

From Tradition to Transformation: Architectural Evolution in Pakistani Homes



Muhammad Taimur Sarwar	Associate Professor, COMSATS University Islamabad (Lahore Campus) Department of Architecture muhammadtaimur@cuilahore.edu.pk
Shua Tahir	Lecturer, COMSATS University Islamabad, (Lahore Campus) Department of Architecture shuatahir@cuilahore.edu.pk
Sana Hafeez	Assistant Professor, University of South Asia, Lahore Department of Architecture sana.hafeez@usa.edu.pk

Abstract: *A country's socioeconomic progress is heavily influenced by its living conditions. It is valued by all nations for its importance and ability to promote social welfare and create a progressive society. It is not just a basic requirement, but also necessary for security, stability, comfort, and success*

Struggles in selecting a suitable residence are common experiences, with the plethora of options available catering to diverse cultures, family dynamics, and lifestyle preferences. In Pakistan's contemporary housing sector, developers often produce standardized homes, prompting homeowners and renters to invest significant time and effort in renovations to personalize their living spaces. Architects aspire to streamline this process for end-users by comprehensively grasping modern family dynamics and spatial utilization within homes. This necessitates a thorough spatial analysis and insight into current trends to enhance future design endeavours.

This proposed research aims to contribute to this overarching objective by delving into the nuanced understanding of spatial functionality within households. By leveraging this knowledge, architects, developers, and students can collaboratively strive towards crafting more efficient and friendly living environments.

Keywords: Transformation, Architectural, Pakistani, Architects,

RESEARCH QUESTION

How do Pakistani families ranging from three to seven members use the common spaces in their home through the early morning and late evening hours of their day?

RATIONALE

To improve the efficiency and comfort of common spaces within a house, such as living rooms, dining areas, outdoor spill out spaces, and so on, a complete understanding of how individuals and families utilise these spaces is required. Many residences in various cities across Pakistan contain a large amount of unutilized space. This research will assist with

in enhancing the residential design process, allowing families to choose the most suitable house for their specific needs.

Pakistan is one of the most populated countries, with a current population of 207.78 million. The population's yearly growth rate is 2.40% (Pakistan Bureau of Statistics, 2020). Pakistan's population is expected to reach 250 million by 2025, with more than half of the people living in cities. With the changing population the demand for housing is also increasing day by day. Certain reasons such as Rapid population increase, urbanization, changing social patterns, and movement from rural to developed regions are driving up demand for housing in Pakistan.

Population and housing unit data in Pakistan from 1998 to 2017 show that they are expanding with time and across provinces. With the increase in population, Pakistan confronted a number of socioeconomic issues, including a shortage of adequate housing amenities. The housing shortfall, which was 1.07 million in 2020, will expand to around 6.9 million dwelling units by 2025 and by 2030, Pakistan needs 20 million dwelling units on 1% more land. (Bhutta, 2022). Hence, the government is being burdened by the demand for homes in Pakistan. In contrast, Pakistan's government has no proper housing programmes. Given the existing condition, Pakistan will face a severe scarcity of new affordable housing. According to Pakistan's social living standards, the majority of people do not even have an appropriate place and shelter to live comfortably. Furthermore, unlawful housing developments and horizontal development in the country are profit-driven rather than need-based.

Unsustainable practice arrangements should be addressed rather than replicated. (Kristen, 2014).

Hence the further detailed scope of this research has the ability to go deeper into other spaces understanding the dynamics of housing practices in Pakistan, and has the possibility to receive funding from large scale developers and builders as this research will directly help the sale of their properties.

RESEARCH PLAN

To come to a conclusion at the end of this research project it needs to be conclusive and

PILOT TEST ONE

Survey:

Questionnaire

heavy on the analysis. The research plan will involve the completion of two methods of information collection, namely – surveys and interviews as well as an observational study. To gather the right sample pool, there will need to be some pre survey work to collect basic family sizes and housing location. This information will then provide a list of a possible 300 participants who can be part of the larger survey.

