

The Influence of Traditional Residential Architecture on Modern Architecture: An Evolution Rooted in Functionality and Aesthetics

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ABSTRACT

Architecture has always shown how people live, think, and interact with their environment. In India, traditional homes were more than just places to live. They were carefully designed spaces shaped by the climate, culture, and community. They used local materials like stone, clay, and wood, which fit naturally with the surroundings. Courtyards brought in light and air; jaalis helped reduce the heat from sunlight, and sloped roofs kept out heavy rain. Every part of the design had a clear purpose based on real needs and understanding of the environment. This research examines how ancient home designs have inspired modern architecture in India, demonstrating that these old concepts continue to shape modern building methods.

Social systems also played an important role, shaping spatial patterns that valued family hierarchy, communal living, and the integration of private and public spaces. These homes were enhanced by craftsmanship, with intricate carvings, murals, and defined woodwork acting as signs of local identity. Traditions such as Vastu shastra, which promotes peace and wealth, gave homes a deeper meaning. Architects are still motivated to create meaningful and creative spaces by traditional designs that are rooted in sustainability and cultural identity.

The connection between the past and present showcases the enduring creativity of humanity in shaping the places we call home. This study explores how traditional Indian residential architecture has shaped modern design, showing that meaningful architecture grows not by forgetting the past but by learning from it.

Keywords: Traditional Housing, Modern Residential Design, Architectural Evolution, Functionality, Aesthetics, Climate-Responsive Design, Vernacular Principles, Courtyard houses, Bengaluru.

METHADODOLOGY

This study takes a qualitative and comparative approach to understanding how traditional domestic architecture has affected modern housing, with Bengaluru as the study context. A qualitative method provides for a more in-depth and thorough study because it focuses on spatial features, cultural values, and design evolution rather than numerical data. The study begins with a survey of the literature to better comprehend traditional home elements such as courtyards, climatic responsiveness, material usage, spatial hierarchy, and principles of Vastu, as well as how modern architecture evolved over time.

Then, using common criteria like material selection, light and ventilation, spatial design, and artistic expression, a few traditional and modern homes in Bengaluru are compared.

INTRODUCTION

The history of Indian housing is about more than simply walls and roofs; it is about how people transformed their surroundings into places to live. Traditional Indian dwellings were constructed using observation, experience, and knowledge passed down from ancestors long before cooling systems or strong concrete structures were invented. The way places were organised and constructed was influenced by the local environment, workmanship, beliefs, and way of life. As Amos Rapoport (1969) argues in *House Form and Culture*, house forms are never accidental; they emerge from the cultural and environmental contexts in which people live [1].

RESIDENTIAL ARCHITECTURE

Residential architecture has evolved through a complex interaction of cultural history, technological innovation, environmental adaptability, and aesthetic preferences. Traditional residential architecture has influenced current architectural techniques through both explicit design components and unspoken functional principles developed over centuries of human residence. This link is especially noticeable in places like Bengaluru, a city in India, where a dynamic conflict between adopting modern construction techniques and conserving vernacular building wisdom has been created by fast population growth and technological advancements. The fundamental premise that traditional architecture evolved as an optimised response to local climatic conditions, available materials, and social structures is a compelling foundation for understanding how these historical solutions continue to influence modern design decisions, even as aesthetic priorities shift toward globalised architectural languages.

LITERATURE STUDY

Bengaluru

Bengaluru's architecture tells a story of change and tradition. For centuries, homes here were built to fit the climate, support community life, and use local materials. But recently, the old styles have been replaced by newer designs that focus on speed, size, and global trends. Studies shows that this shift is not same everywhere. It happened in different parts, influenced by changes in politics, the economy, and what people care about in their homes.

Bengaluru's old homes and early colonial buildings were built using local traditions and practical knowledge. The city's changing weather was handled with open courtyards that kept things cool through evaporation, natural airflow, and shading, which were developed over time through experience. Prominent areas like Jayanagar, Basavanagudi, and Malleswaram were characterized by their quiet neighbourhoods and traditional houses with gardens and courtyards [2]. Residential areas predominantly consisted of independent houses and bungalows. These homes often featured traditional architectural elements like sloping tiled roofs, verandas, and red-brick construction.

Traditional Residential Architecture In Bengaluru

The traditional residential architecture of Bangalore, India, is evidence to the intricate balance between functionality and aesthetics. These dwellings, rooted in the region's cultural heritage, have long served as a reflection of the local community's way of life, beliefs, and philosophies [3].

