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Rural Environmental Attributes and Residents' Participation in Beautiful Countryside Construction: Evidence from Jiangsu, China

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Abstract: Beautiful countryside construction in China has moved from visible environmental upgrading toward the coordinated improvement of rural space, ecological governance, local industries and residents' participation. Taking Jiangsu Province as the empirical context, this study examines how rural environmental attributes are connected with residents' participation characteristics through field observation, public construction information, local documents and participation-related records. The selected cases cover southern, central and northern Jiangsu. Environmental attributes are classified into spatial environment, ecological environment, infrastructure, industrial space and cultural landscape, while participation is examined through village affairs, public activities, environmental maintenance, rural industries and cultural practices. The results show that environmental attributes acquire practical value when they are used, maintained and interpreted by residents. Public space renewal supports communication and public activity; ecological improvement depends on maintenance participation; industrial spaces create livelihood-oriented participation; and cultural landscapes become meaningful through local narration and collective use. The study provides field-based evidence for understanding beautiful countryside construction as both an environmental and social process.

Keywords: beautiful countryside construction; rural environmental attributes; residents' participation; field data; Jiangsu Province

1. Introduction

Rural development in China has entered a stage in which ecological protection, spatial governance, industrial transformation and social participation are increasingly intertwined [1]. Rural revitalization is therefore no longer limited to agricultural modernization or income growth; it also concerns the renewal of living space, public facilities, local landscapes and community governance. Beautiful countryside construction is one of the practical carriers of this transition, because it brings environmental improvement, spatial renewal, cultural expression and residents' everyday participation into the same village setting.

The meaning of a "beautiful countryside" has also changed in practice. Early projects often emphasized road hardening, facade renovation, garbage collection, toilet upgrading and river cleaning. These measures remain necessary, but they cannot fully explain the current direction of rural construction. As rural restructuring deepens, villages are expected to function simultaneously as living, ecological, production, cultural and public activity spaces [1]. A village may look orderly, yet fail to support residents' daily use, communication, maintenance or participation in local industries. The practical value of environmental improvement therefore depends not only on what has been built, but also on how it is used, perceived and maintained.

Recent studies have shown that rural living environment improvement is closely related to residents' well-being, public service experience and local governance capacity [2,3]. Evaluation research further suggests that waste treatment, sewage facilities, toilet renovation, village appearance, planning and maintenance mechanisms are all necessary dimensions of rural environmental quality [4]. Environmental governance cannot rely only on administrative investment or project completion; it requires continued interaction among local governments, village organizations and residents [5].

Residents' participation is therefore a necessary perspective for understanding beautiful countryside construction. Existing work has explained participation through environmental health literacy, organizational support, village informal institutions, cadre-villager relations and household benefit perception [6-8]. In the broader participation literature, local involvement is not treated as a single act of consultation but as a graded process that may range from information access to co-learning and co-management [9,10]. This perspective is useful here because rural participation is often embedded in ordinary practices: using public squares, maintaining courtyards, cleaning rivers, operating homestays, selling local products or joining cultural events.

Case-based rural studies have also shown that revitalization is shaped by actors, resources, institutions and spatial restructuring at multiple scales [11,12].

Rural construction may rebuild trust and local identity when villagers, grassroots organizations and external actors renegotiate their relationships through co-construction. It also requires attention to the coordination of material space and social space, rather than the physical form of settlements alone. These findings provide a theoretical basis for examining environmental attributes and participation characteristics together.

Jiangsu Province offers a meaningful context for this study. The province has strong urban-rural interaction and substantial rural construction experience, yet it also contains clear regional differences. Southern Jiangsu usually has stronger public facilities and closer links between tourism, culture and public space; central Jiangsu often combines ecological improvement with agricultural and industrial transition; northern Jiangsu places more emphasis on infrastructure, sanitation and organized maintenance [13-15]. Accordingly, this study aims to classify rural environmental attributes, present residents' participation characteristics and identify the field-observed correspondence between them. Rather than building a predictive model, it uses field materials to clarify how environmental construction enters everyday village life.

Existing studies have paid considerable attention to rural environmental governance, living environment improvement and residents' participation. However, less attention has been given to how specific rural environmental attributes are connected with concrete forms of residents' participation at the village field level. This study therefore addresses three questions:

(1) What environmental attributes can be identified in beautiful countryside construction in Jiangsu?

