From Timber to Concrete: The Science of Kathkuni Architecture in Himachal Pradesh

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Abstract

Vernacular architecture is more than a construction method—it is a repository of culture, environment, and identity. In the Himalayan state of Himachal Pradesh, Kathkuni architecture, characterized by its distinctive use of interlocked wood and stone layers, has long embodied a sustainable and earthquake-resilient building tradition. For centuries, it shaped the spatial, social, and cultural landscape of the Kullu Valley. However, in recent decades, Kathkuni structures have increasingly been replaced by reinforced concrete cement (RCC) buildings. This paper investigates the reasons behind this architectural shift, analyzing the socio-economic, cultural, and environmental dimensions of the transition from Kathkuni to concrete. Using a combination of literature review, site observations, ethnographic interviews, and comparative architectural analysis, this study finds that government subsidies for concrete housing, rising timber costs, scarcity of skilled artisans, and shifting aspirations tied to urbanization and tourism are the main factors driving the decline of Kathkuni. While concrete structures are perceived as cost-effective, modern, and low-maintenance, their ecological footprint, limited lifespan, and detachment from cultural identity make them less sustainable. In contrast, Kathkuni homes offer superior resilience to earthquakes, environmental harmony, and cultural continuity. The research highlights the urgency of safeguarding Kathkuni architecture through policy reforms, awareness programs, and hybrid construction models that merge traditional knowledge with modern needs. The paper concludes that the decline of Kathkuni is not only a material shift but also a cultural loss, with long-term implications for environmental sustainability, community cohesion, and regional identity.

Introduction

Architecture in mountainous regions has always been more than just the construction of dwellings; it is a direct dialogue between human ingenuity and the natural world. Unlike the plains, where landscapes are more forgiving, mountains demand resilience, adaptation, and a deep understanding of local ecology. Steep slopes, seismic vulnerability, snow, fluctuating temperatures, and difficult access to resources impose unique challenges on communities. In such regions, architecture does not merely provide shelter—it embodies a way of living, a cultural continuity, and a sustainable negotiation with nature. The Himalayan belt of northern India, particularly Himachal Pradesh, provides a compelling example of this dialogue between geography, climate, and tradition.

Among the districts of Himachal Pradesh, Kullu stands out not only for its scenic beauty but also for its distinct architectural heritage. Known as the “Valley of Gods,” the region is dotted with temples, homes, and community structures that carry forward an age-old tradition of

construction known as *Kathkuni*. This building practice—derived from the words *Kath* (wood) and *Kuni* (corner)—is a vernacular technique characterized by the interlayering of deodar wood and locally quarried stone. These materials are arranged in alternating courses without the use of mortar or cement, their stability ensured through precise joinery and weight distribution. The outcome is an architecture that is not only aesthetically striking but also remarkably functional. Kathkuni buildings can withstand earthquakes, insulate interiors during the bitterly cold winters, and endure for centuries if maintained properly. Temples like the Hadimba Devi temple in Manali or old residences in villages such as Malana are testimonies to the longevity and resilience of this tradition.

Yet, despite its ecological wisdom and proven durability, Kathkuni architecture is witnessing a steady decline. In towns such as Kullu, Manali, and Naggar, reinforced cement concrete (RCC) constructions dominate skylines, with Kathkuni homes now relegated to the margins—surviving mainly in remote hamlets or as heritage relics for tourists. This architectural transition is not merely about changing building materials; it reflects profound shifts in economics, culture, policy, and identity. The gradual disappearance of Kathkuni is as much about aspirations and modernity as it is about affordability, availability, and the reconfiguration of community values.

The central research question that emerges, therefore, is: **Why are communities in the Kullu Valley shifting from Kathkuni structures to RCC-based concrete housing?** This deceptively simple question requires unpacking multiple layers. It necessitates comparing the strengths and weaknesses of Kathkuni architecture with contemporary concrete structures, investigating the economic, policy-driven, and cultural forces that shape this shift, and reflecting on the broader consequences of this abandonment—both ecological and cultural.