Bengaluru's homes used to work with the local climate instead of fighting against it. They had thick walls made of granite or laterite, deep covered porches, and open courtyards that kept homes cool through air movement, evaporation, and the heat-absorbing properties of the materials. These were not just style choices; they were proven ways to handle Bengaluru's warm weather, seasonal rains, and strong sunlight

(average temperature 24.5°C). The porch acted as both a shelter from the weather and a place for people to gather, where neighbours spoke, kids played, and everyday life happened in a friendly, respectful way. The courtyards were not just for the looks, they were practical. They brought in sufficient light, helped air move around, collected rainwater, and was a place where the family gathered.

Older neighbourhoods already knew this instinctively. The classic Bengaluru home with tiled roofs, stone walls, airy verandas, and shaded courtyards was an architectural love letter to the city's weather. Evenings were meant to be spent outside, under trees that filtered the fading light. Summers were softened by the cool of stone and open air. Modern sustainable design in the city is rediscovering what older homes always knew, that comfort does not come from technology alone, but from a building's relationship with its environment [4].

The intricate designs and functional elements of traditional Indian homes reflect a deep connection to cultural heritage and environmental context. Key features such as courtyards serve as multifunctional spaces, not just for recreation but also for ventilation and natural light, demonstrating a harmonious relationship with the climate. This interplay of tradition and adaptation underlines how the follow-through of architectural evolution has shaped modern residences while retaining cultural identity.

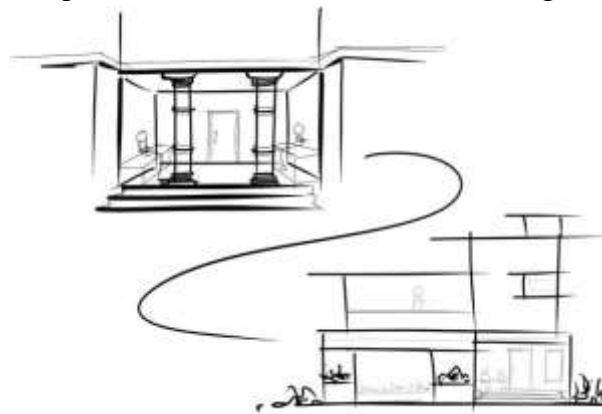


Figure 1 Transition from traditional veranda to modern facade. Source: Author

KEY FEATURES

The traditional homes in Bangalore during the 1990s were designed to fit the city's culture, society, and weather.

Here are some main characteristics of this style, based on research:

1. Local Materials and Building Methods Houses were mostly made with materials found nearby, like brick, stone, and wood. Walls were often made with laterite or mud bricks, and roofs used Mangalore tiles because they lasted long and worked well in Bangalore's rains. Lime mortar was also commonly used for plastering, which helped keep things cool and eco-friendly.

2. Courtyard-Centric Layouts

A key part of the design was the internal courtyards, which were the centre of the home. These open areas helped air and light flow in, making the house more comfortable and encouraging family members to spend time together.

3. Social and Functional Zoning

Houses were built with distinct areas for private, semi-private, and public use. Verandas acted as a bridge between the outside and inside, and kitchens and service areas were usually at the back.

4. Cultural Elements

Homes showed traditional values through things like carved wooden pillars, detailed metalwork, and fancy frames. These touches showed the skill of local craftsmen.

Construction Techniques And Materials

Bangalore's traditional architecture is notable for its reliance on locally sourced materials and sustainable construction techniques that were well-adapted to the city's climatic conditions and cultural context.

Materials Used: Mud bricks, laterite stone, and granite were commonly used for walls and facades.

Reason: These materials helped in keeping homes cool in the summers and warm in the winters. Granite was easy to find in the local areas, so it was very commonly used for floors.

Materials Used: Terracotta tiles were used on sloped roof constructions.

Reason: They were light, strong, and worked well in rainy areas, as they let water drain quickly, also keeping the interiors cool.

Aesthetics And Functional Elements

In Bengaluru, many new homes still use ideas from old buildings, both in how they look and how they function.

Aesthetic Influence: Traditional homes in places like Basavanagudi and Malleswaram had roofs that sloped, wide porches, wooden pillars, and walls made of brick or stone. Modern homes do not always copy these exactly, but they take inspiration. For example, builders now use exposed brick walls, decorative screens made of terracotta, shaded balconies, and simple earthy colours to give a cozy, local feel. Instead of fancy decorations, they focus on natural textures and simple shapes that still feel like they belong here.

