NPRC Journal of Multidisciplinary Research
Volume 2, Issue 14, December, 2025 Pages: 16-32
ISSN: 3059-9148 (Online)
DOI: 10.3126/nprcjmr.v2i14.86990

OPEN ACCESS

Concrete Amnesia: Critical Regionalism as a Resistance Framework for Architectural Governance in the Kathmandu Valley

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Type of Research: Original Research
Received: October 20, 2025 Revised & Accepted: December 28, 2025

Abstract

Background: The Kathmandu Valley is witnessing a profound morphological crisis termed "Concrete Amnesia" the systemic erasure of indigenous Newari tectonic traditions in favor of a homogenized "Universal Civilization" of Reinforced Cement Concrete (RCC). This shift represents a rupture in cultural memory, replacing organic communal structures with rigid, profit-maximized forms.

Objectives: This study aims to (1) analyze the "Policy Vacuum" regarding architectural character, (2) investigate the economic "Iron Triangle" (Speed, Cost, Labor) driving concrete adoption, and (3) propose a "Tectonic" governance framework that reconciles seismic safety with cultural identity.

Methods: A qualitative multi-sited case study utilized legal-spatial analysis of building codes and a "Conflict Matrix" evaluation of three architectural typologies.

Results: Governance prioritizes quantitative volume over qualitative character. Economic analysis indicates banking valuation models and labor migration render traditional craftsmanship unviable. Traditional courtyard models result in a 30% loss of rentable area compared to modern layouts.

Conclusion: "Scenography" is a failed strategy. A "Tectonic" governance framework incentivizing the structural integration of the Chowk through specific FAR bonuses and market-creation for artisans is proposed to align economic profit with cultural preservation.

Novelty: Unlike previous studies attributing heritage loss to cultural ignorance, this research identifies a structural causality: the correlation between the regulatory silence on aesthetics in

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national codes (NBC 105/206) and the economic penalties imposed by Floor Area Ratio (FAR) calculations. It integrates new theoretical lenses on "defamiliarization" to critique "Neo-Newari" kitsch and defines the traditional Chowk as a financial liability under current regimes. Crucially, it moves beyond the binary of "safe concrete vs. vulnerable tradition" to advocate for engineered vernacular resilience.

Keywords: Critical Regionalism, Kathmandu Valley Architecture, Architectural Governance, Floor Area Ratio (FAR), Tectonics, Seismic Resilience.

Introduction

The architectural landscape of the Kathmandu Valley is defined by a cruel paradox: the city is expanding at the cost of the very identity that historically defined it. For over a millennium, this valley served as an architectural laboratory where the Newari civilization perfected what we might call a "Tectonic Fact" a specific, highly evolved integration of load-bearing brick masonry (Dachi Appa), intricate timber joinery (Sanjhyal), and the social condenser of the Chowk (courtyard). This vernacular system wasn't just a "style" or an aesthetic preference; it was a complete ecological and social response to the valley's temperate climate, seismic risks, and communal social structure. It functioned as a vessel for Genius Loci the Spirit of Place creating a symbiotic relationship between the built environment and the daily rituals of its inhabitants (Korn, 1976; Norberg-Schulz, 1980).

Today, however, this fabric is being aggressively displaced by a ubiquitous "Universal Civilization" of reinforced concrete (RCC) frame structures. Post-2015 earthquake reconstruction and rapid urbanization have accelerated this shift, creating a cityscape of "Vertical Slums" poorly serviced, densely packed structures built for maximum profit with minimum livability (Tzonis & Lefaivre, 2003). The proliferation of concrete frames, often left unfinished or superficially clad in cement plaster, represents a disconnect from the region's material history and climatic logic. This research investigates this phenomenon, terming it "Concrete Amnesia" the systemic, policy-driven erasure of spatial wisdom through the adoption of generic, globalized construction technologies.

The Morphological Crisis: Defining Concrete Amnesia

"Concrete Amnesia" is not simply the replacement of old buildings with new ones; it is a systemic erasure of the "knowledge of making." It represents a shift from a "Craft-based Ecology," where buildings were constructed by local artisans using local materials (mud, brick, timber) adapted to local climate, to an "Industrial Ecology," where buildings are assembled from imported materials (cement, steel, aluminum) using unskilled labor, adhering to universal engineering standards that ignore local context.

The scale of this transformation is staggering. Recent geospatial analysis by (Khanal & Alagirisamy, 2025) paints a stark picture: the urban built-up area in the Kathmandu Valley surged from approximately 80 km² in 2000 to over 180 km² in 2020. This unchecked expansion has come at a heavy price: agricultural land shrank from 450 km² to 300 km² in the same period. This isn't just a statistic; it represents the physical erasure of the landscape that birthed the

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Newari vernacular, leading to severe environmental stress and a loss of permeable surfaces (Khanal & Alagirisamy, 2025).

