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Cultural Identity and Seismic Resilience in Vernacular Architecture: A Multidimensional Analysis of Traditional Houses in Diyarbakır, Türkiye

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ABSTRACT

Turkey's diverse architectural heritage encompasses a wide range of vernacular housing traditions in which cultural identity and environmental adaptation are deeply intertwined. Among these traditions, the traditional houses of Diyarbakır—located in one of Türkiye's most seismically active regions—offer a distinctive architectural model in which local identity, material culture, and resilience strategies converge within a coherent spatial logic. This study examines the cultural and identity-based dimensions of Diyarbakır's vernacular houses through a comparative analysis of three representative examples: the Ziya Gökalp House, the Cahit Sıtkı Tarancı House, and the Cemil Pasha Mansion. Employing a descriptive–analytical methodology supported by literature review, historical documentation, and visual/field-based observations, the research investigates how spatial organization, material systems, and functional zoning encode cultural meaning while simultaneously responding to climatic and seismic conditions. The findings indicate that key architectural features—such as the haremlik–selamlık division, courtyard-centered planning, introverted spatial layouts, and the extensive use of local black basalt—reflect enduring social norms, cultural traditions, and environmental adaptation strategies. At the same time, structural characteristics including compact massing, thick masonry walls, low-rise configurations, and controlled façade openings significantly enhance the seismic performance of these dwellings. Overall, the study demonstrates that Diyarbakır's traditional architecture expresses cultural identity not only at a symbolic level but also through structural logic and spatial performance. The results underline the potential of vernacular architectural principles as effective references for developing contemporary design approaches that are culturally grounded, environmentally responsive, and resilient in earthquake-prone regions, while supporting heritage-sensitive and seismic-resilient architectural strategies.

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1. Introduction

Culture and identity are two fundamental dimensions that shape architectural expression, particularly within traditional built environments. Beyond fulfilling functional requirements, vernacular architecture embodies the collective values, belief systems, and social practices of the communities that produce it. As material manifestations of local knowledge, traditional houses offer critical insight into how cultural norms and identity frameworks are spatialized and transmitted across generations. In this respect, they function not only as physical shelters but also as cultural texts that reflect the socio-spatial organization of everyday life.

Türkiye's considerable diversity in ethnicity, climate, culture, and settlement morphology has produced a wide variety of traditional residential typologies. This diversity is especially evident in Eastern Anatolia, a region shaped by both a deep cultural continuum and significant environmental challenges, including seismic activity. Diyarbakır, one of the oldest continuously inhabited cities in this region, presents a particularly compelling case. The city's urban fabric—characterized by courtyard-centered house layouts, thick basalt stone walls, and introverted spatial organization—illustrates a sophisticated synthesis of cultural identity, environmental adaptation, and vernacular construction practices [1].

The traditional houses of Diyarbakır embody not only social and symbolic meanings but also structural responses to the region's seismic conditions. Their compact massing, low-rise configuration, and the use of durable local materials such as black basalt demonstrate the integration of indigenous craftsmanship and empirical knowledge into architectural production [2]. In this regard, architecture functions as a representational arena shaped by historical, social, and environmental contexts and is intrinsically linked to national, religious, and cultural identities [3, 4]. At the same time, evolving global dynamics introduce both opportunities and challenges for sustaining local architectural identities, necessitating careful negotiation between tradition and modernity [5, 6].

Culture, defined as the learned and transmitted dimension of human life, shapes behavioral patterns, lifestyles, and value systems while simultaneously being reshaped by them [7]. Identity, functioning as a cognitive and interpretive framework, enables societies to define themselves and their built environment [8]. In architectural terms, identity emerges from the harmonious interaction of conceptual intention and material realization; disruptions in this relationship may weaken architectural identity and, consequently, broader cultural continuity [3].

Against this conceptual background, the present study examines the cultural and identity-related components of traditional houses in earthquake-prone regions of Türkiye, with a particular focus on Diyarbakır. The central research question guiding this study is: How have local cultural values and identity shaped the formation and spatial organization of traditional houses in Diyarbakır, a major urban center within Türkiye's seismic geography? A review of the existing literature indicates that previous studies have

predominantly addressed cultural, identity-based, and technical (seismic) aspects in isolation, with limited research integrating these dimensions within a unified analytical framework. The original contribution of this study lies in its examination of the interrelationship between culture, identity, and resilience through a comparative analysis of selected case studies.

By examining key architectural elements—such as the organization around central courtyards, the use of stone as a dominant building material, and the spatial hierarchy informed by cultural norms—the study seeks to reveal how vernacular forms in Diyarbakır embody local identity while simultaneously addressing environmental imperatives. Through this integrated approach, the research aims to contribute to a deeper understanding of vernacular Turkish architecture and to elucidate how cultural and ecological factors collectively inform architectural resilience.

Vernacular architecture has increasingly been re-evaluated as a resilient architectural knowledge system, shaped by long-term cultural practices and environmental adaptation rather than formal engineering principles. Recent studies emphasize that traditional building cultures often integrate climate responsiveness, material efficiency, and social organization into spatial form, thereby offering sustainable and resilient solutions to contemporary architectural challenges [9].

This study makes several original contributions to the literature on vernacular architecture, cultural identity, and seismic resilience. First, it introduces a multidimensional analytical framework that integrates morphological, structural–seismic, spatial–functional, and cultural–symbolic perspectives, enabling a holistic evaluation of traditional houses beyond single-parameter analyses. Second, by focusing on the earthquake-prone context of Diyarbakır, the study demonstrates how cultural identity and local building traditions actively inform structural resilience, revealing vernacular architecture as an empirical knowledge system shaped by collective seismic experience. Third, the comparative analysis of three socially and symbolically distinct houses provides new insights into how different identity layers—literary, intellectual-national, and aristocratic-political—are spatially and materially encoded within a shared vernacular grammar. Finally, the findings offer transferable design principles that contribute to contemporary architectural discourse by highlighting how heritage-based, culturally grounded strategies can inform resilient and context-sensitive design in seismic regions.