This approach aligns with the theoretical framework of critical regionalism, a concept articulated by Kenneth Frampton [5], which advocates for an architecture that is modern in expression yet deeply rooted in local culture, climate, and materiality rather than uncritically adopting homogenized international styles. In the context of Bengaluru, practices such as Biome Environmental Solutions demonstrate this principle in action. Founded by Chitra Vishwanath, the firm integrates traditional materials such as exposed brick, terracotta, lime, and stone into contemporary architectural compositions while prioritizing climatic responsiveness, resource efficiency, and aesthetic restraint [6]. The resulting built environment embodies a modern architectural language that remains contextually grounded, environmentally sensitive, and culturally authentic.

PARAMETERS

Spatial organization: They have had a big influence on how homes in India have changed over time, from older styles to today's designs. Traditional homes were built around courtyards, which helped people live together, stay cool without air conditioning, and keep a good mix of private and shared spaces. As more families became smaller and cities expanded, home designs started to focus more on privacy and getting things done efficiently.

Modern homes often have distinct areas for bedrooms, kitchens, and bathrooms [7]. Many also use open spaces to maximize the available room and make it feel bigger. Even though things have changed over time, some older ideas like balconies and courtyard-style layouts are still used today to bring in nature and encourage socializing.

Materials and construction methods - The way homes are built in India shows a mix of old and new ideas. Traditional houses were made with materials found nearby, like mud, stone, bamboo, and wood. These were good for the environment and worked well in different weather conditions. For instance, sandstone

helped keep homes in Rajasthan cool, while wood and clay tiles kept places like Kerala dry and comfortable. Builders focused on skill and practical design, using methods such as mud bricks, thatched roofs, and wooden frames. These techniques offered good insulation, strength, and fit the local environment.

Today, modern architecture often integrates these traditional elements, blending materials like stone and wood with sustainable practices. Architects like Charles Correa and Laurie Baker have championed this approach, combining local resources with innovative, ecofriendly designs.

Functionality - The utility of Indian dwellings has developed from communal, climate-responsive architecture to modern, efficiency-focused constructions that are suitable for urban living.

Traditional dwellings valued natural ventilation, passive cooling, and family gatherings, with elements like courtyards, verandas, and thick walls designed to suit the climate and extended family needs.

Modern homes designed for nuclear families prioritise privacy, efficiency, and individual spaces, with distinct areas such as separate bedrooms, kitchens, and showers.

Open floor plans offer flexibility and a sense of spaciousness, particularly in urban settings. Despite these changes, modern homes often retain functional traditional elements like balconies and terraces, blending outdoor spaces with privacy. There is also a growing focus on sustainability and smart technology, with features like energy-efficient systems and a revival of courtyard-inspired designs adapted for smaller plots or high-rises, merging tradition with innovation.

Central Courtyard - The central courtyard has been a key part of Indian homes, changing from a traditional feature to something used in modern design. In the past, courtyards were the centre of family life, where people gathered, did daily tasks, and stayed cool with natural air fitting perfectly for big families and the local climate. As cities grew and more families became smaller, courtyards changed too. They influenced open spaces, balconies, and atriums that bring light, air, and a feel of nature even in small places. Now, courtyards show up as rooftop gardens, vertical spaces, or shared areas in city homes, mixing old ideas with new needs. This shows how courtyards remain important, helping people live comfortably, sustainably, and together.

CENTRAL COURTYARDS

Traditional Indian home design shows how climate, culture, and space organization naturally come together, especially using courtyards. In “Courtyard Houses of India” by Yatin Pandya, the courtyard acted to control temperature, bring people together, and hold cultural meaning in different parts of the country from the pol houses in Ahmedabad to the Nalukettu (a traditional Kerala courtyard house organized around a central open space) homes in Kerala. These homes used smart ways to cool down, let in light, and arrange spaces in a meaningful order long before sustainability became a big topic in architecture. Today, in busy cities, architects are bringing back some of these ideas with things like inner courtyards, open shafts for light, and areas that help transition between inside and outside. So, modern homes are not completely different from the past, they are just using old ideas in new ways to fit today’s needs [8].

Residential architecture in Bangalore has seen a remarkable transformation over the years. From traditional homes designed with climate and community in mind to the high-rise apartment complexes that dominate the modern cityscape, the evolution of residential design reflects the city’s growth. One element that has stood the test of time is the central courtyard; a feature found in traditional Bangalore homes that continues to influence modern architecture in subtle yet impactful ways. This essay explores how the

central courtyard, a core element of traditional residential design, has influenced contemporary homes in Bangalore, blending cultural heritage with modern needs.

