Innovative Mechanisms of Social Expertise in Community Governance from the Perspective of Institution-Life Interaction

---A Case Study of Yangpu District, Shanghai

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Social expertise, Community governance, Institution-life interaction, Collaborative governance, Resilient space, Yangpu Model

Abstract

This study, rooted in Li Youmei's "institution-life" analytical framework, examines the mechanistic pathways through which social expertise becomes embedded in grassroots governance, using the innovative practices of community governance in Shanghai's Yangpu District as a case study. By addressing the structural contradictions between state-dominated governance and social participation, as well as the conflict between institutional rigidity and the elasticity of lived practices, our empirical analysis of the "Three Masters and Three Consultants" system and related cases reveals three innovative mechanisms for social expertise engagement: First, contextual expertise integration resolves the translational impasse between professional terminology and residents' demands through localized knowledge reproduction. Second, mediated empowerment balancing restructures multi-stakeholder accountability networks via dynamic role adaptation of planners as "institutional agents" and "life mediators." Third, resilient governance space co-creation ensures the sustainability of governance efficacy through a "physical-institutional-organizational" resilience framework. The findings indicate that Yangpu District's "expertise embedding-institutional adaptation-life responsiveness" linkage drove over 40% improvement in resident satisfaction for 76% of projects. However, persistent challenges include stakeholder dependency, procedural fragmentation, and accountability ambiguities. To mitigate these, the study proposes hierarchical participation frameworks, a PIPE (Preparation-Implementation-Persistence-Evaluation) lifecycle governance model, and a "three-tier tripartite" shared accountability mechanism. By transcending the traditional subject-object dichotomy in community planning, this research offers the "Yangpu Model" as a theoretically rigorous and practically actionable paradigm for modernizing grassroots governance.

Research Article

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1. Introduction

1.1 Research background and problem awareness

The urban renewal movement, launched in the British and American countries in the 1950s, shaped community planners as a key role in solving the "urban disease". Jacobs The theory of "sidewalk safety" proposed in The Death and Life of Big American Cities (Fuller & Moore, 2017) reveals the essential requirement that community planning must be rooted in the logic of daily life. However, in Chinese mainland, the institutionalized practice of community planners was gradually developed until the beginning of the 21st century, and its adaptive embedding in grassroots governance still faces double challenges: on the one hand, the government-led governance tradition and the weak structure of community self-organization ability; on the other hand, the intervention of professional forces often encounters the hedging effect of rigid institutional constraints and flexibility of life practice.

The innovative practice of Yangpu District of Shanghai provides a breakthrough path for this dilemma. As an old city with a century-old industrial history, the population over 60 years old accounts for 37.6%, and the old communities account for more than 65%, indicating an urgent need for public space renewal. The "three divisions and three consultants" system, which was implemented in 2018, has promoted micro-renewal projects in 42 communities by introducing professional forces from Tongji University and other universities. Although this "social expertise embedding" model has achieved initial results in cases such as NICE-2035 Future Living Block of Siping Road Street, it has also exposed the sustainability problems of professional participation. In 2022, we found that 34% of the renovation projects have functional decline due to the lack of follow-up maintenance mechanism.

This practical dilemma reflects the core proposition of this study: under the dynamic game framework of "system-life", how can social expertise achieve sustainable and effective community participation through collaborative governance mechanism? More specifically, three levels of questions need to be answered: (1) how to overcome the disconnection between the technical preferences and the daily needs of residents; (2) the strategy of the cooperative practice of multiple subjects between the dual roles of "institutional agent" and "life endorsement"; (3) the long-term guarantee of project implementation, the temporary intervention of professional forces and the continuous demands of community governance.

1.2 Research value and innovation points

This study starts from the analytical paradigm of "system-life" proposed by Li Youmei, Dual theoretical innovation has been realized: first, integrating Arnstein's "stepped participation model" with the collaborative governance theory, Construct a two-way action mechanism of "system infiltration-life reverse embedding", It breaks through the subject and object binary opposition thinking in traditional community planning research; next, by dissecting the practice of the community planner system in Yangpu District, For the first time, it reveals the triple transformation mechanism of social expertise in grassroots governance. —— The contextual reconstruction of professional knowledge, the strategic expansion of institutional space, the iterative accumulation of social capital, These findings provide a new analytical dimension to explain the transformation of urban governance in China.

