Public Sector Design Efficacy in Rural Development: *A Case Study of the Future Village Project in Changdai Village, China*

Shan Su, Xi Ji, Zhenhua Su, and Aimei Chen*

The College of Media and International Culture, Zhejiang University, Hangzhou, China

Design has become a crucial instrument for fostering innovation in the public sector to address intricate social and policy issues. In rapid urbanization, considerable scholarly interest has been in applying design principles to modernize rural communities, revealing several critical issues requiring thorough research in public sector design. These include aligning policy with community needs, finding common ground among various government entities and local and external stakeholders, and building sustainable and fair communities. A comprehensive review of the policy design, mechanism design, and rural planning for the Future Village project in Changdai Village, China, reveals that the key strategies for successful design are activating community resources, balancing policy directives and community needs, and leveraging diverse stakeholder participation. In the initial stages of the design process, policymakers seek innovative opportunities within existing policy and institutional frameworks and promote policy upgrading, resulting in higher-level government approval and increased design legitimacy. Furthermore, during the implementation phase, the public sector activates community social capital and improves participation mechanisms, facilitating the genuinely community-centered design and enhancing the design's adaptability and sustainability.

Keywords **–** Public Sector Design, Design Thinking, Rural Design, Rural Planning.

Relevance to Design Practice –Taking service innovation as part of public sector research, this paper examines a case study of multi-stakeholder involvement in village design. The research results can help the public sector improve design efficiency and promote a sustainable community.

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Introduction

Regional planning and design constitute a goal-oriented decision-making process integrating multiple considerations, including economic, social, and cultural conditions and ecological environments. This multifaceted process typically entails the collaborative engagement and negotiation between the public sector entities and diverse stakeholders (Faludi, 1985). The public sector refers to entities endowed with public authority by the state, which manage public affairs with the organizational objective of serving the common interests of society (Verhage, 2003). In the context of globalization and modernization, a key challenge faced by the global public sector is how to engage diverse actors in public decision-making to achieve community goals of justice, equity, and environmental sustainability, along with service obligations (Bason, 2014).

Design thinking is a *human-centered* approach that emphasizes empathy, experimental, and procedural workflows, utilizing collaborative methods to develop more effective solutions. In recent decades, it has emerged as a potential strategy for optimizing public governance (Barzelay, 2019; Bason, 2017). An increasing number of governments and municipal institutions have established innovation labs or design studios to enhance the participatory nature and effectiveness of public decision-making (Mensonen & Hällström, 2020). This approach aims to improve the innovation capacity and efficiency of policymaking in the public sector (Tõnurist et al., 2017), ultimately enhancing public services and addressing social issues (Kimbell et al., 2022).

In terms of research scope, similar to most design disciplines, existing research on design thinking and design in the public sector primarily focuses on urban contexts, while explorations of design innovation and multi-stakeholder collaboration mechanisms in rural settings are relatively scarce (Thorbeck, 2012). However, the latter is the focus of this study. Since the 1980s, with the influence of neoliberalism and communitarianism on governance and planning, rural development discourse and strategies have become increasingly localized, emphasizing endogenous and place-based development rather than alignment with top-down planning or urban modernization processes. Furthermore, a range of global challenges has drawn more attention to rural areas (Hulme, 2008; Lawrence et al., 2013).

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***Corresponding Author:** chenam@zju.edu.cn

From climate change to food and energy security, biodiversity to ecosystem services, and recreational to tourism infrastructure development, rural areas and their communities have become key sites for addressing a range of critical planning and design issues. The pursuit of community resilience, justice, and sustainability is not only vital for the future of rural areas but also directly impacts sustainable development on a broader regional scale (Morrison et al., 2014; Woods, 2012). These changes render the rural planning and design processes fraught with uncertainty. The differentiated perceptions of rural development from stakeholders at various levels of government, market, social organizations, and within communities require the public sector to balance differing needs while formulating the most beneficial solutions for rural communities.

Based on the above, this study aims to explore the innovative potential of public sector design strategies within the social structures and resource conditions of rural areas, with a particular focus on collaboration and participatory mechanisms in the design process. In addition, it also involves discussions on the transformation of rural development and the changes in national governance. The study has chosen the *Future Village* project in Changdai, Hangzhou, China, to deeply analyze the concrete practice and prospects of village design. Since the 21st century, China has initiated numerous national and local programs to enhance the effectiveness of rural planning and design, seeking to leverage rural resources to explore sustainable new community models. The *Future Village* project, launched in Changdai Village in 2022, has proven to be one of the most effective endeavors. This case study places special emphasis on identifying potential challenges that public sector institutions might encounter when integrating design thinking into rural planning and design processes and seeks to explore possible solutions to these challenges.