The survey is key to selecting a pool of people that will be part of the observation portion of the study. As the portion of the day is as specific as it is, the individuals need to match certain requirements i.e. be part of a working or college going household, living in a home within the city, and be part of a household of 3-7 members.

Once this pool has been selected, the pre-observation work of collecting floor plans of homes, or visiting homes to sketch out floor plans must be done, and compiled and sorted in similar packages of home sizes and family sizes. The observation can either be done by the placement of video cameras, or self observation by placing one's self in the environment. The former is a better method as its results will be less skewed.

Once all of the observations-for at least 50 homes- is done, the compilation process begins. Dot diagrams, adjacency analysis, movement patterns etc must be made for all of the families observed, and key points and similarities noticed. This will lead to a compiled book of information that will be a clear understanding of the family type and the research topic.

BASIC		
SR NO.	QUESTIONS	OPTIONS
1.	What is the structure of your family?	a) Nuclear b) Joint c) Living Alone
2.	IF you answered (b) to the above question, What is the size of your family?	a) 3 b) 4-5 c) 6+
3.	Do you rent or own your home?	(a) or (b)
4.	IF the answer to the above question (b). Was it designed with you in mind?	(Y) or (N)
5.	Do you live within the city or in the outskirts?	(a) or (b)
6.	Would you consider the size of your home sufficient for your family's needs?	(Y) or (N)
ADDITIONAL		
7.	Do you share your room with a family member?	(Y) or (N)
8.	Do you have your own bathroom?	(Y) or (N)
9.	Do you have servants?	(Y) or (N)
10.	Is your kitchen a master's kitchen or a servant or a combination of both?	(a) or (b) or (c)
11.	Do you have a garden or balcony space?	(Y) or (N)
12.	IF you answered (y) to the above question, Do you use it as a family?	(Y) or (N)
13.	Do you have a television?	(Y) or (N)
14.	IF yes, One or multiple?	(a) or (b)
15.	Does your house have a Study Space?	(Y) or (N)
16.	IF (n) would you like to have one?	(Y) or (N)
PERSONAL SPACE		
17.	How many hours a day do you spend in your room?	a) Under 4 b) 5-6 c) 6-12
18.	Do you eat meals at the dining table?	(Y) or (N)
19.	IF (n) then where? _____	
20.	Do you have frequent visits from your neighbours?	(Y) or (N)
21.	Do you have a designated space to entertain guests or is it free for all?	(Y) or (N)

ENTR Y NUM BER	QUE STIO N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1.		b	b	b	y	a	y	y	n	y	c	n		Y	B	n	y	b	y		y	a
2.		a	a	b	n	a	n	n	n	y	a	N		Y	A	n	n	c	n	tv	n	a
3.		b	c	b	y	a	Y	n	y	y	c	Y	n	Y	b	y		a	y		y	A
4.		a	a	b	y	a	y	N	y	y	a	y	n	Y	a	y		b	y		n	A
5.		a	a	b	n	a	Y	n	y	n	b	y	n	y	b	n	y	c	n		n	A
6.		a	a	b	y	a	y	n	y	y	c	y	y	y	a	y		a	y		y	b

7.		b	c	b	y	a	n	n	y	y	b	n		y	b	n	n	c	y		n	a
8.		b	b	b	n	a	y	n	n	n	a	n		y	a	n	y	B				
9.		c		a		a	y	n	y	n	a	n		n		n	y	c	n	co uc h	n	b
10.		a	a	a		b	y	n	n	n	a	n		y	a	n	y	b	n	tv	n	a
11.		a	a	b	n	a	n	n	y	y	c	y	y	y	a	n	y	a	y		y	b
		a	a	b	y	a	y	n	y	y	a	n	n	y	a	n	y	a	y		y	b

PILOT TEST TWO

Research Question:

Name the Method

Observation of environmental behaviour

Plan for how to test the method

Pool of individuals decided from the larger survey pool based on the specific criteria of

i) family size ii) working household iii) Location of the property.

