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"Blending Tradition with Modernity: The Integration of Chettinad Architectural Elements in Contemporary Homes"

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Abstract: ***Traditional Chettinad houses, are known for its craftsmanship, sustainable design, and cultural significance has influenced modern homes. This research investigates how key elements of Chettinad architecture, have been incorporated into modern houses. The study examines whether these adaptations successfully preserve the essence of Chettinad houses or they tend to compromise on its authenticity.***
Through comparative analysis the research talks about whether the traditional values and elements are retained or modified in present day designs. This study ultimately highlights the balance between the preservation and evolution in architectural design.
Keywords: Chettinad houses, Contemporary design, Chettinad inspired modern houses, culturally rooted.

I. INTRODUCTION

Traditional Indian architecture has played a significant role in shaping modern residential designs.Courtyard systems have been an integral part of India since the Indus Valley civilization. It serves as a multifunctional space that addresses environmental, social and cultural needs. The first courtyard house in India is dated back to 6500BC to 6000BC (2) . There are different typologies of courtyard houses in India according to the climatic and materials found in the particular region, including Chettinad houses (Tamil Nadu) with grand wooden pillars, Rajasthani havelis with intricately carved facades, Wadas (Maharashtra) with enclosed courtyards, Nalukettu (Kerala) with open nadumuttams, Goan courtyard houses blending Portuguese and Indian styles, Pol houses (Gujarat) with shared courtyards, Haveli-style houses (Delhi & UP) with Mughal-inspired designs, and Kath-Kuni houses (Himachal Pradesh) with timber-stone construction for cold climates.
Among this, Chettinad architecture, originating from Chettiar region in Tamil Nadu is well known for its grand mansions, intricate craftmanship, and climate-responsive architecture. This study explores the transition of Chettinad architectural principles into modern homes, questioning whether contemporary interpretations are adaptations or transformations of the original style.

II. METHODOLOGY

This study employs a comparative analysis approach to evaluate the influence of traditional Chettinad architecture on modern homes. The methodology involves selecting a traditional Chettinad house as a benchmark for analysis, alongside two modern case studies—Savita Vadi Farmhouse (Vadodara) and a Chettinad-inspired home in Coimbatore.
The data is collected through secondary case studies, architectural drawings and photographs. The analysis is structured around five key parameters: architectural style, material usage, spatial planning, climate adaptation, and cultural influence. By assessing these aspects, the study identifies whether modern homes adapt Chettinad elements faithfully or transform them for contemporary living.

III. LITERATURE REVIEW

A. Chettinad Mansions, Tamil Nadu

Chettinad mansions are lavish homes that belong to the Nattukottai Chettiar community in the Chettinad region of South India. The Nattukottai Chettiar community were well known traders who shipped spices, rice and gems all over the world including places like Malaysia, Burma, ad Vietnam. Few of them ever served as bankers to kings and the British Raj for centuries. Therefore, these mansions were built with materials al across the globe to signify the community's wealth in the late 19th and early 20th centuries. The houses were mainly designed for 70-80 residents at one time since most of the houses were built for joint families. The house typically consists of 50 rooms, the primary plan of this house is an elongated and rectangular shaped, similar to that of havelis in the north.

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Since Tamil Nadu is known for its harsh tropical climate, the primary courtyard of the house was rectangular shaped and typically placed towards the south direction to take advantage of southern breeze in the summer and escape the cold northern winds in the winter.

1) Spatial Planning:

- The front portion of the house is the raised shaded verandahs called Thinnai where the guests are received.
- A grand wooden door is placed in the main entrance (Valavu) with intricate carvings (often carved with deities). Chettinad houses were designed a way to provide uninterrupted views from the front to the back door.
- The rooms and large halls (Koodam) are built around the courtyards.
- The kitchen and dining areas are placed in the rear end of the house.Based on the philosophy ofpollution-purity axis the kitchen and toilet in the house are separated bythe internal court in two axially opposite directions.

2) Materials and construction techniques:

- The walls are coated with Limestone and Egg White Plaster which keeps the interiors of the house cool.This coating acted as a natural temperature regulator, keeping interiors cool.
- The lime also had antibacterial and antifungal properties, making the walls more durable.
- Handmade Athangudi Tiles are used by locally available sand and clay, then polished with glass for a glossy effect. They were sun-dried and fired, making it low maintenance and durable.
- Teakwood was mainly imported from Burma, showcasing the Chettiars' wealth. Jackfruit wood was often used for beams and rafters due to its termite-resistant properties.

3) Water harvesting and drainage systems:

- Houses had underground water storage tanks connected to the courtyard for rainwater harvesting.
- Sloped roofs directed rainwater into ornamental water channels.