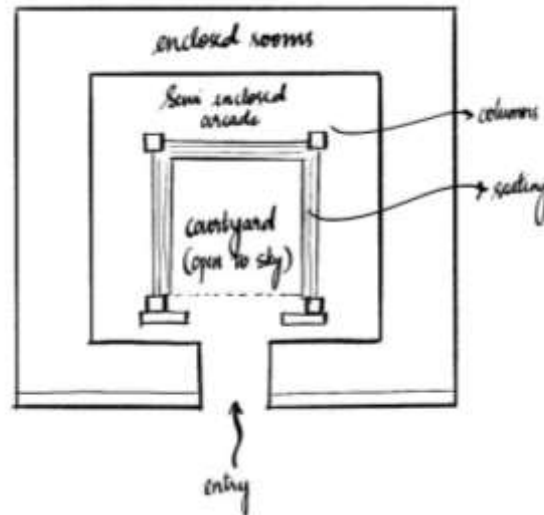


Figure 2 Diagram Illustrating the Gradual Transition from Public Entry to Private Enclosed Spaces Through a Semi-Enclosed Courtyard. Source: Author

The Central Courtyard in Bangalore’s traditional homes, the central courtyard was the heart of the house, serving not only as a physical space but as a cultural and social hub. These homes were typically designed for extended families, with rooms arranged around a central open area. The courtyard provided more than just a space for daily interactions; it offered practical benefits suited to the region's hot and humid climate. Natural ventilation, cooling, and light were maximized through this open-air design, allowing air to flow freely through the house and providing passive cooling during the scorching summer months. The central courtyard also served as a multifunctional space, where family members could gather, children could play, and religious rituals could be observed. The open space often featured plants, small water features, and sometimes even a small garden, making it an integral part of the home's daily life. Materials like stone, mud, and clay were used in construction, chosen for their ability to insulate the home from the heat, keeping it cool even during the hottest days.

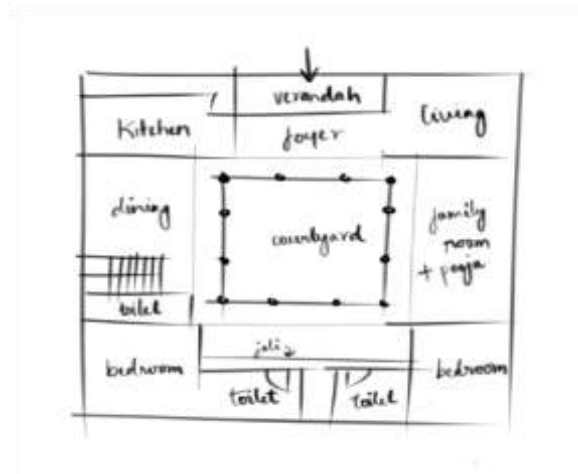


Figure 3 Courtyard-Centric Residential Plan Showing Public–Private Spatial Hierarchy. Source: Author

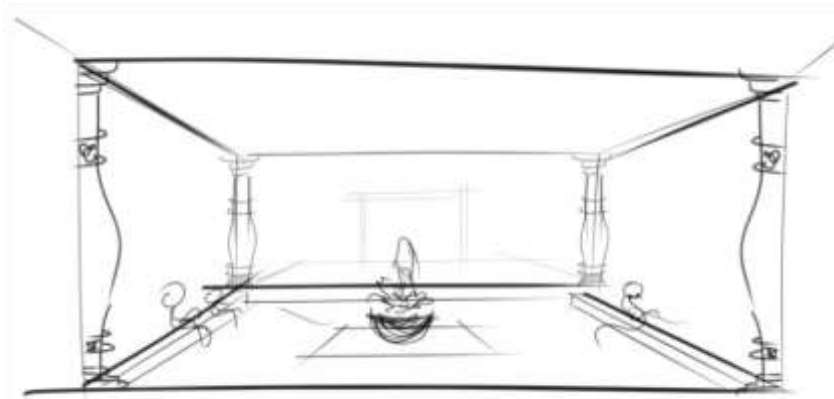


Figure 4 Conceptual sketch of a traditional courtyard showing symmetrical planning, columned verandas, and a central element that supports climatic comfort and social interaction. Source: Author

As Bangalore grew quickly, especially during the IT boom in the 1990s, people's housing needs changed. More people moved into the city, families became smaller, and there was not enough land to build on. This led to more high-rise apartments, gated neighbourhoods, and smaller, smarter homes. Living in the

city made space more valuable, but the idea of a central courtyard still stayed around. Now, courtyards are often smaller versions like inside gardens, open atriums, or even rooftop areas in apartment buildings. Courtyards fit into a specific type of architectural space, known as 'Transitional space.' Transitional spaces can be defined as the 'in-between' architectural spaces where the micro climatic condition of indoor and outdoor climate is moderated without using active strategies [9]. These transitional spaces can be grouped into three types. The first includes courtyards, atriums, and patios. The second type has spaces that are partly open and attached to the building, like a balcony, corridor, arcade, veranda, or porch. The third type is when the building is surrounded by open areas on all sides, such as gardens or pavilions. A good courtyard, according to Meir (2000), is a semi-enclosed space with a well-thought orientation that could optimize its microclimatic efficiency [10].

