

Research on the Path of Revitalization and Utilization of Idle School Buildings in China's Rural Areas

Ming Xu, Shirui Hong, Xianbo Wei, Dongni Cao

School of Education, Zhejiang Normal University, Jinhua, China
Email: 15355302989@163.com

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Abstract

With the deepening of new urbanization and rural revitalization, the migration of rural school-age populations to cities has led to a large number of idle rural primary and secondary school buildings—featuring enormous scale, wide distribution, and low utilization. Based on resource regeneration and social ecology theories, this study adopts literature review and case analysis to explore their revitalization. Key issues include resource waste, demand mismatch, incomplete revitalization mechanisms, insufficient supporting measures, and lack of stakeholder coordination. To address these, a tripartite collaborative path is proposed: governments should improve specialized planning and standards, enhance fiscal and policy support, and strengthen supervision; the market should attract social capital, expand diversified utilization formats, and establish market-oriented operational mechanisms; rural stakeholders should boost participation awareness, tap local cultural resources, and cultivate local management capabilities. This transformation of “dormant assets” into “vibrant resources” will inject new momentum into rural revitalization.

Keywords

Rural Idle School Buildings, Revitalization, Rural Revitalization, Path Optimization, Resource Allocation

1. Feasibility Analysis of Revitalization and Utilization of Idle Rural School Buildings

1.1. Policy Basis

The revitalization of idle rural school buildings, as a key initiative in advancing the rural revitalization strategy, is supported by a solid policy foundation and con-

temporary context. In 2001, the State Council issued the “Decision on Basic Education Reform and Development,” initiating the restructuring of rural compulsory education schools. This laid the policy groundwork for addressing subsequent idle school building issues (Li, 2020). With the advent of the new era, the Rural Revitalization Strategy has created fresh historical opportunities for revitalizing idle school buildings. In 2018, the “Rural Revitalization Strategy Plan (2018-2022)” jointly issued by the CPC Central Committee and the State Council explicitly proposed revitalizing rural construction land resources, providing policy guidance for the reuse of idle school buildings.

In recent years, China has rolled out a series of policy documents at the national level to clarify the direction for handling idle school buildings. The State Council’s “Opinions on Further Stimulating Investment Vitality in the Social Sector” encourages private entities to utilize idle resources for social service development. The Ministry of Education and other departments have repeatedly issued directives requiring local governments to properly manage idle school buildings and prevent the loss of state assets. Local authorities have actively responded, with Fujian Province issuing the “Opinions on Handling Idle School Buildings in Rural Primary and Secondary Schools” as early as 2006, mandating the establishment of dedicated task forces to address this issue. The concentrated rollout of these policies has provided robust policy safeguards and institutional support for revitalizing idle school buildings in rural areas.

1.2. Theoretical Foundation

Research on revitalizing idle rural school buildings is supported by multiple theoretical frameworks, primarily including resource regeneration theory, social ecology theory, and sustainable development theory. Resource regeneration theory posits that idle resources can generate new economic and social benefits through rational transformation and reuse. Zhou and Liu (2023) found through research based on resource regeneration theory that idle rural school buildings, as a special resource, can bring significant benefits to rural economic and social development when properly transformed. This theory provides a theoretical foundation for reevaluating the value and functional transformation of idle school buildings.

Social-ecological theory emphasizes the interactive relationship between individuals and their environment, providing an analytical framework for understanding multi-stakeholder collaboration in revitalizing idle school buildings. This theory views the education system, community system, and economic system as interconnected entities, revealing the dynamic interactions among government, market, and rural communities. In the revitalization process of idle school buildings, coordinated efforts from all stakeholders are essential to create a virtuous cycle of “individual capacity development and environmental adaptation support to systemic collaborative evolution.”

