

Article

An Integrated AHP-Kano Approach to Assessing Rural Public Art Interventions: Evidence from Songyang County, China

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Abstract

Rural public art is increasingly used to improve living environments and reactivate place-based culture in rural communities. However, existing evaluations remain fragmented and provide limited support for assessing intervention effectiveness and formulating targeted strategies. To address this gap, this study constructs a multidimensional evaluation system for rural public art interventions and empirically tests it through case studies of 11 villages in Songyang County, China. The system covers three dimensions: material space creation, cultural heritage and innovation, and the reconstruction of social relations. A mixed-methods approach was adopted, combining literature review, field investigation, expert consultation, AHP weighting, and Kano demand classification. The results support the validity of the proposed evaluation system and identify cultural heritage preservation and transmission, basic and cultural facilities, funding safeguards, spatial accessibility, cultural affinity, and local cultural aesthetic compatibility as stable priority indicators. The comparison between expert weighting and stakeholder sensitivity further reveals differences between strategic importance and locally perceived demand. This study provides an operational evaluation system for assessing rural public art interventions and translates the evaluation results into targeted strategies, offering empirical support for more sustainable and context-sensitive rural public art practices.

Keywords: rural public art interventions; rural revitalization; multidimensional evaluation; AHP-Kano integration; intervention strategy



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1. Introduction

Rapid industrialization and urbanization have transformed rural settlement morphologies and socio-spatial configurations worldwide [1,2]. In many regions, these transformations have been accompanied by population outflow, the decline of traditional public spaces, and the weakening of place-based identity [3]. In response, governments and local communities have sought more diversified approaches to rural revitalization [4,5]. Within this context, public art is no longer viewed merely as a form of visual beautification but is increasingly used as a strategic approach to improving rural living environments, reactivating place-based cultural resources, and fostering community resilience [4,6,7]. China provides a critical empirical setting for examining these interventions. Since the launch of the national rural revitalization strategy in 2017, public art interventions have expanded through collaborations among local governments, artists, villagers, and social organizations [8]. However, some projects remain oriented toward short-term visual upgrading rather than everyday use. Cultural resources may also be repackaged into homogenized and staged

experiences, which can dilute local context and weaken cultural identification [9]. In other cases, externally driven artistic programs do not fully respond to villagers' daily needs, while local participation and benefit sharing remain limited.

As public art becomes increasingly embedded in rural construction practices, how to evaluate its intervention effects scientifically has become a practical issue that must be addressed to support the sustained development of rural public art and the optimization of rural construction strategies [10]. A sound evaluation can, on the one hand, accurately reflect the status and potential of public art interventions in rural areas and provide evidence for government policymaking [11]. On the other hand, evaluation results can better support the implementation of sustainable development strategies [12].

Existing evaluation studies mainly focus on related fields, such as rural human settlements, traditional village public spaces, public cultural facilities, ecological environments, or urban public art [13–16], while systematic evaluation of rural public art remains insufficient. Most existing assessments adopt a single-dimensional perspective, and expert judgment is rarely integrated with locally perceived multi-stakeholder needs. This separation may overlook the differences between professional evaluation and local perception. To address this gap, this study constructs and empirically tests a multidimensional evaluation system for rural public art interventions. By combining AHP-derived expert weights with Kano-based stakeholder demand attributes, the study identifies key priority indicators and translates the evaluation results into targeted optimization strategies. The system was developed through literature review, field investigation, and expert consultation and is applied to Songyang County, Zhejiang Province, where rural public art practices have been widely embedded in local revitalization processes [17].

Accordingly, this study asks:

- (1) How can a multidimensional evaluation framework for rural public art interventions be constructed across material space creation, cultural heritage and innovation, and the reconstruction of social relations?
- (2) How can AHP-derived expert importance and Kano-based stakeholder demand sensitivity be jointly assessed to identify priority indicators within this system?
- (3) How can the evaluation results be translated into optimization strategies for rural public art interventions in the context of rural revitalization?

Theoretical and empirical analysis demonstrates the applicability of the proposed evaluation framework and shows that rural public art interventions need to be assessed across spatial, cultural, and social-relational dimensions. By comparing AHP-derived importance with Kano-based stakeholder sensitivity, the study further illustrates how professional assessment and locally perceived demand can be combined to identify priority areas for intervention optimization.

This study makes three main contributions. First, it addresses the limitations of single-dimensional evaluation by developing an integrated framework for assessing rural public art interventions across material, cultural, and social dimensions. Second, it combines AHP-derived expert weights with Kano-based stakeholder demand attributes. This integration helps address the separation between professional assessment and local perception in existing studies, while also revealing their areas of alignment and divergence. Third, the integrated AHP–Kano approach is used to identify priority indicators. Based on these results, the study proposes targeted optimization strategies, making the evaluation more applicable to sustainable rural public art interventions and rural revitalization practice.

2. Literature Review and Theoretical Framework

2.1. Public Art Intervention as a Strategy for Rural Revitalization

Public art has experienced a marked “social turn”, shifting from object-centered production toward socially engaged practices that emphasize participation, negotiation, and relational effects [18,19]. In recent decades, rural areas have become an increasingly important field for public art interventions. In this context, public art is no longer understood merely as an aesthetic practice but also as a strategy for rural revitalization [1]. Rural public art includes material forms embedded in public spaces, such as murals, sculptures, installations, and land art [20]. It also includes process-based and event-based practices, such as cultural festivals, folk celebrations, artist residencies, craft revitalization, and public art programs that engage with local social and cultural issues [21–23].

International research has increasingly examined public art intervention as a form of social and spatial practice. Existing studies have discussed its role in spatial regeneration, community engagement, social inclusion, cultural rights, and the negotiation of local identity [10,24–27]. These studies suggest that the value of public art lies not only in reshaping physical environments but also in activating public life and mediating relationships among people, places, and cultural meanings.

In China, research on rural public art is more closely embedded in the policy context of rural revitalization and local cultural development [28,29]. Public art projects, artist residencies, cultural festivals, and craft revitalization are often discussed as ways to mobilize local cultural resources, reshape rural public spaces, and strengthen community participation [1,30]. These practices are shaped by government-led planning, artist- or organization-led initiatives, market participation, and local responses [31–33]. This suggests that rural public art in China should be understood through the interaction of spatial transformation, cultural activation, and multi-actor governance.

2.2. Impact Dimensions of Rural Public Art Interventions

Drawing on existing literature, this study identifies three interdependent dimensions of rural public art impacts: material space creation, cultural heritage and innovation [1,34], and the reconstruction of social relations [33]. These dimensions form the conceptual basis for the evaluation indicator system developed in this study.

Material space creation concerns how public art contributes to placemaking and the improvement of rural public environments [35,36]. Existing studies have examined this dimension through spatial practices, public-space transformation, and the effects of art intervention in rural built environments [1,10,37]. In rural contexts, its value lies not only in visual improvement but also in supporting everyday use, movement, gathering, and the social vitality of public spaces [37,38]. This dimension therefore provides a basis for evaluating how rural public art participates in the reorganization of spatial form, public function, and everyday spatial experience.

Cultural heritage and innovation refers to how public art activates local memory, cultural symbols, and heritage practices while generating new forms of cultural expression [39–41]. By reorganizing local narratives and cultural resources, rural public art can connect heritage preservation with cultural reproduction and strengthen place-based identity [40,41]. This process is often supported through integration into everyday spaces and participatory formats, including rural art festivals, artist residencies, craft workshops, exhibitions, aesthetic education, and culture-led rural tourism [39,41]. These practices link art with local knowledge and create new contexts for the transmission and reinterpretation of rural heritage.

The reconstruction of social relations dimension examines how public art reshapes participation, collaboration, local agency, and benefit-sharing among villagers, govern-

ments, artists, enterprises, and social organizations [41–43]. Research indicates that public art can act as a relational medium through which local actors share knowledge, negotiate meanings, and participate in collective cultural production [41,43]. At the same time, social relations also involve governance arrangements, resource coordination, policy support, and maintenance mechanisms [42]. These conditions influence whether rural public art can continue beyond short-term project cycles. Therefore, the assessment of this dimension requires attention not only to participation and co-creation but also to the institutional and relational conditions that sustain public art interventions over time.

More specifically, the three dimensions do not operate as separate parallel categories. Rather, they influence one another through a coupling mechanism formed by space, meaning, and relations. In this mechanism, material space creation allows cultural symbols and local memories to become embedded in the everyday life of rural communities [40]. It also provides specific settings for communication, negotiation, and collaborative creation among villagers, tourists, artists, and operational actors [1,41]. Cultural heritage and innovation focus on the contemporary transformation of local memories and cultural symbols and endow space with meaning through local knowledge and narratives [44]. At the same time, the production of cultural meaning does not rely solely on artistic expression itself. It also depends critically on whether diverse local actors can participate in interpreting, narrating, and reproducing these meanings. Reconstruction of social relations supports the sustained operation of material space creation and cultural heritage and innovation through participation, collaboration, and governance involving multiple actors [45]. It further enhances the everyday vitality of rural public spaces and promotes rural cultural reproduction. Through this coupling mechanism, rural public art is able to move beyond temporary landscape improvement and event-based intervention, becoming a sustained practice that supports everyday public life, strengthens place-based identity, and contributes to the ongoing regeneration of rural communities.

2.3. Comprehensive Evaluation of Rural Public Art Interventions

Existing research has mainly examined related fields, including traditional village public spaces, rural human settlements, rural spatial vitality, public cultural spaces, and urban public art design, and has developed evaluation indicators [13,38,46,47]. Studies on traditional village public spaces provide methodological references for understanding spatial quality, landscape perception, environmental characteristics, and human settlement conditions [10]. Research on rural human settlements emphasizes residents' satisfaction, infrastructure provision, public services, and livability [47–49]. Studies on rural public cultural spaces and public-space vitality further focus on spatial function, spatial adaptability, functional flexibility, daily use, and patterns of public activity [15,50]. In addition, public art design studies have introduced resident-oriented approaches, showing the potential of translating user needs into design requirements [16]. These studies provide useful indicator sources and methodological foundations for evaluating rural public art interventions. Other studies have also discussed the value creation and practical challenges of rural public art, particularly in relation to cultural expression, community participation, local operation, and sustainable development [4,8,32,41].

Taken together, these studies indicate three limitations in existing evaluation research. First, many studies still rely on case analysis, empirical judgment, or single-dimensional indicators. Evaluation dimensions such as spatial quality, cultural value, social participation, operational support, and long-term maintenance are often examined separately, which limits the understanding of the integrated effects of rural public art. Second, expert evaluation and stakeholder perception are rarely integrated into a unified analytical framework, which limits understanding of how professional importance and local demand

converge or diverge. Third, public art is frequently evaluated as part of rural landscape improvement, tourism development, public-space design, or rural construction, rather than as an independent multidimensional intervention. Therefore, a stable, systematic, and comparable evaluation framework specifically for rural public art interventions has not yet been fully developed.

To address these limitations, this study applies an integrated AHP–Kano approach to combine expert-defined importance with stakeholder-perceived demand sensitivity. It constructs an evaluation framework across three dimensions—space, culture, and social relations—and provides evidence-based optimization strategies for more sustainable and locally adaptive rural revitalization practices.

Therefore, a comprehensive evaluation framework for rural public art interventions should integrate spatial, cultural, and social-relational dimensions, translate them into comparable indicators, and connect expert-defined importance with stakeholder-perceived demand sensitivity. Based on this rationale, the following section introduces an integrated AHP–Kano approach to identify priority areas for sustainable rural revitalization.