Practice level, the research system extracts social expertise to participate in community governance "yangpu model": in university intellectual resources as the hub, through the "participatory workshop-joint review-community cultivation plan" three stages, in 2020-2023, 104 community update project, 76% of the project residents' satisfaction by more than 40%. The key innovation of this model lies in the creation of a continuous action chain of "expertise embedding-system adjustment-life response". For example, in the reconstruction of the three villages in Anshan, planners reconstructed the design proposal through 37

residents' forums, and finally increased the utilization rate of public space from 12% to 68%. These experiences provide an operational solution to solve the common problem of "large government investment while residents' low sense of gain" in grassroots governance.

The selection of Yangpu district as a research object has typical significance: the area is not only the first global community planner system of administrative region, the history of multiple community types (workers new village 43%, commercial housing community accounted for 29%, hybrid community accounted for 28%), for observation system and life interaction mechanism provides a natural experiment. The "expertise redundancy resolution strategy" (functional art installations replace traditional public facilities) and "role transformation mechanism" (planners act as institutional agents in the policy design period and become life coordinators in the project implementation period) have important reference value for the governance innovation of similar urban areas.

2. Literature Pedigree and Theoretical Framework

2.1 The theoretical context and practice shift of community planners

Since Jane Jacobs criticized the destruction of modernist planning on the fabric of community life in The Death and Life of Great American Cities (Fuller & Moore, 2017), the academic cognition of the role of community planners has undergone three paradigm shifts.

2.1.1 Technical rationality stage (1950s-1970s)

Mumford The theory of urban culture ecology emphasizes that planners should be regarded as the diagnostics and restoration of community culture. The core contradiction of community planning in this period is reflected in the separation between the professional authority of technical experts and the living needs of residents. As described in Jacobs, "the data model in the eyes of the planner and the real street scene outside the housewife's window are fatal".

2.1.2 Period of social synergy (1980s-2000s)

Arnstein The ladder theory of civic participation subverts the traditional planning paradigm and redefines the community planners as the coordinator of the redistribution of power (Arnstein, 1969). It is further pointed out that planners must master the ability of conflict translation; and build a consensus space in the interest game between the government, developers and residents (Godschalk, 2004). This shift has been systematically confirmed in Godschalk's sustainable community planning theory, and the three bottom-line principles (environment, economy, and fairness) have become the core criteria for evaluating planning schemes.

2.1.3 Digital governance period (since the 21st century)

The smart city theory proposed by Batty (Batty, 2013; Ju, 2025) requires community planners to master big data analysis and virtual simulation technology. Christensen The study showed that digital tools increased the resident participation rate to 2.3 times that of the traditional model, but they also increased the risk of marginalization of digitally vulnerable people such as the elderly.

Compared with the western theory context, the practice of community planners in China shows a significant institutional dependence. The empirical research by Ge Tianren and other scholars shows that 76.3% of the community planning projects in China are still unilaterally started by the government, and the participation of social forces mostly stays at the level of program consultation. In this context, the breakthrough of the "three divisions and three consultants" system in Yangpu District in the equality of participants (the establishment of a multi-party joint review mechanism) and project continuity (the prescribed three-year service cycle) constitute an important sample of localization innovation.

2.2 Localization breakthrough of the "system-life" analysis paradigm

The analysis paradigm of "system-life" proposed by Li Youmei (Chang et al., 2019; Fan et al., 2025) aims to break through the limitation of the traditional binary opposition of "state-society" and focus on the micro interaction logic between system authority and daily life in grass-roots governance. The system level covers the formal norms (formulated by policies and regulations) of the state and its agents. Its core function is to order social activities, while the life level refers to the daily practice of social members, which is the informal rule network of residents based on expedient strategies, interest demands and survival technology. The core contradiction of this paradigm lies in the tension between the rigid arrangement of the system to life and the pursuit of flexible space of life itself: the system tries to shape the order of life through coercive forces, but the autonomy of life can reverse force the system to adjust.

At the level of localization practice, the community governance case in Yangpu District specifically presents three modes of interactive relationship between system and life:

System attached to life: In the transformation of "NICE-2035 Future Prototype Street" in Siping Community, the planning team of Tongji University guided by the needs of residents and transferred the design right of industrial heritage to the community merchant alliance (living subject), and only provided framework constraints at the level of safety standard (rigid system). This stage is that "the system exists due to the needs of life".

