INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

Modernization and Cultural Transformation:
Change in Building Materials and House Forms
Karimabad, Pakistan.

Sarwat Viquar

School of Architecture, McGill University, Montreal
July, 1996.

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements of the degree of
Master of Architecture

Abstract

Traditional communities in most Third World countries today are facing the influx of an industrialized economy which is leading to the introduction of new building technologies, infrastructure and modern communications. This has resulted in a change in the built environment of traditional settlements.

There are many dynamic factors which help to shape the decisions people make about the physical nature of their built environment. The linking of these decision-making factors to the external forces influencing society is very important to arrive at a clear understanding of how traditional forms give way to new ones. This thesis links global and local forces in interaction in the small mountain community of Karimabad, Hunza in Northern Pakistan, which is experiencing the effects of a capital economy and the new social and cultural milieu which accompanies it. Added to that the community has also been subjected to the effects of international tourism and development projects. The thesis shows, how, under the influences of these factors, the local traditional house form has transformed in terms of change in building materials and housing layouts.

This study was also carried out with the view of linking local perceptions of change, with the actual physical changes in housing. The thesis attempts to show how the ordinary household in Karimabad makes its decisions for change, and views the outside world and their place in it, and how this change is reflected in the changed house forms and building materials. This research also draws on the theoretical framework and references of how globalization is affecting traditional settlements on the periphery.

The findings of the study point to a strong link between external influences, especially of media, tourism, and international development institutions, and the changed house forms and materials. It also shows that it is not possible to isolate individual decision-making from external influences, especially where material culture is concerned.

Résumé

La plupart des communautés dans les Pays du Tiers Monde sont confrontées aux flux d'une économie industrialisée qui mènent a l'introduction de nouvelles technologies de contruction, d'infrastructures et de communications modernes. Ceci a donné lieu à un changement dans le bâti des communautés traditionelles.

Il existe de nombreux facteurs qui aident les personnes à définir leurs choix au sujet de la nature physique de leur bâti. Il est important de faire les connections entre les facteurs décisifs et les forces extérieures qui influencent la société, pour arriver a comprendre clairement comment la forme traditionnelle donne naissance à de nouvelles formes. Cette thèse montre l'intéraction entre les forces globales et locales dans la petite communauté montagneuse de Karimabad, Hunza dans le nord du Pakistan. Cette communauté est en train de vivre les effets de l'économie capitaliste et du nouveau milieu social et culturel qui l'accompagnent. De plus, cette communauté a aussi connu les effets du tourisme international et des projets de developpement. Cette thèse montre comment, sous l'influence de ces facteurs, les formes d'habitation traditionelles locales se sont transformées quant aux matériaux de construction et des agencements des maisons.

Cette étude a aussi été menée dans l'idée de relier les perceptions globales de changements avec les changements physiques actuels. La thèse tente de montrer comment une famille ordinaire décide de faire des changements, et comment elle voit le monde extérieur et les matériaux de construction. Cette recherche démontre, dans le cadre théorique et la bibliographie, comment la globalisation affecte les habitations traditionelles périphériques.

Les résultats de cette étude expriment une forte corrélation entre les influences extérieures, particulièrement des médias, du tourisme, et de l'aide internationale et l'évolution des formes des maisons et des matériaux. Ils montrent aussi qu'il est impossible d'isoler les prises de décisions individuelles des influences externes, tout particulièrement lorsque la culture et les matériaux sont concernés.

Acknowledgements

I would like to thank my parents, first of all, for providing me with the opportunity to come to Canada and for their constant prayers and support. My brother, sister, and my little neices and nephews for giving me their familiar company so that I never felt homesick.

To my advisor, Professor Vikram Bhatt, my gratitude and respect for seeing me through this research and for pushing me to do my best.

To the people of Karimabad, Hunza, that beautiful paradise high in the mountains, now in danger of becoming paradise lost, for their hospitality, warmth and friendship during my two month stay there, especially to my guides Shamim, Ayaz and Fayyaz for sharing in not only my field work, but also my treks through the Karakoram mountains.

To the Aga Khan Housing Board for Pakistan for providing field support and access to resource materials in Karachi and in Karimabad. To the KPSS (Karimabad Planning Support Services) staff in Karimabad for providing me with resource material and field support.

To my friend, colleague and fellow architect Anila Naeem with whom I shared much of my field work and my ongoing interest in Hunza.

I am very grateful to the Faculty of Graduate Studies and Research at McGill University for granting me the Social Sciences and Humanities Research Grant which made the field research for this thesis possible.

And finally, to Manuel, my fellow-dreamer and sharer of visions, for giving me the ideas and inspiration to carry on my work.

TABLE OF CONTENTS

LIST OF FIGURES

ABBREVIATIONS

AKDN	Aga Khan Development Network
AKHB	Aga Khan Housing Board
AKES	Aga Khan Education Services
AKRSP	Aga Khan Rural Support Programme
AKTC	Aga Khan Trust for Culture
KPSS	Karimabad Planning Support Services
NA	Northern Areas
C.C. Block	Cement Concrete Block

GLOSSARY OF TERMS

ha The traditional multi-purpose space in indigenous Hunzai housing.

Mir The ancient fuedal ruler of Hunza.

CHAPTER I

1. INTRODUCTION

For the past century rural society in the Third World has been in a state of transition and rural people are facing rapid changes in their economy and lifestyle. Due to massive industrialization and the monetization of the economy, the traditional economic and social systems are breaking down. Today, in Pakistan and throughout the Third World, rural areas are facing a change in their built environment. A rural lifestyle provided its own traditional systems of building and locally available materials and the majority of rural inhabitants were able to provide their own shelter largely within the context of a subsistence economy.[1] The architecture of rural environments developed as a direct response to local materials, climate and affordability. It was a very functional kind of architecture which used materials according to their natural properties. It was not the product of a single person but the result of a long tradition of craftsmanship carried out by people who had no formal training.[2] Now, however, changes in the economic structure like the introduction of a cash economy, and other modernizing factors have created an influx of urban building materials and systems in these areas. The rural house form today no longer completely relies on the old traditional systems or materials and is in the process of adopting systems from the mainstream urban housing market. There is a depletion of materials, a dying out of old skills and an introduction of new materials and systems from urban areas. The adoption of these systems is also a reflection of the growing influence of a more integrated or 'global' economy. Rural areas are now under pressure to integrate with the national economy which in turn is increasingly being pressured to survive within a global one. Consequently traditional settlements in these countries are undergoing transformations in their built environment as they are more and more influenced by the modernizing effects of a capital economy, consumerism and mass communications. Their built environment is reflecting features taken or imitated from the urban centers. There is a diffusion and spread of new concepts and ideas regarding building materials and design principles which are beginning to dominate or replace traditional systems.

---

[1] Robert Obudho, "Urban and Rural Settlements in Kenya," Regional Development Dialogue 13 4 (1992) : 86-111.

[2] F. Fescura, "Process and Product in Architecture: A South African Case Study," Open House International 17, 3& 4 (1992) : 10-18.

Through electronic media and the printed word, images of modernity have been transported into every house in rural communities. These images bring with them ideas of new lifestyles and technologies. As a result modern technology becomes associated with power, rapid change and western ideas. Urban centers become powerful innovators and diffusers of new ideas. As the term rural becomes associated with backward, people in rural areas begin to aspire to urban standards of living as well as building.[3] New materials and systems of building are then adopted and traditional building systems are abandoned. Traditional building practices, which had been sustained by traditional subsistence practices and traditional socio-economic systems are therefore dying out because the basic life systems themselves are changing.

In recent years there has been a major spread of the cement and pre-cast concrete industry in Pakistan. These concrete building systems, although now accepted as being fairly conventional in the building process, are still new in the rural context, where they have been introduced during the past 10 years, and in some areas, are still being introduced. This spread is generally attributed to the efforts of small-scale building suppliers and contractors who have brought over improved skills and building techniques from the Middle East. It is also a reflection of the growing trend of the modernization and urbanization of rural areas. These small-scale suppliers of cement and pre-cast concrete elements like roofing and building blocks are largely centered around metropolitan areas and major highways. Through small market towns their influence has also spread into rural areas in the heartlands and the periphery of the country.

The adoption by a rural householder of a new material is an expression of his rising income, of entry into a wider commercial market of supply, of his confidence in the new material, of confidence that he has a place in the modernization that surrounds him and that his neighbors will also recognize this as so. There is a close relationship between the character of the rural life the household follows, the forces making for change in a particular rural area and the character of the housing long in use. Rural houses are embedded in a rural, social, cultural, religious and economic environment. Any intervention by an outside agency can cause major changes in this environment.

In Pakistan, during the past few decades, the rural housing situation has become worse. Overcrowding, the poor quality of housing, and the lack of secure tenure in many rural

[3] Ibid., 12.

areas are the most immediate problems. [4] As far as the availability of building materials is concerned many building materials such as cement and steel have increased in price. At the same time, many traditional building materials such as wood for roof construction have become expensive and are in short supply. On the part of the government there has been little effort to support or sustain local construction practices or materials, through, for example, encouraging the preservation of forests for a sustainable supply of wood, which is a traditional material used extensively in the northern region of Pakistan, but disappearing now due to depletion of the forest cover. National programs for electrification and irrigation and an improved transportation network have improved living conditions in most rural areas in Pakistan, yet as far as shelter is concerned, there is a shortage of building materials for construction.

1.1 Rationale

Within this context of the changing built environment in traditional settlements, it is relevant to first explore and see what people living in traditional communities have been doing in terms of adapting their housing to suit their changing needs. It is also necessary to see what kind of factors are influencing the decisions they are making about new housing, and how these factors relate to, or are influenced by the larger forces they are being subjected to as a community. It is only through an understanding of the local and global forces at work in the transformation of traditional settlements that we can hope to identify appropriate solutions for the provision of adequate shelter.

Studies on traditional settlements tend to focus either entirely on the documentation of vernacular architecture and building, or they are sociological studies which mainly deal with the socio-economic and cultural milieu in traditional environments. It is only recently that studies on traditional dwelling environments have begun to make the co-relations between the two, the physical built environment and the complexities of the communities they house (see chapter 2). This study intends to make a contribution to the field of the study of traditional environments by delving more deeply into the whys and hows of changes in these very indigenous built environments and relating these changes to the complex regional and global forces at work all over the world.

---

[4] Dissemination of Building Technology. Shelter for Low-Income Communities Sindh: Project Preparation Study. (Pakistan: National Housing Authority, 1992).

1.2 The case study

This thesis explores the ways in which the new building materials like cement concrete are being adopted by people in the rural villages of northern Pakistan and what are the factors which influence people's adoption of these materials. It also brings to light how these factors are related to the larger influences to which these regions are being subjected.

The remote mountain region of Hunza, in the north of Pakistan, has been chosen for this case study. This mountain community offers a unique opportunity to study the way traditional settlements are facing rapid changes in their economy and lifestyle, and how this is reflected in their material culture and built environment. The region is particularly interesting for this case study because during the past twenty years it has changed from an isolated, rural region to a popular tourist location which has been linked to the rest of the country by a major highway. This has opened up the region to a host of significant changes, in economic and social life, and consequently in culture. One of the significant ways in which this change is reflected is in the changing built environment of traditional settlements in this region. New materials and technologies of building have been introduced into the region largely through an improved transportation network building better links with the economic and urban centers of the rest of Pakistan.

The region presents a strong contrast between tradition and modernity. It has a strong indigenous building tradition, and since the incursion of modern influences has been relatively recent, it is possible to observe the process of change in its initial stages, where traditional building systems are being replaced by modern ones. Over here indigenous building systems refer to the materials of construction and techniques of building which are unique and indigenous to the region of Hunza and are generally taken to represent the culture of the region. New building systems refer to the materials of construction and building techniques which are not local and have been imported to the region from other parts of the country, so they are considered new specifically in reference to the region in question.

1.3 Research questions

In order to investigate the kind of changes happening in the rural environment due to the adoption of new building materials and technologies, this study asks the following questions:

- *How and why are new materials and building systems being adopted by people in Karimabad, Hunza in northern Pakistan? How is this change reflected in the house forms and material culture of the region? What are the factors which influence people's decisions to adopt new materials of construction? How are these factors related to, and what do they reflect of the larger cultural, social and economic transformation of the area?*

1.4 Research methodology

As the main focus of the research was a study of changes in local dwellings and materials of construction in the region, the research methodology adopted for this purpose relied mainly on an intensive field review and documentation of 18 selected case studies conducted in and around the town of Karimabad in Hunza, northern Pakistan, for a period of two months in July and August of 1996. Having previously visited the region on two occasions for research purposes, during the course of five years, the author built on previously gathered data and observations on the building systems, materials, architecture and social and economic life of the area under study. This experience also allowed the author to have a unique perspective on the present situation in Hunza through possessing familiarity with local customs and connections with local people.

The research methodology was based on two primary methods: Interviews with householders, with the help of an informal questionnaire: and, Physical documentation of the dwelling particularly looking at the changes in housing layout and materials. In addition there were interviews with local people, masons, shopkeepers, hotel owners and local professionals. A literature review was extensively used as a secondary source of data on the region, in particular for the history of the region. In order to observe the cultural changes presently occurring in the region and how they are reflected in housing, interviews with local people were correlated with the larger changes and influences at work in the region. This was done through asking people direct questions about the socio-economic changes which the region is undergoing.

The case study households were chosen from five different villages in and around what is generally known as the town of Karimabad in the Hunza district of northern Pakistan. The villages were chosen because of their accessibility to the main highway. Since the main focus of the research was to observe new influences, it was important to choose areas which had varying degrees of contact with the outside world, the main avenue of this contact being the transportation network.

The main constraint encountered during the field research was that of accessibility to the different villages under study, as well as accessibility to the individual households. The choice of villages and households was thus constrained by which of them were accessible in terms of roads and contacts. In the close-knit community structure of Hunzakut society it is difficult for strangers to gain access to the house which is considered to be a very private and personal domain. In addition, passage from one village to the next requires either expensive vehicular transportation or walking and climbing long distances. Therefore the radius of the area under study was kept small and the case studies limited to eighteen households.

CHAPTER II

2. TRADITION AND MODERNITY: *An exploration on the effects of modernization on traditional settlements: a literature review.*

When studying the changing built environments of traditional settlements it is essential to consider regional influences and relations of power and economics, as well as local peculiarities of geographic and historic development, in addition to global external influences. It is only through the filter of regional and local set-ups and systems that external influences reach a community, and during the process are also modified. Traditional settlements offer an environment where indigenous subsistence practices have flourished for centuries. However, with the advent of modernity and its accompanying social and economic changes, traditional environments are changing and adapting their culture and technology. As far as the question of the built environment and how it is influenced by these global and regional forces is concerned, it is important to consider that there are many dynamic factors which help to shape the decisions people make about the physical nature of their built environment. The linking of these decision making factors to the external influences is very important in order to arrive at a clear understanding of how traditional forms give way to new ones. These changes also need to be understood within the context of the modernization and globalization process which is indirectly making its presence felt in the remotest parts of the world. In this process, modern theories of development provide valuable insights into the nature of the external forces affecting societies, i.e the 'global' and the 'local'. What follows is an introduction to modern theories of development, and an overview of the structure of traditional settlements in the Third World, and how they are undergoing changes in the present century. Through a basic understanding of contemporary theories on development, more insights can be achieved in the nature of the changes affecting the built environment of traditional settlements.

2.1 Development, modernization and the third world

When considering the transformation of traditional societies the regional and local relations of production and power are at least as important as external influences. The specific character of a region's political economy is shaped by its history, its natural environment, and the technologies used for production, distribution, and political control. Many

development experts now recognize that the impact of external forces (expanding markets, new technologies, foreign domination) is always mediated by the structure of internal forces (environmental, historical and social factors rooted in indigenous political economies).[1]

In recent history the political and economic structure of Third World countries was understood through the development of a range of ideas and theories. In the 1950s there was a preoccupation with issues concerning the lack of 'development' of the so-called Third World countries, owing in part to the large disparity observed in the living and economic conditions of countries which had formerly been colonies of one Western power or another[2] . In order to address this issue of the seeming non-development of Third World countries a number of theories were espoused, which attempted to give causes and then the remedies to the state of perceived under-development of these countries.

One of the first theories to emerge which used the term 'development' and consequently 'under-development' in the context of the Third World was Modernization Theory. Modernization theory is a loose category of ideas whose common thread was the notion that developing nations would learn, through increasing contacts with the West, to mimic western technology, politics, culture, agriculture, and industry. The modernization paradigm viewed underdevelopment as a condition intrinsic to Third World countries, and as a primary condition out of which all countries must arise in order to gain western style development. Rostow [3] emphasized that just as industrial Britain had gone through various stages of growth and development to achieve modern industrialization, countries of the Third World had to follow the same stages of growth to achieve western-style modernization.

A counter to this idea of the inherent underdevelopment of the Third World were the ideas formulated by proponents of the Dependency Theory [4] in the late 1960s, which held that the so-called under-development of the Third World had causes in first, the long history of colonial rule by western powers, and later the advent of capitalism. It was the imposition of

---

[1] Donald Attwood, Raising Cane: the political economy of sugar in western India (Boulder: Westview press, 1992) 7.

[2] Mike Mason, Development and Disorder: A history of the third world since 1945 (Toronto: Between the Lines,1997) 19-21.

[3] Rostow in Mason, 20.

[4] One of the strongest advocates of depedency theory was Andre Gunder Frank, a U.S. academic. His work was entitled Capitalism and Underdevelopment in Latin America: Historical studies of Chile and Brazil (NY, London: Monthly Review Press, 1967).

capitalist style modernity which gave rise to conditions of inequality and social and economic disparity in these countries and this state of under-development was a necessary condition for the increasing wealth and development of the western industrialized countries.

Immanuel Wallerstein's World-Systems Theory considered capitalism, which it identified as a system of trade and finance, as an expanding and unifying set of mercantile networks. Like dependency theory, this theory explained how the expansion of this system affected the non-development of capitalism in the non-west. World System's theory considered the world as being in the process of becoming a unified whole, that is, globalized over the long term.[5]

But the ideas which most defined the actions and measures adopted by various development and aid giving agencies, not to mention general academia in the west, were those proposed by modernization theory. It was these ideas of contemporary western civilization as being the only model of growth to strive for, which also affected the development of social, economic and political institutions in the Third World. On another level, largely through media and mass communications, these ideas were to affect the lives of the average person in Third World countries, the 'masses', so to speak. It is therefore relevant over here to speak about some of the concepts of modernization that have developed and transformed over the past decades.

The direction modernization has taken today is what is called globalisation. The main cultural direction of global development today is urbanism, mass communications and a technical-scientific-rationalist dominant ideology[6] . In terms of Third World societies globalization is the move towards modernization-synonymous with industrialization here-with labor under capitalism, the commodification of production, and rapid urbanization. Modernization is also sometimes defined in terms of 'cultural plurality', the phenomenon of experiencing the ways of life of other cultures.[7] This concept of cultural plurality implies the interaction of different cultural systems, which in the present context of late twentieth-century means the meeting of the modernized, cosmopolitan culture with traditional cultures. Traditional cultural systems in most Third World countries today are facing the influx of modern infrastructure and communication, a part of the overall trend of

---

[5] Mike Mason, Development and Disorder: a history of the third world since 1945 (Toronto, On: Between the Lines, 1997) 26.

[6] John Tomlinson, Cultural Imperialism: A Critical Introduction (London: Pinter, 1991) 141.

[7] Berger in J. Tomlinson, Cultural Imperialism: A Critical Introduction (London: Pinter, 1991) 63.

globalization. One of the overreaching effects of globalization and the transnationalization of goods under a capital economy has been inter-mixing or, rather, in the context of traditional cultures, the overtaking of one culture by another.

It is the spread of capitalist modernity which has most brought the traditional cultural systems of the Third World, in direct conflict with modern values. How this conflict occurs can be understood by comparing the fundamental world-views of both kinds of cultures. One of the ways in which traditional societies differ from present-day urbanized ones, is that the former was used to function against a background of economic constraint[8] Their cultural attitudes reflected a world-view which was based on constraint, mutual cooperation and a dependency on systems of subsistence which were centuries old. On the other hand, presently, modernization offers several choices in terms of economics and consumption, supply and demand. There is accumulation of capital in society and the individual consumer and his/her needs are placed above the needs of the community. However, the range of these choices offered by a consumer society are limited by what the institutions of the society put on offer, or choose to offer.[9]

Since the objective of this thesis is ultimately to show how new influences are introduced and adopted in traditional societies in terms of the built environment, it would be pertinent here to discuss the ways in which the ideas of modernity reach traditional societies or exactly how the effects of globalization are transmitted to all parts of the world.

The culture of western-style modernity is transmitted to every part of the world which falls within the sphere of its economic and political influence. The most significant vehicle for the transmission of this culture of modernity is the mass media, in the most direct and visual way, and in a more indirect way, the various institutions of western economics and science, namely, the capitalist market, multi-nationals, modern scientific and industrial techniques, not to mention modern education methods. Thus, through the efforts of modern media and communications the images and icons of western cosmopolitanism are imported to remote parts of the world. Consequently, in traditional environments, local preferences for local products are replaced by the seductive images on media to promote new needs for new consumer goods. Local cultures thus feel that they are in danger of losing their identities. Traditional settlements, especially those in remote areas , face a particular dilemma, as the process of their 'modernization' is not quite complete and they

---

[8] Ibid., 154.
[9] Ibid., 163.

are on the national agenda as areas which have to be economically integrated with the rest of the country. The dilemma is in the resistance offered by such societies to the onslaught of a system which is overtaking their traditional cultures and values, not to mention their social and economic systems.

Nezar Al-Sayyad talks about the effects of the new global order on traditional settlements

> "The massive developments in human migration, trade liberalization, and information and communications technology over the last two decades have created a new global order. Compared with the situation several decades ago, communities today need to position themselves globally in order to survive. Yet, at the same time, a fragmentation of identity is underway, as national societies become increasingly aware of their often diverse and conflicting ethnic and racial roots. The product of such combined stresses is a situation where the definition of individual and collective identity becomes extremely complex.."[10]

In order to survive in the present global order, traditional societies need to compromise and adapt to the new situation with which they are faced. In terms of the built environment, in a very direct way, the systems of building they have practiced for centuries are facing the incursion of the new building systems which are very much symbols of a globalized, modernist culture. This modernist culture has also brought associated systems of thought, education and culture, which, largely based on a western societal ideology, can be said to be opposed to the cultural, social and education systems of many Third World societies. What follows is a discussion of the process of enculturation and how the two opposing systems, the western technological systems and the indigenous production systems of traditional societies compare with each other.

2.2 The process of enculturation

The import of the western technological culture is necessarily accompanied by the associated ways of western thinking, ideology and cultural values. They are the values of a production-oriented society, which are based on mechanistic knowledge.[11]

---

[10] Nezar Al-Sayyad, "From Vernacularism to Globalism: The Temporal Reality of Traditional Settlements," Traditional Dwellings and Settlements Review VII No.1 (1995): 13-24.

[11] Carola Sandbacka, ed. Cultural Imperialism and Cultural Identity, Proceedings of the 8th Conference of Nordic Ethnographers/Anthropologists, Helsinki (1977), 14.

The differences between the two life systems can be compared considering a few basic determinants. As far as production is concerned technological cultures have serial production, mechanization and automation. It is the culture of assembly line production, meant to minimize cost and maximize profit, with human labor as the tool to achieve this means. However now this tool has been replaced by mechanization, in the industrialized countries. In non-technological traditional societies, there is piecemeal production, physical and manual labor, and production is spaced out according to human needs and capacities. The end is the sustenance and survival of the community as a whole. Primitive cultures are essentially small community cultures that gain their ethnic characteristics through adaptation to a specific environment. The individual's relationship with his community is the prime relationship in non-technological communities. The individual has his own permanent place in his community and he can comprehend this ethno-social organism as an entity.[12] The specialization of skills and the emerging technocratic and bureaucratic structures are also what distinguish modern society from the traditional. There is little professional specialization and therefore little profession-centricity. Crafts and skills are perpetuated through continuos informal training, as opposed to the formal training which is a necessity in technologically oriented cultures.

But perhaps it is the market economy which is the key distinguishing factor between the two systems. In a technological society spending power is taken as the measure of value, as everything, work and skills is converted into money. The resultant monetary gain is invested on the improvement of the domestic material image, e.g. domestic appliances, comfort increasing devices (air-conditioners, elaborate furnishings, the countless innovations in 'more' comfortable furniture to give maximum comfort and reduce the work-load at home), entertainment producers (t.v., vcr, stereo.). On the other hand traditional societies were based on a system of payment in kind, and the primary objective was ensuring the satisfaction of basic needs. The sufficiency of subsistence products, mainly food, was taken as a measure of value. The investment of surplus was in activities related to the community as a whole, communal ceremonies, religious festivals etc. The physical expression of wealth and status was not as advanced, and was usually present among the ruling class. Marketing was restricted to exchange and mutual needs. In modern society marketing is a necessity since production is dependent on marketing.

---

[12] Ibid. , 18-19.

In contemporary, industrialized society there is a dependence on global resources of energy and raw materials, with the ensuing exploitation of these resources. The concept of continuos linear growth necessarily gives rise to and increases the imbalance with the natural environment. Since growth is seen as and measured in the physical manifestation of creative power, that is the continuous creation and invention of material products, namely technology, the artificially created world encroaches upon and dominates the natural one, in a very physical sense. In traditional cultures there has been a state of co-existence with nature, as there is also a deep spiritual and religious relationship with the elements of the natural environment. Nature is usually interpreted as being dominant over man, and agricultural and production activities are adapted to natural geographic and climatic cycles.

Within this framework of the essential opposition which exists between the traditional and modern, we will discuss in detail how the technology of building and the built environment itself is undergoing changes in traditional settlements and what is the link of these changes to the larger global and regional influences.

2.3 The process of change

2.3.1 Traditional settlements

Traditional settlements are referred to here as settlements consisting of indigenous populations which are usually separated economically and physically from the mainstream economic centers of a nation. They follow a predominantly rural production system and lifestyle. The architecture and built environment is based on indigenous materials and resources and has been developed locally.

One of the consequences of the changing economic structure of traditional settlements has been the introduction of new technologies in building, among other things (infrastructure, communications etc.). With the new technologies and building materials have also come new ways of planning and designing. House forms are changing from the traditional to the newer modernized forms which reflect the growing trends of urbanization and modernization.

Traditional building was the product of disciplines which have been overtaken by modern production systems. The best examples of vernacular architecture in traditional environments has largely been due to the strict limitations of locally available materials and

customs developed over long periods. Studies on traditional environments have identified the tension now being produced between traditional and modern means of production:

> "Traditional society was characterized by a domestic production mode and traditional housing was a handicraft product, governed by the same production system. It utilized materials which were local products with a low integration to the monetary circuit of a market economy. Change imposed, at certain times, an insertion into the capitalist production mode, which was not only rapid, but also violent. Handicraft products and local materials depreciated in value thus they were replaced by new products. The choice for these products was justified in the first place by practical requirements, but above all, by psychological considerations: to their users these products mean accession to a modern way of life. Traditional architecture no longer fits the aspirations of culture. It is competing with a whole gamut of things we call modernization, including the kind of buildings governments feel they have to build for people."[13]

As far as building construction methods are concerned, according to Roderick[14] "traditionally, in non-industrialized societies, building construction methods were governed by certain predetermined rules and conventions, which also incorporated social roles, rights and obligations that expressed and maintained social differentiations and spatial demarcations." Therefore the construction of dwelling units(and other buildings) was governed by a set of rules and norms "with minimal requirement to regulate and control the diverse kinds of boundaries that are operative at a specific point in time." Buildings thus grew and evolved incrementally through the passage of time. The change in the mode of production of societies from following a predetermined set of rules to the specialized roles of professional groups for housing construction resulted in "rapid and decisive developments" that replaced " incremental and adaptive transformations in dwelling designs." First, given the proliferation of building technology and construction materials, there was an increasing number and range of possible solutions. Second, "the development of a range of construction specialists increasingly usurped the roles of the craftsman, the master mason, and inhabitant in the building construction process. Both trends increased rapidly during this century in many countries. Third, social differentiation and spatial

---

[13] Mohammad Al-Bahi, "Traditional dwellings and spontaneous settlements in North-west Tunisia," Traditional Dwelling and Settlements Review 12 (1989): 31.

[14] Lawrence Roderick, "The Multidimensional Nature of Boundaries: An Integrative Historical Perspective," Setting Boundaries: The Anthropology of Spatial and Social Organization, ed. Deborah Pellow, Westport, Conn.: Bergin and Garvey (1996), 14.

demarcations increased in scope and volume to reflect what Kent (1990) has termed increasing cultural segmentation."

Roderick further goes on to say that housing units are material products of society that define and delimit domestic space for households.[15] They provide shelter and protection for daily activities by demarcating the interior from the external surroundings. Yet the fact that housing units in the same society have quite different shapes and sizes and that they are built with a range of construction materials, suggests that, beyond pragmatic factors, others are of at least equal importance in determining their layout, construction, and meaning. He attributes four kinds of values to a housing unit, an economic value, an exchange value, aesthetic value and a use value. All of these values are not simply expressed by individuals but are acquired, transmitted, reinforced or modified by interpersonal communication and the external forces shaping the society.

Indeed, this can be observed today in rural communities of the Third World where one of the main influences of modern urbanity has been the separation of living spaces, the fragmentation of activities and spaces, use-wise. Separate spaces also represent the individualization of the household, another characteristics of modern, city-dwellers. For example, the roots of this concept in the sub-continent can be traced back to colonial times, and later, the characteristics displayed in the increasingly westernized and industrialized urban centers, formerly colonies. The dichotomy of space-use can also be viewed in terms of the rural-urban divide, which was, however, present in sub-continental societies even before the advent of colonial rule. The rural economy traditionally bound the household together into a single unit, which functioned as a community, rather than as individuals, much as the village functioned on a larger scale. The concept of privacy was viewed in a different manner from the one of urban separation and individualization of space which is still viewed with apprehension and concern by the older generation today.

Therefore the physical changes in traditional settlements consist of the increase in range of building materials and systems, the introduction of new materials and technologies and the resultant changes in house form and layout.

---

[15] Ibid. , 14.

2.3.2 Culture and technology

The incursion of modern technology on traditional cultures needs to be understood from the point of view of the relationship between culture and technology as well. Within traditional cultures, technology developed as a direct response to cultural needs. It was governed by the constraints of culture, and the technology itself was subject to the limitations of local culture. The two were interdependent. Modern technology has broken away from 'local' cultural constraints.

The interaction between technology and culture varies: traditional technologies can be applied to traditional and modern forms; and conversely, modern technologies can be applied to traditional or modern forms.[16] Traditional cultures are now faced with the dilemma of going from traditional technologies applied to traditional forms, to the application of modern technologies to traditional, and later modern forms. The resulting blend, and sometimes conflict of tradition and modernity, is representative of not just the transformations in built environment, but the changes in culture, lifestyles and world-views as well.

Katherine Salant's study of Marpha villages in the Himalayan region of Nepal mentions that the main factors in the development of the new house form have been economic factors and changing tastes. It also mentions that these changing tastes have a lot to do with contact with foreign trekkers, and the exposure to new ideas which have changed the attitudes of the local people. Where economic self-sufficiency, cultural mores and the constraints of local building methods and materials, climate and site were the main factors which shaped the old local house forms, in the new houses these factors seem to be less influential than economics and exposure to new ideas.[17]

Subrata Ghosh in his article "The Bengal Home"[18] also cites the main reason for the changing rural house form as progress in technology and increasing urban influence. The separation of living spaces into separate areas of activity, living, dining, sleeping and cooking is one of the changes which has occurred. Another has been the use of new materials. However, these changes, apart from responding to the changing needs of the

---

[16] Nadia Alhasani, "Tradition vs. Modernity: the Quest for Cultural Identity," Traditional Dwellings and Settlements Review VII II (1996) : 35-41.

[17] K. D.B. Salant, "Marpha Architecture: The effects of economic self-sufficiency and development," Etude himalayennes 1 (1994) : 63-67.

[18] Subrata Ghosh, "The Bengal Home," Architecture + Design May-June (1988) : 81-85.

people are also a reflection of their effort to identify themselves within the new modern culture. As Amos Rapoport says "replacement of old forms is often due to the prestige value of novelty rather than their lack of utility or even unsatisfactory relation to the way of life."[19]

One of the most prominent external changes has been in the form of tourism. A study of the village of Akcalaan in southern Turkey, showed how an agricultural village was transformed into a tourist resort over the course of two decades. The study indicates how architectural components of the village were affected by external factors such as changes in available materials and methods of building construction and building technology. The change in the base of the economy from agriculture to tourism was a major reason for this as the local population became dependent on jobs and trades generated by tourism. The town has also witnessed an exchange of international values and culture, causing local culture and folklore to disappear. One of the other points made in the study is that over the last twenty years long-standing cultural cycles of sustenance centered around water distribution and grain production have been broken or disrupted as a result of the fundamental change in area from an agricultural to a tourist economy.[20]

The case studies mentioned here, point to the same situation where technology is introducing a new set of cultural values, manifest most concretely in the way building technology and systems are changing and leading to an architecture and spatial demarcation which is in opposition to traditional local practices. What also becomes apparent is that it is mainly the external factors of a changing economy, international tourism and the intervention of national governments which produces and stimulates these changes in the built environment.

One of the other external factors is the urbanization of the Third World countries. Throughout the developing world urban development has become a desirable aim because power and modernity were to be found in the cities. The larger they were, the greater the prestige attached to them. Rural was equated with backward. Rural vernacular architecture had always been closely related to the agricultural way of life and rhythm of the seasons. First, with colonization, and then with the rural-urban migrations in the Third World came the development of an urban vernacular sometimes incorporating elements of modern

---

[19] Rapoport in Ghosh, 81.