2.4. Integrated AHP–Kano Approach

Building on the need for a multidimensional evaluation framework, this study adopts an integrated AHP–Kano approach to link expert-defined priorities with stakeholder demand responses. The rationale for this integration lies not in treating the two methods as equivalent measures, but in distinguishing their evaluative roles. AHP is used to identify the importance of each indicator, while the Kano model is used to capture its demand sensitivity in artistic practice.

AHP is used to translate expert judgments into comparable indicator weights [51], establishing the importance of the evaluation system across the three domains. It has been widely applied in planning, rural landscape assessment, and cultural heritage evaluation [52,53], particularly where historical, artistic, social, and economic values must be balanced [54]. However, expert weights alone may not fully reveal how different stakeholders perceive the practical value, urgency, or shortcomings of public art interventions. The Kano model complements AHP by identifying how the presence or absence of specific attributes affects stakeholder satisfaction and dissatisfaction [12,55]. The Better–Worse coefficients further indicate the degree of satisfaction gain or dissatisfaction risk associated with each indicator.

Accordingly, the AHP–Kano framework is used to connect expert-derived importance with stakeholder-perceived demand sensitivity. Rather than treating the two methods as equivalent, this integration uses AHP to determine expert-derived indicator importance and Kano to capture stakeholder demand responses. This provides a theoretical basis for identifying priorities and interpreting possible divergences between professional assessment and local perception.

3. Research Design and Methodology

3.1. Overall Framework

Building on the theoretical framework developed in Section 2, this study adopts a mixed-methods research design to construct and test an evaluation framework for rural public art interventions (Figure 1). Qualitative inquiry was used to contextualize the case, identify intervention attributes, and refine the indicator system. Quantitative analysis was then applied to assess expert-derived importance, stakeholder demand responses, and integrated intervention priorities [56].

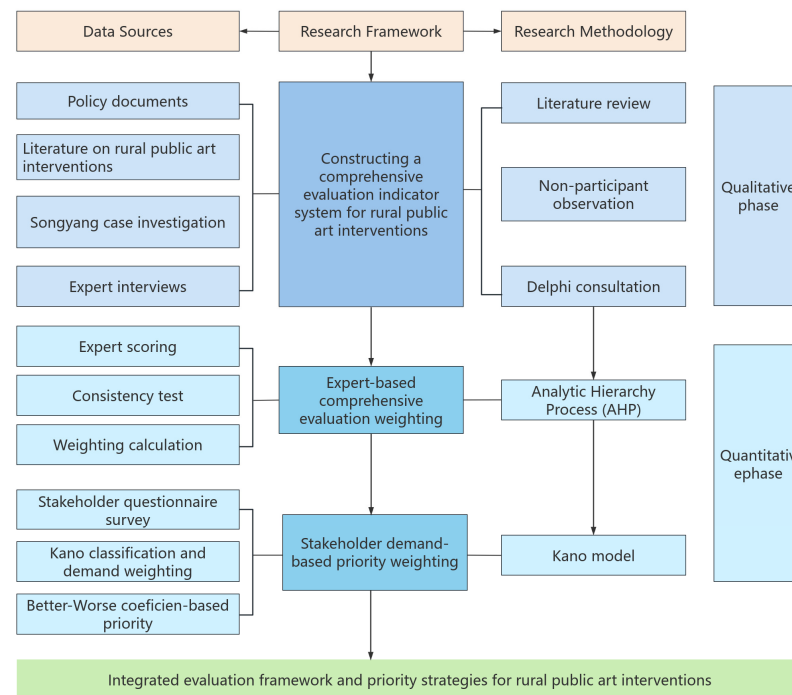


Figure 1. Evaluation framework for rural public art interventions.

As shown in Figure 1, the research workflow follows the logic of “theoretical development–indicator extraction–quantitative assessment.” First, an evaluation indicator system was developed through policy analysis, literature review, case investigation, and expert consultation. Second, expert and stakeholder data were collected to support the quantitative assessment. Third, AHP and Kano analyses were conducted to examine indicator importance and stakeholder demand responses. Finally, the two sets of results were integrated to identify priority indicators and provide an empirical basis for strategy formulation.

3.2. Case Study Area: Songyang County, Zhejiang Province

Songyang County is located in the mountainous and hilly hinterland of southwestern Zhejiang Province (Figure 2), covering an area of approximately 1401 km². Established as an administrative county in AD 199, Songyang retains a relatively intact rural settlement fabric and vernacular spatial form. By 2024, the county had 78 nationally recognized traditional villages, making it a rich information setting for examining how public art practices interact with rural living environments, cultural practices, and community relations [17].

Songyang was selected because its public art practices are distributed across multiple villages and are not confined to a single landmark project. This county-level setting makes it possible to examine how public art relates to spatial improvement, cultural activation, and collaborative governance in rural renewal.

This study therefore adopted purposive project sampling at the county level. The selection was guided by four criteria: geographical location, accessibility, settlement form, and intervention type. Based on these criteria, 30 public art-related projects were selected from 11 villages in Songyang County (Figure 3). The selected projects include public building renewal, small-scale installations, exhibitions, festivals, artist-in-residence programs, and community-based cultural activities.

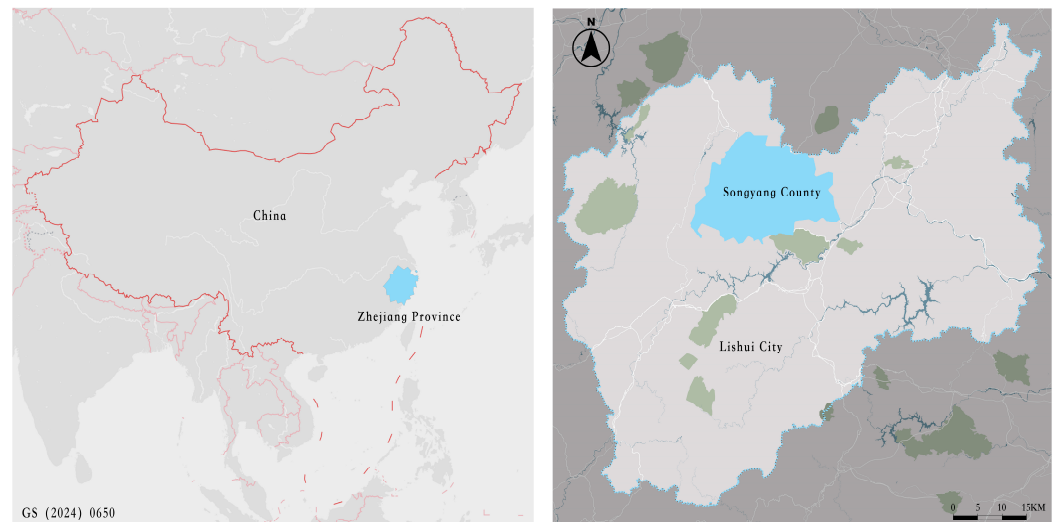


Figure 2. Location of Songyang County and the case study area. (Source: Authors).



Figure 3. Locations and diagram of public art research samples in 11 villages in Songyang. (Source: Authors).

The 11 villages vary in heritage resources, tourism development, accessibility, settlement form, and demographic conditions, including contexts associated with traditional villages, tourism-oriented villages, and villages experiencing population decline. This study does not conduct a separate comparison among these village types. Instead, the county-level sample is used to construct and test an integrated evaluation framework for rural public art interventions. It is not intended to be statistically representative of all rural public art projects in China but to cover diverse project types and village conditions within Songyang County, thereby reducing the bias that may result from relying on a single demonstration village or tourism hotspot.

At the spatial level, public art practices in Songyang are often carried out through small-scale and incremental micro-renewal. They mainly focus on spatial nodes such as village entrances, vacant houses, disused workshops, and landscape edges. These practices do not seek to create single landmarks. Instead, they improve accessibility, add everyday functions, and strengthen the capacity of public spaces to support staying, gathering, and interaction. In this process, existing building forms, lane-street structures, and village spatial textures are largely retained. Functions such as exhibition, education, community activities, and public services are introduced according to specific spatial conditions. The Shicang Contract Museum and the cliff-side bookstore in Chenjiapu reflect this approach. At the same time, some projects use lightweight and locally sourced materials to reconnect built spaces with the surrounding mountain and water landscape. Improvements to roads, signage, public toilets, and rest areas further enhance spatial connectivity and everyday use.

At the cultural level, public art practices in Songyang do not remain at the level of static preservation. Instead, sustained cultural projects and public activities reconnect local memory, traditional skills, and contemporary rural life (Figure 4). University-local forums, rural revitalization platforms, and initiatives such as the “Hundred Artists-in-Residence in Songyang Villages” have enabled exhibitions, forums, workshops, and co-creation activities to enter the everyday cultural scenes of villages. These activities are often carried out in ancestral halls, former workshops, and other public spaces. As a result, intangible cultural heritage such as Songyang opera, woodcarving, and local folk customs is not only displayed as cultural content but also reinterpreted in new contexts of use. Some villages have further developed cultural production scenes around artist residencies, co-curation, and craft workshops. In Songzhuang, for example, palm and bamboo weaving are incorporated into collaborative installations, exhibitions, homestay spaces, and public visual systems. These practices provide concrete empirical support for indicators related to activity diversity, cultural dissemination and influence, and heritage preservation and transmission.

At the level of social relations, many public art projects in Songyang are embedded in multi-actor collaborative governance. Local government usually coordinates implementation and mobilizes resources through interdepartmental collaboration, annual assessment mechanisms, and technical guidelines. Funding and operation are often shared among government bodies, foundations, and property-right holders, while enterprises, social organizations, and villagers participate in maintenance and management. This collaborative structure provides a practical basis for indicators concerning public participation, co-creation, policy and financial support, and operational continuity.

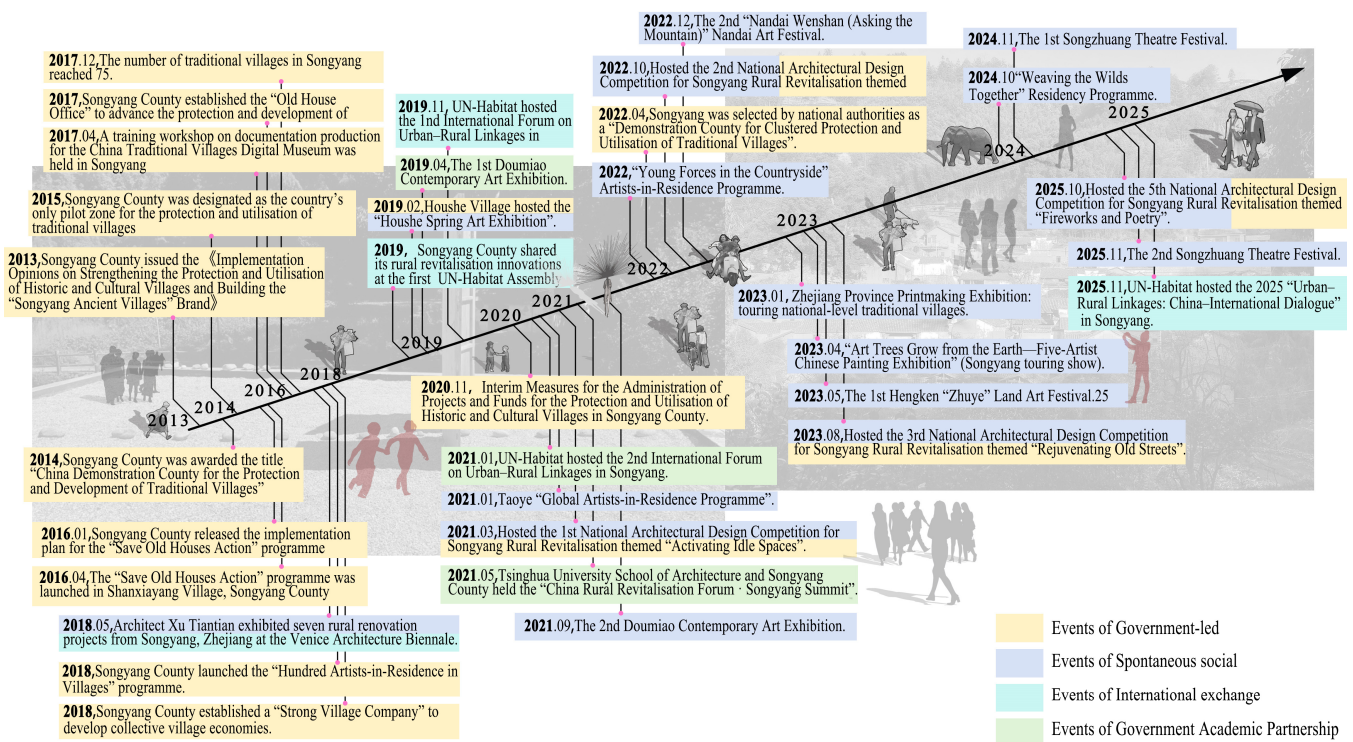


Figure 4. Timeline of major initiatives and recurring events related to rural public art interventions in Songyang County (2014–2025). (Source: Authors).

