

Research on Public Space Design in Old Communities under the Co-governance Concept

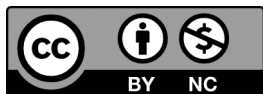
—A Case Study of Hongyuan Community in Jingzhou City

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Abstract: This study aims to explore how to effectively integrate the needs and opinions of residents into the design of community public service spaces, thereby achieving a higher level of resident participation and satisfaction. Through in-depth analysis of policy background, resident needs, and design practice, this paper hopes to provide other communities with referable experiences and methods, facilitating the promotion and implementation of the co-governance concept over a wider range.

Key words: Co-governance concept; Community public spaces; Optimization design strategies



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Research on the design and renovation of old communities under the co-governance concept holds multiple theoretical values and practical significances. By exploring the collaborative governance mechanism involving multiple actors such as the government, market, social organizations, and residents, this study provides a new paradigm for solving the governance dilemma of “government dominance, resident absence” in traditional renovations. The research also focuses on constructing long-term governance mechanisms post-renovation, proposing innovative pathways such as humanistic community care and smart community construction. This study provides empirical support for policy formulation, validating the “vertical penetration and horizontal integration” governance system in practice. The research not only promotes the improvement of the urban renewal theoretical system but also, by activating endogenous community dynamics and optimizing resource allocation efficiency, provides innovative ideas for solving “urban diseases” and achieving sustainable development, meeting the diverse living needs of community residents in the public spaces of their residential areas.

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1 Research on Co-governance Design Concept and Community Public Space Theory

1.1 Summary of Relevant Research Status

The concept of community originates from the early human instinct for settlement, initially derived from the Latin “*communitas*” meaning a community or intimate relationship. It essentially refers to a form of group life formed by humans based on blood ties, geographical proximity, or common goals, with its core being sharing, mutual assistance, and a sense of belonging. “Human places represent a series of environmental levels, from villages, towns, to dwellings or their interiors. All these places begin with the emergence of their boundaries (Norberg-Schulz C, 2010).” In agricultural societies, communities mostly existed in the form of natural villages, constructed relying on land and kinship relationships, emphasizing collective survival and inheritance. Spatial layouts often spontaneously formed around core elements such as water sources, ancestral halls, or marketplaces, exhibiting characteristics of organic growth. After the Industrial Revolution, the urbanization process broke traditional community structures. Population aggregation and class differentiation gave rise to explorations of modern community planning. For example, in the 19th century, Paris, France, attempted to control urban order by designing wide streets and public facilities, but systematic theory had not yet formed. It was not until the early 20th century that community design officially emerged as a tool to address industrial city problems. Perry’s concept of the “neighborhood unit,” centered around elementary schools to define residential areas and equipped with graded service facilities and internal roads, aimed to reshape social cohesion through physical space planning. At this stage, communities were seen as physically designable entities, emphasizing functional zoning, traffic efficiency, and self-sufficiency, yet ignoring social diversity and dynamic development. “The formal public organization of the city requires an informal public life to complement it, playing a mediating role between it and the private lives of urban people.” (Jacobs, 2006). After World War II, modernist planning was widely promoted. Based on Le Corbusier’s Radiant City blueprint, community design tended towards standardization and scale. High-rise residential complexes and superblocks attempted to solve housing shortages with technical rationality, but excessive functionalism led to monotonous spaces and social isolation. For example, the planning of Brasília, while aesthetically formal, lacked vitality, exposing the limitations of top-down design.

After the 1970s, humanism and environmental psychology rose, and community design paid more attention to the spirit of place and resident participation. For instance, Jan Gehl’s public space design promotes interaction. (Gehl, 2002) The New Urbanism movement attempted to return to traditional neighborhood models, reshaping the sense of community through walkability, mixed-use, and high density. Entering the 21st century, globalization and digitalization profoundly transformed community forms. Virtual communities, such as social media platforms, expanded the boundaries of community. Offline design emphasizes sustainability and resilience. For example, ecological communities integrate green technology and low-carbon transportation, and smart communities use data to optimize service efficiency. Simultaneously, the community concept increasingly emphasizes dynamic evolution and subjectivity. Participatory design has become a core method, with residents, governments, and designers collaborating to help communities adapt to new challenges like climate change and social equity. Throughout its development, community design and its concepts have shown a pattern shifting from physical space dominance to social relationship restructuring,

from static blueprints to dynamic processes, and from expert-led to multi-agent co-governance. Its characteristics have always revolved around the human pursuit of belonging and shared values(Fang Ke, 1998).

