RECOMMENDATIONS FOR ADAPTATION OF SPACE IN HOUSES BUILT FOR MIDDLE-CLASS PAKISTANI FAMILIES BASED UPON ACTIVITIES AND PREFERENCES OF PAKISTANI STUDENTS ENROLLED AT OKLAHOMA STATE UNIVERSITY

Fall, 1961

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in partial fulfillment of the requirements
for the degree of
MASTER OF SCIENCE
May, 1962

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ACKNOWLEDGMENT

The writer wishes to express her sincere appreciation for the help and guidance of Dr. Maie Nygren, Head, Department of Housing and Interior Design at Oklahoma State University.

Her deepest gratitude is offered also to the members of the advisory committee, Dr. Ilse H. Wolfe, Head, Department of Home Management Equipment and Family Economics; Dr. June Cozine, Head, Department of Home Economics Education; Dr. Elizabeth Hillier, Coordinator of the Pakistan Trainee Program; Mrs. Christine Salmon, Associate Professor of Housing and Interior Design.

Appreciation is expressed also to the Pakistani students and Indian students who willingly and graciously answered the questionnaires.

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CHAPTER I

INTRODUCTION

Shelter for the activities of families has been a development of every civilization. The house has been not only a protection from the elements, but also a place where other needs of the family are satisfied. With the growing complexity of society new needs have emerged. Today's housing should satisfy the material necessities of food, clothing, and shelter; the spiritual necessities of religion, recreation, and esthetics; the intellectual necessities of government, education, and sciences; and the social necessities of intimacy, position, and morals.[1] In the words of Arnaud, an architect must think of residential buildings

> . . . as ways toward a quality of human being. He must put first not the gadget but the person who uses it, not the thing but the whole human being. Each individual, the architect must realize, has imagination, memory, a thirst for beauty, and an emotional life that for him is the primary value. And the architect must know that when he designs a dwelling a sizeable part of the quality of this emotional life lies in his hand, for by his designs he will direct and fertilize it.[2]

Greater livability can be achieved if builders, planners, and other housing specialists know what design features might satisfy families most in their homes. This means that they must know more about families themselves, the way they live, the things they hold important, their attitudes

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[1]Marilyn Langford "A Study of Certain Housing Facilities and Family Activities in Lincoln Park Homes." (unpub. Master's thesis, Ohio State University, 1952).

[2]Leopold Arnaud, Forms and Functions of Twentieth-Century Architecture "Introduction," ed. Talbot Hamlin (New York, 1952).

and prejudices. The architect must also know the society to which he belongs. He must, as Arnaud, says:

> . . . seek to create that kind of residence which will make the dweller himself more free, more serene, more beneficient, and social-minded -- in a word, a better man -- and his life richer and more creative.[3]

If he does this the world will be a better place in which to live.

Architects[4] speculate on the effect of being in space on the basic sensory experiences of individuals; in the use of attitudes to study the relationship between housing and family life, one assumes that individuals living within enclosed space have similar sensory functions concerning space. One also assumes that the same organizational factors which influence the perception of objects or personalities will also be factors in the perception of space.

Krech and Crutchfield summarize the organizational principles of perception with the following propositions:

1. That the perceptional and cognitive field is organized and meaningful. That is, man is an organizing creature. As soon as he experiences any facts, these facts will be perceived as organized into some kind of a meaningful whole.
2. That the properties of a sub-structure are determined mainly by the properties of the structure of which it is a part. In other words, there is an element of constancy in perception. Every perception is related to an organization of other percepts. Any part of the sub-structure is seen as a

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[3]Leopold Arnaud, Forms and Functions of Twentieth-Century Architecture "Introduction," ed. Talbot Hamlin (New York, 1952).

[4]Richard Neutra, Survival Through Design (New York, 1954), p. 26.

part and in relation to the whole structure.

3. That perception is functionally selective. In other words, no one perceives everything in the perceptual field. The objects or qualities that are accentuated are usually those objects which serve some immediate purpose or need of the individual.[5]

These principles when applied to perception of the amount of space in a particular dwelling unit, might be interpreted as follows. An individual, for example, not only responds to the spatial aspects of the one particular house in which he lives, but experiences its spatial dimension in contrast to all the houses within his experience. He probably experiences the spatial aspect of his dwelling unit as being more spacious than most, about the same as an average house, or as being very small and/or crowded. The frame of reference for spatial qualities of housing probably approaches a relatively homogeneous norm for people who are exposed to the same communication system. The same could be said for other features of housing. This frame of reference is probably distorted or influenced by individual needs in various situations if the third proposition above applies to the perception of space in housing. Individuals will probably be more sensitive to the aspects of housing which do not adequately meet the needs of the family or the individual than those which are satisfactory. For example, if an individual feels his house is too small for family recreation, the lack of play or living space will be the part of the housing environment to which he will be sensitive.[6]

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[5]David Krech and Richard S. Crutchfield, Theory and Problems of Social Psychology, (New York, 1948), p. 76-109.

[6]Mignon Perry, "Relationship of Space in Housing to Attitudes Towards Family Life," (unpub. Ph.D. dissertation, Cornell University, 1958).

Perry[7] believes that environment is important as a determinant of behavior. What is relevant in the physical environment is not what is objectively there but what is perceived. This indicates that only those aspects of the external reality are effective which are selected by the individual himself consciously or unconsciously. The house is a part of the focal field or as the boundary of the interaction system of the family. If the interaction system is complex and confined to a small space, and individuals view it as confining, more stress and tension are introduced by even slight changes in the interaction system. If there is plenty of space, it is possible for the individuals to be farther apart and influenced less by the tensions between or among individuals. This does not preclude the possibility, however, that in some instances plenty of space can lead to loneliness. On the basis of this conceptual framework an investigation of how certain aspects of houses are perceived by Pakistani students can probably reveal wherein Pakistani homes fail to meet the needs of families and provide the satisfaction that accrues from optimum housing.

Statement of the Problem

The problem selected for investigation is that of determining activities carried on in the homes of Pakistani students presently enrolled at Oklahoma State University and their preferences for features they wish to have in a future home. The study was designed to find out characteristics which are lacking in present homes of these respondents in Pakistan. It is hoped that information obtained will give planners, builders, and

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[7]Mignon Perry, "Relationship of Space in Housing to Attitudes Towards Family Life," (unpub. Ph.D. dissertation, Cornell University, 1958).

architects, whether they are concerned with Government or private housing, some directions for planning and building more livable homes. It is hoped, also, that the study will enable teachers to guide students in understanding how housing needs can be satisfied. The ultimate objective of this study is the development of an instrument and a research technique which can be used in initiating social-psychological research on housing in Pakistan.

Purposes of the Study

Although housing in Pakistan has improved since 1947, much still remains to be done, especially in the over-all planning and designing of houses which not only will be architecturally sound and attractive and within the financial means of an average family, but also will fit families' ways of living.

In order that housing consultants, architects, planners, and builders can have better bases for making decisions in designing new homes or remodeling old ones to meet present needs, they must first have knowledge concerning how families in Pakistan use their present homes and their preferences for certain characteristics in a house. One important element contributing to satisfaction with housing is adequate space to perform activities and to store possessions effectively. Specifically, the purposes of this study are:

1. To identify activities carried on in the homes of Pakistani students which may tend to define the use of space.
2. To identify some housing needs as defined by size and composition of families.
3. To identify some problems engendered by houses failing to satisfy the needs of families.

4. To suggest ways and means for the better utilization of existing space in a given home.
5. To provide for architects and planners a partial basis for planning more livable and functional homes.
6. To develop research procedures on the basis of this experience which can be carried on satisfactorily in Pakistan.
7. To make suggestions for further research which may stem from this problem.

In the chapters which follow, some attention is given to the importance of housing as it affects individuals and families. Certain aspects of the current housing situation in Pakistan and government programs established to improve this situation are briefly described. Research studies relevant to housing are also reviewed. It is hoped that this background will help readers recognize better the potential value for a study of this nature.

Procedures followed in conducting the study are summarized and the findings presented. Recommendations which are based upon the findings and may have value for home economists, architects, educators and government housing officials are also included.

CHAPTER II

THE IMPORTANCE OF HOUSING

Shelter, like food and clothing, is one of man's fundamental needs. From prehistoric days, he has exerted great effort to achieve a livable home but never has his effort been more intensive and widespread than it is today.

In the words of Gray,

> . . . The house is the setting of a home. As such, it is not just a house, nor a place, nor furnishings, but it is the hopes and memories which cling about the place of habitual abode. Man makes a home in a certain place, among material things, but not of materials.[1]

A home embraces not only consideration of the physical structure in which humans dwell, but also the relations of the home to social, political, and financial complexes which affect our daily life. A home plays an important part in the betterment of an individual, of the family as a whole and of the community. It is a complex built up of the emotions of members of the family, depending upon their characters and their experiences.

For thousands of years, man sought the solitude of individual privacy by escaping to the open spaces. Now, however, the house is the last refuge man has from the hazards and rush of street traffic and from noise, speed, strain, and dust of office and shop. A good house, therefore, should provide for the themes of living -- sociability, privacy, self expression, comfort, belongingness, and love. It is believed by many

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[1]Greta Gray, House and Home (Chicago, 1927), p. 1.

that these things are achieved more readily if the house satisfies the needs of a family.

Contribution of Housing to the Individual

Recognition of the importance of housing arises from the way people are accustomed to thinking about housing. Generally, it has been customary to think about what good housing provides for man. Increasing attention is now being given, however, to the effects bad housing has upon him. The impact of housing on each individual is something about which there is growing understanding. Research carried on by the committee on Hygiene of Housing of the American Public Health Association was based upon the assumption that a relationship exists between physical, mental, and social needs of an individual or society and the housing of that individual or society.[2]

Many studies have demonstrated a relationship between housing of poor quality and infant mortality, tuberculosis, communicable diseases, accidents, and other health hazards. The psychological effects of bad housing upon the individual have also been investigated.[3] Similarly, relationship

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[2]American Public Health Association, Committee on the Hygiene of Housing, "Basic Principles of Healthful Housing, Preliminary Report," American Journal of Public Health, XXVIII (1938), pp. 353-372.

[3]Murray P. Horwood, "Housing and Health," The Commonwealth, Massachusetts Department of Public Health, XXV (April-June, 1938), pp. 95-102; "Improved Housing and Slum Eradication" Cincinnati Journal of Medicine, XXIX, (1948), p. 27; "Housing and Health," Housing for Health, Committee on the Hygiene of Housing, American Public Health Association, 1941, pp. 7-17; Julian E. Benjamin, James W. Ruegsegger, Fanny S. Senior, "The Influence of Overcrowding on the Incidence of Pneumonia", Ohio Medical Journal, December, 1940; Haven Emerson, "Health Benefits to be Expected from Better Housing," Proceedings of National Conference of Social Work, May, 1936, pp. 569-578; Certain Characteristics of Urban Housing and Their Relation to Illness and Accidents: Summary of Findings of the National Health Survey, Milbank Memorial Fund Quarterly, March, 1940; Bernice G. Wedum, Arnold G. Wedum, and A. L. Beaghler, "Prevalence of Rheumatic Heart Diseases in Denver School Children," American Journal of Public Health XXV (December, 1945) pp. 1271-1276; Floyd P. Allen, "A Story of Life and Death in Cincinnati," The Public Health Federation of Cincinnati, October, 1947.

between juvenile delinquency and space, inadequate dwellings, and less desirable neighborhoods has been demonstrated time and again. Rumney, for example, in his study on slums showed a relationship between bad housing and an individual's morals as it is expressed in data showing differences in juvenile delinquency, vice, and crime rates between slum housing areas and other housing areas.[4] Plant believes the development of what psychologists call ego-strength in children is definitely restricted where there is lack of needed privacy and space for play.[5] In his opinion, physical restrictions, emotional restrictions, and the prohibition of normal activities result in sources of pressure for the child and for the family as a whole which lead toward tension, unhappiness, and often personal and family disorganization.