3.3. Evaluation Indicator System Development and Operationalization

Based on the conceptual framework developed in Section 2.2, the evaluation system was organized as a three-level hierarchy, including the target layer, criterion layer, and indicator layer. The target layer (A1–A3) corresponds to the three theoretical impact dimensions of rural public art interventions, namely material space creation [37], cultural heritage and innovation [11,40,41], and the reconstruction of social relations [42,45,57]. This layer defines the conceptual scope of the evaluation system and ensures that the assessment covers the spatial, cultural, and social-relational effects of rural public art interventions.

To translate these broad theoretical dimensions into assessable categories, this study first reviewed policy documents on rural revitalization [58–61] and existing studies related to public art, rural regeneration, rural public spaces, cultural heritage, community participation, and governance [1,10,28,33], together with field investigations conducted in Songyang County. This process generated an initial indicator pool consisting of 10 criterion-layer categories and 36 candidate indicators.

Expert consultation was subsequently conducted to validate and refine the preliminary indicator system. The experts assessed each candidate indicator in terms of clarity, relevance, applicability, and measurability and identified issues such as conceptual overlap, vague wording, weak relevance, and insufficient attention to governance mechanisms. Based on their feedback, eight core indicators were retained without major conceptual changes, including environmental aesthetics, functional diversity, spatial vitality and frequency of use, local cultural aesthetic compatibility, spatial accessibility, cultural heritage preservation and transmission, cultural affinity, and public engagement. Fourteen indicators were merged, renamed, or conceptually refined to improve their academic precision and contextual applicability. For example, ecological landscape construction and environmental sustainability were integrated into ecological symbiosis and sustainability, while infrastructure integrity was expanded into the integrity of basic and cultural facilities. Indicators related to spatial openness, sensory experience, digital technology, regional

economy, industrial vitality, and rural cultural communication were also refined to better correspond to the specific context of rural public art interventions. In addition, seven redundant or weakly related indicators were removed, while two mechanism-oriented indicators, namely benefit distribution and project maintenance and ongoing operation, were added to strengthen the evaluation of fairness, governance, and long-term sustainability.

Through the above screening and revision process, the initial pool of 36 candidate indicators was optimized into a three-level evaluation system consisting of three target-layer dimensions (A1–A3), ten criterion-layer categories (B1–B10), and twenty-nine operational indicators (C1–C29) (Table 1). Each operational indicator is accompanied by its evidence source and operational interpretation, thereby clarifying how the theoretical dimensions were translated into measurable evaluation items.

Table 1. Comprehensive evaluation index system for rural public art interventions.

Target Layer	Criterion Layer	Index Layer	Interpretation	Source
Material Space Creation A1	Human Settlements B1	Environmental Aesthetics C1	Improvement of visual, environmental quality, and landscape coordination in rural public spaces through public art.	[2,62,63]
		Ecological Symbiosis and Sustainability C2	Public art interventions respect resource conservation, ecological balance, and landscape sensitivity.	[52,62,64]
		Integrity of Basic and Cultural Facilities C3	Adequacy and completeness of facilities supporting public art use and cultural activities.	[10,65]
	Spatial Function B2	Spatial Safety C4	Art-led public spaces are safe for daily use, movement, gathering, and experience.	[52,66]
		Spatial Openness C5	Openness, inclusiveness, and shared use of art-led public spaces by different groups.	[52,66]
		Functional Diversity C6	Capacity of art-led public spaces to support diverse daily and cultural activities.	[35,65]
		Spatial Vitality and Frequency of Use C7	Art-led public spaces are actively used, and interaction is frequent.	[38,52]
	Spatial Quality B3	Local Cultural Aesthetic Compatibility C8	Public art fits local history, cultural context, vernacular aesthetics, and landscape character.	[17,35]
		Spatial Accessibility C9	Art-led public spaces are convenient and easy to access.	[10,67]
Cultural Heritage and Innovation A2	Cultural Heritage B4	Cultural Heritage Preservation and Transmission C10	Documentation, protection, interpretation, and transmission of tangible and intangible heritage through public art.	[11,39]
		Cultural Transmission and Influence C11	Wider visibility and influence of local culture through exhibitions, festivals, media, tourism interpretation, and branding.	[41,68]
	Cultural Innovation and Vitality B5	Cultural Diversity C12	Cultural activities are diverse, regular, and sustained over time.	[10,30]
		Aesthetic Experience C13	The experience is engaging, sensory, and interactive.	[10,37,68]
		Digital Art Accessibility and Adoption C14	The efficacy of digital technology in rural cultural expression	[69–72]
	Value System B6	Cultural Affinity C15	Recognition of local cultural symbols, heritage narratives, and shared cultural values.	[28,40,73]
		The Popularization and Value of Aesthetic Education C16	The role and impact of public art in aesthetic education and the enhancement of cultural literacy.	[74,75]
	Economic and Industrial Development B7	Integration of Agriculture, Culture and Tourism C17	Promote the deep integration of agriculture, local culture and tourism.	[4,11,76]
		Cultural–Economic Propulsion C18	Economic effects of public art on employment, income, investment, consumption, and related services.	[65,76]
		Vitality of the Cultural Industries C19	Cultural branding, attractiveness, and industry vitality are enhanced.	[4,11,65]

Table 1. *Cont.*

Target Layer	Criterion Layer	Index Layer	Interpretation	Source
reconstruction of social relations A3	Social Participation B8	Public Engagement C20	Public engagement: informed, consulted, and involved in public art activities and related decision-making processes.	[28,33]
		Multi-Stakeholder Co-Creation C21	The mechanism through which multiple stakeholders jointly create, negotiate, coordinate resources, and participate in shared governance in public art intervention projects.	[43,45,57]
		Local Consultation and Cultural Dialogue C22	Emphasize for open dialogue, consultation and cultural exchange within rural communities.	[19,41,77]
	Community Cohesion B9	Degree of Alleviation of Hollowing Out C23	Local identity strengthens and depopulation pressures are mitigated.	[29,78]
		Enhancing Local Artistic Capabilities C24	Enhancing villagers' capabilities in artistic practice, rather than merely providing skills training.	[27,28,43]
		Place Attachment Index C25	Emotional bonds with village spaces and everyday community life, belonging, willingness to stay, mutual support, and community cohesion.	[40,79,80]
	Policy Support and Safeguards B10	Funding Support and Safeguards C26	Diversity, stability and sustainability of funding.	[65,81,82]
		Policy Support C27	The extent of governmental institutional support for public art through planning, approval, and regulatory mechanisms.	[36,58,59,83]
		Benefit Distribution C28	Benefits are distributed fairly to local communities.	[65,84,85]
		Project Maintenance and Ongoing Operation C29	Completeness of maintenance, management, operation, feedback, and adaptive renewal mechanisms after project implementation.	[86–89]

The same set of twenty-nine indicators was used in both the AHP and Kano analyses. This consistent indicator structure allowed expert-derived importance and stakeholder-perceived demand sensitivity to be compared at the same analytical level, providing the basis for subsequent integrated priority identification.

3.4. Data Sources

Data collection consisted of two parts: expert consultation for AHP weighting and a stakeholder survey for Kano classification. The expert consultation was used to assess the relative importance of the indicators. The stakeholder survey was used to examine how different user groups perceived the functions and effects of rural public art projects in Songyang County.

For the AHP analysis, this study used purposive expert sampling (Table 2). Thirty experts were invited, including scholars, design practitioners, project consultants, and rural revitalization professionals. Their fields covered rural construction, public art, environmental design, cultural heritage conservation, rural planning, and local governance. The experts came from six provinces or municipalities, including Shanghai, Jiangsu, and Shaanxi, which helped reduce the influence of a single regional perspective. Two rounds of consultation were conducted between 15 August and 10 September 2025, and all questionnaires were returned. Expert judgments were then converted into pairwise comparison matrices to calculate hierarchical AHP weights [90].

The Kano survey was conducted in Songyang County from 20 September to 18 October 2025. Based on the project sample described in Section 3.2, questionnaires were distributed across selected villages and public art project sites. The survey was therefore not limited to one demonstration village or a small number of tourism-oriented sites. After incomplete and logically inconsistent responses were removed according to standard Kano screening rules, 289 valid questionnaires remained. As shown in Table 3, the respondents included villagers, government departments, tourists, and local enterprises. The sample does not claim to represent the whole population of Songyang County. Its purpose is to cover the main stakeholder groups and project contexts relevant to this study. This provides

a basis for comparing expert-defined indicator importance with stakeholder-perceived demand sensitivity.

Table 2. Disciplinary composition of the expert panel for the AHP consultation.

Expert Category	Number	Percentage
Public art specialists	8	26.6%
Environmental design specialists	6	20%
urban-rural planning academics	6	20%
rural revitalization practitioners	5	16.7%
Local government administrators	5	16.7%
Total	30	100%

Note: Experts with interdisciplinary backgrounds were classified according to their primary professional affiliation or main field of expertise.

Table 3. Sampling design and respondent composition.

Sample Category	Respondent Definition	Sampling Method	Number	Percentage
Villagers	Long-term residents who experienced the projects through everyday life, public-space use, and community interaction.	Stratified purposive sampling and on-site survey	133	46%
Government officials	Government staff at the county, township, or village level involved in planning, coordination, approval, management, or maintenance.	Purposive sampling	52	18%
Tourists	Visitors who experienced the projects through short-term cultural, leisure, or sightseeing activities	On-site intercept survey	64	22.2%
Enterprises	Owners, managers, or staff of village-based enterprises related to homestays, catering, retail, crafts, cultural tourism, or services	Purposive sampling	40	13.8%
Total stakeholder survey	—	—	289	100%

Note: Where identities overlapped, each respondent was assigned to the category corresponding to their primary role at the time of the survey.

Supplementary diagnostic tests were also conducted for the Kano questionnaire responses (Table 4). The functional and dysfunctional question blocks both showed high internal consistency. Cronbach's α values were 0.971 and 0.985, respectively. The KMO values were 0.963 and 0.972, and Bartlett's tests of sphericity were significant at $p < 0.001$. These results were used only to check response consistency and data adequacy. The final Kano classification was still determined by the paired functional–dysfunctional response rules.