2. Research Method

This study employs a qualitative, applied, and descriptive–analytical research design, integrating multiple complementary methods to ensure methodological rigor and reliability. The research process consists of three main stages: (1) establishing the theoretical framework, (2) conducting case study analyses, and (3) synthesizing findings through triangulation and interpretive evaluation.

Theoretical framework development

In the first stage, extensive library research and documentary analysis were conducted to build a conceptual foundation related to culture, identity, vernacular architecture, and seismic resilience. This phase involved reviewing academic publications, architectural surveys, conservation reports, and historical sources that address traditional Turkish houses and the socio-cultural context of Diyarbakır. The theoretical insights derived from this literature formed the basis for defining the analytical criteria used in the case studies.

Case study selection and analytical procedure

The study employs the case study method, which is well-suited for examining complex cultural and architectural phenomena within their respective contextual settings. Three representative examples of traditional houses in Diyarbakır—Ziya Gökalp House, Cahit Sıtkı Tarancı House, and Cemil Pasha Mansion—were selected based on their historical significance, architectural integrity, and capacity to illustrate cultural and identity-related patterns in the region.

Each house was analyzed according to a structured set of criteria, including:

- Physical characteristics (materials, construction techniques, spatial hierarchy),
- Spatial organization (courtyard-centred layout, functional zones, circulation patterns),
- Social and cultural functions (privacy norms, family structure, gendered spaces),
- Symbolic and identity-related meanings,
- Adaptation to environmental and climatic conditions, particularly seismic considerations

This analytical framework enabled a systematic comparison of the selected examples, facilitating the identification of both shared and divergent architectural features.

Data triangulation

To enhance the validity and reliability of the findings, the study employs data triangulation, integrating three independent data sources:

1) **Library and archival resources** (scholarly texts, historical documents, conservation reports).
2) **Cartographic and visual materials** (historical maps, site plans, aerial imagery).
3) **Field-based or visual observations** (photographs, measured drawings, on-site documentation from secondary sources).

By cross-verifying information from these sources, the study minimizes interpretive bias and ensures a comprehensive understanding of the architectural, cultural, and environmental attributes of the traditional houses examined.

Interpretive synthesis

In the final stage, the findings obtained from case analyses and triangulation were synthesized to interpret how culture and identity are expressed and embodied in the traditional architecture of Diyarbakır.

This synthesis highlights the interaction between local knowledge, environmental adaptation, socio-cultural norms, and architectural form, particularly within the context of an earthquake-prone region.

Figure 1 illustrates the overall methodological workflow followed throughout the research process.

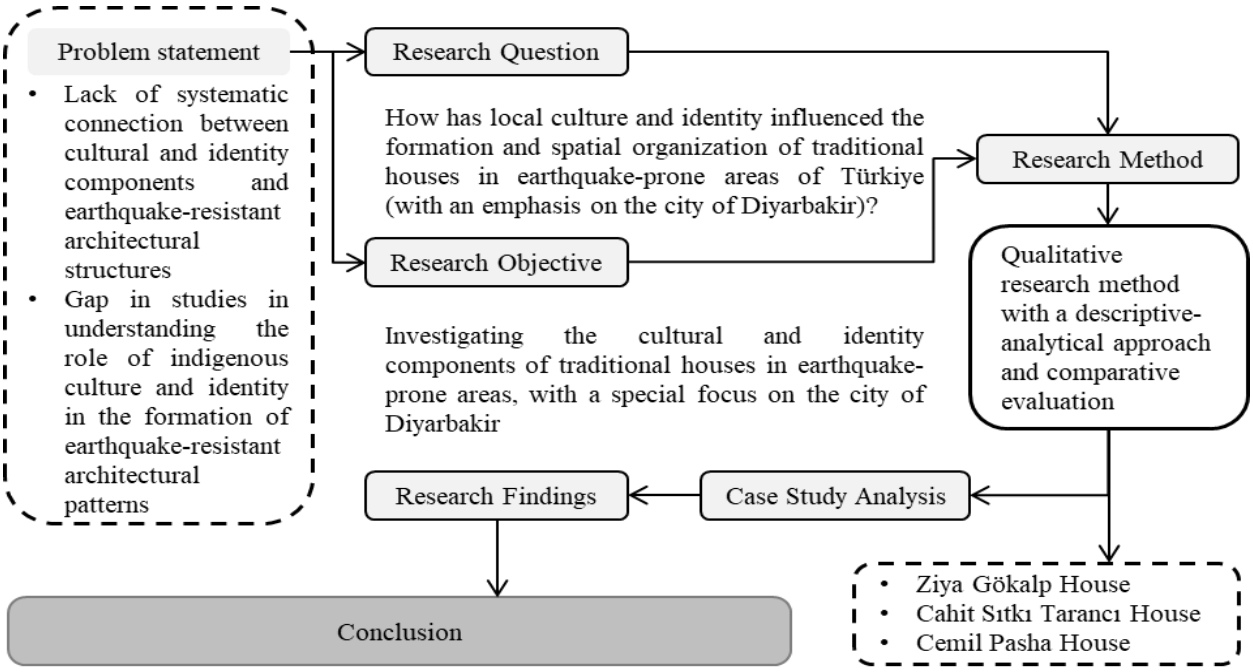


Figure 1. Overall research process

3. Literature Review

This section presents the theoretical framework underpinning the study by examining two main areas: (1) the architectural characteristics of traditional Turkish houses, and (2) the conceptual relationship between culture, identity, and the built environment. Together, these domains provide the analytical foundation for interpreting how vernacular houses in Diyarbakır reflect both cultural values and environmental adaptation within a seismic context.