(2) What forms of residents' participation are visible in different village settings?

(3) How do environmental attributes correspond to participation characteristics across different regional contexts?

2. Materials and Methods

2.1 Study area and case selection

Jiangsu Province is located in eastern China and forms an important part of the Yangtze River Delta. Its rural areas differ in economic foundation, settlement morphology, ecological resources, cultural landscape and public service supply [13-15]. Recent studies on rural territorial types and rural settlement evolution in Jiangsu confirm that the province should be understood through differentiated regional conditions rather than as a homogeneous rural space [13,14]. Traditional village resources, agricultural multifunctions and rural tourism development also show evident spatial differentiation [15].

Four cases were selected to represent the main regional contexts and construction orientations: C1 in Nanjing, C2 in Suzhou, C3 in Nantong and C4 in Xuzhou. Case selection followed five principles: regional representativeness, construction maturity, availability of public and field materials, diversity of environmental attributes and visibility of residents' participation. The intention is not to rank villages, but to build a cross-case basis for observing how environmental attributes and participation practices appear in different rural settings (Table 1).

Table 1. Selected cases and main observation focus.

Case	Region	City	Dominant village feature	Main observation focus
C1	Southern Jiangsu	Nanjing	Ecological renewal and tea tourism	Public space, ecological landscape, leisure services
C2	Southern Jiangsu	Suzhou	Cultural landscape and tourism	Traditional settlement, heritage space, public activities
C3	Central Jiangsu	Nantong	Production-living integration	River landscape, farmland, road system, community space
C4	Northern Jiangsu	Xuzhou	Infrastructure and cultural industry	Sanitation, public facilities, agricultural and cultural space

2.2 Data sources and field corpus

The study adopts a field data-based design. The empirical materials include public construction information, local documents, photographic records and participation-related field notes. The public materials used for contextual description

were organized by source title, issuing body or platform, release date, URL or document number, and access date where available. Photographs and observation records were archived by case code, observation point, material type and collection date. Official statistical reports and policy documents are used only to describe the construction background and are not listed as journal references. Field materials focus on village roads, entrances, public squares, river landscapes, green spaces, sanitation facilities, parking areas, signage systems, tourism spaces, cultural walls, traditional buildings and visible forms of residents' participation. The approach follows the logic of case-oriented rural studies, in which documents and field observation are cross-read to avoid treating policy texts as direct evidence of everyday use (Table 2) [11,12].

Table 2. Data sources and analytical function.

Data type	Specific content	Analytical function
Public construction information	Provincial and local rural construction materials, village project descriptions	Contextual background and case selection
Field photographs	Roads, rivers, public spaces, facilities, cultural landscapes and industrial spaces	Visual evidence of environmental attributes
Observation notes	Use of squares, routes, courtyards, service spaces and cultural sites	Identification of daily practices and spatial use
Participation records	Meetings, public activities, cleaning, greening, tourism service, product sales, festivals	Description of participation characteristics

2.3 Coding framework and verification

Environmental attributes were coded into five categories: spatial environment, ecological environment, infrastructure, industrial space and cultural landscape. Residents' participation was coded into five corresponding categories: village affairs participation, public activity participation, maintenance participation, industrial participation and cultural participation. The categories were developed from the literature on rural public space vitality, environmental governance and participation behavior (Figure 1) [16].

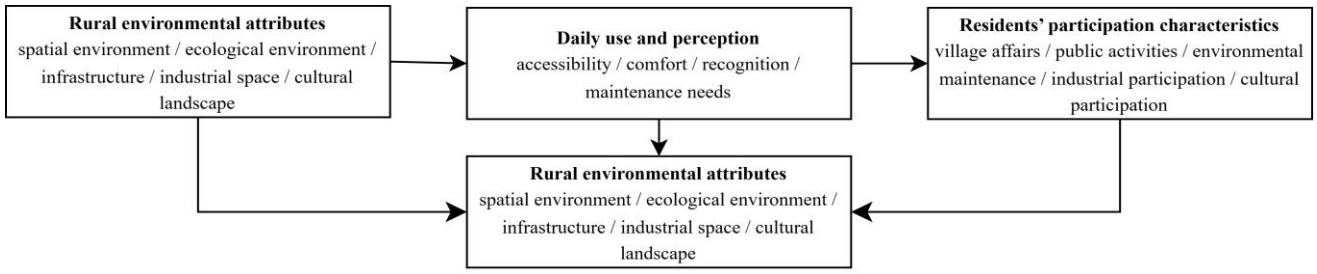

Figure 1. Analytical framework of rural environmental attributes and residents' participation characteristics.