Table 4. Reliability and sampling adequacy checks for the Kano responses.

	Type of Test	Responses to Functional Questions	Responses to Dysfunctional Questions
Reliability	Cronbach's α coefficient	0.971	0.985
	KMO value	0.963	0.972
Diagnostics	Sig value (p)	$p < 0.001$	$p < 0.001$
	Accumulated variance contribution rate	69.10%	72.82%

3.5. Comprehensive Evaluation Method for Rural Public Art Interventions

This section details the quantitative calculation procedure. It includes AHP-based weighting, Kano-based demand classification, Better–Worse sensitivity calculation, and integrated priority ranking.

3.5.1. AHP-Based Weighting: Expert Importance

AHP was used to derive hierarchical weights for the indicator system, with experts conducting pairwise comparisons based on the Saaty 1–9 scale [91]. Because the three domains were defined as parallel dimensions, they were assigned equal weights rather than compared pairwise in the global weighting procedure.

- (1) Since multi-expert consensus is required, the individual judgment matrices were aggregated into a group judgment matrix $A = (a_{ij})_{n \times n}$ using the geometric mean method. For each pairwise comparison between element i and element j , the aggregated judgment value was calculated as:

$$A = (a_{ij})_{n \times n} = \begin{bmatrix} a_{11} & \cdots & a_{1n} \\ \vdots & \ddots & \vdots \\ a_{n1} & \cdots & a_{nn} \end{bmatrix}$$

The matrix satisfies the reciprocity condition: if $a_{ij} = x$, then $a_{ji} = 1/x$.

- (2) Consistency test of judgment matrices

Step 1. Column sum:

$$A_{ij} = \sum_{i=1}^n a_{ij} \quad (i = 1, 2, \dots, n)$$

Step 2. Divide each element by the sum of its column.

$$b_{ij} = \frac{a_{ij}}{S_{ij}} \quad (i = 1, 2, \dots, n)$$

Step 3. Weight vector (row average of the normalized matrix):

$$\omega_{ij} = \frac{1}{n} \sum_{i=1}^n b_{ij} \quad (i = 1, 2, \dots, n)$$

Step 4. Maximum eigenvalue:

$$\lambda_{max} = \sum_{i=1}^n \frac{(AW)_i}{nW_i}$$

Step 5. Calculate the consistency index C

$$CI = \frac{\lambda_{max} - n}{n - 1}$$

Step 6. The study calculates the consistency ratio:

$$CR = \frac{CI}{RI}$$

where RI is the random index. A judgment matrix is considered acceptable when $CR < 0.10$ (Table 5) [91,92]. For 2×2 matrices, CR is not applicable because the comparison is automatically consistent.

Table 5. Consistency test results of all judgment matrices.

Criteria	$\lambda_{\max}$	CI	RI	CR	Scheme	$\lambda_{\max}$	CI	RI	CR
A1	3.003	0.001	0.52	0.003	B1	3.005	0.003	0.52	0.005
					B2	4.048	0.016	0.89	0.018
					B3	2	0	0	N/A
A2	4.056	0.019	0.89	0.021	B4	2	0	0	N/A
					B5	3.003	0.002	0.52	0.003
					B6	2	0	0	N/A
					B7	3.016	0.008	0.52	0.015
A3	3.003	0.001	0.52	0.003	B8	3.042	0.021	0.52	0.041
					B9	3.035	0.018	0.52	0.034
					B10	4.047	0.016	0.89	0.018

(3) Global weights calculation

After the local weights were obtained, the original AHP global weight of each indicator was calculated by multiplying the domain weight, the criterion weight, and the local indicator weight:

$$W_i = W_A \times W_x \times W_y$$

Since the three impact domains were treated as equally important,

$$W_{A1} = W_{A2} = W_{A3} = \frac{1}{3}$$

Thus, the original AHP global weight can be written as:

$$W_i = \frac{1}{3} \times W_x \times W_y$$

where W_i is the AHP global weight of indicator i , W_x is the weight of its parent criterion, and W_y is the local weight of the indicator within that criterion.

In this study, the three impact dimensions (A1–A3) were assigned equal baseline weights at the domain level. This setting was adopted because the purpose of this study is not to compare the relative strategic importance of the three dimensions themselves, but to construct a balanced multidimensional evaluation system for rural public art interventions. As discussed in Section 2.2, the three dimensions form a coupled framework of space, meaning, and relations, in which material space creation provides everyday settings, cultural heritage and innovation generate place-based meanings, and the reconstruction of social relations sustains participation, governance, and long-term operation. Therefore, equal domain weighting was adopted to maintain a balanced multidimensional framework. Differences among specific indicators are mainly reflected through AHP-derived weights at the criterion and indicator levels, together with stakeholder demand responses obtained from the Kano model.

3.5.2. Kano-Based Demand Classification

The Kano model was used to classify stakeholder demand types for the same 29 indicators. Each indicator was evaluated through paired functional and dysfunctional questions (Table 6). The paired responses were mapped to six categories (Table 7): Attractive (A), One-dimensional (O), Must-be (M), Indifferent (I), Reverse (R), and Questionable (Q) [93,94].

Table 6. Kano questionnaire.

Question	Like	MUST-Be	Neutral	Live with	Dislike
If this condition is met, do you consider that					
If this condition is not met, do you consider that					

Table 7. Kano evaluation form for quality attribute category.

Functional Question		Dysfunctional Question				
		Negative Question				
		Like	Must-Be	Neutral	Live with	Dislike
Positive question	Like	Q	A	A	A	O
	Must-be	R	I	I	I	M
	Neutral	R	I	I	I	M
	Live with	R	I	I	I	M
	Dislike	R	R	R	R	Q

The final category of each indicator was determined by the largest share among A, O, M, and I responses. R and Q responses were retained in the descriptive distribution to preserve the completeness of the Kano classification. Following standard Kano procedures, they were excluded from the calculation of Better and Worse coefficients. Percentages may not sum exactly to 100% because of rounding.

To examine whether Kano demand types differed among stakeholder groups, the Kano classification was repeated for villagers, government officials, tourists, and enterprises. For each group, the A/O/M/I/R/Q response distributions and the dominant Kano category were recalculated for all 29 indicators. The subgroup classifications were then compared with the pooled results to identify whether any indicators changed in demand type across groups.

3.5.3. Better–Worse Coefficients and Sensitivity Index

Kano categories identify demand types, but they do not measure the intensity of stakeholder response. Therefore, Better and Worse coefficients were calculated to estimate satisfaction gains and dissatisfaction risks for each indicator [94,95].

For indicator i , the valid response total is defined as:

$$N_i = n_{A,i} + n_{O,i} + n_{M,i} + n_{I,i}$$

where $n_{A,i}$, $n_{O,i}$, $n_{M,i}$, $n_{I,i}$ are the numbers of Attractive, One-dimensional, Must-be, and Indifferent responses. Reverse and Questionable responses are excluded.

The Better coefficient is calculated as:

$$Better = \frac{A + O}{A + O + M + I}$$

The Worse coefficient is calculated as:

$$Worse = -\frac{O + M}{A + O + M + I}$$

For interpretation, the absolute value of the Worse coefficient is used:

$$|Worse| = Worse$$

The raw stakeholder sensitivity score is calculated as the Euclidean distance from the origin in the Better–Worse coordinate system:

$$S_i = \sqrt{Better^2 + |Worse|^2}$$

The Better coefficient, Worse coefficient, and sensitivity score were also recalculated for each stakeholder group. These subgroup results were compared descriptively to show how response intensity varied among villagers, government departments, tourists, and enterprises. The calculations were aligned with the valid subgroup sample sizes reported in Section 3.4.

3.5.4. AHP–Kano Integrated Prioritization

The AHP and Kano results were integrated at the indicator level to generate a relative priority weight for each indicator. The normalized AHP global weight W_i was retained as the expert-derived importance weight, while the Kano sensitivity score S_i was converted into the stakeholder-sensitivity weight K_i . These two weights were then combined to calculate the integrated priority weight P_i .

Because S_i and W_i are calculated from different procedures, the Kano sensitivity scores were first normalized into stakeholder-sensitivity weights:

$$K_i = \frac{S_i}{\sum_{i=1}^{29} S_i}$$

where K_i denotes the normalized stakeholder-sensitivity weight of indicator i . After normalization, K_i has the same relative weight structure as W_i , allowing the two results to be integrated within a comparable priority model.

The integrated priority weight of indicator i was calculated as:

$$P_i(\alpha) = \alpha W_i + (1 - \alpha) K_i$$

where $P_i(\alpha)$ is the integrated priority weight of indicator i , α is the weight assigned to expert-derived importance, and $1 - \alpha$ is the weight assigned to stakeholder sensitivity. In the baseline analysis, $\alpha = 0.5$, giving equal weight to the two sources of evidence.

To examine the stability of the integrated ranking, a scenario-based sensitivity analysis was conducted by varying α from 0.3 to 0.7:

$$\alpha \in \{0.3, 0.4, 0.5, 0.6, 0.7\}$$

These five scenarios represent stakeholder-oriented, slightly stakeholder-oriented, neutral, slightly expert-oriented, and expert-oriented weighting conditions, respectively.

The resulting P_i values were used to rank the 29 indicators and identify priority items for rural public art interventions.

4. Results

4.1. Expert-Derived Weight of the Multidimensional Indicator System

Within the multidimensional evaluation system, the AHP results represent the expert-derived importance weights of the 29 indicators across the three impact dimensions (Table 8 and Figure 5). All judgment matrices passed the consistency test reported in Section 3.5, indicating that the expert comparisons were acceptable for weight calculation.

Table 8. Expert-derived AHP weights of evaluation indicators for rural public art interventions.

Target Layer	Criterion Layer	Criterion Weight	Index Layer	Weight of Indicator Layer	Global Weight
A1	B1	42.29%	C1	0.18	0.025
			C2	0.31	0.044
			C3	0.51	0.072
	B2	27.24%	C4	0.54	0.049
			C5	0.13	0.011
			C6	0.15	0.014
			C7	0.18	0.016
	B3	30.47%	C8	0.49	0.050
			C9	0.51	0.052
A2	B4	32.02%	C10	0.76	0.082
			C11	0.24	0.025
	B5	17.40%	C12	0.45	0.026
			C13	0.34	0.020
			C14	0.21	0.012
	B6	23.27%	C15	0.66	0.051
			C16	0.34	0.027
	B7	27.31%	C17	0.41	0.038
			C18	0.29	0.027
			C19	0.30	0.027
A3	B8	28.40%	C20	0.47	0.044
			C21	0.31	0.030
			C22	0.22	0.021
	B9	26.38%	C23	0.53	0.046
			C24	0.22	0.020
			C25	0.25	0.022
	B10	45.22%	C26	0.43	0.066
			C27	0.30	0.046
			C28	0.11	0.017
			C29	0.15	0.022

Within material space creation (A1), human settlements (B1) received the highest criterion weight. Spatial quality (B3) ranked second, followed by spatial function (B2). At the indicator level, integrity of basic and cultural facilities (C3, 0.072) ranked highest in this domain. Spatial accessibility (C9, 0.052), local cultural aesthetic compatibility (C8, 0.050), and spatial safety (C4, 0.049) followed. These results show that experts gave higher weights to basic facilities, accessibility, cultural compatibility, and safety.