The Functional Logic of Kathkuni Architecture

To appreciate why the abandonment of Kathkuni is significant, one must first understand the brilliance of the system. Designed for Himalayan conditions, Kathkuni construction responds directly to environmental challenges. The interlocking of wood and stone, with no reliance on mortar, provides flexibility during seismic tremors—crucial for a region that lies in one of the most seismically active zones of India. Unlike rigid cement structures, Kathkuni walls can absorb and dissipate seismic energy, reducing the likelihood of collapse.

The use of deodar wood, known for its natural resistance to decay and termites, ensures longevity, while stone layers add thermal mass, keeping interiors cool in summers and warm in winters. Moreover, the technique's modularity allows for repairs: damaged portions of a wall can be replaced without dismantling the entire structure, a feature absent in monolithic concrete housing. From an ecological standpoint, Kathkuni is also inherently sustainable. Materials are

locally sourced, construction does not require high-energy processes, and carbon emissions are negligible compared to the cement industry's heavy footprint.

These strengths have historically made Kathkuni the architectural backbone of Kullu. Beyond homes, entire community structures—from temples to granaries—were built in this style, embedding it in the cultural and spiritual landscape. The intertwining of architecture and ritual in the Valley of Gods means that Kathkuni is not only about survival but about identity, memory, and belonging.

The Rise of RCC and the Perceived Limitations of Kathkuni

Despite these strengths, Kathkuni is increasingly regarded as outdated in the eyes of many households. Reinforced cement concrete construction, associated with modernity, urban aspirations, and durability, has become the default choice in urban and semi-urban spaces. RCC promises multistoried structures, sleek finishes, faster construction timelines, and a sense of "progress" that resonates with aspirations of upward mobility.

Perceptions of Kathkuni, meanwhile, are often marked by its weaknesses. Building in this style is labor-intensive, requiring skilled artisans who are now dwindling in number. With younger generations moving away from carpentry and stone masonry, the pool of expertise is shrinking, making Kathkuni both expensive and time-consuming. Maintenance, though relatively straightforward for those familiar with the system, is often perceived as cumbersome compared to the "maintenance-free" aura associated with cement housing.

Another factor is land scarcity and the demand for vertical expansion. Traditional Kathkuni structures are low-rise, typically one or two stories high. In growing towns where land is limited and expensive, RCC's ability to go vertical is a decisive advantage. Thus, while Kathkuni may excel in resilience and sustainability, it appears less compatible with the pressures of urbanization, density, and consumerist aspirations.

Economic and Policy Drivers of the Transition

Economics plays a central role in the transition from Kathkuni to RCC. While local stone and wood are abundant, legal and policy frameworks around forest conservation have made the use of deodar wood increasingly difficult. Stringent forest laws, though necessary for ecological preservation, have restricted access to timber, making Kathkuni more expensive. Meanwhile, cement and steel—though transported from the plains—are subsidized, standardized, and marketed as cost-effective solutions.

Government policies, particularly in disaster rehabilitation, also promote concrete housing. Post-earthquake reconstruction efforts in Himachal and neighboring states often rely on standardized RCC designs, sidelining vernacular practices despite their proven resilience. Development agencies, both governmental and non-governmental, tend to valorize modern engineering over indigenous wisdom, reinforcing the association of concrete with safety, modernity, and permanence.

Tourism-driven economies have also influenced the transition. As Kullu and Manali attract domestic and international visitors, concrete hotels and guesthouses proliferate, marketed as modern and comfortable. The uniformity of RCC structures, often modeled after urban architectural styles, caters to tourists' expectations of comfort and familiarity, further marginalizing Kathkuni as "old-fashioned."

Cultural Aspirations and Identity Shifts

Architecture is not only about shelter; it is a mirror of cultural values and aspirations. In Kullu, the shift to RCC reflects changing notions of status, progress, and belonging. For many families, owning a concrete house signals modernity and social mobility—an escape from what is perceived as the limitations of traditional life. The sleek finishes, tiled bathrooms, and multistoried façades of RCC homes symbolize entry into a consumerist middle class.