Gessell, a noted child psychologist, finds that "overcrowding takes a terrible psychological toll" and that in crowded homes children develop anxieties and perpexities. He states that the answer lies in ". . . better housing and increased economic security."[6]

Menninger, a leading psychiatrist, points to the dangerous effects of the housing shortage, stating: "The resulting dislocation and family friction comprise an enormous cost which will be paid for by those whose personalities cannot withstand the excessive strain."[7]

Myrdal believes that the adolescent is perhaps the person most

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[4]Jay Rumney "The Social Costs of Slums," Journal of Social Issues, VII (1951), pp. 69-79.

[5]James Plant, Personality and the Cultural Pattern, (London, 1937), p. 198.

[6]Arnold Gessell and Frances Ilg. Infant and Child in the Culture of Today, (New York, 1943), p. 360.

[7]William Menninger, "Psychiatry Today," Atlantic Monthly, CLXXXI (January, 1948), pp. 65-72.

affected by crowding. The adolescent, he reasons, feels the lack of privacy more than other members of the family because of two apparent needs for this age group, need for time to be alone, and a need to be alone with his companions.[8]

Although it is impossible to determine the nature and degree of the effect of overcrowding, most experienced psychiatrists, criminologists, teachers, and social workers agree that overcrowded homes often seriously affect development, particularly of the adolescent. Some of the effects may be that the mental well-being and working capacity of the individual are decreased, and fatigue and irritation considerably increased, thus spoiling the possibilities of a harmonious family life within the home. According to Lemkau, Tietze, and Cooper, all of these tendencies contribute toward family disorganization and delinquency.[9]

Faris cites evidence that persons with an originally seclusive personality trend (Schizophrenics) who seek social contacts because of slum conditions, become more shut in and more seclusive.[10]

Contribution of Housing to Family Life

The contribution of housing to the effective functioning of the family is also very important. According to Anshen:

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[8]Alva Myrdal, Nation and Family. (New York, 1941), pp. 10-15.

[9]Paul Lemkau, Christopher Tietze, Marcia Cooper, "Mental Hygiene Problems in an Urban District," Mental Hygiene XXVI (January, 1942) pp. 100-119; R. W. Hyde and L. V. Kingsley, "Studies in Medical Sociology: Relation of Mental Disorders to the Community Socio-Economic Level," New England Journal of Medicine, (October, 1944), pp. 543-548.

[10]Robert Faris and H. W. Dunham, Mental Disorders in Urban Areas -- An Ecological Study of Schizophrenia and Other Psychoses. (Chicago, 1939), p. 270.

> . . . Home may be a possession in which the family ego -- and a good part of its income can be invested. Home may be a place where one can express personal taste and propriety not only for the world's appreciation but also for one's own self-respect. Home may be a machine to facilitate personal living, disencumber family activities and lighten the everyday routines. Home may be a retreat for privacy, for spontaneous relaxation, and for uninhibited expression of feelings. Home may be an emotional bulwark against the threats and insecurities of a too-big, too-fast, too-complicated world where one must compete, man against man, for his place in the sun. Home may be a locus for family activities and friendship interaction.[11]

Chapin indicates that marital adjustment may be related to housing conditions. He suggests, for example, that the parent-child relationship in a multiple dwelling may be quite different from that found in a single family house.[12]

Mogey's study shows that "the tightly packed hovels which housed the workers of English mines and factories soon became centers from which disease and crime began to spread."[13] This study shows also that behavior and attitudes of families living in slum areas change after they have moved to neat, clean multi-family housing.

In a statement issued by the National Conference on Family Life, housing is considered to be a

> . . . Pervasive and potent influence on the character and quality of family life . . . . good housing is more than just enough housing space plus 5% vacancy. It is housing that in size and design, equipment, flexibility, location, and cost to its occupants, encourages and sustains a rich and secure family life. It is an incentive to marriage; to learning the

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[11]Ruth Nanda Anshen, ed., The Family: Its Functions and Destiny, (New York, 1959), p. 472.

[12]F. Stuart Chapin "Some Housing Factors Related to Mental Hygiene," Journal of Social Issues, VII (1951), p. 164.

[13]J. M. Mogey "Changes in Family Life Experienced by English Workers Moving from Slums to Housing Estates," Marriage and Family Living, XVII (May, 1955), pp. 124-125.

the art of homemaking; to bearing of children and their full development as a human.

It furthers physical, mental and emotional health to all members of the family.

It lessens the strains, tensions, and frustrations in an active and changing social organism.

It contributes a sense of human work and dignity and thus to mental respect and companionship.

It provides sensibility for the widely varying needs of families over the cycle of their lives.[14]

In Cottam's study of rural housing in Pennsylvania, the attitudes of a sample of 517 families representing rural and small town habitants were analyzed. A direct relationship was found between the degree of satisfaction with their housing and the amount of space expressed by the respondents within the house. The most satisfied families occupied the most space and the least satisfied had the least space. A scale constructed to measure housing adequacy showed the highest percentage of those who dislike their housing were found in dwellings with the lowest score. Those who liked their dwellings best were occupying the houses that had the highest score. By another test, among the families that regarded their homes as poorer than their neighbors were found the dwellings with least space, and among the families that rated their homes better than their neighbors were found the homes with the most space.[15]

Because housing is highly complex, the average citizen has tended to think of housing in terms of specialized fields such as an architectual

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[14]Paulena Nickell, "Housing Research for Home Economists," Journal of Home Economics, XLI (1949), pp. 125-126.

[15]Howard R. Cottam, Housing and Attitudes Toward Housing in Rural Pennsylvania. Bulletin No. 436 (State College, 1942).

creation, interior design, landscape design, public housing, mortgage finance, building construction, or building codes. Seldom has he thought of housing as involving all these things and many more. When conceived in this broad context, however, it would be difficult not to believe that housing does have some positive and negative influence, whether it be measurable or not, on personality development and family life.

CHAPTER III

THE HOUSING SITUATION IN PAKISTAN

The social life and economy of Pakistan is based on regional rather than national factors. It is to be expected, therefore, that housing types, like dress, language, and other such features, will vary considerably from region to region. In every area, however, indigenous qualities are tempered or modified to some extent by the habits or ideas assumed by the more advanced classes which, over the last hundred years or more, have tended to associate Western tastes with their own improved economic or social status.

West Pakistan consists of the valley of the Indus and its tributaries with the adjoining mountainous region of Baluchistan. East Pakistan consists of the lower reaches of two great river systems, the Padma and Jamuna. Practically all of East Pakistan lies in the deltaic zone.

The condition of houses and settlements in both East and West Pakistan has never been good because of the poverty of the great mass of people.[1] Only the rich people both in town and in the country can afford good housing. Since independence (1947), the housing problem in Pakistan has been accentuated and continues to be aggravated by several factors: the influx of refugees,[2] the increase in population, and the expansion of

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[1]Empirical data are not available on the number of dwellings in the country and the percentage that meet minimum standards.

[2]Before and after Partition (1947) of the sub-continent of India, there was a whole-sale migration of Hindus and Sikhs from Pakistan and Muslims from India. These immigrants are called refugees in the country in which they settled.

towns. By 1951, refugees numbered some ten percent of the total population of Pakistan. The special housing shortage created by them was eased only by the fact that many could occupy evacuee property, that is, the property evacuated by those emigrating to India.[3]

The most strategic issues of population growth that are important for housing are those related to population distribution and movements and changes in the family structure and pattern. To these issues also can be added shortage of building materials and lack of proper town and regional planning. The latter has created haphazard development and general confusion in Pakistani towns and cities, thereby causing an even greater strangulation of community services and such basic utilities as water supply, sewage, electricity, etc. Policies regarding population movements therefore need to be centered around the vital issue of planned decentralization of economic activities in general and of industry in particular.

Population Growth

The number and type of houses required by an increasing population depends mainly upon the rate of growth in population. The present (1961) population of Pakistan is 93.8 million. It is growing at a rate of 1.4 percent a year. The increase of population between 1951 and 1961 was 21 percent for East Pakistan and 27 percent for West Pakistan; the highest increase of population in 1961, as compared for 1951 was in Karachi, 79.7 percent.[4] A yearly population increase of over one million people in

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[3]Those people who have left Pakistan for permanent settlement to India are called evacuees and their property which is left behind is called evacuee property. This has now been allotted to Muslim refugees from India to compensate them for property they left in India.

[4]Population Census of Pakistan, 1961. Government of Pakistan Planning Commission, the Second 5 Year Plan (1960-65).

Pakistan translated in terms of housing means an additional need for about 200,000 new houses each year.[5] The need for replacement may increase the figure easily to 300,000 a year.

Population Distribution or Movement

Present day housing shortages in Pakistan are not only due to natural population growth, but also to movement of the rural population to urban areas. Before independence the growth of towns was slow. After 1947, of some nine million displaced persons who entered the country, more than a million and one-half came to Karachi, West Pakistan, alone and a large proportion of the rest squatted in other towns, creating slums and overcrowding. By 1951 there were some 100,000 villages and 242 towns and cities in the country.[6] The population of 186 of these towns and cities was between 5,000 and 25,000 persons, and that of the remaining 56 was above 25,000 persons. Since then, urbanization has been accelerated by the rising tempo of economic development. Living conditions in towns and villages have worsened as the growth of urban population has rapidly out-paced housing and community services, with highly deleterious effects on health and social conditions. In most towns, water supply, sewage, drainage, electric supply, internal road networks, and communication systems are inadequate. Apart from these problems there is not enough developed land available to allow people to build even temporary structures on sites where certain basic community facilities may be available. The village house, in which some 85 percent of the people live, is

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[5]The First Five Year Plan 1955-60, "Housing and Settlement". Planning Commission, Government of Pakistan, Karachi, (1960), pp. 1-7.

[6]Ibid.

an inferior structure, and communal facilities in rural areas are extremely scanty.[7]

A special need for homes exists close to new development projects such as Karnafulli and Warsak, and in areas newly opened to cultivation, such as the Thal and Abbasian. Houses are in great demand in these places for many people are attracted to these projects because of increased employment opportunities.

Change in Family Pattern

Another factor contributing to the housing shortage is the change occurring in the family pattern and therefore the size of families. As industrialization and urbanization increase, many large patriarchal families are splitting into two or more single units. More and more young married couples wish to live in separate dwelling units instead of in a joint family home, thus creating additional demand for dwelling units.

Scarcity of Resources

Still another factor is scarcity of economic and physical resources for house building. Low family incomes and high cost of dwelling units keep housing very much out of reach of the lower middle and poorer classes. The housing shortage has been increased also by losses through floods, by bad maintenance of evacuee properties, and by various other causes.

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[7]The First Five Year Plan 1955-60, "Housing and Settlement". Planning Commission, Government of Pakistan, Karachi, (1960), pp. 1-7.