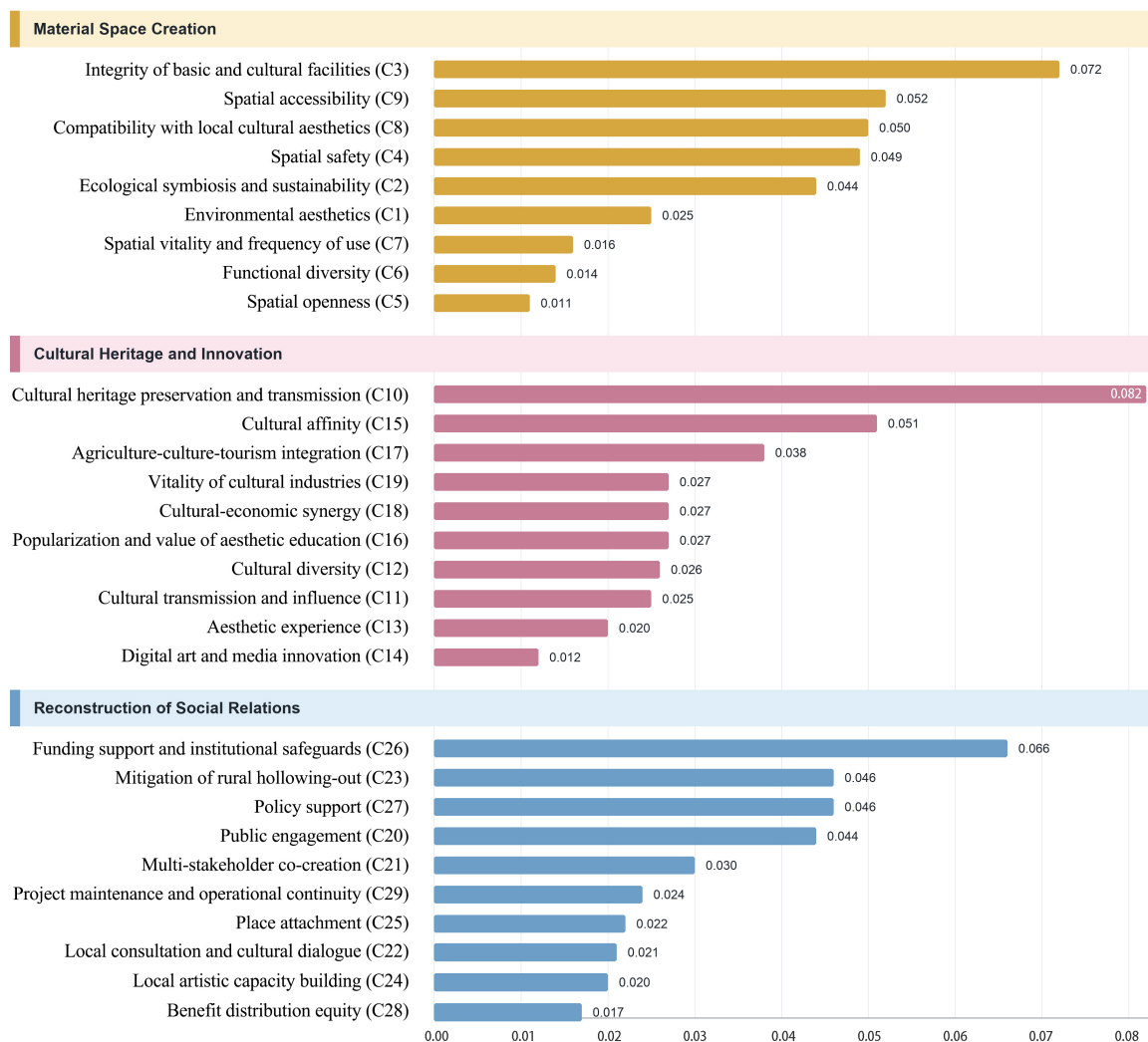


Figure 5. Importance ranking of evaluation indicators for rural public art interventions in Songyang.

For cultural heritage and innovation (A2), cultural heritage (B4) ranked first among the criteria. Economic and industrial development (B7), value system (B6), and cultural innovation and vitality (B5) followed. Cultural heritage preservation and transmission (C10, 0.082) had the highest weight among all 29 indicators. Cultural affinity (C15, 0.051) also ranked highly. In contrast, digital art accessibility and adoption (C14, 0.012) had the lowest weight in this domain.

In reconstruction of social relations (A3), policy support and safeguards (B10) ranked above social participation (B8) and community cohesion (B9), indicating that experts viewed institutional safeguards as necessary for sustaining relational outcomes. At the indicator level, funding support and safeguards (C26), policy support (C27), degree of alleviation of hollowing out (C23), and public engagement (C20) ranked relatively high.

Overall, the top ten AHP-weighted indicators were C10, C3, C26, C9, C15, C8, C4, C23, C27, and C20. These indicators cover all three impact dimensions and are mainly associated with cultural continuity, basic spatial conditions, public engagement, community cohesion, and institutional support. Taken together, the AHP results show that expert-derived priorities are distributed across the multidimensional indicator system rather than concentrated in a single domain.

4.2. Stakeholder Demand Types Within the Indicator System

Based on pooled responses from diverse stakeholder groups (N = 289), the Kano model was applied to classify the 29 evaluation indicators (Table 9).

Table 9. Comprehensive KANO analysis results based on pooled stakeholder responses.

Indicator Layer	A	O	M	I	R	Q	Result	Better	Worse
C1	13.62%	21.70%	42.13%	21.28%	0.00%	1.28%	M	0.36	−0.65
C2	20.85%	32.34%	16.60%	26.38%	1.28%	2.55%	O	0.55	−0.51
C3	21.28%	15.74%	48.09%	14.89%	0.00%	0.00%	M	0.37	−0.64
C4	14.04%	22.13%	33.19%	27.66%	1.28%	1.70%	M	0.37	−0.57
C5	19.15%	32.77%	25.11%	21.70%	0.00%	1.28%	O	0.53	−0.59
C6	22.55%	34.47%	7.66%	31.06%	2.13%	2.13%	O	0.6	−0.44
C7	10.21%	27.23%	40.00%	21.70%	0.43%	0.43%	M	0.38	−0.68
C8	23.83%	37.87%	8.94%	26.38%	0.43%	2.55%	O	0.64	−0.48
C9	10.64%	35.32%	34.89%	18.30%	0.85%	0.00%	O	0.46	−0.71
C10	8.94%	34.47%	35.32%	20.85%	0.43%	0.00%	M	0.44	−0.7
C11	27.66%	31.49%	10.21%	29.36%	0.85%	0.43%	O	0.6	−0.42
C12	33.19%	25.53%	9.36%	28.94%	0.85%	2.13%	A	0.61	−0.36
C13	28.51%	32.34%	10.64%	27.23%	1.28%	0.00%	O	0.62	−0.44
C14	25.96%	20.43%	7.23%	43.83%	1.28%	1.28%	I	0.48	−0.28
C15	9.79%	32.77%	35.74%	21.70%	0.00%	0.00%	M	0.43	−0.69
C16	21.70%	34.04%	13.62%	30.64%	0.00%	0.00%	O	0.56	−0.48
C17	29.79%	28.51%	11.49%	26.81%	0.43%	2.98%	A	0.6	−0.41
C18	6.81%	31.91%	44.68%	16.60%	0.00%	0.00%	M	0.39	−0.77
C19	24.68%	31.91%	12.34%	27.66%	1.28%	2.13%	O	0.59	−0.46
C20	21.70%	33.19%	14.47%	30.21%	0.00%	0.43%	O	0.55	−0.48
C21	26.81%	25.53%	10.21%	35.32%	0.43%	1.70%	I	0.53	−0.37
C22	23.83%	25.11%	8.94%	38.72%	1.70%	1.70%	I	0.51	−0.35
C23	10.21%	31.49%	33.62%	24.26%	0.00%	0.43%	M	0.42	−0.65
C24	28.51%	30.64%	12.77%	28.09%	0.00%	0.00%	O	0.59	−0.43
C25	38.72%	22.98%	7.23%	30.21%	0.85%	0.00%	A	0.62	−0.3
C26	23.83%	34.04%	13.19%	26.81%	0.43%	1.70%	O	0.59	−0.48
C27	11.49%	31.06%	37.87%	19.57%	0.00%	0.00%	M	0.43	−0.69
C28	20.00%	34.04%	15.74%	28.51%	1.70%	0.00%	O	0.55	−0.51
C29	37.45%	27.66%	13.62%	20.43%	0.85%	0.00%	A	0.66	−0.42

Note: A = Attractive, O = One-dimensional, M = Must-be, I = Indifferent, R = Reverse, and Q = Questionable. The final category of each indicator was determined by the largest proportion among A, O, M, and I. R and Q responses were retained in the descriptive distribution but excluded from the calculation of the Better and Worse coefficients. Percentages may not total 100% because of rounding.

It should be noted that several indicators, such as C9, C10, and C17, show borderline Kano classifications. This ambiguity mainly affects the interpretation of their demand attributes rather than the integrated priority calculation. C9 can be understood as a basic performance borderline attribute, as spatial accessibility is both a basic condition for rural public art use and a factor that can increase satisfaction when improved. C10 can also be interpreted as a basic performance borderline attribute because cultural heritage preservation is expected as a fundamental requirement, while better interpretation and transmission can further enhance stakeholder satisfaction. C17 is an attractive performance borderline attribute, suggesting that agriculture, culture, and tourism integration may function as an additional satisfaction enhancer in the overall sample but may become more performance sensitive in tourism-oriented or industry-oriented villages.

Overall, One-dimensional attributes constitute the largest group, including 13 indicators. Must-be attributes follow with 9 indicators. Attractive and Indifferent attributes account for 4 and 3 indicators, respectively. Reverse and Questionable responses remain limited across the indicator set, with the highest proportion below 3%. This indicates that most responses are valid and can support further Kano-based interpretation.

The distribution of demand types also differs across the three impact dimensions. In material space creation (A1), indicators are mainly classified as Must-be or One-dimensional. This suggests that stakeholders viewed many spatial conditions as either basic requirements or performance-sensitive attributes. In the cultural heritage and innovation (A2) and reconstruction of social relations (A3) dimensions, the results are more differentiated. In addition to Must-be and One-dimensional attributes, these two dimensions also include Attractive and Indifferent attributes. This pattern indicates that cultural and relational indicators do not generate uniform responses. Some are perceived as essential, while others contribute more to satisfaction enhancement or remain weakly perceived in current practice.

These findings should be understood as an aggregate stakeholder demand structure. They do not imply complete agreement among all stakeholder groups. For this reason, the categorical Kano results are not used as the sole basis for priority ranking. The following section further examines the Better and Worse coefficients to measure the intensity of satisfaction gains and dissatisfaction risks. Because these pooled results may mask differences among stakeholder groups, subgroup-level Kano classifications and sensitivity scores are further examined in Section 4.3.

4.3. Better–Worse Coefficients and Stakeholder Sensitivity

The Kano classification shows the main demand type of each indicator, but it does not indicate the strength of stakeholder response. Therefore, Better and Worse coefficients were calculated to estimate the potential satisfaction gain and dissatisfaction risk of each indicator. The raw sensitivity score S_i was then obtained from the two coefficients (Table 10). Figure 6 plots the Better and Worse coefficients of the 29 indicators. The dashed lines indicate the mean values of the two coefficients and divide the indicators into different response zones.