The structure of the paper is as follows: After introducing the premises and research question, this paper elucidates the design and implementation phases of the *Future Village* project in Changdai Village, detailing the encountered frictions and the comprehensive strategies employed to resolve these challenges. Subsequently, the analysis examines practical cases and strategies by which the public sector realizes design innovation within the constraints of policy and institutional frameworks. The case study illustrates that establishing a shared vision, alleviating excessive regulation, and clearly defining the roles and responsibilities of diverse stakeholders are viable mechanisms for facilitating multi-stakeholder deliberations. Finally, the conclusion and discussion sections suggest that genuinely community-centered planning and design should avoid one-dimensional interventions or transformations, and reflect on the broader impacts of design interventions in rural areas.

Shan Su is a doctoral candidate in the College of Media and International Culture at Zhejiang University. Her primary research fields encompass environmental art design, social transformation, rural development, aesthetics and social change, as well as design aesthetics. She has experience working at an architectural planning and design institute and has interned in a municipal department.

Xi Ji is a doctoral candidate in the College of Media and International Culture at Zhejiang University, specializing in aesthetics. Her current research focuses on design aesthetics and creative cities, particularly exploring the intersection and innovative interaction of urban industrial development, urban public space, landscape ecology, and city image.

Zhenhua Su is a professor in the College of Media and International Culture at Zhejiang University. His primary research fields include public administration, public sector design, public governance and collective action, and political development. His works have appeared in some international academic journals such as the *Journal of Democracy*, *International Sociology*, *Social Science Quarterly*, *Pacific Affairs*, etc., and in several leading Chinese academic journals like the *Sociological Studies*, *Journalism & Communication and Philosophical Researches*.

Aimei Chen is a doctoral candidate in the College of Media and International Culture at Zhejiang University. Her research focuses on rural governance, rural development, and community services. With nearly four years of extensive fieldwork experience, she has researched villages across China, including recent studies in southern Chinese villages.

Design Thinking in the Public Sector

Design thinking is a systematic approach to problem-solving, often described as a user-centered iterative process (Krippendorff, 2006; Schön, 1983) and a way of working that integrates multiple perspectives (Carlgren et al., 2016). This approach allows designers to test early solutions before fully understanding the given problem, forming an iterative process distinct from traditional linear problem-solving models (Lawson, 2006; Schön, 1983), thereby facilitating the discovery of potential paths to innovation (Dorst & Cross, 2001; Raynor et al., 2017). Human-centeredness lies at the core of design thinking methodology (Escobar, 2018; Munger & van Dael, 2020), offering a structured approach to prioritize user experience and satisfaction. It comprises five stages: empathy, definition, ideation, prototyping, and testing (Lewis et al., 2020). Throughout the design process, designers continually gain user feedback through empathy and optimize both the user experience and solutions through multiple iterations, ultimately arriving at the optimal path (Brown, 2009; Raynor et al., 2017).

In the past decade, design thinking has expanded beyond commercial products and services, becoming widely applied in the innovation management of various sectors, including education, corporate management, and healthcare (Lockwood, 2010; Shluzas et al., 2016). Numerous studies have demonstrated that design thinking contributes to achieving sustainable competitive advantage (Collins, 2013), enhancing profitability (Clark & Smith, 2008), and formulating effective strategies (Liedtka, 2015). In practice, there are four ways design is embedded within organizations: as an external resource, as part of an organizational function, as the core of the organization, and as a tool integrated across the organization for exploring the future and developing comprehensive solutions (Junginger, 2009). These four approaches represent a gradient of practices through which design becomes increasingly integrated into the functions and culture of the organization. The deeper the integration, the higher the design's status within the organization, allowing it to subtly influence the mindset of employees and decision-makers, thereby addressing deeper structural issues (Svengren Holm, 2013). Thus, unlike the design of tangible artifacts, when designing for organizations such as businesses, volunteer groups, or government agencies, the designer's key objective becomes *shaping and transforming specific organizations* (Simon, 1996).

