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Zone-Based Clustered Rural Development: Functional Value, Collaborative Mechanisms, and Practice Typologies

Zeyuan Ying¹

¹ Zhejiang Normal University, Jinhua, Zhejiang, China

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Abstract

Zone-based clustered rural development represents an important practical exploration in advancing rural revitalization. Compared with single-village development, zone-based clustered rural development demonstrates functional extensions in resource coordination, benefit sharing, and public service provision. At the mechanism level, zone-based clustered rural development operates through three interconnected mechanisms: resource reorganization, benefit coordination, and scalar governance. At the typological level, this study distills the eight models in Zhejiang into three practice pathways—organizational intermediary construction, industrial network collaboration and spatial platform activation—each corresponding to distinct resource endowments and local conditions.

Keywords

zone-based clustered rural development, cross-village collaboration, collaborative governance

1. Introduction

1.1 Problem Statement

The individual village has long served as the fundamental unit for organizing village-level public affairs and implementing development projects. Defining development boundaries at the village level for infrastructure improvement, public service provision, and industrial cultivation offers advantages such as clearly identified responsible entities and ease of villager participation. However, as rural development increasingly involves brand building, cultural-tourism operations, and other complex activities, individual villages face certain scale constraints. First, land, vacant rural dwellings, ecological resources, and cultural assets are often dispersed across adjacent village territories, making it difficult for a single village to form a contiguous spatial configuration. From the perspective of a single administrative village's supply capacity, factors such as area and output are inherently limited; operating in isolation makes it difficult to fully highlight distinctive features, and in the face of intense

market competition, the capacity to provide high-quality products across the full value chain and to construct a complete industrial chain encompassing dining, accommodation, recreation, sightseeing, shopping, and entertainment remains weak (Cheng & Yu, 2025). Second, many industrial activities require stable value chains that the resources of a single village can hardly sustain independently. Third, redundant construction and homogenized operations may increase costs and weaken regional distinctiveness. Rural development is no longer merely a question of what each village does individually, but also of how multiple villages establish stable cooperation around shared agendas.

The zone-based development model emphasizes that, in the practice of advancing rural revitalization and shared prosperity, rural areas should gradually move beyond reliance on individual villages “going it alone.” Exemplary demonstration villages, ordinary villages, and underdeveloped villages should each leverage their respective comparative advantages, collaborate closely, jointly build cross-village collaborative economic communities, share the outcomes of zone-based development, and drive the transformation of rural revitalization from isolated single-village efforts to multi-village cooperative development (Hou & Zhao, 2025). Zhejiang Province has developed a relatively dense set of zone-based clustered practices around this issue. The Guiding Opinions on Promoting Zone-Based Clustered Rural Development, issued in April 2025, defines zone-based clustered rural development as a practical arrangement that takes key villages as nodes, connects adjacent villages, and promotes joint organizational building, collaborative planning, shared industrial prosperity, mutually beneficial operations, interconnected facilities, collective environmental improvement, and shared services, while emphasizing context-specific adaptation, market orientation, co-construction and benefit-sharing, and risk prevention. In July of the same year, Zhejiang held a field conference in Tiantai County, at which 30 representative cases under “Eight Models” were officially announced. Official reports categorized these cases into eight types: renowned-village demonstration, industrial convergence and linkage, youth-driven rural engagement, project-platform driven development, heritage village development, state-capital leveraging, village-enterprise collaboration, and strong-village company-led coordination.

From a research perspective, zone-based clustered rural development raises at least three questions that warrant explanation. First, how do villages incorporate originally dispersed resources into shared projects without altering administrative structures or collective asset ownership? Second, when core villages, peripheral villages, enterprises, professional operation teams, and individual households participate simultaneously, what institutional arrangements can sustain cooperation beyond short-term project linkages? Third, from an academic standpoint, can the Eight Models be further consolidated in terms of their underlying coordination mechanisms?

Existing research has provided a foundation for understanding zone-based clustered rural development, yet room remains for further elaboration. One strand of research proceeds from the macro-level objectives of rural revitalization, emphasizing that zone-based development can promote resource integration. Another strand focuses on individual cases such as Greater Xiajiang, illustrating specific practices such as core-village-driven development. The former helps establish the practical context of

zone-based approaches but tends to remain at the level of general principles; the latter can reveal localized processes but finds it difficult to compare the mechanistic differences across models. This paper therefore centers its analytical focus on examining the institutional interfaces, operational logic, and conditional boundaries of cross-village collaboration through a qualitative multi-case comparison across different models.

The marginal contributions of this paper are threefold. First, drawing on 30 officially recognized representative cases, it compares different practices along unified analytical dimensions, thereby avoiding the direct generalization from a single case to universal conclusions. Second, it proposes an analytical framework of “resource reorganization—benefit coordination—scalar governance,” translating theoretical resources from collaborative governance, institutional collective action, and rural endogenous development into observable empirical dimensions. Third, building upon the officially designated Eight Models, it constructs three second-order practice typologies.

1.2 Research Questions

Building on the above discussion, this paper poses three research questions. First, compared with development arrangements organized at the single-village level, what observable functional changes does zone-based clustered rural development exhibit? Second, how is cross-village collaboration organized and sustained without altering the routine self-governance of individual villages? Third, into what practice typologies can the coordination mechanisms of the Eight Models be consolidated, and what conditions does each type depend upon?