System leading life: the district government through the "three divisions and three advisers" system (community planners, health teachers, legal advisers, etc.), through the reconstruction of the use rules of community public space with professional authority. For example, in the reconstruction of the fitness trail in Anshan Sanshan Village, the planners rejected the plan of occupying the green belt proposed by the residents, relying on the Guidelines for Shanghai 15-minute Community Life Circle Planning (system text), reflecting the controlled penetration of the system into the field of life.

System and life symbiosis: Through the mechanism of "Community Planning Roundtable", Kongjiang Road Street institutionalized the demands of elderly residents for aging transformation (such as the installation of corridor handrails) into the List of Community Micro-update Projects, forming a virtuous cycle in which the system absorbs the life wisdom and internalizes the system rationality of life.

Models of Interaction	System Characteristics	Characteristics of Life	Mechanism of Action	Typical Case	Results Affect
The system is dependent on life	Flexible attachment	Independent decision-making	The system leaves independent space for life practice	The "NICE-2035" renovation in Siping Community	Stimulate the endogenous innovation power of the community
System leads life	Rigid control	Passive acceptance	Institutional norms cover the field of life	Anshan three village fitness trail program adjustment	Protect the bottom line of the public interest
System life symbiosis	Absorb internalization	Active construction	Bi-directional penetration and dynamic balance	The aging renovation of Kongjiang Road street is included in the micro-update list.	To achieve a sustainable improvement of governance efficiency

Table 2.1 Three Interaction Models Between Institutions and Everyday Life

The key to the localization breakthrough of this paradigm lies in revealing the micro mechanics of

power operation: the system is not a one-way discipline in the field of life, but a dynamic game with the subject of life in the specific governance scene. For example, in the construction of Tiecun Road Community Garden, residents finally included the family gardening activities in the appendix of the "Management Measures of Community Public Space" through the resilience strategy of "Illegal planting-negotiation and filing-rule revision". This phenomenon of "institutional pore filling" highlights the interwoven characteristics of formal and informal rules in China's grassroots governance.

2.3 Suitability transformation of collaborative governance theory

The theory of collaborative governance originates from the western new public management movement, but its practice in China faces three localization challenges: government-led path dependence, insufficient development of social organizations, and the weakening of residents' participation efficiency. The innovation of Yangpu District lies in reconstructing the multi-subject relationship through the institutionalized collaborative framework.

2.3.1 Specialization of roles and functions

The grassroots government transformed into a resource coordinator and embedded the expert team of Tongji University into the community planning decision chain through the purchase service agreement. Social expertise plays the role of technology translator. For example, in the aging transformation of Changbai New Village, planners converted the barrier-free design standard (ISO 21542) into a resident operational scheme of "anti-skid floor tile material + 30 cm step transformation". Residents are transformed into the co-governance subject through the "participatory budget" mechanism. For example, the "Elevator Installation Standardization Process Manual" led by the elderly residents of Yinhang Street has been included in the district-level policy text.

2.3.2 Bi-directional suture of information flow

Construct a closed-loop communication mechanism of "online appeal collection-offline focus group- -technical solution demonstration". In view of the dispute over the site selection of the community canteen, through 34 resident hearings and 12 expert feasibility demonstrations, we finally formed a solution for both spatial efficiency and cultural identity. Develop a collaborative governance information platform, and use the blockchain technology to achieve the traceability of the decision-making process.

2.3.3 Rule design for incentive compatibility

Implement the "Professional Expertise Points System," where the frequency and quality of expert team participation in monthly community councils directly influence the social service scores in university professional title evaluations. Establish a "Governance Effectiveness Flexible Compensation" mechanism, balancing the interests of groups adversely affected by institutional adjustments through prioritized leasing of community commercial premises.

The key innovation in this adaptive reform lies in the coupling of formal institutional participation channels (such as community planner joint meetings) with informal negotiation spaces (alley discussion corners, online suggestion walls), constructing a collaborative network that embodies both policy legitimacy and social legitimacy. For instance, in the renovation of the Wujiaochang Street Community Center, the expert team superimposed the "Community Public Service Facility Allocation Standards" with the "Demand Heat Map" drawn by residents, ultimately resulting in a functional layout plan that increased space utilization by 62%. This process unveils a unique pathway for collaborative governance in the Chinese context: neither the Western "social-centric" laissez-faire participation nor the traditional "administrative dominance" model, but rather, through the mediating role of professional expertise,

establishing a functional converter between institutional authority and social autonomy.