IV. SECONDARY CASE STUDIES:

A. Savita Vadi Farmhouse (Vadodara)

Savita Vadi, designed by Architects Vijay and Vaishali Chauhan, is a farmhouse in Vadodara, Gujarat, that blends traditional style of Chettinad style architecture with modern living. Unlike traditional Chettinad mansions that were vast in scale, Savita Vadi condenses its essence into a compact 5400sq.ft. footprint, tailored for a nuclear family of 6 people. The house consists of three bedrooms and was completed in the year 2022.

The heart of the house is a central courtyard, a defining feature of Chettinad mansions, which binds different rooms and fosters interaction among family members. At the centre of the courtyard stands the idol of 'Dakshinamurthy,' enhancing the space with positive energy. The house features tall Burmese wood columns with stone bases, similar to those in traditional Chettinad homes. The puja room features a red floor, a typical element in Chettinad homes and Mosaic tiles are used for the corridors. The house uses M.S. (mild steel) railings and partitions, reminiscent of the cast-iron details found in Chettinad mansions.





B. Coimbatore Home

In Coimbatore, architect Sowmya Kumar of OWM Architecture designed a home that harmoniously blends Dravidian, Chettinad, and British colonial architectural styles, drawing inspiration from her childhood experiences in Tamil Nadu. This residence reflects a deep connection to traditional South Indian design while incorporating modern elements. The home showcases traditional Chettinad features, such as a Kolam marble inlay at the entrance and intricately carved wooden columns in the living area. These elements pay homage to the rich architectural heritage of the Chettinad region. Influenced from British colonial architecture are evident in the inclusion of an antique English grandfather clock and classic wainscoting in the living room, reflecting the historical British presence in the Nilgiris. The residence incorporates design aspects reminiscent of Dravidian temples, including a mythological painting that serves as a focal point, reflecting the grandeur and spiritual essence of South Indian temple art.

Despite the compact 2,900-square-foot plot, the design accommodates four bedrooms, an AV room, and a spa, all adhering to Vastu principles.



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V. COMPARITIVE ANALYSIS

A. Architectural Style And Design

ASPECT	TRADITIONAL CHETTINAD HOUSE	SAVITHA VADI FARMOUSE	COIMBATORE HOME
Design approach	Grand mansions with multiple courtyard, designed for joint families.	A single courtyard integrated into a modern farmhouse layout	Open-plan contemporary home with Chettinad-inspired spatial elements.
Spatial Layout	Multiple interconnected rooms with deep verandahs and airy spaces.	Large verandah with stone columns, spacious courtyard as the core of the house	Selective use of verandas and semi open layout blending modern and traditional spaces
Ornamentation	Intricate wooden carvings, handcrafted details, and rich motifs.	Carved wooden front door and teak columns retain traditional aesthetics.	Minimalist approach with selective handcrafted wood and tile elements.
Kitchen Design	Separate kitchens with large storage rooms and open ventilation.	Open kitchen with a blend oftraditional materials and modern appliances.	Modular kitchen design with elements of traditional craftsmanship.
Furniture & Interiors	Heavy antique furniture, handcrafted decor.	Mix of antique and modern furniture, wooden elements.	Minimalist interiors with selective traditional accents.

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Religious Elements	Dedicated prayer rooms, ornate deity spaces.	Central courtyard features a 'Dakshinamurthy' idol.	Small puja corner integrated into modern interiors.
Space Constraints	Requires large plots, making them impractical in urban areas.	Adapted to a smaller site with a single courtyard.	Modern adaptations ensure functionality within a smaller footprint.

B. Construction Materials And Techniques

ASPECT	TRADITIONAL CHETTINAD HOUSE	SAVITHA VADI FARMOUSE	COIMBATORE HOME
Walls	Thick lime-plastered brick walls for insulation.	Combination of exposed brick and lime plaster for a heritage look.	RCC and plastered walls with some traditional elements.
Roofing	Sloping terracotta-tiled roofs with wooden rafters.	Gable roof with modern waterproofing, complemented by terracotta tiles.	Contemporary flat roofs with some sloping tiled sections for aesthetics.
Flooring	Handmade Athangudi tiles and locally sourced stone.	Patterned mosaic tiles and polished stone flooring.	Selective Athangudi tiles, complemented by polished concrete and marble.
Woodwork	Burmese teak doors, pillars, and window frames.	Repurposed wooden pillars and carved doors.	Engineered wood and handcrafted elements used selectively.

C. Cost and Maintenance

ASPECT	TRADITIONAL CHETTINAD HOUSE	SAVITHA VADI FARMOUSE	COIMBATORE HOME
Cost & Availability	Expensive due to handmade materials and craftsmanship.	Moderate cost, with repurposed materials for authenticity.	More cost-effective with a balance of traditional and modern materials.
Maintenance	Requires high maintenance due to natural materials.	Easier maintenance with a blend of old and new materials.	Low-maintenance modern materials with traditional aesthetics.

