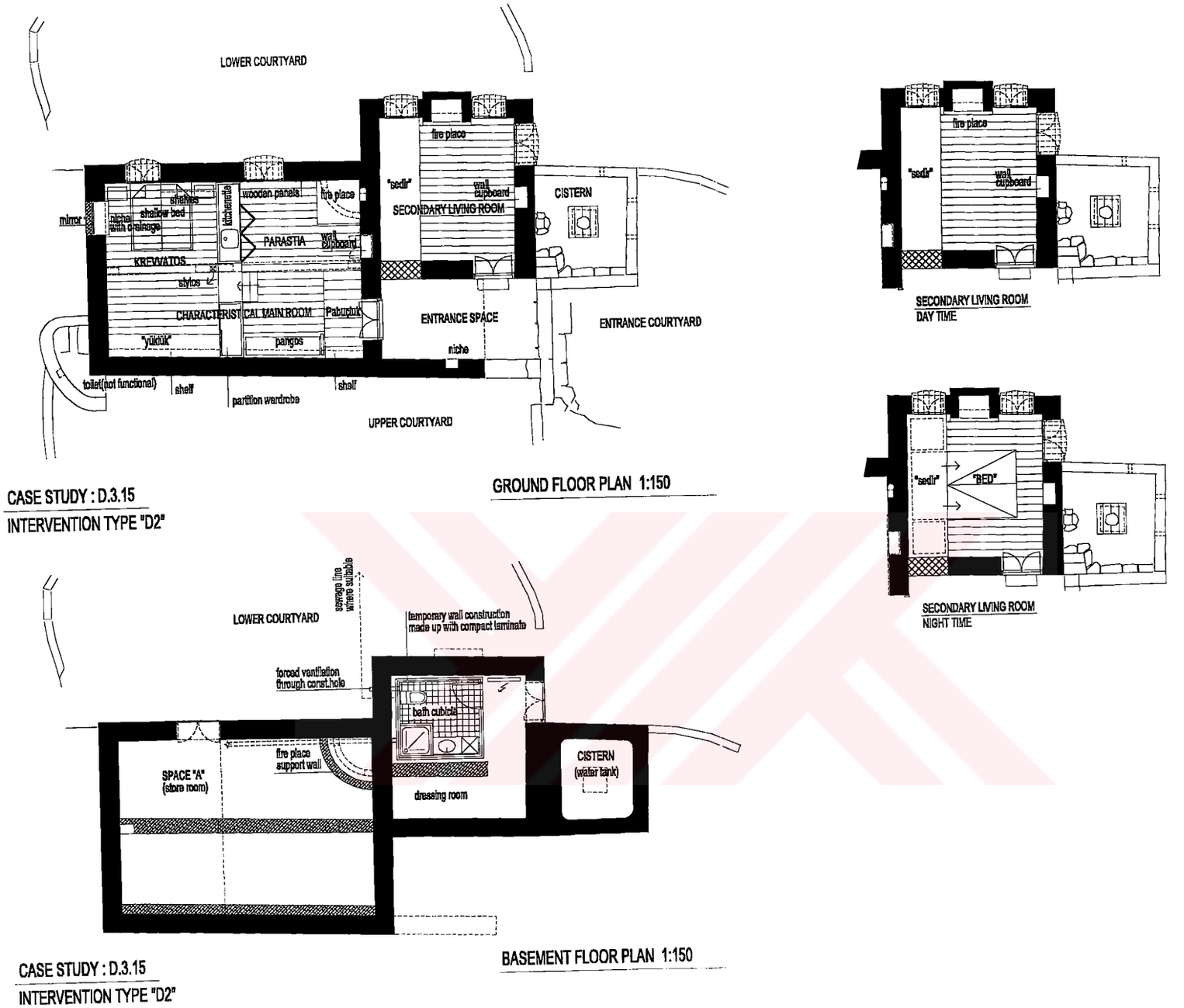


Figure 5.24: Intervention Type D – Alternative 2

With respect to the principle of the reversibility of interventions, this bathroom has been designed as a demountable unit, which is separated from the ground floor and the walls of the space. It has been constructed with compact laminated partition walls within a steel frame. An aspirator working with electricity and located in front of the existing construction hole on the northeastern wall of the space will secure the ventilation. Waste water pipe will be placed under the same wall, following the most appropriate route in the lower courtyard and reaching the central sewerage system or septic tanks.

In both alternatives that have been proposed for Intervention Type D, doors and windows will be produced in their original forms and materials, but will have new details. Places of frames and shutters and opening direction will be designed according the assessments given in the restitution project. There will not be glazed window frames but timber shutters. The author considers that repair and strengthening interventions and reproduction of new materials incompatible with the original ones will be produced and implemented in the workshops to be opened in Kaya Köyü. In this way, traditional materials and construction techniques of Kaya Köyü and Southern Aegean Region will survive and the education of new but skilled artisans will be supported.