Programs Adopted by the Government of Pakistan to Ameliorate the Housing Situation

Recognizing that housing conditions in Pakistan are intimately connected with its national economy and that housing shortages cannot be solved by simply constructing additional dwelling units alone, the country has made great efforts to meet the challenge of the housing problems. Housing and settlement programs developed by the government embrace the planning of the physical environment of both urban and rural communities. In its broad sense, these programs are concerned with land use, transportation, and utilities, dwelling houses, public buildings, and other social, cultural, and economic facilities, and conveniences necessary for the pursuit of a useful and happy community life.

Though impressive in absolute terms, activities in the housing field during the past thirteen years have lagged far behind requirements of the country. In the field of housing and settlements, the First Five-Year Plan, 1955-1960,[8] established the concept of national planning for development. Within the limitations of resources available the plan had to cover as many of the vital needs of the country as possible and lay foundations for a systematic organization of basic services which will gradually take over the programming and implementation of increasing large housing and settlement projects sponsored or initiated by the Government.

In this First Five-Year Plan, special importance was attached to the following basic programs:

1. Basic Preparatory Project Programs

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[8]Government of Pakistan Planning Commission, Preliminary Evaluation Report of the First Five-Year Plan for Housing and Settlement, December, 1960, Karachi, West Pakistan.

2. Rural Programs

3. Urban Development Programs

4. Urban Water Supply and Sewage Project Program

5. Public Housing and Rehabilitation Program

6. Government-owned Houses and Administrative Centers[9]

The plan allocated 861 million rupees in the public sector for the most essential needs in housing. Execution of both urban and rural programs fell short of the targets with exception of the construction of government offices and the rehousing of a sizeable number of families in Karachi. Some investment in housing was encouraged by long-term credit facilities provided by the Government directly, or through the House Building Finance Corporation. Most private construction was luxury housing undertaken by the relatively wealthy.

Failure of the First Five-Year Plan as a whole was largely due to uncoordinated implementation by several departments concerned with the programs and the lack of foreign exchange, trained personnel, and building materials. Many believe, therefore, that solutions to the housing shortage will be reached only through joint efforts by Government and private enterprise.

The Second Five-Year Plan (1960-1965)[11] is also designed to meet the country's most urgent requirements and to lay groundwork for the future. Housing is included again as one of four major aims of the plan. The

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[9]Government of Pakistan Planning Commission, Preliminary Evaluation Report of the First Five-Year Plan for Housing and Settlement, December, 1960, Karachi, West Pakistan.

[10]One dollar is approximately equal to 4.71 rupees.

[11]Government of Pakistan, Planning Commission: The Second 5-Year Plan, (1960-1965), Karachi, June 1960.

housing program proposed in the plan is modest and is to consist of construction by the Government and by semi-public and private enterprises. Actual construction of houses by the Government is limited to nucleus houses[12] for destitute displaced persons and for the most essential needs of Government servants. Also, the Government will provide technical advice for private and co-operative building agencies and guide the pace and nature of housing development. Local government bodies are encouraged to develop land, while lower-income groups are enabled to construct houses through co-operative methods. Luxury construction is discouraged by refusing loans and by other methods.

According to the plan, the Government will develop a maximum of 300,000 plots for housing shelterless displaced and other low-income groups. It is expected that the House Building Finance Corporation will be able to subscribe 200 million rupees toward the construction of housing built primarily for low-income groups. A sum of 160 million rupees is allocated in the plan to meet the growing needs of improvement trusts and local bodies in West Pakistan.[13]

At Karachi, the Karachi Development Authority (KDA), a semi-autonomous organ of the Central Government, is responsible for the planning, programming, designing, and execution of housing and settlement projects. KDA is expected to undertake a housing and land development program of 200 million rupees during the Plan period. One hundred and sixty million rupees is allocated to meet essential needs of the Dacca Improvement Trust,

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[12]Nucleus Houses: A small house with one or two small rooms with a bath and a kitchen. It is provided on easy terms to lower-income displaced persons.

[13]Government of Pakistan Planning Commission: The Second 5-Year Plan (1960-1965) Karachi, (June, 1960).

the Chittagong Development Authority, the proposed Khulna Development Authority and other local bodies in East Pakistan whose major function is to provide housing.

Under most favorable circumstances the country may have some 300,000 new dwelling units during the Plan period, besides a fair proportion of houses for Government employees and industrial workers and houses constructed from contributions made by local bodies. Expenditure on housing in the private sector during the Plan period is estimated at 135 million rupees.[14]

By the end of the Second Five-Year Plan period (1965), however, when it is expected that self-sufficiency in food will have been achieved and industrial development will have reached higher levels, under the pressure of the fast growing population, both government effort and the interest of private investors will have to be directed toward improving living conditions. The housing program, therefore, is bound to reach an unprecedented magnitude.[15] Projects will cover a wide field and will include, for example, standards and standardization, specifications, and basic building materials.

The long-range objective of the housing program is the achievement of satisfactory physical standards in housing, which are a prerequisite for human self-respect and efficiency. These standards need to be based on the functional use of space, on past experiences, and on the thorough study of existing patterns of family life, without ignoring the elements

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[14] Government of Pakistan Planning Commission: The Second 5-Year Plan, (1960-1965), June 1960.

[15] U. N. Publications "Ekistics" periodical, Publications on Housing and Planning. (Mimeographed).

of cultural, moral, and spiritual order. They need to be worked out for types of public buildings and houses, structural and construction elements, and equipment and furniture. They should be flexible and take into account various local materials, climatic conditions, and economic characteristics of the different regions.

Standard specifications presently in use for the calculation of structures, as well as building regulations and codes, are out of date and do not cover the total construction field. There is an urgent need for more modern and unified specifications, compliance with which should be made mandatory all over the country. This does not mean that foreign regulations nor living patterns should be plainly adopted by grafting unfamiliar techniques of other countries to the Pakistan environment. On the contrary, foreign specifications can be scrutinized and properly revised so that they factually correspond to the requirements of local conditions of living, family patterns, climatic peculiarities, and cost relationships. While working out new specifications, due consideration needs to be given to the selection of safety factors. These factors will depend on the properties of indigenous and imported building materials, on construction methods applied, and on the average level of craftsmanship.

While searching for modern construction techniques, due attention should be paid also to the development of existing traditional methods and materials. It is on the bases of these traditional methods and materials that the Housing Program of Pakistan will be implemented until such time when new building systems are developed and the adoption of them proves more advantageous.

Among housing standards developed, primary attention should be given to space standards. The Health Survey and Development Committee of the

Indian Government has estimated the minimum accommodation per head at 100 square feet of floor space for an adult and 60 square feet of space for a child. Similarly, the minimum health standard adopted by the Union of Social Soviet Republic housing code for living space per capita is 97 square feet.[16] In the United States, minimum floor spaces recommended by the Committee on the Hygiene of Housing of the American Public Health Association are:

400 square feet for 1 person
750 square feet for 2 persons
1,000 square feet for 3 persons
1,150 square feet for 4 persons
1,400 square feet for 5 persons
1,550 square feet for 6 persons[17]

As against these desirable minimum standards, the actual floor space per head of population in Pakistan is much smaller. The houses provided by the Pak Construction Company, Ltd., range from two rooms, 10' x 12', to four rooms, 16' x 15', 12' x 12', and 10' x 12' in a house designed for lower and middle-class families having two to five children.[18] Recent city surveys conducted by the National Sample Survey in India show that quite a high proportion of households in urban areas have less than 25 square feet per person. This committee admits that at the present it is difficult to meet the standard of 100 square feet for an adult and 60 square feet for a child.[19]

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[16]U. S. Publications "Ekistics," Periodical Publication on Housing and Planning. (Mimeographed.)

[17]American Public Health Association. Standards for Healthful Housing: Planning the House for Occupancy. Committee on Hygiene of Housing, (Chicago, 1950), p. 36.

[18]The Pak Construction Company, Ltd., General Information Regarding Houses in Azizabad, Karachi Development Authority, 1961. (Mimeographed.)

[19]U. N. Publications "Ekistics," Periodical Publication on Housing and Planning (Mimeographed.)

In addition to floor area, another important space factor in a room is the ceiling height, i. e., distance from floor to ceiling. This again depends on tradition and climatic conditions. In modern international practice this dimension varies from as little as 8'4" to as much as 14'. Considering the climate of Pakistan, it seems probable that anything less than a 10-foot ceiling would be less than desirable.[20]

Other minimum standards should be developed in relation to ventilation, insulation, and light, and to wind having a velocity range of from one to ten feet per second, which makes warm humid weather bearable and sometimes even pleasant. Also, other factors such as circulation, storage, orientations, etc., should be incorporated into building standards and specifications.

Although the programs established by the Government to ameliorate the severe housing storage in Pakistan have fallen somewhat short of the mark, the fact that the Government has recognized and assumed some responsibilities for the housing of its people offers hope that eventually housing conditions will be improved.

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[20]U. N. Publications "Ekistics," Periodical Publication on Housing and Planning (Mimeographed.)

CHAPTER IV

REVIEW OF LITERATURE

Very little research in housing has been carried on in Pakistan. The National Family Expenditure Survey (1955-1956) undertaken by the Government of Pakistan[1] revealed to some extent the housing conditions of some parts of both West and East Pakistan. This research was conducted in hopes that the Government of Pakistan would provide better housing to industrial and commercial workers. The sample consisted of Government, industrial, and commercial employees. The average size of families interviewed was 5.6 persons. The highest income the sample families received was 131.01 rupees per month; and the lowest, 39.87 rupees. The findings of this study reveal that:

1. Type of structure of the workers' dwelling units varied between the two areas of the country. Most workers in East Pakistan lived in temporary structures, whereas in West Pakistan, the dwelling units were generally of masonry or other permanent materials.
2. Generally, workers had only one room at their disposal. This, however, is not an indication of the total space available to them. Some had access to verandas, court yards, etc., and the rooms also varied in size.

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[1] "National Family Expenditure Survey, 1955-1956." Government of Pakistan, Ministry of Finance, Economic Affair Division, Central Statistical Office. (Mimeographed.)

3. Few families had bathrooms inside their dwelling units. The proportion of homes with bathrooms in East Pakistan dwellings was comparatively smaller than in West Pakistan.
4. Most families in East Pakistan had a separate kitchen inside their dwelling units.
5. Few families had running water inside their dwelling units.
6. Nine percent of the families in East Pakistan and 37.14 percent of the families in West Pakistan had electrical connections.
7. Few families of industrial workers owned their dwelling units. More families in the commercial sectors owned their houses than did those in the Government sectors.

In 1959-1960 the College of Home and Social Sciences, Lahore, conducted a study in relation to housing.[2] Two hundred and sixty-two families from four localities in Lahore were studied with a view to obtaining information about how possession of certain facilities, such as storage spaces, living spaces, conveniences, and furnishings varied according to the education of respondents. The result of this study showed that, in general, housing conditions of families in the survey were very favorable. A vast majority of families lived in brick houses with courtyards, and the average house consisted of three bedrooms, a drawing room, a dining room, and a kitchen. Almost all families had running water in bathrooms; some had taps only and others flush only, but the majority had both tap and flush. The room ratio was one to two persons per room; less than half of the families had two or more persons per room.

Research in housing in the United States is also a relatively new

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[2]"Report on Housing Facilities of a Selected Group of Pakistani Families." (1959), College of Home and Social Sciences, Gulberg, Lahore. (Mimeographed.)

development. It is only recently that housing and its social and psychological effects on a family and on individuals have been studied. Research that has been carried on in the fields of housing, child development, psychology, and sociology show that a relationship seems to exist between the type of house in which a family lives and the kind of family life which develops there.