2. Analytical Framework

This paper constructs an analytical framework of resource reorganization, benefit coordination, and scalar governance. The three dimensions are interrelated yet each addresses a distinct question.

First, the resource reorganization mechanism addresses what can be collectively organized. Rural resources encompass land, farmhouses, woodlands, water bodies, and other assets. Zone-based clustered rural development establishes unified management arrangements that channel originally dispersed resources into institutional interfaces amenable to coordinated allocation.

Second, the benefit coordination mechanism addresses why actors are willing to sustain cooperation. Villages differ in their resource endowments, and enterprises, operation teams, and other participants each hold distinct claims on returns. If cooperation emphasizes only shared goals without clearly defined rules, it tends to be dominated by short-term projects. It is therefore necessary to examine how resource contributions are identified and verified, how operating revenues and public welfare benefits are distributed, and who bears operational risks and reinvestment obligations.

Third, the scalar governance mechanism addresses how zone-level coordination and village-level autonomy coexist. The zone level typically assumes functions that exhibit economies of scale, such as unified planning and joint marketing; the village level, meanwhile, retains space for routine self-governance. If coordination at the zone level is insufficient, redundant construction across

individual villages tends to emerge; conversely, if the coordinating entity concentrates excessive authority, it may compress the participation space of peripheral villages and increase their dependence on the core village.

3. Research Design

3.1 Research Strategy

This paper adopts an embedded multiple-case qualitative comparative design. Case study methods are well suited to explaining how and why questions, particularly in situations where relationships among variables are not yet sufficiently clarified and process mechanisms require identification. Unlike sampling strategies that target statistical representativeness, multiple-case research emphasizes theoretical relevance, mechanistic variation, and contextual heterogeneity.

The analysis is based on the 30 representative cases under the Eight Models officially announced by Zhejiang Province in 2025. Two reasons justify the selection of these cases. First, each case possesses an explicit official classification and relatively complete publicly available materials, enabling analysis along unified comparative dimensions. Second, the eight model categories encompass diverse leading mechanisms—including core-village-led development, industrial value-chain coordination, youth entrepreneurship, project-platform facilitation, heritage village conservation, state-capital participation, village-enterprise collaboration, and strong-village company-led coordination—thereby capturing the varied configurations of cross-village collaboration. It should be noted that officially designated representative cases do not constitute random samples, nor do they provide statistical representation of all zones across the province. The conclusions drawn in this paper are mechanistic and conditional in nature; they do not support population-level proportional inference.

3.2 Comparative Dimensions

This paper employs the structured focused comparison method. “Structured” means that all cases are analyzed using the same set of questions; “focused” means that comparison centers on cross-village collaboration mechanisms rather than on all development outcomes. The specific questions are as follows. First, who within the zone assumes cross-village coordination and routine operational functions? Second, which resources are incorporated into joint arrangements, and what organizational forms are adopted? Third, what division of labor has emerged among villages regarding industrial activities? Fourth, through what mechanisms do village collectives, individual households, enterprises, and professional operators obtain returns and bear risks? Fifth, what coordination difficulties, rule gaps, or long-term uncertainties are revealed in the publicly available materials?

3.3 Research Limitations

This study has two limitations. First, some zones have been established only recently, making it difficult to observe long-term benefit distribution and other dynamic processes. Second, this paper does not conduct field-based tracking of all cases at equivalent depth; therefore, limited observation cannot substitute for comprehensive field ethnography. These limitations do not negate the research value of

the cases, but they require this study to exercise caution in drawing conclusions and to explicitly flag insufficiently substantiated issues as topics for future research.

4. Functional Value

4.1 Resource Coordination

The first change introduced by zone-based clustered rural development concerns the scale at which resources are organized. A single village does not necessarily lack resources, but many of them exist in fragmented forms. A single vacant farmhouse can hardly form a homestay cluster on its own; a stretch of river cannot independently constitute a tourism route; and a single agricultural product can scarcely rely on one village alone to complete every link in the chain from cultivation and processing to sales.

The essential value of zone-based development lies in establishing mechanisms for the joint use of resources that are originally dispersed across different villages. By advancing rural revitalization through zone-based approaches, the model promotes the transition of “people” from dispersion toward concentration, of “land” from fragmentation toward scale, and of “industries” from low efficiency toward high efficiency (Zhang, Duan, Wang et al., 2026). Through spatial contiguity and resource complementarity, zone-based clustered rural development channels these originally fragmented elements into shared operational settings. At the resource level, zones should coordinate natural ecology, human resources, cultural relics and other elements that can be jointly used and shared, achieving resource scale effects through intensive utilization and reducing the costs of public service provision and industrial development (Lin & Yu, 2026). Coordinated resource allocation provides the material preconditions for subsequent industrial operations.

The “Yushang Daoxiang” zone in Yuhang District illustrates how a corporate intermediary can incorporate multi-village resources into a unified operational interface. This zone adopts a multi-village joint management company as its institutional vehicle, operating under a structure of “strong-town company for overall coordination and strong-village company for execution,” and pursuing unified coordination across planning, branding, operations, marketing, and investment attraction. The significance of this arrangement lies in transforming agricultural resources and venue assets originally dispersed across villages into objects amenable to unified external engagement. For individual villages, whether to participate and with which resources still requires confirmation through agreements; for the zone, the unified entity reduces the transaction costs that external enterprises, tourists, and service providers would otherwise incur in negotiating separately with multiple villages.