The theory of sustainable development provides a value framework for revital-

izing idle rural school buildings. It emphasizes the need to balance economic, social, and ecological benefits during development. The revitalization of idle school buildings should not only consider economic returns but also focus on their comprehensive contributions to rural education, cultural preservation, and community development, achieving equilibrium between short-term gains and long-term sustainability. Zhao (2024) found that in the process of sustainable development, whether through developers' involvement or policy pressures from higher-level governments on local authorities, idle educational land is driven into the reuse process.

1.3. Current Value

The revitalization of idle rural school buildings holds significant practical value across economic, social, and cultural dimensions. Economically, these underutilized structures represent substantial assets within existing construction land. Wang et al. (2022) found that idle primary and secondary school lands in rural China span approximately 47,000 to 129,000 hectares, constituting a vast dormant asset pool. By revitalizing these resources, we can effectively activate existing assets, reduce redundant construction investments, and enhance resource allocation efficiency (Li, 2019)—a win-win approach that bridges economic and social development needs.

In terms of social value, revitalizing idle school buildings directly supports rural revitalization strategies. Against the backdrop of rural “hollowing out” and “aging population” in China, converting unused school facilities into public service facilities such as elderly care centers, children’s welfare centers, and medical stations can effectively address gaps in rural public services. Chang (2020) found that transforming idle school buildings into elderly care facilities not only resolves the issue of underutilized school buildings but also effectively addresses the severe shortage of rural elderly care infrastructure.

In terms of cultural value, rural schools often carry profound memories of local culture and serve as important carriers of rural heritage. Wang (2019) pointed out that revitalizing idle spaces in rural primary schools should align with educational philosophies, develop distinctive cultural courses, and leverage community resources to create unique rural school campuses. Through such revitalization efforts, we can protect rural cultural heritage, preserve the continuity of rural traditions, and strengthen villagers’ cultural identity and sense of belonging.

In short, the countryside is a relational web woven by multiple actors. At its core, the village committee, statutory agent of collective assets, must act as an “institutional translator” between higher-level audits and villagers’ demands for equity. Surrounding it, villager cooperatives reassemble scattered households into a collective economic actor, converting local knowledge and idle labor into divisible resources. On the outer ring, returnee entrepreneurs draw on emotional trust and market antennae to channel urban ideas back into the village, serving as “boundary mediators.” Through continuous concessions, the three renegotiate their bor-

ders: the committee trades transparency for mobilization, the coop trades efficiency for legitimacy, while excessive profit-seeking by entrepreneurs triggers the “outsider” stigma. The idle school building is thus no longer a physical object of renovation but a local governance experiment in which conflict must be turned into tacit institutions so the community can evolve as a self-organizing social ecosystem.

2. The Current Situation and Core Issues of Revitalizing Idle Rural School Buildings in China

2.1. Review of Current Activation and Utilization

2.1.1. Size and Distribution Characteristics of Idle Rural School Buildings

With the acceleration of urbanization and changes in rural population structures, the issue of idle school buildings in China’s countryside has become increasingly prominent. Statistics show that the number of rural primary and secondary schools in China reached 482,000 in 2000, but decreased to 159,000 by 2013—a reduction of nearly 323,000. This number has continued to grow in recent years, with rural schools further shrinking to 84,200 by 2022. Compared to 2000, there has been a reduction of nearly 400,000 schools, with 91.9% of rural primary schools disappearing entirely.

In terms of regional distribution, idle rural school buildings are mainly concentrated in the central and western regions with large population outflow and remote rural areas, with a wide distribution and large scale. Most of these idle school buildings were built in the 1980s and 1990s, with relatively stable building structures but outdated facilities, which require certain investment for renovation and maintenance.

2.1.2. Existing Preliminary Forms of Activation and Utilization

To address the widespread issue of idle school buildings, various regions have actively explored innovative utilization models, resulting in diverse practical approaches. [Zhou and Liu \(2023\)](#) identified 10 transformation models through grounded theory analysis, including: basic education applications, labor education reciprocity models, adult education applications, sports development models, livelihood needs fulfillment models, rural industry development models, administrative facility applications, local cultural guidance models, social security service models, and paid disposal models.