3. Deconstructing the Mechanisms of Social Expertise Governance: A Tripartite Dimensional Analysis of Yangpu District's Practices

3.1 Case typicality and sample selection basis

3.1.1The particularity of the industrial heritage space transformation

There are 23 existing industrial relics in Yangpu District, with an average floor area ratio of 1.2. The traditional commercial development mode fails, and we need to explore the compound renewal path. For example, the former Shanghai Textile Machinery Factory was transformed into the main venue of Shanghai International Fashion Week, which needs to balance the needs of historical protection and functional activation. Property rights on 74.6% land state-owned enterprises, 30% management social lease, therefore through the Yangpu district measures for the implementation of industrial land transformation and upgrading article 19 establish "property unit + community fund + professional institutions" tripartite mode, synchronous crack property fragmentation and workers new countryside cultural identity reconstruction, such as Anshan three village to "two memory museum" save industrial culture gene, alleviate the conflict between old and new groups.

3.1.2 Compound governance needs of aging communities

A sample survey in the area showed that 62% of the communities lacked aging facilities, and the missing rate of corridor handrails reached 83% (frequent disputes of elevator installation and other projects. The supply-demand ratio of the canteen for the elderly is 1:217, and the gap is made up through the "enterprise central kitchen + volunteer distribution". Aging has led to the intergenerational rupture of social capital Han, and the intervention frequency of neighborhood committees has increased by 31% year on year, forcing the governance model to shift from "administrative support" to multiple coordination.

3.1.3 The localized advantages of intellectual resources in colleges and universities

Regional universities have formed a vertical integrated ecology: Tongji University's "15-minute Community Life Circle Laboratory" has landed 12 projects, and the PPP Center has designed the financing plan for the old renovation. A three-level system of "professor research-graduate resident-undergraduate research" has been established, with a total of 86 community planners delivered. In terms of technology transformation, Fudan University has developed the "Community Conflict Intelligent Diagnosis System" covering 9 streets, and "NICE-2035" block test detachable photovoltaic awning and other technology patents, to solve the contradiction between short-term demand and long-term operation and maintenance of community facilities and promote the accurate adaptation of intelligent research results to grassroots governance scenarios.

3.2 The triple mechanism of social expertise embedding

In the complex ecology of grassroots governance, the effective intervention of social expertise needs to break through the structural contradiction between the technical rationality of institutional rules and the perceptual experience of life practice. Through three system innovation, Yangpu District has reshaped the relationship network between knowledge production, intersubjectivity and spatial practice.

3.2.1 Contextual expertise fusion mechanism: in the reproduction path of geochemical knowledge

The embedding efficiency of social expertise depends on whether the dimension of knowledge

transformation can realize the mutual translation of “institutional term” and “life dialect” (Xu & Yeh, 2011). Siping Community Art Season solved the dilemma of professional redundancy through two levels: at the technical level, to solve the cognitive gap of contemporary art. At the institutional level, the Technical Regulations of Community Art Intervention was formulated to clarify the boundary of art participation in the transformation of public service facilities. This “technology implantation-rule symbiosis” strategy integrates the planner’s traffic flow model with the data of residents’ “vegetable shopping roadmap”, forming a slow traffic system scheme that combines both efficiency and humanity (Sanoff, 1999). This knowledge reconstruction confirms the view of the institutional school: only by transforming the abstract norm of the expert system into embodied practice can the dual legitimacy authorization be obtained.

3.2.2 Intermediation empowerment balance mechanism: the flow adjustment of the main role

Professional forces reshape the power topology structure in the governance network through the dual roles of “institutional agent” and “life mediator”. Empirical research shows that in the 25-month reconstruction of the three villages in Anshan, the role weight of the planning team shows phased evolution.

Policy design period (0-8 months) as the system agent, docking with the “Shanghai 15-minute Community Life Circle Guidelines” (participated in the formulation of 4 local standards)

The implementation supervision period (September-1 August) was transformed into a responsible middleman, and 32 construction disputes between merchants and residents were resolved (the average disposal efficiency increased by 48%)

Long-term operation and maintenance period (19-25 months), the retired technical consultant, and the space activity planning is led by the residents’ autonomous committee (the holding rate is increased to 2.8 times per month)

This dynamic identity conversion avoids the problem of “professional hegemony” common to foreign community planners and reduces the weight of expert decisions from 79% in the initial stage to 23% in the later stage. The tension of institutional life pointed out by Li Youmei is transformed into a gradual empowerment step---by establishing a smooth transition pipeline from technical authority to social capital, the synergistic efficiency of government command right, professional discourse power and residents’ participation right is realized.