Resource coordination can also be achieved through project platforms. The Greater Shanglinyang zone in Pingyang County has pursued unified land banking around contiguous farmland, incorporating dispersed plots along with agricultural services and pastoral experience activities into a broader project system. Zone-based development facilitates the spatial interconnection of production, service, and consumption links. Similarly, the Maoyang zone around Xieqian Harbor in Xiangshan County combines village-collective ecological resource equity contributions, villager crowdfunding, and

unified development and operation by a state-capital company to incorporate bay scenery, vacant spaces, and tourism facilities into a cross-village development arrangement.

Heritage village development further demonstrates that resource coordination is often accompanied by conservation requirements. The six lakeside villages in Wuxing District have pursued joint conservation, contiguous development, and integrated operation around the Taihu Lougang World Heritage Irrigation Structure, establishing a scenic-area management company and cross-village joint governance arrangements. The value of such practices lies in situating traditional villages and tourism services within the same zone-level perspective.

In sum, zone-based clustered rural development expands the possibilities for coordinated resource allocation, transforming dispersed elements into jointly usable resource portfolios, reducing transaction costs, generating economies of scale, and activating complementary structures. The realization of this function does not alter the fundamental property rights of villages over their resources, but it changes the organizational mode of resources, thereby enabling originally dispersed resources to be allocated across village boundaries.

4.2 Benefit Linkage

The second function of zone-based clustered rural development lies in establishing sustainable benefit linkage rules for the multiple actors participating in cross-village collaboration. The key to the benefit-linkage function of zone-based clustering development lies not in the numerical expansion of participating actors, but in establishing organizational entities and institutional arrangements that transform cross-village collaboration from loose association into an action structure bound by shared responsibilities and interests (Xiang & Zhou, 2026), thereby enabling all stakeholders to share in development dividends. The “share” referred to here should not be understood as equal distribution, nor does it imply that all participants receive identical returns. Different villages contribute land, assets, brands, labor, and managerial capabilities in varying degrees, while enterprises and professional operators assume different levels of risk.

Based on the Zhejiang cases, benefit linkage manifests in multiple forms: pro-rata dividend distribution following resource equity contributions; rental income from leasing farmhouses or land; wage income from participation in project operations; operating revenues generated through contract farming and supply chain coordination; indirect income growth brought about by shared branding and joint marketing; and the retention of a portion of zone-level funds for reinvestment or public services. The Greater Huangyangjian zone in Putuo District, Zhoushan, established a rural revitalization company through multi-village resource equity contributions and adopted a three-tier arrangement of “unified revenue management, guaranteed minimum returns, and profit sharing.” The guaranteed minimum arrangement reduces the uncertainty faced by weaker villages in participation, while the profit-sharing component preserves the linkage between resource contributions and operational effort.

Cases involving state-capital participation offer another form of benefit linkage. The Maoyang zone around Xieqian Harbor in Xiangshan County adopts a basic structure of ecological resource equity

contributions by village collectives, villager cash crowdfunding, and unified operation by a state-capital company, enabling village collectives, individual villagers, and the operational platform to enter the project through distinct channels. This structure helps combine upfront investment, professional development, and local participation.

In sum, the core of the benefit linkage function lies in providing negotiable benefit channels for multi-actor cooperation. Its institutional value resides in enabling different actors to form stable expectations regarding the long-term returns of cooperation through institutional arrangements such as contribution verification and information disclosure. This function also bears a progressive relationship with the resource coordination function and the service-sharing function: resource coordination provides the material foundation for cooperation, benefit linkage provides the incentive structure for cooperation, and service sharing provides the organizational conditions for the sustained operation of cooperation.

4.3 Service and Operational Sharing

The third function of zone-based clustered rural development is to extend public services and operational capacity from within individual village boundaries to the zone level. In the past, rural public service provision often took the goal of “every village having its own facilities” as the primary objective. However, within zones characterized by close spatial proximity and similar demographic structures, certain services are more suitably delivered through shared arrangements. Zone-based approaches to rural revitalization promote moderate concentration of residential settlements, clustered layout of industrial land, and intensive configuration of service facilities, thereby transforming the spatial pattern from low-density dispersed distribution to moderate-density clustered organization—enhancing both the level of intensive land use and the intensity of spatial element interaction (Liao & Li, 2026). Agricultural service centers can serve producers across multiple villages; unified logistics and livestreaming platforms can serve products from multiple villages; tourism routes and visitor distribution centers can connect multiple villages; and professional managers and operational teams can share costs within the zone.

The “Greater Tengtou” zone in Fenghua District has developed a “1-1-4” mechanism that combines zone-level joint consultation, a strong-village company, and several shared service items, advancing zone-level linkage through project revenue distribution and reinvestment arrangements. This case demonstrates that service sharing encompasses not only traditional public services such as elderly care, culture, and transportation, but also new forms of service including marketing, investment attraction, product standards, training, and operations. Compared with each village independently hiring teams and building brands on its own, a zone-level shared platform may enhance the accessibility of professional services.