- Collection of information like Floor plans, and work schedules

-Tools required:

i) Drawing supplies like vellum, markers etc

ii) Video – camera and Tripod

- The pilot test will occur over a 2-3 hour period of the morning hours, before the participants leave for work etc, and a 2-3 period for when the return home. This could be conducted on two different days, if the need arose.

Finalize data collection tools

As stated above, this will include video of the movement of participants within the common spaces of their home such as living rooms, dining rooms, kitchens, out door spill out zones etc. People path movement, and time duration spent at certain locations, as well as the activity taking place at the me. These will be collected in forms of dot diagrams, path diagrams as well as written analysis of the movement of each individual family member. **Pilot Test**

conducted

Family size: 3 Members

Individual Occupations & Schedules

Mother: Retired

Father: Manager at testing lab at a hospital – Leaves at 8:30 am and returns at 4:30 pm

Son: School Teacher – Leaves at 6:30 and returns at 3:30

Observation Time: Between 6:00 am and 9:00 am and 3:00pm and 6:00 pm

Type of Observation: Personal presence

Observation made:

The family members were very independent of each other in terms of their movement. As each of them had their own routines and comfort corners in the home.

Father: - would wake up early, make breakfast and get ready to go to work, doing nothing extra other than what was needed for his timely departure.

Time spent most at dining table, while eating breakfast, morning coffee as well as me to read the newspaper.

Pace of movement was relaxed and following a strict routine.

On his return, most time was spent outside, tending to the lawn, and other household chores. Followed by spending most of the rest of the observational time in the family living room, watching tv, reading the newspaper and

attending to emails and phone calls.

One can conclude that, as the participant had a strict routine that he followed in a timely manner, there was a use of multiple spaces within the home. The spaces most utilized in this period by the participant were the family room, and the open kitchen dining room.

Note :- In the six hour period of observation, the study and the living room were not visited by the participant at all.

Son: - Woke up just in me to leave for work, get ready and spend a few minutes in the kitchen before leaving through the back door.

LITERATURE REVIEW

The housing industry is fast becoming Pakistan's largest sectors. The demand of housing in cities has increased considerably because of the steady movement of people from the rural towns into the urban sprawl of cities. By 2030, more the 250 million people, will live in a Pakistani city. "Pakistan needs a much wider variety of homes" Yet Pakistani developers, have thousands and thousands of their units unsold. There is a high demand, and there seems to now be a steady supply, but there is something missing. To understand the issue, we must go back to asking the question, what do Pakistani families need from their homes? These needs have changed drastically over the last decade or two, and yet the market standards of homes of a strict size is in existence. Families today want efficiently sized homes, reducing the cost of purchase as well as the cost of maintenance.

Before colonization, the "typical" Pakistani vernacular house had a central courtyard that naturally expanded outward and had outside walls that reached the boundaries. (Glover, W 2008). The developments for the ruling British class deviated from tradition during the colonial occupation in the late nineteenth century, both in terms of their houses and the city as a whole. As seen in the British Cantonment and Civil lines, Pakistani architecture under colonization followed a more rigorous, gridiron pattern of growth, which resulted in an outward-oriented home layout. Indian customs required a more flexible use of residential areas, but British

regulations required different floor plans and layouts. (Shorto. S, 2007).

The freestanding detached British bungalow and the inward-facing conventional house were thrust into an "architectonic fusion" by the early 20th century. (Khan M.A ,1983). Later on, the emergence of a colonial perspective on public health and sanitation was also a force for change that ran parallel to concepts of comfort and suitable housing in which the focus was to enhance the use of light and air in the indoor spaces. however, practical use remained firmly ingrained in tradition, maintaining the joint family traditions. (Petherbridge. G.T, 1978).

