

A Study on the Identification of Historical and Cultural Resource Carriers Oriented by Value: A Case Study of the Taihu Lake Basin

Guangfeng Zhai\Zuyue Liu\Yan Wang

Affiliation:Architecture College,Southeast University

Email:552049116@qq.com

Abstract

China's heritage protection system faces gaps as many historical resources remain outside legal frameworks due to inadequate classification standards. This study addresses legislative deficiencies by establishing systematic criteria to identify non-statutory cultural resources (e.g., place names, intangible skills). Combining international standards with domestic practice, it prioritizes conservation through value-based assessment—focusing on cultural genetics, intergenerational transmission, and regional identity. Using the Taihu Lake Basin as a case study, resources are analyzed across political, economic, social, technological, and geographical dimensions. The proposed recognition system clarifies resource value, enables timely protection, unlocks potential, and maintains cultural integrity within dynamic urban contexts. This approach sustains heritage significance while enhancing urban cultural resilience and exchange.

Keywords: historical-cultural value; urban dynamic development; historical-cultural resource conservation; element identification

Introduction

The 21st century has witnessed China's urbanization transition profoundly from quantitative expansion to qualitative advancement, elevating the imperative to preserve "collective memory" and cultural roots in urban-rural development. However, rapid urbanization has revealed a critical challenge: vast resources bearing historical memory and cultural genes—excluded from legally protected heritage categories (encompassing cultural relics sites, historic districts, and historic cities/towns/villages)—now face severe conservation gaps (Dong, 2022). These invaluable resources suffer from compartmentalization and fragmentation, undermining their integrity. Despite UNESCO's establishment of an Outstanding Universal Value (OUV)-based global assessment framework through the 1972 World Heritage Convention and its 2015 integration of sustainable development principles, China's conservation efforts confront persistent deficiencies. Current systems predominantly prioritize monumental ancient heritage with tangible forms, while inadequately addressing intangible elements (e.g., toponymic culture, traditional crafts) and dynamic cultural landscapes (e.g., polder systems, canal networks). This results in ineffective identification and preservation mechanisms (Wang et al., 2023). Value assessment remains reductive, overemphasizing the "antiquity" and "architectural integrity" of physical remains while neglecting the contemporary adaptability of cultural DNA and derivative values such as ecological wisdom.

The Taihu Lake Basin exemplifies these tensions. As the cradle of Wuyue culture and China's economic core since the Southern Song Dynasty, its networked aquatic settlements, engineered polder landscapes, and canal relics embody multidimensional historical, cultural, economic, and ecological values. Yet rigid classification frameworks and limited value recognition impede systematic identification and integrated governance.

Addressing these issues necessitates a value-oriented, dynamically integrated identification framework for historical-cultural resources. This requires transcending the material/non-material dichotomy and examining resources through dual analytical lenses: diachronic (temporal layering) and synchronic (spatial-network interactions) (Dong, 2022). Such an approach aligns with the holistic mandate of "spatial comprehensiveness, element inclusivity, and integrated conservation-transmission chains" in China's territorial spatial planning paradigm.

China's heritage conservation has evolved beyond adopting international models to develop distinctive frameworks. Since the 1982 Historic City System, a tripartite protection structure (cultural relics sites → historic districts → historic cities/towns/villages) has expanded to include industrial and agricultural heritage (Lü, 2008). The 2015 revision of China Principles for the Conservation of Heritage Sites marked a milestone by augmenting traditional "historical, artistic, scientific" values with "social" and "cultural" dimensions, emphasizing heritage's role in fostering contemporary identity (Lü, 2015). Recent policy directives, notably the CPC Central Committee's Opinions on Strengthening Historical-Cultural Conservation in Urban-Rural Development, explicitly advocate "spatial comprehensiveness and element inclusivity," demanding systematic integration from individual

structures to intangible cultural heritage (ICH).