Architecture of traditional Turkish houses

Türkiye's geographical position—extending from the Balkans to Anatolia—has enabled the coexistence of diverse cultural, social, and environmental conditions, each contributing to the evolution of distinct vernacular house types [10]. Across Anatolia, traditional houses have been shaped by topography, climate, and socio-economic structures, serving primarily to support family life and daily needs [11]. Their origins can be traced to the nomadic traditions of Central Asia and the long-standing customs that have shaped Turkish domestic culture, giving rise to the recognized typology known as the "Traditional Turkish House" [12].

Although regional variations exist, traditional Turkish houses share a common architectural vocabulary. Typically, they feature timber-framed upper stories, stone or adobe lower floors, proportional façades, and a strong emphasis on spatial hierarchy [13, 14]. Historic houses are also valued for their

aesthetic, socio-cultural, documentary, and symbolic significance, reflecting the architectural and social history of the communities that produced them [15].

A defining characteristic of these dwellings is the interplay between cultural traditions and environmental factors. Climate-sensitive planning—such as the orientation of rooms, the use of semi-open spaces, and the presence of courtyards—illustrates adaptive strategies embedded in daily life [12]. In traditional courtyard houses, spatial organization is not only determined by climatic requirements but also by deeply rooted cultural norms such as privacy, gender roles, and collective family life. Studies conducted in the Middle Eastern context highlight that courtyard-centered layouts function simultaneously as climatic regulators and cultural mediators, reinforcing social identity through spatial hierarchy [16]. Moreover, the use of local materials reinforces regional identity: for example, basalt in Diyarbakır, timber in the Black Sea region, and adobe in Central Anatolia demonstrate geographically grounded construction practices [17]. The upper floors' timber structure contributes to both lightness and improved seismic performance, a significant advantage in earthquake-prone regions [18].

Overall, traditional Turkish houses embody a synthesis of cultural values, spatial organization, and material adaptation—elements essential for understanding the architectural logic of Diyarbakır's vernacular dwellings.

Culture, identity, and architecture

Culture and identity are central determinants of architectural expression, shaping both the physical form and symbolic meaning of the built environment. Architecture reflects the collective values, traditions, and worldviews of a society, simultaneously shaping and being shaped by it [19, 20]. Culture encompasses the material and spiritual products of human development, providing the conceptual framework through which environments are created and interpreted [21, 22].

Identity, similarly, provides continuity and coherence, enabling communities to define themselves spatially and symbolically [23, 24]. In Turkey, vernacular architecture has been profoundly influenced by Ottoman traditions, Islamic cultural values, and local customs, generating spatial practices that reflect social norms such as gender segregation, privacy, and hospitality. The haremlik–selamlık division, for example, translates moral and social codes directly into architectural form [25]. At the same time, courtyards serve as the central nodes of family life, integrating privacy, climatic control, and social interaction [26].

Beyond spatial organization, material choices also serve as expressions of identity. Basalt stone in Diyarbakır, for instance, carries symbolic associations linked to geography, memory, and local craftsmanship, reinforcing a sense of belonging among inhabitants [27]. Such elements highlight that architecture in Türkiye is never culturally neutral; instead, it operates as a medium of identity formation, cultural transmission, and collective memory [28].

Conceptual implications for the present study

The literature indicates that traditional architecture represents an integrated system in which cultural norms, identity-based practices, and environmental adaptation, including responses to seismic risk, converge. In regions such as Diyarbakır, this convergence becomes more explicit due to the distinct relationship between local culture, material traditions, and the necessity for structural resilience.

These insights inform the conceptual model of the study (Figure 2), which illustrates the interrelationship between cultural values, spatial patterns, environmental conditions, and identity formation. The model serves as a guide for analyzing the selected case studies and for understanding how traditional houses in Diyarbakır embody cultural and identity-based meanings while accommodating environmental constraints, particularly those associated with earthquakes.