This erasure manifests in three specific dimensions:

Visual Amnesia: The loss of the distinct warm red hue of the Dachi Appa brick, replaced by the grey monotony of cement or the garish colors of acrylic paint.

Spatial Amnesia: The loss of the Chowk (courtyard) and Galli (narrow lane) hierarchy, replaced by the rigid setback lines and "dead" residual spaces of modern planning.

Tectonic Amnesia: The loss of the visible logic of construction. In a traditional Newari house, the timber struts visibly supported the roof, and the brick walls visibly carried the load. In a modern RCC building, the structure is hidden behind plaster, and the facade is often a "lie" a scenographic layer that has no relation to the structural reality.

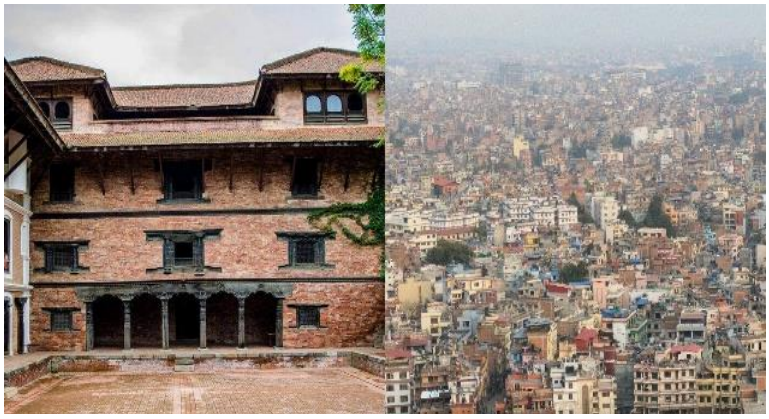

Figure 1: The morphological Shift from material authenticity (Left) to generic urbanization (Right)

Historical Context: From Malla Golden Age to Concrete Sprawl

To understand the magnitude of "Concrete Amnesia," one must situate the current crisis within the historical continuum of Kathmandu's urbanism. The city's-built form has evolved through three distinct phases, each defined by a specific political economy and material logic.

i) The Malla Period (1200–1769): The Tectonic Apex

This era represents the apotheosis of Newari architecture. The urban form was dictated by the Vastu Purusha Mandala and the needs of a high-density agrarian society. The resulting typology high-density row housing arranged around communal Chowks achieved a remarkable balance between private density and public open space. The materials were entirely local: Dachi Appa (conical brick) for facades, Ma Appa for structural walls, and Sal wood for joinery. Construction was a ritual act, supported by the Guthi system (socio-religious trusts) which ensured the maintenance of public infrastructure (Subedi & Shrestha, 2024). In this period, architecture was "Tectonic" in the purest sense: the form was the structure, and the ornament was the joinery.

ii) The Rana Period (1846–1951): The First Rupture

The introduction of Neoclassical architecture by the Rana regime marked the first stylistic rupture. However, this was largely confined to elite palaces (Durbar) and did not fundamentally

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alter the vernacular fabric of the commoners' Tole. While the Ranas introduced stucco and Greek columns, they still relied on traditional brick masonry and timber floor systems. The "Rana Style" was a surface treatment, a mask worn by the elite, but the "body" of the city remained Newari. (Maria & Weiler, 2009) notes that this period introduced the concept of architecture as "scenography," where the facade could be detached from the structural reality, setting a historical precedent for today's kitsch.

iii) The Modern Era (1990–Present): The Structural Rupture

The true rupture occurred with the introduction of Portland cement and the neoliberalization of the economy in the 1990s. The "Concrete Frame" arrived not just as a technology but as a symbol of modernity (Bikas). Unlike the Rana palaces, which were stylistic imports, the concrete frame fundamentally altered the structural logic of the city. It enabled vertical growth without the discipline of load-bearing walls, allowing for the "Deep Plan" buildings that require artificial lighting and ventilation. This period coincided with a massive influx of population into the valley, leading to rapid, unplanned sprawl where the primary driver was maximizing land value rather than maintaining cultural continuity (P. Maharjan, 2022).

Research Problem and Significance

The central problem identified in this research is that the regulatory environment of Nepal actively disincentivizes traditional architecture. While the constitution and cultural policies speak of preservation, the operational building codes (NBC 105, NBC 206) and economic policies (banking valuations, FAR calculations) create an environment where building traditionally is significantly more expensive, slower, and legally complex than building a concrete box.