[20] Suha Ozkan, "Cycles of Sustenance in Tradtional Architecture," Traditional Dwellings and Settlements Review VII 1 (1995) : 41-46.

technology, for example, corrugated galvanized iron sheets and later reinforced concrete. On other occasions rural technology was imported directly to the urban context. For example one of the materials which have been imported from the urban to the rural context is cement. The use of cement has become universal. Its advantages include convenience because it needs little or no site preparation, and its easy to transport and store. The combined use of cement concrete and mild steel bars in the form of reinforced concrete has spread throughout the world since its introduction in the nineteenth century. It provides strength an durability in appropriate situations such as multi-story buildings and where there are difficult ground conditions, but it has also begun to replace indigenous systems of building which have been more environmentally and culturally appropriate. In many parts of the Third World, reinforced concrete and cement blocks are perceived to be desirable because of their modernity and associated social acceptability. In the changing rural areas of the Third World, these factors of modernity and social status acquire even greater importance because of the perception of rural areas as being backward and unprogressive.[21]

It is increasingly being recognized, as illustrated through the examples mentioned in this chapter, that the processes of modernization and globalization have helped shape the contemporary perceptions about urban and rural, traditional and modern. This tension is being reflected in the built environment of traditional communities.

Mountain communities are a good example of remote environments because usually physical barriers have kept them isolated from the rest of the world. They exist within a well-defined micro-environment with its own constraints and necessities which gives rise to a very defined tradition in building and designing. The chosen case study area for this thesis, the mountain region of Hunza in the Karakoram mountains of northern Pakistan is a good example of such a community, and the next two chapters basically explore how tradition and modernity are interacting in this community before going on to an exploration of how this is reflected in its changed built environment.

---

[21] Miles Danby, "Culture and Technology," Third World Planning Review 16 4 (1994): iii-ix.

CHAPTER III

3. HUNZA: *A remote kingdom in the Karakorams*

This chapter describes the context of the case study in terms of historical and physical development as well as the vernacular building system and architecture. Before considering factors affecting the transformation of this area it is necessary to have a clear overview of exactly what the traditional systems and forms were, which are now being changed and transformed.

3.1 Location and geography

Located in the north east of Pakistan (fig 3-i), the Northern Areas comprise of three districts; Gilgit, Hunza and Gizir. The region is rugged and heavily mountainous since it forms the intersection of four of the world's highest mountain ranges, the Himalayas, the Karakorams, the Pamir and the Hindu Kush. Much of the region is above 1200 meters. Settled farming communities also exist above 3000 meters. Agricultural production is based essentially on irrigation with water supply from the streams and rivers that are fed by snow melted from areas higher up the mountain ranges. The region is located just outside the zone of the monsoon rainfall system, in a partial rainshadow area and receives an annual precipitation of 100 and 500 mm mainly as snow during the winter months. The climate can best be described as arid and continental.

Geographically, climatically and biologically the Northern Areas of Pakistan present primarily a land of trans-Himalayan character. The climate is extremely cold in winter and temperate in summer. The Northern Areas also differ from other parts of the Himalayan states in so far as it lies within an easy approach from China, India, Central Asia and the countries of the west, thus giving them significant geo-political importance, and yet the land is cut away from the rest of the world and itself subdivided into numerous smaller units, located in different valleys, uplands, plateaus and mountain tops. Technically it is a land of isolation without those geographic features that give unity to a region. Although the river Indus flows throughout the Karakoram region, this portion of the river is not conducive to serve as an artery of communication, because of its wild and torrid flow. In addition the mountain barriers between settled communities are formidable, because of

fig.3-i *Map of Pakistan showing the Hunza region*

which most communities have developed in isolation from each other, and therefore self-sufficiency in subsistence is a characteristic that they share. Traditionally most of the mountain settlements were protected by hillforts. [1]

Today, the total population of Hunza is 32,300, distributed among 52 villages. The villages usually consist of clusters of 50 to 100 houses, built in close proximity to one another, with the villages fields and orchards nearby. The average size of the household is 8-10 members. The highest concentration of population in Hunza is in the town of Karimabad, which can be considered as the capital of the Hunza district (fig. 3-ii).

3.2 History

In the past because of difficult geographic barriers access to Hunza was extremely difficult. Visitors from China and Afghanistan had to traverse the high and extremely dangerous mountain-pass of the Karakorams, negotiable only during the summer months and blocked by snow for the rest of the year.[2] For this reason these areas evolved in relative isolation for centuries. Except for trade amongst neighboring valleys, contact with the outside world was limited to trade in essential commodities, or to caravan raids, warfare and some slave trade.

Most accounts of the origins of the local people who are generally referred to as Hunzakuts, are based on local legends and oral traditions. The following is an account of Hunza's ancient history from H .Sidky's book "Hunza: An Ethnographic Outline."[3]

> "A persistent, though improbable, local tradition claims their forbears to have been five soldiers of the army of Alexander the Great, who brought his military forces across the Pamirs and the Hindu Kush in 330 B.C., reaching Taxila, the capital of Gandhara in 326 B.C. These five men, according to Hunzakut tradition were accompanied by their Persian wives and settled in Central Hunza. Here, it is said, they established the fort villages of Baltit, Altit and Ganesh.

---

[1] A. H. Dani, History of Northern Areas of Pakistan. (Islamabad: National Council of Historical and Cultural Research, 1991) , 45.

[2] H. Sidky, Irrigation and State Formation in Hunza: Anthropology of a Hydraulic Kingdom (Boston: University Press of America, Inc., 1996) , 2.

[3] H. Sidky, Hunza : An Ethnographic Outline (Jaipur, India : Illustrated Book Publishers , 1995) , 27-28.

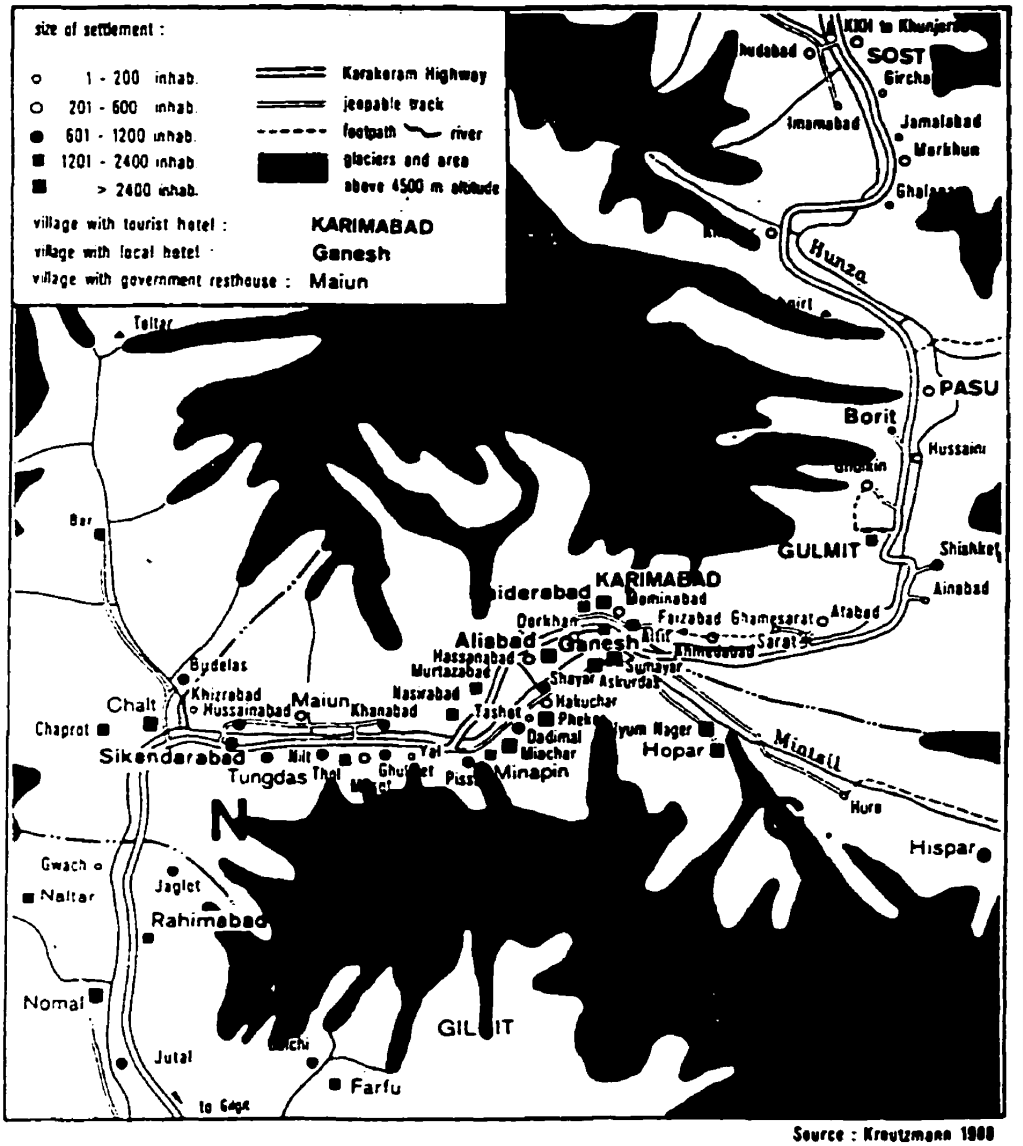


fig.3-ii *The town of Karimabad and surrounding villages*

Another local tradition traces the ancestry of the Hunzakut to the warriors from a horde of Huns, Mongols, and several other tribes fleeing a great rebellion in their homeland of Taklamakan, to the north. While passing through the Hunza valley, it is said, the ruler of the migrating group, a man named Moghul Titam, was kicked by a horse and seriously injured. Moghul Titam's followers, realizing that their leader was too ill to be moved left him behind under the care of four of his most loyal men. Moghul Titam eventually recovered and, along with his four companions, settled down in the Hunza Valley, where he founded the fort villages of Baltit, Altit and Ganesh. Today, some 30 generations later, Hunzakut say, the descendants of Moghul Titam and his comrades are still to be found in the three villages they established.

The history of the region before the 18th century, apart from legendary accounts, is vague and poorly recorded. There is evidence of Hunza being an independent principality for centuries, headed by a hereditary ruler who claimed legitimacy through a heavenly mandate and his special relationship with mountain spirits (Biddulph 1880:30, Knight 1893:330; Lorimer 1979:295). [Sidky 1996: 2]. By the early part of the 19th century, when this area of the South Asian sub-continent came under the purview of the British Indian Political Department, Hunza had evolved into a powerful state-level polity (Barth 1956:79-86; Staley 1969:229; Sidky 1993a). The rulers of the Hunza state had brought under their control a territory extending from the village of Maiyon, to the south, to the Kilik pass, along the Chinese border, to the North.

In 1891, as part of an overall strategy to forestall a possible Russian onslaught on India, the British invaded Hunza, and after a brief but dramatic military engagement (Knight 1893:330-337), made it a part of the Gilgit Agency within Jammu and Kashmir State (Biddulph 1880:20). The British deposed the reigning Mir Safdar Ali Khan (1886-1891) and installed in his place his half-brother, Nazim Khan (1892-1938), a person more amenable to imperial interests. From then on Hunza's political and socio-economic status remained unchanged until the British withdrawal from India in 1947. Shortly after the partition of the sub-continent into India and Pakistan, and the subsequent dispute over Kashmir, the Mir of Hunza proclaimed allegiance to Pakistan (Ali 1981:224). For the first two-and a half decades of Pakistani rule (from 1947 to 1974) the Mir retained full internal administrative powers. This autonomy, however, was abrogated in 1974,

when the Bhutto regime in Pakistan abolished the privileges of the princely states. Hunza was then brought under the direct administration of Islamabad becoming a subdivision of the Northern Areas District (Ali 1982:20).[Sidky 1996: 2-3]."

3.3 Political development

There are very few accounts of the early beginnings of this society but historians generally assume that in the beginning state formation was normally an affair of community management by common consent, before a centralized state apparatus was introduced by ruling dynasties from outside. Another important influence in determining the political development of the Hunza state was the construction of its large scale irrigation works during the late 18th and early 19th centuries. Under the central authority of the Mir, the natural environment was transformed to sustain agricultural production. This required the construction of a complex irrigation network, using the natural water resources of the area, the rivers, springs and glaciers. The organization and working of these waterworks required strong control and regulation; which was provided by the Mir and the ruling elite, and this resulted in the formation of a powerful state apparatus. The Mir counted on the loyal support of his selected chiefs. The maintenance of the agricultural network was ensured by control of the peasantry. This was the internal political formation.[4]

Externally, there was trade, as well as warfare with neighboring states. Caravan looting and raiding was carried out regularly, as Hunza occupied the strategic position of possessing the passes leading to the Pamirs, and to the valley of the Yarkand river. Class division was present in Hunza at the time of the rise of the state, although their was no caste system. The elite consisted of office holders, heroes, royal confidants, who claimed a distinction from the peasants and the freeholders (load carriers).

The way modern age reached this region can best be described in the words of A.Dani, in his chronicle of the history of the Northern Areas.

"Modern age in South Asia began with the rise of the British power and transformation of the land and its people by the impact of European civilization, modern science, industry and technology. With the decay of the Mughal power and consequent weakening of the central authority, there intervened a considerable gap - a stage of transition - between medieval and

---

[4] H. Sidky, Irrigation and State Formation in Hunza: Anthropology of a Hydraulic Kingdom (Boston: University Press of America, Inc., 1996), 74-75.

modern eras. That was a period of adjustment - a gradual adaptation of the new by the old - under the pressure of British masters, who themselves underwent a change from the commercial interests of the East India Company to British Imperial Interests. Our acquaintance with the west has been through British tutelage. The start (of the change) was not sudden and the process of change did not affect the entire land at the same time because the aged medieval Mughal crown took long to wind up its house. In this process, which actually transformed the Asian land route - the old Silk Road Trade- into maritime international trade, there were born many subsidiary states with the connivance or even the support of the British so as to strengthen the hands of the new power." [5]

Under British tutelage there was a steady change from feudalism to capitalism. However these ideas were mostly limited to the ruling elite, the Mir, Wazirs, and their domestic servants. By the end of the 1950s the principle concepts of capitalism, private property and wage labor were present in Karimabad, the main city of the Hunza region. This trend continued to grow and culminated in large-scale changes in means of livelihood, income levels, social life and access to education, with the building of the Karakoram Highway.

3.4 Religious traditions

Hunzakut religion is a mixture of legendary shamanistic beliefs based on pre-Islamic traditions., and modern Ismailism, a sect of Islam which is practised exclusively in Hunza today. Religious practice today plays an important role in the life of the settlement and this reflected in the built environment as well.

The religious tradition is three-fold; it involves belief in shamanism, mountain spirits, fairies and witches; another aspect was the belief in the divinity of the Mir (ruler), through which he maintained a heavily feudal rule, and which was also manifested in the festivals, rites and rituals, mostly connected with the land and its fertility; and thirdly in the form of Shia Ismailism, with the Imam as the spiritual leader; but within all these cosmological frameworks we have the incursion of the contemporary world, with its own Gods in the form of modern icons of technology, communication and aesthetics/art.

---

[5] A. H. Dani, History of Northern Areas of Pakistan (Islamabad: National Council of Historical and Cultural Research, 1991) , 82.

Today the inhabitants of Hunza are Muslim. However, the past physical isolation of the Hunzakut has been instrumental in allowing them to preserve elements of their pre-Islamic shamanistic religious beliefs.

> "Centered on practitioners known as *bitan*, this indigenous religious tradition has certain characteristics, such as the shaman inhaling juniper smoke and drinking the blood from a freshly severed goat's head, which appear to be unique among South and Central Asian peoples (cf. Sidky 1994; 1993a; 1990:274-277). Concepts like shamanism and witchcraft were encompassed within this ritual scheme. The forces of nature were understood as divine beings, male and female.
>
> Islam spread to Hunza from various directions and at different times. Written and orally transmitted sources, however, are contradictory. According to local tradition, Islam (of the Shia variety) came to Hunza during the early 16th century, after *Ayosho II*, Thum (Mir) of Hunza, married the daughter of Abda Khan, the King of Baltistan. Tradition tells of Shia divines, called *akhund*, coming from Baltistan to Hunza to disseminate the Anahashari (Shia) religion. Other sources suggest that Shia Islam reached the Hunzakut a hundred years later, with the arrival of missionaries from Baltistan or Kashmir during the late 16th and early 17th century (cf. Staley 1969:230).Much later, the Hunzakut were converted to the Aga Khan Ismailia sect of Shia Islam (Lorimer 1979: 213-214). This was brought to them, at the initiation of the Mir of Hunza himself, by proselytizers from Badakhshan, in northern Afghanistan."[6]

There appears to have been no system of castes in Hunzakut society, however, class heirarchies were present. The hierarchy cut across a segmentary system of clans of different origin, most of them exogamous, i.e. with a formal obligation to marry outside the group. Some of them were possibly arranged according to positive marriage rules, intermarrying clans lived together in the same village, but in different quarters.

---

[6] H. Sidky, Irrigation and State Formation in Hunza: Anthropology of a Hydraulic Kingdom (Boston: University Press of America, Inc., 1996), 10.

3.5 Agriculture and irrigation

One of the principal influences in the evolution of Hunzakut society, on a both social and physical level, has been the way in which the natural environment was changed and designed to support and sustain the local population. This was done through the development of agriculture supported by a complex man-made irrigation network. Thus agriculture in Central Hunza is possible only because the Hunzakut have made significant modifications to the natural landscape, by converting steep slopes into level fields through terracing (fig. 3-iii), and by artificially channeling water into the desert-steppe environmental zone. Such modifications have been achieved through heavy investments of human effort and energy.[7]

fig. 3-iii *Terraced agricultural land in Karimabad, Hunza*

In order to survive, each household needed access to sufficient amount of arable land, pasture and alpine forests. For this they combined the cultivation of cereal crops, vegetables and fruits trees, with animal husbandry. People living in the same village were subject to similar ecological conditions and environmental perturbations; they depended upon the same section of the irrigation system for their water, and they were jointly responsible for the operation and upkeep of their branch of the hydraulic network. Cooperation and mutual assistance are therefore in the interests of village inhabitants. Joint cooperative action was required (as it still is) for the upkeep of the village's agricultural infrastructure; paths, terrace-walls, conduits, reservoir tanks, and de-silting ponds. These practical economic relationships, cutting across kinship categories, served to unite individuals and households and helped to create a sense of community.

[7] Ibid., 20

Villages in turn were involved in broader cooperative exchange networks that were necessary to maintain the agricultural infrastructure (terraced slopes and the hydraulic network) upon which Hunza's agriculture depended, as it still does. Thus, although Hunzakut households represented the primary units of production, the total agricultural enterprise depended (as it still does, to some extent) upon group collaboration and mutual assistance among neighbours and between villages.[8]

3.6 Settlement pattern

Traditionally settlement form in Hunza had developed in response to the demands of a complex agricultural and irrigation system, which was heavily feudal. In addition the political formation of the state as well as its defensive requirements also dictated settlement form. Traditional settlement form is mainly determined by the rules of ownership, distribution and redistribution. Previously, under the feudal system the land was distributed and administered by the Mir, the nobility and the various hierarchical and aristocratic structures associated with the oligarchy. New property was acquired by conquest, colonization, or taking over by divine right.[9] Also, settlement form was determined by the complex and large-scale hydraulic works required to develop agricultural production in a harsh and barren mountain environment.

Physically, the settlement form was compact and the agricultural resources and character of the settlement was clear. The clear boundary divisions and fortified structure of the settlements also shows the control of a central power, in this case the *Mir*. As well, it reflects the political situation of that time, when the region was vulnerable to attack from invaders, and defenses had to be constructed. The form and orientation of historic Karimabad also reflected the spiritual beliefs of its people and a spiritual relationship to the unique surroundings. [10]

The form of settlements consisted of groups and clusters surrounded by a common boundary wall. The clusters were formed according to clan and tribal groupings. There were three different kinds of clusters, the closed cluster, the semi-closed cluster and the open cluster. In the closed clusters, the houses were attached to each other, usually on three

---

[8] Ibid. 16.

[9] Jodi Gibbs, Decline and Fall of Karimabad and Suggested remedies (Working paper for the Aga Khan Trust for Culture, 1992), 6.

[10] Ibid. . 7.

sides, and agricultural land was outside the boundary of the cluster, at some distance. In the semi-open cluster, houses were built on terraces, and were sometimes attached or detached from each other. Agricultural land could be found on the terraces adjacent to the houses, or grouped together on the terraces nearby, within the cluster. The open clusters are a more evolved form of the semi-open, and increasingly contain detached housing.

The ancient closed clusters are in the form of fortifications around a central defensive structure. This cluster was enclosed by a defensive boundary wall. The dwellings were interconnected and were often accessed through the roofs as well as the front entrance. The closed configuration allowed insulation against the cold and wind during winters. Typically houses in the cluster were double-storied. The oldest clusters in Karimabad today are those of Altit, Baltit and Ganesh.

An idea of the traditional clustered layout also survives in the oldest clustered settlement of Altit and Ganesh. Altit village is located a distance of 2-3 km from Karimabad, and contains an old cluster which is arranged around an impressive fort (figs. 3- iv,v). The cluster is still inhabited, however, increasingly, people are beginning to move out of the old cluster and build houses in the surrounding open land.

Ganesh village is said to be one of the first settlements in the valley. The village is in the form of a closed cluster and shows a closely knit housing formation which is fortified from all sides. Tall guard towers (shigars) are located at strategic points in the settlement. There are old mosques built as extensions of houses, which contain elaborate wood-carvings but are no longer used. (fig 3-vi, vii). The settlement is presently in a state of abandonment, as more and more people are moving out due to old, crumbling and unstable structures.

Public spaces in the settlements mainly consisted of a religious centre called a 'jamaat khana', a single large or sometimes several small public squares, and a polo ground. However, the main public focal point was the jamaat khana where most locals practice the Ismaili faith. It is not only a religious but an educational center as well. The jamaat khana has been thought to have evolved from the early shia mosques in the settlements, the remnants of which can still be found. However the modern form of the jamaat khana is more reminiscent of British colonial architecture (fig 3-viii) .

The change in settlement form during the past decades can largely be attributed to the changed political economy of the region. As the old political structure was dismantled and

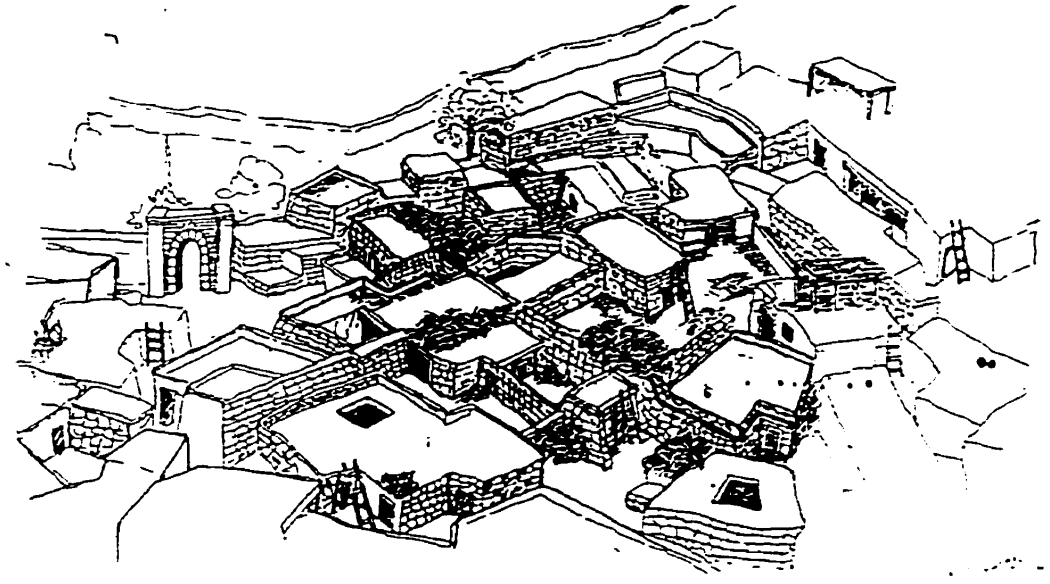


fig.3-iv *The old cluster of the village of Altit*

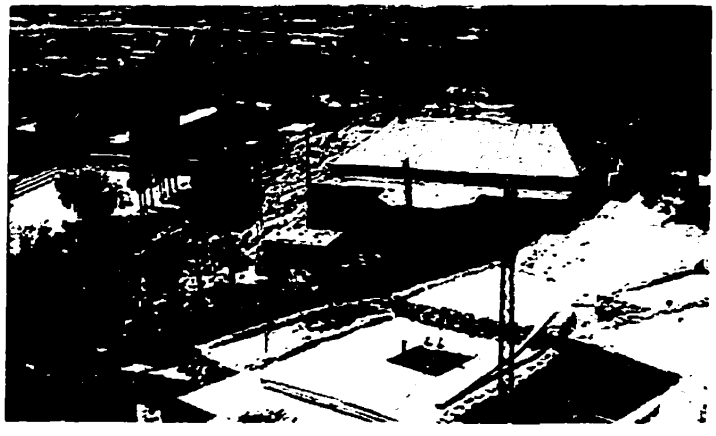


fig.3-viii *jamaat khana in Karimabad*

fig.3-v *The Altit Fort*

fig.3-vi *An old mosque in Ganesh*

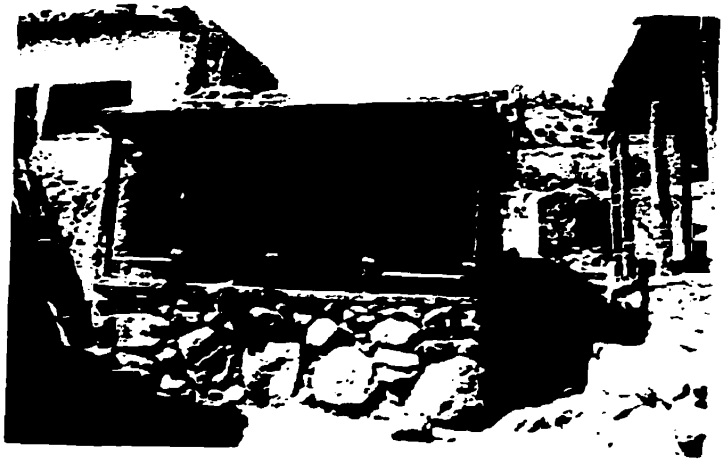


fig.3-vii *House in Ganesh*

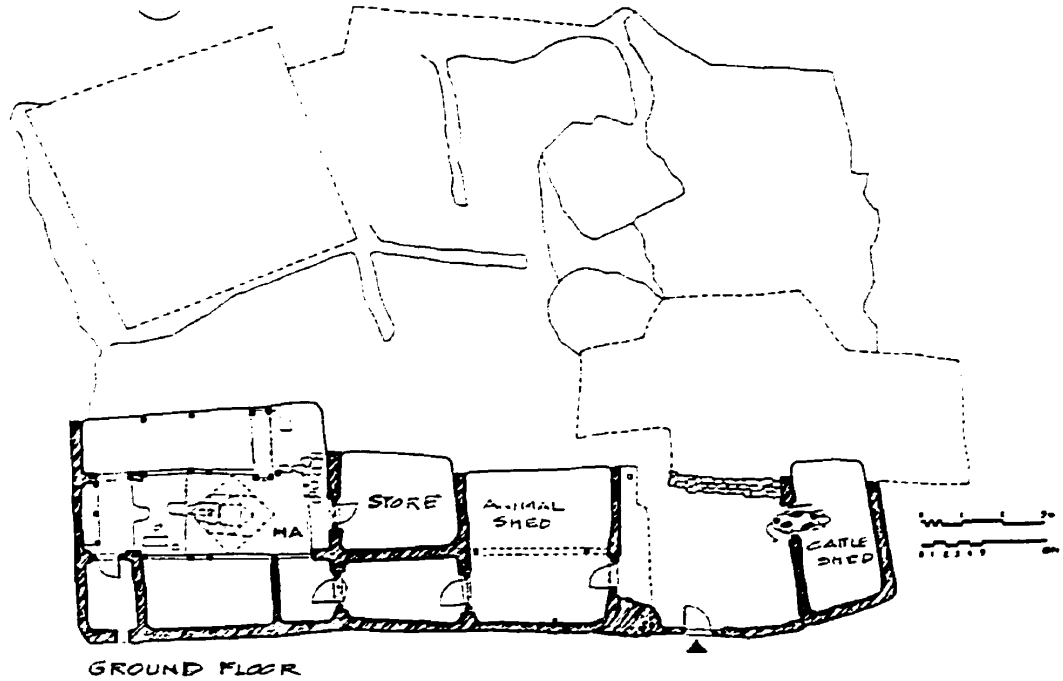
the authority of the Mir became subject to, first British colonial power, and then a national democratic government, the need for defensive fortifications was no longer present. In addition, an important change was the redistribution of land, which meant individual ownership of land by the local peasants as the feudal system too was dismantled. All this had major effects on the ancient settlement form as the people started abandoning the old closed clusters, and started using their terraced agricultural land for building as well. Presently, although the old clusters are still inhabited, people are increasingly beginning to abandon them in favor of detached housing on flat land.

3.7 Traditional architecture

Traditional architecture in Hunza has developed mainly in response to the physical constraints offered by its topography and climate. However, it is a cultural and historical phenomenon as well, which is dependent on the fact of its physical isolation. In Hunza, traditionally, the land has had more economic and specially exchange value than the house built upon it. The primary value of the house has been use, aesthetic and symbolic. Use-wise, the traditional Hunzai house fulfilled the basic functions of providing a space for subsistence activities, for both animals and humans. Aesthetically it borrowed from its environment to produce an architecture which blended with the surrounding profile, as well as from the old monuments and historic buildings such as the Baltit Fort. It had a religious value as well, with a space for prayer and ablution usually placed at the highest point of the house.

Symbolically, traditional housing in Hunza was centered around the 'ha', the traditional multi-purpose space. It was the center of warmth, and that is where the family gathered together in winter, to eat, sleep and cook. This space is almost always approached by one or sometimes a combination of two vestibules. The multi-purpose space, which is the main living area, has a small store adjacent to it (fig 3-xi). Usually a small room adjacent to the vestibule acts as a bathroom, although there are no drainage or water supply facilities. The general living arrangement indicates an extremely close-knit family structure which has been a characteristic of these people since centuries.

The ha is strictly divided by means of varying levels into different areas of activity. The usually square space is broadly divided into three rectangular stepped levels. The middle level is used for cooking and eating, with the family sitting around the fire for warmth as



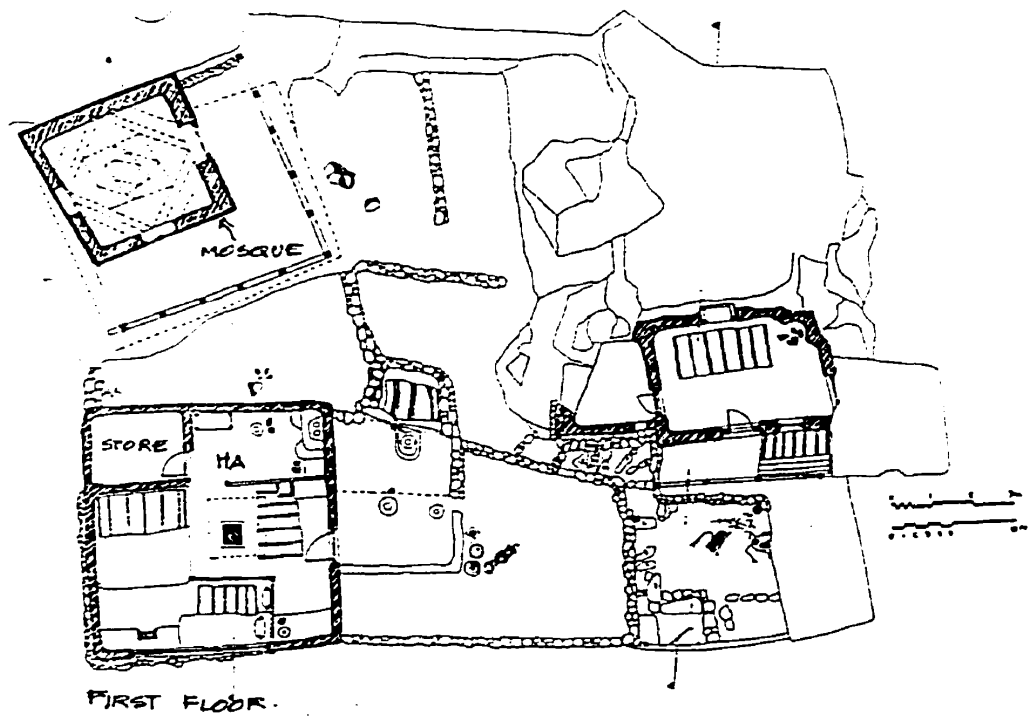


fig.3-xi *Plans of traditional house in Karimabad*

much as for eating. The other two areas are used for sleeping. Women and children on one side and men on the other. This arrangement is typical of all houses in Hunza and never varies. There is an opening in the roof in the middle of the room which allows the smoke from the fire or the stove to escape, as well as providing a little light and ventilation.[11]

Houses are usually of two levels, with the lower level for use in winters, and upper for summers. Their layouts are identical except that the roof opening in the upper summer house is much wider to let in the sun and air. Storage areas and other ancillary spaces like the vestibule and lobby etc. are arranged in more or less the same manner.

All the ancillary spaces around the ha were used for storage purposes. There were many storage spaces inside the house and each had a different function. There were separate storage spaces for grain, food, bedding and clothing, and then household furniture. However, possessions were rarely displayed, and most of the time the interior was bare of furniture, except for the richly textured rugs and bedding.