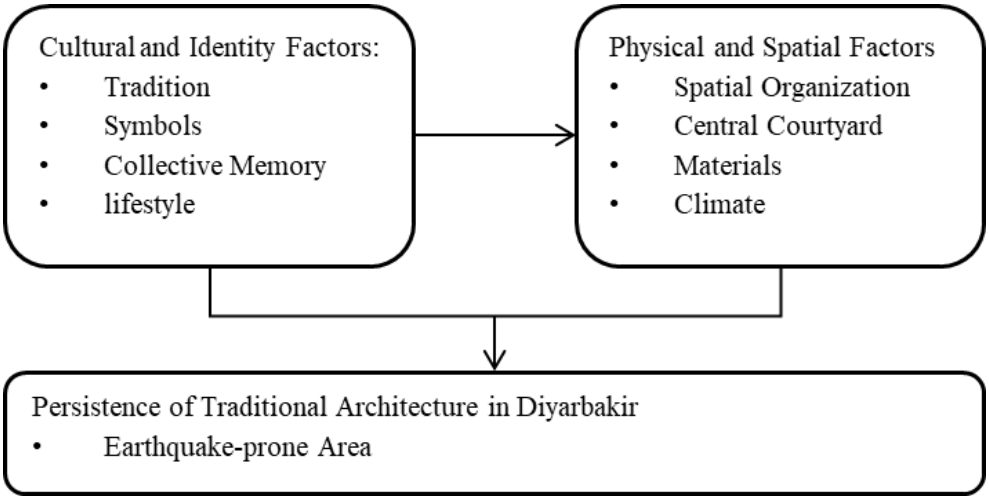


Figure 2. Conceptual model of the research

4. Introducing Case Studies

Diyarbakır, located in southeastern Türkiye, is one of the region's most historically significant urban centers. Its strategic position, fertile plains, and defensible topography have attracted successive civilizations throughout history, transforming the city from a fortified early settlement into a significant cultural and architectural hub. Although the precise founding date of the citadel remains uncertain, archaeological and historical evidence indicate that the earliest occupation occurred within the confines of the inner fortress [29]. The old walled city, situated on the northern edge of the Mesopotamian Plain, continues to preserve a distinctly medieval urban character, marked most notably by its monumental black basalt fortifications that encircle the city along the Tigris (Dicle) River. These fortifications, along with the city's layered architectural fabric, attest to Diyarbakır's enduring cultural continuity and its role as a crossroads of diverse civilizations [30].

To investigate how cultural identity and environmental adaptation are manifested in vernacular architecture, the study focuses on three representative examples of traditional Diyarbakır houses: the Ziya Gökalp House, the Cahit Sıtkı Tarancı House, and the Cemil Pasha Mansion. These case studies were

selected due to their architectural integrity, historical value, and the distinct cultural identities they embody. While they share several fundamental characteristics—such as central courtyards, the use of local basalt stone, and introverted spatial organization—each represents a different socio-cultural layer within the city's historical continuum. Tarancı House exemplifies middle-class folk culture; Gökalp House reflects intellectual and symbolic identity; and Cemil Pasha Mansion embodies aristocratic and political authority.

Cahit Sıtkı Tarancı House presents a spatial configuration characteristic of traditional Diyarbakır dwellings. The ground floor features service spaces, including the kitchen, storage rooms, and auxiliary functions, all arranged around the central courtyard. The upper floor includes seasonally oriented rooms, demonstrating climatic adaptability and socio-cultural practices related to family life and hospitality [31].

Table 1. Introduction of the samples

Location of Diyarbakır on the map of Türkiye | Diyarbakır city map | Diyarbakır city map

Diyarbakır city map | Images of Cemil Pasha's house

Diyarbakır city map | Images of Cahit Sıtkı Tarancı's house

Diyarbakır city map | Images of Zia Gökalp's house

Cemil Pasha Mansion, among the most prominent examples of the city's elite residential architecture, is distinguished by its tripartite functional organization: the harem (private family quarters), selamlık (reception and guest area), and staff accommodations. The four-winged harem consists of a basement,

ground floor, and upper floor, each arranged to reinforce privacy, hierarchy, and ceremonial order, reflecting the social and political stature of the Pasha family [32].

Ziya Gökalp House, a 19th-century residence, offers another significant example of Diyarbakır's civil architecture. Its three wings are arranged around a central courtyard, with clearly differentiated lower and upper floors. The spatial separation between the haremlik and selamlık sections underscores the social norms, gender roles, and cultural traditions embedded in domestic architecture.

By examining these exemplary dwellings, the study aims to reveal how vernacular forms in Diyarbakır encode cultural values, identity markers, and responses to environmental and seismic conditions. The selected cases offer insight into both macro-level influences, such as regional materials and topographic constraints, and micro-level socio-cultural practices, as reflected in spatial organization, lifestyle patterns, and architectural symbolism. Through this integrated approach, the analysis captures the intertwined cultural, identity-based, and physical dimensions that shape the traditional houses of Diyarbakır.

Table 1 presents a comparative overview of the selected case studies and their principal architectural features.

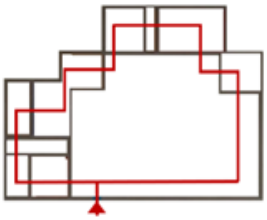
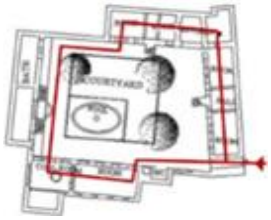
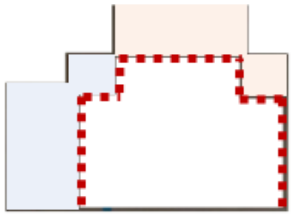
5. Discussion and Analysis

The integrated evaluation of the three traditional Diyarbakır houses—supported by morphological, structural, seismic, spatial, functional, and cultural symmetry matrices—reveals that the architectural identity of the region is shaped through a multidimensional interplay of spatial logic, material culture, social structure, and environmental adaptation. Rather than functioning merely as domestic shelters, these houses constitute a highly articulated vernacular system in which cultural continuity and structural resilience are mutually reinforcing.

Overall, the findings suggest that architectural morphology in Diyarbakır is shaped by a dynamic interplay among cultural norms, identity-based expression, environmental adaptation, and structural pragmatism. The shared reliance on durable materials, compact massing, and introverted layouts reflects a vernacular logic developed in response to seismic vulnerability. Meanwhile, the symbolic and social dimensions of the houses reveal how the built form serves as a carrier of cultural meaning. Table 2 synthesizes this multifaceted relationship by outlining the main analytical categories—spatial organization, circulation, materials, architectural details, and functional aspects—through which culture and identity are materialized in the selected case studies.