Coding was carried out through repeated reading of field notes, photographs and public materials. For environmental attributes, the labels "dominant", "visible" and "basic" were used to distinguish the intensity of each attribute in a case. For participation characteristics, the labels "strong", "visible" and "limited" were used to describe whether a participation type was repeatedly observed, occasionally visible or only indirectly supported. The coding is descriptive rather than statistical. The same coding sheet was used across the four cases so that judgments of spatial, ecological, infrastructural, industrial and cultural attributes followed a comparable procedure. To improve consistency, photographic evidence, field notes and public documents were cross-checked; ambiguous items were retained only when at least two types of material supported the same interpretation (Table 3 and Figure 2).

Table 3. Classification and coding criteria used in the analysis.

Dimension	Main categories	Coding criteria
Environmental attributes	Spatial, ecological, infrastructure, industrial, cultural landscape	Dominant: repeatedly observed and functionally central; Visible: present but not central; Basic: supporting condition

Participation characteristics	Village affairs, public activities, maintenance, industrial, cultural participation	Strong: repeated and clear practices; Visible: occasional or less stable practices; Limited: weak or indirect evidence
Verification	Photographs, notes and documents	Each judgment cross-checked across at least two material types when possible

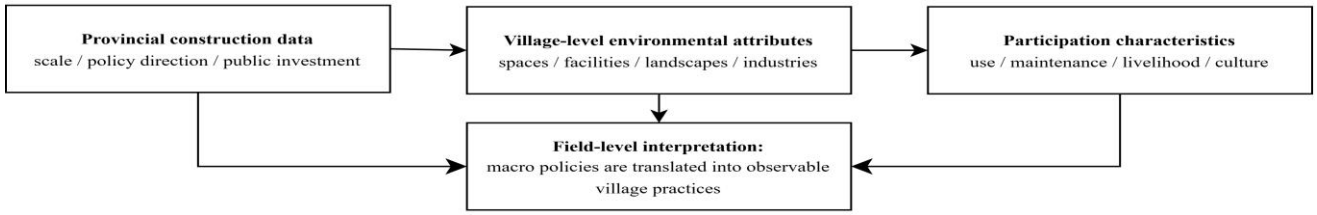

Figure 2. Logical relationship between public construction data and field-level analysis.

3. Results and Discussion

3.1 General field context

Beautiful countryside construction in Jiangsu has moved from scattered renovation toward a more systematic process involving village planning, infrastructure improvement, ecological restoration, agricultural foundation consolidation, public service upgrading and livable rural settlements [4,13-15]. Provincial documents show a large construction scale, but such data cannot directly demonstrate whether residents use public spaces, maintain river landscapes or participate in rural industries. For this reason, the analysis below treats official data as background and gives priority to village-level field evidence. This distinction is important: policy indicators show what has been completed, while field observation shows how spaces and facilities enter daily life [11,12].

3.2 Rural environmental attributes

The selected cases show that rural environmental attributes are not isolated physical elements. Roads, rivers, squares, signage, homestays and cultural walls become meaningful only when they are linked with movement, maintenance, service work and cultural expression. Figure 3 presents representative field images, while Table 4 summarizes the main attributes observed in each case.

(a) C1 Nanjing: ecological landscape and rural leisure space

(b) C2 Suzhou: traditional settlement and cultural landscape

(c) C3 Nantong: river corridor and production-living space

(d) C4 Xuzhou: public cultural space and rural industry carrier

Figure 3. Representative rural environmental attributes in selected cases.

Source: Authors' field photographs and publicly available official materials from municipal government, local tourism platforms and official media; panels were cropped and arranged by the authors for academic illustration. Final image records should retain the original source name, release date, URL or document number, access date and permission status for each panel.

Table 4. Cross-case matrix of rural environmental attributes.