Kathkuni, despite its heritage value, is sometimes stigmatized as rural, backward, or incapable of accommodating modern lifestyles. This perception has profound implications: once an architecture of pride and resilience, Kathkuni is being reframed as a marker of marginality. The symbolic value of architecture, therefore, becomes as important as its functional attributes in shaping community choices.

Environmental and Cultural Implications of Abandonment

The abandonment of Kathkuni is not without cost. Environmentally, the replacement of wood-and-stone structures with cement-based housing increases the region's carbon footprint. Cement manufacturing is one of the world's most polluting industries, and transporting raw materials to mountainous regions exacerbates emissions. Furthermore, RCC structures are less adapted to local climates: they trap heat in summers, radiate cold in winters, and often require additional energy inputs for heating or cooling.

Culturally, the erosion of Kathkuni signifies the loss of an embodied heritage. Architecture, unlike movable artifacts, is lived heritage—part of daily life and communal identity. As Kathkuni

disappears, so does a repository of indigenous knowledge, craftsmanship, and aesthetics. The diminishing number of artisans means that once the chain of transmission is broken, reviving Kathkuni will be even more difficult. Temples may continue to preserve fragments of this tradition, but the everyday intimacy of living in Kathkuni homes will be lost.

This loss has broader implications for community resilience. By sidelining traditional knowledge systems that have evolved to suit local ecologies, communities become more vulnerable to climate risks and natural disasters. Ironically, in abandoning Kathkuni, Kullu may be moving toward less resilient futures.

Literature Review

Vernacular architecture has long been recognized as a form of human expression that emerges organically from the interplay of environment, culture, and materiality. Unlike modernist or imported architectural styles, which often arrive through formal training or institutionalized planning, vernacular traditions are shaped by lived experience. They evolve through centuries of trial, error, and refinement, resulting in building systems that are both ecologically adapted and socially embedded. Scholars such as Bernard Rudofsky (1964), in his seminal work *Architecture Without Architects*, argued that vernacular practices embody a wisdom that formal architectural education often overlooks. For Rudofsky, these systems were neither primitive nor obsolete; rather, they reflected a kind of intelligence born of necessity and community memory.

In the Himalayan state of Himachal Pradesh, Kathkuni architecture provides a vivid example of this principle. Derived from the words *kath* (wood) and *kuni* (corner), the system relies on interlocking courses of locally available deodar timber and stone, without mortar. Through the use of horizontal wooden beams at intervals, Kathkuni walls gain flexibility and tensile strength, allowing them to withstand seismic activity in one of the world's most earthquake-prone regions. At the same time, the thick stone walls provide insulation against the harsh Himalayan winters, while the use of locally sourced wood minimizes transportation costs and environmental damage. Kathkuni is not only resilient but also deeply aesthetic, with intricate wooden carvings often adorning doorways, balconies, and temple façades.

The endurance of Kathkuni over centuries highlights its appropriateness to both environment and culture. Its continued presence in temples, shrines, and traditional village homes has contributed to its identity as a "living heritage" of Himachal Pradesh. Yet, despite its ecological compatibility and proven resilience, Kathkuni is now increasingly marginalized in favor of reinforced cement concrete (RCC) construction. The rise of RCC in Himachal Pradesh reflects a

larger national and global trend—one shaped by economics, state policy, modernization, and shifting aspirations of communities.

The Rise of RCC in Post-Independence India

The growing dominance of RCC construction in India must be situated in the context of post-independence nation-building. Concrete came to symbolize progress, industrialization, and modernity. It was a material associated with speed, strength, and permanence—qualities celebrated in India's developmentalist vision after 1947. Government programs and urban planning initiatives privileged cement and steel, especially in urban housing and infrastructure.