Much of the research in housing in the United States, especially that carried on by home economists, has been directed toward the "Provision of facilities which make possible the performance of the tasks of the household, without undue physical and mental fatigue."[3] According to Nygren,

> Research designed to fulfill this provision has been concerned with actual spatial needs of families in terms of activities carried on by the different family members, and the amount and kinds of equipment and furnishings owned by the families.[4]

Wilson, Roberts, and Thayer,[5] Heiner and McCullough,[6] and Marley and Fitzsimmons,[7] and others have investigated the functional aspects of the

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[3]C. A. Winslow, et al., "Basic Principles of Healthful Housing, Preliminary Report," Committee on Hygiene of Housing, American Public Health Association. American Journal of Public Health, XXVIII (March, 1938), pp. 353-372.

[4]M. Nygren, "The Housing Images of Selected Freshmen and Senior Secondary School Students in Certain Communities in Oklahoma," (unpub. Ed.D. dissertation, Oklahoma State University, 1961), pp. 11-12.

[5]M. Wilson, E. Roberts, and R. Thayer, Standards for Working Surfaces, Heights, and Other Space Units of the Dwelling, Oregon Agricultural Experiment Station Bulletin No. 348 (Corvallis, 1937).

[6]M. H. Heiner and H. E. McCullough, Functional Kitchen Storage, Cornell Agricultural Experiment Station Bulletin No. 846 (Ithaca, 1948); H. E. McCullough, "A Preliminary Report on Space Requirements for the Home Laundry," Journal of Home Economics, XXXXIV (June, 1952) pp. 426-429; and "A Pilot Study of Space Requirements for Household Activities," Journal of Home Economics, XXXXVII (January, 1955), pp. 37-41.

[7]Helen Marley and Cleo Fitzsimmons, "Space Needs for the Family's Clothing," Journal of Home Economics, XXXXI (May, 1949), pp. 247-251.

house. As a result of their efforts, the most comfortable heights for working surfaces and other spaces needed for activities carried on in the house were determined. These studies gave impetus to similar research, all concentrated on reducing the physical and psychological fatigue of the homemaker.

The Institute of Home Economics, United States Department of Agriculture, conducted a Farm Housing Survey in 1948. As a result, space standards were determined for food preservation, storage for household textiles, clothing, and other articles, and for various other aspects of family life.[8]

Wants and preferences for certain aspects of housing have provided several persons, committees, and organizations with another approach for studying housing. Regional housing studies supported by the United States Department of Agriculture and conducted co-operatively by various land grant colleges within four regions of the United States were concerned with housing needs of rural families from the point of view of space required for family activities and the storage of family possessions as well as with family preferences. The regions were identified as the Northeastern, North Central, Western, and Southern. The idea behind these studies was the determination of the amounts and kinds of spaces needed for things farm families actually possess and the things they do, and of the homemaker's preferences relating to housing. The conclusions drawn from these studies suggest that preferences for such things as a pleasant view, a fireplace, an entry hall, and a picture window are associated

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[8]Institute of Home Economics, United States Department of Agriculture, Space Standards for Home Planners; Western Co-operative, Research Report, 1948.

with the sub-region in which a family lives, and with certain social factors such as the level-of-living status of the family, financial position of the families, and the homemaker's age.[9]

Beyer's regional study on housing needs and preferences of farm families gave greater emphasis to housing preferences of the interviewees. It was based on the belief that past and present living habits of homemakers influence their preferences for housing. He reported that preferences varied according to socio-economic status, size of family, and the sub-region in which the family lived.[10]

In a similar manner, Trotter and Liston surveyed Nebraska farm families in order to:

1. Interpret the housing needs of farm families of the state.
2. Determine the differences in housing needs and preferences of farm families residing in different areas of the state and those varying in family income, family composition, and farm tenure.
3. Identify ways in which housing needs and preferences of farm families in Nebraska are different from those in the North Central Region.

Their study revealed that activities carried on in the home are an important factor in planning a house to fit family needs. The major activities of Nebraska farm families were food preparation, laundering, sewing, farm and home business, hospitality, leisure and play.[11]

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[9]Paulena Nickell, et al., Farm Family Housing Needs and Preferences in the North Central Region, Iowa State College Agricultural Experiment Station Research Bulletin 378 (Ames, 1951), p. 10.

[10]Glenn H. Beyer, Farm Housing in the Northeast (New York, 1949), p. 159.

[11]Virginia Y. Trotter and Margaret I. Liston, Farm Family Housing Needs and Preferences in Nebraska, Agricultural Experiment Station, Lincoln, Nebraska, (June, 1954).

Gassett, in a study of activities in relation to space, found that space needed for activities involved in meal preparation and service is related to size of the people, their possessions, their customs, and their habits of work. She also found that the kind and quantity of possessions is related to the size and socio-economic status of the family and to length of time a family has been organized.[12]

Langford found that families carry on similar basic activities in their homes which tend to define spatial needs. Their activities are eating, sleeping, group activities, and personal care. In addition, space is needed for children, study, care of babies, entertainment and hobbies. Besides common activities, families also have desires for convenience, safety, and economic security. Very closely related to space needs, Langford believes, is the family cycle. As a family moves through its cycle, members undergo physical and mental changes, financial stability varies, children are born, grow up, and leave home, interests change and family members form different concepts of life. It is the role of an architect, Langford believes, to determine how the needs of the family will be met in house plans.[13]

Thorpe and Gross studied families' activities and housing preferences of 50 farm families living in Eaton, Ingham, and Clinton Counties in Michigan. The data gathered showed that the activity accounting for the greatest amount of total time spent on any day was leisure by one's self;

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[12]Lorna J. Gassett, Space Allowances for Meal Preparation and Service in the Southern Rural Home, Agricultural Experiment Station, Knoxville, Tennessee (October, 1957).

[13]Marilyn Langford, "A Study of Certain Housing Facilities and Family Activities in Lincoln Park Homes," Columbus, Ohio, 1952, (unpub. Master's thesis.)

eating was second, and personal care was third. The bulk of daytime farm family living within the home occurred in three rooms--the kitchen, the living room, and the dining room. Hence these rooms deserve the greatest consideration in house planning.[14]

Agan and Barnes investigated specific needs of children in relation to building and remodeling farm houses. Two hundred and sixty farm families with children in the Bluestem belt of Kansas were interviewed. The findings showed that farm homemakers have definite ideas of what they need and want in houses. They indicated that they would like to have a heated bedroom on the main floor, a separate laundry room, inside drying lines, a porch for washing and grooming. Inside the house, they wanted privacy for children, and outside, a beautiful view from the kitchen window. The data gathered from this research is intended to help extension research workers, teachers, architects, and others arrange rooms according to their functions and to plan them in sizes needed for the activities to be housed.[15]

Niemi, in investigating the activities and preferences of 84 Ohio families, found that desires for more rooms were related to higher income and preferences for a basement and a work porch were related to lower income.[16]

Wagner believes that "Many houses are being designed today which

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[14]A. Thorpe and I. H. Gross, Family Use of Farm Homes, Agricultural Experiment Station, Michigan State University, (April, 1952).

[15]Tessie Agan and Jane Wilson Barnes, Houses for Farm Families with Children, Agricultural Experiment Station, Kansas State College (June, 1954).

[16]Tynni Niemi, "Present Practices and Activities of 84 Ohio Families and Factors Affecting Their Housing Preferences." (unpub. Master's thesis, Ohio State University, 1949), pp. 109-147.

meet specific room-size requirements but do not satisfy the requirement of livability from the owner's point of view. He states that, "Not only the house itself but also the immediate surroundings of the house, its relationship to the site, and its orientation, must be considered in determining the degree of livability."[17]

The findings of a study carried on by Montgomery, et al., which identified an "image house," suggest that homemakers are "straining" toward a type of house which is an imprint of the mass culture. The findings show also that farm people by and large want essentially the same kind of house as non-farm people. This study was designed primarily to add to the general understanding of rural housing and to delineate those social and economic factors which are closely associated with housing. In addition to exploring the respondents' satisfaction with their housing and certain of their housing values, the study also investigated the kind of housing people would like to have if they could afford to build new homes.[18]

Some informal surveys have been conducted by different organizations and institutions. The publishers of McCall's magazine, for example, carried out a survey to determine respondents' wants and preferences for the interior design of a home. The results of the survey showed that the larger proportion of homemakers preferred a modern dining room, living room, and bedroom, but a traditional kitchen. They also preferred a

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[17]Bernard Wagner, Design for Livability, Housing and Home Finance Agency, Washington (December, 1951).

[18]James E. Montgomery, Sara Smith Satker, and Maie Nygren, Rural Housing in Garfield County, Oklahoma: A Study of Processes, Images and Values, Oklahoma State University Publication LVI, No. 2, Stillwater, Oklahoma State University, August, 1959.

traditional Cape Cod architecture rather than a modern architecture.[19]

With a view to finding out the housing features preferred by Canadian women, the publishers of Chatelaine magazine conducted a survey. The preferences of their respondents were very similar to those of the respondents participating in the McCall's contest.[20]

In 1956 the Housing and Home Finance Agency sponsored a Women's Housing Congress to obtain information from homemakers about problems with housing they wishes to have resolved. One hundred women were selected from many who wrote letters in response to an invitation issued by the agency. These respondents came from all regions of the country.[21] To summarize the results, Heath reports, "the women want homes to serve them in achieving as full an opportunity as possible for the personal development of each member and the family as a group."[22]

The Small Homes Council at the University of Illinois approached preferences by means of a "space laboratory" which the investigators developed in order to reduce as much as possible the subjective judgment involved in housing preferences. The laboratory was designed to provide normal family life. Information was obtained about physical, psychological, and social factors of the family situation. This approach allowed the testing of different spatial arrangements by families, and their

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[19]"Home of Tomorrow Contest," McCall's magazine LXX, Part I (September, 1943), pp. 54-56; LXXI, Part 1, (October, 1943), pp. 58-60, (November, 1943), pp. 66-68, (December, 1943), pp. 54-56, (March, 1944), p. 84; LXXI, Part 2, (April, 1944), p. 86, (May, 1944), p. 78, (June, 1944), p. 88, (September, 1944), pp. 42-46; LXXII, Part 2, (April, 1945), p. 98.

[20]John Caulfield Smith, "News from Canada, 2000 Women Polls on Taste," Architectural Record, CXI (March, 1952), pp. 28-34.

[21]Woman's Congress on Housing, Housing and Home Finance Agency (Washington, D. C., 1959), p. 30.

[22]Annabelle Heath, "Introduction," Woman's Congress on Housing (Washington, D. C., 1956), p. 5.

reactions to various arrangements resulted in recommendations for spatial arrangements.[23]

Findings from the review of literature led to the development of the current study, which is an effort to provide additional information concerning the activities of Pakistani families and certain aspects of their housing.

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[23]Byron E. Munson, "An Experimental Approach to Housing Research," Journal of Home Economisc, L (February, 1958), pp. 99-101.

CHAPTER V

METHOD AND PROCEDURE

After a careful review of the literature, a conceptual framework was outlined to provide direction for development of the study. The basic ideas of this framework were:

1. People perceive various areas of their housing environment as relatively adequate or inadequate.
2. Aspects of a housing environment which do not meet adequately the needs of a given family may be perceived more acutely as unsatisfactory than aspects of housing which do meet satisfactorily the needs of a family.
3. Environment is an important determinant of activities. Housing containing certain kinds of spaces, for example, a library or study is conducive to certain kinds of activity being carried on within the environment, such as study and contemplation.
4. Family or household composition and activities are important determinants of housing needs.
5. An expression of preferences for housing can provide a basis for planning.