Case	Spatial environment	Ecological environment	Infrastructure	Industrial space	Cultural landscape
C1	Entrance-road-square sequence; pedestrian routes	River landscape, green space, tea garden ecology	Lighting, signage, parking, toilets	Tea tourism and leisure services	Tea culture symbols and landscape nodes
C2	Water-town lanes, public nodes, leisure corridors	Waterfront landscape and village greening	Tourism signage and service facilities	Homestays and rural leisure	Traditional settlement and heritage spaces
C3	Village roads, public activity space, courtyard interface	Farmland landscape, river system and greening	Road lighting, sanitation and public toilets	Agricultural product display and rural tourism	Local cultural display and community space
C4	Hardened roads, village entrance, residential lanes	Sanitation improvement, greening and ecological restoration	Waste collection, lighting and road facilities	Agriculture-related production and service space	Cultural wall and village memory space

Spatial environment attributes were mainly observed in entrances, road systems, pedestrian paths, squares and landscape nodes. In C1 and C2, the continuity of roads, squares, ecological spaces and tourism service points made movement between residential and public spaces smoother. When public nodes were separated from daily routes, however, renovated spaces tended to function more as display landscapes than as living spaces. This finding echoes studies showing that public space vitality is related to accessibility, comfort, facility provision and actual user behavior [16,17].

Ecological environment attributes included rivers, water systems, green spaces, courtyard planting, sewage facilities and waste collection points. In C1 and C3, ecological spaces were close to daily routes and household interfaces, which made informal supervision and maintenance more visible. In contrast, water bodies separated from everyday paths had stronger landscape value than participation value. Existing research on rural environmental governance and rural human settlement improvement also shows that environmental improvement depends on differentiated local responses, villager participation and long-term operation, not on engineering input alone [5,18].

Infrastructure attributes were less symbolic but strongly related to daily convenience. Roads, lighting, toilets, parking areas and signage supported both resident mobility and visitor reception [4]. Yet field observation also showed that infrastructure has to be judged through accessibility, maintenance and feedback. A complete signage system, for example, may have limited value if it is visually attractive but functionally unclear. For residents, infrastructure is not only a service system; it is also a field in which reporting, supervision and everyday maintenance occur [18].

Industrial and cultural spaces connected environmental improvement with livelihood and identity. In C1 and C2, tourism-oriented spaces, homestays and cultural landscapes were more integrated with local services. In C3, agricultural product display and production-living space were more prominent. In C4, cultural industry and village memory spaces were linked with local public activities. Rural tourism studies suggest that residents' participation and landscape perception are central to sustainable destination development [19]. Therefore, industrial and cultural attributes should be assessed by whether residents can enter their operation, interpretation and benefit-sharing processes.

3.3 Residents' participation characteristics

Residents' participation appeared in village affairs, public activities, environmental maintenance, rural industries and cultural activities. These forms are not always expressed through formal decision-making; more often, they appear in ordinary practices such as using squares,

maintaining courtyards, cleaning riverbanks, operating homestays, selling products or joining festivals [6-10]. Figure 4 presents typical visual evidence, while Figure 5 summarizes the main participation patterns.

(a) Maintenance participation in riverbank greening

(b) Cultural and industrial participation through sachet craft

(c) Public cultural activity in a rural tourism setting

(d) Tea garden landscape supporting tourism participation

Figure 4. Residents' participation characteristics in selected cases.

Source: Public materials from Our Jiangsu/Rugao Converged Media Center, Xinhua News Agency, Our Jiangsu and CRI Online; panels were cropped and arranged by the authors for academic illustration. Final image records should retain the original title, release date, URL or document number, access date and permission status for each panel.