Despite their differences in social context, symbolic meaning, and architectural expression, the three examined houses share several fundamental vernacular characteristics—most notably the central courtyard, the extensive use of black basalt as a dominant local material, and a spatial organization shaped by the climatic, cultural, and social conditions of Diyarbakır.

Table 2. Analysis of the research samples *(Spatial, material, and functional components used in the comparative evaluation of the three houses)*

		Cemil Pasha's house	Ziya Gökalp's house	Cahit Sıtkı Tarancı's house
Spatial Organization	Central Courtyard			
	Circulation Paths			
Building Materials	Stone and Brick			
Architecture Details	Door and Window			
	Architectural Ornamentation	  	 	  
Functional Aspects	Spatial Segregation			

These shared elements underscore a coherent architectural language. At the same time, the variations in scale, ornamentation, and cultural significance indicate that Diyarbakır's traditional architecture should

be understood as a "cultural text": a multidimensional narrative in which popular, intellectual, and aristocratic identities coexist, intersect, and mutually shape the built environment.

Morphological logic as cultural expression

The morphological matrix (Table 3) demonstrates that all three houses share core vernacular traits—courtyard-centered layouts, compact massing, introverted spatiality, and basalt masonry—yet exhibit substantial variation linked to social hierarchy and cultural role. The progression from the modest two-wing organization of the Cahit Sıtkı Tarancı House to the complex multi-wing layout of the Cemil Pasha Mansion illustrates how spatial complexity correlates with social identity, a pattern consistent with Rapoport's view of house form as a cultural artifact.

Table 3. Morphological matrix of traditional Diyarbakır houses *(Comparative assessment of plan typology, spatial organization, courtyard form, vertical composition, material system, structural system, and symbolic meanings)*

Morphological Category	Cahit Sıtkı Tarancı House	Ziya Gökalp House	Cemil Pasha Mansion	Comparative Interpretation
1. General Plan Type	Courtyard-centered, two-wing layout	Courtyard-centered, three-wing layout	Large-scale multi-wing mansion with harem–selamlık–staff units	All three-employ courtyard typology, but complexity increases with social status.
2. Spatial Organization	Seasonal room arrangement: functional separation at ground–upper floors	Clear haremlik–selamlık division: formal reception areas	Strong spatial hierarchy: ceremonial circulation; distinct functional units	Social hierarchy directly influences spatial segmentation.
3. Courtyard Morphology	Medium-sized, rectangular courtyard	Triangular–rectangular hybrid courtyard: symbolic focal point	Huge, multi-functional courtyard with peripheral circulation	Courtyard size and function scale proportionally with social status and cultural representation.
4. Vertical Composition	2 floors: modest volumetric expression	2 floors: articulated façade rhythm	2–3 floors, depending on wing: monumental presence	Height is controlled for seismic safety; monumental expression is only in elite houses.
5. Material System	Black basalt masonry: timber floors	Basalt masonry: carved stone details	High-quality basalt masonry: ornamented stone façade	Material uniformity indicates regional identity: decorative refinement reflects cultural prestige.
6. Wall Thickness	Thick basalt walls (60–80 cm)	Thick basalt load-bearing walls (70–90 cm)	Very thick walls (80–100 cm) for structural and climatic reasons	All rely on massive walls enhancing thermal comfort and seismic performance.
7. Structural System	Load-bearing stone walls: wooden beams	Load-bearing stone walls: partially	Complex load-bearing system with large spans and thick walls	Structural mass and compact form improve seismic resilience.

Morphological Category	Cahit Sıtkı Tarancı House	Ziya Gökalp House	Cemil Pasha Mansion	Comparative Interpretation
		reinforced wooden elements		
8. Roof Type	Flat roof: parapet edges	Flat roof: partial shaded veranda	Flat roof: monumental skyline character	Flat roofs are climatic responses typical of the Mesopotamian heritage.
9. Façade Language	Simple, modest articulation	Balanced, ornamented basalt detailing	Highly ornamented façades: symbolic political identity	Ornament level reflects cultural hierarchy.
10. Openings and Windows	Small openings: privacy-oriented	Symmetrical openings: inner façade focused	Larger openings in selamlık: ceremonial expression	Window morphology follows privacy norms and social hierarchy.
11. Functional Zoning	Daily life oriented: minimal ceremonial function	Balanced private-public functions: intellectual gatherings	Strong formal zoning: reception and governance-oriented	Functional complexity mirrors owners' social role.
12. Climate Adaptation	Thick walls + courtyard microclimate	Courtyard + semi-open veranda + shading pool	Multiple shaded corridors and thick mass	All rely on passive climatic strategies.
13. Seismic Adaptation	Compact mass: uniform wall height	Compact plan: distributed loads	Massive wall continuity: lateral stability is high	Vernacular knowledge is embedded in structural continuity.
14. Symbolic / Cultural Meaning	Literary–cultural identity	Intellectual–national identity	Aristocratic–political identity	Each house encodes a distinct cultural narrative within a shared vernacular framework.

Courtyard morphology follows a similar gradient:

- In the Tarancı House, it primarily supports intimacy and climate regulation.
- In the Gökalp House, it acquires cultural–intellectual symbolism.
- In the Cemil Pasha Mansion, it becomes the ceremonial and hierarchical core of the complex.

Thus, space is not only shaped by environmental constraints but also acts as an instrument of cultural signification and social representation.

Structural morphology and seismic resilience

The structural–seismic matrix (Table 4) highlights a second central insight: Diyarbakır's traditional houses encode a sophisticated empirical understanding of seismic behavior. Thick basalt walls, continuous load-bearing surfaces, low-rise elevations, and minimal façade perforations appear consistently across all case studies. These features align with contemporary seismic engineering principles, which emphasize uniform stiffness, compact geometry, and continuity of lateral walls.