The sensitivity results reveal clear differences among the Kano categories. Among the Must-be attributes, C18 had the highest sensitivity score, followed by C10, C27, and C15. This indicates that cultural–economic benefits, cultural heritage preservation, policy support, and cultural identity constitute basic expectations within the overall stakeholder sample. When these elements are absent or insufficiently provided, stakeholder dissatisfaction is likely to increase. For One-dimensional attributes, C9, C8, and C5 had the highest sensitivity scores within this category, suggesting that spatial accessibility, local cultural aesthetic compatibility, and spatial openness are indicators for which improved provision is likely to increase satisfaction, whereas poor provision may reduce it. These indicators therefore represent conditions that stakeholders can more directly perceive, experience,

and evaluate. Attractive attributes were associated with additional satisfaction gains. C29, C17, C12, and C25 showed relatively high sensitivity within this category, indicating that project maintenance, agriculture–culture–tourism integration, cultural activity diversity, and emotional resonance may enhance stakeholder satisfaction when they are well provided. However, their absence is less likely to generate the same level of dissatisfaction as Must-be attributes.

Table 10. Better–Worse coefficients and sensitivity rankings for evaluation indicators.

Kano Category	Indicator Layer	Better	Worse	S_i	Sensitivity Ranking
M	C18	0.387	−0.766	0.858	1
M	C10	0.436	−0.701	0.826	2
M	C27	0.426	−0.689	0.810	3
M	C15	0.426	−0.685	0.807	4
M	C23	0.419	−0.654	0.777	5
M	C7	0.378	−0.678	0.776	6
M	C1	0.358	−0.647	0.739	7
M	C3	0.370	−0.638	0.738	8
M	C4	0.373	−0.570	0.681	9
O	C9	0.464	−0.708	0.846	1
O	C8	0.636	−0.483	0.799	2
O	C5	0.526	−0.586	0.787	3
O	C26	0.591	−0.483	0.763	4
O	C13	0.616	−0.435	0.754	5
O	C2	0.553	−0.509	0.752	6
O	C28	0.550	−0.507	0.748	7
O	C19	0.586	−0.458	0.744	8
O	C6	0.596	−0.440	0.741	9
O	C24	0.592	−0.434	0.734	10
O	C11	0.599	−0.422	0.733	11
O	C16	0.557	−0.477	0.733	12
O	C20	0.551	−0.479	0.730	13
A	C29	0.657	−0.416	0.778	1
A	C17	0.604	−0.414	0.732	2
A	C12	0.605	−0.360	0.704	3
A	C25	0.622	−0.305	0.693	4
I	C21	0.535	−0.365	0.648	1
I	C22	0.507	−0.352	0.617	2
I	C14	0.476	−0.284	0.554	3

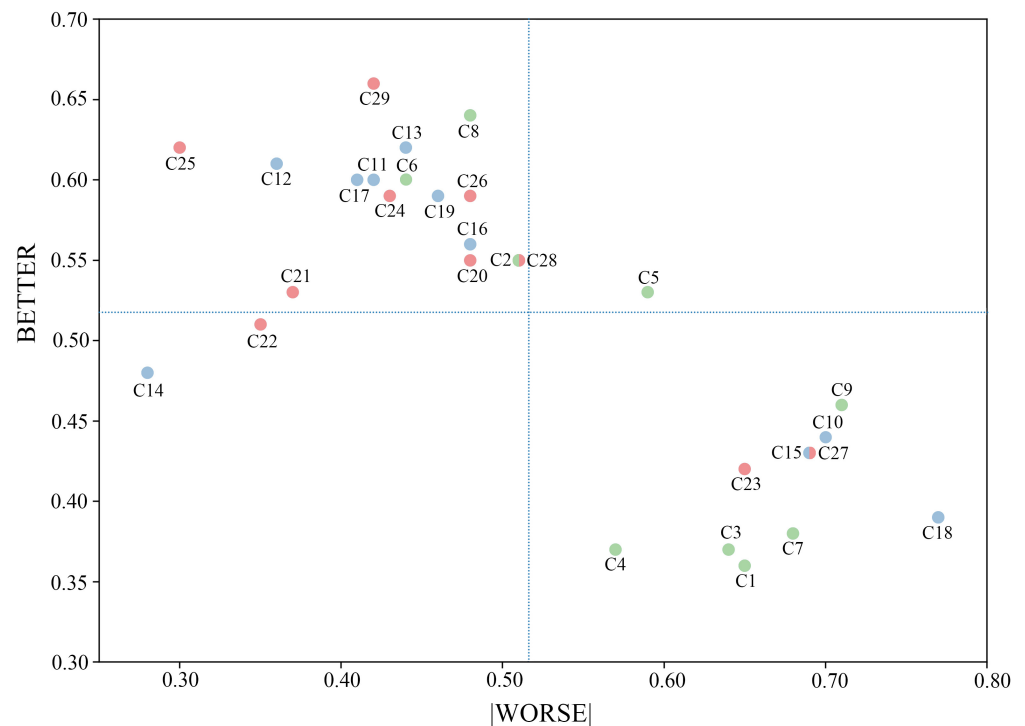


Figure 6. Better–Worse scatterplot of evaluation indicators. (Colored dots are used for visual distinction only. The blue dashed lines represent the mean values of the Better coefficient and the absolute Worse coefficient).

Indifferent attributes showed weaker immediate links with either satisfaction or dissatisfaction. C14, C22, and C21 had relatively low sensitivity scores, suggesting that digital art and media innovation, local consultation and cultural dialogue, and multi-stakeholder co-creation were less strongly perceived in the current survey. This result does not imply that these indicators are unimportant. Rather, it suggests that their effects may be less immediate, less visible, or dependent on longer-term development before they are clearly recognized by stakeholders.

Because these results are based on the full stakeholder sample, they may not fully capture differences among stakeholder groups. Therefore, the Kano classifications and sensitivity scores were also recalculated for villagers, government departments, tourists, and enterprises. Table 11 presents the Kano categories and sensitivity scores for all 29 indicators across the four stakeholder groups.

Table 11 compares the Kano results of the four stakeholder groups. The results show that the four groups did not classify the 29 indicators in the same way. Villagers classified more indicators as Must-be or Indifferent attributes. Specifically, 11 indicators were classified as Must-be attributes and 14 as Indifferent attributes by villagers. Government departments classified 17 indicators as Attractive attributes, showing a different pattern from the other groups. Tourists classified 16 indicators as One-dimensional attributes, while enterprises classified 11 indicators as One-dimensional attributes and 9 as Must-be attributes. At the same time, several indicators showed consistent classifications across the four groups. C1, C7, C18, C22, and C27 had the same Kano category in all four groups. Among them, C1, C7, C18, and C27 were classified as Must-be attributes by villagers, government departments, tourists, and enterprises. C22 was classified as an Indifferent attribute by all four groups.

Table 11. Kano classifications and sensitivity scores across the four stakeholder groups.

Indicator	Villagers	Government Depart- ments	Tourists	Enterprises	Villagers S_i	Government Depart- ments S_i	Tourists S_i	Enterprises S_i	Sensitivity Difference S_i
C1	M	M	M	M	0.612	0.637	0.769	0.737	0.157
C2	I	I	O	O	0.59	0.682	0.777	0.82	0.23
C3	M	A	M	M	0.752	0.789	0.737	0.728	0.061
C4	M	A	M	M	0.583	0.707	0.698	0.673	0.124
C5	M	A	O	O	0.667	0.72	0.821	0.779	0.154
C6	I	A	O	I	0.52	0.774	0.781	0.66	0.261
C7	M	M	M	M	0.744	0.66	0.807	0.742	0.147
C8	A	A	O	O	0.68	0.752	0.836	0.785	0.156
C9	M	M	O	M	0.781	0.764	0.872	0.772	0.108
C10	M	M	O	M	0.784	0.766	0.872	0.728	0.144
C11	A	A	O	I	0.724	0.62	0.763	0.675	0.143
C12	I	A	A	I	0.472	0.772	0.739	0.637	0.3
C13	I	A	O	O	0.552	0.686	0.785	0.785	0.233
C14	I	A	I	I	0.399	0.569	0.591	0.437	0.192
C15	M	M	O	M	0.672	0.801	0.832	0.772	0.16
C16	I	A	O	I	0.659	0.742	0.756	0.672	0.097
C17	I	A	A	O	0.465	0.752	0.778	0.708	0.313
C18	M	M	M	M	0.689	0.9	0.876	0.868	0.211
C19	I	A	O	O	0.431	0.753	0.784	0.779	0.353
C20	I	O	O	O	0.616	0.778	0.732	0.816	0.2
C21	I	A	I	O	0.45	0.607	0.671	0.746	0.296
C22	I	I	I	I	0.448	0.572	0.64	0.606	0.192
C23	M	M	O	O	0.749	0.706	0.797	0.805	0.099
C24	I	A	O	O	0.681	0.577	0.75	0.779	0.202
C25	I	A	A	A	0.544	0.671	0.727	0.656	0.183
C26	I	O	O	O	0.623	0.857	0.779	0.785	0.234
C27	M	M	M	M	0.811	0.838	0.841	0.631	0.21
C28	O	A	O	I	0.712	0.645	0.787	0.59	0.197
C29	A	A	A	I	0.841	0.767	0.776	0.686	0.155

Differences in sensitivity were mainly reflected in the indicators to which each stakeholder group showed higher sensitivity. For villagers, higher sensitivity scores were concentrated in project maintenance and sustainable operation (C29), policy support (C27), cultural heritage preservation and transmission (C10), spatial accessibility (C9), and integrity of basic and cultural facilities (C3). For government departments, higher sensitivity scores appeared in cultural–economic propulsion (C18), funding support and safeguards (C26), policy support (C27), cultural affinity (C15), and integrity of basic and cultural facilities (C3). For tourists, higher sensitivity scores were concentrated in spatial accessibility (C9), cultural heritage preservation and transmission (C10), policy support (C27), local cultural aesthetic compatibility (C8), and cultural affinity (C15). For enterprises, higher sensitivity scores were observed for cultural–economic propulsion (C18), ecological protection and sustainability (C2), public engagement (C20), degree of alleviation of hollowing out (C23), and funding support and safeguards (C26). Indicators with larger sensitivity differences across stakeholder groups mainly included cultural industry vitality (C19), integration of agriculture, culture, and tourism (C17), diversity of cultural activities (C12), multi-stakeholder co-creation mechanism (C21), and functional diversity (C6).

4.4. Results of AHP–Kano Integrated Prioritization

Following the procedure described in Section 3.5.4, the raw Kano sensitivity scores S_i reported in Table 12 were first converted into stakeholder-sensitivity weights K_i . These weights were then integrated with the AHP global weights W_i to calculate the integrated priority weights P_i . The baseline analysis used $\alpha = 0.5$, giving equal weight to expert-derived importance and stakeholder demand sensitivity. The results are presented in Table 10.

Table 12. AHP–Kano priority weights for rural public art interventions.