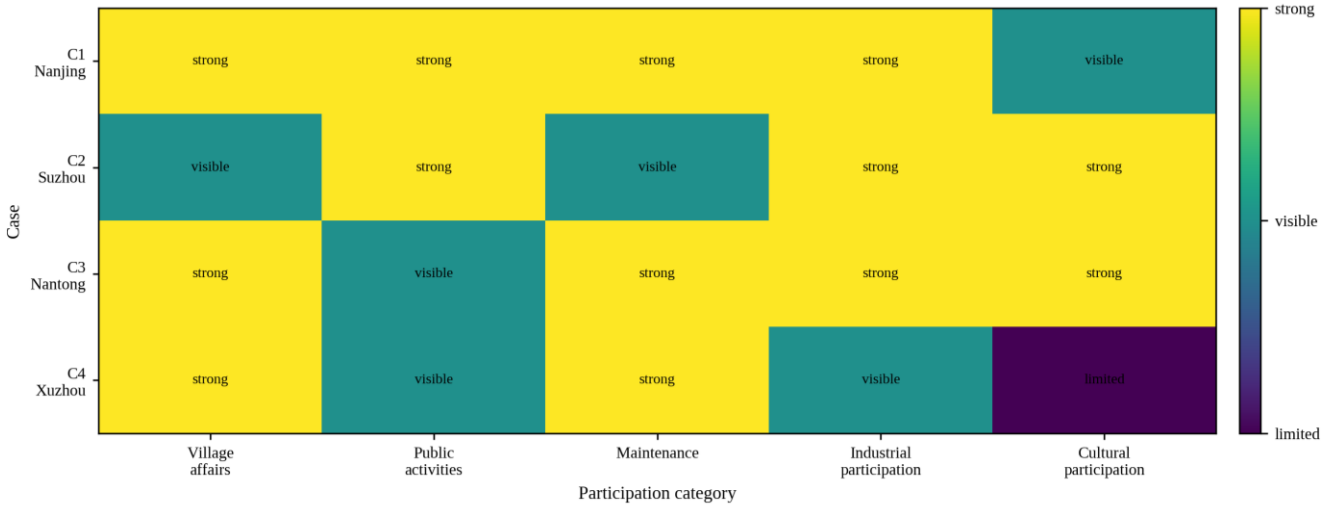

Figure 5. Cross-case coding matrix of residents' participation characteristics.

Note: *"Strong" indicates repeated and clear practices; "Visible" indicates occasional or less stable practices; "Limited" indicates weak or indirect evidence.*

Village affairs participation was visible through meetings, consultation, opinion collection and village affairs disclosure [6-8]. In C1 and C3, this type of participation was more evident when public spaces were located close to village committee or service facilities. In C4, it was often connected with organized mobilization for sanitation or infrastructure maintenance [18]. Digital village studies also suggest that information disclosure and accessible platforms can expand participation in grassroots governance [20].

Public activity participation depended on spatial usability [16,17]. Squares, leisure spaces, riverside paths and cultural activity rooms supported elderly recreation, children's play, festival events and daily communication. Such spaces transformed environmental construction into everyday village life. A square becomes meaningful not because it has been paved, but because it supports repeated use, communication and collective memory. Environmental maintenance participation was less spectacular but more decisive for long-term quality. It appeared in courtyard renovation, waste sorting, river protection, greening and sanitation supervision. Studies on rural human settlement improvement show that villager participation can improve environmental performance when it is linked with governance arrangements and routine maintenance [18].

Industrial participation was most visible in tourism and local product spaces [19]. Residents participated as homestay operators, cleaners, guides, product sellers and service workers. The strength of this participation depended on whether local residents could enter the service chain and benefit-sharing process. Cultural participation appeared in festivals, exhibitions, storytelling, heritage-space maintenance and intangible cultural heritage display. It had value beyond economic returns because it connected landscape construction with local memory and identity [11,12,15].

3.4 Correspondence between environmental attributes and participation

The field materials indicate that rural environmental attributes and residents' participation characteristics are mutually connected. This correspondence is not interpreted as a strict causal relationship. It is a field-observed association between environmental settings and everyday practices. Figure 6 and Table 5 summarize the main correspondence.

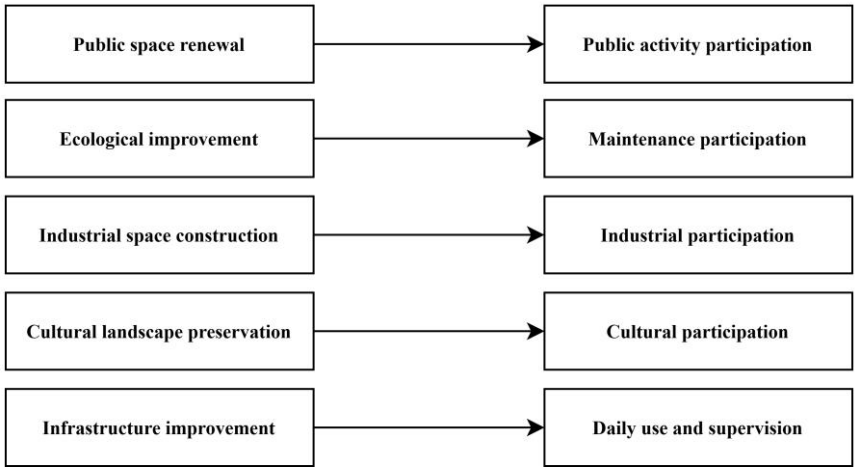

Figure 6. Correspondence between rural environmental attributes and residents' participation characteristics.