The exterior articulation of traditional houses shows a rich detail in stonework and carved wood frames and balconies (see fig 3-x). The openings including the main entrance to the house were kept small, possibly to reduce heat loss in the severe winters. The frames were elaborately carved with typical motifs unique to the region. Sometimes a porch-like projection was added to the front of the house which was used as a verandah in summers.

In the old clustered settlements other elements of traditional architecture survive, in addition to housing. Small mosques constructed mainly of wood were to be found built on the roofs of houses or in a central high point. There were fortified towers along the outer boundary wall, for security. All these structures show rich detail and craftsmanship, especially in wood-carving. The craftsmen and artisans for these activities are said to have been seasonal workers from other areas who would come here and be given living facilities by the locals in return for their services.

---

[11] Sarwat Viquar, T. Sadruddin, and T. Khwaja, A Report on the Documentation of two Villages in the Hunza and Punial Valleys in the Northern Areas of Pakistan (Working paper for the Aga Khan Housing Board for Pakistan, Karachi, 1990), 16.

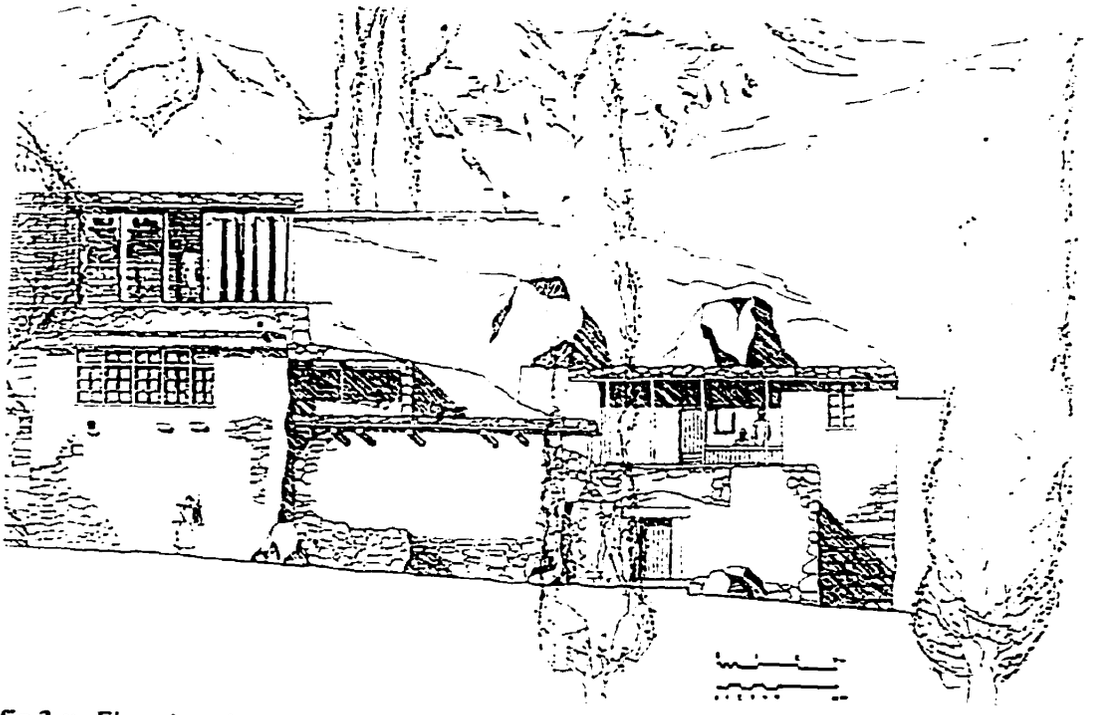


fig.3-x *Elevation showing exterior articulation of facade*

3.7.2 Indigenous building materials and systems

Traditional houses use similar or identical materials and techniques. Building and construction was usually carried out by village masons and craftsmen. The mason usually gave advice on choice of material, as well as the design and layout of the house. Individual households usually took part in the construction, for non-skilled tasks. Great emphasis was placed in the decoration of wooden elements like columns, roofs, door and window frames, and local craftsmen were hired for this purpose.

Foundations were usually constructed of stone and consisted of 1-2 feet thick pilings of stone beneath the walls. Stone was used predominantly for walls. Stone walls are built roughly, they are 18" thick typically and the stone is usually not dressed, having either been found or obtained by exploding large boulders. They are assembled with mud or cement mortar, but sometimes also dry-stacked. Walls are sometimes plastered with mud plaster, more usually on the inside. Typically there is no glass in the small opening in the wall, the walls are not reinforced horizontally, and there is no corner bracing.[12]

Roofs are constructed of timber, typically obtained from local poplar and walnut trees, as well as apricot and berry wood etc. Roofs are made of wood covered with branches, then covered with mud mortar, and then sand or plaster, depending on how the roof surface will be used. Roofs vary widely in their design, but in many there are openings framed by square wood frames of decreasing size. Each successive wood frame in this tapering opening is smaller than the previous and rotated 45 to provide it a bearing on the larger frame (fig 3-xi). Roofs are made to be stronger and include stones and sand if they are to be used as regular walking terraces or where there has been recent earthquake activity. Typically roofs are not well secured to the supporting walls.

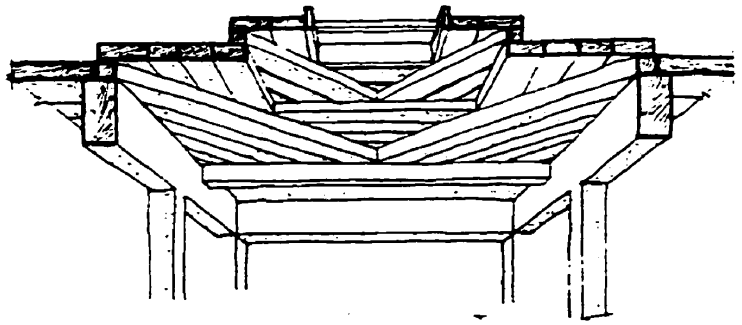


fig. 3-xi *A typical roof section*

[12] Aga Khan Rural Support Programme, Provision of Planning, Infrastructure and Construction Support in the Northern Areas and Chitral, (final Report, July, 1994), G-2.

As finishing materials, mud plaster was traditionally used for exterior plastering with an added layer of *choona* (lime plaster) for the interiors. A thin layer of bark from birch trees was used as insulation on roofs before applying mud plaster, in the local language this is called 'hali'. The floor was usually of rammed earth, which was then covered with sheep and goatskin rugs.

3.8 Historic and monumental architecture

There are many structures and monuments around the region which are considered of historical interest because of their age, and the fact that they have survived in more or less intact condition. The most prominent of local historical landmarks is the Baltit fort which was built around 600 years ago (fig 3-xii). The old village of Baltit grew around it, in clusters. It was the seat of power of the local Mirs and Thums.

The fort basically developed from a nucleus of one, two or three towers. The towers were gradually joined together by a series of rooms. This agglomeration was then wrapped around by a series of defensive walls and guard rooms. Thus the fort is a complex arrangement of the kind of layouts found in typical Hunza houses, which consists of the ha and the different storage spaces arranged around it. This suggests that it was also meant to be a kind of nuclear village where people could take refuge in times of war and siege. The number of small rooms and several secret underground store rooms also support this view.[13]

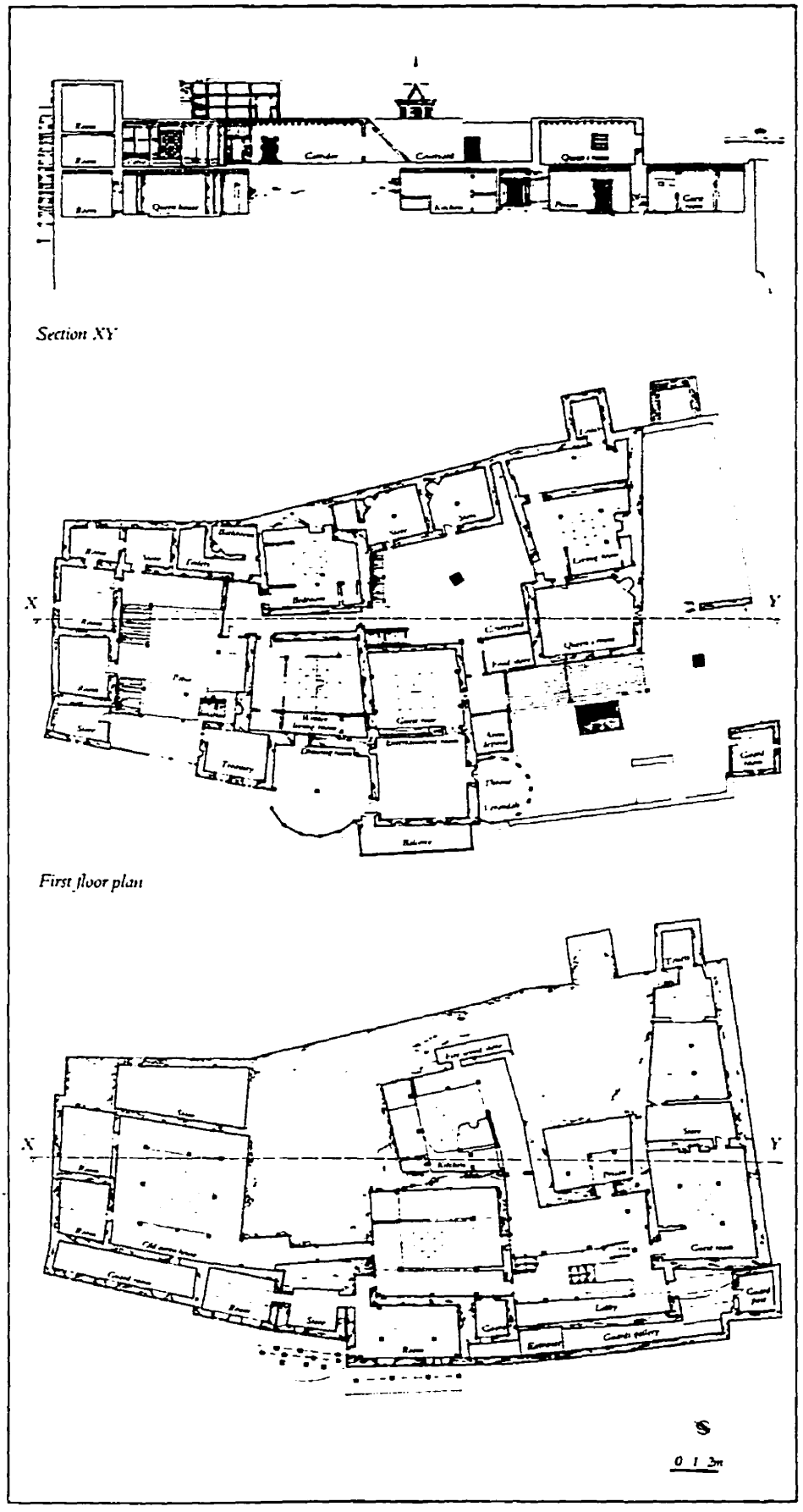
The main structural element consists of a pegged timber frame. Although the wall face on both the outside and the inside are longitudinal squared timber tie beams. At corner points and where internal cross-walls form a "T" junction with the external wall, timber "cribbage" work is found. The inside of the timber frame is infilled with soil and small stone, loosely placed or poured in as a stiff slurry from a place higher up in the wall.[14]

Recently there have been efforts to conserve and restore these unique examples of defensive architecture. The conservation of the Baltit Fort has become an important trend-setting factor in the way building of houses is being done in Karimabad. There seems to be greater awareness of Hunzakut tradition in crafts and building. Through the work on the

---

[13] Richard Hughes, D. LeFort, "The Baltit Fort," Mimar: Architecture in Development April-June (1986) : 12-19.

[14] Ibid., 14.



Section XY

First floor plan

fig.3-xiii

Plans and elevation of the Baltit Fort, one of the most prominent historic landmarks in Karimabad.

Source: Richard Hughes, D. LeFort, "The Baltit Fort,"
Minar: Architecture in Development
April-June (1986): 12-19.

fort there has been a revival of old wood crafts, manifestations of which have found their way in the ordinary houses of the people.

To conclude, the development of the Hunza region, as a political state as well as a community has been influenced by a wide range of factors. Chief among them has been its geographic position and the fact of its physical isolation. This, combined with a harsh physical environment, gave rise to a structured, agricultural community which was controlled by a central authority. Maximum use was made of available resources for agriculture, irrigation, and building and construction as well. Settlements developed around the central irrigation works, and depended upon a system of mutual cooperation and organization within the community, overseen by the Mir's authority. The architecture depended upon locally available materials and the plan and design of houses shows patterns typical of the region. It is these features in building materials and architecture which are now undergoing changes within the transforming economic, social and cultural environment of Karimabad, Hunza, which has been discussed in the forthcoming chapter.

CHAPTER IV

4. THE PROCESS OF CHANGE IN HUNZA

This chapter looks at the process of change in Hunza in the light of two important influences: the highway which facilitated access and changed transportation patterns in the area; and, tourism. However, it should be pointed out that the influences of the highway and tourism in the area are just a continuation of past influences which had already begun to sow the seeds of change in Hunza. After considering local historical development it becomes clear that changes in economic exchange relations and the resulting changes in social life had already begun to take place in Hunza. However, with the advent of an important new influence, the highway, these changes have escalated and taken new directions. These influences are also a reflection of the process of globalization. The effects of the global economy and culture on this small, mountain region are very insistent, and have played an indirect role in the transformation of this community. This situation is not unique to this area or culture, but is a phenomenon which is increasingly becoming apparent wherever traditional cultures face the incursion of the modern forces of globalization.

Within this context, this chapter describes the physical, economic, social and cultural changes occurring in Hunza. The economic changes are related to the income patterns and changes in livelihood, as well as changes in the availability of goods and services in the area. The physical changes deal with the transformation of the built environment. The social and cultural changes describe the way the family and community has undergone changes in tradition, cultural activities and general attitudes towards living. Of these three changes, the last two, physical and social and cultural changes are seen mainly as a consequences of the first, the economic changes, as well as being influenced by the highway and tourism.

Another factor has been considered as a regional influence, as specifically influencing the physical development of Hunza, and thus consequently the built environment. This has been the influence of local development organizations, namely the Aga Khan Development Network, which work in the area of essential services such as health, education and

housing. It is important to consider the work and mandate of these organizations, because not only are they a reflection of international development organizations, they have also played a significant role in directing the process of change in the whole of the Northern Areas.

The findings concerning the above-mentioned factors presented in this chapter are the result of two sources, the primary source being the author's own general socio-economic and physical survey of the region, and the secondary source being recently published studies, reports and writings on the region.

4.1 The highway

In 1977 the Karakoram Highway was built to connect the strategically important Northern Areas with China and have a channel of communication between China and Pakistan. This event had far-reaching economic consequences for the region as it shortened the economic distance of the Northern Areas with down country[1], so that increased trade could take place with down country. The building of the highway has played a crucial role in the transformation of the area, both economic and cultural. It is now the economic lifeblood of the Northern Areas, and has brought major economic incentives to the region. Although the highway has not itself initiated developments in the area, it has provided the infrastructure and support necessary to accelerate these developments. These changes of the past 15-20 years contrast strongly with the previous almost total isolation of Hunza from the rest of the country. Due to this, during the past five years the local transport network in the region has also grown significantly. Smaller road networks have grown around the highway connecting villages which were previously inaccessible. Transportation has improved communication between the town of Karimabad and Gilgit, which is the main urban center of the Northern Areas. The section of the highway between the two cities is fast becoming commercialized to cater to this high traffic. The number of jeeps, mini-vans and suzuki vans, as both private and public transportation, is also on the rise, as Gilgit becomes more and more industrialized in a small scale way. The town of Gilgit has become a major transportation and trucking point for all vehicles from down south being the only town in the Northern Areas which can facilitate access to the area. Consequently, due to increasing and varied transportation choices, it has become easier also to transport building materials and supplies throughout the region.

[1] Hermann Kreutzmann, "The Karakoram Highway: the Impact of Road Construction on Mountain Societies," Modern Asian Studies 25, 4 (1991): 711-736.

4.2 Tourism

One of the inevitable consequences of the building of the highway was the advent of tourism. The region of Hunza is considered a prime tourist location, because of its spectacular mountain scenery and unique local culture. The highway greatly eased access to this difficult terrain. As Karimabad is the main center of tourism in the Hunza it is an essential stop for most tourists (fig 4-i). Foreign tourists represent a wide range of nationalities and bring with them a wide range of foreign, mainly western influences. Tourism has also impacted the local economy. According to one survey[2] nearly 10% of all households in Karimabad gain a considerable income through tourism. As such, tourism is starting to have a major impact on the cultural and social life of the region, as well as the economic. Since 1978, ever since the building of the highway, the number of tourists visiting the region has increased steadily.

fig 4-i *Groups of tourists arriving in Karimabad, Hunza*

Culturally speaking, the introduction of tourism usually brings about changes in the host people's way of life, as it introduces a new cultural element in their lives.[3] In this new cultural atmosphere there is a danger that the tourists and the objects associated with them will become models for the hosts. Modern, international tourism has also been viewed as another tool of enculturation, a propagator of the values of modernity. In many ways the

---

[2] Hermann Kreutzmann, "Tourism in the Hindukush-Karakoram : A Case Stusy on the Valley of Hunza (Northern Areas of Pakistan), " Proceedings of the Second International Hindukush Cultural Conference, eds. Elena Bashir, Israruddin, (Karachi: Oxford University Press, 1996) , 432.

[3] Dennison Nash, Anthropology and Tourism (Tarrytown, NY: Pergamon, 1994) , 24.

acculturation of Hunza is in a more advanced stage than the cosmopolitan centers of the country down south. Acculturation occurs when a culture undergoes drastic alteration in the direction of conformity to another culture, through borrowing ideas, behaviors, or things from that other culture.[4] However, in its effect on local populations it is no less a transmitter of the values of western cosmopolitanism. To a large extent, this change is already in effect in the town of Karimabad. At this point it would be relevant to explore the kinds of impacts tourism is having on local culture and ways.

The region of Hunza had already been a recipient of various linguistic influences from around the Central Asian region. However, the recent influx of tourists, mainly from the western world has brought a new kind of exposure to foreign languages, English, French, Italian, Japanese. Local young people, especially boys who work as guides and trekkers for tourists have acquired a vast knowledge of countries, cultures, languages etc. They seem to be more familiar with American and Japanese culture than their own Pakistani culture. This exposure has had a significant impact on local culture and education. Posters of the Swiss Alps, the American Rockies, and Irish coastlines now adorn coffee shops and even individual houses. Foreign tourists come and make friends with local people, and leave behind them momentos and gifts, which find their way in shops, restaurants and dwellings.

Because of its unique location, and virtual isolation from the rest of the country, Hunza has always been of special interest to anthropologists and researchers in the social sciences. They form another group of visitors who come to this region. Their stay is usually long and they are able to interact with the local people on a prolonged basis. Local people have thus become familiar with modern research methods, the surveys and questionnaires of sociologists. Due to this exposure many local people now think that western thinking is more rational and their own ways of thinking which depended more on tradition and folklore are becoming obsolete.

4.3 Economic changes

Under the combined and steadily escalating influences of an increasingly efficient transportation and the consequential tourist traffic, Hunza's economy, in terms of means of livelihood of the local people as well as their income levels, has undergone significant

---

[4] Larry Naylor, Culture and Change (Westport, Conn.: Bergin and Garvey, 1996) , 53.

ruler of the Hunza Kingdom acting as the landlord, and the people his serfs. After the British conquest, there was a steady progression from feudalism to a cash economy.[5] Gradually the old structures which supported feudalism were abandoned, and a new economic system based on cash, rather than subsistence took hold. Access to land through individual ownership was facilitated in this region when the feudal system was formally abolished by the People's Party government in 1974. Along with this, taxes were also abolished and the government introduced subsidization of basic foodstuffs.[6] Thus two major events, the construction of the Karakoram Highway and the growing integration of Hunza with the administrative and economic structure of the country has had profound effects on the local economy. Presently the main impetus of development is towards the greater economic integration of the region with the rest of the country. As a consequence the economic exchange relations of Hunza have increasingly changed towards a growing dependence on down country for essential goods.7 While in former times Hunza was nearly self-sufficient in the supply of basic necessities at present it is dependent upon subsidized supplies from down country

Where previously traditional economy had been based solely on agriculture, this has now changed to part-time farming which is supplements incomes from non-agrarian occupations. These new occupations range from the ownership and operation of retail facilities to the management of hotels catering to the increasing touristic traffic through the area In addition to this greater transport activity has also opened up new avenues of employment and business. Access to these alternative means of income has resulted in increased incomes of the local people.

Another factor contributing to local economic prosperity is that during recent years there has been a great deal of outmigration, with local men leaving for down country to seek job opportunities. This has shifted the source of income from localized and agrarian to non-agrarian and non-localized jobs. Returning migrants bring with them substantial savings, and generally settle down to a variety of non-agrarian jobs, ranging from managing shops and hotels, to owning and operating building supply yards, as well as operating local transport.

---

[5] Jodi Gibbs, The Decline and Fall of Karimabad: and Suggested Remedies (Working Paper for Aga Khan Trust for Culture, Geneva, 1994), 16.

[6] Hermann Kreutzmann, "Tourism in the Hindukush-Karakoram: A Case Study on the Valley of Hunza (Northern Areas of Pakistan)," Proceedings of the Second International Hindukush Cultural Conference, eds. Elena Bashir, Israr-uddin, (Karachi: Oxford University Press, 1996), 428.

7 Hermann Kreutzmann, "The Karakoram Highway: The Impact of Road Construction on Mountain Societies.Ó *Modern Asian Studies* 25, 4 (1991) : 711-736.

Hunza's economic transformation may have broken its isolation from the rest of the country and the world, but it is also fast destroying features which were uniquely its own. Due to the changing nature of the new economy which has introduced mechanized means for agriculture, as well as alternative income generation sources, local agricultural practices have also been affected. Because an increasing number of people are finding their livelihood in non-agrarian jobs, their focus has shifted from emphasis on the sustenance of traditional agricultural practices, towards modern technology and communications systems. Cultivation methods have been modified, and some crops which dominated the fields in former times are seldom planted today, and in many cases have faded away.[8] As a result agriculture is no longer depended upon as the only source of livelihood.

4.4 Social and cultural change

The traditional systems of Hunzakut society were based on the values of collectivism, cooperation and constraint. This had developed in response to a need for mutual cooperation for the maintenance of agricultural practices in a harsh physical environment. The home and family were the central unit with the community as the next most important unit. Survival and subsistence was based on community cooperation and mutual aid. The dwellings were bare and simple, but rich in detail. Winters were borne with difficulty, but with many adaptations in social life and the dwelling unit. Social interaction was largely within the community and the clan, and there was little open contact with foreigners. For entertainment there was a rich oral tradition in poetry and music. Religious beliefs though largely centered around Islam, also contained elements of ancient shamanism and a belief in mountain spirits and their protection. There was a respect of, and a deep relationship with the natural environment. However, politically, because of the development of the region as a feudal kingdom, there was also a feudal and warrior mentality, and it survives today in the form of oral history and a militant sense of honor.

Historically, the region of Hunza has always been on the crossroads of many cultures. It has been the recipient of varied cultural influences from the neighboring Central Asian and Chinese regions. The first major political, economic and hence cultural incursion into Hunza had been that of the British. It was under British dominance that the political and

---

[8] Sabine Felmy, The Voice of the Nightingale (Karachi : Oxford University Press, 1996), 65.

Chinese regions. The first major political, economic and hence cultural incursion into Hunza had been that of the British. It was under British dominance that the political and economic system started to change from feudalism to capitalism. Culturally the British were the first to bring western, or modern' influences to Hunza. Later on, after independence, this process was continued and encouraged by local and national government. The resultant cultural transformation of Hunza is a reflection of the changes which most traditional settlements and dwellings are facing in this era of globalization.

The changes that have now taken place, culturally, are the splitting up and fragmentation of the family largely due to seasonal and work migration by male family members. Among the eighteen households studied, in ten cases at least one male family member is working or has worked for long periods of time in Karachi or Rawalpindi, or in the army. Most jobs taken up in the cities by the migrants range from construction work as labourers to driving of public transportation.

The village community is also fragmenting as the physical constraints of village clusters disappear, there is now more importance on the individual housing unit. Due to male members often working in cities, marriages are often contracted through male acquaintances in cities. This means that many households now have family members living permanently in the cities, who periodically visit their birthplace and bring with them urbanized influences, which are especially important in influencing the built environment.

The interaction with non-locals and foreigners has increased dramatically, mainly due to tourism. All the households studied count on at least one or two other sources of income in addition to farming and agriculture which had been the traditional means of subsistence. These sources are usually related to tourism and retail commercial activities. Tourism has influenced the way an average Hunzakut views the outside world. There is increasing awareness among the local people about the modernized culture of the west, as the most tourists visiting Hunza are westerners. In addition to there being an increase in hotel-building, local people have also started to build extensions to their houses for the purpose of renting them out to tourists. The effects of this on the choice of building materials and dwellings have been dealt with separately in chapter V.

Access to schooling and education has also influenced daily life, for example, now older children and teenagers are no longer available to help out in the day time, in the fields, and since many of the adult population has migrated to find work in the cities, the burden of

Mechanical help in the form of tractors and other agricultural equipment has changed the cycle of traditional subsistence practices.

The effect of the changed economic situation has been considerable on the women and their work burden. In recent years men have been leaving the village, to earn money, or for education purposes, but women are still stuck with the daily routine work. Migration has made their situation more severe, and has increased their burden. Since most children attend classes, women are left without the helping hands of other family members. In addition to their regular duties they have to take over all the minor jobs formerly carried out by youngsters, like grazing cattle, or helping in the house and fields. During the interviews women expressed their dissatisfaction with the new situation where they are left with very few able hands to help in the fieldwork and with cattle. Since most younger women are now attending schools, older women have to take most of the burden of physical work. Women help out in providing labor for much of the construction work in their own homes also.

Another important factor influencing local life and culture has been the influence of the media. It is not only western culture which is making its affects, but also the culture from southern Pakistan and even India. This has also resulted, in large part, from the increased exposure to outside media transmissions through television, videos and especially, the satellite dish. The influx of all these facilities has been made possible, in turn, by the increased economic prosperity and improved accessibility of the region to the rest of the country. However, on the other hand, the kind of media productions the people are exposed to are largely Indian or American made, and they have made their own impact in shaping the current attitudes, almost exclusively in men, it might be added, since they are the ones who have sole control over exposure to TV, VCR and satellite dish transmissions. But the radio and cassette player have become universal all over Karimabad, men and women alike. It seems that words are not considered as powerful corrupting influences as visual images are. For example, in one of the cases, the male head of the household had no objection to his mother and sisters listening to the radio and stereo and buying cassettes from the store, but according to him he would never bring a video or satellite dish into his home, because of the women, even though he would go out and watch it with his friends.

The urban influences presently being observed in Hunza are also another feature of the urbanization of rural areas which is taking place throughout the country, as the region is integrated more and more into the national economic and industrial structure. On a

structural level, these changes are mainly economic, with the economic base of these areas becoming increasingly more reliant on manufactured goods and the services industry rather than the traditional agricultural products. On a more deeper social and psychological level these changes become manifest in the way people are changing the physical built environment; discarding the traditional materials and aesthetics for the modern imported material culture of the cities. This has given rise to a kind of cultural homogenization. For example downtown Karimabad is beginning to display many of the features of other tourist hill resorts found all over Pakistan. The tourist trade is generating cultural and economic changes, in a way that physical development in Hunza is geared towards catering for the tourists. The vigorous propagation of symbols of advancement are everywhere, the local institutions with their promotion of modern, scientific education and concepts of growth and advancement in order to be part of the modern world. For example, a household viewed the possession of a camera by myself, the researcher of the thesis, with surprise and amazement, expressing that they had thought only western tourists carried and could operate cameras and sophisticated equipment, since I was seen as a local and not as a foreigner.

4.5 Physical changes

4.5.1 Modern services and infrastructure

The introduction of modern infrastructure, in the form of water, sewerage, and especially electricity lines has made a major impact, not only on the local built environment, but the economy, and social life as well. Electricity has transformed work hours, and economic exchange relations. It is a surprising fact that everyday available electricity was only introduced to the region less than five years ago.

Water supply and sewerage network projects have recently been undertaken by funding from international organizations. For this, the old clustered settlements require infrastructure upgrading which also involves resettlement of many dwellers. The constraints in housing design required by modern infrastructure needs is changing the patterns of the new settlements which are emerging. These settlements are away from the old, closed clusters, on open land and relying more and more on vehicular access.

4.5.2 Housing and material culture

The effects of the changed social and economic situation on the transformation of the local buildings and their material culture are one of the main components of this study and are discussed in detail in Chapter V. One of the most obvious and apparent effects on the built environment has been the construction of hotels and rest houses in the area. The new hotels are an imitation of the kind of commercial architecture found in the cities down south, and they are built to provide all modern facilities and comfort to the tourists who arrive here, especially from the western world. In addition, as far as housing is concerned, one of the factors which influences the building of new housing extensions is to cater to the tourist demand for authentic domestic spaces to live in, and also to accommodate what the local people see as 'modern' visitors. The way the new spaces and extensions are made and the materials used in their construction, and what they reflect, is discussed later in the detailed case study (see chapter V).

4.5.3 Effects on settlement pattern

In order to understand the changes which have occurred in building materials and systems, it is relevant to also analyze the changing built environment in general. One of the most important changes has been the construction of roads, which has followed the development of the highway. Presently that which determines the physical form of the town are the roads and their proximity to the commercial and touristic facilities, which have increased in number during the past ten years. Commercial building largely consists of hotels for tourists and visitors. The tourist industry has fueled and increased the number of hotels in the area as well as influencing what these establishments have to offer to foreign tourists.

In the beginning Hunza offered only small hotels and resthouses with limited capacity, and many of the buildings were small structures, usually extensions of local residences. Now, however, fear of increased competition from other investments on luxury hotels along the highway, has given rise to bigger size projects in the valley, where hotels offer multiple rooms, terraces, all modern facilities, including televisions hooked up to satellite dishes. The new hotels with huge concrete terraces and glazings have been built on the prime location in Karimabad town known as 'Karimabad Center'. This is located on the main access road to Karimabad and development of shops and hotels has taken place on both sides of this road.

The direction of commercial and retail physical development in Karimabad is a consequence of the process of economic and other changes, but it has also been an influence in setting trends in terms of the built environment. The commercial material culture is the first to reflect the adoption of new materials of construction and their associated images. Hotel architecture in and around the town of Karimabad presents high-rise structures of concrete and RCC, with large glazed exteriors (fig 4-ii). These trends are almost a repetition of the kind of architecture and building activity being seen in the town of Gilgit, which is in a much more advanced stage of commercialization. The opening up of hotels and retail facilities to cater to the increasing tourist traffic has increased incomes - and aspirations. Many of these facilities have been built by returning migrants who have brought with them new, or 'urban' ideas about how their hotels should look, how to maximize space, and minimize cost, emphasis on quantity of spaces rather than quality, all of which have become the new trademarks of local reception, replacing the old warmth and hospitality. There is now emphasis on elaboration of appearances, image, and an increase in personal possessions, and importance given to their display (see chap V).

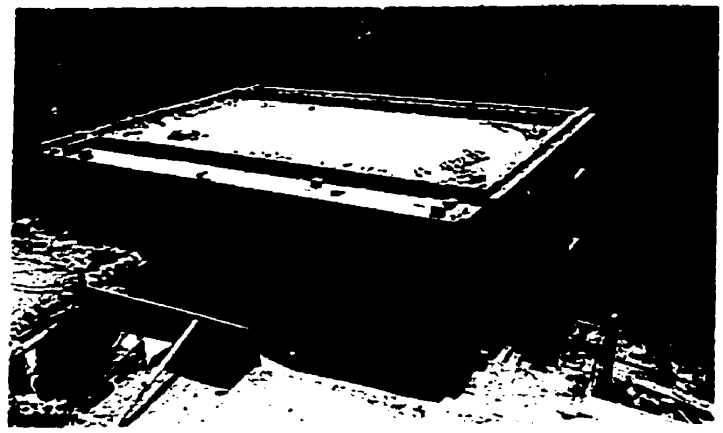


fig. 4-ii *New hotel under construction in Karimabad*

Another consequence of this commercial activity has been that, in order to make space for three and four story hotels, many trees have been cut down. This has also changed the local character since the tall poplar trees are one of Hunza's prime natural attractions. Consequently the new structures are blocking the sweeping and scenic views of the Hunza valley which are the prime attraction of the region.

The present main street in Karimabad began as the only commercially developed road, but now as other link roads are appearing this commercial and retail activity is spreading out to the rest of Karimabad, and impinging on previously exclusive residential or agricultural areas. From being a pedestrian town/village, Karimabad is fast becoming a vehicular

market town. As more and more pedestrian walkways are converted to metalled roads, followed by more commercial construction, the spatial constraints which were necessary to keep the old clustered form of settlement are disappearing.

Previously the clusters had been like self-contained communities, each on its own. The compactness of the settlement also gave protection against the cold in winters, and shade in the summers. Now housing is on open land, free-standing and exposed on all sides, at an elevation of 2500 m in the glacial valley that is Hunza. The new spatial configuration, the form of which is determined by the aforementioned commercial development has brought its own consequences. As people feel compelled to move out of the clusters, due to pressure to sell their houses for conversion to commercial use, and also in response to their changing infrastructure needs, which require access to a water and sewage supply network, they have started to look to their terraced, agricultural land to build new houses. It is this change in settlement pattern which has also made possible a different kind of building. The breaking of the old, compact, clustered form into the open, terraced form that is observed today, made a lot of difference to the kind of houses that could be built on this new land configuration. Many people have now expressed the desire to build their 'new' summer houses in the open terraced land in the new style of concrete with larger windows and separate rooms for each activity, while keeping their old stone houses in the cluster, for use in winter.