Criteria Layer	Scheme Layer	Indicator Layer	W_i	Weight Ranking	S_i	Sensitivity Ranking	P_i	AHP-KANO Weight Ranking
A1	B1	C1	0.025	18	0.739	17	0.03	17
		C2	0.044	11	0.752	13	0.039	10
		C3	0.072	2	0.738	18	0.053	2
	B2	C4	0.049	7	0.681	26	0.04	9
		C5	0.011	29	0.787	7	0.024	28
		C6	0.014	27	0.741	16	0.024	27
		C7	0.016	26	0.776	10	0.026	24
	B3	C8	0.050	6	0.799	6	0.043	6
		C9	0.052	4	0.846	2	0.046	4
A2	B4	C10	0.082	1	0.826	3	0.06	1
		C11	0.025	19	0.733	20	0.029	18
	B5	C12	0.026	17	0.704	24	0.029	19
		C13	0.020	23	0.754	12	0.027	21
		C14	0.012	28	0.554	29	0.019	29
	B6	C15	0.051	5	0.807	5	0.044	5
		C16	0.027	15	0.733	21	0.03	15
	B7	C17	0.038	12	0.732	22	0.036	12
		C18	0.027	16	0.858	1	0.033	13
A3	B8	C19	0.027	14	0.744	15	0.031	14
		C20	0.044	10	0.730	23	0.039	11
		C21	0.030	13	0.648	27	0.03	16
	B9	C22	0.021	22	0.617	28	0.025	26
		C23	0.046	8	0.777	9	0.041	8
		C24	0.020	24	0.734	19	0.027	23
	B10	C25	0.022	20	0.693	25	0.027	22
		C26	0.066	3	0.763	11	0.051	3
		C27	0.046	9	0.810	4	0.042	7
		C28	0.017	25	0.748	14	0.026	25
		C29	0.022	21	0.778	8	0.029	20

The top ten integrated indicators are C10, C3, C26, C9, C15, C8, C27, C23, C4, and C2. They cover all three impact dimensions: material space creation, cultural heritage and innovation, and reconstruction of social relations. This result shows that the priority structure is not concentrated in a single dimension but reflects the combined importance of cultural continuity, basic spatial conditions, and institutional support. Among them, C10, C3, C26, C9, C15, and C8 remained highly ranked after integration, showing that these indicators were consistently prioritized in the integrated model.

Some indicators show clearer divergence between expert weighting and stakeholder sensitivity. C18 had the highest Kano sensitivity score but did not enter the top ten integrated priorities because of its lower AHP weight. C14 ranked lowest because it showed both low expert weight and low stakeholder sensitivity. These results indicate two cases of divergence that are further discussed in Section 5.2.

To examine the stability of the integrated ranking, α was varied from 0.3 to 0.7. Table 13 reports the integrated priority weights and corresponding ranks for all 29 indicators under the five weighting scenarios.

Table 13. Scenario-based sensitivity analysis of integrated AHP–Kano priority rankings.

Indicator	0.3 P_i (Rank)	0.4 P_i (Rank)	0.5 P_i (Rank)	0.6 P_i (Rank)	0.7 P_i (Rank)	Rank Range
C1	0.0314 (17)	0.0305 (16)	0.0296 (17)	0.0287 (17)	0.0278 (18)	16–18
C2	0.0376 (9)	0.0385 (10)	0.0394 (10)	0.0403 (10)	0.0412 (10)	9–10
C3	0.0455 (2)	0.0493 (2)	0.0531 (2)	0.0569 (2)	0.0606 (2)	2–2
C4	0.0368 (11)	0.0385 (9)	0.0403 (9)	0.0420 (8)	0.0438 (7)	7–11
C5	0.0288 (26)	0.0263 (26)	0.0237 (28)	0.0212 (28)	0.0186 (28)	26–28
C6	0.0282 (27)	0.0262 (27)	0.0242 (27)	0.0221 (27)	0.0201 (27)	27–27
C7	0.0299 (22)	0.0280 (24)	0.0260 (24)	0.0240 (26)	0.0220 (26)	22–26
C8	0.0409 (6)	0.0422 (6)	0.0435 (6)	0.0448 (6)	0.0461 (6)	6–6
C9	0.0430 (4)	0.0443 (4)	0.0456 (4)	0.0469 (4)	0.0481 (4)	4–4
C10	0.0514 (1)	0.0557 (1)	0.0601 (1)	0.0645 (1)	0.0689 (1)	1–1
C11	0.0313 (18)	0.0304 (18)	0.0295 (18)	0.0286 (19)	0.0277 (19)	18–19
C12	0.0306 (19)	0.0300 (20)	0.0293 (19)	0.0286 (18)	0.0280 (17)	17–20
C13	0.0304 (20)	0.0289 (21)	0.0275 (21)	0.0260 (22)	0.0245 (22)	20–22
C14	0.0216 (29)	0.0202 (29)	0.0188 (29)	0.0175 (29)	0.0161 (29)	29–29
C15	0.0415 (5)	0.0428 (5)	0.0442 (5)	0.0455 (5)	0.0469 (5)	5–5
C16	0.0319 (15)	0.0312 (15)	0.0305 (15)	0.0298 (16)	0.0291 (16)	15–16
C17	0.0351 (13)	0.0355 (12)	0.0359 (12)	0.0364 (12)	0.0368 (12)	12–13
C18	0.0359 (12)	0.0346 (13)	0.0334 (13)	0.0321 (13)	0.0308 (13)	12–13
C19	0.0322 (14)	0.0315 (14)	0.0307 (14)	0.0300 (15)	0.0292 (15)	14–15
C20	0.0369 (10)	0.0379 (11)	0.0389 (11)	0.0399 (11)	0.0409 (11)	10–11
C21	0.0300 (21)	0.0300 (19)	0.0300 (16)	0.0300 (14)	0.0300 (14)	14–21
C22	0.0263 (28)	0.0255 (28)	0.0248 (26)	0.0240 (25)	0.0233 (24)	24–28
C23	0.0390 (8)	0.0400 (8)	0.0410 (8)	0.0420 (9)	0.0430 (9)	8–9
C24	0.0298 (23)	0.0284 (22)	0.0270 (23)	0.0256 (23)	0.0242 (23)	22–23
C25	0.0291 (25)	0.0280 (23)	0.0270 (22)	0.0260 (21)	0.0250 (21)	21–25
C26	0.0445 (3)	0.0476 (3)	0.0507 (3)	0.0537 (3)	0.0568 (3)	3–3
C27	0.0400 (7)	0.0409 (7)	0.0417 (7)	0.0426 (7)	0.0434 (8)	7–8
C28	0.0293 (24)	0.0276 (25)	0.0258 (25)	0.0241 (24)	0.0223 (25)	24–25
C29	0.0318 (16)	0.0304 (17)	0.0290 (20)	0.0276 (20)	0.0262 (20)	16–20

Note: P_i denotes the integrated priority weight under each weighting scenario. The rank in parentheses indicates the position of each indicator among all 29 indicators. Values are rounded to four decimal places for readability, while final rankings were determined using unrounded values.

The scenario analysis shows that the leading indicators remain stable under different weighting assumptions. C10, C3, C26, C9, C15, and C8 consistently stay in the top six positions. C27 and C23 also remain in the upper range, with only minor rank changes. C4 rises when greater weight is assigned to expert-derived importance, while C2 remains close to the top ten boundary. C18 does not enter the top ten in any tested scenario, despite having the highest Kano sensitivity score. C14 remains the lowest-ranked indicator across all scenarios.

5. Discussion

This study, around material space creation, cultural heritage and innovation, and reconstruction of social relations, provides a shared evaluation indicator language and an integrated prioritization logic that links “importance” and “responsiveness” to support intervention sequencing under resource constraints.

5.1. Multidimensional Evaluation of Rural Public Art Interventions

Existing evaluations often examine rural public art by focusing on individual aspects, such as spatial form, cultural expression, or participation [28,33,96]. Building on the coupling mechanism discussed in Section 2.2, the integrated ranking results of this study further show that the higher-priority indicators are not limited to a single dimension but involve basic spatial conditions, cultural continuity, and institutional support. The proposed mechanism shown in Figure 7 provides an operational basis for assessing these interrelated effects within a unified evaluation system.

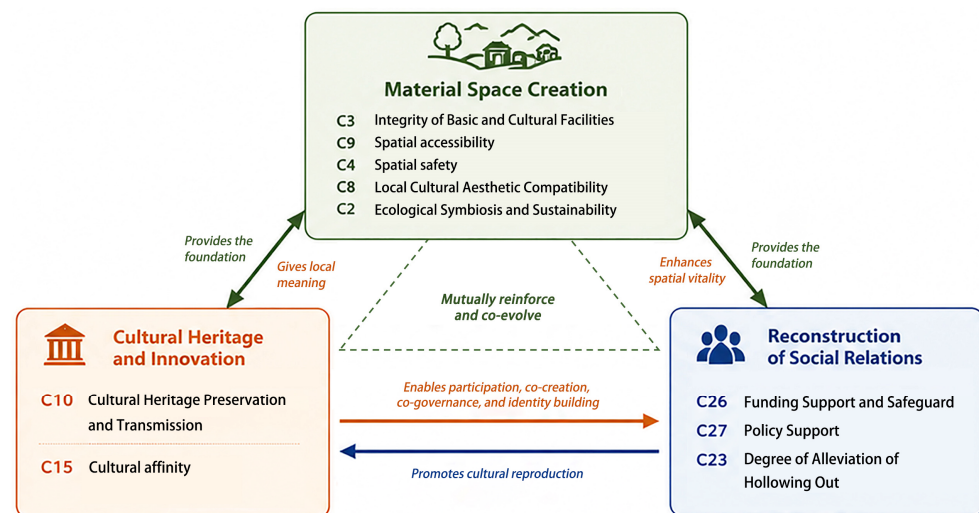


Figure 7. Mechanism of key priority factors identified by the integrated AHP–Kano assessment.

Cultural value becomes assessable only when it is linked to everyday spatial use. Cultural heritage preservation and transmission (C10) rank first in the integrated results, confirming the central role of cultural continuity. Yet heritage cannot be activated through symbolic representation alone. Its practical value depends on the integrity of basic and cultural facilities (C3), spatial accessibility (C9), spatial safety (C4), and local cultural aesthetic compatibility (C8). These indicators show that cultural resources become meaningful when they are linked to accessible facilities, safe public spaces, and familiar village forms. If art projects are detached from villagers’ daily routes and shared spaces, they may remain visible but have limited relevance to local life.

Spatial improvement also requires cultural and ecological grounding. Local cultural aesthetic compatibility (C8) and ecological symbiosis and sustainability (C2) indicate that public art should respond to local materials, settlement patterns, landscape conditions, and collective memory, rather than impose external visual forms on rural settings. This is especially important in villages where renewal is closely tied to tourism development. When design emphasizes visual order but neglects local meanings, it may weaken place identity rather than strengthen it. Therefore, the spatial value of rural public art lies not only in environmental improvement but also in sustaining the connection between built form, cultural memory, and lived experience.

The durability of public art interventions further depends on institutional and relational conditions. Funding support and safeguards (C26), policy support (C27), and degree of alleviation of hollowing out (C23) all rank within the top ten. This result indicates that design quality and cultural intention are insufficient on their own. Stable funding, policy coordination, and operational mechanisms are needed to sustain spatial and cultural outcomes. Without these conditions, public art projects may remain temporary events or isolated objects, especially in villages facing population loss, limited local capacity, and uneven resource distribution.

These findings and mechanism support the need for a multidimensional evaluation system for rural public art interventions. Spatial indicators identify the conditions for public use, cultural indicators explain how artistic interventions acquire local meaning, and social-relational indicators capture the support mechanisms required for long-term operation. By organizing these effects through a consistent set of indicators, the framework provides a basis for assessing whether rural public art can produce sustained spatial, cultural, and social value in rural revitalization.

5.2. Differences Between AHP and KANO Models

The AHP–Kano integration addresses how expert-derived importance and stakeholder demand sensitivity can be assessed within the same framework. In this study, the same set of twenty-nine indicators was examined through both expert judgment and stakeholder responses. This design allows the evaluation system to be assessed from two complementary perspectives. AHP examines whether the indicators are meaningful in terms of professional importance, whereas Kano analysis shows whether they are perceptible and responsive in stakeholder experience. The integration of these two sources of evidence strengthens the applicability of the indicator system and supports its use as a transferable framework for evaluating rural public art interventions.