Table 5. Corresponding features between environmental attributes and participation.

Environmental attribute	Related participation	Observed feature
Public space renewal	Public activity participation	Residents use squares, corridors and public nodes for communication, recreation and cultural activities.
Ecological river and green space improvement	Maintenance participation	Residents participate in river cleaning, courtyard planting, greening and informal supervision.
Infrastructure improvement	Daily use and supervision participation	Roads, lighting, toilets and signage support mobility, service use and public feedback.

Industrial space construction	Industrial participation	Homestays, product displays and tourism points create opportunities for service, sales and employment.
Cultural landscape preservation	Cultural participation	Traditional buildings, cultural walls and heritage spaces support festivals, storytelling and local memory.

Public space renewal was most closely related to public activity participation. Where squares and corridors were accessible, shaded and connected with residential routes, they were more frequently used [16,17]. Ecological improvement was mainly associated with maintenance participation. River cleaning, greening, waste sorting and courtyard maintenance were especially visible when ecological facilities were close to daily routes and household spaces [5,18]. Industrial space construction was related to livelihood-oriented participation, but its effect depended on whether local residents could enter the operation and benefit chain [19]. Rural tourism research emphasizes that empowerment and community participation are important conditions for sustainable rural tourism development.

Cultural landscape preservation was related to cultural participation. Traditional buildings, cultural walls, village history displays and folk activity spaces became meaningful when residents interpreted, maintained and used them [11,12,15]. Infrastructure improvement supported daily use participation: roads, lighting, toilets, parking areas and signage created opportunities for mobility, feedback, supervision and visitor guidance [4,18]. In this sense, infrastructure is not merely a technical component; it is part of the daily operating environment of the village.

3.5 Regional differences and construction implications

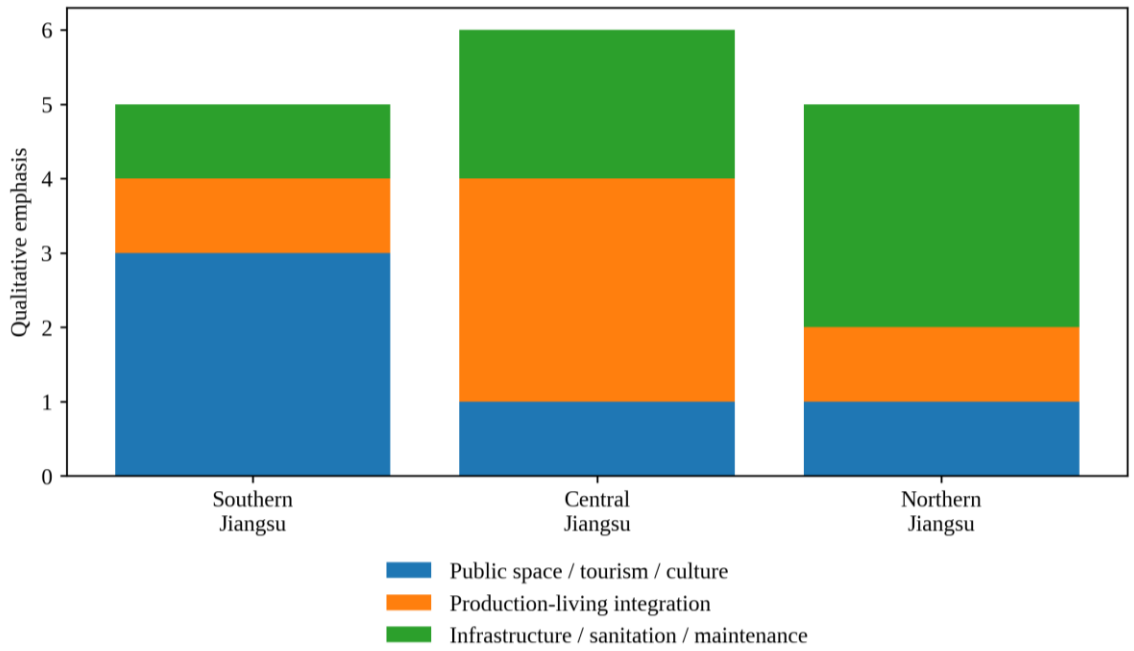

Figure 7. Regional differentiation of environmental attributes and participation characteristics in Jiangsu.