CHAPTER 6

CONCLUSION

At the end of this thesis, which has set out with the aim of defining the conservation and restoration problems of Kaya Köyü settlement and buildings and thus being a source for the future conservation treatments, it will be appropriate to give a general account for the balance between the initial targets and the results achieved in course, in terms of the prospect of guiding future studies.

The whole process of collecting data and evaluating them has been affected by the fact that Kaya Köyü had been abandoned and destructed to a large extent. The methodology that has been developed in this context is unique to this thesis, and it has been considered that it can be employed for future studies that will cover similar but less well-known settlements.

While gathering information on the physical structure and the social life of Kaya Köyü in the course of this study, it was not possible to reach the people who had witnessed the exchange of population nor to the publications some of which are reportedly in Greece and some that had based on the narrations of the witnesses. As to the vernacular architecture and settlements of Aegean islands, information on them has been provided on the basis of the limited number of references which have been frequently cited in this thesis, but it could not be possible to carry out a site

survey due to practical reasons. In this respect, any attempt to reach the sources on Kaya Köyü in Greece and comparative studies on Aegean architecture that would be carried out on the site will add to the maturation of the evaluations that have been given in this thesis.

In this thesis, information the materials and the constructions techniques of Kaya Köyü buildings have been explained in detail, basing on the visual and physical documentation study that has been carried out on the site. Because of the limitations of the scope of the thesis, however, no laboratory analysis has been performed so as to examine the physical and chemical characteristics of the materials that had been used in Kaya Köyü buildings, such as stones, mortar, plaster and wooden elements. It is a must that a comprehensive laboratory analyses should performed on the original materials in order to maintain the physical and chemical compatibility of the material hat would be used in any possible treatment.

This thesis reveals that there is a building type that can be identified as the characteristic Kaya Köyü House. Notwithstanding, there are buildings or traces, though limited in number, which cannot be explained or identified. However, these traces are only comprised of elements which do not impeded any definition of the spaces. Such suspicious elements and discredits have been mentioned in this thesis, and the clues for the future examinations for a comprehensive description of them have been deployed.

Following are some of the topics that have been excluded from the scope of this thesis or could not be examined in detailed due to practical reasons:

- Any study of the building types other than the houses(i.e. churches, chapels, shops, etc),
- Any study of the buildings which are currently in use, and the interventions up to the date,

- Any study that emphasizes on the houses other than the characteristic Kaya Köyü house,

- Studies on façades and their elements,

- Studies that examine the construction techniques and materials in detail(i.e.laboratory works).

It has been considered that these studies and similar ones would be the complements of the determinations and evaluations given in this thesis.

The writer of this thesis has consciously avoided developing a concrete conservation proposal that would include the whole site and its partial re-functioning. The reason behind such a conscious approach can be summarized as follows: The conservation of Kaya Köyü is not a problem of a physical planning itself. Any of the scenarios that will be proposed by different institutions and groups will involve "social and economical" benefits Kaya Köyü ad its residents. In the case of Kaya Köyü, it seems possible that one or more of these scenarios can be implemented concurrently. Financial sources should be defined, social context should be determined and various expectations, be them scientific, commercial and political, of various groups regarding the settlement, should be met. Such an approach necessitates a special organization and management process. This process inevitably necessitates prospects of different policies. In this sense, and as a requirement of the professional definition of the restoration discipline, this thesis has accepted it as a principle to confine itself with giving a definition of the values that have to be conserved and various alternatives of treatment. "Management of Historic Site Preservation" is a serious discipline in the global sense, necessitating the prospects of new processes with new apparatus. In this sense, conservation of Kaya Köyü also necessitates the apparatus, organization models and basically a definition of process, which should all be designed by different disciplines collectively.

It can be regarded that this thesis has provided a concrete contribution to this process, which should be maintained by different institutions and groups in consonance, by defining the values, conservation principles and alternatives of treatment, which would provide the basis of any scenario of conservation.

It is the basic expectation of this thesis to provide a contribution to the process of conservation of Kaya Köyü, with respect to the data, evaluations and proposals it involve, as well as the new questions it has cast and study areas it has defined in this sense.

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KAYA KÖYÜ (LEVISSI) - SITE PLAN

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A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
THE MIDDLE EAST TECHNICAL UNIVERSITY

PROBLEMS ON CONSERVATION AND RESTORATION OF KAYA KÖYÜ (LEVISSI) HOUSES

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN RESTORATION
THE DEPARTMENT OF ARCHITECTURE

submitted by
Hatun SARAÇ

supervisor
Assoc.Prof.Dr. Meriwan ŞAHİN GÖÇVAN

MAY 2001

PHASE OF STUDY :
● SURVEY ○ EVALUATION

SCALE :
0 10 50

N

TITLE:

KEY PLAN OF SURVEY

LEGEND:

BOUNDRY OF THE STUDY AREA

2 BUILDING CODES

Figure 1.3 : Key Plan

APPENDICES