In practical implementation, [Liu \(2022\)](#) categorized strategies for repurposing idle school facilities into six spatial types: rehabilitation and medical services, early childhood education, cultural and sports activities, elderly care, community services, and industrial development. These applications span multiple sectors, including education, healthcare, culture, senior care, and industry, demonstrating the diversified nature of revitalizing idle school buildings.

Successful case studies demonstrate that various regions have developed distinctive revitalization models. In Ji’an City, Jiangxi Province, 42.54% of idle school buildings have been repurposed into rural performance stages, shared prosperity

workshops, and comprehensive cultural centers, achieving notable social benefits. Suixi County in Guangdong Province pioneered a “village-enterprise collaboration” model, transforming vacant school facilities into industrial bases. A notable example is the conversion of Tantang Primary School into a cultivation base for rare medicinal and edible mushrooms, generating an annual income increase of 150,000 yuan for the village collective. These practices provide valuable references for other regions.

Tantang Primary School’s case further embodies the “government-market-rural stakeholder” tripartite collaboration. The government clarified the school’s collective property rights, the county agriculture bureau provided technical guidance and a 50,000-yuan renovation subsidy; Suixi Lvyuan Biotechnology Co., Ltd. invested 200,000 yuan to upgrade classrooms into greenhouses and sold products via e-commerce/offline channels; the village organized 15 households to circulate adjacent land and employed 22 villagers (3200 yuan/month on average), with 30% of base profits used for village public services and 70% distributed to participating households. This solves key issues like unclear property rights and insufficient funds, realizing sustainable asset utilization.

2.2. Core Issue Breakdown

2.2.1. Idle Resources and Mismatched Demand

While various regions have actively explored the revitalization of idle school buildings, resource underutilization and demand mismatch remain persistent challenges. On one hand, numerous school buildings have been left vacant for extended periods, resulting in resource waste. These structures, often located in prime areas with robust architectural integrity, fail to be effectively utilized. On the other hand, rural areas face significant gaps in education, healthcare, elderly care, and cultural services, where idle school buildings could precisely fill these needs.

2.2.2. The Activation Mechanism Is Not Sound

The revitalization of idle rural school buildings faces challenges stemming from inadequate institutional mechanisms, primarily manifested in the absence of systematic policy frameworks and standardized operational procedures. *Li and Wu. (2020)* highlighted that while national-level policy documents have been issued, practical implementation still encounters difficulties such as property rights confirmation and non-standard disposal procedures. Ownership disputes remain the core obstacle to revitalization. Many idle school buildings constructed on collective land—despite being funded by education authorities—have unresolved ownership issues. Without clear property rights definitions and legal safeguards, private capital and non-governmental organizations find it difficult to utilize these assets.

2.2.3. Insufficient Support

The revitalization of idle rural school buildings requires comprehensive support encompassing financial resources, technical guidance, and skilled personnel. However, current infrastructure remains inadequate. While some regions have

established special renovation funds, overall investment remains insufficient to meet large-scale revitalization demands. Technologically, the lack of professional design and renovation teams has resulted in numerous projects suffering from poor functional layouts and subpar renovation quality.

From the perspective of talent support, rural revitalization involves not only the renewal of rural physical environments but, more crucially, the underlying support of industries and population. The foundation of all this lies in identity recognition (Zhao & Cai, 2024). Rural areas generally lack professional management and operational talent. Even after completing hardware upgrades, subsequent service operations face challenges due to the absence of specialized teams, making it difficult for many revitalization projects to achieve sustainable development.

2.2.4. Lack of Subject Collaboration

The revitalization of idle rural school buildings requires coordinated efforts from multiple stakeholders, including government agencies, market entities, and local communities. However, current collaboration mechanisms among these parties remain inadequate, resulting in fragmented implementation. The lack of clear division of responsibilities among government departments—particularly between education authorities, natural resources agencies, and agricultural departments—has led to ineffective policy execution due to the absence of unified coordination frameworks.