This disconnect creates a "Schizophrenic Urbanism" where the state promotes heritage tourism on one hand while legally mandating the erasure of heritage fabrics on the other. (Bhattarai et al., 2025) emphasize that despite legislative frameworks like the Ancient Monuments Preservation Act (1956), implementation is hampered by institutional fragmentation. The lack of effective inter-agency coordination and the failure to integrate community roles has led to a "top-down" approach that often alienates local stakeholders.

This research is significant because it moves the debate beyond "saving old buildings" to "designing new policies." It argues that unless the economic and legal structures are modified, cultural preservation will remain a luxury for the elite, while the majority of the city succumbs to amnesia.

Research Objectives

This paper aims to achieve the following objectives:

To analyze the "Policy Vacuum" within the National Building Code (NBC) and Municipal Bylaws regarding architectural character and heritage compatibility.

To investigate the economic drivers (specifically the "Iron Triangle" of Speed, Cost, and Labor) that force developers and homeowners toward concrete construction.

To critique current "Scenographic" conservation efforts and propose a "Tectonic" interpretation of Critical Regionalism as a viable governance framework for the future.

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Review of Literature

This section synthesizes existing scholarship into three thematic pillars: Theoretical Frameworks, The Governance Ecology, and Socio-Economic Realities. It prioritizes empirical research published within the last five years (2020–2025) to ensure relevance to the post-earthquake context.

Re-Interrogating Critical Regionalism: Tectonics vs. Scenography

The theoretical backbone of this research is Critical Regionalism (CR), initially articulated by Kenneth Frampton and Alexander Tzonis. The literature defines Critical Regionalism not as a nostalgic return to the vernacular, but as a "resistance" against the homogenizing forces of "Universal Civilization" (Frampton, 1983; Tzonis & Lefaivre, 2003).

However, recent scholarship by (Zheng et al., 2023) argues for a "re-interrogation" of Critical Regionalism. They propose a lens based on three strategies: defamiliarization, sense of place, and tectonics. They suggest that effective regionalism does not simply mimic the past which leads to kitsch but employs strategies to make local elements "strangely familiar." Applying this lens to Kathmandu, (P. Maharjan, 2022) identifies a critical failure: current practices often devolve into "Scenography" the superficial application of traditional motifs e.g., Dachi Appa tiles, carved windows, onto standard concrete boxes. This fails the test of "defamiliarization" by becoming merely a literal, uncritical copy of the past on an alien structure.

The Tectonic Solution: True resistance requires "Tectonic Form" a structural poetic where the construction method itself expresses the culture. For the Global South, where modernity is a survival strategy, the goal is to use modern technology (concrete/steel) to solve local needs while retaining the "spatial logic" of the region. (Safo et al., 2023) support this, arguing for sustainable architectural designs that bridge traditional values with modern functionality in developing contexts.

The Governance Ecology: Policy Gaps and Volume Over Character

A review of legal frameworks reveals a dominance of quantitative metrics over qualitative identity. (Bhattarai et al., 2025) conducted a systematic literature review of cultural heritage conservation in Nepal, identifying significant policy gaps. They note that while legal frameworks exist, they are marred by overlapping institutional mandates and a lack of enforcement. The disconnection between the Department of Archaeology and local municipalities often leaves the vernacular fabric unprotected.

The "Policy Vacuum": The National Building Code (NBC 105/206) is the primary regulatory instrument. (Pant & Subedi, 2025) conducted a compliance study in Pokhara, finding that municipal checks focus almost exclusively on structural safety (NBC 105) and setbacks (Bylaws), completely ignoring architectural typology or character. Sources confirm that while NBC 105: Seismic Design provides rigorous metrics for stiffness, flexural strength, and ductility to ensure safety (Government of Nepal, 1994, 2025), and NBC 206: Architectural Design mandates exit widths and light wells (Government of Nepal, 2024), neither code provides a legal definition of "Architectural Character" or "Heritage Compatibility" for general residential zones.

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The Reactive Nature of Heritage Law: (Kharel, 2025) reviews the legal frameworks for heritage protection, noting that they are often reactive designed to protect specific monuments after they are threatened rather than prescriptive codes that guide the aesthetics of the growing city. This creates a "Policy Vacuum" where the everyday urban fabric is left unregulated in terms of its cultural identity. The reliance on "Legal Pluralism," where state law overrides customary Guthi practices, further weakens community stewardship of the built environment.

Urbanization and Environmental Stress

The architectural crisis is deeply intertwined with an environmental one. (Khanal & Alagirisamy, 2025) utilized GIS and remote sensing to analyze land use changes in the Kathmandu Valley. Their findings are stark: the rapid conversion of agricultural land to built-up areas (from 80 km² in 2000 to 180 km² in 2020) has led to severe environmental stress, including air and water contamination and increased flood risks. The "concrete sprawl" seals the soil, preventing groundwater recharge and exacerbating the urban heat island effect. This environmental degradation underscores the urgency of adopting a more sustainable, permeable architectural typology such as the traditional courtyard system which Critical Regionalism advocates for.