As design thinking is increasingly employed across many fields, a growing body of research advocates for its implementation in the public sector (Hermus et al., 2020). Especially over the past two decades, public sectors worldwide have encountered escalating pressures to deliver public services (Power, 2004). These pressures stem from the rising costs of services (van de Walle & Jilke, 2014), the increasing complexity of *wicked problems* involving multiple factors and stakeholders (Buchanan, 1992), and the growing public expectations for services (Allio, 2014; Carida et al., 2022). Given the circumstances above, public sectors are required to improve the efficiency of public services and develop more strategic, collaborative, and networked governance approaches (Allio, 2014; Carida et al., 2022). The existing literature highlights the benefits of design thinking in the public sector. Design thinking enhances the efficiency and effectiveness of public service delivery by identifying problems and needs, integrating resources, and optimizing decision-making processes (Liedtka et al., 2017; Tõnurist et al., 2017), enabling the development of more forward-thinking resource-constrained and budgetary-pressured strategies under resource constraints and budgetary pressures (Anthopoulos et al., 2007).

On the other hand, in response to the diverse needs and values of society, public sectors have increasingly adopted design-thinking approaches, aiming to engage citizens in decision-making processes related to public service management and delivery. This fosters the development of more collaborative, sustainable, creative, and equitable social and economic systems (Jegou & Manzini, 2008; Thackara, 2007). Public participation in governance is increasingly regarded as a form of accountability within democratic systems. Consequently, various design practices, such as participatory design and co-design (Liesbeth et al., 2017), have been widely applied in the public sector to strengthen participatory governance. These practices help formulate policies that better reflect the needs and conditions of local communities (Bason, 2014) and address the growing number of *wicked problems* involving multiple factors and stakeholders (Buchanan, 1992).

Design Thinking in Rural Planning

Among the many challenges faced by the public sector, the urgency of issues such as climate change, food security, and sustainable development is becoming increasingly evident. These global challenges significantly impact rural areas and profoundly shape national planning policies (Brenner & Schmid, 2014). Under the expansion of urban areas and the influence of modernist-driven rural planning, rural societies have undergone profound demographic, economic, cultural, and environmental changes (Qu et al., 2018; Rodríguez-Pose & Hardy, 2015). With the increasing interdependence between urban and rural areas, local and global contexts, and environmental and economic systems in the era of globalization, recent research has increasingly focused on developing the capacities and institutions necessary to achieve sustainable development goals in rural areas (Gallent et al., 2017; Hibbard & Lurie, 2012; Woods, 2012). This has made the topics of rural area planning, rural resource management, and rural development a priority in the governance of many countries and regions around the globe, as well as in some regional, transnational organizations.

Rural planning refers to a set of policies and plans aimed at addressing the economic, social, and physical aspects of rural areas. It involves planning how people sustain their livelihoods while safeguarding the natural, environmental, and social resources of non-urbanized areas, i.e., the *rurality* of the countryside itself (Hemalata, 2015). Thorbeck distinguishes between urban and rural planning and design: the former focuses on *infrastructure and public spaces*, whereas the latter seeks to *understand and embody the distinctive characteristics of open landscapes and ecosystems* (Thorbeck, 2012). Unlike traditional rural planning, which has been dominated by agricultural interests since the mid-20th century (Lapping & Scott, 2019), contemporary rural planning and design emphasize the *multifunctionality* of rural areas (Holmes, 2006; McCarthy, 2005). This approach aims to balance multiple functions and needs—such as production, consumption, and conservation—by leveraging rural resources to diversify the rural economy and sustainably develop land (van Buuren et al., 2013).

Another noteworthy trend is that, influenced by neoliberal thought and participatory governance models, the public sector is no longer the sole decision-maker in rural planning. In particular, the processes of rural space and territory planning, especially those concerning land use and natural resource management, have incorporated a broader array of public and private stakeholders, although they remain predominantly led by the public sector (Albrechts, 2004). This shift arises from the gradual abandonment of the expert-driven, top-down, highly modernist approach to rural regional planning that has been prevalent since World War II. Concerns have emerged regarding the perception of the state as a tool of exploitation, suppressing individual or collective initiative (Hyden, 1997). Local communities and non-governmental organizations have begun to play more significant roles, as they are viewed as possessing a better understanding of the complexities of social and environmental issues at local or regional levels and serving community needs (Carr & Halvorsen, 2001). The rise of localism has led to greater emphasis on the economic resilience, social interaction, and cultural diversity of rural communities in planning. Different countries have adopted varying degrees of planning decentralization policies, leading to *collaborative planning* characterized by interactions among multiple stakeholders (Innes & Booher, 2010).