Colonial traditions were covered over with modernistic Western ideas of form and material utilization when the country gained independence in 1947. The 1950s and 1960s saw the rise of bungalow-style homes, which lacked interior outdoor areas. Backyards were entirely disappeared by the late 1970s. As housing projects became more commercialized and privatized in the 1980s, gated community developments targeting middle-class and upper-middle-class households emerged, based on income and class. Rigid building standards and rigorous adherence to street alignment have led to a homogenization of house designs in Pakistan, which typically undermines factors such as climate and solar orientation. Modern middle-class homes typically have an open floor design, maximized covered area, and few exterior spaces on the outside. Pakistan's spatial arrangements have changed as a result of shifting political, economic, and sociocultural structures. While larger systems of practice had an impact on changes in the layout of spaces, understanding how these changes affected household practices and social structures in turn, and how they eventually resulted in costly configurations in Pakistani middle-class homes, is crucial. (Watson. M, 2012).

Understanding the psychology of Pakistani living spaces requires insight into the cultural norms, social dynamics, and individual preferences that influenced the design and circulation patterns within homes such as

family-centric design in which they prioritized family interactions and communal living. Spaces were designed to accommodate extended family members, including elders and children, fostering a sense of togetherness and cohesion. As a result, living areas were often spacious to accommodate gatherings and social activities, reflecting the importance of familial bonds in Pakistani culture. While communal living was valued, there was also a concept for privacy and personal space within Pakistani households. Homes were often designed with segregated areas, such as separate living rooms or sitting areas for men and women, allowing for privacy while maintaining social connections. Additionally, bedrooms are considered private sanctuaries, providing individuals with personal space for relaxation and solitude. In traditional Pakistani architecture, the central courtyard or "walled garden" served as the focal point, with rooms arranged around it. This layout encouraged natural ventilation and facilitated movement between indoor and outdoor spaces, where

climate played a significant role in shaping the design of living spaces. In regions with hot summers, courtyards and verandas were utilized to provide shade and ventilation, while in colder areas, enclosed spaces and heating systems were prioritized for comfort. Hence, Pakistani living spaces reflected a balance between communal living and individual privacy, with design elements and circulation patterns tailored to accommodate social interactions, cultural practices, and environmental considerations.

Housing has never been a static entity, it has grown with the time, and yet today it is stagnant. Household structures have changed considerably with time. The large joint family scenario with over 30 people living under one roof, is in the past. The traditional and cultural systems are being overtaken by nuclear and single-family units of hence much smaller sizes. This displays a great connection between demography, housing and homes. To be able to utilize the study of demography in the architectural field, the understanding of the subtle difference between households and families begins to play an important role. A

household can be simply defined as co-residence where as a family is usually related to kinship and other social relationships. (T K Burch, 2001) Home sizes in terms of square-feet depend on the number of people that live in a space, where as adjacency, circulation and spaces of co habitation depend directly on the relationship between members of a family. This understanding helps relate the theory of demography to the actual built form and progressively design to accommodate the constant change within the urban sprawl of our cities.

Globalization and changes in culture have an extensive impact on the shifts in trends within the housing market. There has been much speculation as to how predictions can be made with respect to these shifts. The preferable option over mere speculation is the theoretical analysis of the above. Using the man-environment relationship to better the understanding of the needs as well as to better the process of design. Design requires knowledge based on research of how people and environments interact, whether the bio-social, psychological or cultural characteristics of individuals that shape the physical environment around them. "In order to be useful, a MER approach must be based on theory. In other words, a cogent, coherent overall conceptual framework needs to be developed and used. MER is more than a tool to aid in programming and design: It needs to be seen as an emerging new theory of designs, a new way of thinking, of seeing problems – of asking why one designs, what one designs" (Rapoport, 1983). The housing market in Pakistan has now found itself in a rut of cut copy and pasting modules from decades gone by. A tool like MER, used to understand present needs and would really help better the entire process of design, rather than the constant modification of the product.

A tool like MER, can be used to derive great solutions but these solutions tend to later be mass produced and the vicious cycle begins again. MER needs to be done for every type of situation, location and type of population for it to be thorough and actually useful.