The Economic & Phenomenological Reality

The literature establishes that the shift to concrete is economically determined and phenomenologically significant.

The FAR Incentive: The Floor Area Ratio (FAR) is identified in real estate literature as the primary currency of urban development. (Karn & Park, 2022) provides a detailed analysis of affordable housing incentives, indicating that regulations incentivizing maximum rentable area effectively penalize the creation of traditional voids (courtyards). In a profit-driven market, the courtyard is treated as "wasted" economic space (Nakarmi et al., 2021).

The Labor Crisis: Ethnographic studies by (Gosai, 2025) on the Sikami (woodcarvers) reveal a rupture in "knowledge transfer." The migration of youth to foreign labor markets (Gulf countries, Malaysia) has depleted the skilled workforce required for traditional tectonic construction. This labor shortage renders traditional construction prohibitively expensive and logistically difficult, contrasting sharply with the availability of unskilled labor for concrete pouring.

Place Identity & Mental Health: Phenomenological studies confirm that the built environment is a "critical substructure of the self" (Orgaz-Agüera et al., 2025). The erasure of specific architectural forms, such as the Chowk, leads to a breakdown in social cohesion. (Ren et al., 2025) and (Dhungana & Kawan, 2023) emphasize that the historic urban landscape is a "lived experience" of body and space, not just a visual backdrop. The replacement of this fabric with "vertical slums" severs these communal bonds, leading to a loss of "Place Identity" (Mukwidigwi et al., 2023; Muminović et al., 2013).

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Methods and Methodology

This research adopts a Qualitative Multi-Sited Case Study strategy supported by Legal-Spatial Analysis. This methodological triangulation allows for the correlation of abstract legal codes with tangible built outcomes.

Research Design

The study employs a Correlational Design to examine the relationship between specific regulatory clauses (Independent Variable) and the resultant architectural topology (Dependent Variable). The research is framed within an Interpretivist paradigm, seeking to understand how policy silences are interpreted by builders and developers to produce specific urban forms.

Study Area and Selection

The study focuses on the Kathmandu Valley, selecting three distinct typological sites to represent the historical timeline and the conflict at hand:

Bhaktapur (The Core/Ghost): Representing the traditional typology. This area is governed by stricter heritage bylaws but faces pressure from modernization. It serves as the baseline for "Tectonic Memory." Specifically, the study focuses on the Dattatreya Square area, where the Guthi system still exerts some control over urban form.

Koteshwor/Gongabu (The Fringe/Monster): Representing the contemporary typology. These areas represent the unregulated or loosely regulated urban sprawl characterized by rapid RCC construction post-2000. They serve as the baseline for "Concrete Amnesia," reflecting the rapid urban expansion described by (Khanal & Alagirisamy, 2025).

Taragaon/Contemporary Adaptations (The Synthesis): Representing the potential Critical Regionalist typology. These projects (like the Taragaon Museum by Carl Pruscha) attempt to mediate between modern materials and traditional forms.

Data Collection

Data was collected through two primary instruments:

Legal Forensics: A forensic content analysis of NBC 105: 2025, NBC 206:2024, and KMC Building Bylaws 2075 (Government of Nepal, 2024, 2025; Kathmandu Metropolitan City, 2023) was conducted. The text was coded to identify specific clauses related to aesthetics, heritage, volume, and safety. The analysis focused specifically on identifying "silences" areas where aesthetic or cultural mandates were absent.

Secondary Data Synthesis: Integration of economic data from real estate reports (Nakarmi et al., 2021), labor migration studies (Gosai, 2025), and post-earthquake reconstruction assessments (Forbes, 2018; UNCRD, 2009). This data provided the quantitative basis for the "Iron Triangle" analysis.

The "Conflict Matrix" (Analytical Tool)

To systematize the comparison, a **"Conflict Matrix"** was developed to evaluate the three distinct typologies against six specific economic and regulatory variables: Structure, Wall Thickness, Labor Source, Cost Model, Legal Status, and Social Void. This matrix serves as the primary analytical lens for the Discussion section.

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Table 1: A comparative analysis of three architectural typologies against economic and legal constraints.