Another influence which has affected the course of physical development in Karimabad has been the conservation project being carried out on the Baltit Fort (see chapter 3). The project has been initiated and funded by the Aga Khan Trust for Culture, an international development organization which has played a significant role in influencing the way local crafts and traditions are viewed by the local people as well as visitors. The conservation project encompasses not only the fort but the surrounding old settlement of Baltit. There have been efforts to conserve and maintain the older dwellings, and to convince their inhabitants to either sell the dwellings for museum use, or conserve and maintain them using the same traditional materials. There has also been an attempt at revival of traditional craftswork, by hiring craftworkers from neighboring regions, especially for woodworking. What is interesting to note is that these efforts have also influenced local people when they start modifying or extending their houses on their own. In the case studies (see chapter V) there were many instances where people have hired the same wood craftsman working on the fort, to carve their wood columns and door frames. People living in these clusters also

feel a certain pressure from the organization to conduct changes in their houses as advised by the organization, and not as they themselves would prefer.

4.7 The influence of local organizations

Local non-profit organizations operate under the umbrella of the AKDN (Aga Khan Development Network) which is a private non-profit network, established under the private patronage of the Aga Khan. The Aga Khan is the spiritual leader of the Ismaili sect of Islam, and 90% of the population of Hunza consists of adherents of this faith . Under the AKDN umbrella there are several development NGOs working in the fields of agriculture to education, health and housing. These organizations have been identified in various studies as having had a significant impact on the region in general and Karimabad in particular[10] . The work has been primarily in the Ismaili communities of the Northern Areas and these organizations have considerable influence in the area since they operate under the Aga Khan's name. They have played a key role in bringing new development concepts to the region, concepts which are largely influenced by international development goals. Since these agencies have been important inducers of social and economic change in the region, it is worthwhile to examine the roles and mandates of some of the more prominent ones among them, and how they tie in, on a larger scale, with each other and with international planning and development mandates.

The Aga Khan Rural Support Programme(AKRSP), established in 1982, is the oldest of the development organizations working in the Northern Areas. The stated purpose of the programme was to involve the people in their own development, specifically to improve their quality of life, double their per capita income over a period of ten years and to develop a replicable institutional and technical model of equitable rural development.[11] Until now, the AKRSP has been the most successful development NGO working in the region. It has been a crucial agent of change, and promoter of new concepts, regarding agriculture, irrigation, and credit for agricultural development. The organization, nearly 20 years ago, identified agricultural development as the most significant factor in improving the local economy and living conditions.

---

[10] H. Kreutzmann, "The Karakoram Highway: The Impact of Road Construction on Mountain Societies." Modern Asian Studies 25, 4 (1991) : 711-736.

[11] Provision of Planning, Infrastructure and Construction Support in the Northern Areas and Chitral (A Study on the Northern Region Institute of Planning - Final Report July 1994) : 1-4.

The AKRSP deserves mention here because it has introduced significant changes in the agricultural production mode as well as the social organization of villages in the Northern Areas in which Karimabad is included. It has promoted village organization and collective management, combined with the acquisition of skills and the development of financial discipline and capital formation. The instruments through which AKRSP implements its development programme at the villages level are the Village Organization (VO) and the Women's Organization.

Another organization more directly involved in housing issues is the Aga Khan Housing Board for Pakistan(AKHB). The AKHB works in housing and is the contractor for the educational and health buildings built by the AKDN. The health centers and schools built by the AKHB are an important trend-setting factor in terms of new building technologies. Through the Living Conditions Improvement Programme, they have introduced the smokeless stove. A concept which has become extremely popular in almost every rural household in the rural areas. They have also promoted the use of ventilators in houses, which had not existed before.

The Karimabad Planning Support Services(KPSS), also a part of the Aga Khan Foundation Network (AKDN), was formed around four years ago in order to conserve the 600 year old clustered settlement around the Baltit Fort in the town of Karimabad. For the purpose of this study the consideration of their role as a planning organization is very important, since the organization is mainly active in the case study areas chosen for this study. Since its inception KPSS has mainly played the role of a planning and advisory agency, acting more as design consultants to the people who want to either renovate and restore, or build new houses in Karimabad. The organization has initiated the physical upgradation work of the old settlements which mainly consists of paving the old narrow streets of the cluster with stone paving, applying a mixed cement-mud plaster to the walls of the houses, old and new, whether made of stone or concrete block, in order to preserve the old look. However many problems still remain to be addressed which include, overcrowding, congestion, lack of space for expansion, lack of open space for cattle and gardening. In the area of services, although an elaborate sewerage system is being laid in the settlement, massive amount of funding is being spent on this system because of the difficult topography of the cluster, the fact that the houses are built into the side of a mountain, literally on top of each other. Previously people had been moving out of the cluster onto their open terraced agricultural land, on a small portion of which they would build a new house. However KPSS has encouraged them to stay within the cluster. Most

people are now making needed additions, wherever they can find the space, mostly on top of the old stone houses. Most of the new construction is taking place in cement concrete block as walls, but KPSS is promoting the use of load-bearing stone for walls with their own proposed cement-mud mix as plaster.

The organization functions mostly as an NGO with funding from the Aga Khan Trust for Culture another Aga Khan organization which works in heritage conservation and restoration. KPSS gives free bags of cement to the households which follow their plans and guidelines. Many new plans for houses outside the cluster have been made by KPSS, as a free consultancy service for the people of Karimabad, however there appear to be no guiding principles, or common planning features in these plans. Some 'model' houses are also under construction. There is a controversy about the kind of 'traditional' architecture they are promoting. To the local people it seems to be merely an expensive inconvenience, since they have discovered cheaper alternatives to meet their building and extension needs, most common being concrete block construction on open land.

The organization has become an important agent of change in the town, and their sphere of influence is increasing daily. Because it is part of the Aga Khan network of organizations, it sets an important precedence, in terms of the ideas it is promoting. However, whether these ideas are steering the development of the town in a constructive direction, remains to be seen.

It is interesting to see how people view the concept of culture. Under the influence of the current views being promoted, especially by KPSS, everything that belonged to the past is seen as culture, which is to be retained, revitalized etc. It seems that it is sometimes overlooked that the new images being adopted by the people are also part of a culture, call it 'urban' culture or 'modern' culture. There is a pressure to conform to this new type of culture, which supposedly will bring progress, prosperity and modernity but most of all convenience, in the form of modern services. This pressure is in a large part also responsible for the speed and facility with which people are adopting urban building materials and systems. New cultural attitudes are brought home by seasonal migrants who have worked in the cities for several years. Among them chief is the desire to have modern infrastructure and appliances, and then to have a physical expression of their modernity from the others through the building of their houses in materials which are being used in the urban areas.

One of the other important influences by these organizations has been in terms of building and construction work. Institutional building has played an important role in affecting changes in traditional building systems. The schools and hospitals built by the AKDN have all used concrete and steel building systems and they have an enormous demonstration impact on local construction. For example, the skylights at AKES (Aga Khan education Services) school in Gupis, another area located in the north, have been the reason for a number of imitation skylights in newly constructed houses in the area. The Aga Khan Girl's Academy, a girl's boarding school in central Karimabad is another example. It is a prominent part of the Karimabad landscape. It has been built using elements of traditional architecture in a new material i.e. concrete. The building plays an important role in the promotion of a new material, and giving ideas about its adaptation to local use (fig 4-iii). Local people in Karimabad view the academy as a sign of progress and are fond of reminding visitors about it.

fig. 4-iii *The Aga Khan Girl's Academy in Karimabad*

The main idea of this chapter has been that the external influences of modern culture, the media, tourism, transportation, and local development organizations have directed the process of change in the town of Karimabad. Modern culture has largely been brought to the region through the media and the tourist trade, which has been facilitated through the construction of a modern transportation system, namely the Karakoram highway. Economic changes have come as a result of the growing integration of this region with down country, which has again been facilitated by the highway. This is reflected in the way Karimabad is now becoming more and more dependent on goods from urban areas, from foodstuffs to building materials and systems, and in the way the focus of work has shifted from agrarian to service-industry related jobs, as mentioned previously.

All these influences are interconnected and have affected each other, for example tourism has been boosted by the construction of the Karakoram highway, but now the increased tourist traffic has created a demand for more efficient and widespread transportation networks. In turn the economy of the region in terms of increase in average household incomes has improved, but now the economy is turning more towards services and tourism and away from agriculture. Migration to down country, seasonal as well as for long periods of time by the male population has also affected traditional agricultural practices. In turn the local NGOs have had a significant impact in introducing new technology concepts to the area, and building materials is one of them. These changes have affected the individual households of Karimabad, through increased incomes, increased and changed aspirations, and finally, through choices being made in constructing the new dwellings, as became apparent through the case studies, which have been discussed in detail in chapter 5.

CHAPTER V

5. FIELD RESEARCH: *The Case Studies*

This chapter presents the case study findings in terms of an evaluation of:
the factors that prompt people to use new materials in their homes; and, what the new materials are and how they are being used by the people.

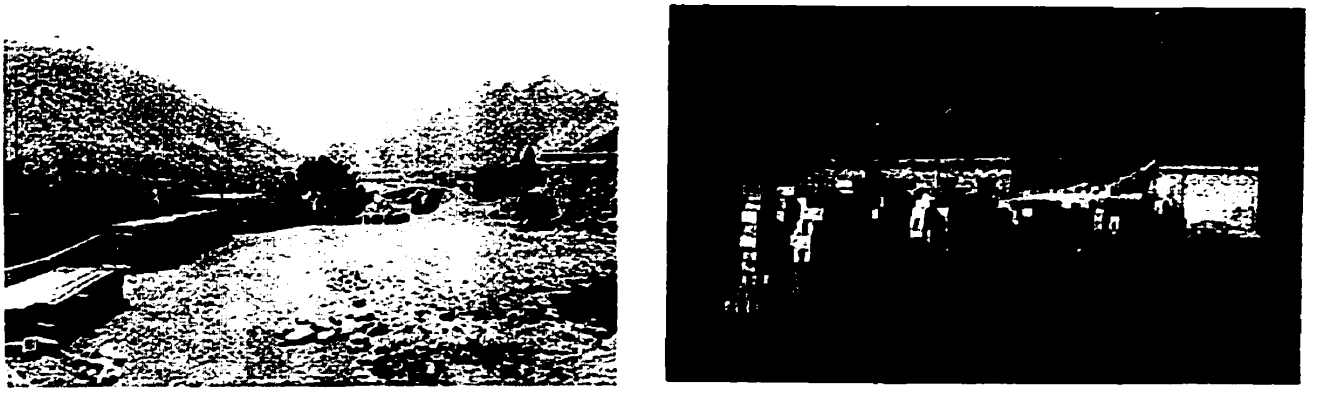
As has been mentioned in previous chapter(III), housing in Hunza has evolved in response to a set of diverse physical, geographic, historic and socio-cultural factors. For the purpose of establishing a proper background to the analysis of the case studies it is important to relate the changes which building materials and particularly traditional building systems are undergoing. This is presented in the first part of the chapter and is supported by case studies which consist of interviews with local masons and building yard owners. These interviews were conducted with a view to gaining information about local building practices as to how they are promoted by local builders.

5.1 Change in traditional building systems

Traditional building systems and materials in the town of Karimabad in Hunza have undergone major changes during the past ten years. Improved accessways and communication networks have made it possible to transport new materials, like cement and concrete, to the Northern towns. The main transshipment point for these products and activities is the town of Gilgit.[1] Gilgit is the main distributor of all goods, including building materials, coming from down country. Small-scale building material suppliers have opened up shop all over the town, and are supplying most small towns and villages in the Hunza region (fig 5-i, 5-ii). The building materials in question are mostly cement-based products for walls, finishes and structure and there is local production of cement concrete blocks and other pre-fabricated cement products This is mostly undertaken by privately-operating building suppliers and building yard operators. The building activities of this sector have filled a vacuum left by the dying building trades of the region which mostly relied on locally available materials like stone and timber, for which availability has become scarce and production expensive, according to local standards.

---

[1] Gilgit was one of the first British cantonment towns to be established in this region. Set in a flat valley surrounded by high mountains, it was relatively easy to set up a colonial outpost here. Since then Gilgit has developed into the major trading and transportation town for the Northern Areas.



figs. 5-i, 5-ii *Building material supply yards in Gilgit and Karimabad*

Three building yard owners in Karimabad were interviewed to determine the reasons, and how concrete construction is spreading in the region. The interviews determined that local contractors and masons seem to be adopting concrete because it is a lucrative business. There are several factors which have contributed to this: ever since the building of the highway, cement imports into the region have increased; due to out migration, local people have started learning the concrete masonry trade in whatever cities they go to. Returning migrants thus come back with new skills, and find use for them in the changed building materials market, where cement is readily available. The third factor is that from their point of view as contractors, cement concrete construction offers a number of advantages. These advantages are always cited in comparison with stone and they are: construction with concrete block is faster, as more blocks can be laid in masonry than a comparable number of stone blocks; with less labor required more masonry work can be done, one of the reasons being concrete block is lighter to handle than a stone block; they plaster a concrete block wall only once, whereas according to local practice a stone wall is plastered twice; and, due to the rising demand of cement concrete block it is a profitable business in which to enter into.

These building yard owners who are also the masons and contractors produce on the average 100-150 blocks per day. Two of them had started production during the past 6 months.

MATERIAL	SIZE	PRICE
Cement Concrete block	12" x 6" x 8"	Rs. 5-8/block * ($ 0.19-.30)**
Stone block	12" x 6" x 6"	Rs. 10-11/Block* ($ 0.38-.40)**

* prices current for July 1996.

** conversion rate current for July 1996.

Local dwellings are usually built with the advice of a single mason. Expertise in concrete construction is still in its initial stages, in fact, it would be fair to say that it hardly exists. Stone masons are also beginning to learn this trade, which does not require a high level of skill, and they are changing to concrete construction. They play an important role in the propagation of this material among the local population as traditionally, masons have also given advice about the choice of material and design of housing. Masons have traditionally advised households on the choice of materials, the layout of houses, positioning of openings, as well as the structure. Their knowledge was based on the accumulated experience of the past centuries, in building with one material. They were used to functioning within the constraints imposed by the environment, the community and the material itself. Through the case studies it also became apparent that the traditional role of the master mason and the craftsman, though not completely disappeared, is also undergoing drastic changes. New technologies have brought in newly trained skills people and professionals. For the first time, people in Hunza are becoming familiar with the professionalization of skills. There are all kinds of experts available in Karimabad now: the housing expert, the conservation expert, the design expert, the seismic expert and so on. This specialization of skills and trade is opposed to the traditional role of the master builder where the building mason was the sole designer and constructor of the dwelling.

The importance of the town of Gilgit in influencing the adoption of alternative materials by people cannot be understated. The new material culture of cheap and quickly constructed concrete and steel structures has almost completely overtaken the traditional settlement and built form, the remnants of which can be observed in isolated pockets scattered within and around the city. There is increasing pressure to integrate with the economy of down country, which is largely dictated by the needs of a growing private investment sector, as well as government efforts to integrate the region with the rest of the country.

Another factor influencing the change in systems is the change in land-use and the private ownership of land other than for residential use, especially commercial, which has placed demands on the owners to respond to the demands for what is viewed as a modern and more progressive building system, namely building in concrete and steel. There are also other demands, among them the need to have a system compatible with modern infrastructure needs (piped water supply, electricity) which are considered necessary to respond to the demands of tourism (see chapter IV).

5.2 Case study areas

The field survey was conducted in five villages in the district of Hunza located in the Northern Areas of Pakistan. These were the settlements in and around the main town of Karimabad: Kurukshal, Dhiramshal. Brongshal , Altit and Mominabad (fig. 5-iii). Out of these villages, Kurukshal, Dhiramshal and Brongshal are in the town of Karimabad. These settlements are the ones most closely linked to the transportation routes, containing the beginnings of modern infrastructure and a commercial and touristic center. Kurukshal is the oldest village, its form being that of a closed cluster. It is located beneath the Baltit Fort, one of the oldest structures in the valley. It is in this settlement that a major conservation and infrastructure improvement project is being implemented. The villages of Dhiramshal and Brongshal are located further down the main street in Karimabad and are in the form of semi-open clusters. Karimabad is the general name for the area encompassing all these villages, with the town center being at the highest elevation (fig. 5-iv). There is in general greater availability of new materials of construction, almost exclusively in concrete in this area. The main concrete buildings supplies yards can also be found here. In addition the area has the highest concentration of commercial development catering largely to tourism.

In the settlements closer to the main center of Karimabad, there was observed to be, in general a greater use of new materials of construction, almost exclusively in concrete. The main concrete buildings supplies yards are also in this area. For the people in these settlements obtaining concrete is more convenient than for those in the villages of Altit and Mominabad which are at a distance of 2-3 km. from the center and at a lower altitude.

The villages of Altit and Mominabad do not form part of the main town of Karimabad but are approachable through roads. Mominabad is an old crafts village, and is mainly

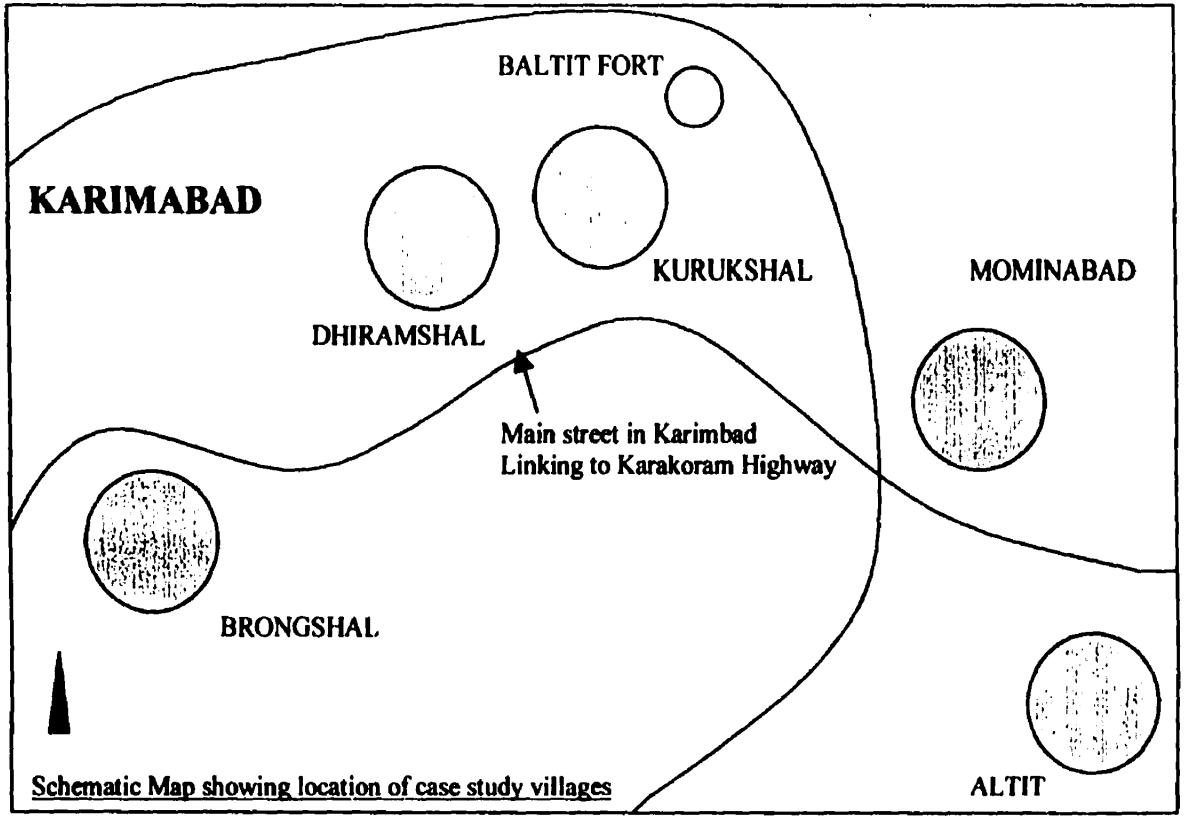


fig.5-iii *Schematic map showing location of case study villages*

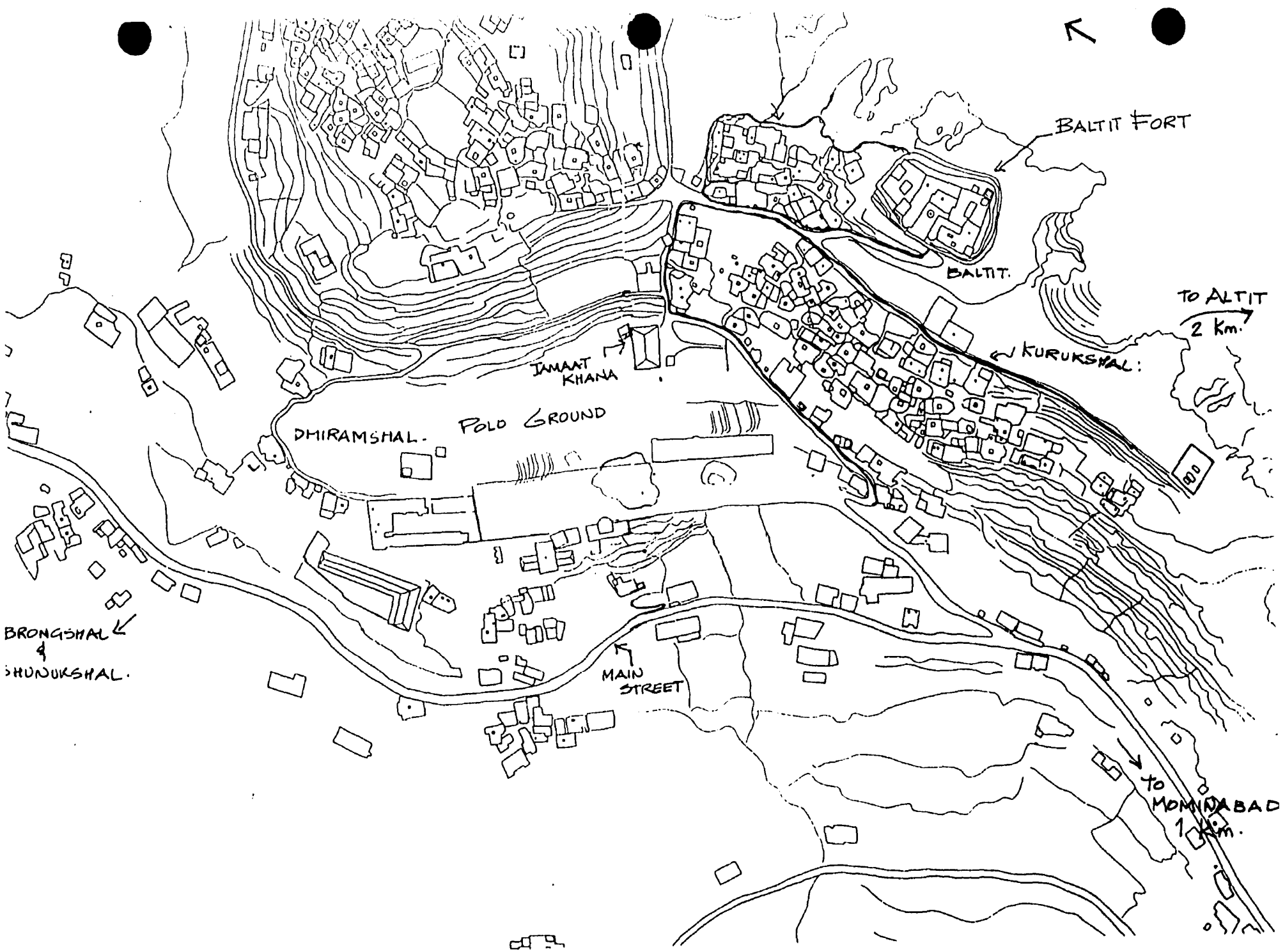


fig.5-iv *Partial map of Karimabad showing main concentration of habitations*

inhabited by a caste of people known as 'berichos'. These were people traditionally associated with being blacksmiths and musicians, and the making of musical instruments. Mominabad too, has an old cluster, from which people are now beginning to move out. There is no commercial or touristic development around this village.

The third village, Altit, is located much further down the valley and forms a cluster around the ancient fort of Altit. The old village of Altit shows a very typical closed cluster layout however, with expansions and extensions all around. There is a high proliferation of concrete building all around Altit, and even in extensions built in the old cluster. It is also becoming a popular tourist location and small hotels and retail shops have begun to spring up along the dirt track road. For all purposes the changes, both physical and socio-economic mentioned in the previous chapter apply to this area as much as to the main town of Karimabad and Altit is also generally referred to as being located in the Karimabad region.

5.3 The case studies

Eighteen case studies were conducted in all and they are presented here in the form of a household survey, measured drawings and photographs of the selected houses. Each account delineates the particular factor affecting each household's choice of materials in addition to the reasons behind it. In addition, other insights and discoveries particular to each case study which relate to the subject under study have been elaborated upon.
A classification of materials used in old and new construction is also given, which is based on documenting the materials of construction used in each element of building, i.e., walls, floors, roofs and the finishes for the same and doors/windows. In addition, the factors which influenced each household's choice of material have been documented and discussed for each case study. A summary of the identified factors is given in section 5.4.

As the objective of the field research was to determine the range of factors which influenced each household's decisions to choose or reject building materials, in a first preliminary survey certain general factors were determined which seemed to on the average to be the concern of householders when building their homes. Support for identifying these factors was also sought from literature reviews and case studies (mentioned in chapter II).

The decisions that people make about what material to buy and use in their house are also, to a large extent, based upon their perceptions regarding that material. If the material is

perceived as being, for example, cheaper, more durable, or climatically comfortable, even though it may not be scientifically so, the decision will be made based on that perception. What shapes and gives rise to these perceptions is the wide variety of influences that they are subjected to as a community.

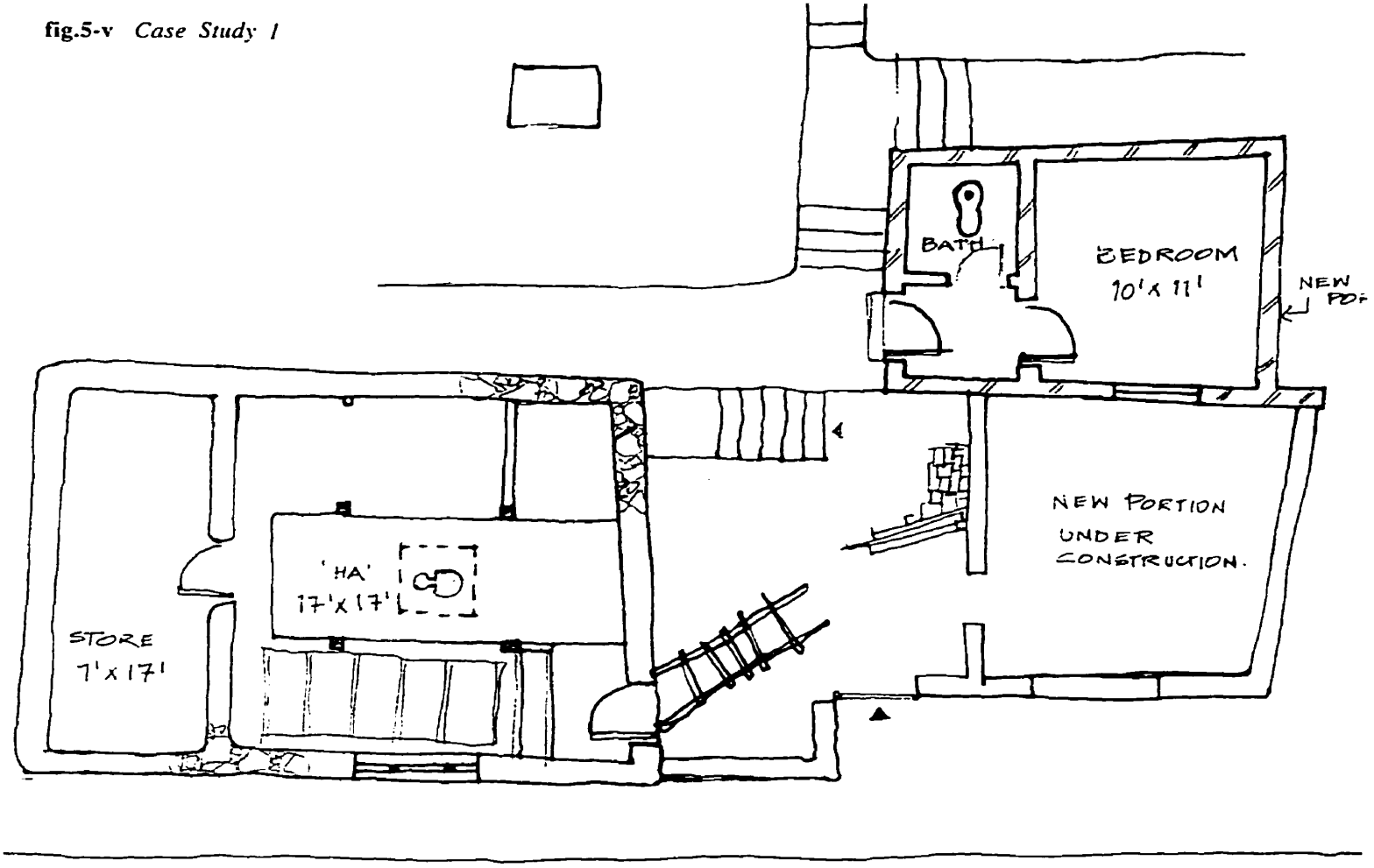
The identified factors which influence people's decision to adopt new materials are: cost, availability, durability, aesthetics or social acceptance, level of skills, time required for construction and the level of comfort achieved. In addition the external factors of the role of local institutions, tourism and transportation were also considered.

Case Study 1

This house is located in Kurukshal village. It is inhabited by a family of four. The respondent is a teacher in Karimabad. There are two new portions to his house, the first completed portion has been constructed of cement concrete blocks. It consists of a single detached room with an attached bathroom (fig 5-v). The new construction was built of cement-concrete block walls, with timber roofing consisting of a system of rafters and beams. The windows and doors are of regular size with wood framing. The walls are cement-plastered right now, but will be mud-plastered later. Invariably, the adoption of this material has changed the layout of the new portion as compared with the old. The new construction is a detached single room with an attached bathroom. The fixtures in the bathroom are the modern, ceramic fixtures imported from down country. However, the second new portion which is being constructed of stone and wood, the old materials, will be made, if not built completely in the traditional style, then with some traditional elements like a verandah-cum-porch outside and of course a new ha. Another new portion, which was still under construction was being constructed of stone.

One of the main reasons he built in cement concrete was because they needed to construct fast. He says " in the time it takes to lay one stone course, a whole c.c.block wall can be constructed". Another reason is that he likes the look of a concrete house. He lived in Karachi for 7 years, liked the way houses were built in Karachi and that is why he wants to build like that in Karimabad. He likes cement plaster because it gives a clean, finished look, and also because it is easier to maintain.

fig.5-v *Case Study 1*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	c.c.block	cement conc.	timber	wood frame	cement plaster	mud ,straw
Old portion	stone & wood	cement	timber	wood frame	cement plaster	mud

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
●	●	●	○	●	○	○		●	●	○	●	○	●	●
stone								concrete						

SCALE 1' = 1/8"	Case Study 1 Location: Kurukshal village, Karimabad

Ideally, he would like a cement concrete block house with a cement plaster finish, but, since his house is located in a part of Kurukshal village which is being restored and conserved under the conservation project, there are other plans for it. The local organization (KPSS) has been trying to convince local people to apply the traditional mud plaster on their houses, even those built of new or different materials like cement block, in order to preserve the 'look' of the old settlement. However villagers like this respondent are resistant to the idea, since this interferes with their desire to seem more progressive through openly using new and different materials. He remarked that "now we are being forced to adopt this culture, which is becoming too expensive..". He feels this way, since after applying cement finishing to his house, he now has to strip it and apply the new mud and cement mixed locally called 'loto'.