The integrated results identify a stable group of core priority indicators. Cultural heritage preservation and transmission (C10), integrity of basic and cultural facilities (C3), funding support and safeguards (C26), spatial accessibility (C9), cultural affinity (C15), and local cultural aesthetic compatibility (C8) remain highly ranked after integration. Their stable positions indicate that these indicators should be treated as the primary priorities within the evaluation system. Several other indicators, including policy support (C27), degree of alleviation of hollowing out (C23), spatial safety (C4), and ecological symbiosis and sustainability (C2), function as supporting conditions for long-term implementation. Together, these results show that the integrated model does not merely rank indicators but helps distinguish between priorities and supporting conditions for rural public art interventions.

C18 illustrates the divergence between expert weighting and stakeholder sensitivity. Cultural–economic propulsion (C18) has the highest Kano sensitivity score, but it does not enter the top ten integrated priorities because of its lower AHP weight. This result does not diminish the practical importance of cultural–economic benefits. Rather, it indicates that C18 reflects stakeholder expectations that are not fully captured by expert weighting. In villages where public art is closely linked to tourism, enterprises, employment opportunities, or benefit sharing, such expectations may strongly shape local acceptance of art-led renewal. Therefore, C18 should be retained as a diagnostic indicator in strategy formulation. The result for C18 reveals a tension between expert judgment and stakeholder perception in the integration process. AHP weights reflect how experts assess the role of an indicator within the overall evaluation system, including its relevance to planning and long-term governance. By contrast, Kano sensitivity reflects stakeholders' immediate responses to the indicator and is particularly effective in capturing concerns related to economic benefits, benefit sharing, and the visible value generated by a project. For this reason, an indicator

such as C18 may attract strong stakeholder attention, but its position in the integrated priority ranking may remain relatively low if its expert-derived weight is modest. This result should not be interpreted as evidence that cultural–economic propulsion is unimportant. Rather, it suggests that the integrated model functions not only as a priority-ranking tool but also as a means of identifying divergences between professional judgment and local expectations.

Digital art accessibility and adoption (C14), multi-stakeholder co-creation (C21), and local consultation and cultural dialogue (C22) rank relatively low in the integrated results, but this should not be read as evidence of limited value. Rather, their rankings suggest that these elements have not yet been fully incorporated into local practice or perceived as direct sources of satisfaction. Digital art may remain weakly recognized when it is disconnected from everyday cultural experience. Similarly, co-creation and consultation may have limited perceived value when participation requires considerable time and effort but produces few visible outcomes. These indicators are therefore better understood as elements requiring longer-term cultivation rather than immediate priorities.

Overall, AHP–Kano integration improves the priority-identification capacity of the proposed evaluation system. By examining the same indicators through expert judgment and stakeholder responses, it helps distinguish stable priorities, perception-sensitive issues, and indicators requiring longer-term cultivation. These results provide a basis for translating priority rankings into staged and context-sensitive intervention strategies.

5.3. Strategy Implications for Rural Public Art Interventions

The selected villages and public art-related projects in Songyang cover different conditions in terms of heritage resources, tourism development, accessibility, settlement form, demographic characteristics, and intervention types. Therefore, the following strategies are not intended as village-by-village intervention plans. Instead, they use the Songyang case to identify general directions for rural public art interventions, while allowing implementation priorities to vary according to village conditions and project types.

First, rural public art interventions should be grounded in the everyday spatial conditions of village life. The high ranking of integrity of basic and cultural facilities (C3), spatial accessibility (C9), spatial safety (C4), and spatial vitality and frequency of use (C7) suggests that public art should not begin only with large-scale visual upgrading or landmark-oriented installations. Instead, interventions should be connected with village entrances, lanes, small squares, ancestral halls, vacant houses, rest areas, wayfinding systems, public toilets, and other everyday spatial nodes. This strategy is broadly applicable to rural villages, but it is especially important for villages with weak accessibility, population loss, or limited service capacity. In such contexts, small-scale, low-cost, and maintainable micro-renewal is more appropriate than visually prominent but difficult-to-maintain projects.

Second, public art interventions should activate local memory and strengthen place-based meaning. The importance of cultural heritage preservation and transmission (C10), cultural affinity (C15), and local cultural aesthetic compatibility (C8) indicates that cultural value cannot be produced by adding external artistic symbols alone. Public art should instead work through cultural interpretation, exhibitions, craft workshops, community storytelling, aesthetic education, and the adaptive reuse of historical spaces. This strategy is particularly significant for heritage-rich villages and traditional settlement areas, where ancestral halls, old houses, vernacular streets, intangible cultural heritage, and craft traditions provide important cultural resources.

Third, public art interventions should balance visitor-oriented development with local everyday life. In villages where public art is closely linked to tourism, cultural visibility and

visitor experience are important, but tourism-oriented renewal may also risk turning local culture into staged scenery. Therefore, public art interventions in tourism-oriented villages should go beyond visual beautification and cultural branding. They should improve the accessibility of visitor routes and public spaces, maintain the continuity of local spatial and cultural characteristics, and support long-term maintenance and operation. This principle is especially relevant to tourism-oriented villages, but it also applies to other villages that seek to transform cultural resources into public value. Public art should enhance visitor experience while protecting residents' daily spaces and avoiding cultural homogenization or excessive commercialization.

Fourth, public art should be connected with local production and benefit sharing. The high stakeholder sensitivity of cultural-economic propulsion (C18) shows that local actors are concerned with whether public art can generate tangible benefits. This does not mean that public art should be reduced to commercial development. Rather, artistic intervention can be linked with craft production, agricultural experience, rural markets, homestays, cultural events, local branding, and public education. In this process, attention should be paid to whether villagers can participate in value creation and whether benefits can be fairly shared within the local community.

Different types of projects also require distinct areas of focus. Public building renewal projects can integrate cultural heritage with everyday public functions. Small-scale installations and landscape micro-renewal projects should prioritize ecological adaptability, material compatibility, safety, accessibility, and long-term maintenance. Festivals, exhibitions, artist residencies, and co-creation activities should avoid one-off eventization by establishing mechanisms for sustained local participation, feedback, and operation. Digital tools should mainly support heritage recording, cultural interpretation, and communication rather than become independent technological displays.

Overall, the Songyang case suggests that rural public art should move beyond spatial beautification and cultural display. Its value depends on whether artistic interventions can be embedded in everyday public spaces, connected with local memory, supported by continuous operation, and linked to shared local benefits. The evaluation results therefore provide a basis for identifying intervention strategies under different village conditions.

5.4. Stakeholder Differences Behind Demand Variation

The stakeholder differences identified in Section 4.3 help explain the practical logic behind the statistical results. Rural public art interventions should be evaluated not only by aggregate priority but also by how the intervention affects the everyday use, governance needs, visitor experience, and operational conditions of different stakeholder groups.

For villagers, demand sensitivity is first tied to daily use and long-term maintenance. Villagers classified more indicators as Must-be or Indifferent attributes, and their higher sensitivity scores were mainly concentrated in project maintenance and ongoing operation (C29), policy support (C27), cultural heritage preservation and transmission (C10), spatial accessibility (C9), and the integrity of basic and cultural facilities (C3). This suggests that residents are likely to judge public art by whether it can genuinely become part of everyday village life, rather than remain a short-term display or an external image-making project. Accessible routes, usable facilities, reliable maintenance, and the continuity of local heritage all affect daily movement, gathering, identity, and the future burden of use and care. By comparison, digital art, cultural activities, or co-creation mechanisms may be less strongly perceived if they are not translated into visible improvements in public space or into clear resident influence over project outcomes.

Government departments follow a different logic. Their responsibilities include planning coordination, resource allocation, policy implementation, and performance evaluation.

Accordingly, their higher sensitivity scores are concentrated in cultural–economic propulsion (C18), funding support and safeguards (C26), policy support (C27), cultural affinity (C15), and the integrity of basic and cultural facilities (C3). From this perspective, public art is not only a way to improve the visual quality of rural space. It is also a governance tool that can connect rural revitalization, cultural visibility, and local development. The relatively large number of Attractive attributes in this group may also reflect an expectation that, beyond basic service provision, public art can bring additional value by attracting resources, improving the local image, and creating visible development outcomes.

Tourists tend to evaluate public art through more immediate and perceptible experience. In Table 11, tourists show high sensitivity to cultural–economic propulsion (C18), spatial accessibility (C9), cultural heritage preservation and transmission (C10), policy support (C27), and local cultural aesthetic compatibility (C8), while cultural affinity (C15) also remains highly rated. These results suggest that visitor satisfaction is shaped not only by visual or cultural experience but also by whether public art is connected with accessible routes, readable cultural narratives, local services. Policy support is less likely to be perceived directly, but it underpins the management, interpretation, accessibility, and service conditions through which visitors experience the project.

Enterprises occupy a position between local operation and market response. Their higher sensitivity to cultural–economic propulsion (C18), ecological symbiosis and sustainability (C2), public engagement (C20), degree of alleviation of hollowing out (C23), and funding support and safeguards (C26) reflects a practical concern with whether public art can be converted into stable operating conditions. Local cultural aesthetic compatibility (C8) also shows a high sensitivity score for this group. For enterprises involved in homestays, catering, crafts, cultural tourism, and local services, the value of public art lies not only in improving the appearance of space but also in attracting visitors, strengthening local branding, supporting ecological and cultural narratives, and creating a more predictable business environment.

At the same time, local consultation and cultural dialogue (C22) were classified as Indifferent by all four groups. This should not be read as meaning that consultation or dialogue is unimportant. A more plausible explanation is that, in current practice, consultation mechanisms remain relatively abstract and weakly institutionalized, making it difficult for stakeholders to connect them with concrete outcomes. Participation can become a real source of satisfaction only when it is supported by clear procedures, effective feedback channels, and visible changes.

6. Conclusions

This study takes rural Songyang as a case and constructs a multidimensional evaluation framework for assessing rural public art interventions. The framework consists of three dimensions, ten criteria, and twenty-nine indicators, providing a comparable analytical basis for assessing the multidimensional effects of rural public art interventions in the context of rural revitalization.

The findings show that the value of rural public art lies in the coupling mechanism among material space creation, cultural heritage and innovation, and reconstruction of social relations. cultural heritage preservation and transmission, integrity of basic and cultural facilities, funding support and safeguards, spatial accessibility, cultural affinity, and local cultural aesthetic compatibility show high priority. The stakeholder analysis further indicates that different groups evaluate rural public art through distinct practical demand logics. Villagers are more concerned with everyday use and maintenance, government departments with governance coordination and resource mobilization, tourists with accessible and readable cultural experiences, and enterprises with operational sta-

bility and cultural–economic benefits. At the practical level, these findings can help local governments, designers, operators, and village collectives sequence intervention strategies more effectively.

Methodologically, this study integrates AHP and the Kano model to combine expert-defined indicator importance with stakeholder-perceived demand sensitivity. This approach identifies the integrated priority of different indicators and reveals alignments and divergences between professional judgment and local perception. It therefore provides a replicable procedure for indicator weighting, demand classification, and priority identification in the evaluation of rural public art projects.

This study has several limitations. First, the empirical analysis is based on the Songyang County case, so its conclusions should not be directly generalized to all rural public art contexts. Second, the stakeholder survey mainly reflects county-level demand patterns in Songyang, while differences among village types and project types require further comparative analysis. Future research could expand the sample size, apply statistical tests to examine intergroup differences, and conduct longitudinal assessments to capture dynamic changes in demand over time.

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