Variable	Typology A: The Traditional (Ghost)	Typology B: The Contemporary (Monster)	Typology C: The Critical Regionalist
Structure	Load-bearing Brick & Timber	RCC Frame + Cement Plaster	RCC Frame + Exposed Brick Infill
Wall Thickness	450mm+ (High thermal mass, space consuming)	110mm - 230mm (Low mass, Max rent)	230mm Cavity Wall (Insulated)
Labor Source	Specialized Sikami & Dakarmi	Unskilled / Migrant Labor	Local Artisans + Modern Engineers
Cost Model	High Maintenance / Slow Speed	Low Maintenance / High Speed	Medium Cost / High Value
Legal Status	"Non-Compliant" (Complex seismically)	"Fully Compliant" (Max FAR)	"Negotiated Compliance"
Social Void	Central Chowk (Life-centric)	Minimal Light Well (Code-centric)	Integrated Social Court

Analysis and Results

The application of the Conflict Matrix to the data reveals that "Concrete Amnesia" is not a passive loss but an active production of the current regulatory and economic ecology.

The Policy Vacuum: Analyzing the Code

The legal-spatial analysis reveals a stark dichotomy in the regulatory framework. While the state exercises hyper-vigilance regarding structural safety and volumetric density, it exhibits near-total apathy toward architectural character in general residential zones.

NBC 105: The Safety Barrier

The 2025 revision of NBC 105: Seismic Design mandates strict ductility and stiffness parameters. While necessary for safety, it implicitly categorizes traditional load-bearing masonry as "high risk" unless heavily reinforced with expensive "Confined Masonry" techniques. This code acts as a technological filter, weeding out traditional methodologies in favor of the "Universal" concrete standard.

While the rigorous stiffness requirements of NBC 105:2025 are a necessary response to the catastrophic failure of unreinforced masonry in the 2015 Gorkha earthquake, they inadvertently create a monoculture of construction. The code prioritizes 'Confined Masonry' and RC frames because their behavior is easily modeled and standardized. However, research indicates that engineered vernacular systems such as timber-laced masonry (Dhungri) exhibited remarkable resilience in 2015 due to their energy-dissipating flexibility (Forbes, 2018). The policy failure, therefore, is not the demand for safety, but the lack of standardized 'Deemed-to-Satisfy' solutions for these resilient traditional

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technologies. By omitting them, the code positions the concrete frame as the only viable path to safety, rendering tectonic tradition legally obsolete.

NBC 206: The Aesthetic Silence

NBC 206: Architectural Design Requirements is the most telling document. It defines "Occupancy" (Group A: Residential, Group B: Assembly, etc.) and mandates functional requirements like exit widths (minimum 900mm for residential) and light wells (minimum 3m x 3m). However, it contains zero clauses defining "Newari Character," "Visual Harmony," or "Material Palette." It treats a building in the historic core of Patan exactly the same as a building in a new suburb, provided they have the same occupancy class. This "universal application" is the root of the policy vacuum.

KMC Bylaws: The Tyranny of FAR

The KMC Bylaws strictly regulate Floor Area Ratio (FAR) and Ground Coverage (typically 60-70% in residential zones). The primary goal of these bylaws is density management, not cultural preservation. By defining the building envelope solely through setbacks and maximum height, the bylaws encourage the extrusion of the maximum allowable volume. This results in the "box" typology that defines the modern sprawl.

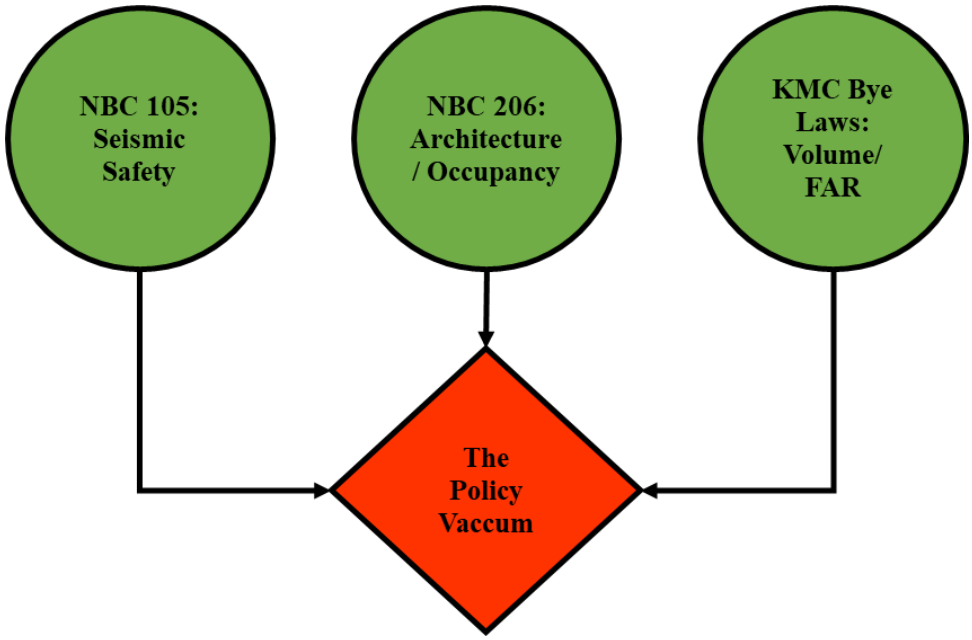

Figure 2: The Policy Vacuum. Current regulations cover Safety, Occupancy, and Volume but leave Architectural Character legally undefined.