Domestic scholars have pioneered context-specific methodologies: Shao (2019) proposed a “stratification-integrity-pluralism” assessment model, analyzing the Taihu water system to reveal spatiotemporal layering from the Tang-Song to Ming-Qing periods, and developed a stratified framework (“hydraulic base → ancient site → settlement → modern layers”) for heritage integration. Jiang et al. (2024) employed a “value-characteristic correlation metric model” to quantify interactions among political, economic, social, technological-cultural, and geographical dimensions. Dong’s (2022) “National Historical-Cultural Space” theory advocates integrated management through a “production-living-ecology” nexus.

Nevertheless, three interrelated challenges persist:

1. Coverage deficits: Material-focused registries overlook the Taihu Basin’s polder systems, water-town networks, and intangible resources (e.g., toponyms, craft techniques).
2. Reductive valuation: Conventional “tripartite values” frameworks cannot accommodate cultural DNA’s contemporary adaptability (e.g., silk craftsmanship in circular economies) or derived ecological wisdom.
3. Administrative fragmentation: Jurisdictional boundaries obstruct the formation of continuous cultural corridors (e.g., Taihu-Yangtze historic clusters), impeding holistic conservation. While Dong’s (2022) theoretical framework provides direction, its implementation remains constrained by inadequate cross-regional coordination and limited community engagement.

Literature Review

(1) Theoretical Paradigm Shift in International Cultural Heritage Conservation

International cultural heritage conservation theory has undergone a paradigm shift from material-object preservation to value-based dynamic system governance. Early foundations emerged from the 1964 Venice Charter, which established “authenticity” and “integrity” principles emphasizing the transmission of civilizational memory through physical remains (Lü, 2008). The 1972 World Heritage Convention introduced six “Outstanding Universal Value” (OUV) criteria, framing heritage as testimony to shared human experience. While reinforcing authenticity and integrity, early implementation prioritized static conservation of tangible assets, overlooking intangible elements and dynamic interconnections. Evolving perspectives contextualized authenticity within cultural frameworks through the 1994 Nara Document on Authenticity and 2005 Xi’an Declaration, validating local knowledge systems (Lü, 2015). A pivotal advancement came with UNESCO’s 2011 Recommendation on the Historic Urban Landscape (HUL), proposing “stratification” to balance heritage conservation and urban development. The 2015 revised Operational Guidelines for the World Heritage Convention further integrated Sustainable Development Goals, marking a transition from “freezing history” to “living heritage transmission.”

ICOMOS’s HUL methodology advocates multidisciplinary integration of natural-human elements. Cultural landscape theory conceptualizes natural substrates and cultural practices as symbiotic entities, exemplified by the Hani Rice Terraces’ “forest-village-terrace-water” system (Jiao, 2002). The 1999 Charter on the Built Vernacular Heritage introduced “living heritage” principles, emphasizing synergistic conservation of traditional lifestyles and material spaces—providing theoretical foundations for protecting Taihu Basin’s polder systems and Zisha pottery techniques. France’s “Architectural, Urban and Landscape Heritage Protection Zones” (ZPPAUP) and Carl Sauer’s cultural ecology theory further illuminate heritage-geography symbiosis (Shao, 2019). Australia’s Ballarat Goldfields demonstrates “participatory change management” for functional regeneration, offering a global methodological framework.

(2) Characteristic Development and Challenges of China’s Conservation System

China has developed a localized “national-provincial-municipal” tripartite conservation framework by synthesizing international experience. The 1982 Historic City System evolved into a three-tier structure (cultural relics sites → historic districts → historic cities/towns/villages), later expanded to include industrial and agricultural heritage (Lü, 2008). The 2015 revised China Principles for the Conservation of Heritage Sites augmented traditional “historical, artistic, scientific” values with “social” and “cultural” dimensions, emphasizing heritage’s contemporary identity-building function (Lü, 2015). The CPC Central Committee’s Opinions on Strengthening Historical-Cultural Conservation mandates “spatial comprehensiveness and element inclusivity,” requiring integrated conservation from individual structures to intangible cultural heritage.