The enthusiasm of market entities for participation needs to be enhanced. Due to the long investment return cycle and high risks, private capital remains cautious about revitalizing idle school buildings. Rural communities also require stronger engagement and decision-making influence. Many projects lack adequate participation from villagers in the decision-making process, resulting in renovation outcomes that fail to meet local needs and struggle to gain community support.

3. Optimization of Countermeasures for the Revitalization of Idle Rural School Buildings

3.1. Government Level

3.1.1. We Will Improve the System of Special Plans and Standards

The government should take the lead in revitalizing idle rural school buildings, with the primary task being to improve specialized planning and standardization systems. It is recommended to implement a county-based approach under the principle of “local responsibility,” where departments including natural resources, education, and agriculture jointly conduct comprehensive surveys. This will establish a “one school, one file” database to comprehensively track idle school buildings’ quantity, distribution, ownership status, and structural quality. Based on this data, a specialized revitalization plan should be developed, clearly defining objectives, principles, key tasks, and timelines for the utilization of idle rural school buildings.

Furthermore, the development of standardized systems serves as a crucial safeguard for ensuring the quality of adaptive reuse. Technical guidelines should be

established to specify requirements for building safety assessments, functional renovation designs, and facility configurations. Categorized guidance standards should be developed, tailoring adaptive reuse criteria to factors such as the location of school buildings, architectural characteristics, and rural needs. The ultimate goal is to promote sustainable rural development and optimize resource utilization (Liu & Hu, 2024).

3.1.2. We Will Increase Financial Support and Policy Incentives

Financial support serves as a crucial safeguard for revitalizing idle school buildings. Wang (2021) proposed establishing a special fund to revitalize rural idle school buildings, providing construction subsidies and operational grants to eligible projects. Subsidy standards should be determined based on factors such as project type, investment scale, and social benefits, with priority given to public welfare projects and industrial projects demonstrating significant multiplier effects. The “rent-to-build” model should be promoted to reduce operational costs through rent subsidies and other measures.

To enhance policy incentives, supporting measures should be improved. Tax policies should provide appropriate tax benefits for social enterprises and public welfare organizations engaged in revitalization and utilization. Regarding land policies, a green channel should be established to streamline approval processes for planning adjustments and land use procedures related to revitalization projects (Feng, 2021).

3.1.3. We Will Strengthen Supervision and Guarantee Rights

Li and Wu (2020) proposed a phased utilization strategy categorized by social function, geographical location, and comprehensive value. They recommended that national and local authorities clarify legal frameworks for idle school buildings and land, implement “registration-first” and “application-first” approaches to property rights confirmation, and establish a sequential utilization strategy based on these three dimensions. Additionally, they suggested forming expert teams to provide professional guidance for project planning, design, and operation.

3.2. Market Level

3.2.1. Attract Social Capital to Participate in Operation

The market plays a decisive role in resource allocation, and we should actively engage social capital to revitalize underutilized school buildings. By innovating cooperation models and promoting the “government-guided and enterprise-operated” approach, where the government handles property rights clearance and infrastructure upgrades while enterprises manage professional operations, Hejiang County’s Finance Bureau has successfully transformed Chenjia Courtyard from an idle school into a cultural tourism hotspot. This model achieves a win-win outcome for both ancient architectural preservation and rural development.

Establish diversified investment mechanisms to encourage enterprises to participate in revitalization and utilization through sole proprietorship, joint ven-

tures, and cooperative arrangements. Support the establishment of an industrial fund for revitalizing idle rural school buildings, providing financial support through equity investments and project financing. Improve the profit distribution mechanism by reasonably determining the profit-sharing ratios among stakeholders while ensuring the preservation and appreciation of state-owned assets, thereby safeguarding investors' legitimate rights and interests.