The selected cases show that beautiful countryside construction in Jiangsu is regionally differentiated (Figure 7) [13-15]. Southern Jiangsu has stronger capacity to integrate tourism, culture and public space. In the Nanjing and Suzhou cases, residents' participation was not limited to environmental maintenance; it also appeared in tourism services, product sales, cultural display and festival activities. Central Jiangsu presented a transitional pattern. The Nantong case connected ecological improvement with agricultural display, community activity and courtyard maintenance. Northern Jiangsu showed a stronger emphasis on infrastructure, sanitation and organized maintenance. This regional differentiation echoes the argument that rural revitalization should follow differentiated paths according to industrial foundation, infrastructure, governance capacity and living environment (Table 6).

Table 6. Construction implications derived from field results.

Discussion focus	Field-based implication	Suggested construction direction
From construction to daily use	Environmental attributes need repeated use and local maintenance.	Improve accessibility, comfort and functional connection.
From public space renewal to participation	Squares and corridors should carry communication, meetings and activities.	Integrate seating, shade, activity organization and village affairs functions.
From industrial space to shared benefits	Industrial spaces should offer resident participation channels.	Support employment, product sales, cooperative operation and service training.
From cultural display to co-creation	Cultural landscapes gain value through residents' interpretation and use.	Encourage storytelling, festivals, exhibitions and heritage maintenance.
From facility provision to maintenance	Infrastructure requires continuous feedback and supervision.	Build cleaning, reporting and maintenance participation mechanisms.

These implications show that beautiful countryside construction should not stop at visible improvement. Public spaces need repeated use, ecological facilities need maintenance, industrial spaces need local participation, cultural landscapes need interpretation and infrastructure needs daily supervision [16-19]. The purpose is not to propose a universal model for all villages, but to clarify how environmental attributes and residents' participation can be better connected under different regional conditions.

4. Conclusion

This paper presented a field data-based study of rural environmental attributes and residents' participation characteristics in beautiful countryside construction in Jiangsu Province. Based on cases from southern, central and northern Jiangsu, the study organized field materials, public construction information and participation records into a descriptive framework covering spatial environment, ecological environment, infrastructure, industrial space and cultural landscape, together with participation in village affairs, public activities, environmental maintenance, rural industries and cultural activities.

The results show that rural environmental attributes are not static construction outcomes. Their practical value depends on whether they are connected with residents' daily use and participation. Public space renewal was associated with communication and public activities; ecological river and green space improvement required maintenance participation; infrastructure improvement supported mobility, service use and supervision; industrial space provided opportunities for tourism service, product sales and homestay operation; and cultural landscape construction became meaningful when residents participated in storytelling, exhibitions, festivals and heritage-space use.

Regional differences were also observed. Southern Jiangsu showed stronger integration of tourism, culture and public space; central Jiangsu presented a closer connection between production, ecological improvement and community activity; northern Jiangsu placed more emphasis on infrastructure, sanitation and organized maintenance. The findings suggest that future rural construction should move from visible improvement to daily usability, from public space renewal to public participation, from industrial space construction to shared benefits and from cultural landscape display to community co-creation.

This study remains a field-based and descriptive analysis rather than a quantitative performance evaluation. Future research can further combine field coding with spatial measurement, resident surveys, facility-operation data and long-term maintenance records to test the strength of the observed relationships.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, author-ship, and/or publication of this article.

Data Sharing Agreement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable

request.

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References

[1] S.S. Tu and H.L. Long (2017) Rural restructuring in China: Theory, approaches and research prospect, Journal of Geographical Sciences, 27(10): 1169–1184.

[2] D. Pan, Y. Yu and K. Ji (2024) The impact of rural living environment improvement programs on the subjective well-being of rural residents in China, Humanities and Social Sciences Communications, 11: 546.