Community co-governance theory has undergone a transition from traditional government-led to multi-agent collaboration. In the early 20th century, based on the German sociologist Tönnies' "Gemeinschaft" theory, it emphasized the community as a living space for social interaction, formed through "blood, neighborhood, and friendship relationships," affirming that the core of the community concept lies in the necessary interpersonal relationships, rather than initially limiting the perspective to specific community facilities.

Table 1 Representative figures and works theory of community design

Scholar	Theoretical School	Work Title	Main Ideas
Jane Jacobs	Social Interaction & Humanism	The Death and Life of Great American Cities	Criticized modernist urban planning for destroying community vitality; proposed the "eyes on the street" concept.
Kevin Lynch	Environmental Psychology	The Image of the City	Proposed five elements of urban cognition (paths, edges, districts, nodes, landmarks); advocated that community design enhances spatial legibility and residents' sense of belonging.
Jan Gehl	Humanistic Urban Design	Life Between Buildings	Emphasized the design of humanized public spaces; proposed a layered theory of "social activities" and "necessary activities."
Louis Wirth	Sociological Theory	Urbanism as a Way of Life	First defined "community" as a social relationship network based on high population density, heterogeneity, and division of labor.
Roger Trancik	Urban Morphology	Finding Lost Space: Theories of Urban Design	Proposed figure-ground theory, linkage theory, and place theory; advocated integrating the relationship between building entities and open space.
Christian Norberg-Schulz	Phenomenology & Environmental Psychology	Genius Loci: Towards a Phenomenology of Architecture	Emphasized the "Genius Loci" of a place; advocated that community design respond to regional culture, natural environment, and historical context, transmitting collective memory through spatial symbols.

Domestic research on community renovation focuses on the localized reconstruction of the governance system, breaking through the traditional administrative-led model. The translation should reflect the intended meaning of a seamlessly connected network, horizontally linked governance network(Zhou Han,2025).

1.2 Overview of the Co-governance Design Concept

The co-governance concept, as a new social governance paradigm, focuses on breaking the linear management model traditionally dominated solely by the government, instead emphasizing the collaborative participation, shared responsibility, and benefit sharing of multiple actors. In the field of public affairs, co-governance refers to the process where stakeholders such as the government, market organizations, social organizations, and individual citizens participate together in decision-making, implementation, and supervision through institutional arrangements for equal consultation and cooperative interaction, to achieve the maximization of public interest and the optimization of resource allocation. "Formulating planning schemes based on common goals, introducing market and social subjects for negotiation and discussion through system construction, planning publicity, opinion solicitation, and scheme discussion, such as Party-building leading joint creation, coordinated land preparation for urban renewal, and other policy measures, all reflect this expression mode." In the context of community public space design, the application of the co-governance concept means that the design process is no longer just a one-way output by technical professionals, but transforms into a collective creative activity integrating resident needs, local knowledge, professional capabilities, and administrative resources. Its essence is to transform spatial renovation into a social practice process that consolidates community

consensus, cultivates social capital, and strengthens community identity by establishing effective participation mechanisms and collaboration platforms, ultimately achieving the simultaneous advancement of physical space renewal and social relationship restructuring.

The community co-governance design concept uses space as a medium to reconstruct the correlation structure between the state, society, and family. Its essence is to empower the environment to achieve the synergistic symbiosis of multiple actors in the physical field. Wu Xiaolin, in *Understanding Community Governance in China: The Linkage between State, Society, and Family*, proposed the “community complex” theory, which reveals the deep logic of this concept—it deconstructs the historical cognitive limitation of “imperial power not extending below the county level,” highlighting the spatial gene of “official-civilian shared domain” that has existed since ancient times in Chinese grassroots governance, emphasizing that modern communities need to activate the inherent governance mechanism of “the state creating society” through environmental design. Space here is not only a container for governance practice but also a medium that catalyzes the transformation of governance effectiveness: through the dissolution and reconstruction of spatial hierarchies, the vertical administrative system is transformed into a horizontal penetration network, enabling institutional forces to achieve non-coercive, flexible integration in the micro-living field; simultaneously, it carries the governance philosophy of “centralized collaboration” through material forms, constructing a radial connection structure with public space as the hub, ensuring deep interaction among multiple actors around the core value axis while avoiding the fragmentation risks of Western networked governance.(Mao Jianyuan,2023) Spatial design thus transcends the traditional positioning of a functional container, becoming a concrete translation carrier of the threefold production and distribution relationships—by visually organizing resource flow paths and spatially reorganizing service provision, it precipitates the dialectical relationship between the economic base and the superstructure into a perceptible material order. The deeper significance lies in the contemporary spatial translation of the Chinese civilization’s “family-country isomorphism” gene. Environmental design, through the topological weaving of cultural symbols, enables the traditional ethical chain of “self-cultivation, family regulation, state governance” to obtain spatial representation at the community scale, guiding individuals to form an ontological identification with the “correlative community” in daily practice(Zhao Nannan,2025). This innovation, using the material environment as a medium, essentially reconstructs the dialogue interface between the state’s will and family life through spatial grammar, transforming institutional advantages into a tangible mechanism for generating publicness, guiding the design and subsequent governance of community space towards benign multi-party promotion, and ultimately achieving the dialectical unity of governance rationality and humanistic value in the physical field.