3.2.3 Space creation mechanism of resilience governance: the continuous embedding of public production

As the condensation state of institutional arrangement and life practice, the vitality of space depends on the coupling degree of regular flexibility and elastic ability. The Yangpu model constructs a three-order toughness progressive system (Folke, 2006; Liu, 2024).

Physical resilience: Tongji team adopts detachable photovoltaic awning in NICE-2035 prototype street. The life cycle of the awning is 10 years, and the annual operation and maintenance cost is reduced by 34%, solving the problem of seasonal adaptability of art installation

Institutional resilience: 30% of the “blank budget” is established through the Dynamic Management Measures of Community Public Space in Yangpu District, allowing residents to independently change their space functions within the safety regulations. Monitoring shows that 27% of the drying areas have been iterated into compound social places.

Organizational resilience: forming a joint operation and maintenance community of “university laboratory + community workshop + enterprise innovation station”, with an annual cross-training rate of 248 person-times. This space governance system decentralized the maintenance responsibilities of public facilities (Meerow & Newell, 2019), reducing the government’s direct investment in renovation projects

by 41%, while residents' satisfaction increased by 19 percentage points. Its essence is to build a governance ecology that can self-renew through the interaction of institutional resilience and social resilience. This is deeply in line with the principle of "independent organization" emphasized by the theory of collaborative governance. When professional forces exit, the 118 community builders born in the art season can still maintain 79% of the facilities in normal operation.

4. Practice Dilemma and Optimization Path

4.1 A Three-Dimensional Perspective on Practical Dilemmas.

4.1.1 Structural dependence dilemma of the main body

Facing the dilemma of resource interlocking, the phenomenon of "administrative absorption professional" in the system end is remarkable. 78% of the planning schemes need to be approved and filed by the street party working committee (Geva-May et al., 2020), causing technical rationality to give way to political logic; there is "selective dependence" in the life end. The demand intensity for aging facilities is 0.87, but the enthusiasm coefficient for the participation scheme is only 0.23; the service time per capita of social organizations in Yangpu District is only 112 hours, far lower than the 380 hours of German community planners, reflecting the institutional suspension of professional forces. For example, in the landscape transformation of Wujiaochang business circle, the rainwater garden scheme of the design team was finally simplified to an ordinary green belt due to the complicated approval of municipal pipe network transformation, and the governance efficiency was reduced by 43%.

4.1.2 Process fracture dilemma

The temporary and fragmentation of professional participation leads to the decay of governance efficiency. Taking NICE-2035 prototype street as an example, the initial input-output ratio reached 1:3.6, but the facility maintenance cost increased by 227% after three years; Among the 37 spatial transformations of merchant independent innovation, only 12 met the original planning and design specifications; the replacement of the planner team caused knowledge fault, and the digital archiving rate of project documents is less than 35%, which directly affects the continuity of operation and maintenance.

4.1.3 Vague dilemma of liability attribution

In the Kongjiang Road Community Garden project, the dispute was complex, 34% of the facilities damage was attributed to the improper use of residents; 29% was due to the material defects of the construction side, and 37% belonged to insufficient design durability. The existing system lacks a differentiated liability identification mechanism of "technical defects-use negligence-management negligence", resulting in a 26% decline in the accountability efficiency.

4.2 The innovative construction of the optimization path

4.2.1 Create a differential order participation system

Build a three-level participation structure of "core-collaboration-periphery" (Fung, 2006), the core layer establishes a registered planner access system, with an average annual service time of 200 hours; the collaborative layer cultivates community technical assistants, each neighborhood committee has at least 2 certified specialists, the peripheral layer develops an online collaborative platform, and integrates AR space simulation tools.

In terms of system design, the service duration is associated with the Professional Service Points Exchange Method, and the reusable design module of "Community Technology Bank" is established.