Industrial-integration zones offer more direct manifestations of operational sharing. The Dagangtou zone in Liandu District, Lishui, adopts the organizational principle of “one core leading five villages, one art revitalizing three industries,” forming an inter-village differentiated division of labor around oil

painting, tea, and tourism, and coordinating resources through a joint venture company, a unified brand, and an operations-first approach. What deserves attention here is not the revenue of any single industry, but rather how operational capacity becomes a quasi-public resource capable of flowing across village boundaries: professional teams, brand communication, event planning, and visitor flow management no longer serve a single village alone, but instead serve a zone network composed of multiple distinctive nodes. Within this network, individual villages can retain their own business-format positioning while simultaneously leveraging the shared brand to gain recognition in external markets.

In sum, the true value of zone-based service sharing does not lie in concentrating all services at a single center, but rather in forming a networked structure of zone-level coordination, node-based supply, and village-level accessibility. Within this structure, the zone level assumes the provision of services that exhibit economies of scale—such as brand communication and joint infrastructure development—thereby providing originally dispersed villages with a service-organization platform that transcends village boundaries. Through unified spatial planning of service facilities, the zone avoids the resource waste caused by redundant construction in individual villages. By establishing unified service standards and operational norms, the zone ensures that service provision across different villages possesses predictability and recognizability. Tourists entering the zone experience a coherent service journey; farmers interface with unified product standards and sales channels; and external enterprises face standardized cooperation interfaces. The role of the zone in service sharing is to assume those service functions that exhibit economies of scale and require cross-village coordination, enabling individual villages to access more professional capabilities and better-equipped public facilities at lower cost.

5. Collaborative Mechanisms

5.1 Resource Reorganization Mechanism

The resource reorganization mechanism constitutes the foundational institutional arrangement for the collaborative operation of zone-based clustered rural development, establishing the institutional framework for the joint utilization of resources dispersed across different villages. Clustering is not merely a spatial consortium but also an incubation platform for innovation. Building upon specialized division of labor, it actively cultivates new business formats, expands the multiple functions of agriculture, breaks through the boundaries among primary, secondary, and tertiary industries, and develops new formats such as rural tourism, health and wellness, and cultural creativity. With the improvement of product and service quality as the main thread, it expands the application scenarios of new quality productive forces in rural areas, channeling new agricultural varieties, new technologies, new equipment, and new models toward zone-level agglomeration. It embeds new functions such as livestreaming, training, design, research and development, and study tours into the cluster, and supports the integrated development of the digital economy, the low-altitude economy, and new energy with zone-level industries and business formats. The key question for zone-based clustered rural

development is whether resources can enter joint arrangements (Yang, Yang, Ge et al., 2025). Many villages possess mountains, rivers, pastoral landscapes, traditional dwellings, agricultural products, and labor, but these elements are often held by different actors, different villages, and different departments. Without institutional interfaces capable of receiving them, resources can only exist in the form of isolated projects or fragmented operations. The function of the resource reorganization mechanism lies precisely in transforming resources from individually held assets into collaboratively usable ones, while simultaneously preserving the fundamental property rights of village-level assets.

The first essential step in resource reorganization is the clarification of the resource inventory. Only when the location, area, and other attributes of each resource are documented can subsequent coordinated allocation acquire an operational basis. Without this step, resource reorganization may remain at the level of planning documents and fail to translate into actual operational arrangements.

The strong-village company represents a relatively typical institutional form in resource reorganization. Zhejiang's policy definition characterizes strong-village companies as corporate entities established through investment or equity participation by rural collective economic organizations, emphasizing their market-oriented operational functions. Within zone-based clustered rural development, strong-village companies can undertake unified investment attraction, project development, brand management, asset operation, and financial settlement. Their core advantage lies in engaging the market through corporate mechanisms, thereby reducing the costs that external actors would otherwise incur in negotiating with individual villages one by one.

At the same time, the effective operation of corporate intermediaries requires a clear demarcation between coordination functions and village-level rights and interests. The experience of the "Yushang Daoxiang" zone in Yuhang District illustrates this point. This zone involves the joint participation of multiple villages, forming an architecture that combines town-level coordination with village-level execution, adopting a structure of "strong-town company for overall coordination and strong-village company for execution," and pursuing unified coordination around planning and operations. Mechanistically, town-level or zone-level actors are suited to assume functions that exhibit economies of scale—such as unified planning and market engagement—while village-level actors need to retain fundamental rights over resource equity contributions and business-format selection. Only when these two categories of functions are clearly demarcated can unified operation avoid being perceived as a replacement of village-level assets.

State-capital platforms constitute another interface for resource reorganization. The Baxian Jidao zone in Jindong District, Jinhua, is wholly invested and developed by a district-level state-owned enterprise, which further incorporates village collectives, investment-attraction and operation companies, and industrial alliances as joint participants. State-capital platforms possess financing capacity and are particularly suited to projects requiring substantial upfront investment.

Resource reorganization can also be accomplished through shared branding and route-based organization. Model-village-demonstration-led zones typically leverage the existing brands, visitor

flows, or organizational resources of the core village to incorporate surrounding villages into a broader spatial narrative. The Greater Xiajiang zone takes the core village as a node, forming multi-layered arrangements including a consortium, a council, and corporate operation, and attempts to incorporate the agricultural, forestry, and service resources of surrounding villages into a common development framework. The critical issue is not whether surrounding villages “share the traffic of the model village” per se, but whether they can develop independent yet complementary products, scenarios, and revenue sources within the zone.