In recent decades, state-led subsidy schemes have further institutionalized the preference for concrete. For example, the **Pradhan Mantri Awas Yojana (PMAY)**, India's flagship affordable housing scheme, has promoted standardized RCC housing units as symbols of development and poverty alleviation. The implicit message embedded in such programs is that a "pucca" house—conventionally understood as one made of concrete and brick—is superior to so-called "kutcha" homes built with earth, wood, or stone. This discursive and material privileging of RCC has made it cheaper and more accessible for rural and urban populations alike.

At the same time, restrictive forest conservation policies have rendered timber use increasingly difficult. The Himachal Pradesh Forest (Timber Utilization) regulations restrict access to deodar and other species, once the backbone of Kathkuni architecture. Though necessary for biodiversity protection, these policies have inadvertently raised the cost of vernacular construction, making RCC more economically viable. Thus, while subsidies reduce the cost of concrete homes, legal regimes raise the cost of wood, producing a policy environment that structurally disadvantages Kathkuni.

Cultural Aspirations and the Symbolism of Modernity

Beyond economics and policy, the preference for RCC reflects deeper cultural and psychological aspirations. Concrete homes are not merely physical structures but also cultural signifiers of modernity, social mobility, and aspiration. To many households in Himachal Pradesh, the possession of an RCC home is evidence of progress—a departure from rural "backwardness" and an entry into the material world of middle-class respectability.

By contrast, Kathkuni, despite its heritage value, is often perceived as outdated. Its inability to support vertical expansion—a key requirement in land-scarce urban centers like Manali or Shimla—further fuels this perception. Concrete's capacity to build multistory structures satisfies

both practical needs and symbolic desires for grandeur. Families seeking to showcase prosperity prefer tiled bathrooms, glass windows, and urban finishes, which Kathkuni is less able to accommodate without costly adaptations.

The irony is that while Kathkuni evolved to meet the demands of the Himalayan environment, its symbolic value in contemporary society has diminished precisely because it is seen as rural or old-fashioned. As a result, younger generations are less inclined to inherit or maintain traditional homes, accelerating their decline.

Comparative Global Trends

The tension between vernacular resilience and modernist concrete is not unique to Himachal Pradesh. Globally, similar shifts can be observed. In Nepal, for example, traditional timber-and-mud or stone-masonry homes—designed to flex under seismic stress—were historically widespread. However, following the devastating earthquakes of 2015, many reconstruction programs promoted RCC as the “safe” alternative, despite evidence that poorly constructed concrete homes fared worse than traditional ones in many cases. This reflects a broader global pattern in which international aid agencies and governments privilege standardized modern materials over local knowledge systems.

In Japan, meanwhile, vernacular timber construction has historically demonstrated remarkable seismic resilience, yet post-war reconstruction efforts privileged concrete and steel as markers of national modernization. Similarly, in parts of sub-Saharan Africa, mud-and-thatch homes are being abandoned in favor of concrete blocks, despite the latter’s higher costs and poorer thermal comfort. Across these examples, a recurring theme emerges: vernacular systems, though environmentally suited and resilient, are displaced by the cultural symbolism and policy privileging of concrete modernity.

Environmental Consequences of Abandoning Vernacular Systems

The transition from Kathkuni to RCC carries significant environmental consequences. Cement production is among the largest contributors to global carbon emissions, accounting for roughly 8% of total anthropogenic CO_2. Transporting cement and steel to mountainous regions adds further carbon costs. Concrete structures, less suited to local climates, often require additional heating in winters and cooling in summers, leading to increased energy demand.

By contrast, Kathkuni homes, with their thick stone walls and insulating wooden beams, regulate temperature naturally, reducing reliance on external energy sources. They are built with

renewable or locally sourced materials, leaving minimal carbon footprints. Abandoning such practices in favor of energy-intensive RCC represents a shift toward less sustainable futures, ironically at a time when climate change and ecological fragility demand the opposite.