Using this framework, a questionnaire was prepared in order to obtain information about the general family situation and certain attitudes and preferences of Pakistani students' families. It consisted of two parts. The first part was concerned with:

1. Information about the respondent's family (i. e., number, age,

sex, composition, occupation of head of household, income), and about the kind of home in which the family lived in Pakistan.

2. Kinds of activities presently carried on by the student's family and the area or areas in the house where such activities are carried on.
3. Evaluations of various activity areas and storage spaces in the Pakistani students' homes.

The second part of the questionnaire was concerned with the respondent's preferences for the kind of house he or she wishes to have in Pakistan in the future.

The questionnaire was pretested by twelve Muslim Indian boys enrolled at Oklahoma State University in the fall of 1961. The purpose of this pretesting was to determine the workability and completeness of the instrument. The Muslim Indian students were used as a pretest group because, before partition (1947), Muslim Indians and Pakistanis lived in one country, "India," and had the same patterns of living.

Following an analysis of the pretest responses, changes were made in the questionnaire according to suggestions made by the pretest respondents and to the nature of their responses. The revised questionnaire was administered to thirty-nine Pakistani students enrolled at Oklahoma State University in the fall of 1961. Of the thirty-nine respondents, twelve are girls studying home economics, who on their return to Pakistan will be teachers in the three Home Economics Colleges at Karachi, Lahore, and Dacca; and twenty-seven are boys studying in the areas of architecture, agriculture, and engineering. Six of the respondents are married.

These thirty-nine students are largely from the middle income classes. The fathers of a majority of the respondents are employed by the Pakistani

government; some are engineers, and some are in business. The mothers of some of the respondents work, mostly as teachers, but the majority of the mothers stay at home.[1] The family incomes of these respondents range from over 1000 rupees to 350 rupees. Over one-half, however, have incomes at the upper level of this range.

The revised questionnaire was administered in small group situations. Each group consisted of two or three students. The writer was present each time a group met, in order to clarify questions raised by the respondents.

The thirty-nine respondents are from different parts of Pakistan and therefore have different backgrounds regarding their culture, housing, occupation, and family patterns. They are, however, largely from only one of the socio-economic classes in Pakistan. Because the Pakistani student population at Oklahoma State University is small in number and largely represents one or two social classes of Pakistan, it is not possible to make generalizations from the data obtained in this study. From the responses given by the respondents, however, the writer has derived some general conclusions about the activities and housing preferences of a selected group of middle-class Pakistani students. In addition, the study has provided experience which will be valuable for future research activities in Pakistan. For example, similar studies can be conducted there to obtain information from a larger representative sample of the Pakistani population.

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[1] This is not unusual in Pakistan. Because of the culture and religious beliefs women are more protected, and they generally do not appear in public. This pattern, however, appears to be changing gradually.

CHAPTER VI

RESULTS AND ANALYSIS OF DATA

The responses to the questionnaires were tabulated and the date analyzed. In general, some similarity of living habits among the respondents whose homes are in West and East Pakistan emerged in the analysis. For example, nearly all thirty-nine respondents concurred in their preferences for a veranda, for washing clothes in the bathroom, and for a courtyard of a future home.

To be functional, a house should have space and facilities to accommodate the family as well as other persons living in the household. The size and composition of a family or household are important factors to be considered in determining space needed by a given family. In order to make recommendations about housing, one must know something about the nature of families for whom recommendations are being made.

The families of the respondents participating in this study range in size from five to eight members. In most families, both parents were living. In addition to their parents, more than one-half of the respondents have one brother and one sister now living in their homes in Pakistan, and one-fourth have two sisters and as many as five brothers along with their parents. One-fifth of the respondents have two or three other adults living along with the family members.

Middle-class families, generally, have servants to help housewives in various household tasks. The number of servants usually employed and housed in the homes of middle-class Pakistani families also provide

additional basis for space requirements, because space available in a house is used not only by family members but also by servants who "live in," that is, within the compound of the house. In planning a house, therefore, one must give some consideration to accommodating these people. Over one-half of the respondents have two to three servants living in their homes; over one-sixth have one servant, and over one-tenth have four to six servants. Only one-fifth indicated that servants live outside the home.

In addition to considering the number of people living in a house, sex of the children is an important factor to be considered, particularly in regard to determining the number of bedrooms needed. Approximately three-fourths of the respondents' families have both boys and girls. If this finding could be generalized, a large proportion of houses built for middle-class families should contain at least three bedrooms according to desirable standards of privacy and space--one for the parents, one for the female child or children, and one for the male child or children. A small proportion of the houses, about one-fifth, should contain a fourth bedroom for other adults living in the family. A house having this number of bedrooms would also be needed by families having five or more children. Judging from the number of respondents reporting servants living in their homes in Pakistan, a room for at least one servant should also be included in the plan of a home.

As indicated in the Review of Literature, Chapter IV, several studies show that a relationship exists between activities and space. Space tends to determine the activities which a family can carry on; conversely, the activities carried on by a family tend to define space needed for satisfactory living. The homes from which these Pakistani respondents come probably have some affect upon the activities of the respondents' families

TABLE I

Number and Kinds of Rooms in the Respondents' Present Homes in Pakistan

Rooms	Number of Respondents (N = 39)
1. Drawing Room	
One	36
Two	3
2. Dining Room	
One	34
Dining-drawing (Combined)	5
3. Kitchen	
One	33
Two	6
4. Bedroom	
One	6
Two	11
Three	9
Four	7
Five	6
5. Child's Room	
One	18
Two	5
No Answer	16
6. Bathroom	
One	12
Two	17
Three	10
7. Store Room	
One	27
Two	6
No Answer	6
8. Garage	
One	22
No Answer	17
9. Other Rooms	
One	13
Two	8
None	18

TABLE II

Adequacy of Storage Space for Household Items

	Type of Storage	Items To Be Stored	Storage Space Is Adequate	Fairly Adequate (N = 39)	Inadequate
1.	Cabinets	Food Supplies	19	8	12
2.	Shelves	Kitchen equipment	15	18	6
3.	Shelves	Dinnerware	11	18	10
4.	Almara[1]	Bed linen	19	11	9
5.	Shelves	Bath towels	11	17	11
6.	Almara	Heavy bedding	8	10	21
7.	Shelves	Medical supplies	14	15	10
8.	Cabinets	Toilet Articles	17	15	7
9.	Shelves	Books, magazines	21	10	8
10.	Almara	Out-of-season clothing	9	14	16
11.	Almara	Clothing worn daily	25	12	2
12.	Shelves	Children's play equipment	9	8	22
13.	Shelves	Laundry supplies and equipment	7	22	10

[1]Almara (wardrobe)

and the respondents' preferences for a future home. More than one-half of the respondents live in conventially built houses in Pakistan; about one-fourth live in apartment houses; and approximately one-third, in some other type of housing. Over three-fifths of the respondents live in single-story houses in Pakistan; and one-fourth, in houses having two stories. Only two respondents live in three-story houses.

The data in Table I indicate that the houses of a majority of the respondents have a drawing room, a dining room, a kitchen, two to three bedrooms, one to two bathrooms, one child's room, one store-room and one garage. The data also shows that the number of bedrooms ranges from one to five or more and that a third bathroom is not uncommon.

Problems in relation to housing which are faced by families can often provide bases for future planning or recommendations. An attempt was made, therefore, to identify certain problem areas in the homes of the Pakistani respondents. Two approaches were used. In the first approach the respondent was asked to evaluate storage and activity spaces provided in his home in Pakistan. In the second approach, which was used to identify problems other than storage, the respondent was invited to indicate the <u>one</u> thing he would do if he could make his home in Pakistan more livable and comfortable.

In evaluating the storage provided in his home, the respondent used three levels of adequacy, "adequate," "fairly adequate," or "inadequate." The data in Table II reveal that for four types of items (food supplies, bedlinen, books and/or magazines, and clothes worn daily) storage is considered adequate by more than one-half of the thirty-nine respondents. For all other items storage is considered as "fairly adequate or inadequate." The types of items for which storage is most often evaluated as inadequate are heavy bedding and children's play equipment. If

these findings could be generalized, it seems that storage should be given greater attention in the planning of future homes.

When given opportunity to list other items for which storage space is inadequate in their homes, the respondents named such items as unused furniture, games, and things that are not often used. Built-in storage is relatively common in the homes of the Pakistani respondents. More than one-half of the respondents' homes have built-in storage. Comments volunteered by these thirty-nine Pakistani students indicated, however, that such storage is generally not sufficient. They feel it is highly desirable, therefore, that built-in storage be included in newly built homes in Pakistan, particularly where small accommodations house a large family. Such built-in storage can be a great help in minimizing frustrations. The writer thinks it worth mentioning here that built-in storage made especially for clothing is not practical in some parts of Pakistan because of the damp climate. Several of the respondents mentioned this point in their responses. Built-in storage space, however, can be utilized for storing other items.

In evaluating the various activity areas of his home in Pakistan, the respondent used the three levels of adequacy previously used in relation to storage rooms. The data in Table III reveal that space for food preparation, eating, studying, sleeping, bathing, child's play, and drying the laundry is considered adequate; spaces for entertaining friends, washing and ironing are fairly adequate; and space for child care is inadequate, according to many of the respondents. Apparently only one-fourth of the respondents feel their present homes are livable and comfortable, because when given opportunity to name a change they would make, approximately three-fourths mentioned one or more changes which were related to interior design or to air conditioning and central heating. A

TABLE III

Adequacy of Space for Various Activities

Activities	Adequate	Space Is Fairly Adequate (N = 39)	Not Adequate
1. Space for entertaining friends	19	14	6
2. Space for food preparation	24	12	3
3. Space for eating	30	7	2
4. Space for studying	21	9	9
5. Space for sleeping	24	15	-
6. Space for bathing	26	12	1
7. Space for children playing	20	11	8
8. Space for child care	11	16	12
9. Space for washing	17	14	8
10. Space for ironing	17	13	9
11. Space for drying	24	9	6

majority of the respondents named an extra room and storage space in one form or another. The respondents seem to be conscious also of the health aspects of the house. Some pointed out the need for more ventilation; others, for a change in the drainage system, a remodeling of the kitchen and bathroom, and changing the waterpump.