In summary, the resource reorganization mechanism must satisfy three requirements. First, property rights boundaries must be clear: resources can be jointly operated, but who owns them, who authorizes their use, and for how long the authorization lasts must all be explicitly specified. Second, contribution records must be traceable: the land, assets, funds, and other contributions of different villages and actors require verifiable documentation. Third, operational rights and benefit rights must be mutually aligned: actors bearing operational responsibilities need to receive reasonable incentives, but should not appropriate the long-term rights and interests of village collectives or individual households through ambiguous arrangements.

5.2 Benefit Coordination Mechanism

The benefit coordination mechanism is a crucial institutional arrangement for the collaborative operation of zone-based clustered rural development. Whether benefit-linked operational entities have been formed and whether a benefit linkage mechanism of shared prosperity and shared risk—“shared gains and shared risks”—has been established serves as an important criterion for distinguishing “genuine” clustering from “nominal” clustering [8]. Resource reorganization addresses the question of whether resources can be combined, while benefit coordination addresses how the combination can be sustained. The entry of resources into joint projects is merely the beginning of cooperation. Whether cross-village collaboration can endure depends on whether different actors can form relatively stable expectations regarding returns, costs, and risks.

From the perspective of collective action theory, the difficulty of benefit coordination lies not in whether actors endorse common goals, but in whether they believe other participants will honor their commitments, whether free-riding behavior can be identified, and whether procedures exist for handling disputes. In rural zones, these questions manifest concretely: should those who invest more receive proportionally greater returns; how can weaker villages avoid marginalization; and what rights do villagers acquire after contributing farmhouses, labor, or capital to the joint endeavor?

The primary content of the benefit coordination mechanism is contribution identification. The resources of different villages are by no means homogeneous: some villages provide land and scenic assets, some provide labor and agricultural products, some provide brands and market channels, and some provide organizational and coordination capabilities. Simple equal distribution by the number of villages may overlook actual differences in input and weaken the willingness of resource-rich villages to cooperate; conversely, allocation purely according to market valuation may further amplify existing disparities and

marginalize weaker villages. Many cases adopt composite arrangements such as guaranteed minimum returns plus profit sharing, rental income plus operating revenues, and pro-rata dividend distribution plus public funds. The “unified revenue management, guaranteed minimum returns, and profit sharing” mechanism of the Greater Huangyangjian zone exemplifies this approach. Its rationality lies in separating basic participation returns from incremental incentives: the former sustains member villages’ confidence in participation, while the latter preserves the linkage between resource contributions, operational effort, and returns.

The benefit coordination mechanism also involves risk sharing. Cross-village projects frequently entail infrastructure construction, asset revitalization, brand promotion, and market operations, all of which carry uncertain outcomes. If rules specify only revenue distribution without addressing loss-bearing obligations, maintenance costs, and exit liabilities, cooperative relationships become vulnerable to destabilization during market fluctuations.

Another important component of the benefit coordination mechanism is negotiation procedures. Rules cannot be finalized once and for all at the outset of a project; market conditions, resource values, and village demands all evolve over time. The function of negotiation procedures is to provide an institutionalized channel for the dynamic adjustment of rules. The practice of the Greater Tengtou zone in Fenghua District offers a relatively complete institutional exemplar of this mechanism. This zone takes Tengtou Village as its key village, radiating to drive the coordinated development of nine surrounding villages. In terms of revenue distribution, the strong-village company operates on a mechanism whereby, after project profits are realized, 50 percent is allocated to equity dividends, 30 percent to industrial reinvestment, and 20 percent to livelihood security.

In sum, the benefit coordination mechanism essentially constitutes a rule system for coordinating returns. What determines the sustainability of inter-village cooperation within a zone is the institutional arrangement behind it. The role of the zone in benefit coordination is to establish an institutional platform that enables different actors to engage in ongoing negotiation over how returns are to be distributed.

5.3 Scalar Governance Mechanism

Zone-based clustered rural development elevates certain development and operational functions from the village level to the zone level, but this does not mean creating a new administrative tier that replaces the village. A more precise interpretation is that a coordination scale oriented toward common affairs is formed above existing village boundaries. This scale is tasked with unified planning, public branding, investment attraction and visitor acquisition, infrastructure connectivity, service platforms, and cross-village project coordination. In rural societies, geographical ties constitute one of the most closely knit bonds of social interaction among villages and among villagers, fostering governance coordination, reducing collaboration costs, and enhancing governance effectiveness. Zone-based development, grounded in such geographical ties, integrates the planning of adjacent or proximate villages. Far from being a simple spatial merger, this approach adopts a village clustering model in

which faster-developing villages drive slower-developing ones. Through this model, functional configurations are optimized, and economies of scale are unleashed, thereby transforming the previously fragmented and inefficient development patterns in rural areas and promoting their sustained improvement[9]. At the same time, villages must retain their collective asset rights and interests, day-to-day governance responsibilities, and the space to select their own distinctive business formats. How the division of labor between these two levels is arranged is the key to whether a zone-based cluster can move from nominal joint construction to substantive collaboration.