Table 4. Structural–seismic analysis of traditional Diyarbakır houses *(Comparison of structural systems, wall thickness, continuity, opening ratios, height, plan compactness, roof and floor systems, material performance, and overall seismic behavior)*

Seismic / Structural Parameter	Cahit Sıtkı Tarancı House	Ziya Gökalp House	Cemil Pasha Mansion	Comparative Structural Interpretation
Primary Structural System	Load-bearing basalt masonry: timber beams	Basalt masonry with wooden tie beams	Heavy basalt masonry: large-span load-bearing walls	All rely on basalt load-bearing systems: the degree of robustness increases with building scale.
Wall Thickness	60–80 cm	70–90 cm	80–100 cm	Thickness correlates with social hierarchy and seismic robustness.
Wall Continuity & Lateral Stability	High continuity: minimal façade perforations	High continuity: internal courtyard strengthens bracing	Very high continuity: long, uninterrupted walls	Continuous walls reduce the likelihood of shear failure and increase lateral resistance.
Openings Ratio (Solid–Void)	Very low: enhances strength	Balanced ratios: internal façade more open	Higher ratio in selamlık: structure compensated by wall mass	Opening control reflects privacy and seismic safety in tandem.
Building Height	2 floors	2 floors	2–3 floors, depending on the wing	Low-rise morphology improves earthquake performance.
Plan Compactness	High compactness: rectangular plan	Moderate compactness with articulated wings	Multi-wing but compact masses around the courtyard	Courtyard-centered compactness dissipates seismic forces.
Roof Structure	Flat roof: timber supports	Flat roof: partial shaded veranda	Flat roof: heavy parapets	Flat roofs reduce vertical load irregularities.
Floor System	Timber joists: light structure	Timber floors: load distribution balanced	Heavy floors: stone + timber hybrids	Timber floors improve ductility at upper levels.
Material Performance	Basalt stone: strong compression resistance	Carved basalt increases the precision of load paths	High-quality basalt offers superior compressive strength	Stone mass resists compression but requires continuity: Diyarbakır meets this condition.
Seismic Behavior	Good integrity: uniform stiffness	Very stable: symmetrically distributed wings	Highest seismic resilience due to mass + geometry	Vernacular construction embedded seismic adaptation knowledge.

Moreover, the consistent use of basalt—a material with high compressive strength yet requiring mass continuity—demonstrates how material identity and structural performance converge. The courtyard system, while culturally motivated, further enhances seismic behavior by reducing torsional irregularity

and distributing mass more symmetrically. From a seismic perspective, continuous thick walls, compact plans, limited building height, and shared party walls result in a high degree of inherent resilience, illustrating how cultural practices and environmental adaptation co-evolved to shape a robust architectural typology. In this sense, the vernacular architecture of Diyarbakır incorporates indigenous seismic knowledge that predates the emergence of formal engineering frameworks.

Cultural–symbolic identity embedded in architectural form

The cultural–symbolic identity matrix (Table 5) clarifies how each house conveys a different layer of Diyarbakır's identity:

Table 5. Cultural–symbolic identity matrix of traditional houses in Diyarbakır *(Comparison of cultural identity layers, symbolic architectural elements, intangible heritage value, social representation, privacy concepts, identity construction through space, relationship to local culture, symbolic role of the courtyard, material symbolism, and heritage status)*

Cultural / Symbolic Dimension	Cahit Sıtkı Tarancı House	Ziya Gökalp House	Cemil Pasha Mansion	Comparative Interpretation
1. Cultural Identity Layer	Middle-class urban culture: domestic modesty	Intellectual identity: early nationalist thought	Aristocratic–political identity	Three distinct cultural strata are represented through domestic architecture.
2. Symbolic Architectural Elements	Modest façade: minimal ornamentation	Inscribed basalt details: symbolic porch pool	Ornate basalt façade: monumental proportions	Ornament level indicates social prestige and symbolic intent.
3. Intangible Heritage Value	Literary heritage of Cahit Sıtkı Tarancı	Heritage of Ziya Gökalp (ideology, philosophy)	Collective memory of the Pasha family and Ottoman political elites	Each house preserves a different layer of Diyarbakır's intangible heritage.
4. Social Representation	Represents the everyday life of middle-class Diyarbakır families	Reflects intellectual gatherings and ideological discourse	Represents governance, hierarchy, and ceremonial authority	Social roles are spatially encoded across three typologies.
5. Privacy Concept	High privacy: family-centered life	Strict privacy: gendered spatial divisions	Hierarchical privacy: separation of elite/servants	Privacy remains a constant cultural determinant across all cases.
6. Identity Construction Through Space	Spatial modesty reflects literary humility	Spatial clarity reflects intellectual rationality	Spatial hierarchy reflects aristocratic dominance	Architecture functions as a medium for social identity.
7. Relationship to Local Culture	Embodies Diyarbakır's poetic and artistic culture	Embodies educational and ideological identity of the city	Embodies political, social, and economic leadership culture	Three houses form a cultural triad reflecting urban identity.

Cultural / Symbolic Dimension	Cahit Sıtkı Tarancı House	Ziya Gökalp House	Cemil Pasha Mansion	Comparative Interpretation
8. Symbolic Role of Courtyard	Domestic unity, intimacy	Cultural-intellectual gatherings: symbolic centrality	Ceremonial gatherings: hierarchy reinforcement	The Courtyard evolves from a family core to an intellectual forum to a political stage.
9. Material Symbolism (Basalt)	Symbol of modest authenticity	Symbol of crafted intellectual meaning	Symbol of power, wealth, and permanence	The same material carries different symbolic values depending on the user's identity.
10. Memory & Heritage Status	Museum of a poet: memory of literary identity	Museum space reflecting ideological heritage	Municipal museum; repository of urban collective memory	All three houses function today as heritage anchors of Diyarbakır's identity.