[3] Y.J. Liang, Q.Y. Shi and A. Fuller (2023) Research on the governance of rural living environments in China: A perspective of “System-Life” based on field research conducted in Village A, Xiangtan County, Hunan Province, Land, 12(12): 2182.

[4] J.R. Wang, S.X. Yang, S.W. Hu, Q. Li, C. Liu, Y. Gao, J.Y. Huang, C.W.K. Chow, F. Liu and X.Q. Zheng (2025) Evaluation of the effectiveness of high-level construction of rural living environment in China under the incentive policies, Sustainability, 17(1): 107.

[5] Y.G. Zhang and X.Y. Guo (2023) The dilemma and path of rural environmental governance in China: from the perspective of a community with a shared future, International Journal of Environmental Research and Public Health, 20(2): 1446.

[6] J. Wang, X. Ding, D.J. Li and S.P. Li (2022) The impact of organizational support, environmental health literacy on farmers’ willingness to participate in rural living environment improvement in China: exploratory analysis based on a PLS-SEM model, Agriculture, 12(11): 1798.

[7] D.D. Hao, Z.Y. Yan, Y.N. Wang and B.W. Wang (2023) Effect of village informal institutions and cadre-mass relationship for farmers’ participation in rural residential environment governance in China, International Journal of Environmental Research and Public Health, 20(1): 3.

[8] F. Meng, H. Chen, Z.N. Yu, W. Xiao and Y.Z. Tan (2022) What drives farmers to participate in rural environmental governance? Evidence from villages in Sandu Town, Eastern China, Sustainability, 14(6): 3394.

[9] S.R. Arnstein (1969) A ladder of citizen participation, Journal of the American Institute of Planners, 35(4): 216–224.

[10] M.S. Reed (2008) Stakeholder participation for environmental management: A literature review, Biological Conservation, 141(10): 2417–2431.

[11] J.L. Gao, J. Yang, C. Chen and W. Chen (2023) From “forsaken site” to “model village”: unraveling the multi-scalar process of rural revitalization in China, Habitat International, 133: 102766.

[12] P. Sun, D.Z. Ge, Z.Y. Yuan and Y.Q. Lu (2024) Rural revitalization mechanism based on spatial governance in China: a perspective on development rights, Habitat International, 147: 103068.

[13] L.Y. Wei, X.B. Lin, Y.Q. Lu and J.W. Sun (2024) Rural territorial types in urban and rural integrated areas taking Jiangsu Province in China as an example, Environment, Development and Sustainability, 26(7): 18903–18928.

[14] F.Y. Chen and C. Chen (2024) The evolutionary trajectory of the rural settlements in Southern Jiangsu in the past 20 years: From the perspective of urbanization and land use, Journal of Geographical Sciences, 34: 1615–1635.

[15] Q. Zhang and J. Wang (2023) Spatial differentiation and driving factors of traditional villages in Jiangsu Province, Sustainability, 15(14): 11448.

[16] J. Song, Y.Y. Zhu, X.Z. Chu and X. Yang (2024) Research on the vitality of public spaces in tourist villages through social network analysis: A case study of Mochou Village in Hubei, China, Land, 13(3): 359.

[17] Y. Xia, W. Wei, W.J. Chen, X.X. Wen, C.Y. Chen and C.X. Chen (2025) The impact of rural public spaces on place attachment in older adults, Journal of Environmental Psychology, 104: 102633.

[18] L.M. Lin, Y.D. Zhang, J. Li and Y.B. Lai (2025) How does villager participation influence the efficiency of improvements to the rural human settlement environment?, Journal of Resources and Ecology, 16(3): 702–714.

[19] J.H. Tong, Y. Li and Y.L. Yang (2024) System construction, tourism empowerment, and community participation: The sustainable way of rural tourism development, Sustainability, 16(1): 422.

[20] J.W. Wang, K.J. Liu, R.L. Yuan, X. Kuang and H.L. Qiu (2025) Impact of participation in rural digital governance on grassroots political trust among high-quality farmers—analysis using survey data from 899 high-quality farmers in Jiangxi Province, Frontiers in Sustainable Food Systems, 9: 1543354. doi: 10.3389/fsufs.2025.1543354.