The Economic Determinism of the "Iron Triangle"

The analysis confirms that the "Iron Triangle" Speed, Cost, and Labor makes concrete the only rational choice for the average citizen.

Speed: In Kathmandu's high-interest economy (where bank loans often carry 10-12% interest rates), speed is money. A concrete frame allows for rapid vertical growth (one floor every 21

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days). Traditional load-bearing masonry is slow, requiring curing, settling, and meticulous craftsmanship.

The Banking Bias: Financial institutions operate on a "monetary system" that requires standardized, quantifiable assets (Tzonis & Lefaivre, 2003). Concrete frames are globally standardized, industrially produced, and perceived as "permanent" (Pakki). In contrast, traditional mud/brick structures are viewed as "high-maintenance" (Kachhi) and difficult to value using standard metrics. Consequently, banks favor concrete structures for collateral, effectively cutting off finance for traditional construction (Nakarmi et al., 2021).

The Migration Factor: The viability of traditional Tectonics is threatened by the absence of the "hand". (Gosai, 2025) confirms that the Sikami workforce is depleting due to low social status and migration to the Gulf. Without these hands, Critical Regionalism remains a theoretical fantasy; one cannot build intricate brickwork if the bricklayers are in Qatar.

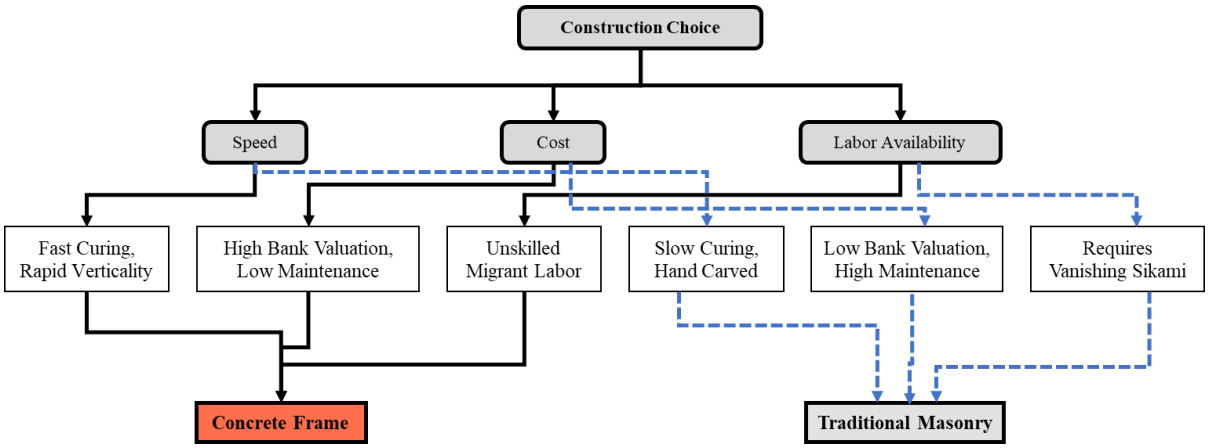

Figure 3: The "Iron Triangle" of Construction. The diagram illustrates how Speed, Cost, and Labor dynamics all converge to favor Concrete construction over Traditional methods

The Regulatory Failure: How FAR Kills the Courtyard

The most significant structural finding is the antagonistic relationship between Floor Area Ratio (FAR) and the Traditional Courtyard.

The Economic Penalty: In a real estate system where value is calculated by "Saleable Area"(Nakarmi et al., 2021), the traditional Chowk represents a financial loss a void that generates no rent.

The Code's Complicity: While NBC 206 mandates minimum light wells (approx. 3m x 3m) for ventilation (Government of Nepal, 2024), it does not incentivize the large, socially active courtyards of the Newari vernacular (often 20m x 20m). The law effectively treats the Chowk as "wasted FAR." Developers, driven by profit, maximize the building envelope to the exact limit of the setbacks (Karn & Park, 2022), resulting in "Deep Plan" buildings that necessitate artificial lighting and sever the social gaze.