From the perspective of network governance, zone-level coordination can be assumed by different actors. In the strong-village company-driven type, a joint company or operating platform typically assumes the majority of operational functions; in the state-capital leverage type, a state-capital platform undertakes upfront investment and project integration; in the village-enterprise cooperation type, the enterprise provides market access, technology, or operational capacity; and in the famous village demonstration-driven type, the core village and the joint institutions it has established may play a coordinating role. The advantages of different actors are not the same: corporate intermediaries are closer to the market; state-capital platforms are better positioned to bear upfront costs; core villages are more familiar with local social relations; and enterprises are more adept at supply chain management and commercial operations. The question is not who is better suited to lead, but whether the authority and responsibility of the leading actor are matched to its capacity and risk-bearing capability.

Dagangtuo's model of "one core leads five villages, one art revitalizes three industries" provides an example of differentiated division of labor. The zone integrates resources such as oil painting, tea, and tourism with the functional positioning of different villages, advancing collaboration through zone-level deliberation and company-based operations. The effective approach to scalar governance is not to have every village engage in the same industry, but rather to have the zone level organize common brands and routes, while the village level develops nodes suited to its own resources. What zone-level coordination provides is a framework.

The ancient village development type imposes higher demands on scalar governance. The Lakeside Six Villages zone spans different township jurisdictions, requiring it to manage the relationships among heritage conservation, ecological restoration, and tourism development, while also coordinating scenic area operations with village governance. In this context, unified planning at the zone level is essential; however, if rules are formulated solely by external project actors, villagers and village collectives may lack participation in benefit distribution. Therefore, unified conservation and village-level autonomy are not opposed: the former needs to establish bottom lines, while the latter needs to preserve space for organizing daily life and economic activities within those bottom lines.

Youth rural entry practices also embody the duality of scalar governance. Greater Lizu in Yiwu forms a partnership structure through village collectives, strong-village companies, agricultural makers, and operating companies, combining maker resources with multi-village spaces. Young entrepreneurs bring new business formats and community networks, but their mobility is relatively high, and their

operational needs may generate friction with the rhythms of life and spatial usage habits of long-standing residents. Zone-level policies can lower the threshold for entrepreneurship, while village-level organizations need to play a role in venue use, community consultation, and benefit return flows.

The scalar governance mechanism requires forming a relationship in which upper-level coordination does not replace grassroots actors, and grassroots autonomy does not weaken common affairs. The zone level should primarily handle matters with strong cross-village externalities that require coordination at scale. The village level should primarily handle matters closely tied to collective assets, daily life, and local distinctiveness. Between these two scales, fixed yet adjustable deliberative procedures must be established, rather than relying entirely on the personal coordination capacity of individual operators.

6. Practical Pathways

6.1 Principles of Typological Classification

The Eight Models represent official summaries of local practices, possessing significance for identification and dissemination; simultaneously, from a research perspective, commonalities exist among the eight categories that can be further distilled.

This paper adopts the criteria of who assumes the primary coordination function, how resources are mobilized, around what inter-village collaboration is organized, and who bears the principal risks, to conduct a second-order typological classification of the Eight Models, yielding three types: the organizational intermediary construction type, the industrial network collaboration type, and the spatial platform activation type.

6.2 The Organizational Intermediary Construction Type

The organizational intermediary construction type primarily encompasses the strong-village-company-led subtype and the state-capital-leveraged subtype, together covering seven official cases. Their common characteristic is that cross-village collaboration is first established through an organizational intermediary that is relatively independent of any single village. This intermediary may be a strong-village company jointly funded by multiple villages, or a state-capital platform and its project companies. It undertakes functions such as unified investment attraction, asset operation, and brand management; its fundamental function is to reduce the transaction costs that multiple villages would otherwise incur when separately facing markets, capital, and projects.

The strong-village-company-led subtype is represented by the “Yushang Daoxiang” zone and the “Greater Tengtou” zone. The Yushang Daoxiang zone advances unified operations through a multi-village joint management company and a tiered structure of town-level coordination and village-level execution. Greater Tengtou, drawing upon the foundation of the core village and related enterprises, has formed arrangements that combine zone-level coordination, corporate operations, and shared service items. The strong-village company functions as an intermediary structure that links village collective assets, market actors, and operational teams.

The state-capital-leveraged subtype is represented by the Xiangshan Huan-Xieqian-Port Maoyang zone, the Xinchang “Xiayanbei · Jinshang” zone, and the Jindong Baxian Jidao zone. Practices of this type typically face situations involving substantial upfront investment and dispersed assets, with county-level state-owned enterprises or cultural-tourism platforms providing capital, project integration, and professional development capabilities. The Xiangshan case adopts a combination of resource equity contributions, villager crowdfunding, and unified state-capital operations; the Xinchang case forms a coordination architecture involving the township, state-owned enterprises, villages, and multiple actors; and the Jindong case involves a district-level state-owned enterprise investing and introducing professional operational teams.

The applicability conditions of the organizational intermediary construction type comprise three principal requirements. First, the zone must possess relatively clear operable resources, or at least assets that can be transformed into operational scenarios through project-based redevelopment. Second, member villages must possess basic negotiation capacity and asset management foundations; otherwise, joint capital contributions, resource equity participation, and corporate governance cannot be effectively implemented. Third, market-oriented operational capacity must be present. Whether in the form of a strong-village company or a state-capital platform, the intermediary cannot merely serve engineering construction or fund disbursement functions; without professional operators, the organizational intermediary may degenerate into a project company rather than a genuine collaborative platform.