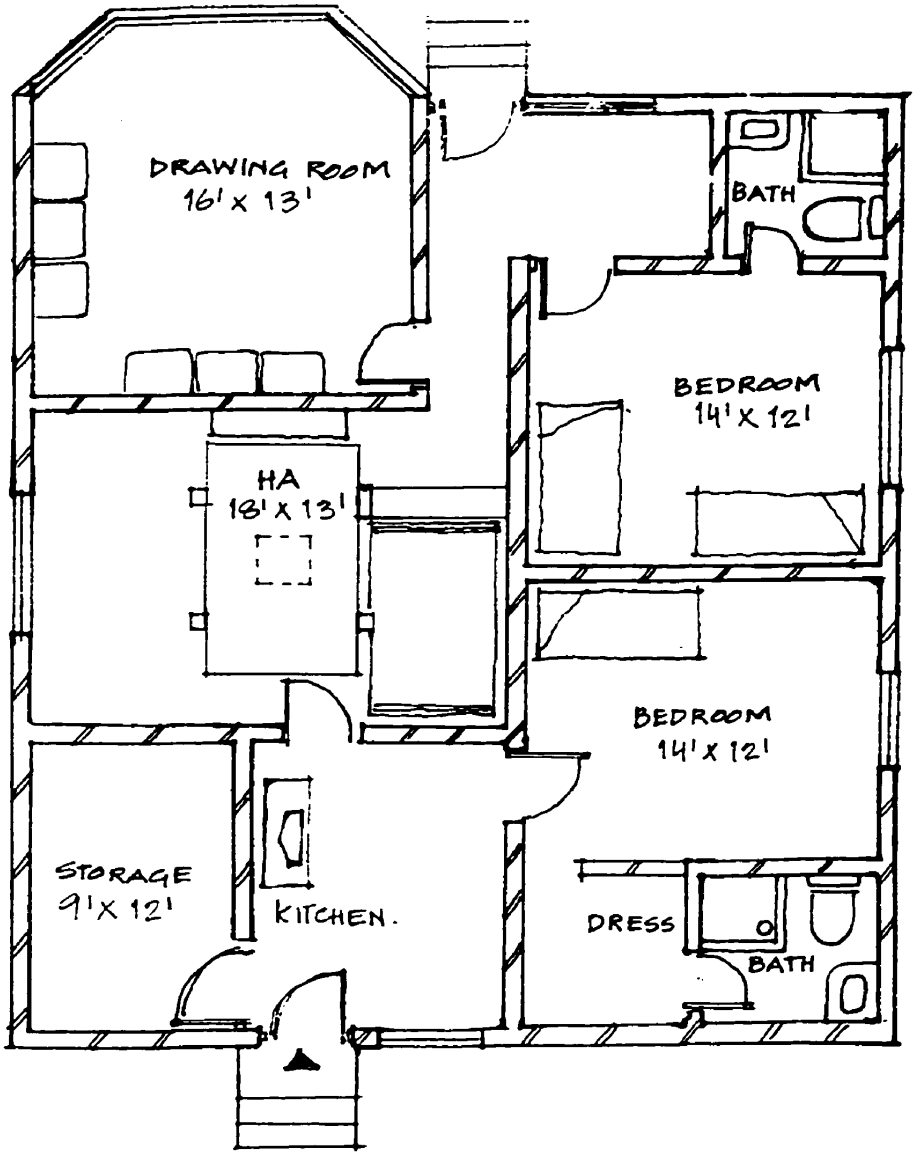
As far as the plan of the house is concerned, the difference between the old and the new is marked. As opposed to the traditional ha with surrounding spaces, the new portion follows a pattern of separate rooms with an attached bathroom, with a large window instead of the traditional skylight. He is also constructing a further extension to his house which will contain a living room and two more separate rooms. He provided his own labor, and wood from his land.

Case Study 2

This house is located in Brongshal village and is inhabited by a family of three, a mother with a daughter and son. The respondents were the mother and daughter. Previously they had been living in the old cluster, but then they decided to move out onto their open terraced land. The only earning member is the son, who works as a tourist guide. In addition, the family has the produce of its agricultural land as another source of subsistence. The plan shows an interesting mix of old and new design. The traditional ha is retained in the center, but all around it are separately functioning rooms, two bedrooms with attached bathrooms, a 'drawing' room (in the words of the respondents), a kitchen and a store room. The drawing room looks over on the valley and has large glazings and overhangs (fig 5-vi. The ha with the traditional skylight has now been changed from a multi-purpose sleeping, cooking and eating space to a carefully decorated living room.

The decision to build the house was made entirely by the son who wanted to build something which looked like the kind of detached single-story houses that he had seen in the city of Rawalpindi, where he works. They decided to build in concrete because they felt

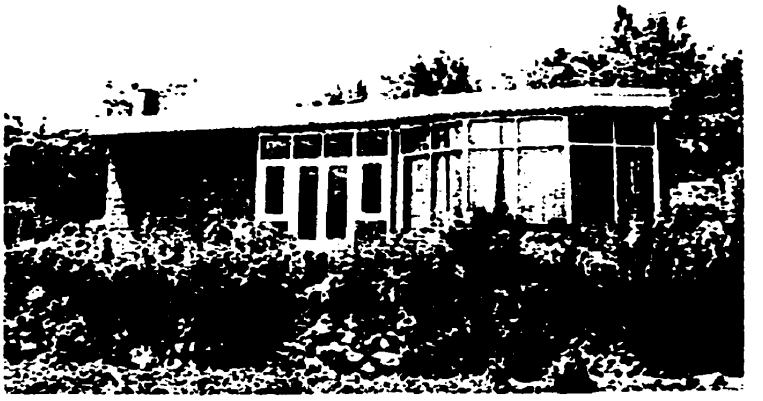
fig.5-vi *Case Study 2*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	8" th. c.c. block	cement conc.	timber	wood frame	cement plaster	mud
Old portion						

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	○	○	○	○		●	●	○	●	○	●	●
stone								concrete						



SCALE 1' = 1/8"	Case Study 2 Location: Brongshal village, Karimabad	

it was cheaper than stone, required less skilled labor, and was faster to build. In addition an important factor was the image that they wanted to project; they felt that everybody in the community appreciated and was impressed by a concrete-block house. Another factor in their decision was that it was easier to tear down concrete and build again, if they wanted to modify the original plan. However, they do say that the house gets very cold in winter.

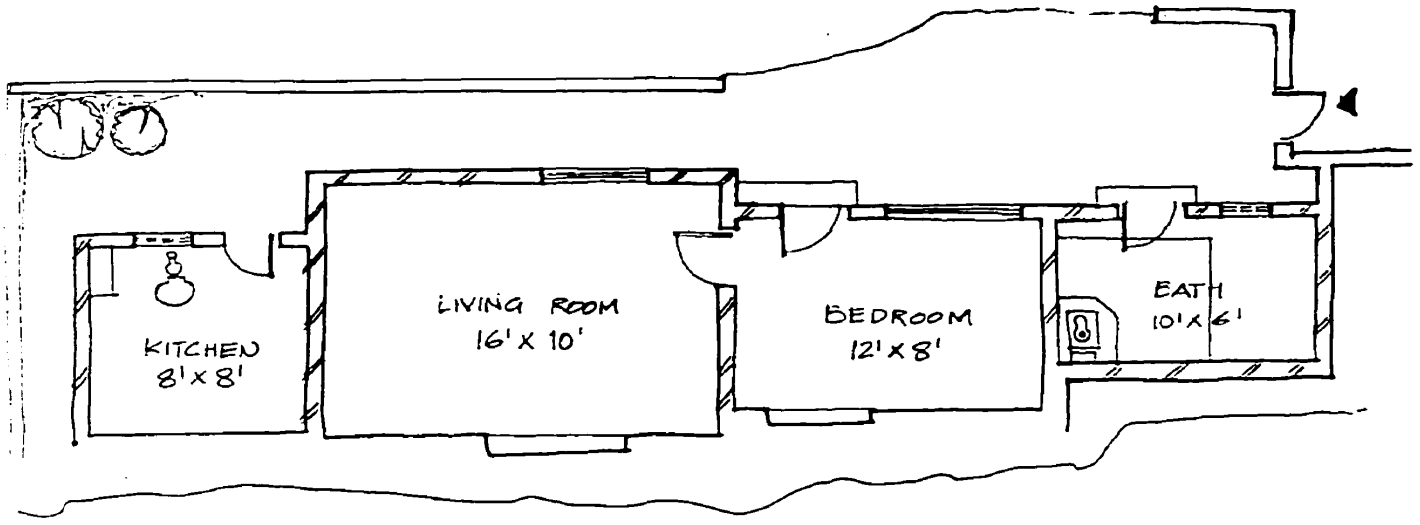
The mother expressed that she always felt more comfortable in the ha than in any other part of the house. In fact, most of their time was spent there rather than in the detached bedrooms. They had added a separate 'drawing room' to the house, which was almost never used except when the brother brought 'foreign' guests. The son had very definite ideas about how the house should look and what materials it should be constructed of. In other words, that it should convey a sense of modernness and not 'backwardness' since foreign tourists were supposed to be invited to the house, that it should have all the modern conveniences, not just that, but elaborately finished. It was interesting to note, that only the front facade of the house, and in particular only the area with the guest rooms were the most finished in terms of painting, plastering and furnishing. The bathrooms were elaborately tiled, although there was no running water. The rest of the house was not even plastered. It could be that this was merely because the house was being finished incrementally, as funds became available, but what is important here are the priorities of the household in deciding what should be finished first.

Case Study 3

This house is located in the main street in Karimabad and belongs to a widow with two children. After her husband's death the respondent had to look after her two children and also take care of a number of shops which they had owned and which were all rented out along the main Karimabad street. Most of her income comes from her shops and some agricultural land. However she says that since the shops only operate in the summer during the tourist months, she finds it hard to make ends meet.The house consists of a bedroom, living room, kitchen and bathroom all arranged in a linear layout as dictated by the shape of the plot, part of has been rented out as a public post office (fig 5-vii). She decided to build a cement-block house, because mainly they needed to construct quickly. She has rented out half the house as a post office.

She believes that it was easier to make a concrete block house, and also cheaper. However, she does not like block very much as compared to stone, but since they do not have stone

fig.5-vii *Case Study 3*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	8 th. c.c. block	cement concrete	timber	wood frame	cement plaster	mud & plastic
Old portion	N/Av	N/A	N/A	N/A	N/A	N/Av

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials							
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	●	●	○	○		●	●	○	○	○	●	●
stone								concrete						

SCALE 1' = 3/32"

Case Study 3

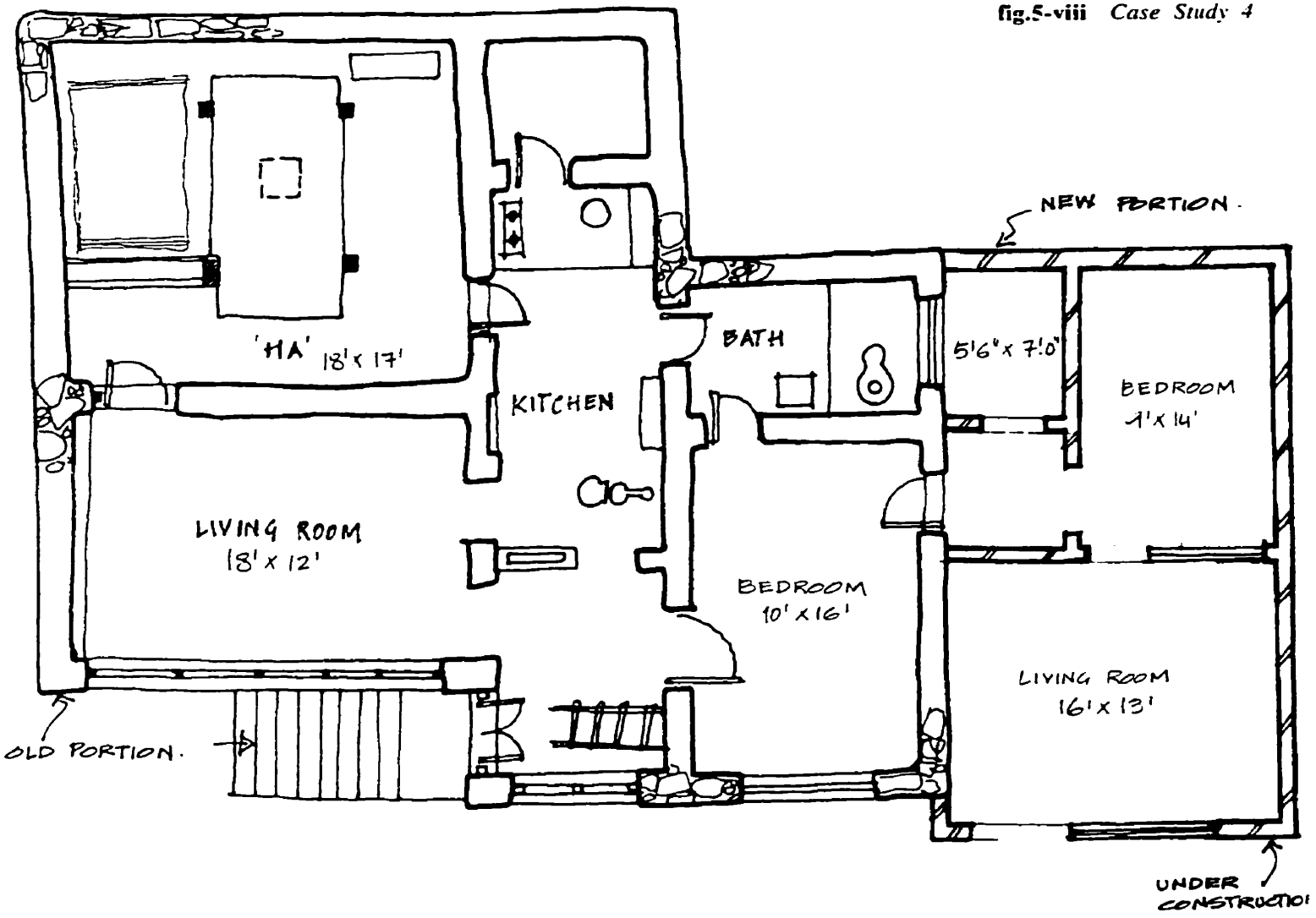
Location: Main Road, Karimabad

available on their land, they had to build in block. She took part in the construction herself, bringing cement, pouring water, preparing mud and plaster. They have a radio in the house and on the children's insistence, she is also going to bring a TV. The main factors affecting their choice of material were the affordability of concrete and also the time required in its construction. Her mason had mostly advised her on choice of material and she contributed to the construction with her own labour.

Case Study 4

This house is located in the Kurukshal village, Karimabad. They are a family of 8. The husband had served in the army but is now retired and owns a jewelry shop in Karimabad. They had demolished their old house which they say was built in the traditional style found in the old clusters. In its place they first built a house in the same style and in stone following the pattern of a multi-purpose space which is the ha and other ancillary rooms arranged around it. However, the later construction was finished with cement plaster with keys, to make it look like a cement block construction. Presently they are adding another new portion to their house which consists of a living room, and two separate rooms and a bathroom (fig 5-viii). This portion is being constructed entirely of concrete block. The interview was conducted with the woman of the house and she seemed very happy with the way the new construction was going. When asked why she was building this portion with cement block, after having built with stone, she replied that this was the way everyone was building these days, that it was a 'modern' thing to do. She also expressed that they were a progressive family and wanted to be seen as such. Their house is equipped with a refrigerator, a gas stove, as well as a TV, a VCR and a satellite dish. She expressed her satisfaction with all these 'modern' conveniences.

Among the specific reasons for selecting building materials; cement concrete as opposed to stone; she expressed that one of the reasons they hadn't built in stone was the fact that it had become expensive and was harder to transport to the site. She did think that stone was a stronger material and a stone house was more durable, however to her a concrete block house looks better.



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	c.c. block	cement conc.	timber	wood frame	cement plaster	mud plaster
Old portion	dressed stone	cement	timber	wood frame	cement plaster	mud plaster

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials							
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	○	●	○	○		●	○	○	●	●	●	●
stone								concrete						

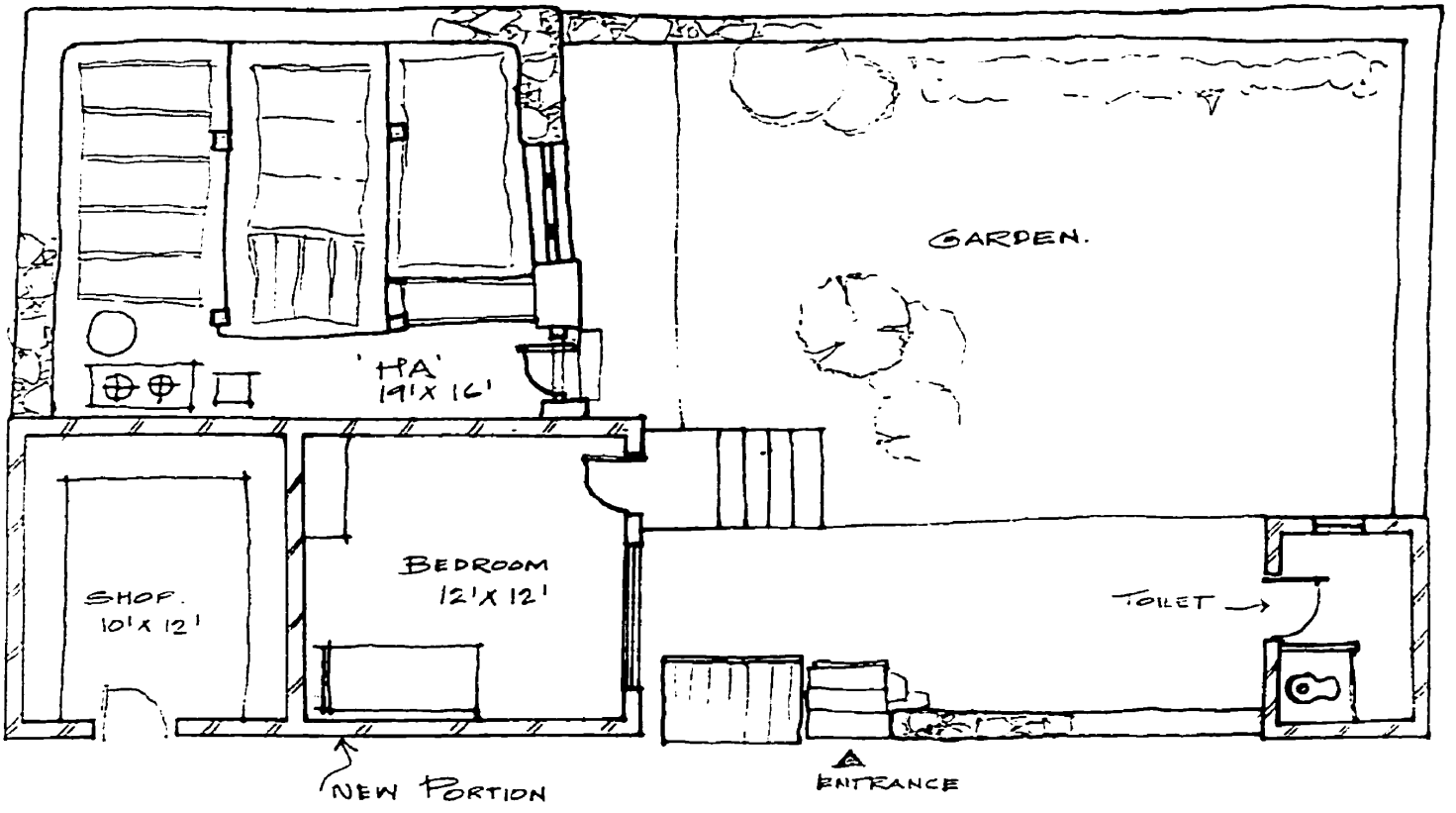
SCALE 1' = 1/8"	Case Study 4 Location: Dhiramshal village, Karimabad

Case Study 5

This house is located in Brongshal village. The principal respondent was a young single woman who lived in the house with her father, and taught English at a local school. Their house has two portions: one constructed in stone in the traditional way; and, a new extension built of cement-concrete blocks (fig. 5-ix). The old portion is a single room which is the ha, and there are no other rooms. It was built 12-15 years ago. The new portion was built a year ago and consists of a single room built of cement-concrete blocks, plastered and painted from the inside and unplastered on the outside. In choosing concrete as a material to build the new portion they were mainly thinking of its availability and cheaper cost as compared to stone. They had also renovated the floor of the old stone portion from a mud floor to a cement concrete finished floor. The respondent said that she found it much cleaner as there was less dirt and dust. Social acceptance was also one of the factors which influenced their decision. According to her, although she liked to spend most of her time in the old stone ha, she still wanted to have a separate, private space for herself, and for receiving guests and relatives from Karachi. She felt that it gave a good impression to have a concrete block room, furnished appropriately. In addition she is also getting a bathroom and boundary wall built of the same material. She felt that the new room was hot in summers and cold in winters, and so most of their time was spent in the old stone ha. They also have a shop in front of the house which has been constructed of cement-concrete blocks also.

Case Study 6

This house is located in Brongshal village and is inhabited by a family of four. The head of the household works for the Aga Khan Rural Support Programme, and initially he had asked the local Karimabad organization KPSS for help with the layout for a new house which he wanted to build. However he was not satisfied with their advice and decided to make his own plans. There are actually two houses, there is an old portion which the family presently inhabits and a new portion which is presently being constructed of brick (fig. 5-x). Their old portion follows the typical layout of a central ha with a store and a verandah outside. The new portion as can be seen from the figure consists of two bedrooms with attached bathrooms, two storage areas and a living room. There is no kitchen since they plan to use the ha in the old portion for their cooking and eating activities. As the owner expressed, the new portion will also be reserved for receiving guests who may be visiting family members from the city or visiting tourists who he



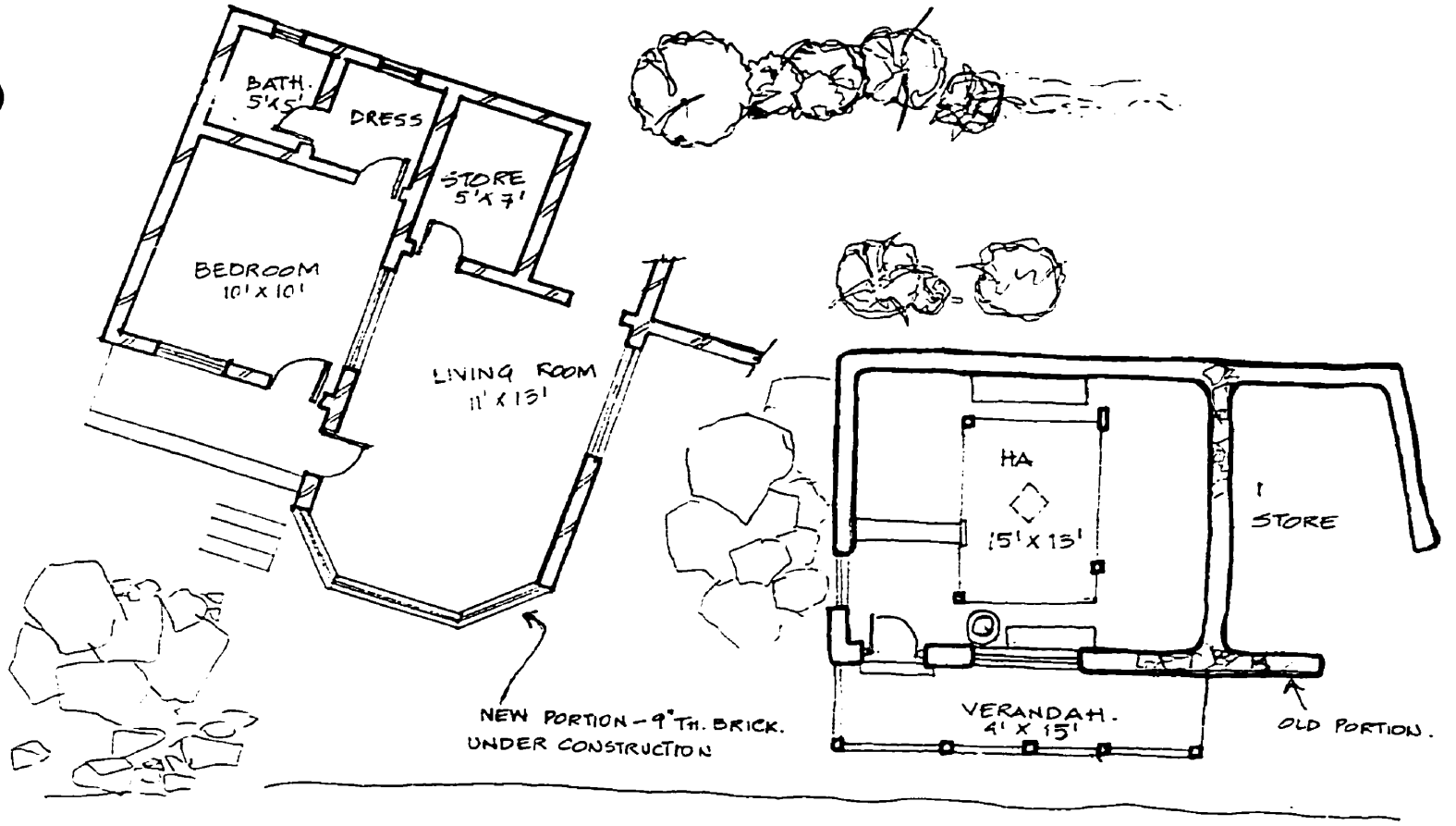
	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	c.c block	cement conc.	timber	wood frame	cement plaster	mud
Old portion	stone	cement	timber	wood frame	mud plaster int.	mud
					Cement ext.	

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
●	●	●	○	●	○	○		●	●	○	●	○	●	●
stone								concrete						

SCALE 1' = 1/8"	Case Study 5 Location: Brongshal village, Karimabad

fig.5-x *Case Study 6*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	9" th. brick	cement conc.	timber	wood frame	cement plaster	uinder const.
Old portion	13"th. stone	cement conc.	timber	wood frame	mud plaster	mud

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	●	○	●	○		●	●	●	○	●	○	●
stone								brick						

SCALE 1' = 3/32"	**Case Study 6**
	Location: Brongshal village, Karimabad

occasionally befriends. He decided to try brick for the construction because he thinks it provides good insulation, and they want a place which would be warm in the winter, however he still says that the new portion would largely be for guests and for sleeping for them, and that they would still use the old stone portion in the winters. He thinks people are constructing new houses and using new materials to build because there is greater wealth in Karimabad now because of the changes during the past ten years, and not because they need it. He thinks building a new construction of either concrete or brick is largely a matter of prestige. What he finds limiting about brick as a material is that it is not readily available in Karimabad, however it is cheaper than both concrete and stone (a 9" th. brick costs Rs. 1.80/Brick, (price current for July 1996).

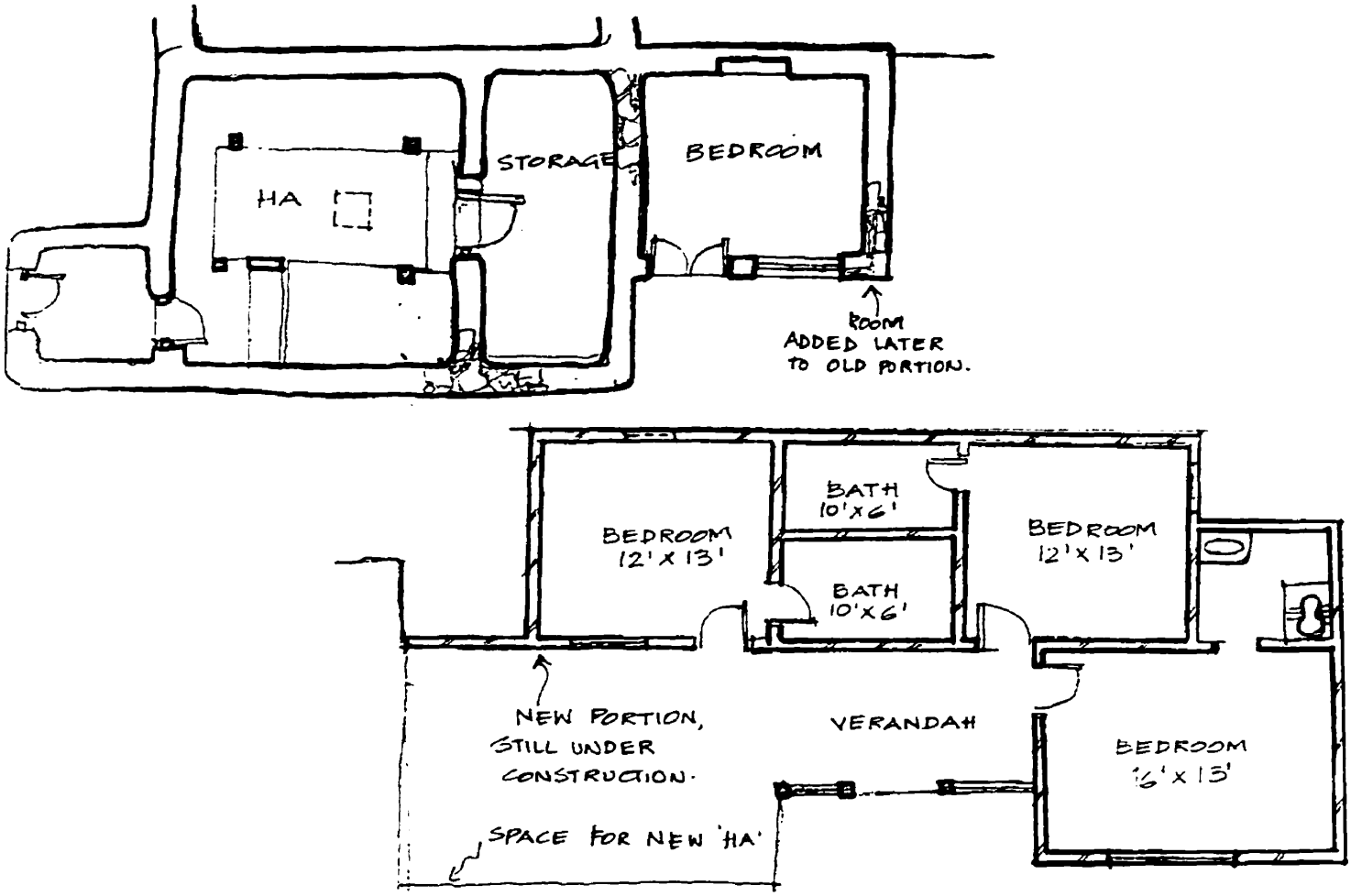
Case Study 7

This house is located in Kurukshal village and belonged to a family of eight. The owner owns agricultural land and two of his sons work seasonally in Karachi. Their house consists of two portions: the old portion is built in the traditional way, in stone, and with a ha and a storage space. Another room was built later adjacent to the ha, of stone. The newest addition to their house consists of three single rooms with attached bathrooms built of cement concrete blocks (fig. 5-xi). Only one bathroom has fixtures installed in it although there is no working sewerage system in place.

Both the owner and his wife expressed that they preferred the old layout. They built a new portion because they needed an extension for one of their sons who was getting married. The decision to use cement concrete block was largely his son's. According to the father, his son wanted to have an extension built fast and that was the main reason he chose concrete, as well as its cheaper cost.

Case Study 8

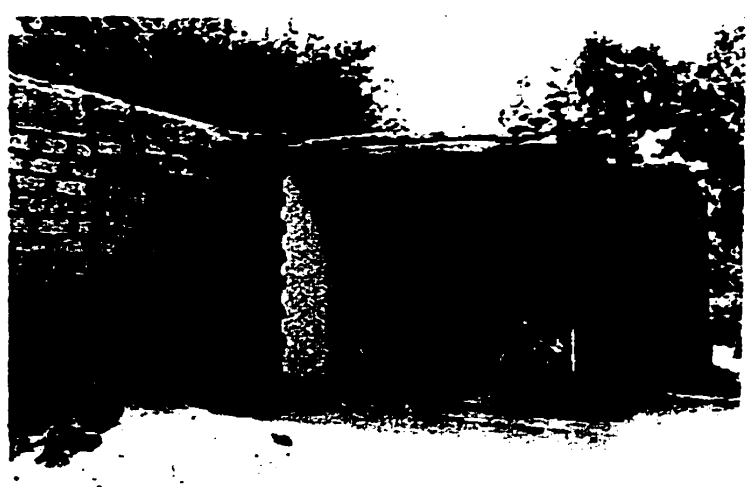
This house is located in Kurukshal village. It is inhabited by a family of four, a husband and wife with two children. They have anew house constructed of cement concrete blocks. They had built two rooms each 12' * 14' and a bathroom first, but the bathroom is not functional because they have don't have fixtures and do not yet have access to piped water supply. A wooden shack on the side of the house serves as a kitchen, which they hope to fully construct when they are able (fig. 5-xii). The house is unplastered and almost entirely unfurnished. They have moved to this house from their old house which had been



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	8"th c.c. block	cement conc.	timber	wood frame	cement plaster	mud plaster
Old portion	stone rubble	mud	timber	wood frame	mud plaster	mud

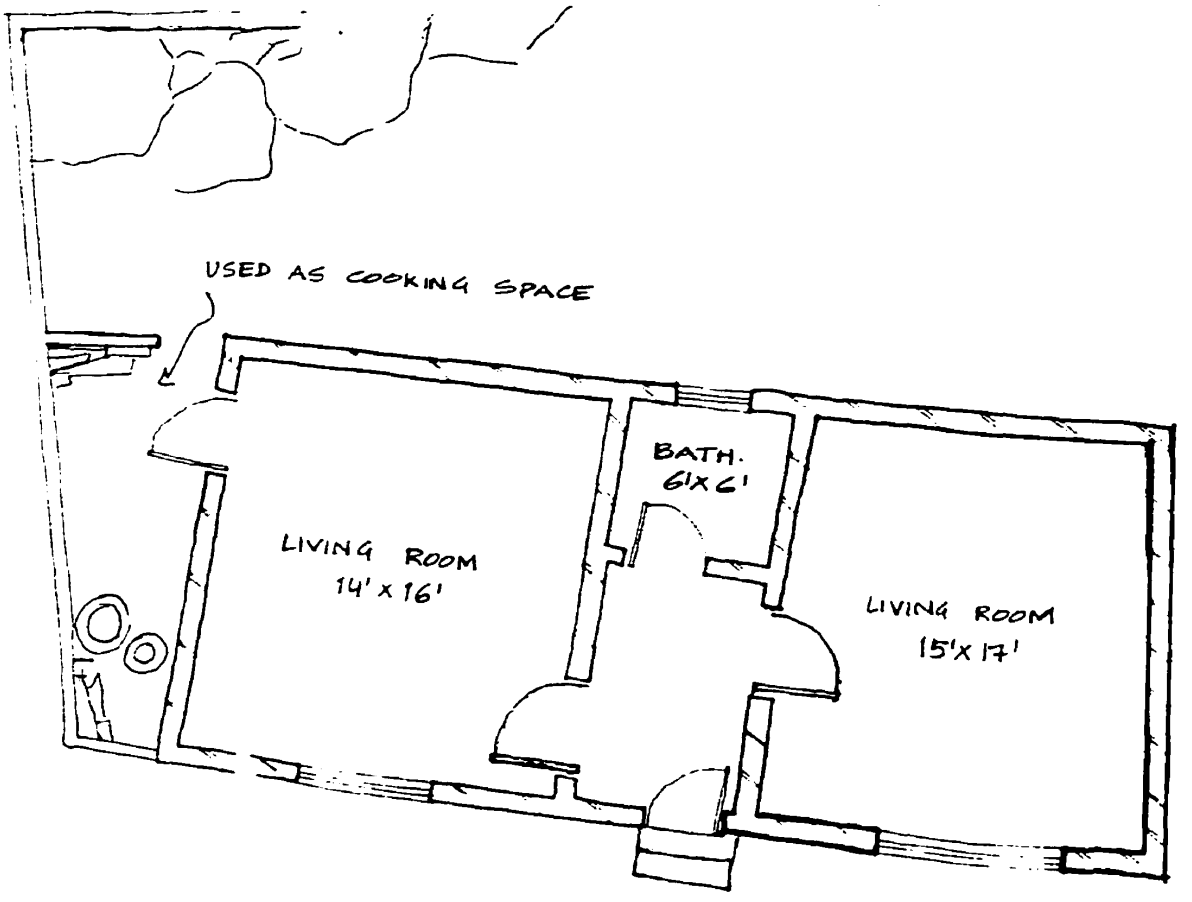
FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	●	●	●	○	○	○		●	●	○	○	○	●	○
stone								concrete						



SCALE 1' = 3/32"	Case Study 7 Location: Kurukshal village, Karimabad	

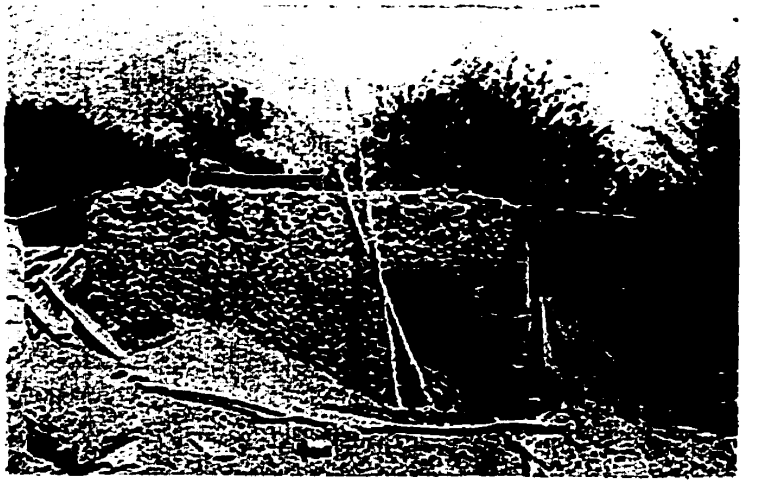
fig.5-xii *Case Study 8*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	8"th c.c. block	cement conc.	timber	wood frame	cement plaster	mud plaster
Old portion	N/A	N/A	N/A	N/A	N/A	N/A

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	○	○	○	○		●	●	○	●	○	●	●
stone								concrete						



SCALE 1' = 1/8"	Case Study 8 Location: Kurukshal village, Karimabad	

constructed of stone and mud, and located elsewhere in the cluster. They were given some help in building this house; they received free cement form the local community organization (KPSS). Their main reason for choosing concrete was that it was cheap, but also because they were getting support for its construction from the local organization. When asked what would be their ideal house to live in they replied that once this house was completed with finishes and furnishing this would be their ideal house. Right now work was stopped due to lack of funds but as more funds became available they will continue the work.