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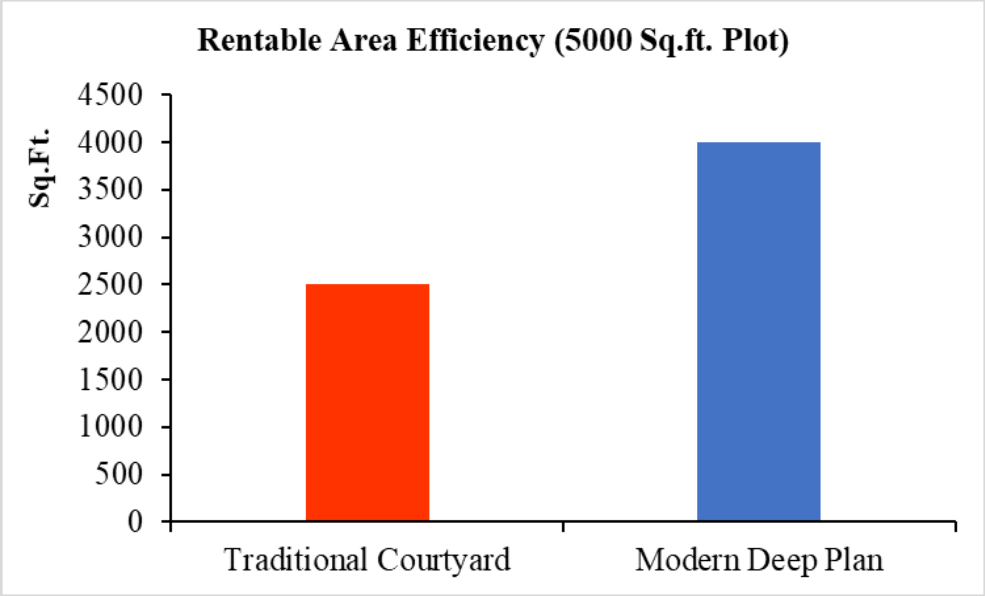

Chart 1: The Economic Penalty of the Courtyard. Current FAR calculations treat the central social void as a financial loss, effectively imposing a "Culture Tax" on developers who choose traditional layouts.

The Seismic Trade-off

NBC 105 creates an unintentional barrier to traditional identity. The code focuses on "Ductility" and "Stiffness" (Government of Nepal, 2025). Traditional load-bearing masonry is "heavy" and "brittle," attracting high seismic forces (B. Maharjan et al., 2024). To make it compliant requires expensive "Confined Masonry" detailing (tie-beams, vertical bars). In contrast, the RCC frame is legally pre-approved as a ductile system. The regulatory path of least resistance is, therefore, the concrete frame.

Discussion

This section interprets the findings through the theoretical lens of Critical Regionalism. It argues that the current erasure of Kathmandu's architectural identity is not accidental but is the deterministic result of the "Iron Triangle" (Economics) and the "Policy Vacuum" (Governance).

The Economic Determinism of "Concrete Amnesia"

The analysis confirms that the shift to the "Concrete Frame" is not merely a stylistic preference but a rational market response to the "Iron Triangle" of **Speed, Cost, and Labor**.

The Speed of Capital: The "monetary system" of contracts and tenders demands speed. Reinforced concrete allows for rapid vertical growth (one floor every 21 days), whereas traditional load-bearing masonry is slow, requiring curing and settling time. In a high-interest economy, speed is the primary design driver.

The Maintenance Myth: Concrete is marketed as "maintenance-free," while timber and mud require annual upkeep. In a modern economy where homeowners are often labor-migrants themselves, low-maintenance materials are a necessity, not a luxury. This preference for

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concrete is reinforced by what (Tzonis & Lefaivre, 2003) describe as the 'monetary system's' demand for standardization. Banking valuation models in Nepal categorize concrete structures as Pakki (Permanent/Low Risk) and load-bearing masonry as Kachhi (Temporary/High Risk), regardless of the actual engineering quality. This financial categorization creates a self-fulfilling prophecy where traditional forms are devalued, preventing the investment needed to modernize them.

The Regulatory Failure: How FAR Kills the Courtyard

The most significant structural finding is the antagonistic relationship between Floor Area Ratio (FAR) and the Traditional Courtyard (Chowk).

The Code's Complicity: While NBC 206 mandates minimum light wells, it does not incentivize the large, socially active courtyards of the Newari vernacular. The law effectively treats the Chowk as "wasted FAR." Developers, driven by profit, maximize the building envelope to the exact limit of the setbacks, resulting in "Deep Plan" buildings that necessitate artificial lighting and sever the social gaze. This confirms (Karn & Park, 2022) hypothesis that FAR incentives are currently misaligned with cultural sustainability.

Re-Interrogating Critical Regionalism: From Image to Structure

Using the theoretical lens of (Zheng et al., 2023), we can reinterpret the current state of Kathmandu's architecture. The "Neo-Newari" style is a failure of "defamiliarization"; it is too literal, too attached to the "familiar" image of the past without understanding its underlying tectonic truth. This results in kitsch.