3.2.2. Expand Diversified and Active Utilization Formats

Market-driven revitalization should prioritize business model innovation, developing diversified utilization approaches tailored to rural characteristics and market demands. Zhou and Cui (2022)'s summarized transformation model provides a reference for business selection. In practice, a "one school, one policy" approach should be adopted, determining the most suitable utilization direction based on each school's specific conditions.

In the education sector, Lan and Li (2017) emphasized that local education authorities should advance initiatives guided by human-centered principles and a strong sense of social responsibility. Key developments include vocational training centers, educational practice bases, and art education studios. For elderly care and health services, establishing rural nursing homes, day care centers, and rehabilitation facilities is recommended. Cultural initiatives could feature rural libraries, folk museums, artists' studios, and intangible cultural heritage preservation bases. Rural tourism development should focus on boutique homestays, farmhouse restaurants, specialty dining experiences, and agricultural product exhibitions. By diversifying these business models, the value of underutilized school buildings can be maximized.

3.2.3. Establish a Market-Oriented Operational Mechanism

Market-oriented operations are crucial for ensuring the sustainability of revitalization and utilization. A modern corporate system should be established to operate revitalization projects as companies, clarifying property rights and improving corporate governance structures. Professional operation teams should be introduced, selecting experienced and capable operators through open recruitment or entrusted management.

Establish a scientific performance evaluation system to comprehensively assess operators' service quality, operational efficiency, and social responsibility. Improve incentive and restraint mechanisms by linking operators' profits to service quality and social benefits, thereby stimulating their innovative vitality. Develop risk prevention mechanisms to strengthen supervision during operations, effectively guarding against business and safety risks.

3.3. Sub-County Level

3.3.1. Stimulate the Awareness of Rural Community Participation

Villagers in rural communities are both direct beneficiaries and key stakeholders in revitalizing idle school buildings, and their participation should be fully en-

couraged. Establishing democratic decision-making mechanisms is essential, where villagers' opinions are widely solicited during the planning, design, and operational phases of revitalization projects, making them the "main players" in decision-making (Wang, 2019). Methods such as village councils, surveys, and focus groups can ensure villagers' rights to information, participation, expression, and oversight. Additionally, implementing profit-sharing mechanisms—returning a percentage of revitalization revenues to villagers—will enable them to truly benefit from development outcomes.

3.3.2. Tap into Local Resources and Cultural Empowerment

Every rural community possesses unique resource endowments and cultural characteristics. To revitalize these resources, emphasis should be placed on tapping into local assets to achieve cultural empowerment. Liu (2022)'s research indicates that repurposing idle rural schools should fully consider local cultural traditions and resource advantages. Inviting cultural experts and local scholars to systematically document the village's historical culture, folk customs, and industrial features can provide cultural support for revitalization efforts.

Integrating local cultural elements into design and operations enhances regional identity. For instance, campus renovations preserve original architectural features, interior decorations showcase traditional folk art, and event planning incorporates traditional festival culture. By restoring revolutionary sites, Jian Tian Township has established revolutionary exhibition halls and red lecture halls, attracting over 30,000 visitors annually while achieving the dual goals of cultural preservation and economic growth (Zhou & Liu, 2023).

3.3.3. Foster Local Operation and Management Capabilities

While foreign capital brings financial resources and expertise, it may also lead to "cultural incompatibility" issues. Therefore, cultivating local operational and management capabilities is crucial for sustainable development. Strengthening the training of rural local talents through programs like internships and knowledge-sharing exchanges can enhance their operational management skills. Jia (2020) suggests establishing a mentorship system where external professionals pair with local talents to facilitate knowledge transfer. Encouraging returnee entrepreneurs to revitalize underutilized school buildings proves valuable, as they possess both urban market insights and rural practical knowledge, serving as vital bridges between urban and rural areas. Implementing incentive mechanisms for local talents—such as preferential compensation and career development opportunities—can help retain skilled personnel. Simultaneously, rationally integrating idle resources with targeted investments is essential to avoid waste. These measures fundamentally address the hollowing-out issue in small-scale rural schools.