Toward a Reconciliation of Vernacular and Modern

The current tension between Kathkuni and RCC raises important questions about the future of architecture in Himachal Pradesh and beyond. The issue is not merely one of nostalgia versus progress but of sustainability versus unsustainability, resilience versus vulnerability, and cultural continuity versus erasure. The challenge lies in finding ways to integrate the strengths of vernacular systems with the requirements of contemporary life.

Some architects and conservationists have begun experimenting with hybrid models—using RCC for foundations and frames while incorporating Kathkuni principles in walls and insulation. Such approaches allow for vertical expansion and modern amenities while retaining ecological efficiency and seismic resilience. Community-driven conservation initiatives, such as the restoration of Kathkuni temples in Naggar, also highlight the possibility of preserving traditional craftsmanship.

Policy reforms could further enable this reconciliation. Subsidies currently favoring RCC could be balanced with incentives for eco-friendly vernacular construction. Training programs for young artisans could revive the craftsmanship essential for Kathkuni, while revised forest policies might allow regulated community-based timber use for heritage preservation. Globally, the growing discourse on sustainable architecture provides a framework within which Kathkuni can be revalorized—not as a relic of the past but as a model for climate-adapted futures.

Methodology

This study adopts a mixed-methods approach, combining qualitative ethnographic insights with architectural analysis. Literature was reviewed, site visits to Naggar Castle and temples were conducted, and interviews with locals and professionals were held. Comparative analysis was then applied to evaluate Kathkuni and RCC structures.

Findings and Discussion

Architecture in mountainous regions is never simply a matter of aesthetics; it is a response to ecology, culture, and resilience. Among the many architectural traditions of the Himalayas, *Kathkuni* construction in Himachal Pradesh represents a unique synthesis of local knowledge and environmental adaptation. These homes, built using alternating courses of deodar wood,

stone, and mud, embody centuries of refinement. They offer seismic resilience in one of the most earthquake-prone belts of the subcontinent, thermal efficiency in a climate marked by extreme winters, and longevity that enables structures to endure for centuries if maintained.

Yet despite these qualities, Kathkuni architecture is increasingly marginalized. Its decline stems from rising timber costs, heightened fire risks, and above all, the declining availability of skilled artisans who can execute the intricate joinery that makes the system work. In its place, reinforced cement concrete (RCC) homes have spread rapidly across both towns and villages. Subsidized through state housing schemes and marketed as modern and aspirational, concrete homes are more affordable in the short term, easier to construct with unskilled labor, and associated with upward mobility. But their spread has come with environmental costs, shorter lifespans compared to Kathkuni, and thermal inefficiency that demands greater energy use.

The juxtaposition of Kathkuni and concrete is not simply a matter of building technology. It reflects a cultural crossroads—between heritage and modernity, sustainability and convenience, resilience and aspiration. Ethnographic voices from the Kullu Valley often reveal a nostalgia for Kathkuni's warmth, beauty, and communal value, yet also a pragmatic recognition of its impracticalities in a rapidly changing world. A comparative analysis makes clear that Kathkuni excels in sustainability and resilience, while concrete dominates in affordability, scalability, and social prestige. Understanding this transition requires examining not only the material properties of the two systems but also the social, policy, and cultural forces shaping architectural choices.

Kathkuni: A System Shaped by Ecology and Tradition

The genius of Kathkuni lies in its adaptation to Himalayan ecology. Its most distinctive feature is the layering of timber beams with stone masonry, locked together without cement. The elasticity of wood absorbs seismic shocks, while the weight of stone provides stability. In earthquake-prone zones, where rigid structures can collapse catastrophically, Kathkuni's flexibility ensures survival.

Equally important is thermal performance. Thick stone walls regulate temperature by retaining heat during winters and releasing it slowly, while wooden beams act as natural insulators. Mud plaster and thatched or slate roofs add further insulation. The result is an architecture that keeps homes warm in sub-zero conditions without heavy reliance on artificial heating.