Case Study 9

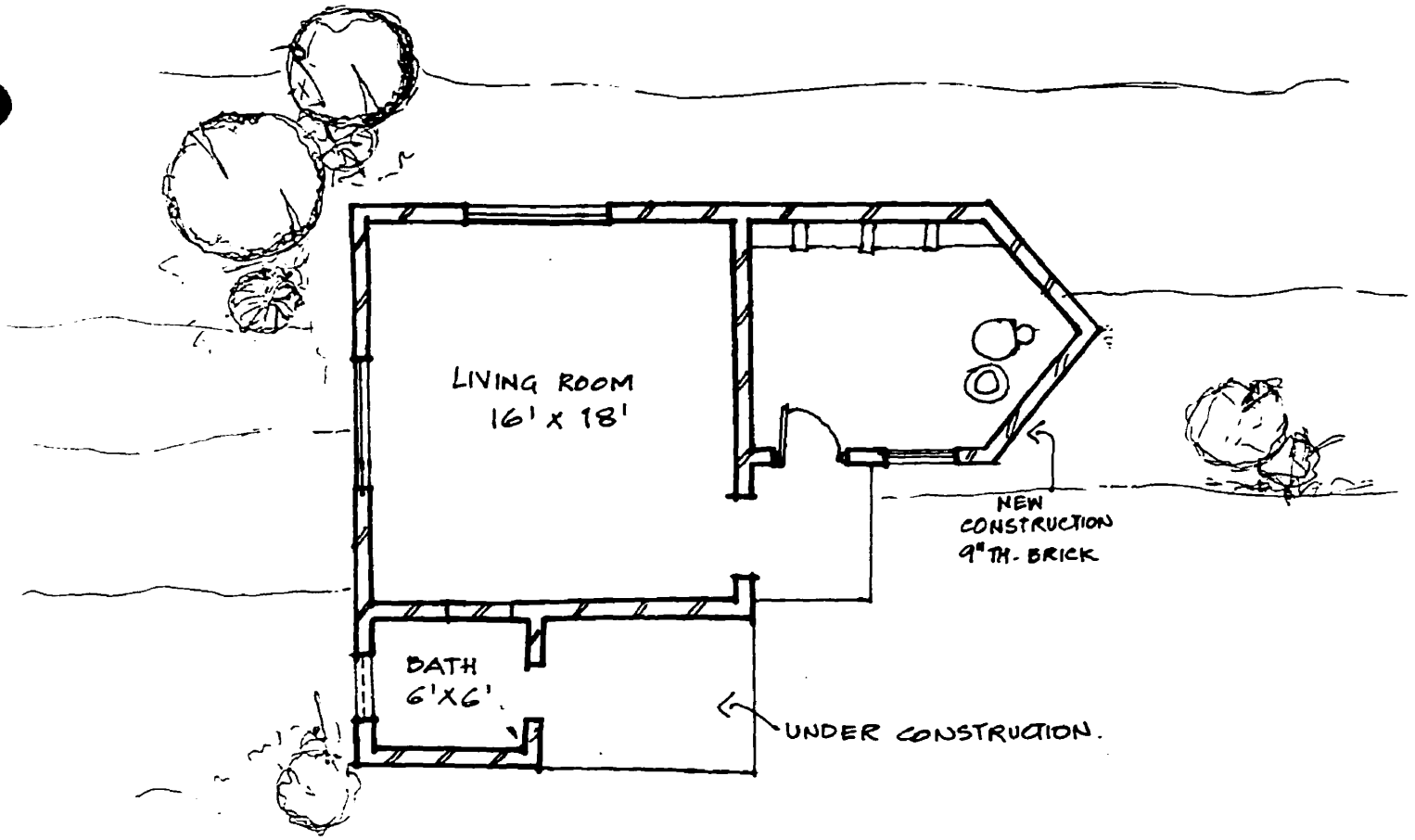
This house is located in Dhiramshal village and is inhabited by a family of five. The house is under construction and brick has been used in the new construction. The layout consists of a large single room, a kitchen and a bathroom (fig. 5-xiii). Another room is still being added, and the family is meanwhile living in a makeshift arrangement beside the house. Their reasons for choosing brick are that they found it to be cheaper than either stone or concrete, also the owner has some experience in brick construction. Their old house was in one of the old clusters, and they were moving out on their open agricultural land where the new house is being constructed.

Case Study 10

This house is located in Kurukshal village. The main respondents in this case were the mother and daughter of the owner the latter of whom was my guide during the duration of the research. Her mother also participated in the interview. They are a family of nine. Their house is one of the oldest in the old cluster of Kurukshal.

There are two new portions, one complete, and one under construction, both built in stone. The first portion is one big room, built in the style of the traditional ha but without its traditional function (fig. 5-xiv). When asked about the reason for building it, the respondents answered that it was a way of retaining the old traditional layout while also recognizing the fact that now it could not have the same functions of eating, sleeping and cooking for which they were building separate spaces like a kitchen, bathroom etc. in the second potion still under construction. The new ha appears to be primarily for receiving guests and entertaining. For the new ha they have utilized the services of various craftsmen working on the Baltit Fort to carve out similar motifs on their wooden columns and

fig.5-xiii *Case Study 9*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	9"th brick	cement conc.	Under const.	Wood frame	cement plaster	under const.
Old portion	N/A	N/A	N/A	N/A	N/A	N/A

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	●	○	●	○		●	●	●	○	●	○	●
stone								brick						

SCALE 1' = 1/8"	Case Study 9
	Location: Dhiramshal village, Karimabad

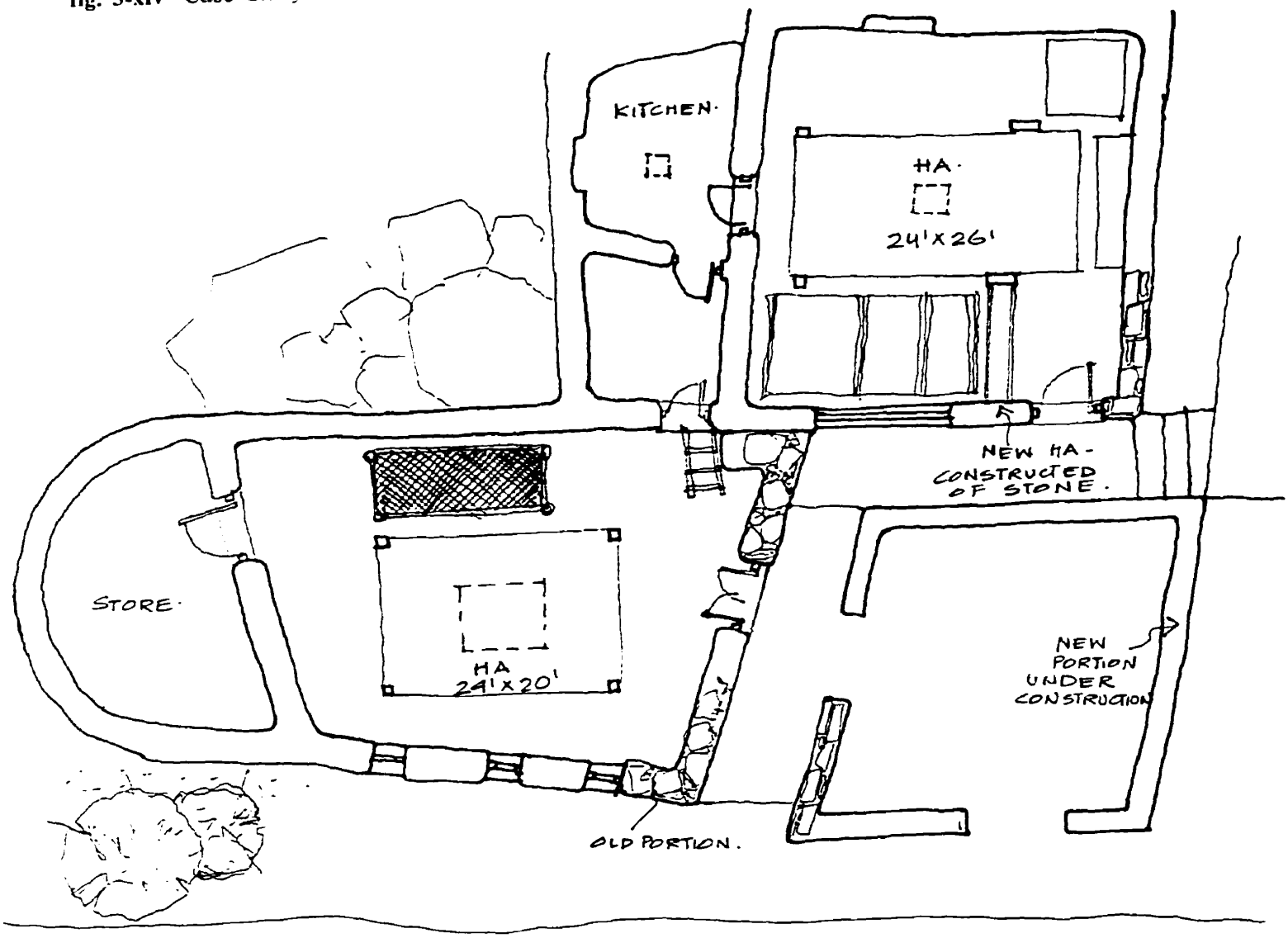
capitals. The major retention of traditional elements has been in the construction, with the traditional roof opening in the center of the room, and the division of the room into the three stepped levels, which traditionally identified the ha. Traditional woodcarving on columns and cabinets is also present, but with an interesting twist. The motifs on the wood are not traditional hunzai motifs but an invention of a local craftsman who is being trained by the local organization and has been brought over from a region other than Hunza (Swat). So the new ha is now not only a mixture of traditional Hunza and modern architecture, but also craft influences from a totally different region. The old portion of the house is built in the traditional style, but parts of it are in a very bad state, and crumbling. However the family still uses the ha in the old house for cooking and sleeping, the new ha being mainly reserved for guests.

Although her mother expressed, in the beginning her contentment with the fact that they had made their new extension in the old cluster, later she said "this house has too many flies, there is no garden here, this place is too close, there is dirtiness also and no open space.....". Ideally, the mother says, she would have liked to have a concrete block house constructed in the open fields, with separate rooms and attached baths, in addition to the traditional ha. Those are her 'ideals', but under pressure from KPSS they decided to along with the organization's plans. She also thinks that a cement concrete block house looks level, uniform and good from the outside. It became clear that ideally they would have liked a cement concrete block house because everybody else is building in it; block is cheaper; they would not have had to hire as much skilled labor; and, they would be able to build out on the open land, adjacent to their fields.

Most of the decisions regarding the materials and construction including the timber work were taken by the mother. According to her, some of the advantages of using stone is that they can recycle stone (but not cement),and much of the stone had already been available on their land so they did not have to buy it. However, for all the wall finishes, inside as well as outside, they have used cement plaster, which they say is more durable and looks cleaner and is easier to maintain, unlike the traditional mud plaster which had been difficult to maintain. It would keep "falling and creating a mess."

When I asked her about what she thought of the increasing number of foreign tourists in Hunza she said "... at first we didn't like them, because they don't know our customs, they would wear shorts....and we don't like that...but now its better, they take more care, and we like them, because they respect us and our ways....."

fig. 5-xiv *Case Study 10*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	12 th. Stone dressed	cement	timber	wood frame	cement plaster	mud
Old portion	rubble stone	mud	timber	wood frame	mud plaster	mud

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
●	●	●	○	●	○	○		○	○	○	●	○	○	○
stone								concrete						

SCALE 1'=1/8"	Case Study 10 Location: Kurukshal village, Karimabad

What is interesting to note about this case is that although the family would ideally have preferred a concrete block extension, maybe in another location, under pressure from KPSS, they have gone for the 'traditional' alternative. In addition to that KPSS has given them incentives like, jobs with KPSS, free planning advice, and free cement for the surface treatment of floors and walls. It is not surprising that considering these incentives they have given in to these pressures. The role of KPSS has been crucial in affecting the decisions these people have made about their households.

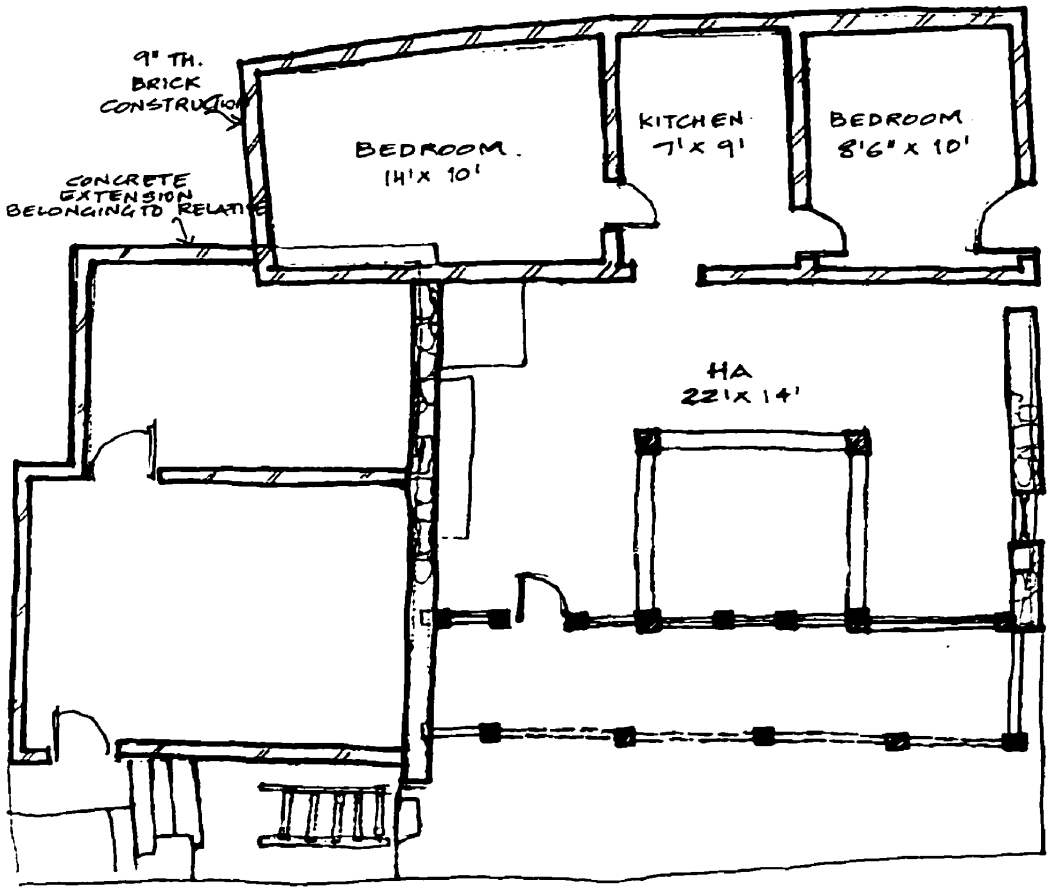
In this case, cost of material was not that much of a problem because stone was available from their land, they just had to hire a stone mason to work the stone. The cement was provided free from KPSS, for plastering and flooring. Although they used stone on the wall, they used cement plaster for exterior plastering as well as interior. So from the outside it is not possible to tell whether its a stone house.

Case Study 11

This house is located in the old cluster of Kurukshal village, just beneath the Baltit Fort. The house has significant historic value, and is estimated to be at least 300 years old. The family living here occupied it ancestrally as well. It is an important part of the conservation project being carried out by the local organization. The family is considered an important aristocratic family of Karimabad. Their sons are being educated in Karachi and during the summers they work as trekking guides for mountain-climbing expeditions as well as for regular tourists.

It is a two-story house with a traditional layout. They have added two rooms and a bathroom on the upper story which constructed of brick (fig. 5-x). There is another extension to the house which belongs to an uncle and it is constructed of concrete. When asked about their choice of material, the son of the house, who also works as tourist guide, expressed that they would ideally like to build a new house of concrete but there wasn't enough space in their present location. For making extensions they found the new materials, concrete and brick, easier and faster to build with although they did not integrate well with the rest of the house. The most used portion of the house is still the central *ha* where they continue to cook, eat and sleep.

fig.5-xv *Case Study 11*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	9" th. brick	cement conc.	Under const.	wood frame	cement plaster	under const.
Old portion	18"th. stone	mud floor	timber	wood frame	mud plaster	mud plaster

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	●	●	○	○		●	●	○	○	○	●	●
stone								brick						

SCALE 1' = 1/8"	Case Study 11
	Location: Kurukshal village, Karimabad

Case Study 12

This house is located in the village of Mominabad. It was built two years ago. The family's old house was located in what became one of the link roads to the highway, so the house was demolished by the government and the family was given compensation. The house, although constructed of concrete block, follows the traditional layout in plan. There is a ha surrounded by a kitchen and a store (fig. 5-vi). There is a verandah outside with a bathroom currently being constructed to the side. They don't have access to piped water supply and rely on the irrigation water channel passing by their house for water. They have plans to add more separate rooms later.

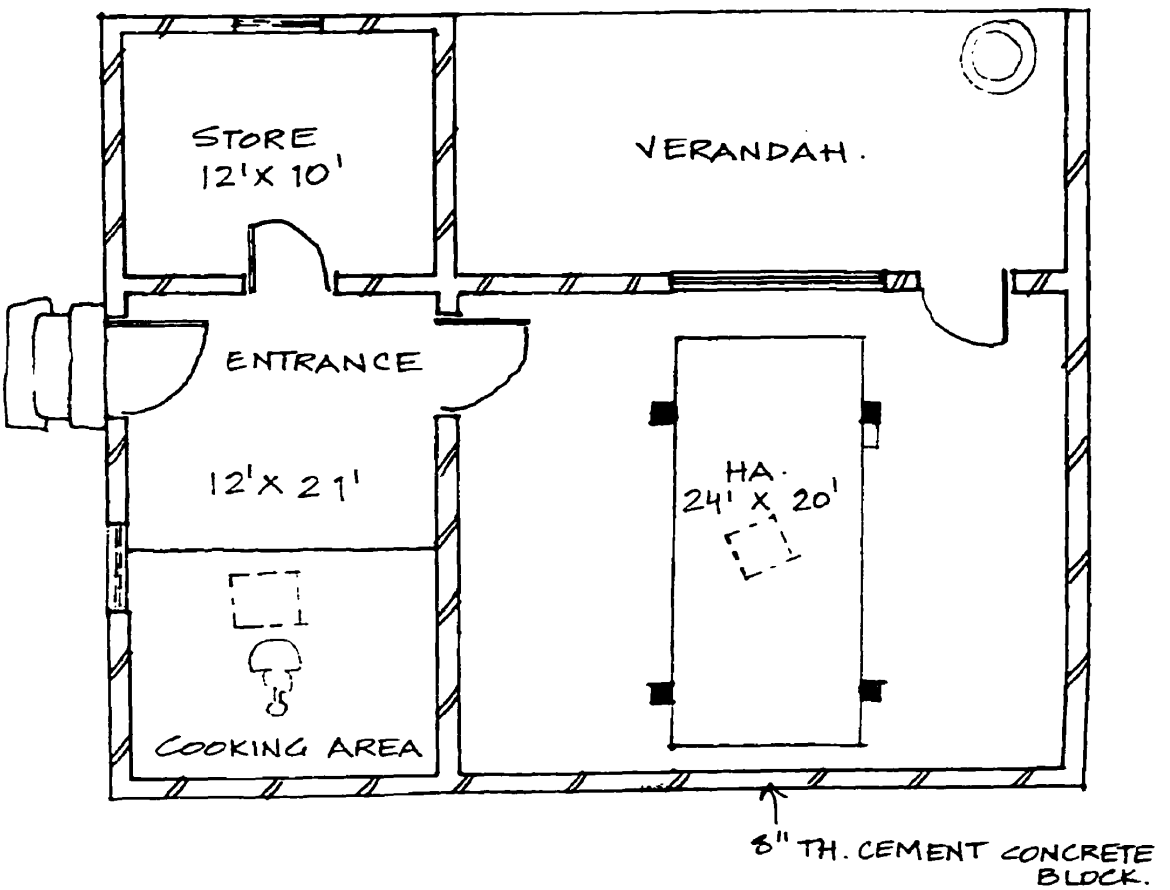
The head of the household says that although they had access to agricultural land and building materials in the form of stone, they built this house in concrete because his sons and the masons they hired advised it, saying it was cheaper and faster to build. His sons did most of the masonry and carpentry work. Two of his sons also do stone masonry work. He expressed that, to him a stone house looks much better than a concrete house and that this house became very cold in the winter as compared to their old stone house.

Case Study 13

This respondent was a former NLI(Northern Light Infantry) soldier in the Pakistani army who is also a professional musician. He belongs to the crafts village of Mominabad and the house is located in that village. Although the people of Mominabad are economically very poor, they are rich in traditional skills for example traditional stone masonry, wood carving, blacksmithing and the making of musical instruments. But the demand for these skills is now disappearing and people here now find it hard to make a living.

The respondent was posted at Siachin, the Northern military base, but he had an easy time there, because of his musical skills, and kept everyone entertained. Now, he usually entertains western tourists in musical shows arranged by the local hotels during the tourist months of July-August. For the rest of the year he plays at local weddings. The new portion of his house was built with stone approximately 5 years ago. He built the new portion because the old one was very old and falling apart. Aesthetically he prefers a stone house. He thinks it is durable and looks good, but they decided to put cement plaster on the walls because it is cheaper. The new stone addition is a single room with large windows, i.e. larger in comparison with the old structure (fig. 5-xvii). This room is kept properly

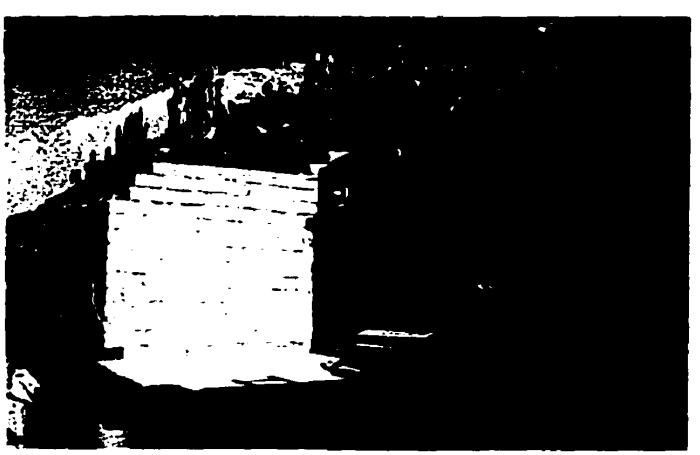
fig.5-xvi *Case Study 12*



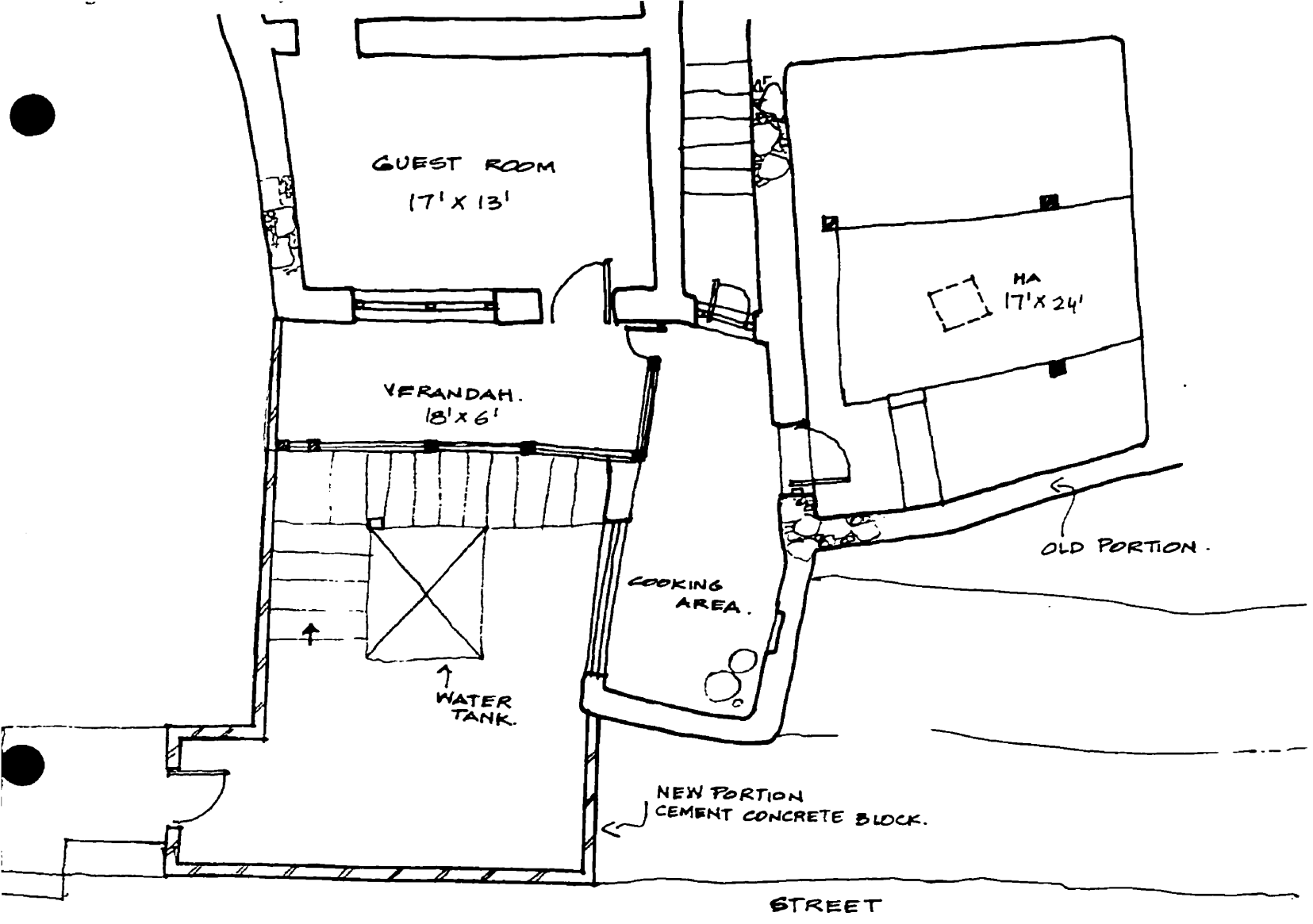
	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	8"th c.c block	cement conc.	timber	wood frame	cement plaster	mud plaster
Old portion	N/A	N/A	N/A	N/A	N/A	N/A

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	●	●	○	○		●	●	○	○	○	●	●
stone								concrete						



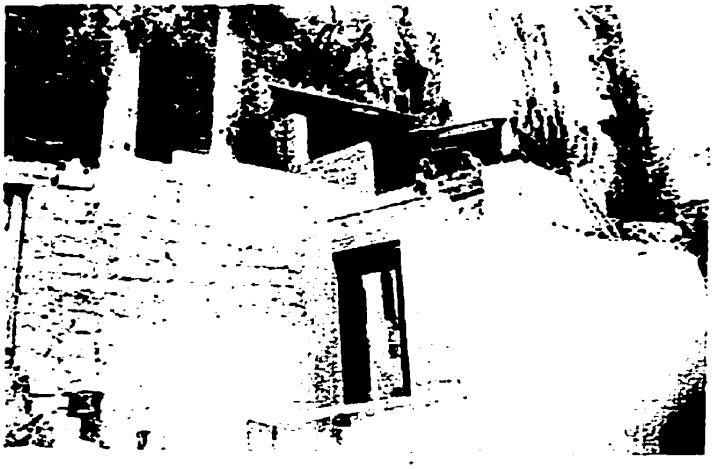
SCALE 1' = 1/8"	Case Study 12 Location: Mominabad, Karimabad region	



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	stone, c.c. block	cement	timber	wood frame	cement plaster	mud
Old portion	stone	cement	timber	wood frame	cement plaster	mud

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	●	●	●	●	○	○		●	○	○	○	○	●	●
stone								concrete						



SCALE 1' = 1/8"	Case Study 13
	Location: Mominabad, Karimbad region

furnished and clean, and used to receive guests. In contrast, the old portion, which is till the most frequently used portion of the house, is furnished in the traditional style, and is used for all major family activities i.e. sleeping, cooking and eating.

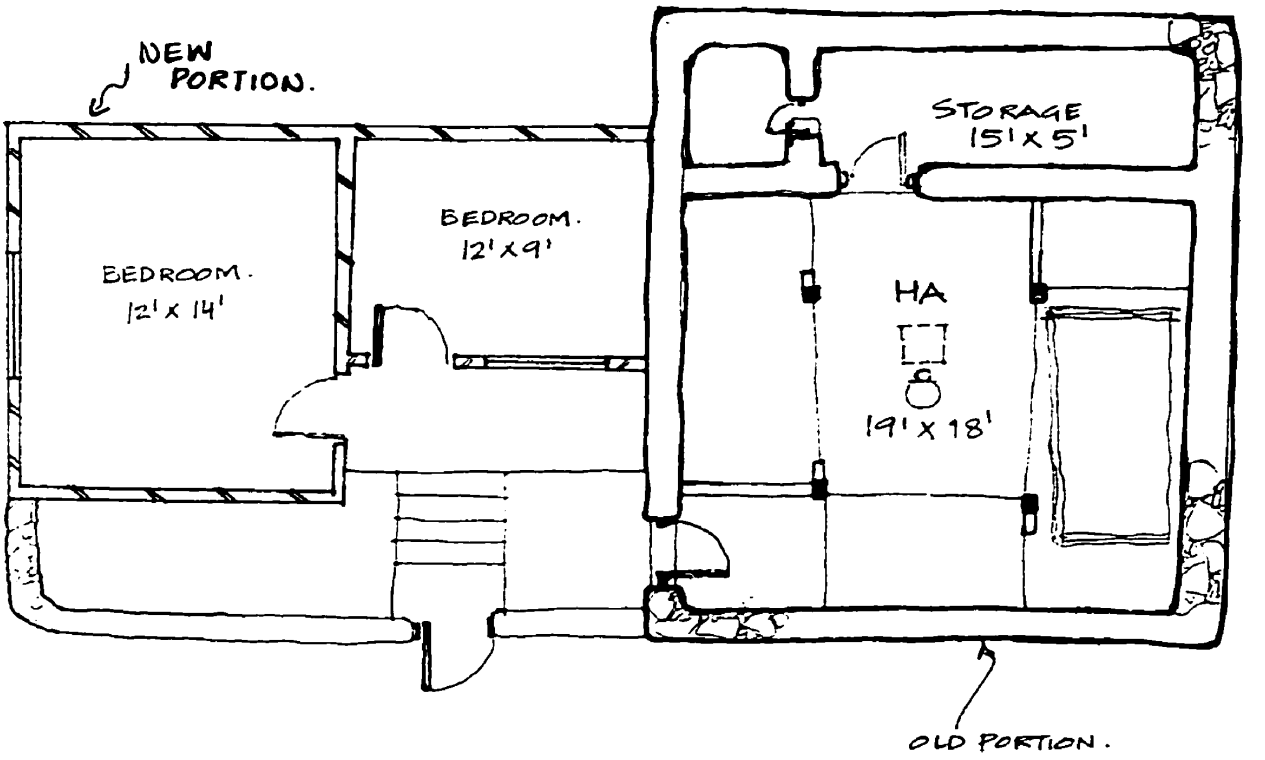
The most recent addition to his house is a concrete block boundary wall. According to him, the only reason he chose concrete block was because he wanted to construct fast. He has a large family. They do not have a TV, but only a radio in the house. The respondent has a lot of interaction with tourists because of his musical profession. He owns some agricultural land in Hunza. His eldest son works as a wagon driver in Rawalpindi. Availability of land is not a problem for him because he keeps building on his agricultural land. He was able to afford additions to his house largely through his army pension and savings.