In Table IV the data indicate the activities that are carried on in various rooms in the homes of the Pakistani respondents and the activities they prefer to carry on in these rooms in future homes. In the homes of a majority of the respondents the drawing room is used for entertainment, relaxation, and sewing; this room is also a preferred location for these activities. The dining room is used for entertainment and eating, and in a future home the respondents prefer to carry on such activities in these rooms. The kitchen is used by the families of the respondents for cooking, and this is the preferred location for this activity. Approximately one-fifth of the respondents also use the kitchen as an eating place, but about one-half want to have an eating area in the kitchen as well as a dining room in a future home. The bedroom seems to be a center for many activities. Over one-half of the respondents indicated that sleeping, sewing, ironing, and dressing are carried on in bedrooms; one-fifth indicated that child care, relaxing, and studying are also conducted in the bedroom. More than one-half of the respondents want to sleep, sew, iron, dress, and study in the bedroom. Although fewer than one-half indicated that child care and child play are carried on in the child's room, more than one-half prefer the child's room for these activities. Only one-fourth actually study in a study; however, a majority prefer a study room for that purpose. The activities carried on in the bathroom are bathing,

TABLE IV

Present and Preferred Location of Activities

Room	Present Location for Activities (N = 39)	Preferred Location for Activities
1. Drawing Room		
(a) Entertaining	20	18
(b) Relaxing	15	14
(c) Studying	10	19
(d) Ironing	4	--
(e) Sewing	3	--
2. Dining Room		
(a) Entertaining	10	8
(b) Eating	39	39
3. Drawing-Dining Room		
(a) Entertaining	9	13
4. Kitchen		
(a) Cooking	39	39
(b) Eating	6	13
5. Kitchen-Dining Room		
(a) Eating	6	13
6. Bedroom		
(a) Sleeping	39	33
(b) Caring for Child	6	2
(c) Sewing	39	35
(d) Ironing	35	33
(e) Dressing	23	27
(f) Relaxing	15	21
(g) Studying	8	17
(h) Playing with child	8	18
7. Children's Room		
(a) Caring for child	12	27
(b) Playing by child	4	23

TABLE IV (Continued)

Room	Present Location for Activities (N = 39)	Preferred Location for Activities
8. Bathroom		
(a) Bathing	39	39
(b) Dressing	12	5
(c) Washing	34	37
9. Study		
(a) Studying	15	23
10. Veranda[2]		
(a) Relaxing	10	7
(b) Studying	4	6
(c) Ironing	6	5
(d) Drying	4	5
(e) Entertaining	13	14
(f) Playing by child	11	5
11. Courtyard		
(a) Washing	13	26
(b) Drying	30	39
(c) Playing by children	13	8
(d) Entertaining	4	2
12. Bathroom and Courtyard		
(a) Washing	9	11
13. Roof		
(a) Drying	5	9
14. Other Room		
(a) Relaxing	--	1
(b) Studying	--	2
(c) Sewing	--	7
(d) Dressing	--	9
(e) Ironing	--	10
(f) Washing	--	7

[2]Veranda--In Pakistan many social activities are carried on in this area.

dressing, and washing (laundry of small articles of clothing),[3] and the respondents prefer to carry on these activities in a bathroom. A veranda is used and preferred for use for the activities of relaxing, studying, ironing, drying, entertaining, and child's play. A courtyard is used and is the preferred place for washing, drying, child's play, and entertaining. No activities are carried on in a storeroom, and neither do the respondents want to carry on activities in that area.

The type of house respondents are interested in buying or building in the future can often provide suggestions to architects and builders for future planning. The respondents were therefore asked to indicate certain features they would desire in a future home. When asked about the number of stories wanted in a future house, over one-half of the respondents showed preference for a two-story house; slightly fewer than one-half are interested in a one-story house.

TABLE V

Bedrooms and Bathrooms Desired in Future Home in Pakistan

Rooms	Number of Respondents (N = 39)
1. Bedroom	
Two	7
Three	17
Four	10
Five	5

[3]The usual pattern in Pakistan is that of sending laundry to washing houses. These houses are either dry cleaners or washers. They are called "Dhobies." The majority of the clothing items go to them; whereas small items, e. g., blouses, baby's clothes, socks, etc., are often washed in the house.

TABLE V (Continued)

Rooms	Number of Respondents (N = 39)
2. Bathroom	
One	2
Two	17
Three	10
Four or more	10

The data in Table V indicate that a majority of the respondents prefer three to four bedrooms and two to three bathrooms in their future homes. This is quite similar to the number in their present homes. When asked about what other rooms they would wish to have in a future home, over one-half indicated a drawing room, a dining room, a storeroom, a study, a servant room, and a garage. More than one-half of the respondents prefer a gas or an electric stove. The writer believes that gas is becoming more available in West Pakistan and, therefore, it probably will be possible for respondents who so desire to use it in their homes.

The location of a room based upon its use and its relation to other rooms can enhance the function of a room. The respondents' preferences for the location of each type of room were considered valuable in order that suggestions could be made to builders of future homes. Two-thirds of the respondents want to have the drawing room face the street and have a view of the garden. They would like the dining room and the kitchen away from the street and also with a view of the garden. A majority want the bedrooms, both master's and children's, overlooking the garden. It appears from these preferences that the whole planning of a house for a middle-class family should be around a garden, with every room providing a view of something green. This probably could be met by an inner courtyard and a lawn in front of the house.

In Table VI the data show that at least one-half of the respondents want to store magazines and books in the drawing room; food supplies in the dining room and the kitchen; kitchen utensils in the kitchen; dinner ware in the dining room; bed sheets, clothing worn daily, and medical supplies in the bedroom; heavy bedding and out-of-season clothing in the storeroom; children's clothing and play equipment in the child's room; and laundry supplies and bath towels in the bathroom. A majority of respondents also want to have built-in storage for keeping these items.

TABLE VI

Type and Location of Storage Space Desired in Future Home in Pakistan

Items to Be Stored	Drawing Room	Dining Room	Bedroom	Children's Room	Kitchen	Store Room	Veranda	Bath Room	No Answer
			(N = 39)						
a. Magazines and Books	28	-	10	-	-	1	-	-	-
b. Food Supplies	--	7	--	-	17	8	-	-	7
c. Kitchen Utensils	--	3	--	-	35	1	-	-	-
d. Dinnerware	--	33	--	-	4	2	-	-	-
e. Bedsheets and Household Linens	--	-	30	-	--	8	-	1	-
f. Heavy Bedding	--	-	7	-	--	30	-	-	2
h. Clothing Worn Daily	--	-	37	-	--	1	-	1	-
g. Medical Supplies	3	-	25	-	--	5	-	5	1
i. Out-of-season Clothing	--	-	--	-	--	32	-	1	6
j. Children's Clothing	--	-	--	37	--	1	-	-	1
k. Children's Play Equipment	--	-	--	37	--	1	-	-	1
l. Laundry Supplies	--	-	7	-	--	12	-	18	2
m. Bath Towels and Supplies	--	-	3	-	--	2	-	32	2

CHAPTER VII

RECOMMENDATIONS

Recommendations Regarding the Kind of House Certain Pakistani Students Wish to Have

According to activities presently carried on in homes of Pakistani students and preferences for a future home expressed by a majority of the respondents, consideration should be given to the following recommendations when planning a house for this particular group.

1. The house should be of two stories, with at least three bedrooms, two baths, a storeroom and a garage, making approximately six to ten rooms.
2. The house should have a veranda which can be used for relaxation, recreation, and for sleeping in summer. Besides providing for these activities, a veranda also helps control climatic conditions by keeping the house warm in winter and cool in summer. It is almost a necessity for homes which are not centrally heated, a condition typical of the majority of Pakistani homes.
3. A gas or electric stove in future homes is desired. This will definitely reduce the space now occupied by more primitive methods of cooking and the time required for cooking. It will also contribute to the neatness of a Pakistani kitchen.
4. A view of the garden from each room.
5. Adequate storage for each person to store personal belongings,

and also for other household items. Storage should be within the reach of the housewife and should be located at the point of first or more frequent use. According to the financial status of the family, wooden cabinets can be provided in each of the rooms. Even in houses for the lower-income group, wooden planks can be fastened to the walls and used for storing various items. The types of storage which should be provided and the preferred location for these are:

(a) Storage in the drawing room and bedroom for books and magazines.

(b) Storage in the kitchen for kitchen utensils and food supplies.

(c) Storage in the dining room for dinnerware.

(d) Storage in bedrooms for clothing worn daily, medical supplies and bed sheets.

(e) Storage in children's rooms for children's clothing and play equipment.

(f) Storage in bathroom for toilet and laundry supplies.

(g) A separate storeroom for heavy bedding, out-of-season clothing and miscellaneous items.

7. Adequate space in each room to provide for the activities for which the room will be used.

(a) The bedrooms should be big enough for sleeping, relaxation, sewing, and ironing. A corner should be reserved for a sewing machine in one bedroom. Because many of the respondents also indicated they want to sew on the veranda, it might be desirable for the sewing machine to be located near a door leading from a bedroom to the veranda

so that it can be moved outside.

(b) Provisions in the bathroom and the courtyard for washing and drying clothes are desirable. Therefore, one bathroom should be located adjacent to the courtyard (or roof), with ready access to the bedroom.

(c) The kitchen should have space for dining.

(d) The house should have a study room.

The Plan

The respondents' preferences which emerged from the questionnaire, results from other surveys, and the basic principles of house planning were applied in designing a hypothetical house for middle-class Pakistani families. The writer selected a house plan from those that have been developed by the Pak Construction Company and revised it according to the preferences of the respondents which emerged in this study. The Pak Company is a semi-Government institute and is one of the five major house building cooperative societies in Pakistan. The company builds houses on an outright payment and also on programs for easy installments. The plan selected by the writer, Plate No. 1, is built by this company for 18,500 rupees, and the payment could be made in five installments.

In modifying a plan which will accommodate the activities which the respondents wish to perform in a house, one of the three things can be done. The same spatial area can be retained but made more effective by built-in furniture, thus increasing the living space; rooms can be adapted for multi-purpose use--for example, a child's room or dining room can be used for study instead of having a separate room; or more rooms can be added to a house by an extension of a double story. This solution, however, definitely increases cost.

The remodeled plan, Plate No. 2, consists of a drawing room, a dining room, two bedrooms, two baths, kitchen, storeroom, servant's room, and a carport on the ground level. There is a provision also for a staircase to an upper floor. If the family's finances permit, or if the family grows in size, another story can be added. Included in the plan for the second floor, Plate No. 3, are two bedrooms, a bath, and an open area for entertaining. One bath on the ground level is attached to the servant's room so that it can be used by her for washing clothes.[1] Moreover, this bath is near the courtyard, where the clothes can be easily hung for drying. A folding ironing board in one bedroom is provided. Provision is made for storage in each room and, also, a separate storeroom is designed for heavy bedding and for the things occasionally used. Storage is also provided under the staircase in the dining room. Many locations were considered for the staircase. Locating the staircase in the dining room seemed to permit best utilization of the given space. One drawback, however, seems to be that it is in the dining room. This can be compensated for somewhat by making the staircase as decorative as possible. Another alternative would be to enlarge the plan to provide stairway space elsewhere. This did not seem a desirable solution, however, because it was considered important to keep the total area of the house within the cost range that most middle-class Pakistani families can afford. While designing the plan, the author had in mind the view of something green from each of the rooms. This preference had emerged in the responses given by the Pakistani students. The courtyard in the front of the house and also at the back should satisy this preference. A large veranda

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[1] In Pakistan clothing (i. e., small articles or children's clothing which can be washed by hand) is usually laundered by servants.