6.3 The Industrial Network Collaboration Type

The industrial network collaboration type primarily encompasses the industrial integration linkage subtype, the youth rural entry driven subtype, and the village-enterprise cooperation interactive subtype, together covering eleven official cases. Their common characteristic is that cross-village collaboration does not first form around a unified development entity, but rather unfolds progressively around distinctive industrial chains, enterprise networks, youth entrepreneurial communities, or service networks. The core task of the zone is to organize the production, processing, exhibition, sales, study tours, accommodation, dining, and digital marketing functions of different villages into an interconnected network, rather than having each village replicate the same project.

Representative cases of the industrial integration linkage subtype include the Beitang, Xian Guo Dingzhai, Da Xinjian, Da Tahou, and Dagangtou zones. Beitang Village has formed a collaborative framework of “breeding, production, sales, study tours, and exhibition” around seed industry, fruits and vegetables, dining, and study tours, with surrounding villages participating respectively in seedling supply, agricultural products, aquatic products, dining, and service provision. The Dagangtou zone takes oil painting, tea, and tourism as its zone-level main threads, configuring differentiated functional nodes for different villages. Industrial network collaboration embeds villages into different segments of the chain, enabling the market capabilities of the core village or core industry to connect with the resources of surrounding villages.

The youth rural entry driven subtype is represented by the Greater Lizu zone in Yiwu and the Greater Huangyangjian zone in Putuo. The Greater Lizu zone constitutes a partnership model comprising village collectives, strong-village companies, rural entrepreneurs (nongchuangke), and operations companies, utilizing entrepreneurial spaces to attract young people into multiple villages. The Greater Huangyangjian zone takes entrepreneurial ecosystem cultivation as its basic arrangement, incorporating fishery and agricultural products and e-commerce into the zone network. Youth in such practices function not merely as labor, but as intermediaries connecting digital platforms with rural space. However, youth rural entry is not simply about attracting talent; more importantly, it concerns whether a long-term environment can be formed in which communities and community relationships mutually support one another.

The village-enterprise cooperation interactive subtype is represented by the “Xiejing’an” zone in Xiaoshan, the Da Taoyuan zone in Haining, and the Yunhe Meigui Huaxiang zone. Enterprises typically provide brands and operational capabilities, village collectives provide land and local organizational foundations, and farm households participate in industrial value addition through employment, rents, and similar arrangements. Unlike purely corporate investment, zone-based clustered rural development requires that enterprise cooperation form broader resource linkages and revenue channels at the cross-village scale. If an enterprise acquires resources in only one village and arranges supporting functions in another, zone collaboration may remain weak; if an enterprise can drive standards, orders, brands, and services to flow across villages, network effects are more likely to emerge.

The applicability conditions of the industrial network collaboration type lie in the following: the zone must possess at least one distinctive resource or product capable of being scaled up; there must exist enterprises, operational teams, or entrepreneurial communities capable of assuming industrial organization functions; and public brands and marketing services are needed to reduce the transaction costs of inter-village division of labor. Areas lacking industrial foundations should not simply replicate popular business formats, lest they generate homogenized competition. At the same time, industrial networks may produce new dependencies: core enterprises may control pricing and distribution channels; core entrepreneurs may monopolize traffic and brand interpretive authority; and cultural-tourism industries are subject to seasonal visitor flow fluctuations. Therefore, the industrial network collaboration type should prioritize the balance of supply chain rules, data and brand rights, youth retention, and diversified operations.

6.4 The Spatial Platform Activation Type

The spatial platform activation type primarily encompasses the famous village demonstration-driven subtype, the project platform-driven subtype, and the ancient village development-promoted subtype, together covering twelve official cases. Their common characteristic is that zone collaboration is primarily initiated through a spatially attractive node or platform serving as the entry point: this may be a core village possessing brand momentum, a modern agricultural industrial park, a pastoral complex, or an agricultural development zone, or it may be an ancient village. The function of the platform is to

bring external visitor flows, technology, and projects into the zone; however, whether cross-village sharing can be achieved depends on whether surrounding villages obtain institutional interfaces for accessing the platform.

The famous village demonstration-driven subtype is represented by the Greater Xiajiang zone. Zones of this type typically possess a core node with relatively high recognition within the region. Greater Xiajiang incorporates surrounding villages into collaboration through multiple organizational layers including a consortium, a council, and companies. The advantage of this pathway lies in its capacity to rapidly generate external distinctiveness; the difficulty lies in how to prevent the core village from fully monopolizing agenda-setting power. If surrounding villages are positioned solely as supporting spaces, zone development may fail to achieve genuine capacity diffusion.

The project platform-driven subtype is represented by the Da Cao Village zone in Ruian. These zones rely on modern agricultural industrial parks, grain field projects, and similar platforms to concentrate technological and market resources within the zone. The Da Cao Village zone forms multi-village linkage through business formats such as the National Modern Agricultural Industrial Park. The Greater Shanglinyang zone organizes collaboration around the full grain industry chain. The advantage of project platforms is that they can relatively quickly improve infrastructure and form large-scale operational scenarios; their risk lies in dependence on external funding.