4. Conclusions and Perspectives

4.1. Research Conclusion

Based on the theory of resource regeneration and social ecology, this study sys-

tematically analyzes the current situation, problems, and countermeasures of the revitalization and utilization of idle school buildings in rural areas, and draws the following main conclusions.

First, revitalizing idle rural school buildings holds significant practical value. Currently, China's countryside faces a massive and widespread issue of underutilized school facilities, resulting in substantial resource waste. Meanwhile, rural areas have pressing needs in public services, industrial development, and cultural preservation. By repurposing these idle buildings, we can effectively address these demands while optimizing resource allocation.

Second, revitalizing idle rural school buildings faces multiple challenges. Key issues include resource underutilization and demand mismatch, inadequate revitalization mechanisms, insufficient supporting infrastructure, and a lack of coordinated efforts among stakeholders. These problems severely hinder the full realization of idle school buildings' value, requiring systematic optimization through comprehensive approaches.

Third, establishing a tripartite collaborative framework of "government + market + rural stakeholders" serves as an effective solution to address idle school buildings. At the governmental level, this requires refining planning standards, increasing fiscal support, and strengthening regulatory services. The market sector should focus on attracting private capital, diversifying business models, and developing operational mechanisms. Rural stakeholders need to enhance participation awareness, tap into local resources, and cultivate local expertise. Only through coordinated efforts by all three parties can idle school buildings be transformed from "dormant assets" into "vibrant resources" (Li & Wu, 2020).

4.2. Research Limitations

While this study systematically explores the revitalization of idle rural school buildings, it still has certain limitations. Firstly, the research primarily relies on literature analysis and case studies, lacking substantial empirical data support from large-scale samples, which means the generalizability of the conclusions requires further verification. Secondly, the analysis of differences among idle school buildings across various regions and types is not sufficiently in-depth, and the proposed countermeasures may need to be adjusted according to specific circumstances.

Thirdly, the study lacks precise economic benefit measurement for the revitalization and utilization process, with insufficient input-output analysis, making it difficult to accurately assess the economic feasibility of the project. Finally, the identification of risk factors during the revitalization and utilization process is not comprehensive enough, and the targeted risk prevention measures need to be strengthened.

4.3. Future Research Direction

Based on the limitations of this study and the practical needs of revitalizing idle

rural school buildings, future research can be carried out from the following aspects.

First, strengthen empirical research. Through large-sample questionnaire surveys and field investigations, collect detailed data on the revitalization and utilization of idle school buildings in different regions and types, and use econometric methods to analyze the key factors affecting the revitalization and utilization effect, so as to improve the scientific validity and reliability of research conclusions.

Second, deepen regional disparity research. Conduct differentiated studies based on varying socioeconomic development levels, resource endowments, and cultural characteristics across regions, and propose more precise revitalization strategies. Pay special attention to the differences in revitalization models between the developed eastern regions and the less developed central and western regions.

Third, improve the benefit evaluation system. Establish a scientific project benefit evaluation model to comprehensively assess the revitalization project from multiple dimensions, such as economic, social, and ecological benefits. Focus on the long-term sustainability and comprehensive value creation capacity of the project.

Fourth, strengthen the research on risk control. Identify the various risks that may be faced in the process of activation and utilization, including policy risks, market risks, operational risks, etc., establish a risk early warning mechanism and coping strategies, and improve the project's ability to resist risks.

Fifth, explore the application of new technologies. Study the application of big data, artificial intelligence, the Internet of Things, and other new technologies in the revitalization of idle school buildings, explore intelligent management and service models, and improve the scientific and technological content and modernization level of revitalization.

The in-depth development of the above research will provide more scientific theoretical guidance and more effective practical paths for the revitalization and utilization of idle school buildings in rural areas in China, and contribute further to the comprehensive promotion of the rural revitalization strategy.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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