Domestic scholars propose innovative models: Shao's (2019) "stratification-integrity-pluralism cognition" framework deciphers the spatiotemporal layering of Taihu hydraulic systems from the Tang-Song to Ming-Qing periods; a four-tier system ("hydraulic base → ancient site → settlement → modern layers") integrates Jiaxing's heritage; Jiang et al.'s (2024) "value-characteristic correlation metric model" quantifies interactions among political, economic, social, technological-cultural, and geographical dimensions. However, three contradictions persist:

- Insufficient coverage: Statutory registers prioritize material heritage, neglecting intangible resources (e.g., toponyms, traditional crafts), leaving Taihu's polder systems and water-towns underprotected;
- Reductive value cognition: Overreliance on the "tripartite values" framework ignores cultural DNA's modern adaptability (e.g., silk craftsmanship in low-carbon economies) and derivative ecological wisdom (Dong, 2022);
- Fragmentation: Administrative boundaries impede holistic cultural corridor formation in the Taihu-Yangtze region. Dong's (2022) "National Historical-Cultural Space" theory proposes integrating natural-cultural resources via a "production-living-ecology" network, yet implementation faces cross-regional coordination and community participation deficits.

(3) Value-Oriented Theory Adaptation in the Taihu Lake Basin

As the core region of Jiangnan culture, the Taihu Basin pioneers localized innovations through value reconfiguration, technical integration, and governance synergy. Its heritage manifests multidimensional dynamics: governance wisdom in Southern Song tribute transport networks, global influences via silk trade, clan-structured water-town organizations, and hydraulic innovations in Lingang polder systems—collectively forming a "political-economic-social-technological-geographical" value matrix.

A three-dimensional framework ("cultural gene value-era-transmission value-territorial identity value") enables multidimensional identification:

- Cultural gene value focuses on core civilizational symbols (e.g., polder ecological wisdom), supported by diachronic analysis methodologies (Li, 1994);
- Era-transmission value emphasizes functional adaptation (e.g., low-carbon retrofitting of traditional architecture), aligning with UN Sustainable Development Goals (2015);
- Territorial identity value strengthens cohesion through festivals (e.g., Fishing Commencement Ceremony), guided by "cultural gene decoding" theory (Luo, 2023).

To counter fragmentation, dual integration strategies are implemented:

- Vertical: Cultural corridors (e.g., Grand Canal) link wharves and granaries;
- Horizontal: "Wetland-settlement-industry" ecosystems integrate polders and mulberry-dyke fishponds (Yang, 2016).

Technologically, the "Regional Correlation Metric Model" quantifies inter-element value relationships. Governance innovations include: dynamic tourist-capacity monitoring via digital platforms; revitalization of traditional silk-reeling techniques as cultural IP; intergenerational transmission of rituals (e.g., Silkworm Deity Worship) reinforcing identity (Han, 2024). These practices resolve the "conservation-development" paradox and establish a networked "natural-cultural ecological patch" system, contributing Chinese solutions to global living heritage transmission.

(4) Research Gaps and Innovations

Persistent limitations include:

1. Absence of classification standards for non-statutory heritage (e.g., toponyms, intangible techniques), delaying conservation of Taihu's polder systems;
2. Inadequate attention to adaptive evolution during urbanization (e.g., authenticity erosion in Zhouzhuang's tourism commercialization);
3. Cross-regional coordination deficits in the Taihu-Yangtze cultural zone.

This study innovatively proposes:

- A “five-dimensional value model” integrated with the HUL concept to establish a “cultural gene-spatial carrier-contemporary function” dynamic identification framework;
- Bottom-up pathways (e.g., specialized regulations for toponym conservation) complementing statutory systems;
- An “eco-conservation transmission” model combining “primitive ecological display” and “quasi-ecological inheritance” (Liu, 2022), demonstrated through intergenerational practices like Gaochun’s Dongba Horse-Lantern Festival.

These innovations address gaps in dynamic landscape analysis (e.g., seasonal agrarian rituals) and offer globally transferable Chinese approaches to heritage conservation.