- The Cahit Sıtkı Tarancı House represents middle-class urban culture and the intangible memory of literary heritage.
- The Ziya Gökalp House reflects intellectual–national identity, spatially encoded through gendered divisions and symbolic design elements.
- The Cemil Pasha Mansion embodies aristocratic–political identity, expressed through hierarchical zoning, ceremonial circulation, and monumental façades.

Despite these differences, all three houses share a common framework of privacy, introversion, material continuity, and the symbolic centrality of the courtyard, illustrating a culturally rooted spatial grammar that persists across social classes. Across all examples, spatial organization, material use, decorative strategies, and courtyard morphology serve not only functional purposes but also act as symbolic carriers of identity and memory. The matrix confirms that vernacular architecture in Diyarbakır operates simultaneously as a socio-cultural archive, a space of lived tradition, and a resilient architectural adaptation to environment and history.

Spatial organization, function, and everyday life

The spatial–functional matrix (Table 6) reveals that the three houses are structured within an integrated system, where cultural identity, spatial hierarchy, and everyday practices are closely intertwined. The Tarancı House exemplifies the architectural expression of middle-class urban culture in the late nineteenth century, with its compact scale, modest ornamentation, and functionally organized rooms. This style highlights a lifestyle centered on family solidarity, intimacy, and everyday practicality. Its conversion into a museum reinforces its role as a cultural landmark that preserves the city's literary identity.

Table 6. Spatial–functional matrix of Diyarbakır traditional houses *(Comparative evaluation of primary spatial organization, courtyard function, privacy levels, daily life spaces, social interaction areas, service zones, circulation patterns, and symbolic features)*

Spatial / Functional Category	Cahit Sıtkı Tarancı House	Ziya Gökalp House	Cemil Pasha Mansion	Comparative Interpretation
Primary Spatial Organization	Seasonal rooms + service areas	Haremlik–selamlık division	Harem + selamlık + staff quarters	Complexity reflects socio-cultural hierarchy.
Courtyard Function	Family life, climate regulation	Social–symbolic center + masculine reception	Ceremonial center + circulation core	Courtyard mediates climate, privacy, and social function.
Privacy Levels	High privacy: inward-oriented	Very high privacy: gender separation	Hierarchical privacy: strongest separation	Privacy is a shared cultural principle, spatially encoded.
Daily Life Spaces	Living rooms, kitchen, storage	Family rooms + educational/intellectual spaces	Multi-purpose halls, large family rooms	Intellectual and aristocratic identities shift room functions.
Social Interaction Areas	Courtyard + upper family rooms	Courtyard + selamlık reception	Large reception hall + multi-courtyard mobility	The scale of reception areas reflects the owner's status.
Service Zones	Ground-floor storage, kitchen	Kitchen + auxiliary spaces are separated	Dedicated staff wing	Social class affects service organization.
Circulation Pattern	Simple, linear, direct	Segregated pathways (private/public)	Highly regulated, ceremonial circulation	Complexity increases according to social stratification.
Symbolic / Cultural Features	Modest, literary memory	Intellectual symbolism (Gökalp's legacy)	Aristocratic–political identity	Each house manifests a distinct cultural narrative.

The Ziya Gökalp House, while sharing fundamental spatial features of Diyarbakır's vernacular architecture, carries a distinct intellectual and ideological dimension. Well-defined haremlik–selamlık sections reflect enduring social norms and gendered spatial practices. At the same time, the association with one of Türkiye's foremost intellectual figures situates the house within the narrative of early twentieth-century nation-building. The porch-centered pool symbolizes local adaptation and cultural creativity, illustrating how traditional typology could be reinterpreted within evolving social contexts.

The Cemil Pasha Mansion represents the elite stratum of Diyarbakır's society and expresses a markedly different identity framework. Its large scale, ornate detailing, hierarchical spatial arrangement, and division into harem, selamlık, and staff quarters demonstrate the architectural manifestation of political authority and economic power. Unlike the intimate, family-oriented character of the Tarancı House or the intellectual symbolism of the Gökalp House, this mansion embodies a ceremonial and representational dimension, where architecture serves as a medium of prestige and social hierarchy. Today, its function as

the Diyarbakır City Museum reinforces its role as a repository of collective memory, embodying multiple layers of urban history and social transformation.

When analyzed comparatively, the three houses reveal both shared vernacular traits and divergent cultural meanings. All rely on the central courtyard, thick basalt walls, and introverted plans that respond to climatic needs and seismic risks. Yet the ways in which identity is inscribed into their architectural forms differ significantly—ranging from folk culture and literary affiliation (Tarancı House), to intellectual symbolism and national identity formation (Gökalp House), to aristocratic authority and socio-political hierarchy (Cemil Pasha Mansion). These differences demonstrate that Diyarbakır's traditional architecture cannot be understood as a singular typology; rather, it constitutes a cultural spectrum in which vernacular elements are adapted to reflect various social positions and identity constructs.

Thematic approaches: heritage, culture, and resilience

Based on the findings of this research, four overarching thematic approaches were identified and synthesized in Table 7:

1) The preservation of privacy as a core component of Diyarbakır's cultural norms;
2) The influence of climatic and geographical identity on architectural form;
3) Social interaction, collective culture, and family-centered lifestyle patterns; and
4) Collective memory related to the recurring experience of earthquakes.