Longevity is another hallmark. Many Kathkuni temples in Himachal Pradesh, such as the Hadimba Temple in Manali or the Jagatipatt Temple in Naggar, are centuries old. Their survival demonstrates that when properly maintained, Kathkuni structures can last far longer than RCC homes, which typically begin to show structural wear after a few decades.

Cultural meaning is deeply tied to Kathkuni. It is not only a form of shelter but also a representation of local craftsmanship and identity. The intricate carvings on wooden beams, the communal process of construction, and the embedding of local rituals into building practices make Kathkuni inseparable from the cultural fabric of the Valley of Gods.

The Challenges Facing Kathkuni Today

Despite its ecological and cultural strengths, Kathkuni faces formidable challenges in the 21st century.

Rising timber costs are a primary obstacle. Deodar wood, prized for its durability and resistance to decay, is central to Kathkuni. However, strict forest protection laws, enacted to safeguard biodiversity, have limited its availability. Timber extraction requires complex permissions, making wood prohibitively expensive. This has tilted the economic balance in favor of cement and steel, which benefit from subsidies and industrial production.

Fire risk is another concern. Wooden beams, though treated for durability, are vulnerable in case of accidental fires—a growing hazard in densely populated towns where cooking, heating, and tourism infrastructure increase the risk of conflagrations. Insurance companies also view timber-heavy homes as liabilities, adding financial disincentives.

Declining artisan availability poses perhaps the greatest threat. Kathkuni construction demands specialized skills in carpentry, stone masonry, and joinery—skills passed down through generations of craftspeople. With younger generations migrating to cities or shifting to service-based employment, the chain of transmission is breaking. Today, few artisans remain, and their services command high costs. Without them, Kathkuni is not easily reproducible.

These challenges mean that even communities who value Kathkuni often find it impractical to pursue in new construction, relegating it to a heritage rather than a living tradition.

The Spread of Concrete Homes

In contrast, RCC homes spread rapidly in Himachal Pradesh, especially after independence. Government programs such as the **Pradhan Mantri Awas Yojana (PMAY)** have subsidized the construction of pucca houses—commonly understood as cement-and-brick structures—making concrete the default symbol of progress.

Affordability plays a central role. While Kathkuni requires skilled artisans and expensive timber, RCC homes can be built quickly using unskilled labor and widely available materials. Prefabricated components, standard designs, and economies of scale further reduce costs.

Concrete also supports **vertical expansion**, an essential feature in towns like Manali or Shimla, where land is scarce and expensive. Multistoried RCC houses provide rental income, guesthouse facilities for tourists, or additional living space for extended families. Kathkuni, limited by structural constraints, cannot easily support such expansion.

Perhaps most influential is the **symbolic value of modernity** attached to concrete. Owning an RCC house signifies upward mobility, a step toward urban lifestyles, and participation in India's broader narrative of modernization. The tiled bathrooms, plastered walls, and concrete balconies of RCC homes project prosperity in ways that Kathkuni, despite its beauty, is perceived to lack.

Yet these advantages are not without costs. RCC homes are poorly adapted to Himalayan climates. Thin concrete walls trap heat in summer and radiate cold in winter, requiring additional energy for comfort. Their environmental footprint is heavy: cement production accounts for nearly 8% of global CO_2 emissions, and transporting materials to mountainous terrain adds further carbon costs. Moreover, RCC homes typically have shorter lifespans than Kathkuni, requiring major repairs or reconstruction within decades.

Ethnographic Voices: Nostalgia and Pragmatism

Ethnographic accounts from residents of the Kullu Valley reveal ambivalence toward the decline of Kathkuni. Elderly villagers often speak nostalgically of Kathkuni homes as spaces of warmth, both literally and metaphorically. Thick walls kept interiors cozy during harsh winters, while carved verandas provided spaces for storytelling, prayer, and community gatherings. Such homes symbolized continuity, belonging, and resilience.