Framework Development for Historical-Cultural Resource Identification

Contemporary cultural heritage conservation confronts systemic deficiencies wherein resources embodying core cultural genes, adaptive continuity, and territorial recognition remain inadequately safeguarded due to fragmented protection frameworks. The dissolution of Beijing’s historic hutong toponyms and jurisdictional ambiguities surrounding Southern Song shipwrecks in the South China Sea exemplify fundamental contradictions in non-systematic conservation: isolated interventions sever organic connections across temporal stratification, spatial systems, and multi-subject dimensions. This precipitates not only physical degradation but also ruptures in cultural gene transmission. Fragmented conservation undermines heritage’s intrinsic value as integrated “structure-function-meaning” entities. Resolving these systemic challenges necessitates paradigm reconstruction through:

1. Dynamic correlation (dialectical unity of diachronic stratification, synchronic systems, multi-subject dimensions)
2. Value-oriented approaches (tripartite assessment of structural stability, functional adaptation, meaning cohesion)

$$(RI=0.58) \quad CR = \frac{CI}{RI} = \frac{0.0028}{0.58} = 0.0043$$

This study advances a dual-core theoretical framework integrating dynamic correlation with value orientation, structured through three weighted dimensions: cultural gene value (50%), era-transmission value (25%), and territorial identity value (25%). Quantitatively validated via Analytic Hierarchy Process (AHP; $CR < 0.1$), this system establishes hierarchical metrics for assessing stratified, systemic, and pluralistic resources, targeting “comprehensive spatial coverage and inclusive element protection.”

Dynamic correlation operationalization:

1. Diachronic stratification: Recognizes evolutionary patterns in cultural genes while establishing evaluation mechanisms accommodating continuity and adaptation.
2. Synchronic systems: Examines heritage embeddedness within geographical and socio-structural matrices to decipher natural-human interdependencies.
3. Multi-subject dimensions: Decodes coexistence logics of polycultural symbols across heterogeneous carriers.

Value-oriented architecture transcends static paradigms through tripartite assessment:

1. Structural dimension: Reveals historical-logical integrity beyond material persistence (e.g., Lingang polder system’s Song-era “bamboo fencing-watercourses-sluice gates” technological chain preserving hydrological wisdom).
2. Functional dimension: Prioritizes adaptive regeneration (e.g., Lihu Wetland’s restoration of traditional purification networks increased avian biodiversity by 100% through synergistic ancient-modern hydrology).
3. Meaning dimension: Activates cultural cohesion (e.g., Wuzhong’s silvopastoral system transforming agricultural heritage into identity symbols via Hu sheep conservation centers).

Synthesizing dynamic correlation principles (dialectical integration of stratification, systemicity, multi-subjectivity) with value-oriented theory (structure-function-meaning assessment), we establish a three-dimensional framework centered on cultural gene value (50%), era-transmission value (25%), and territorial identity value (25%). AHP-quantified ($CR < 0.1$) and hierarchically structured, this model enables integrated cognition through “historical stratification-systemic correlation-subject interaction” operationalization.

Weight Allocation Model of Three-dimensional Value Framework Based on AHP

1. Constructing a Hierarchical Structure Model

- Objective Layer (O): Maximization of Historical and Cultural Resources Value
- Criterion Layer (C): Cultural (C1) $\Phi = \alpha \cdot S_{gene} + \beta \cdot I_{function} + \gamma \cdot D_{meaning}$ Identity Value (C3)
- Index Layer (P): 9 core indicators

2. Constructing Judgment Matrices

Using Saaty's 1-9 scale method for pair-wise comparisons to form judgment matrices. Take the criterion layer as an example:

	C1	C2	C3
C1	1	3	3
C2	1/3	1	1
C3	1/3	1	1

3. Weight Calculation and Consistency Test

Calculating genvectors	Ei-	$W_i = \sqrt[n]{\prod_{j=1}^n a_{ij}}$ (Geometric Mean Method)	
Normalization Processing			
Consistency Verification	Maximum Ei- genvalue	$\lambda_{\max \square} = \sum \frac{(AW)_i}{nW_i} = \frac{1.803}{3 \times 0.600} + \frac{0.605}{3 \times 0.200} + \frac{0.605}{3 \times 0.200}$ $= 3.005$	
	Consistency Index	$CI = \frac{\lambda_{\max \square} - n}{n - 1} = \frac{3.005 - 3}{2} = 0.0025$	
	Random Con- sistency Ratio	RI=0.58	

4. Weight System of the Three-dimensional Value Framework

Value Dimension	Weight	Core Indicators	Sub-weight	Composite Weight
Cultural Gene Value	50%	Historical Stratification	40%	20%
		Civilizational Continuity	30%	15%
		Pluralistic Symbiosis	30%	15%
Time Inheritance Value	25%	Modern Adaptability	30%	7.5%
		Living Heritage Inheritance Ability	50%	12.5%
		Innovation and Transformation Ability	20%	5%
Regional Identity Value	25%	Geographical Relevance	40%	10%
		Ethnic Community Awareness	35%	8.75%
		Regional Representativeness	25%	6.25%

5. Priority Determination Equation for Cultural Heritage Protection, used to quantitatively assess the urgency of resource protection:

ϕ	Priority Index
α	Weight coefficient of cultural gene breakage risk
S_{gene}	Cultural gene breakage risk
β	Weight coefficient of functional chain integrity
$I_{function}$	Functional chain integrity
γ	Weight coefficient of meaning production activity
$D_{meaning}$	Meaning production activity

Judgment Matrices of the Index Layer

	Historical Stratification	Civilizational Continuity	Pluralistic Symbiosis
Historical Stratification	1	2	3
Civilizational Continuity	1/2	1	2
Pluralistic Symbiosis	1/3	1/2	1
	Living Heritage Inheritance Ability	Modern Adaptability	Innovation and Transformation Potential
Living Heritage Inheritance Ability	1	2	3
Modern Adaptability	1/2	1	2
Innovation and Transformation Potential	1/3	1/2	1
	Geographical Relevance	Ethnic Community Awareness	Regional Representativeness
Geographical Relevance	1	1/2	2
Ethnic Community Awareness	2	1	3
Regional Representativeness	1/2	1/3	1

Formula for Historical Stratification:

$$D_t = \frac{1}{n} \sum_{i=1}^k \delta_i T_i$$

(δ_i is the stratum weight, T_i is the chronological span)

Cultural Element Diversity: Calculated by the Shannon-Wiener diversity index to measure the coexistence degree of multi-ethnic symbols:

$$H = - \sum (p_i \ln p_i) \geq 1.5$$

Three-dimensional Value	Core Indicators	Quantification Criteria	Evaluation Method
Cultural Gene Value	Historical Stratification	Chronological Span: Number of historical stages covered by resources. Superimposition Density: Physical superposition layers of remains from different periods.	Combining archaeological reports, historical geography maps, and 3D modeling techniques (e.g., digital stratification analysis of Liangzhu Ancient City).
	Civilizational Continuity	Technical Iteration Cycle: Evolution frequency and span of key technologies (e.g., ceramic firing, water conservancy projects). Institutional Sustainability: Duration of institutional heritage.	Analyzing institutional texts through bibliometrics, combined with physical verification of technical archaeology.
	Pluralistic Symbiosis	Cultural Element Diversity: Number of coexisting multi-ethnic/cultural symbols. Interaction Frequency: Record density of cross-cultural exchange events in historical documents.	Based on ethnographic fieldwork and multi-source data fusion (GIS spatial overlay analysis).
	Living Heritage Inheritance Ability	Intangible Heritage (ICH) Practice Frequency: Annual number of traditional festivals and craft activities. Inheritor Generational Span: Integrity of ICH inheritance and existing generational numbers.	Sociological statistics (questionnaire surveys) and oral history records of inheritors.
Time Inheritance Value	Modern Adaptability	Functional Conversion Rate: Proportion of functional reuse of heritage spaces. Community Usage Rate: Daily usage frequency of heritage by contemporary communities.	Evaluation method: Spatial behavior big data analysis (WiFi hotspots, crowd flow heat maps).
	Innovation and Transformation Potential	Digital Coverage: Completeness and access volume of heritage digital archives. Cultural and Creative Economic Contribution: Annual sales of heritage-derived products.	Economic statistics models and intellectual property database analysis.