Table 7. Analytical approaches identified in the study *(Linking architectural elements with conceptual meanings, functional/structural roles, and their connections to culture and identity)*

Approach	Architectural Elements	Conceptual Meaning	Functional / Structural Role	Connection to Culture & Identity
1. Cultural Privacy Orientation	• Central courtyards • Introverted spatial layout • Hierarchy of rooms (haremlik–selamlık)	Emphasis on family privacy, gender norms, and controlled social interaction	Provides secure, inward-oriented living spaces, regulates circulation and access between private and semi-private zones	Reflects Islamic–Anatolian cultural norms, expresses social order, family-centered identity, and collective behavioral codes.
2. Climatic and Geographical Identity of Diyarbakır	• Black basalt stone • Thick walls • Limited spans and low-rise massing	Adaptation to a hot-dry climate and regional material availability	Enhances thermal performance, stabilizes interior climate, and increases structural integrity against seismic movements	Material choice symbolizes local identity: architecture becomes an extension of geographical context and environmental heritage.

Approach	Architectural Elements	Conceptual Meaning	Functional / Structural Role	Connection to Culture & Identity
3. Social Interactions, Collective Culture & Family Lifestyle	• Multi-functional rooms • Flexible seasonal spaces • Courtyard as social core	Supports communal life, hospitality traditions, and intergenerational living	Encourages social cohesion, organizes daily routines, and provides a shaded microclimate for gatherings	Embodies collective memory and lifestyle patterns, reinforces communal identity and traditional social values.
4. Collective Earthquake Memory in Diyarbakır	• Compact plans • Continuous shared walls • Reinforced stone load-bearing system	Architectural knowledge shaped by repeated exposure to earthquakes	Reduces structural weaknesses, provides lateral stability, and minimizes collapse risk during seismic events	Earthquake experiences become culturally embedded, shaping a vernacular resilience strategy that integrates identity with survival needs.

Table 7 illustrates how each approach integrates architectural elements with cultural values, environmental constraints, and seismic adaptation strategies. Collectively, these approaches reveal that traditional Diyarbakır houses represent a coherent vernacular system in which identity, culture, and resilience reinforce one another rather than operating as separate design determinants.

Taken together, the matrices summarized in Tables 2–7 demonstrate that Diyarbakır's traditional architecture is the result of a complex synthesis of cultural identity, environmental adaptation, and historical experience. Cultural practices have shaped spatial organization, social hierarchy, and the functional structuring of domestic environments. Local identity, in turn, has guided the selection of materials, the articulation of forms, and the development of characteristic architectural patterns. Simultaneously, the region's seismic conditions have required these cultural and material configurations to adapt toward structural robustness and long-term resilience. This triadic relationship—linking culture, identity, and environmental adaptation—has generated a distinctive architectural tradition unique to Diyarbakır, in which symbolic meaning, functional necessity, and structural performance are seamlessly integrated, offering an enduring model of culturally grounded and environmentally responsive design.

6. Conclusion

This study has demonstrated that the traditional houses of Diyarbakır constitute a highly integrated architectural system in which cultural identity, spatial organization, and seismic resilience are inseparably intertwined. Rather than responding solely to environmental or structural requirements, vernacular architecture in this context embodies a holistic design logic shaped by long-standing cultural norms, social practices, and collective memory. The analysis of the Ziya Gökalp House, Cahit Sıtkı Tarancı House, and Cemil Pasha Mansion confirms that traditional domestic architecture functions as a cultural medium through which identity, values, and historical experience are materially expressed.

The findings reveal that cultural determinants—such as privacy (mahremiyet), gendered spatial divisions, family-centered living, and inward-oriented courtyard organization—have played a decisive role in shaping the spatial morphology of Diyarbakır houses. These cultural patterns are consistently reflected in architectural features, including courtyard-centered layouts, introverted massing, hierarchical zoning, and controlled façade openings. Consequently, cultural identity in Diyarbakır is not merely symbolized through architectural form, but actively structured through spatial organization and everyday domestic practices.

From a structural perspective, the study highlights that the same architectural features shaped by cultural and climatic considerations also contribute significantly to seismic resilience. Thick load-bearing basalt walls, compact plan geometry, low-rise configurations, and structural continuity collectively enhance earthquake performance. The integration of timber elements within masonry systems further improves ductility and load distribution. These characteristics demonstrate that vernacular construction in Diyarbakır embodies empirical seismic knowledge developed through historical experience, where structural pragmatism and cultural continuity reinforce each other.

The multidimensional analytical framework employed in this research—combining morphological, structural, seismic, spatial, functional, and cultural symmetrical matrices—offers a comprehensive methodological contribution to the study of vernacular architecture. By analyzing architecture simultaneously as a cultural artifact, a spatial system, and a resilient structural form, the study moves beyond reductionist interpretations that isolate technical or symbolic aspects. This integrated approach enables a deeper understanding of how vernacular architecture can serve as a sustainable and context-sensitive model in contemporary architectural discourse.

In conclusion, the traditional houses of Diyarbakır exemplify a vernacular architectural tradition in which cultural identity, environmental adaptation, and seismic resilience operate as a unified system. The insights derived from this study suggest that contemporary architectural practice—particularly in earthquake-prone regions—can benefit from reinterpreting vernacular principles such as courtyard-centered planning, compact massing, material continuity, and culturally embedded spatial hierarchies. Future research may expand this framework to comparative regional studies, explore quantitative seismic performance assessments, or investigate how vernacular resilience strategies can inform post-earthquake reconstruction and heritage-sensitive urban policies.

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