Case Study 14

This house is located in Altit village and the owner of this house is a native of Hunza and he is a farmer like most locals. Previously he had worked in Karachi for 10 years as a construction worker. He has two children. They have an old traditional house in the cluster, with which they have constructed two additional rooms of cement concrete block (fig. 5-xviii). He says that the main reason for constructing the rooms was to have a proper space for visitors/guests. In building the room he and his son provided all the labor. He thinks that concrete block does not have quality, and the rooms become very cold in winter "....it becomes like ice in winter, so we put our food in there to refrigerate it...". He said that stone had become too expensive, and if they could have afforded it they would have built the extension of stone.

He also says that his region has a certain tradition of its own which he thinks should be maintained. He wants change, but does not want to lose his heritage either. He says the new houses should be a good blend of old and new.

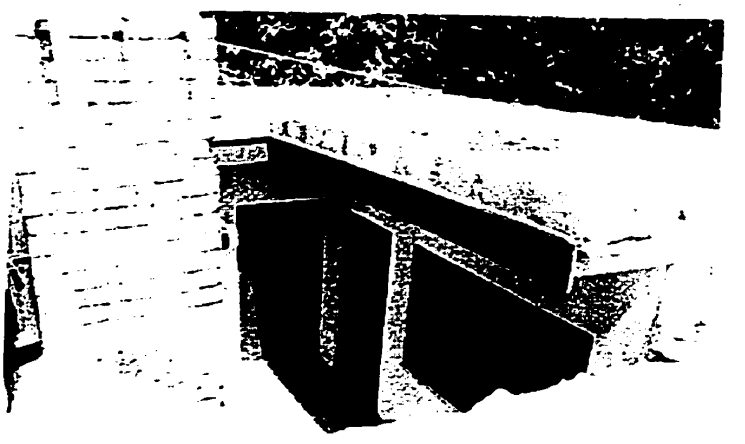
fig.5-xviii *Case Study 14*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	8" th c.c. block	cement conc.	timber	wood frame	cement plaster	mud plaster
Old portion	18" th. stone	mud	timber	wood frame	mud plaster	mud plaster

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	○	○	○	○		●	●	○	●	○	●	●
stone								concrete						



SCALE 1' = 1/8"	Case Study 14 Location: Altit village	

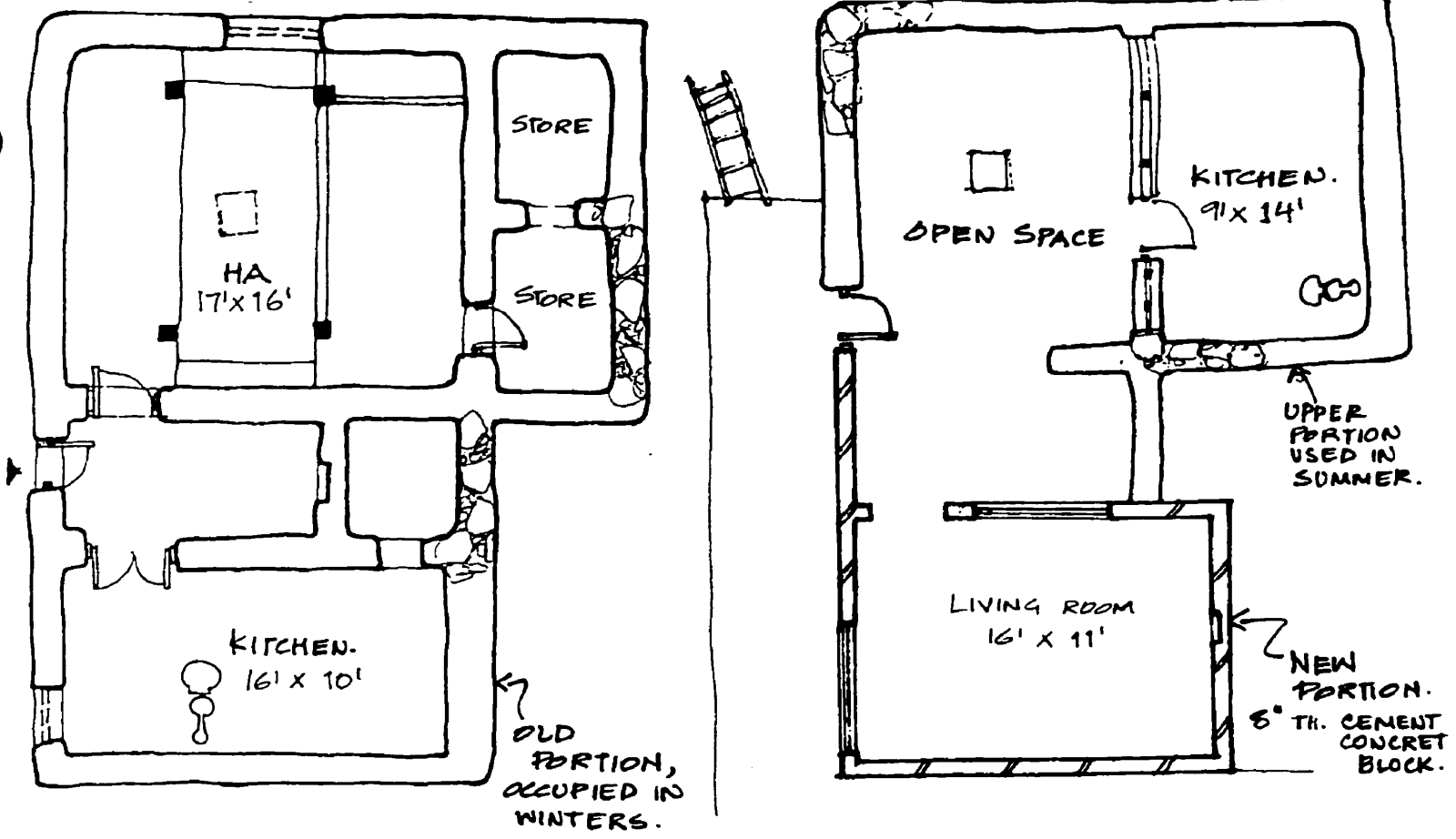
Case Study 15

This house was located in Altit village. This is a family of seven, the respondent is a widow. There is one earning member in the family, a son who works in Karachi. The other source of income is their agricultural land.

Their new construction is a single room constructed of concrete blocks on top of their old stone portion (fig. 5-xix). The construction is still not complete. Even though the windows have not been put in and the walls are unplastered, the room is being used by the family. Although their old stone portion is substantial in size and still inhabited, they have built a concrete addition because they felt the need for more living space, mostly for the son who works in the city. They decided to go for concrete as building material because it was cheap and construction would be fast. They contributed their own labor for cement mixing work, however masons were hired for the actual construction as well as the carpentry work.

Case Study 16

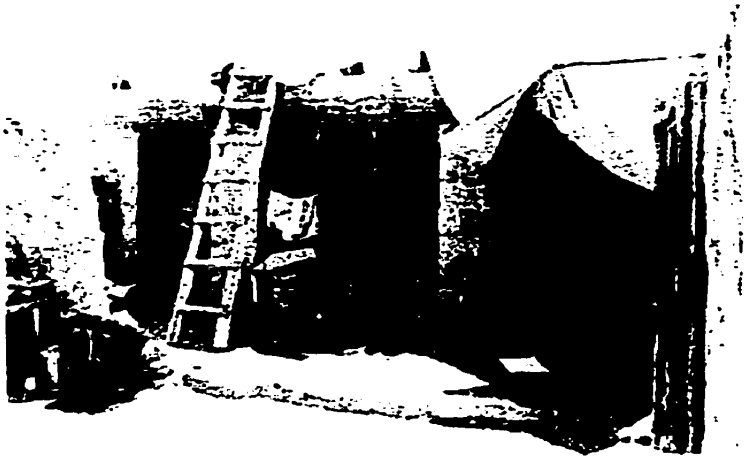
This house is located in Altit village outside the old cluster. It belongs to a family of eight. In this case the respondent was a shop owner and he also did some carpentry and masonry work. They have an old portion made of stone with the traditional layout, but all around it they have made extensions of concrete block. As opposed to the old part of the house (fig. 5-xx) which is constructed in the traditional way, the new portion follows a layout of single rooms with attached bathroom with large window space. The head of the household knows the trade, so he participated in most of the construction work. They chose the new material because they feel it is socially more acceptable, they want to be seen as modern and progressive. They moved out of the old cluster of Altit five years ago, and feel that living in a detached house with electricity and water is more convenient than their previous situation. Another reason for choosing concrete is because the number of masons learning this kind of construction is increasing. They find this trade easier and faster to learn, than going through a stone mason's apprenticeship. Most of the actual work on the house was managed and carried out by him and his family.



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	8 th. C.c. block	cement conc.	timber	wood frame	cement plaster	mud
Old portion	stone 12 th.	cement	timber	wood frame	mud plaster	mud plaster

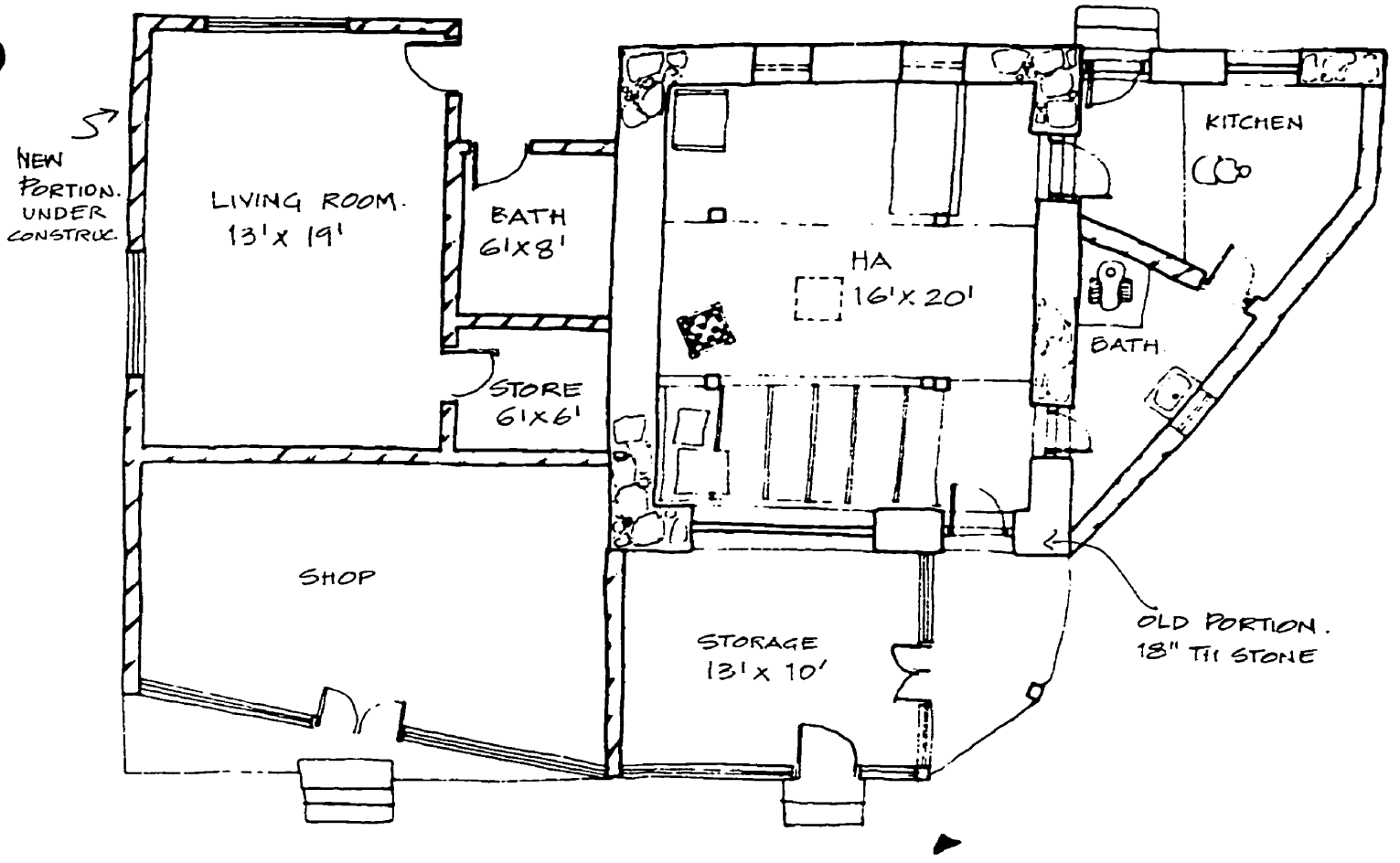
FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	○	○	○	○	○		○	○	○	○	○	○	○
stone								concrete						



SCALE 1' = 1/8"	Case Study 15
	Location: Altit village

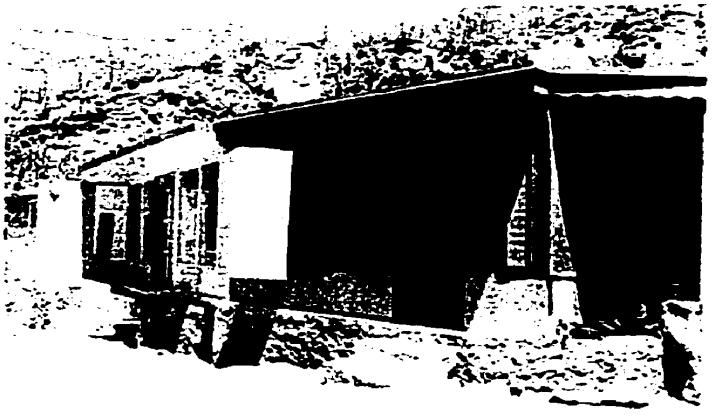
fig.5-xx *Case Study 16*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	8"th c.c block	cement conc.	timber	wood frame	cement plaster	under const.
Old portion	13" th. stone	cement conc.	timber	wood frame	cement plaster	mud plaster

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	●	●	○	○		●	●	○	○	○	●	●
stone								concrete						



SCALE 1' = 1/8"	Case Study 16
	Location: Altit village

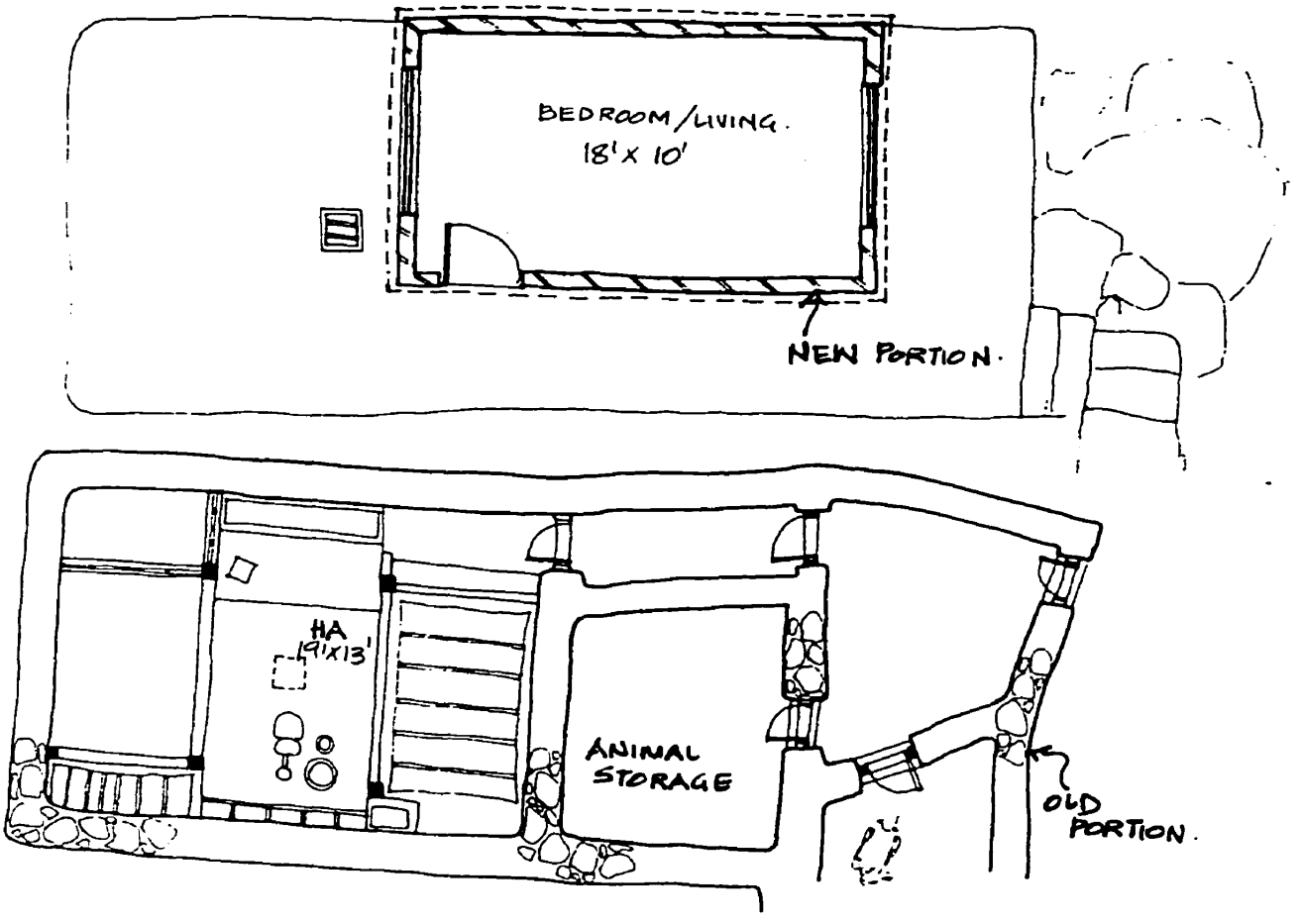
Case Study 17

This family has its house in the Altit in the old cluster. They have an old house with the typical layout, built in stone and mud mortar. They needed an extension because they wanted to have a more comfortable space where they could have modern conveniences like an electric fan and larger windows. The new portion consists of a single room constructed of cement concrete blocks, built on top of the old house (fig. 5-xxi).

They decided to build in concrete because it was cheaper. Although they would have liked to build in stone they found it to be expensive and not readily available. The fact that there were now more and more concrete supply yards in the area also helped them to make this choice. The family, both husband and wife, participated in the labor. They do not want to utilize the little agricultural land they have for building as it is still a source of subsistence. Building in concrete also required less skilled labor, which meant less cost, since the family could participate in the building. In this case there were primarily three factors which influenced their decision, all linked to cost: the cost of the material, the labor required in its construction and its availability.

Case Study 18

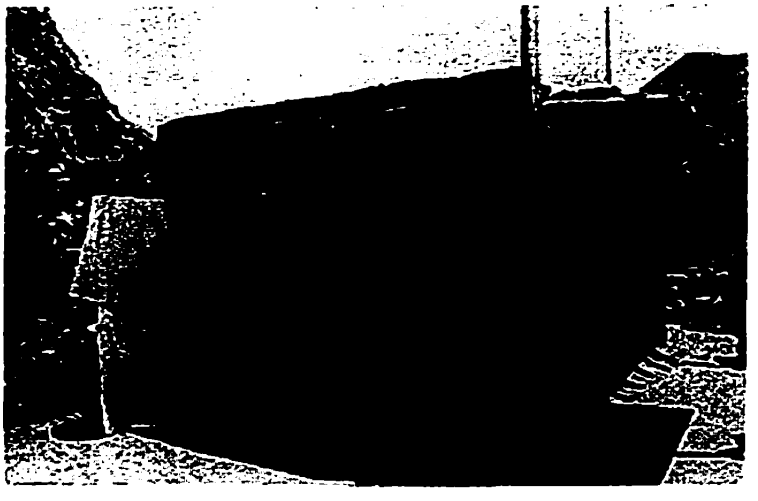
This house is located in Kurukshal village and belongs to a family of five. They have their old house in the old cluster of Kurukshal which is beneath the Baltit Fort. They decided to build a new house because the old house was no tin good condition. However the old house is still in use and they plan to spend the winters there. The new portion is also constructed of stone which was available on the owner's land, although now dressed stone has been used in the new construction. They have constructed two bedrooms, quite large in size, with attached bathrooms (fig. 5-xxii). The house is still under construction, particularly the bathrooms, however the verandah and bedrooms are ready for occupation. The owner and his family are presently keeping the house for guests visiting them from Karachi while they still live in their old house. They plan to add a new ha to the new construction. When asked why they did not opt for concrete as building material as many other people seem to be doing in Karimabad, the owner replied that although material and labour cost for concrete was cheaper, he preferred to build in stone as it was available on his land, and given the choice he would always prefer stone. He felt that this is what his people had built with for centuries and a house built of stone was stronger and more durable.



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	8"th c.c. block	cement conc.	timber	wood frame	cement plaster	mud plaster
Old portion	stone rubble	mud	timber	wood frame	mud plaster	mud

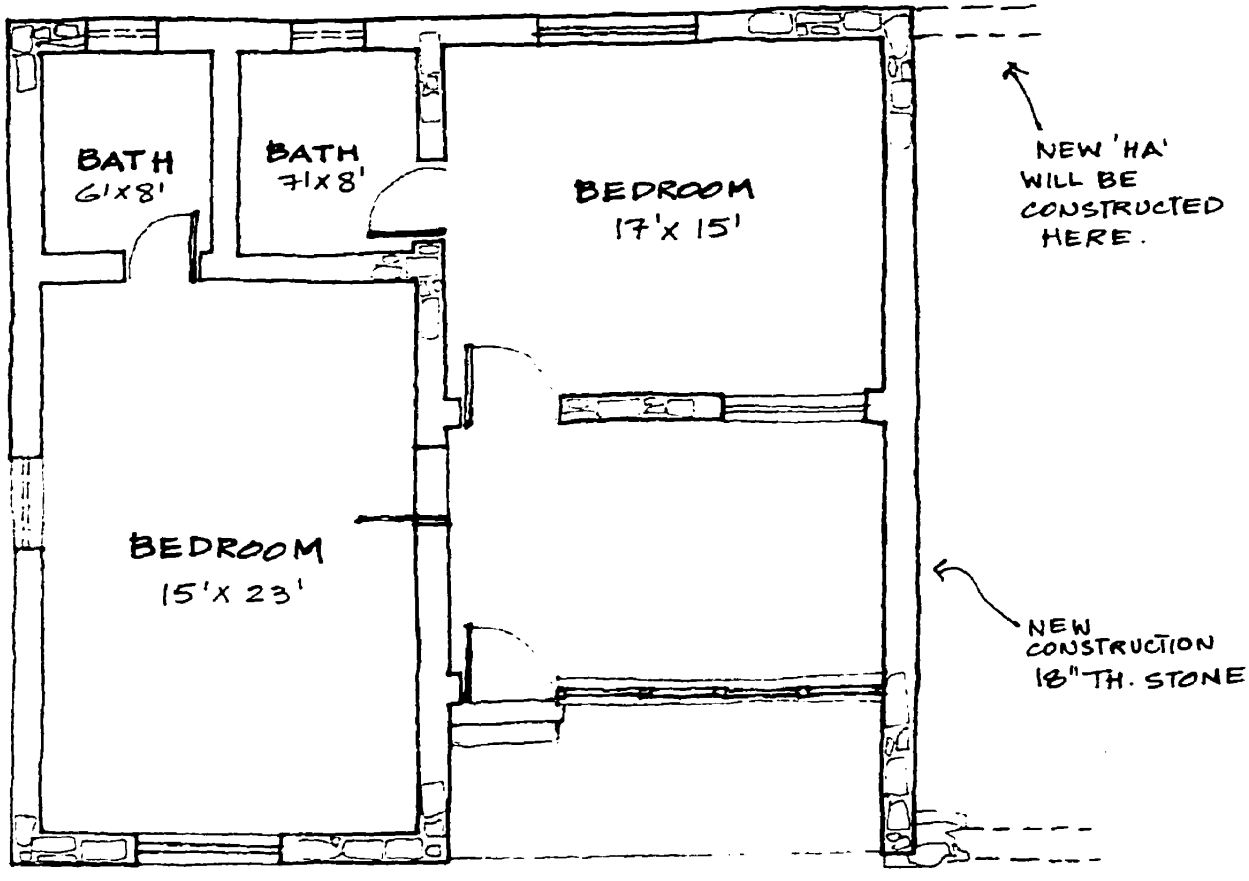
FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials						
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	○	●	●	●	○	○		●	●	●	○	○	●	●
stone								concrete						



SCALE 1' = 1/8'	**Case Study 17**
	Location: Altit village

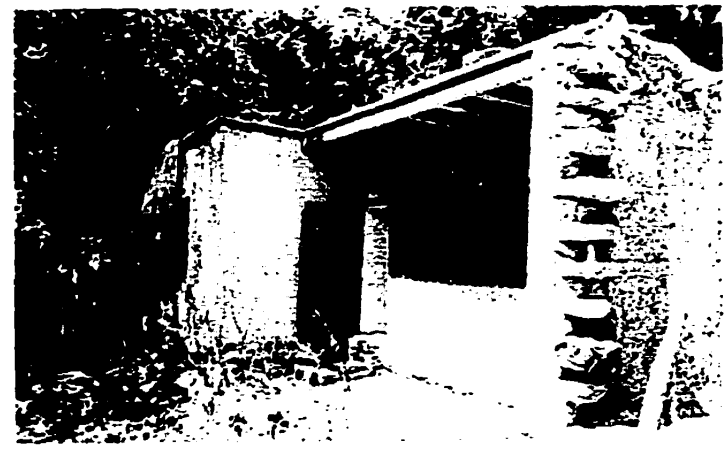
fig.5-xxii *Case Study 18*



	Walls	Floors	Roofs	Windows-Doors	Wall finish	Roof finish
New portion	18"th. stone	cement conc.	timber	wood frame	cement plaster	mud plaster
Old portion						

FACTORS AFFECTING CHOICE OF MATERIAL

Traditional Materials								New Materials							
Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time		Cost	Availability	Durability	Social Acceptance	Past Experience	Level of Skills	Time
○	●	●	○	●	○	○		●	○	○	○	○	●	○
stone								concrete						



SCALE 1' = 1/8"	Case Study 18 Location: Kurukshal village, Karimabad

5.4 Case study findings: *factors affecting choice of material*

The following is a summary and analysis of the findings in terms of the identified factors affecting choice of materials.

5.4.1 Cost

In general, out of 18 surveyed houses, 13 had actually built new portions with concrete blocks. The rest still retained stone as the main building material. Seventeen out of the 18 respondents felt that concrete is cheaper than stone. They measured cost by the price of the material per unit or block, in addition to the wages of masons and workers. Most people felt that concrete was cheap, not just because of the material cost, but because it required less masonry skills from the workers and could be constructed faster. Local costs of concrete are dependent upon the market prices of down-country. Concrete is imported from down-country and reaches Karimabad via Gilgit. When people consider the cost of concrete they usually add its transportation cost as well. Transportation cost has become cheaper since concrete block has started to be manufactured by small operators in Karimabad. However some cost on transportation is still incurred in transporting it from village to village on different altitudes. Primarily, people are considering the cost of the material and the cost of transportation, as well as the cost of paying workers.

The main economic considerations when building a new house appear to be the use of a material which would keep the cost down, while at the same time allowing fast construction. Most households count on at least one other source of income in addition to owning agricultural land. The ownership of their own agricultural land directly affects the choice of material as was determined through the case studies. The respondents who have taken the decision to build in stone have a greater area of agricultural land where stone is abundantly available. These respondents therefore save on the cost of material. However among the case studies where people have used concrete, at least 12 cases cited that it was they either did not have their own agricultural land in the mountains (except for some land adjacent to their house) or if they did, then they didn't have a sufficient quantity of stone in that area, therefore they had no choice but to opt for concrete. In some of the case studies people had sold off their agricultural land, usually to the local organization, and so they no longer had a local supply of wood or stone. Among other economic considerations, people considered the cost of labor as well as transportation. Usually for housing construction, most of the unskilled labour is provided by the householders themselves, which consists of

carrying, lifting and placing blocks for wall construction as well as the mixing of cement. Skilled labour is usually hired for detailed masonry work, especially for stone, and carpentry and wood work. Sometimes workers are paid in kind, i.e. food and accommodation rather than in cash.

5.4.2 Availability

Availability here means the ease of access to a material as far as both cost and quantity is concerned. For instance people who have a supply of stone on their personal land consider it to be easily available, and have usually chosen stone to build their houses. For those who do not have a personal supply of stone, concrete has been more practical, since it is available and being manufactured in the town. By contrast, another material, brick, which has been seldom used except for two cases, is not considered as feasible for construction because it is not readily or abundantly available. The price of a dressed stone block is Rs. 11/block, whereas for concrete, it is Rs. 5-8/block (fig. From July 1996). It should be kept in mind that it has become more expensive to build in stone right now because of expensive quarrying and transportation costs.

5.4.3 Level of Skills

Level of skills refers to the difficulty or ease of construction by the laborer and also the cost per mason or laborer. Almost all respondents agree that the level of skills required in producing a concrete house is lower than the skills required to produce a stone house. Stone requires dressing, chipping and careful mortaring. Concrete blocks are lighter and easier to handle, therefore people believe that concrete requires less skill (*karigari*) in construction than stone, and so the cost of labor is also less. Since most households provide their own labor in building their house, including women and children, this factor counts for them.

5.4.4 Time

The time factor means for most people the time taken to complete construction. Since most construction activity is undertaken in the summer months, and people prefer to start and complete construction during these months, the consideration of the time it takes to build with a certain material is important for them. Almost all respondents agree that concrete houses are faster to build, especially when they need to build a quick extension, for a son

who is getting married, for instance. Returning migrant children from the cities, in particular, want a fast solution to their newly acquired needs for separate spaces such as bedrooms, bathrooms and kitchens.

5.4.5 Durability

Many respondents when asked about their reasons for choosing to build in a certain material, stone, for instance, stated that they wanted a material which is strong, or which they *consider* to be strong and reliable. Therefore durability or the perception of durability was also considered as an influence. Among the selected case studies, sixteen out of the eighteen respondents considered stone to be more durable than concrete, even in the cases where concrete was the chosen option for new construction.

5.4.6 Social acceptance and aesthetics

The factor of social acceptance refers to the reasons for choosing a material which are concerned with, producing a certain image of the house, imitating a certain style or way of construction as a means to project status or wealth, or adopting a style for projecting notions of progress or modernity. The contact with cities down-country through migration has influenced people's ideas of what is socially acceptable and aesthetically pleasing. This was indicated in the case studies, where at least one household member worked seasonally in Karachi or Rawalpindi, whether it be the father or a son, and this member's influence had a significant role to play in decisions about building a new house or an extension to a house. The majority of the respondents felt that concrete houses are more socially acceptable, because they project modernity, progress and status, however, many households feel that since stone is now becoming more expensive, only the rich and well-to-do can build in it, so it now projects greater wealth. In certain cases even for people who have built extensions in stone, the ideal house is still seen as one which is built in 'modern' materials and in the 'modern' style. One of the respondents (case study 10)) expressed that she would ideally have liked to have a concrete block house constructed in the open fields, with separate rooms and attached baths, in addition to the traditional ha. Under the influence of the local organization, however, they decided to implement the traditional stone construction although they would ideally prefer concrete because of the look and finish it provides.

Another factor influencing social perception is the contact local people have with foreign tourists. Among the respondents whose family members had regular contact with tourists, in their work as tourist guides or trekkers, there was a noticeably greater desire to have a physical space which would project their modernity and progress. This factor is also related to income, since locals employed in the seasonal tourist industry can earn a lot of money in a short period of time. This income can then be spent upon the physical adornment of the house, with new or 'modern' materials.