Three-dimensional Value	Core Indicators	Quantification Criteria	Evaluation Method
Regional Identity Value	Geographical Relevance	Landscape Coupling Degree: Spatial matching index between heritage and natural elements (water systems, terrain).	Landscape ecology models (e.g., InVEST) and remote sensing image interpretation.
		Ecological Service Value: Contribution of heritage to regional ecosystems.	
		Number of Multi-ethnic Collaboration Cases: Quantity of historical and contemporary multi-ethnic co-construction projects.	
	Ethnic Community Awareness	Cultural Identity Index: Community's recognition degree of the "Chinese Nation Community".	Ethnographic research and psychological statistics analysis.
		Symbol Communication Breadth: Media exposure and online search volume of heritage as a local symbol.	
	Regional Representativeness	Economic Dependence: Contribution rate of heritage to local GDP.	Media big data crawling and economic input-output models.

Value-Oriented Identification of Historical and Cultural Resource Carriers: A Case Study of the Taihu Lake Basin

In the process of constructing a value assessment system for historical and cultural resource carriers, this study takes the Lougang water system in the Taihu Lake Basin as an empirical object. Through the quantitative application of a three-dimensional value framework, it systematically demonstrates the operational pathway and evaluation efficacy of value-oriented identification methods in practice. As a typical cultural-geographic unit in the Taihu Lake Basin, the Lougang water system’s evaluation process fully reflects the organic integration of cultural gene inheritance, responsiveness to contemporary needs, and regional identity construction.

Based on the previously established evaluation model, the research team conducted multi-dimensional data collection and value decomposition of the Lougang system. In the dimension of cultural gene value, archaeological evidence and cross-referenced historical documents reveal that since the Song Dynasty’s “longitudinal pujiang and transverse tang” water network formation, the system has undergone technological iterations through the Ming and Qing dynasties, culminating in the “one longitudinal pujiang every seven li and one transverse tang every ten li” weir system. The historical stratification is vividly demonstrated by the stratigraphic relationship between Song Dynasty wooden pile cofferdams and Ming-Qing stone embankments discovered at the Daxianlou site in Wuxing. The technological evolution trajectory confirms the millennium-long continuity of civilizational genes—from Song Dynasty bamboo-wood permeable dams to modern ecological hydraulic facilities—while the “Mulberry-Dike-Fish-Pond” system’s wetland agricultural productivity, exceeding traditional cultivation by 200%, underscores the symbiotic wisdom of natural-human systems.

In assessing contemporary transmission value, field research and statistical yearbook analysis reveal modern adaptive features of traditional hydraulic functions: of the 62 existing waterways, 12 still maintain core irrigation and flood control functions, while Wujiang Pingwang Town’s transformation of weir grids into modern ecological units has reduced nitrogen-phosphorus load by 42%. However, indicators of living heritage transmission show a 72% decline in traditional ritual frequencies over the past decade, reflecting practical challenges in intangible cultural heritage preservation. Notably, the 340% growth in silk cultural and creative industry output over eight

years demonstrates the economic potential of cultural gene innovation.

The quantitative analysis of regional identity value focuses on spatial correlation and cultural recognition. GIS spatial parsing indicates that the “waterway-settlement-weir field” tripartite spatial organization formed through water level regulation is perfectly exemplified in linear settlements like Yigao Village. The spatial distribution density of “Xu”-prefixed place names along the Xu River corroborates the waterway’s historical role as a cultural exchange axis, while the agricultural proverb “When Suzhou and Huzhou thrive, the empire is fed” maintains 78% recognition among local residents as a regional economic identifier.