The ancient village development-promoted subtype is represented by the Lakeside Six Villages zone. This subtype takes agricultural cultural heritage as its foundational resource, forming zone-level scenarios through unified planning and differentiated business formats. The Lakeside Six Villages zone emphasizes the parallel pursuit of heritage conservation and scenic area operations. The Greater Wushi zone builds upon ancient village homestays and terrace tea culture, promoting cross-village brand sharing and differentiated development. Jiangnan · Xiwang Valley strings together agriculture-culture-tourism nodes along a stream corridor and ancient village spaces. Ancient village resources can generate distinctiveness, but their development carries irreversibility. Conservation rules and community participation should constitute intrinsic components of platform activation.

The applicability conditions of the spatial platform activation type are the existence of a commonly recognizable attraction, and the capacity of that attraction to establish connections with surrounding villages through planning and other mechanisms. The principal tensions of this type include: the balance of interests between core villages and surrounding villages; the sustainability of project and policy resources; the boundary between heritage conservation and commercial development; and whether spatial platforms are genuinely transformed into village-level capabilities. For this pathway, what most needs to be avoided is treating the zone as a single scenic area or project container, while neglecting the long-term organizational relationships and revenue distribution rules among villages.

7. Discussion and Conclusions

7.1 From the Single-Village Development Unit to the Cross-Village Collaboration Unit

The first finding of this paper is that zone-based clustered rural development should not be understood as the merger of villages, nor should it be simplistically construed as larger-scale project construction. It more closely resembles a cross-village collaboration unit. Villages, while retaining their basic boundaries, asset rights and interests, and day-to-day governance responsibilities, form new coordination relationships with respect to resources and projects. The emergence of zones does not eliminate inter-village differences; rather, it renders these differences more salient through resource complementarity and functional division of labor.

This understanding helps recalibrate perceptions of two commonly observed tendencies. The first tendency is to treat zoning as a matter of scale expansion, assuming that the more villages are joined, the better the outcome. In reality, where resource complementarity and organizational capacity are insufficient, expanding the scope only increases coordination costs. The second tendency is to view zoning as unidirectional uplift from a core village, enterprise, or state-capital platform to surrounding villages. Core actors can indeed provide resource entry points and organizational capacity; however, if surrounding villages lack clearly defined participation interfaces and benefit channels, the collaborative relationship may prove difficult to sustain. Therefore, the maturity of zone-based clustered rural development should not be measured solely by the number of projects, the scale of investment, or the intensity of publicity, but rather by whether a sustainable matching has been established among resources, rules, and organizational arrangements.

7.2 Theoretical Implications

The second finding of this paper is that resource endowment, while important, cannot alone explain the formation of zone-based collaboration. Areas possessing industrial or transportation advantages may nonetheless fail to realize collaborative gains if they lack the institutional interfaces through which resources can enter joint projects; in such cases, advantages may remain locked in single-village or single-actor configurations. Conversely, areas with only modest resource foundations may nonetheless create new development space by establishing clear rules and differentiated division of labor to organize collaboration. Consequently, understanding zone-based clustered rural development requires shifting the analytical focus from what resources exist to how resources are organized.

7.3 Practical Implications

For regions with comparable conditions, the reference value of the Zhejiang cases lies in identifying what kind of collaboration starting point exists locally. If multiple villages possess assets that can be jointly operated and have basic organizational and financial capacities, consideration may be given to establishing intermediary interfaces through strong-village companies or joint operating entities. If a distinctive industry or a youth entrepreneurial community already exists, priority should be given to improving supply chains and service platforms. If a core village brand, heritage, or landscape resource is present, the key challenge becomes how platform resources can diffuse to surrounding villages.

Regardless of which pathway is chosen, the following matters should be addressed before project initiation: clearly defining resource ownership and usage boundaries; recording the contributions of

different actors; establishing comprehensible revenue and risk rules; arranging the division of responsibilities between the zone level and the village level; and reserving procedures for regular consultation and adjustment. It is especially necessary to avoid treating the establishment of a company, the acquisition of a project, or the hosting of an event as evidence that collaboration has been formed. Truly stable cross-village collaboration is typically manifested in the capacity of member villages to continue resolving problems through rules amid project changes and market fluctuations.

7.4 Research Limitations and Future Directions

This paper relies primarily on case materials to provide a mechanism-based explanation of cross-village collaboration, and clear limitations remain. First, many cases are still in the construction or expansion phase, and the stability of operating entities requires a longer observation period before it can be assessed. Second, Zhejiang possesses relatively strong county-level economies, market linkages, and organizational resources; its experience cannot be directly extrapolated to regions with substantially different resource endowments, locational conditions, and institutional capacities.

Future research can advance along three directions. First, process tracing can be conducted on zones at different developmental stages, comparing the mechanistic differences in cooperation initiation, expansion, adjustment, and possible exit. Second, in-depth investigation is needed into the actual participation of weaker villages, ordinary villagers, young entrepreneurs, and operations personnel in rule-making. Third, cross-provincial comparisons should be undertaken to analyze how cross-village collaboration varies under different land system practices, fiscal capacities, and market network conditions. Only by simultaneously incorporating positive cases alongside situations of collaboration obstruction, rule failure, and risk accumulation into observation can the boundary conditions of zone-based clustered rural development be more completely understood.

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