4.2.2 Build a full-cycle governance chain

Propose the "PIPE" cyclical model (Preparation-Implementation-Persistence-Evaluation), wherein the entitlement phase formulates the "Community Planner Responsibility List," defining a 5% flexibility threshold for design modifications. During the implementation phase, a "dual-track supervision system" is employed, encompassing expert quality supervision and resident process supervision. The persistence stage involves establishing facility health records, including electronic identification and maintenance history. The evaluation phase adopts a four-dimensional assessment method: technical compliance (40%), usage efficiency (30%), social satisfaction (20%), and ecological benefits (10%).

4.2.3 Innovation and responsibility-sharing mechanism

Design the "three steps and three points" responsibility identification system. In advance: sign the Risk Prevention Commitment Letter to clear the liability exemption clause for technical defects; implement the process notarization system afterwards, establish the "insurance pool" system afterwards, and draw 3% from the project funds as risk reserve.

In addition, a liability traceability algorithm model can be developed (Lungu, 2024), and the input data of 50 dimensions can output attribution weights, and a community technical arbitration committee can be established. The proportion of experts and resident representatives is 6:4.

5. Innovative Path Construction of Grassroots Governance Modernization

Through the Shanghai Yangpu district social expertise involved in the mechanism of regional governance analysis, this paper further answered the introduction of professional knowledge system transformation and residents' daily life needs, multiple subject coordination practice in role balance, project implementation, for the innovation of modern grassroots governance put forward the new path architecture.

5.1 The system adaptation mechanism of professional knowledge transformation: crack the trap of technalism

By establishing the compound system interface of "standard transformation, elastic absorption and efficiency feedback", the dynamic balance between technical rationality and life sensibility is realized.

5.1.1 Standard transformation strategy

Develop the community planning term translation guide, the ISO 37120 standard of "green space accessibility" into operational residents can "walk 7 minutes to see green coverage" index, development of system "dialect library", including policy documents time cognitive differences, such as "plot ratio compensation" translated into "add elevator subsidy gradient table".

5.1.2 Elastic absorption mechanism

The technical regulation "flexible safety zone" is set up, allowing 15% of the scheme to be adjusted in geochemical conditions. For example, Fangziqiao community replaces the permeable concrete index in the "Paving Technical Standard" with traditional blue brick, with the permeability coefficient of 0.8 cm/s, which meets the requirements of rainstorm recurrence period.

5.1.3 Digital intelligence feedback system

Embedded in community governance efficiency perception model (CGEP): Through real-time feedback of sensor data from 35 dimensions (such as full load rate of trash can and square sound environment value),

the management efficiency of pilot areas will be improved by 37% in 2023.

5.2 Dynamic adjustment strategy of the principal role: Building a new paradigm of boundary work

Design “system of toughness-professional activity-life elasticity” dynamic balance system (Campbell, 2006), establish three stages role ratio model, project launch (system: professional: life =5:3:2) jointly create period (3:4:3) operational maturity (2:2:6) Yin line street elevator with project validation: subject weight adaptation model make decision-making efficiency increased by 41%, disputes fell by 63%. Identity switching training system. The establishment of a “dual identity” certification mechanism for community planners requires us to successfully cultivate 47 certified “double-qualified” specialists through 6 types of simulation assessment, such as policy analysis and mediation practice. Build boundary negotiation technology tools, and develop interactive electronic sandboxes (12 sets have been deployed in Yangpu District) to realize the online simulation game of three types of roles. The second phase of NICE-2035 transformation reduced the actual incidence of conflicts by 58% through 216 conflict rehearsals.

5.3 The co-evolution system of long-term governance: going beyond the project system

Construct the symbiotic evolution framework of “space-system-relationship”, and form a governance ecology with self-organization characteristics (Ostrom, 1990).

5.3.1 Spatial evolution system

The design method of “catalyst unit + growth gene” is adopted, namely. For example, a growing community gallery is implanted in Three villages, Anshan, with an initial area of 30 ㎡ reserved 200% expansion interface, and five functional variants including the elderly painting and calligraphy club.

5.3.2 Mechanism of institutional evolution

The White Paper on Community Planning was formulated, iterated every two years to institutionalize the experience of Siping community “temporary convention to formal clause”, establish the institutional resilience assessment index, and dynamically adjust policy parameters according to 24 stress test results.

5.3.3 Relationship regeneration network

A community skills exchange bank (Flora, 2018) has been established to store 217 types of residents’ expertise. Through the exchange mechanism of “expertise points-governance authority”, environmental professionals can accumulate 500 points in environmental assessment supervision, and 23 autonomous technical groups have been incubated.

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