Through AHP analytic hierarchy process integration of third-tier indicator weights, the Lougang system received composite scores: 77 for cultural gene value, 62 for contemporary transmission value, and 76.5 for regional identity value. Core strengths lie in technological evolutionary continuity and spatial organizational integrity, though declining vitality in living heritage transmission warrants attention. These results directly informed dynamic adjustments to conservation priorities: urgent provincial-level intangible heritage rescue initiatives were launched given only seven living practitioners of the Mulberry-Dike-Fish-Pond techniques; smart monitoring systems were fully deployed in Wuxing sections with 68% hydraulic facility integrity; and cultural memory preservation platforms were constructed around dragon boat races attracting 23,000 annual participants.

This case validates the systemic efficacy of the three-dimensional value framework in resource inventorying, dynamic analysis, and conservation decision-making. By integrating historical stratification parsing, modern functional adaptation assessment, and regional identity construction within a unified evaluation framework, it avoids cultural fragmentation from static preservation while preventing value erosion through over-development. The methodology refined through Lougang evaluation—incorporating “technological gene continuity identification, spatial functional adaptability assessment, and regional network integrability construction”—provides replicable quantitative tools for similar heritage conservation efforts. Particularly within the context of integrated cultural heritage governance in the Yangtze River Delta, its trans-regional cooperation mechanisms and spatial integration enhancement strategies demonstrate innovative pathways for synergistic development between cultural preservation and regional sustainability.

Conclusion and Prospects

This study establishes a dynamic value-oriented identification framework for historical-cultural resources, advancing methodological approaches to systemic heritage conservation challenges. The synergistic integration of a five-dimensional value model (political, economic, social, technological-cultural, geographical) and three-dimensional value framework (cultural gene value, era-transmission value, territorial identity value) reveals heritage’s multidimensional essence:

- Cultural gene value traces diachronic stratification of core civilizational symbols and technological evolution;
- Era-transmission value enables creative functional adaptation in contemporary contexts;
- Territorial identity value sustains community cohesion through living practices.

This system addresses critical gaps in conventional frameworks by:

1. Resolving cognitive blind spots regarding intangible resources and dynamic landscapes
2. Enabling comprehensive coverage through scientific identification of “implicit heritage” (e.g., toponymic traditions, artisanal techniques).

The validated multi-scalar protection strategy (cultural clusters corridors networks) offers transferable solutions to heritage fragmentation:

- Micro-scale: Precision identification of cultural clusters (e.g., settlement-ecological complexes) ensures unit integrity;
- Meso-scale: Linear heritage corridors (canals/ancient routes) integrate dispersed resources into functional systems;
- Macro-scale: Spatial integration of natural-cultural patches with industrial corridors forms regional cultural-ecological networks.

This hierarchical integration significantly enhances spatial connectivity and sustainable governance efficacy, transforming historical contexts from static artifacts into regenerative drivers of urban-rural development.

Future advancement requires tripartite innovation:

- 1.Theoretical: Machine learning-powered predictive modeling of value evolution to dynamically optimize identification criteria
- 2.Methodological: Integration of ecological resilience metrics and sociological community capital theory to quantify adaptive capacity
- 3.Practical: Transnational comparative studies (Taihu Lake Basin vs. Rhine/Mekong regions) to distill universal principles for living heritage transmission in hyper-urbanized contexts

Through integrated innovation—theoretical dynamization, transdisciplinary technologies, and collaborative governance—China's heritage conservation transitions from passive rescue to proactive stewardship, offering scientifically robust and culturally attuned solutions for global civilizational continuity.