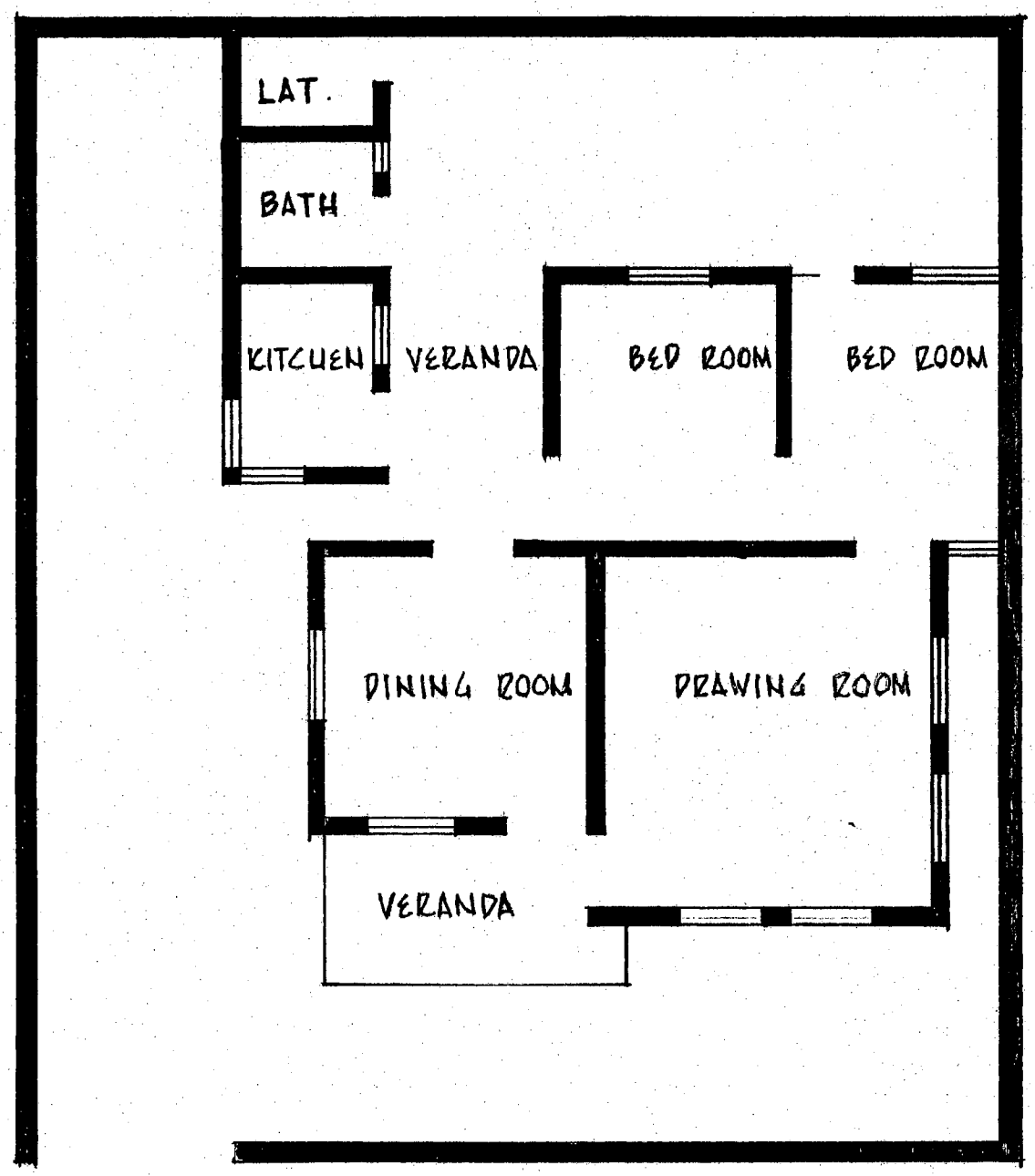

PLATE # 1

Scale: 1 0 1 2 3 4 5

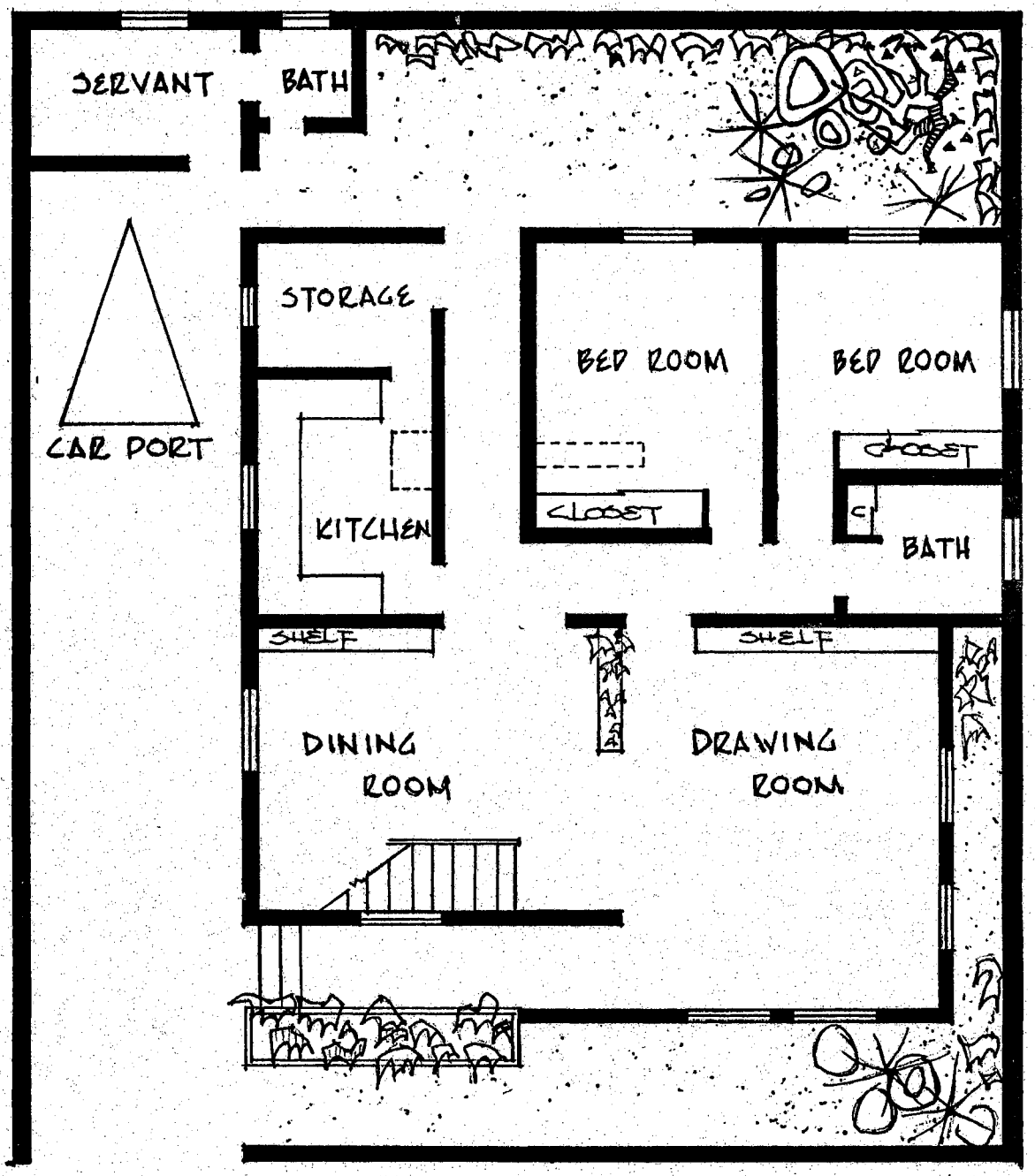

PLATE #2

SCALE: 1 0 1 2 3 4 5

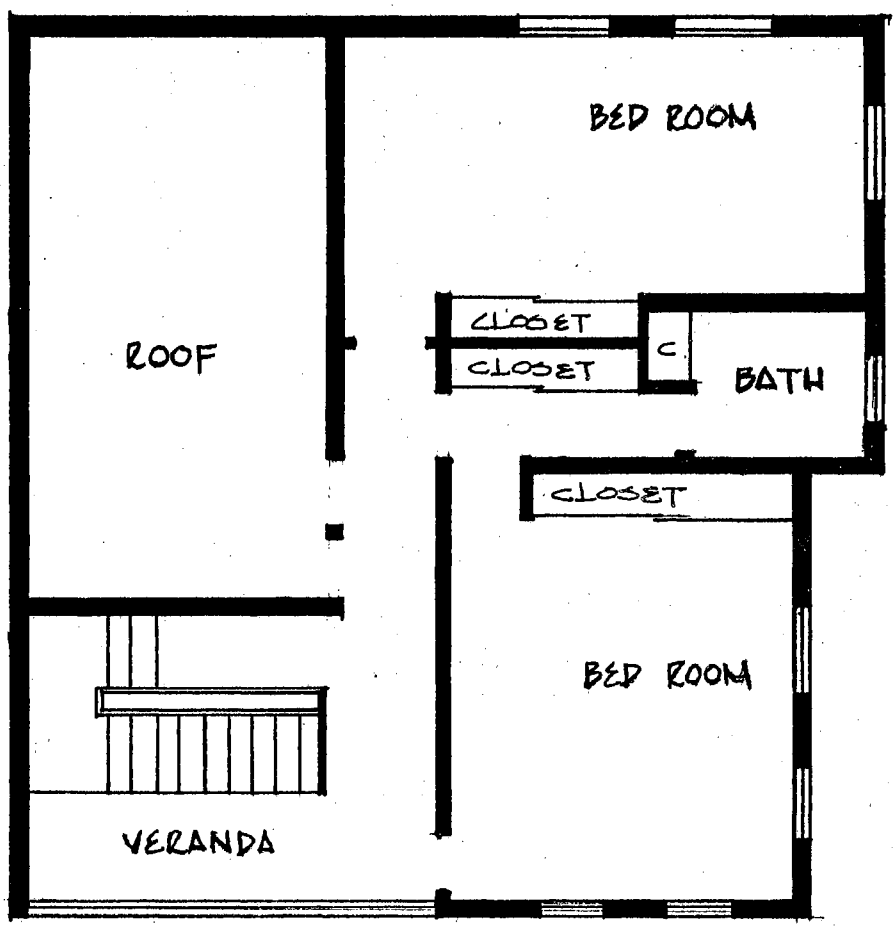

PLATE # 3

SCALE: 1 0 1 2 3 4 5

that can be used for sleeping, relaxing, and entertaining cannot be provided because of the limitation of space; but the roof can be used for these purposes and many more.

The kitchen is so designed that an electric, a gas, or a coal stove could be very well utilized. A shelf which can be folded down when not in use is provided for those wishing an eating area in the kitchen.

This plot includes 2592 square feet. To minimize the building costs, natural building material in Pakistan should be utilized.

Recommendations Regarding Future Research

Because housing is a major problem throughout Pakistan and since satisfaction of family members depends in part on whether their housing needs are met, the author recommends continued study of the ways family members use their houses and their attitudes about housing. Furthermore, the writer recommends that the study be enlarged to include investigation of other income groups, other problems and solutions to them which have relevance to housing.

Data gathered from such a study would be useful to planners and housing research workers since there would be indications of what families expect their houses to do for them and of values families hold in relation to their housing.

Extension workers, teachers, social and welfare agents, family counselors, and commercial agencies could be helped greatly by becoming acquainted with the present housing of families and their needs and desires for housing.

In regard to further investigation along the line reported here, the writer suggests that studies might be enlarged and made more pertinent by interviewing not only the parents but also the children.

Additional research is necessary to learn more about:

1. Activities of the people in their homes.
2. Space requirements of the various activities.
3. The best arrangement of activity centers for maximum conservation of the time and energy of homemakers. Although some research, planning, and designing have been carried on in individual phases of housing, relatively little has been done in kitchen and laundry arrangements, working heights, storage problems, and over-all planning and arrangement of these areas in relation to the house as a whole and to the family's way of life.
4. Factors influencing preferences of people.
5. Methods for educating people to make more satisfactory housing choices.