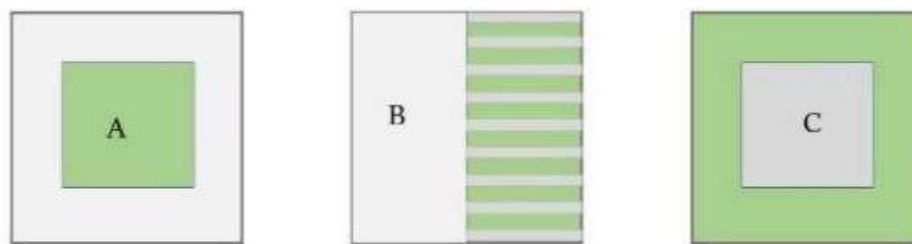


Figure 5 A. Open Space within the building B. Open Space attached to the building C. Open Space encircling the building Source: [10]



Figure 6 Implementation of courtyards in modern house. Source: [11]

Conclusion: The concept of the central courtyard adapted to meet the needs of urban life, offering both functional benefits and aesthetic value. Whether as a private garden in an apartment complex or a green space in a gated community, the courtyard continues to be a space that connects residents to nature, promotes sustainability, and brings the past and present together. The integration of this traditional element into modern homes showcases how Bangalore’s architectural evolution maintains a delicate balance between honouring heritage and embracing innovation.

VERANDAS AND FOYER

In traditional Bangalore homes, the veranda was a key part of the design. It was a covered outdoor area along the front or sides of the house. This space protected people from the sun while letting them enjoy the fresh air. It acted as a bridge between the inside and outside of the home. People often gathered there

to relax, talk, or just enjoy the breeze. The veranda had both social and practical uses. It helped keep the house cooler by letting air flow through. Another important part of the home was the foyer, which was an enclosed area near the entrance. It was a welcoming spot that led into the more private parts of the house. Foyers were often decorated with nice wooden doors, carved details, or small seating areas, making them both functional and stylish.

Modern Verandas and Foyers in Today's Bangalore:

These days, the traditional veranda in Bangalore is often turned into a balcony or small porch that acts as a private outdoor area. Though not as big as old-style verandas, they still extend the living space, letting people enjoy fresh air and sunlight. Some newer homes have shared outdoor areas like terraces or community gardens where people can hang out or just take in the city views. Instead of open walls, modern designs might use glass railings or metal fences, but they still let people feel connected to the outside. Foyers in modern homes have changed too, especially in apartments where space is tight. The fancy entry room is not always separate anymore it might be an open hallway or part of the living area. Still, the foyer plays an important role in greeting guests and showing where the inside starts.

CONCLUSION

The way homes in Bangalore have changed tells an interesting story where old traditions still shape today's designs. Traditional houses were built with care, considering local culture, weather, and how people lived. Things like open courtyards, big porches, and friendly entry areas were not just for looks they helped with airflow, sunlight, and gave places for families and neighbours to hang out.

As Bangalore grew into a busy city, these older homes ran into new challenges. Smaller yards, apartment living, and faster lifestyles meant houses had to change. But instead of letting go of old ideas, architects found ways to bring them into modern homes. Courtyards became skylit areas or small indoor gardens, keeping nature nearby even in tight spaces. Porches turned into cozy balconies or open areas where people could relax. Entryways might be smaller now, but they still make you feel welcome when you walk in. Courtyards turned into skylit atriums or small indoor gardens, helping people stay connected to nature even in small spaces. Verandas became cozy balconies or open areas where you can unwind. Foyers, though often smaller, still serve as welcoming spaces that greet you as you enter the home.

What makes this transition unique is that it involves more than merely maintaining the status quo. It is about discovering innovative methods to express traditional concepts today. The essential elements of these traditional styles remain present in contemporary homes, highlighting their continued significance and resilience. They remind us that architecture is not solely about structures, it is about how environments influence our emotions, impact our experiences, and connect us to our origins.

Bangalore's home designs narrate a tale of creativity and connectivity through the blend of traditional and contemporary styles. It illustrates how insights from history can influence the design of future houses. These areas, influenced by past events and fresh concepts, demonstrate that exceptional design is not about choosing between traditional or modern it is about merging them into something that feels perfect.

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