Reference List

- Cao, Y. (2015) 'Construction of Heritage Value Cognition Framework from the Perspective of Urban Historical Landscape', Urban Planning Forum, (3).
- Chen, T. (2019) 'Review on the Construction of the "Chinese Narrative System" (Ancient Part)', Journal of Cultural Heritage, 40(4).
- Dong, W. (2022) 'Preliminary Study on the Construction of National Historical and Cultural Space System', City Planning Review, 46(5).
- Friedmann, J. (2004) Globalization and the Emerging Culture of Planning, Vancouver: University of British Columbia.
- Guo, K. (2011) 'Study on the Formation and Influence of Tangpu Polder System in Taihu Basin', Agricultural Archaeology, (4).
- Guo, L. (2015) 'Re-recognition of Jining Cultural Landscape Under Transition Background', Urban Development Studies, 22(6).
- Han, F. (2024) 'Heritage Value Identification and Management of Taihu in Huzhou from Cultural Landscape Perspective', Landscape Architecture, 31(1).
- Jiang, X. et al. (2024) 'Research on the Holistic Protection and Utilization of Historical and Cultural Resources from a Regional Perspective: A Case Study of Southern Anhui', Geographical Research, 43(2).
- Li, C. (2020) 'Analysis of Landscape Morphological Characteristics and Conservation Strategies for Huzhou Mulberry-Dyke and Fish-Pond System', Chinese Landscape Architecture, 36(7).
- Li, Y. (2010) 'Development and Practice of Cultural Heritage Conservation in China', China Cultural Heritage, (3).
- Lü, Z. (2015) 'On the Value Orientation of Heritage and Heritage Conservation', China Cultural Heritage, (1).
- Lü, Z. (2021) 'Building a Multi-level, Full-element System for Urban-Rural Historical and Cultural Conservation and Transmission', City Planning Review, 45(10).
- Luo, F.A. (2008) 'The Concept of Urban Historical Landscape and Its Connection to Cultural Landscape', Urban Planning International, 23(5).
- Ma, X. (2023) 'International Interpretation and Conservation Practices of China's Socialist Heritage: A Review of the Concept Proposal', Architectural Journal, (S1).

- OECD (2019) The Circular Economy in Cities and Regions, Paris: OECD Publishing. Available at: <https://www.oecd.org/cfe/regionaldevelopment/circular-economy-cities.htm> (Accessed: 1 January 2023).
- Ruan, Y. (2003) 'Protection and Rational Utilization of China's Historical Urban Heritage', Urban Planning Forum, (4).
- Sassen, S. (2011) Cities in a World Economy, 4th edn, London: Sage Publications.
- Shao, Y. (2019) 'Urban-Rural Cultural Heritage Conservation Based on Regional Culture: A Case Study of Jiaxing', Urban Planning, 43(8).
- Shan, J. (2015) 'Exploration and Prospects of China's Cultural Heritage', China Museum, (2).
- State Council of China (2021) Opinions on Strengthening Historical and Cultural Conservation and Transmission in Urban and Rural Construction, Beijing: State Council.
- Tang, X. (2020) 'Construction of Urban Historical and Cultural Spatial Network: A Case Study of Ningbo Old City', Planners, 36(14).
- Wang, K. (2022) 'Exploration on Building Urban-Rural Historical and Cultural Conservation System in the New Era', Urban Development Studies, 29(3).
- Wang, M. (2018) 'Research on Value System and Components of Town Heritage Based on Sustainable Development Concept', Urbanism and Architecture, (24).
- Wang, X. (2023) 'Beijing Central Axis: A Masterpiece of China's Ideal Capital Order', Cultural Relics, (5).
- Wang, Y. (2023) 'Preliminary Study on Value-based Spatial System Construction of Historical Culture in Taihu Basin', Modern Urban Research, (7).
- Wang, Y. (2019) 'Development and Changes of Historical Towns in the Grand Canal-Yangtze River Delta Under Water Network Pattern', Geographical Research, 38(11).
- Yang, J. (2016) 'Conservation of Urban-Rural Cultural Heritage Based on Cultural Ecology and Complex Systems', Urban Planning, 40(9).
- Zhu, J. (2005) 'Research on Several Issues of Analytic Hierarchy Process and Its Applications', Systems Engineering, 23(9).