This idea is very clearly illustrated in the book,

Dwellings across the world, by Paul Oliver. The thorough observation and later analysis of why people build their homes a certain way. To be able to build for this rapid change in the field, there needs to be a deep foundation with what has gone by in the past. An understanding of the traditional and the vernacular, and the comprehension as to the reasons for the shift, will bring logic to the end product i.e. the design of the essential dwelling.

“Shelter is usually identified as a basic commodity that all people need for survival. Housing needs describe the role that shelter or the home environment can play in the life of a person to assure survival and perhaps, to thrive as a Human Being” quoting Beamish, Goss and Emmel from the article ‘Lifestyle’ influences on housing preferences, one can eloquently describe the sheer importance of housing, as the basic need for man.

Similar research topics that have been undertaken in the past have used various methods to understand the spatial relationships within homes. Frances Hollis was involved in a project that researched the Space, Buildings and life of home-based workers. The aim of the research was to better the design process. The methods used were highly successful. They included, photography, orthogonal drawing, and diagram-making. The primary concern of the researcher was to understand the ordinary lives of people. This ends up being a collaboration of sociological and architectural research. Not only did the research analyse the current use of the spaces but it strived to better understand the

historical and contemporary significance of the spaces and buildings.

Visual material produced by architects with respect to the analysis of space, illustrates the constraints that the user undergoes. But research methodologies can not solely be visually based. There needs to be a definite emphasis on the investigation of the living environments of the inhabitants as they perceive it. This data can be collected in the forms of interviews, surveys and the studying of plans, sections and other architectural drawings. Videography is also a key analytical tool, as it provides the researcher a visual notebook.

This brings up an ethical issue of comfort for the participants, whether it be noise levels when their interview was being taken, or their sensitivity to being photographed. (Sieber 1992) This is an issue that most qualitative research will be required to deal with. The ability to extract the adequate amount of information from the environment as well as its inhabitants without infringing on their personal space, or hurting their feelings is key to good research.

Other forms of the visual analytical nature are topological diagrams, that show spatial relationships, in terms of shape, size and position. These are then colour-coded according to function. (Holiss, 2012) These diagrams show either a prevalence of public, private or utilitarian spaces. This method of analysis makes comparison of two dissimilar units far easier, e.g. topological diagrams of two different homes below in fig i and ii

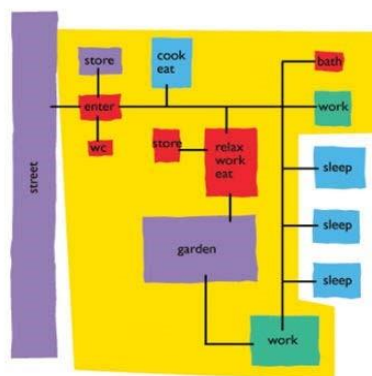


Figure1

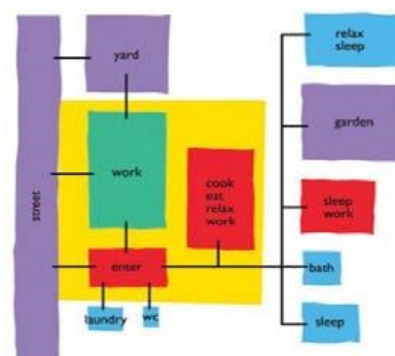


Figure 2

Research of a topic of this nature deals with a combination of an individual's perception of their need and use for a space with the actual manifestation of reality. This brings up the concepts of 'lived' space, which involves the ideas people have about spaces in their head, that is usually portrayed by images, or imagination and then description or through general speech. Space has many layers of meaning. Henri Lefebvre's (1991) conceptualized these different types of spaces and provided a framework for interpretation. Space is not a fact of nature, neither is it an empty vessel in which activities merely take place. Space has a constant relationship with its inhabitants, and the product is what the society produces as a whole. (Lefebvre, H. 1991)

The above literature brings together the possibility to answer the question of spatial use. The understanding of who the inhabitants are, the choices they make as well as the background they come from is part of the social realm. The physical manifestations of these choices in the housing units they live in, and the analysis behind the uses of these homes brings in the architectural connection.