1.3 Relevant Concepts of Community Space

As an important carrier of urban social life, the conceptual connotation and design practice of community space are always in dynamic evolution. From a sociological perspective, community space is the material projection of social relationship networks and collective memories formed by residents based on geographical boundaries. It includes both the physical form of the living environment and the non-material dimensions of cultural identity and emotional connection. Its core characteristics are a multi-functional composite nature, spatial justice (fair accessibility of resource distribution), cultural locality, and ecological sustainability. “Urban renewal involves multiple stakeholders, each with different interest demands. The relocated groups hope to obtain higher compensation from the government or developers; the city government hopes to improve the environment and public facilities in the area, enhance urban functions, and

obtain certain economic benefits; while developers hope to reduce compensation costs, increase development intensity, and obtain the highest possible commercial profits.” The development history of community space design can be traced back to the acceleration of urbanization after the Industrial Revolution in the late 19th century, experiencing a paradigm shift from functionalist orientation to humanistic care. In the early modernist period, influenced by the Chicago School’s neighborhood unit theory, community space focused on functional zoning, emphasizing residential efficiency and infrastructure support, such as the neighborhood unit model centered on elementary schools proposed by Perry. However, excessive mechanical functional division led to the fragmentation of social relationships. After the 1970s, the New Urbanism movement emerged, criticizing modernism’s neglect of the human scale, advocating TOD models and mixed land use, and reconstructing community vitality through street life revival and walkability-friendly design(Qin Xiaobo,2025).The community space design is undergoing a digital transformation of virtual-real integration. Virtual reality technology assists spatial simulation, and TOD platforms enhance management efficiency. Simultaneously, it faces new challenges such as the privatization of public space in high-density cities and the exacerbation of the digital divide, requiring a balance between technological empowerment and social equity.

2 Conceptual Application of Co-governance Design Concept in Community Projects

The deep integration of the co-governance design concept and community space renovation is reflected in the innovation of a spatial governance model guided by resident needs and involving collaborative participation of multiple actors. This concept reconstructs the logic of spatial production, combining physical space renewal with social relationship reshaping, forming a community renewal path with Chinese characteristics. Its core connection lies in breaking the traditional single model dominated by the government, establishing a full-cycle participation chain of “demand identification - scheme co-creation - co-construction implementation - long-term operation and maintenance,” emphasizing the functional regeneration of community public space as a medium for social relationships(Hou Na,2025). During the renovation process, the co-governance mechanism builds an institutional guarantee system through the division of responsibilities, rule formulation, and supervision evaluation, using digital tools to optimize the decision-making process, forming closed-loop management from problem diagnosis to effect feedback. Its value orientation focuses on cultivating community trust networks and cultural identity, achieving fair allocation of spatial resources by activating endogenous resident dynamics, and establishing a dynamic balance between ecological restoration, cultural inheritance, and governance efficiency improvement. “The reason for emphasizing the importance of the people lies, on the one hand, in spatial decay, such as backward infrastructure seriously affecting residents’ quality of life; on the other hand, urban planning, urban architecture, or public facilities are often the result of professional design by planners, leading to a lack of resident participation, which brings the planning concept of belonging to the people and for the people to the fore.” The community constructs a “co-governance research” framework, transforming the one-dimensional professional perspective in traditional environmental art design into a collaborative cognitive production process involving multiple actors. Its core breakthrough lies in redefining the logical chain of research subjects, methods, and result transformation.

In the dimension of research subjects, it breaks through the traditional designer-led model and establishes a tripartite collaborative mechanism. By reconstructing the power relationship in environmental art research, residents

are transformed from information providers into knowledge producers. Its innovative value lies in: establishing a full-process participation framework of “emotional mapping-cultural translation-collaborative design,” making environmental become materialized carriers of community collective memory; and through the feedback mechanism of design results, continuously improving community governance effectiveness.