At the same time, younger generations often see Kathkuni as impractical. "We love the old houses," one resident remarked in an interview, "but they are too costly, too slow to build, and do not fit the life we live now." Others note the incompatibility of Kathkuni with modern conveniences: installing plumbing, electricity, or modular kitchens in traditional homes often requires costly adaptations. For families seeking to accommodate tourists or renters, RCC's multistoried design is far more practical.

This mix of nostalgia and pragmatism captures the dilemma: communities value the cultural warmth of Kathkuni but cannot ignore the functional advantages of RCC in a rapidly urbanizing and market-driven economy.

Comparative Analysis: Sustainability vs. Affordability

A comparative lens highlights the trade-offs between Kathkuni and RCC.

- **Sustainability and Resilience:** Kathkuni excels in ecological adaptation, thermal efficiency, and seismic resilience. Its carbon footprint is minimal, and its lifespan is long. RCC, by contrast, is energy-intensive, thermally inefficient, and less resilient to earthquakes when poorly constructed.

- **Affordability and Scalability:** RCC wins in terms of affordability, speed, and scalability. It allows for vertical growth, standardization, and compatibility with modern amenities, making it attractive to both households and policymakers.

- **Cultural Identity vs. Social Prestige:** Kathkuni embodies cultural identity, heritage, and communal belonging. RCC, however, carries social prestige, associated with modernity, status, and aspiration. For many families, prestige outweighs heritage in shaping building decisions.

The comparison shows that the survival of Kathkuni is not about technical superiority alone; it is about aligning ecological wisdom with economic feasibility and cultural aspirations.

Broader Implications

The decline of Kathkuni has both environmental and cultural implications. Environmentally, the replacement of wood-and-stone homes with RCC increases carbon emissions and undermines climate resilience. Culturally, the erosion of Kathkuni signals the loss of artisanal skills, architectural heritage, and ways of life intimately tied to the Himalayan landscape.

Globally, similar transitions are evident. Nepal, after the 2015 earthquake, saw widespread replacement of vernacular homes with RCC, despite evidence that traditional systems were often more resilient. In sub-Saharan Africa, mud-and-thatch houses are being abandoned for concrete blocks, even though the latter perform poorly in thermal comfort. These parallels highlight a recurring pattern: vernacular systems, though sustainable, are displaced by the economic and symbolic dominance of concrete modernity.

Toward Reconciliation

The challenge, then, is not to choose between Kathkuni and RCC but to explore ways of reconciling tradition and modernity. Hybrid models—using RCC foundations for stability and Kathkuni principles for walls and insulation—offer promising directions. Some architects in Himachal Pradesh are experimenting with such blends, preserving cultural aesthetics while accommodating modern needs.

Policy interventions are equally critical. If subsidies continue to privilege concrete, vernacular systems will remain marginalized. Incentives for eco-friendly construction, training programs for young artisans, and regulated timber access for heritage projects could help revive Kathkuni. Tourism, too, can play a role: positioning Kathkuni homes as unique cultural experiences can generate economic incentives for their preservation.

Conclusion

The story of Kathkuni and RCC in Himachal Pradesh is not simply architectural; it is about how communities negotiate identity, aspiration, and resilience in a changing world. Kathkuni homes, built of local wood, stone, and mud, embody sustainability, thermal comfort, and cultural continuity, yet face rising costs, declining skills, and functional constraints. Concrete homes, spreading rapidly through affordability, subsidies, and social prestige, offer short-term convenience but carry environmental and cultural costs.

Ethnographic voices reveal both nostalgia for Kathkuni's warmth and a pragmatic embrace of concrete's practicality. Comparative analysis underscores the divergence: Kathkuni excels in sustainability and resilience, while RCC dominates in affordability and aspirational modernity.

The broader challenge lies in integrating the strengths of both systems. Rather than allowing Kathkuni to fade into memory, it can be reimagined as part of a sustainable future. Doing so requires policy support, cultural valorization, and architectural innovation. Only then can the Himalayas preserve their living heritage while meeting the demands of modern life.

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