A true Critical Regionalist framework for Kathmandu must follow Carl Pruscha's model of "Tectonic Synthesis," aligning with (Zheng et al., 2023)'s call for "contemporary tectonics":

Accept the Frame: Acknowledge the RCC frame as the "Universal" necessity for speed and seismic safety (NBC 105).

Localize the Infill: Use exposed brick and timber for non-structural infill to restore the tactile quality and "Sense of Place."

Codify the Void: The Chowk must be transformed from a liability to an asset.

Addressing Environmental Stress

The "Concrete Amnesia" is not just a cultural loss but an environmental one. As (Khanal & Alagirisamy, 2025) note, the rapid expansion of impermeable surfaces has increased environmental stress, including flood risks and urban heat islands. Reintroducing the Chowk a permeable, green void into the urban fabric is a critical "nature-based solution." Therefore, a Tectonic governance framework aligns cultural preservation with environmental sustainability, addressing the "smart, green" urbanization needs identified in recent literature.

Ethical Considerations

This research acknowledges the ethical tension between "Heritage Preservation" and "Urban Poverty."

Avoid Romanticizing Poverty: It is crucial not to fetishize traditional mud/brick housing, which often suffered from dampness and poor sanitation (Dhanchha, 2024). Concrete

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DOI: 10.3126/nprcjmr.v2i14.86990

construction represents a genuine aspiration for upward mobility, safety, and "permanence" for many Nepali citizens.

Gentrification Risks: A strict "Critical Regionalist" mandate could increase construction costs, potentially displacing lower-income residents or leading to gentrification where only the wealthy can afford "authentic" identity. The proposed framework must, therefore, include economic subsidies (FAR Bonuses) to prevent heritage from becoming an elite luxury.

Conclusion

"Concrete Amnesia" in the Kathmandu Valley is not an accidental loss of culture, but a structural inevitability caused by a governance system that regulates volume but ignores character, and a market that penalizes craftsmanship. The "Policy Vacuum" allows the "Iron Triangle" of economics to dictate the form of the city, resulting in a landscape of vertical slums that are technically safe but culturally hollow. The rapid urban expansion quantified by (Khanal & Alagirisamy, 2025) serves as a stark warning: without intervention, the valley faces irreversible environmental and cultural degradation.

This paper argues that Critical Regionalism can only function as a solution if it evolves from an aesthetic theory into a Governance Framework. By manipulating the economic levers of urbanism specifically FAR incentives and labor valuation policymakers can transform the "Concrete Frame" from an instrument of amnesia into a structure that supports, rather than erases, the living memory of the Kathmandu Valley.

Policy Recommendations

To operationalize this framework, three specific policy interventions are required:

1. Heritage FAR Bonus: To counteract the "Culture Tax," developers should be granted additional vertical FAR in exchange for preserving a traditional Chowk footprint. To prevent the 'Heritage FAR Bonus' from incentivizing 'vertical slums' where developers maximize height while providing tokenistic, dark light-wells the policy must be governed by strict spatial parameters:

- **Minimum Dimensions:** The courtyard must occupy a minimum of 15% of the total plot area, with no dimension less than 4 meters.
- **Sky View Factor (SVF):** To ensure the void functions as a social and climatic condenser, a minimum SVF must be maintained. Taller buildings must provide wider courtyards to prevent deep, dark shafts.
- **Permeability:** The bonus should be tiered. A base bonus is given for the void; a higher 'Gold Standard' bonus is granted if the courtyard is visually permeable to the street, contributing to the public realm rather than remaining a private enclosure.

2. Legal Definition of Character: The NBC must explicitly define "Architectural Character" as a tectonic parameter (materiality/void ratio), not just a facade treatment.

3. Labor Valorization: The government must invest in the Sikami and Dakarmi trades, integrating them into formal technical education (CTEVT) to restore the "knowledge transfer" and elevate the social status of the artisan. Furthermore, market creation is essential:

NPRC Journal of Multidisciplinary Research
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Public Procurement Mandates: A 'Heritage-First' procurement policy requiring 20% of materials and labor in municipal buildings to be sourced from certified traditional artisans.
Tax Incentives: Municipal tax rebates for private homeowners who employ certified 'Heritage Engineers' (artisans trained in seismic-resilient vernacular construction), thereby raising the social status and economic value of the trade.

Transparency Statement: The author confirms that this study has been conducted with honesty and in full adherence to ethical guidelines.
Data Availability Statement: Author can provide data.
Conflict of Interest: The author declares there is no conflicts of interest.
Authors' Contributions: The author solely conducted all research activities i.e., concept, data collecting, drafting and final review of manuscript.

NPRC Journal of Multidisciplinary Research
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DOI: 10.3126/nprcjmr.v2i14.86990

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