VI. CONCLUSION

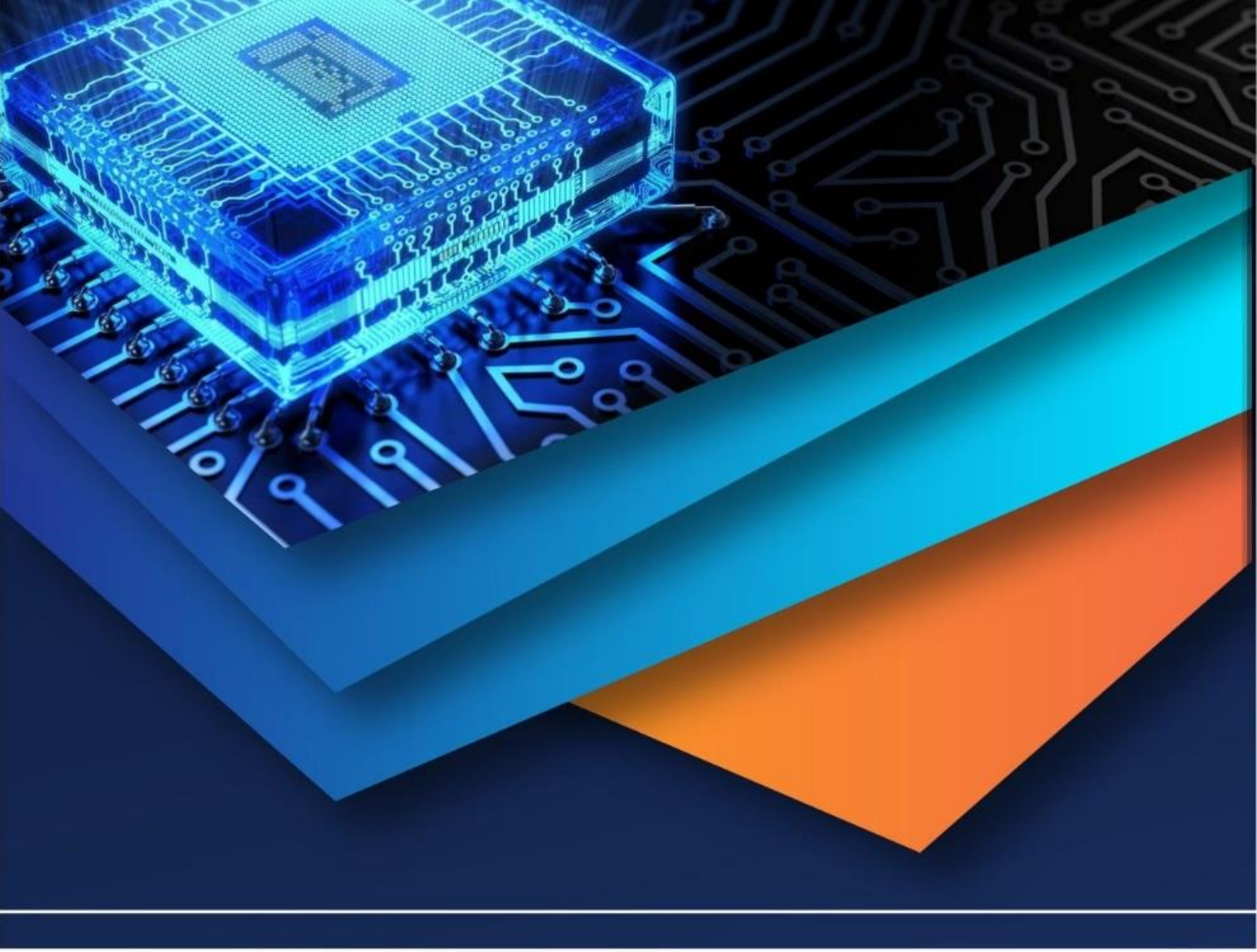
The comparative analysis highlights that while Savita Vadi Farmhouse and the Coimbatore Home successfully incorporate Chettinad elements, they are adapted rather than fully replicated.While some traditional elements are retained, contemporary constraints such as space, cost, and functionality drive significant alterations. The research finds that although modern homes incorporate Chettinad elements, they often compromise authenticity in favour of practicality and evolving lifestyle needs. While Savita Vadi Farmhouse maintains a closer connection to traditional Chettinad design, the Coimbatore Home represents a more hybridized, contemporary approach.Thus, while adaptation allows for the preservation of key architectural features, transformation is inevitable due to changing urban demands. This balance between preservation and evolution highlights the dynamic nature of vernacular architecture, ensuring cultural heritage continues to inspire modern design.

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