Only once, there is a clear understanding of the present scenario, can there be progress made. There is a dire need of the betterment of the design methodology within the housing market in Pakistan. There is also a time crunch, that is leading to a downward spiral. Using a theoretical framework to produce a possible design rubric has now become necessary to be able to arrive at a better future for our cities.

CONCLUSION

In conclusion, this research has shed light on the evolving dynamics and layout of living spaces in Pakistan, spanning from the pre-colonial era to modern times. Through an exploration of how Pakistani families, ranging from three to seven members, utilize common spaces in their homes during the early morning and late evening hours, we have uncovered significant insights.

Our findings highlight a departure from traditional spatial arrangements towards a standardized approach in housing design. This trend, characterized by the replication of similar

2BHK or 3BHK units across various locations, overlooks the diverse needs and preferences of inhabitants. Consequently, homes lack identity, functionality, and purpose, failing to effectively accommodate the activities and routines of occupants.

To address these shortcomings and enhance the design process, the introduction of the MER (Meaning, Experience, Response) tool emerges as a valuable solution. By prioritizing the understanding of users' needs, aspirations, and daily rituals, architects and designers can create living spaces that are not only aesthetically pleasing but also responsive and tailored to the unique requirements of Pakistani families.

Moving forward, it is imperative to integrate user-centric design principles into the architectural practice, thereby fostering environments that promote well-being, connectivity, and a sense of belonging for all occupants. Through thoughtful consideration of spatial organization, circulation patterns, and amenity provision, we can pave the way for a more inclusive and enriching built environment in Pakistan.

REFERENCES

- Bhutta, Z. (2022, July 8). Real estate group seeks long-term policy. *The Express Tribune*. Retrieved from <https://tribune.com.pk/story/2365216/real-estate-group-seeks-long-term-policy>
- Pakistan, Ministry of Statistics, Pakistan Bureau of Statistics. (n.d.). Press Release of Provisional Summary Results of 6th Population and Housing Census- 2017. Retrieved March 20/10/2020, from http://www.statistics.gov.pk/assets/publications/Population_Results.pdf.
- Asad, A. (2022, May 1). YEARNING FOR HOME SWEET HOME. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/2355002/yearning-for-home-sweet-home#google_vignette
- Kirsten Gram-Hanssen (2014) New needs for better understanding of household's energy consumption – behaviour, lifestyle

or practices?, *Architectural Engineering and Design Management*, 10:1-2, 91-107, DOI: [10.1080/17452007.2013.837251](https://doi.org/10.1080/17452007.2013.837251)

- Glover, W. J. (2008). *Making Lahore modern: Constructing and imagining a colonial city*. U of Minnesota Press.
- S. Shorto, 'A tomb of one's own: the Governor's house, Lahore', in: P. Scriver, V. Prakash (Eds.), *Colonial Modernities: Building, Dwelling and Architecture in British India and Ceylon*, Routledge, Abingdon, 2007, pp. 151–167.
- M.A. Khan, "Informal" Architecture: an Examination of Some Adaptive Processes in Architectural Traditions, MSc thesis Massachusetts Institute of Technology, 1983.
- G.T. Petherbridge, Vernacular architecture: the house and society, in: G. Michell (Ed.), *Architecture of the Islamic World: its History and Social Meaning*, Thames and Hudson Ltd, London, 1978, pp. 176–208.
- M. Watson, How theories of practice can inform transition to a decarbonised transport system, *J. Transport Geogr.* 24 (Sep. 2012) 488–496.
- Burch, T. K. (2001). Teaching the Fundamentals of Demography: A Models-Based Approach to Family and Fertility. *PSC Discussion Papers Series*, 15(2), 1.
- Rapoport, A. (1983). Development, culture change and supportive design. *Habitat international*, 7(5-6), 249-268.
- Sieber, J. E. (1992). The ethics and politics of sensitive research.
- Lefebvre, H. (2014). The production of space (1991). In *The people, place, and space reader* (pp. 289-293). Routledge.