Summary

According to the American Public Health Association

> . . . Decent housing for every family is an accepted aim. The home must provide psychological environment which regulates illumination, moisture, sound, temperature and ventilation and also a social environment which promotes emotional security and ensures privacy for the family and for the individual.[1]

Housing is believed to affect personality disorganization by contributing to feelings of insecurity or inadequacy, guilt, inferiority, frustration, and depression. Furthermore, it is believed to affect initiative and to undermine the capacity to work.

The general housing conditions in Pakistan need improvement. As

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[1]American Public Health Association, Planning the Home for Occupancy, Committee on Hygiene of Housing, (Chicago, 1950), pp. 1-2.

summarized by Khan,

> . . . The fast growing urban areas of Pakistan, the over-crowding of housing space; the overcrowding of people in limited accommodations and its attendant unhygienic conditions; the uneconomical use of available space; and the use of inappropriate construction materials are some of the forces which call for a concentrated effort to improve housing.[2]

This study is designed to reveal different activities of people in relation to their housing space and their preferences for a future home. It is hoped the study will help in establishing a practice of cooperative planning between the people most concerned and the builders.

A review of the literature showed that little or no research is done in the field of housing in Pakistan. Also, research in the United States has not been conducted until recently. Findings in the literature tend to reveal, however, that a relationship exists between family activities and housing space. They also show that preferences for future housing are based to a large extent on previous experiences and upon such social-economic factors as income or occupation, region in which home is located, and age of homemakers.

An instrument was developed and administered to the thirty-nine Pakistani students enrolled at Oklahoma State University in the fall of 1961. Questions included in the instrument were concerned with certain factors about the individual respondent's family and activities and about preferences the respondent has for selected housing features.

From the analysis of the data obtained, the following conclusions are drawn: Most of the respondents in the sample had definite ideas as to the type and size of the house, number and arrangement of rooms, and

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[2]Aisha Khan, "Associations Between Selected Value-words and Certain Housing Statements Made by Pakistani Students Enrolled in the 1961 Spring Semester at Oklahoma State University, 1961" (unpub. Master's thesis, Oklahoma State University, 1961), p. 1.

the location of work and other activities they want in a future home.

1. A majority of the respondents come from a large family, rank in the upper middle-income group, have fathers in the employ of the Government of Pakistan, and mothers who are full-time homemakers.
2. The respondents' homes in Pakistan are conventionally built homes with plenty of space for the usual activities of individual and families. More than one-half of the respondents had a single-story house with three bedrooms, one to two bathrooms, a storeroom, a garage, a drawing room, a dining room, and a kitchen.
3. A majority of the respondents evaluated spaces for food supplies, bed linen, books and magazines, and clothing worn daily as adequate; storage facilities for heavy bedding and children's play equipment as inadequate.
4. The respondents indicated that the spaces for activities such as sleeping, eating, cooking, bathing, child care and children's play are quite adequate; whereas spaces for washing and ironing are inadequate. None of the spatial areas were considered to be inadequate by a majority of the respondents.

The Pakistani students' preferences in relation to a future home, which emerged from the findings, may be considered as somewhat beyond their probable future income. This is not an unusual circumstance, however, because, as Montgomery points out, the younger generation usually like to think of starting their life with all of those things which their parents have acquired and attained in some fifteen or twenty years of married life.[1]

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[1]James E. Montgomery, "Housing Imagery and the Teaching of Housing." Journal of Home Economics, XLI, (June, 1959), pp. 466-468.

This is logical, however, if we accept the theories regarding perception which show a relationship between an individual's personal experience and what he perceives and believes. Certainly it would be difficult to imagine someone preferring something less pleasant than his current circumstances when the natural tendency seems to be that of reaching ahead to something more pleasant.

The families of the respondents ranged in size from five to eight members. Most respondents have both parents living in their homes. One-half of them have two to three servants also living in their homes. More than one-half lived in conventionally built houses in Pakistan. The homes of a majority of the respondents have a drawing room, a dining room, a kitchen, two to three bedrooms, one to two bathrooms, one child's room, one storeroom, and one garage. The respondents thought that in their homes in Pakistan, storage space is adequate for books or magazines, clothes worn daily, food supplies, and bedlinen; whereas, storage for heavy bedding and out-of-season clothing and children's play equipment is inadequate. Storage for other items was fairly adequate.

The items identified as being something the respondents want to add to or change in their homes in Pakistan are built-in storage, interior design, air conditioning, and control heating, a better drainage system, remodeling of the kitchen and the bathroom, and changing the waterpump. The respondents indicated that the majority of the activities are carried on in bedroom, living room, and kitchen in their homes in Pakistan.

When asked about the home they would like to have in the future, a majority of the Pakistani students prefer to have three bedrooms or more, two or more baths, a living room, a dining room, and a kitchen, a veranda, a garage, a servant's room, and a study. They prefer also that all rooms have a view of the garden.

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A P P E N D I X

Have you ever thought of the improvements that could be made in your present house in Pakistan in order to make it more livable?

Have you ever thought of the house you would like to have in the future?

I believe that housing plays an important part in the betterment of an individual and a family as a whole, and that if housing in Pakistan were of the type that best suits the individuals and families, life in Pakistan would be improved.

I think this type of housing could be provided if those responsible for planning and building Pakistani houses knew what kind of problems the people now experience with their housing and what kind of housing they desire in the future.

Would you help me by indicating on the attached questionnaire, what are some of the problems you feel exist in your own home and you would like to have avoided in the future.

If any of the questions are not clear, please let me clarify for you.

1. Occupation of father/husband _____.

2. Occupation of mother/wife if working _____.

3. In which income range given below do you think your family belongs?

Monthly income in rupees

250 -- 350 _____

350 -- 450 _____

450 -- 650 _____

650 -- 750 _____

750 -- 850 _____

850 -- 1000 _____

4. Who now lives in your home in Pakistan?

(Give number)

_____ father/husband _____ boys, brothers, give ages _____

_____ mother/wife _____ girls/sisters, give ages _____

5. Number of others, who live in your house in Pakistan.

_____ aunts and uncles

_____ grandmother, grandfather

_____ others, e. g., nieces, nephews, cousins, etc.

6. In what type of house do you live in Pakistan (check only one type of house)

_____ conventionally built house

_____ apartment house

_____ apartment in large house

_____ with other family in conventionally built house

_____ other

7. How many stories are there in this house in Pakistan? _____

8. Which of the following rooms do you have in your house in Pakistan? Indicate number of each room.

_____ Drawing room
_____ Dining room
_____ Kitchen
_____ Bedrooms for adults
_____ Children's room
_____ Bathrooms
_____ Storeroom
_____ Garage
_____ Others

9. In your home in Pakistan, do you think the storage space for keeping the items listed below is "adequate," "fairly adequate," or "inadequate?" Indicate your answer by checking in the proper column.

Space is Adequate	Space is fairly Adequate	Space is Inadequate	Items to be Stored
			(a) Cabinets in the kitchen for food supplies.
			(b) Shelves for kitchen equipment and utensils.
			(c) Shelves for dinnerware, cutlery and linen.
			(d) Almara for bedlinen (sheets, pillowcases, etc.)
			(e) Shelves for bath towels and supplies.
			(f) Almaras for heavy bedding.
			(g) Shelves for medical supplies.
			(h) Cabinet for toilet articles.
			(i) Shelves for books, magazines.
			(j) Almara for out-of-season clothing.
			(k) Almara for clothing worn daily.
			(l) Shelves for children's play equipment.
			(m) Shelves for laundry supplies and equipment (e.g. iron, basin, soaps, etc.)

10. Are there some other things for which storage is insufficient? _____Yes _____ No _____ Don't know

11. If so, what are they _____.

12. Do you have any built-in book shelves, cabinets or wardrobes which are used for keeping things? Yes _____ No _____

13. If you could do one thing to make your house in Pakistan more livable or comfortable, what would you do? _____

_____

_____.

14. Indicate if the spaces for the following activities are "adequate," "fairly adequate," or "not adequate." Check in the proper column for each activity listed.

Space Adequate	Fairly Adequate	Not Adequate	Activities
			(a) Space for entertaining friends.
			(b) Space for food preparation.
			(c) Space for eating.
			(d) Space for studying.
			(e) Space for sleeping.
			(f) Space for bathing.
			(g) Space for child care.
			(h) Space for children playing.
			(i) Space for washing.
			(j) Space for ironing.
			(k) Space for drying.

15. How many servants are normally in your home in Pakistan? Number _____

16. Do they live in the house? Yes _____ No _____ Don't know _____

17. Mark the activities which are carried on in the rooms listed at the right in your home in Pakistan.

	ROOMS											
ACTIVITIES	Drawing Room	Dining Room	Kitchen	Bedroom	Children's Room	Bathroom	Study	Veranda	Courtyard	Storeroom	Roof	Other
Sleeping												
Eating												
Bathing												
Cooking												
Reading												
Children playing												
Child care												
Sewing												
Conversation												
Entertainment												
Laundry												
a. Washing												
b. Ironing												
c. Drying												
d. Dyeing												
e. Mending												
Recreation												
Grooming (Dressing)												
Gardening												
Relaxing												
Studying												
Hobbies												

18. If you were to build or buy a house that you think would be just right for you (and your family)

    a. How many stories would it have? _____

    b. How many bedrooms would it have? _____

    c. How many bathrooms would it have? _____

    d. What other rooms would it have? _____

    _____

    e. How many rooms would it have altogether? _____

    f. Would it have a veranda? Yes _____ No _____

    g. If yes, how would you plan to use it? _____

    _____

    _____

    h. What kind of a stove (chula) would you like to have in your home in Pakistan?

    Electric _____ Wood _____

    Gas _____ Coal _____

    Oil _____ Other _____

19. Indicate the location you prefer for each room given on the left.

Drawing Room	Dining Room	Kitchen	Master's Bedroom	Children's Bedroom

(a) View of the street.

(b) Away from the street.

(c) View of the garden.

(d) No preference.

20. Indicate where you would like to store (keep) the following articles by checking the proper room.

Items to be stored	Where you would prefer storing items							
	Drawing Room	Dining Room	Bedroom	Children's Room	Kitchen	Storeroom	Veranda	Other
a. Magazines and boxes								
b. Food supplies								
c. Kitchen utensils								
d. Dinnerware								
e. Bed sheets, etc.								
f. Heavy bedding								
g. Medical supplies								
h. Clothing worn daily								
i. Out-of-season clothing								
j. Children's clothing								
k. Children's play equipment								
l. Laundry supplies								
m. Bath towels and supplies								

21. Would you like to have built-in cabinets, shelves, almaras to store (keep) the above items? Yes _____ No _____ Don't know _____

22. Indicate in which of the rooms given on the right you would prefer to carry on each activity listed on the left.

ACTIVITIES	ROOMS											
	Drawing Room	Dining Room	Kitchen	Bedroom	Children's Room	Bathroom	Study	Veranda	Courtyard	Storeroom	Roof	Other
Sleeping												
Eating												
Bathing												
Cooking												
Reading												
Children playing												
Child care												
Sewing												
Conversation												
Entertainment												
Laundry												
a. Washing												
b. Ironing												
c. Drying												
d. Dyeing												
e. Mending												
Recreation												
Grooming (Dressing)												
Gardening												
Relaxing												
Studying												
Hobbies												

VITA

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Master of Science

Thesis: RECOMMENDATIONS FOR ADAPTION OF SPACE IN HOUSES BUILT FOR MIDDLE-CLASS PAKISTANI FAMILIES BASED UPON ACTIVITIES AND PREFERENCES OF PAKISTANI STUDENTS ENROLLED AT OKLAHOMA STATE UNIVERSITY, FALL, 1961

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