The spatial dilemmas of Hongyuan Community are mainly reflected in two aspects: commercial encroachment and functional fragmentation. The disorderly expansion of street shops forms a “nibbling” encroachment, where business facilities like shelves and tables gradually engulf pedestrian pathways, causing the fragmentation of public passage space. This encroachment has a clear contagious characteristic; when the first shop crosses the building line without being stopped, adjacent shops fall into a competitive cycle of passive expansion, ultimately leading to the loss of publicness of the entire street. The central area presents a “centrifugal” state, where fitness equipment, rest facilities, and other elements are scattered, lacking spatial sequence organization, unable to form a visual focus or support collective activities. The boundary treatments, are too rigid, severing the organic connection with the surrounding environment. A deeper issue lies in the cognitive dislocation of spatial ownership. Merchants tacitly regard the public area in front of their shops as ancillary business space, while residents view the central area as welfare facilities provided by the government. Both lack the subjective awareness of “joint creation.” This cognitive bias causes spatial renewal to fall into a cycle of “rectification-rebound.” Mere physical environment renovation is difficult to sustain. There is also an intergenerational fragmentation in spatial function configuration. The morning exercise needs of the elderly group overlap with the delivery times of merchants, and children’s activity areas intertwine with temporary parcel storage points. The spatiotemporal needs of different user groups lack a coordinated mechanism. Conduct participatory surveys targeting the current site conditions, using participant observation to record residents’ daily behavior trajectories and spatial usage preferences, guiding residents to spontaneously form communication spaces, providing prototype references for subsequent design, see Figure 1.



Figure 1 The central square of the Hongyuan Community

3 Similar Project Examples

3.1 Application of Design Concepts in Similar Projects

The design of the sunning ground and public space in Jincheng Community, Sichuan, takes “Under the Same Eaves” as its core concept, reconstructing rural public space through deep resident participation, transforming traditional farming scenes into practical carriers of co-construction, co-governance, and sharing. Residents are not only users of the space but also participants in design decisions, inheritors of cultural memory, and supervisors of governance effectiveness, forming a full-chain participation model of “demand co-consultation - design co-creation - outcome co-maintenance.”

The sunning ground breaks through the traditional single drying function. It adopts a zigzag layout conforming to the mountain contour, uses permeable concrete to simulate the texture of rice grains, forming a “frozen harvest” scene that combines practicality and symbolism. Dark red lines on the ground divide block and fan-shaped areas, and the undulating “grain pile” terrain strengthens visual memory, making the sunning activity a ritualistic space continuing farming culture. It forms a dialogue between old and new materials. Photovoltaic skylights are added to the barn roof to achieve intelligent grain drying, reflecting ecological technology application, see Figure 2.



Figure 2 The drying ground of Jincheng Community in Sichuan province

3.2 Public Space Design Strategies for Old Communities Based on the Co-governance Concept

“The neighborhood block is the community’s vitality center, the engine for community development, and the center for public interaction.” Design needs to construct a clear, efficient, and vibrant community public space system, rather than the renovation of isolated points.

(1) Construct a networked spatial system: Connect scattered green spaces between houses, street squares, courtyard spaces, and linear street spaces through safe pedestrian paths, forming a hierarchical, interconnected public space network. Clearly define the functional positioning and service radius of different levels of spaces (such as community central squares, cluster green spaces, pocket parks) to achieve optimized resource allocation(Liu Yuelai,2022).

(2) Promote functional mixing and boundary activation: Abandon purified functional zoning, encourage the adjacent layout and functional overlay of public spaces and community service facilities (such as community centers, convenience stores, cafes, libraries). Pay special attention to activating the ground-floor interface of buildings. By setting up arcades, outdoor seating, display windows, etc., enable the mutual penetration of indoor and outdoor activities, forming a vibrant “street life.”

(3) Implement catalytic micro-renewal: Select spatial nodes that are key in location, have prominent current problems, and strong resident willingness for renovation as priority “catalysts” for renovation. Through small but refined interventions, achieve quick results, set examples, accumulate community confidence and consensus, and then gradually drive the incremental renewal of the entire community space.

(4) Co-governance guided participatory planning: Layout decisions should not be merely the designer’s drafting work. Use tools such as participatory mapping and spatial workshops to allow residents to jointly mark problem points, propose activity needs, and conceive spatial functional layouts, so that the final layout plan truly originates from the community’s collective life wisdom and vision.

4 Conclusion

Community design under the co-governance concept still needs to address challenges such as spatial privatization in high-density cities and intergenerational segregation. The renewal of public spaces in old communities is a continuously developing field that requires the joint efforts of theoretical researchers, practitioners, community organizations, and residents, constantly exploring innovations to create more livable, inclusive, and sustainable community environments. This study hopes to provide some useful thoughts and practical references for this. Future research could further explore digital transformation paths of virtual-real integration, as well as the balancing role of interdisciplinary collaboration in ecological sustainability and social equity.

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