5.4.7 Comfort

People's perception of comfort seems to be based upon not only their own physical experience of their environment, but also on the views being promoted by the local community organizations. In addition, the notion of comfort is also based on the comparison people make between the comfort in older and newer dwellings. For example, in judging the comfort of a concrete house people always compare it with their old stone houses, and what they had felt there. The local organizations have played a significant role in influencing people's ideas of which materials are more climatically comfortable by telling them about the value of their old stone structures, and how they function better in terms of thermal comfort. The new 'model' houses being built by the local planning organization are exclusively built of stone and the advice to build in stone is being given liberally to local people who come to the organization for advice on planning or design of new dwellings. Fourteen out of eighteen respondents believed that the old houses built of stone were more comfortable and warmer than their new concrete houses. People who had built new extensions in stone had also considered its comfort as a factor. Most respondents have complained about their new concrete extensions as becoming very cold during the winters.

CHAPTER VI

6. Emerging Patterns: *Analysis and interpretation of case studies*

The case studies presented in the last chapter give some valuable insights into the way people make decisions about their domestic environment. Although each case study represents one individual household, all of them together indicate certain common patterns and tendencies as far the use of materials and the housing layouts are concerned. It is through an analysis of these common patterns that we can arrive at an understanding of how they reflect the larger changes occurring in the area and what they mean for the future of the built environment in this region.

In this chapter, a collective analysis of the emerging trends is presented in terms of the use of new and old materials in main building elements like walls, floors and roofs, the changes in housing layout and changes in surface elements like windows/fenestration and furnishings. The case studies brought out another issue which is the integration of the old and the new in the newly built housing. This has been looked at in terms of what has been rejected and what has been retained and revived from traditional architecture, as well as the new forms which have emerged out of the marriage of tradition and modernity.

6.1 The use of new materials

As was observed that the most commonly used new material for walls is cement concrete block in cement mortar. These walls were observed in various stages of construction according to the resources of the individual households, namely unplastered, plastered, and plastered and painted. Most houses constructed of concrete block were left unplastered on the outside and the interiors were usually plastered. People generally agree that building walls of concrete block removes an immediate need for plastering before moving in, as is required in stone. It is also low maintenance, as they do not have to keep replastering all the time. This is the reason why many people are now applying cement plaster in renovating old stone walls as well.

Concrete has also been used in the construction of floors. All new floors are made of cement concrete in the new houses as well as the renovation of the old ones. Cement

concrete was not observed in roofing in any of the case study houses, in the form of an RCC (re-inforced cement concrete) slab, although this kind of roofing was seen in the commercial building of the area.

The cement concrete block is seen as a cheap alternative to the traditional stone block. There is a certain social image associated with having a concrete block house. It is a reflection of the kind of houses people have in cities, and the owner of a block house is seen as someone connected to the modern urban world. For example, one of the respondents, having recently constructed a concrete block room beside her old structure, cited her main reason for building it of this material: "..to have a space which would be appropriate for receiving guests, especially from down-country...". The importance of having a guest area which would present a certain image to outsiders, especially ones from urban areas or foreign countries, also shows the intense exposure this region is undergoing to the outside world; mainly through tourism, both local and foreign.

All the case study houses built in concrete have at least one household male member, who has been or is at present working or studying in the cities down-country. Some of them are ex-army servicemen. In at least two cases, the respondents admitted to having learnt about concrete construction from having lived in the city and being directly involved in the construction business. In other cases, even those who have never been out of the region, largely the women, there was still a desire to have the kind of house which they imagined or watched on TV to be built in the cities.

New construction using concrete has been influenced by mainly the factors of cost, the increased supply and availability of concrete in the region and the contact with urban areas. Through interviews with masons and contractors it also seems that more and more Hunzakuts are migrating seasonally to Karachi and Lahore, learning the construction trade there, and coming back to their region with new skills which they are now promoting and selling. Building in the new material has also had a significant effect on the layout of the new houses and new extensions built with old portions, discussed in section 6.3.

6.2 The use of traditional materials

6.2.1 Stone

As has been mentioned in chapter III, stone has always been the traditional building material in the region. Stone is still used prolifically for house construction, but its form

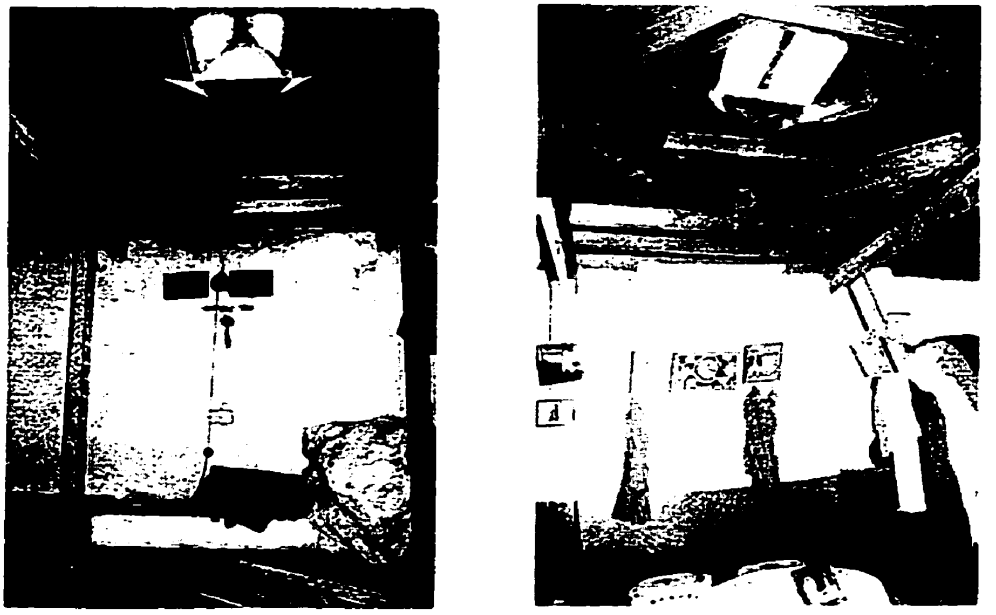
and use has undergone changes. Previously traditional buildings were built with rubble stone masonry and there was usually no mortar added. Now, stone is chipped and dressed and made into a block. Mud or cement mortar is usually used in building a stone wall. Lime plaster is also used to add exterior keys to the stone to make it look good. An emerging practice has been the application of cement plaster on stone walls, particularly in the interiors, instead of the traditional mud plaster and lime wash.

Most respondents who have built their new houses in stone have primarily made the choice based on practical reasons, although aesthetic reasons have some importance in the decision-making process. The cost of stone is an important factor since quarrying and dressing of stone is expensive. Most people who have built their new extension in stone have the material available on their land in the form of undressed rubble. Most respondents considered stone to be a more durable and long-lasting material as compared to concrete. Some of them also mentioned the fact that it did not require plastering and looks 'beautiful'. The use of stone has been integrated in interesting ways with new materials like cement plaster, or keys with cement and lime plaster on dressed stone laid in mortar. In some cases there is an attempt to hide the stone structure by plastering over with cement plaster and making keys to make it look like concrete block. This treatment has often been done in older stone walls.

6.2.2 Wood

Wood is still the most preferred material for roof frames as well as door and window frames. Among the elements of traditional architecture which remain unchanged, the roofing system is probably the most significant. The traditional layout of timber beams and rafters is still the most commonly used system. Most respondents did not consider any other roofing material because of lack of choice but also because the traditional roofing is one of the strongest identification marks of local building systems and it does not seem as if it will be easily abandoned. This kind of roofing, with thick mud plastering on top is still considered warmer and stronger, by the households. Most new kinds of roofing, usually RCC slab, was observed in commercial buildings, small shops and hotels. According to the owners the main reason is that this kind of roofing is more conducive for commercial purposes as it allows vertical expansion. On the contrary, for most domestic dwellings, people did not express any particular need for vertical expansion, except for the usual second floor which has traditionally been constructed with the same timber roofing frame.

This works well for them. Among the case study dwellings, all houses, whether built with stone, concrete, or brick, had the same kind of timber roofing (figs. 6-i, 6-ii).



figs. 6-i, 6-ii *Traditional timber roofing in the ha.*

6.3 Changes in housing layout

Concrete construction is integrated in interesting ways with older building systems and crafts. Commercial and institutional building in the area has influenced the way concrete is being used. Concrete blocks have been used for either building new houses, or new extensions to old stone houses. New extensions are usually built in the form of added single detached rooms, bathrooms, kitchens and living spaces in the form of the ha. Where cement-concrete block was observed as the building material there were also changes in the layout and design of the new extension.

When considering the additions and extensions that people have made to their old houses, the new construction shows a marked difference in layout from the traditional layout. Some of its features were retained but not in all cases. The major difference in layout is in the fragmentation of spaces for different activities. Previously, houses built of stone would usually be built in their entirety, with the main traditional space, the ha and its adjacent ancillary spaces, storage, cattle shed. Now the new house built of concrete blocks is not built in the same way. It allows more room for flexibility in terms of planning in stages, but along with this the traditional relationships between inter-related

spaces is also disappearing. Spaces now become detached and disconnected from each other. The new materials require a new vocabulary in terms of space articulation. People juxtapose their own, older sense of space demarcation over this new material, with interesting results. For example where previously the traditional ha was used for the three main living activities, sleeping, eating and cooking, now spaces for these activities have been separated to reflect the design of a typical urban house. There are bedrooms, attached bathrooms and kitchens, as well as separate dining and living areas. Where previously guests were welcomed into the space where the entire family lived, ate and cooked, now they are taken to separate areas which are carefully furnished in the style of urban houses found in cities like Karachi, Rawalpindi or Lahore.

However, the traditional ha is still retained but with some changes. The layout essentially remains the same but it is not used in the same way anymore. The central opening in the roof which acted as a chimney for smoke is now used as a covered skylight since the space is no longer used for cooking. In addition, there has been a change in the way the ha is furnished and decorated. In one of the cases, the new ha has been constructed of cement concrete blocks with timber roof, the floor is now also concrete finished, and the kitchen has become a separate detached space.

Usually people's priority when deciding which kind of space to build first appears to be a single detached room, next is the bathroom, even though it takes longer to complete the bathroom with fixtures and plumbing. A kitchen would sometimes be added later on. This indicates that decisions about what kind of space is to be built are based on factors like affordability and social mobility, rather than need. It could also mean that those two factors are what translates into need for these people, in other words, the need to express social mobility, once a certain level of income has been acquired.

The rising need being felt by the local people to have modern services is reflected in the number of bathroom extensions being constructed. Almost all bathrooms observed as new extensions have been built of concrete. Previously people used the outdoors as a toilet. The use of cement concrete has made it possible to have a small, fast construction to serve as a toilet. One of the most significant introductions of new technologies in the bathrooms has been the pour-flush latrine, which has been vigorously promoted in the region, and subsequently adopted by the people. The promoting agencies have been the Aga Khan organizations, and they have provided people with materials to build their toilets, on subsidized rates. With this innovation have also come the use of other materials like sinks,

ceramic tiles, and bathroom mirrors (see case study 2). Again, the value of these conveniences is judged mainly by the impression they leave on the visitor and the surrounding community. In some of the case studies, concrete bathrooms had been elaborately finished and decorated but were not in active use, as there is no sewage main to connect to in the village. In other cases, even though the household cannot yet afford bathroom fixtures, separate bathrooms have been constructed and are lying unfinished and unused, or used as storage space. In yet other cases, although new and elaborate house extensions have often been made, a bathroom has not been included, and the residents still go to the fields for this purpose. Usually when asked about their priority in building spaces, the bathroom was second or third on the list, the first priority being the building of a single detached room.

6.4 Changes in fenestrations

The previous tradition of fenestrations had followed the trends set by the vernacular of the region. Openings, doors and windows were framed by elaborately carved wooden frames. There were sometimes balconies and projections, projecting outside in the style of the Arab *mashrabiyya*..[1] It is true that many of these styles showed influences of many neighbouring regions, Central Asia, Persia and China. The size of openings was small and narrow, probably a response to extreme weather conditions. However, a great deal of effort was spent on the elaborate articulation of exterior frames.

In contrast, openings have now incorporated the new materials of glass and modern, finished wood and steel frames, in standard sizes. It is important to note that modern construction comes in a package. A concrete block wall necessarily (seems to) requires a 4' x 6' wood framed, glass paneled window, and a 7' high door, where the older doors were only 4'-5' in height . Most respondents seem to like the idea of larger windows, especially the younger generation, who felt the older openings were too dark, and they wanted to let in some light and air. However, large amounts of glazing on exterior facades, by those who can afford it was observed. An important reason for the adoption of these kind of openings is also the abundant availability of standard size frames and paneling. The advice of the local mason is a significant factor in the adoption of the new kinds of windows and doors and since most of them have been trained and working in either Gilgit or Rawalpindi, they bring ideas of modern construction from there. Hotel architecture in the

[1] The mashrabbiya was a wooden projection in the form of a covered balcony, with elaborately carved wooden details, which was used extensively in traditional urban housing in the Middle East

region is an important influencing factor. Many of the local people own shops and hotels along the main tourist and transportation route and inevitably their houses also follow the same pattern of exterior articulation. New hotel architecture in Hunza displays huge expanses of exterior glazing (see fig 6-iii, 6-iv.), and invariably such trends are being repeated in the domestic architecture as well. There is a new local vernacular developing which is a mixture of local and foreign influences, with large glazings, ornamental overhangs, revived wood craftsmanship and the use of color in facades. (see figs 6-v, 6-vi).

6.5 Finishing materials and furnishings

The finishes used in the house are an important statement about the status of the owner in the community. It is through this that people express their hopes and dreams of the ideal look they want their houses to have. New materials have been used mainly in wall finishes in the form of cement plaster, where previously mud plaster was used. In almost all the case studies cement plaster has been used as the finishing material, whether on stone or concrete, or brick walls.

Traditional Hunzai houses used typical furnishings. Most storage areas were for furnishings kept for practical uses; bedding, warm clothes, cooking utensils. Possessions were few and not usually kept on display. Everything had its use, there were very few things which were kept purely for display purposes. The recent economic changes have lead to an increase in income which has allowed people to have a surplus with which to buy extra possessions. For example one of the respondents (Case study 2) expressed the fact that her brother, the only earning member of the family had been saving his earnings for the past two years in order to have just the kind of fully furnished house that they have right now. These possessions have then become, apart from their pleasure and entertainment value, symbols of prosperity and status to be displayed for visitors. The new houses and their furnishings present a striking contrast to the old traditional dwellings. Although the main living space, the ha has the same spatial configuration, there has been a dramatic increase in the display of possessions for purely decorative purposes. For example the respondent in one case study (10) likes the newly built ha in their house, and enjoys receiving visitors there, where there is a stereo system, a large elaborately carved wood cabinet proudly displaying her embroidery pieces, their crockery bought from near the Chinese border, and the photographs of her family. The central ha in another respondent's

figs.6-iii,iv *New hotel architecture in Karimabad*

figs. 6-v,vi *The new house facades with large glazings and bay windows*

house has an impressive, central chandelier piece that immediately catches the attention of the visitor (fig 6-vii).

6.6 The integration of the old and the new

Old traditions and new influences have combined in Hunza to give rise to a mix of ideas and images where housing is concerned. Old and new building materials are frequently combined in housing, their choice depending upon various factors like cost, availability and aesthetic appeal. In the case studies most respondents have built new extensions of concrete detached rooms, which are connected to the old stone portions. In other cases concrete has been seen to be used in works like boundary walls, ledges, stairs, while the main new house is of stone construction. When asked the reason for this, the owners who built their main portion in stone usually responded that they had reserved stone, which they considered the better material and which was more expensive, for the main part of the house (usually the ha) while concrete was used in the less important parts to save on cost. Such houses present a very visible reminder of the uneasy marriage of tradition and modernity that is taking place in the region. Old materials may represent the ideal of beauty and durability, yet new materials are adopted due to economic factors and the pressure to adopt new ideas, and to appear 'modern'.

The modern ha is probably one of the best examples of the way new influences have gradually encroached upon the traditional space, and modified it into a hybrid of the old and new. However, along with this, the ha 's traditional function has been lost, as not only the physical and communal, but the symbolic and spiritual center of the house. Now the new ha is mainly used as a space for receiving guests, or the place where the older members of the household prefer to spend their time. Although the old elements, the central roof opening, the three way division of spaces, the four supporting columns and the storage spaces are still retained in the new layout, they no longer retain their uses and seem to have acquired a new ornate value, purely decorative.

Another integration of old and new materials has been the use of cement plastering over old stone structures, and sometimes even on new. In an interesting case, the owners have plastered their stone walls with cement plaster and then made a stucco pattern which makes the house appear from the outside as if it is constructed in concrete. When asked

the reason for this they expressed that they wanted to convey this impression deliberately so that people will think they live in a concrete house.

One of the interesting findings was a revival of local wood crafts and craftsmanship. Many houses were observed to have elaborately carved wooden columns and capitals, sometimes showing motifs which are not even indigenous to the region. People who identify with the traditional ruling family largely due to being associated through family or work, like to retain some traditional elements of housing, especially in the facades. Another factor influencing the retention of traditional elements has been the recent propagation and patronage of traditional crafts and architecture by the local Aga Khan organizations. Families close to the Aga Khan network organizations, or working for them are adopting the plans and designs made by them for new constructions. Most traditional elements are in the form of traditional woodwork on doors and windows, balconies although they are now combined with the new concrete construction (fig 6-viii). As well, the plan of the house shows a retention of typical Hunzai spaces. During the survey this was deduced by observing the family background of the inhabitants, their social connections and the physical appearance of their houses, as well as their reasons for using or retaining certain traditional elements.

The retention and revival of these old elements of traditional architecture are an important statement on the part of the people that they want to retain a link with their past. Despite the overriding effects of the new economy and its accompanying socio-cultural influences, local people still feel proud of their architectural, as well as their cultural heritage, if even in a token way. It is still important for them to be seen as Hunzakuts.

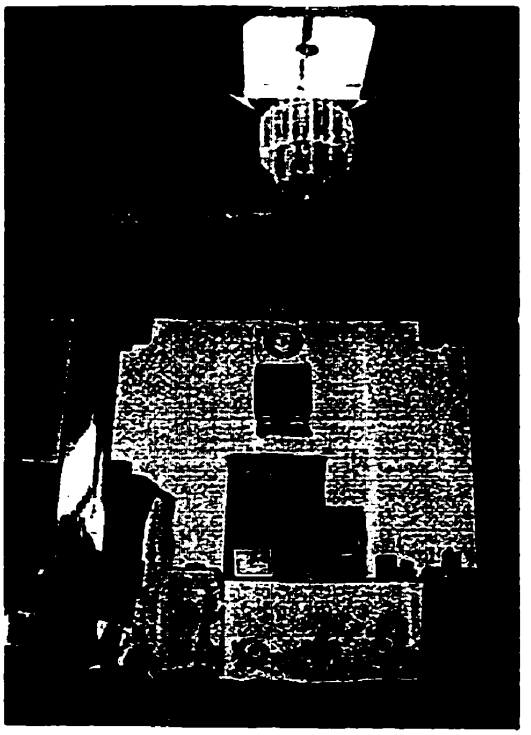


fig.6-viii *The new ha elaborately furnished (case study 2)*

fig.6-vii *The old and the new; carved wood doorframe in a new concrete block construction*

CHAPTER VII

7. Conclusions

For a region with such deep traditional and cultural roots as Hunza, the recent changes in culture and economy have resulted in many consequences. There have been losses as well as benefits. A loss of the traditional community network, the deep and sustaining relationship with the environment, and a loss of economic self-sufficiency as a community, as the dependency on external factors increases. However, one of the first benefits as a fallout of British colonial rule, and later independence, was the abolishment of feudalism and the ownership of private agricultural land. In a region with such harsh living conditions, infrastructure has brought relief in the form of running water, and electricity. New building materials offer more choices in terms of mainly cost and economy, and flexibility, however, with it they also bring new cultural symbols and icons.

The major changes in housing have occurred mainly due to the introduction of new building materials and systems, namely building in concrete. The transformations have not only been in the adoption of this material, but the way it is being used, as well as the changes it has affected on the entire domestic architecture, its planning,design and articulation. Through the case studies it became clear how a wide range of factors influence the adoption of this material, and the ways in which it is used and displayed, which shows its difference and change from the traditional architecture. Through the interviews it also became clear how the external factors of tourism, migration and external economic factors influence the choices people make about which materials to use. The adoption of concrete was found to be related to a large degree to urban influences, and the spread of urban style building production systems and methods, which are being imported from down country, and have been facilitated by an improved communication network. New building materials like concrete, are right now the only available choice people have in order to cope with the pressure to modernize and economize. People's perception of the suitability of a certain building material is what influences their decisions to choose that material. This perception in turn is subject to various influences which have been discussed in detail. Institutional as well as communal networking, opinions and tastes of returning urban migrants, the affect of foreign tourism, all combine to promote and influence the adoption of new materials.

The case studies have shown that most people have adopted concrete for reasons of cost, availability, low skill requirement and social mobility. This in turn is related to each family's economic situation and social position. Households who have greater contact with the cities in terms of having worked there seasonally have adopted concrete as building material because either they have learned something about concrete construction in the cities or they have been exposed to the kind of houses people are building there and want to build the same in their native villages. It was also learned that domestic concerns, especially for women, also play a role in choice of material. Among the respondents who have had greater contact with urban living, there was appreciation for the ease of maintenance of a cement concrete floor for example, as the traditional earth floor had required constant cleaning and maintenance.

Although economy and practical concerns are a large factor in affecting choice of building material, the factor of social mobility or the projection of a certain aesthetic in building is also a significant influence. For those households with traditional ancestral roots in Hunza and with aristocratic backgrounds, it is considered prestigious to build in stone, but with modern finishes and with the new layout of detached single-story housing. All these trends, however, appear to be set by the people who belong to the new emerging middle-class, who have expanded their income base from agricultural to other activities and who are in frequent contact with the urban centers of down-country.

It has also been shown that the adoption of concrete as building material is accompanied by other ancillary and supporting building elements and spaces, which reflect urban trends and building methods. The housing layouts have changed to incorporate new features, like detached single rooms with attached bathrooms, separate living and dining areas, and separate kitchens, where previously there was only a central multi-purpose space for living, the *ha*.. Along with this has also come the adaptation of old forms to new ones. The *ha* is now being built in concrete and used for a different purpose, more to do with preserving tradition and projecting a certain image to the world than of actual use. The changing housing layouts are the outcome of three overriding pressures: the need to have the new spatial configuration which goes with the use of a new material i.e. it is the only way in which this material is observed to be used; the image of the urban house which is being transmitted to this region through various agencies, previously mentioned and discussed; and, in response to the changing housing needs of the people themselves who are undergoing a change in lifestyle and culture. Through the case studies, it became clear, that

although people identify the distinct characteristics of their own culture as being different from other cultures, they felt the pressure to adopt the life patterns and images of urbanized culture, partly under pressure from the younger generations who have developed different needs due to their wider exposure and modern education, and partly due to their own desire to be seen as modern and progressive in the eyes of their peers.

Tourism traffic through Hunza has also influenced housing, indirectly through the building trends being set by the increasing number of hotels built in the region, and directly through local people coming in contact with tourists or working for them. A factor in people's choice of the material they would use in their house, what the layout would be like and how it will be furnished is now being influenced by who they want to invite to their house and outside visitors are usually considered when building a new portion.

An interesting case study finding was that despite the social and economic pressure to adopt new materials, people still try to retain their traditional building elements and materials and in many cases find ways of integrating the new and the old in interesting ways. The new ha is an example, as well as the use of new wood carving on frames and columns. The retention of certain elements of traditional architecture as well as the adaptation of old forms to new materials as shown in the case studies, have made it apparent that there is a consistent desire to preserve and maintain local identity.

To conclude, the changes in house forms and materials are inevitable. The advantages in the adoption of these forms and materials, in the eyes of the local people, at least, override all other concerns. However, gradually, as became apparent through the case studies, there is a consideration of what the old forms have to offer, not just in terms of cultural identity, but actual comfort and use as well. The persistence of the traditional 'ha' is a very good illustration of this fact. Such efforts should be encouraged and learned from. It would be worthwhile to research the way people adapt old forms to suit present needs, and why they do it. Another lesson to be learned is that people's perception of their own needs is markedly and widely different, from the interpretation that many development organizations, and institutions put on them, relying only on statistical and visual data. It is only from a social analysis of their settings, their lives and their dwellings, that a clearer picture can be obtained of the whys and hows of cultural transformations and adaptations. It is also important to dig through and find the social and economic reasons behind seemingly very material things. As well, a relation to larger social, economic and cultural issues is crucial to fully understand the nature of the most minute physical changes. The

physical material culture of housing is always related to the larger factors of economics, cultural change and many other external variables, especially in a remote region like this. In the future, these factors will escalate, and eventually completely take over local customs and traditions. Despite the efforts of local organizations to maintain and revive elements of traditional housing, there is at present no indigenous resistance to the onslaught of the 'internationalist' culture and its accompanying influences. This is because these efforts have largely been superficial, focusing narrowly only on the physical aspect of housing and ignoring larger cultural and economic issues.

For this reason the study of traditional dwelling material culture, should involve a multi-disciplinary approach. Many times architects neglect to consider or take advantage of the results of ethnographic and anthropological studies, which have a much wider vision of the material culture of housing. Social and economic variables in the form of rising costs, mobility, both social and physical, are some of the issues which have a direct bearing on how changes in building materials and house forms occur.

REFERENCES

Aga Khan Housing Board for Pakistan. Building Construction and Improvement Programme. Project proposal for supporting community initiatives in building technology improvement. 1995.

Aga Khan Rural Support Programme. Provision of Planning, Infrastructure and Construction Support in the Northern Areas and Chitral. A study on the Northern Region Institute of Planning. Final Report. July 1994.

Alhasani. Nadia. "Tradition vs. Modernity: The Quest for a Cultural Identity." Traditional Dwelling and Settlement Review VII II (1996) : 35-41.

Alsayyad. Nezar. "From Vernacularism to Globalism: The Temporal Reality of Traditional Settlements." Traditional Dwellings and Settlement Review VII I (1996) : 13-24.

Andersson. Arnsby. Johansson. Pering. and Astrand. A Solution to Rural Housing Problems. Sweden : Sadel. 1986.

Arizpe. Lourdes. "Scale and interaction in cultural processes: towards an anthropological perspective of global change." The Cultural Dimensions of Global Change. ed. Lourdes Arizpe. Paris: UNESCO Publishing. 1996.

Attwood. Donald. W. Raising Cane: the political economy of sugar in western India. Boulder: Westview Press. 1992.

Bashir. Israruddin. eds. Proceedings of the Second International Hindukush Cultural Conference. Karachi: Oxford University Press. 1996.

Bourdier. J.P. and AlSayyad. N.. eds. Dwellings, Settlements and Tradition: Cross-Cultural Perspectives. Lanham: University Press of America; Berkeley : International Association for the Study of Traditional Environments. 1989.

Cantacuzino. Sherban. ed. Architecture in Continuity: Building in the Islamic World Today. New York. NY: Aperture. 1985.

Chowdhary. Tasneem. Women's Domain in Rural Housing in South Asia. M.Arch Thesis. McGill University. 1992.

Clark. John. Hunza, Lost Kingdom of the Himalayas. New York: Funk and Wagnalls. 1956.

Danby. Miles. "Culture and Technology." Third World Planning Review 16 4. November (1994) : iii-ix.

Dissemination of Building Technology in Low Income Communities. Final Report. Shelter for Low-Income Communities - Sindh. Pakistan: National Housing Authority. 1992.

Downing, J., Mohammadi.A and Mohammadi A.S., eds. Questioning the Media: A Critical Introduction. Thousand Oaks, Calif. : Sage Publications, 1995.

Fathy, Hasan. Architecture for the Poor. Chicago: University of Chicago Press, 1973.

Felmy, Sabine. The Voice of the Nightingale. Karachi: Oxford University Press, 1996.

Fescura, Franco. "Process and Product in Rural Architecture: A South African Case Study." Open House International 17 3& 4 (1992) : 10-18.

Frank, Andre, G. Capitalism and Underdevelopment in Latin America: historical studies of Chile and Brazil . NY, London: Monthly Review Press, 1967.

Friedman, Jonathan. Consumption and Identity. Chur, Switzerland: Harwood Academic Publishers, 1994.

Gellner, Ernest. Anthropology and Politics. Oxford UK and Cambridge, USA: Blackwell, 1995.

Ghosh, Subrata. "The Bengal Home." Architecture + Design. May-June (1988) : 81-85.

Gibbs, Jodi. The Decline and Fall of Karimabad and Suggested Remedies. Working paper for the Aga Khan Trust for Culture, 1994.

Hasan, Arif. Seven Reports on Housing. Karachi: OPP-RTI, 1992.

Holod, Renata, D. Rastorfer, eds. Architecture and Community: Building in the Islamic World Today. Millerton, NY: Aperture, 1983.

Khan, Masood. "Catching a Passing Moment: The Redeployment of Tradition." Traditional Dwellings and Settlement Review VII 1 (1996): 43-58.

King, Anthony D., ed. Culture, Globalization and The World-System. State University of New York at Binghampton: Dept. of Art & History, 1991.

Kreutzmann, Herman. "The Karakoram Highway: The Impact of Road Construction on Mountain Societies". Modern Asian Studies 25 4 (1991): 711-736.

Mason, Mike. Development and Disorder: a history of the third world since 1945. Toronto: Between the Lines, 1997.

Mishra, V.M. Communication and Modernization in Urban Slums. New York: Asia Pub. House, 1970.

Morner, M., Thommy Svensson, eds. The Transformation of Rural Society in the Third World. London, New York: Routledge, 1991.

Nash, Dennison. Anthropology of Tourism. Tarrytown, N.Y. : Pergamon, 1996.

Nash, Manning. Unfinished Agenda : the dynamics of modernization in developing nations. Boulder: Westview Press, 1984.

Naylor, Larry. L. Culture and Change: An Introduction. Westpost, Conn. : Bergin and Garvey, 1996.

Niazi, Zeenat. Understanding Rural Building Systems: Building Practrices and Delivery Processes in Rural Bundelkhand. M.Arch Thesis, McGill University, March 1995.

Obodhu, Robert. "Urban and Rural Settlements in Kenya." Regional Development Dialogue 13 4 (1992) : 86-111.

Ozkan, Suha "Cycles of Sustenance in Traditional Architecture." Traditional Dwellings and Settlement Review VII I (1996) : 41-46.

Parthasarathy, Balaji. "Marxist Theories of Development, the New International Division of Labour, and the Third World." Berkeley Planning Journal 9 (1994) : 109-124.

Payne, Geoffery.K. Urban Housing in the Third World. London: L. Hill; Boston: Routledge & K. Paul, 1977.

Pieterse, J.N, Bhikhu Parekh, eds. The Decolonization of Imagination: Culture, Knowledge and Power. London; Atlantic Highlands, N.J. : Zed Books, 1995.

Rapoport, Amos. House Form and Culture. Foundation of Cultural Geography series. NJ: Prentice Hall, 1969.

Reeves, Geoffery. Communications and the Third World. London; New York: Routledge, 1993.

Rogers, Everett. Diffusion of Innovation. New York: Free press, 1983.

Roy, Onju. "The Merging of Traditional and Modern Cultures in Nepal." Architecture + Design May-June (1990): 73-80.

Salant, Katherine, D.B. "Marpha Architecture: The effects of economic self-sufficiency and development." Etude himalayennes 1 (1994) : 63-67.

Sandbacka, Carola, ed. Cultural Imperialism and Cultural Identity. Proceedings of the 8th Conference of Nordic Ethnographers/Anthropologists. Transactions of the Finnish Anthropological Society No. 2. 1977. Helsinki: The Finnish Anthropological Society, 1977.

Schmetzer, Hartmut. Traditional architecture in Zambia. Lund, Sweden: Lund University, 1987.

Sidky, H. Hunza: an ethnographic outline. Jaipur: Illustrated Book Publishers. 1995.

Sidky, H. Irrigation and State Formation in Hunza; the Anthropology of a Hydraulic Kingdom. Boston: University Press of America Inc, 1996.

Stevenson, Robert. Communication, Development and the Third World: the global politics of information. White Plains, NY: Longman, 1988.

Taylor. B. B. " Initiatives in Rural Development." Mimar Architecture in Development 34 March (1990) : 23-25.

The Aga Khan Award for Architecture. The Changing Rural Habitat 1&2. Singapore: Concept Media Ltd, 1982.

_____. "The Grameen Bank Housing and Loan Programme". Mimar- Architecture in Development 34 (1990) : 36-41.

Tomlinson, John. Cultural Imperialism: A Critical Introduction. London: Pinter, 1991.

Viquar, Sarwat, T. Sadruddin, and T. Khwaja, A Report on the Documentation of two Villages in the Hunza and Punial Valleys in the Northern Areas of Pakistan. Working paper for the Aga Khan Housing Board for Pakistan, Karachi, 1990.

APPENDIX 1

Survey questionnaire

Socio-economic

Location of House:_____
Name of Owner:_____
No. of household members:_____
Members working in city:_____
Monthly income:_____
No. of earning members:_____
No. of females:_____
No. of children attending school:_____

Building materials

	Walls	Floors	Roof	Windows/Doors	Wall finish	Roof finish
New Portion						
Old Portion						

Services (Yes/No)

Electricity:_____
Gas:_____
Water Supply:_____
Sewage (what kind, soak pit/pour flush):_____

Electronic goods/household appliances (Yes/No)

TV:_____
VCR:_____
Radio:_____
Satellite dish:_____
Others (fridge/oven):_____

Reasons for selection of materials:

Cost:_____
Availability:_____
Durability:_____
Level of Skills:_____
Time:_____
Social acceptance:_____
Comfort:_____

Total cost of construction:_____
Did you participate in th econstruction:_____
If yes, what tasks did you perform:_____
Who advised you on the choice of materials and th elayout/design of the house?_____

What is your opinion of the changes happening in Karimabad?_____
What do you think of the tourists who come to Karimabad?_____
What kind of a house would you ideally like to have?_____
What is stopping you from building it?_____

Comments

_____

_____

_____