Overall, contemporary rural planning and governance need to address challenges at both micro and macro levels. At the micro level, it is crucial to provide rural infrastructure and public services at low cost, improve residents' quality of life, and sustain the ecosystems they rely on. At the macro level, it is important to respond to key global issues such as healthy human development by improving natural resource management patterns in rural areas. Against this backdrop, many scholars have recognized the value of applying design thinking to rural planning and development (Thorbeck, 2012). On the one hand, the multifunctional transformation of rural areas reflects the diverse and overlapping competitive demands they embody. The human-centered principles of design thinking can help planners and designers break free from the constraints of existing policies and systems, enabling them to better understand the unique characteristics of rural areas and transform planning tools and

approaches. This shift improves problem definition and mechanism design within the planning process, resulting in more targeted rural development strategies (Mintrom & Luetjens, 2016). On the other hand, in governance contexts characterized by the coexistence of multiple actors, the participatory and collaborative approach of design thinking can be applied to negotiation processes that involve multiple stakeholders and require balancing conflicting interests. This approach facilitates cooperation among citizens, planners, and various levels of government, enabling them to work iteratively and collaboratively. It also helps bridge the gap between policymakers and communities, promoting the implementation of planning practices and the realization of planning visions (Raynor et al., 2017). In this sense, rural design becomes a means of linking global economic, environmental, and social issues to pursue public interest (Hulme, 2008; Lawrence et al., 2013).

Possible Challenges in Rural Design

Based on the global goals of sustainable development, rural design has emerged as a way to connect economic, environmental, and social issues in response to public interest (Hulme, 2008; Lawrence et al., 2013), aiming to *make better places* (Healey, 2010) by addressing the challenges it faces both locally and globally (Abram, 2016). Drawing on research from design studies, planning, and public administration, this paper identifies three factors that may hinder the effectiveness of design thinking in fostering innovation in rural planning and design within the public sector: the complexity of public institutions, the diverse needs of the communities being served, and the neglect of power structures inherent in design thinking.

Existing studies have found that when design is introduced into strictly hierarchical public institutions, the first challenge arises from the strong organizational inertia within the public sector itself (Pirinen et al., 2022). As previously mentioned, the extent to which design integrates with the functions and culture of an organization determines the impact it generates. The fundamental issue lies in the fact that design embodies a set of values and logic fundamentally different from those of traditional public administration. This divergence is particularly evident in departments that emphasize rules and procedures or in design industries that are highly specialized and process-driven, where significant resistance is often encountered. For example, in planning departments within specific national contexts, the tools and regulations employed typically represent politically sanctioned frameworks of action, leaving little room for radical perspectives within statutory planning (Barnett et al., 2015). Influenced by bureaucracy, formal planning systems prioritize path dependence and consistency, often neglecting effectiveness and efficiency. The external nature of design prevents it from being fully embraced by the public sector, thereby limiting its impact. A study on the application of design thinking in urban planning also found that differences in how design thinking is perceived by its practitioners and urban planners can hinder the realization of its potential (Mensonen & Hällström, 2020).

In addition, the divergence between needs and desires imposes higher demands on the flexibility of planners and designers, as well as their ability to manage diversity and foster competitiveness. From climate change to food security and from social equity to economic development, the challenges faced by rural design are inherently interdisciplinary and involve multiple stakeholders. Conflicts between the values of different stakeholders and the needs of communities further complicate negotiation and interaction in rural planning and design. For example, unlike urban communities, rural communities tend to be relatively autonomous. Wilkinson (1991) also describes them as *rural publics*; on the one hand, communities may not perceive the strategically prioritized planning objectives set by external actors—such as professional planners or central and local governments—as appropriate for their context (Hooper, 1996). On the other hand, modernization has triggered internal differentiation within rural communities, leading to divergent expectations for the community's future and varying interpretations of justice among residents (Wood, 2012). These differences in perspectives, demands, and interests highlight the competing needs in rural design, making the development of viable solutions increasingly difficult.

Lastly, the workflow of design thinking itself has also faced criticism. Inevitably, design is influenced by the subjective factors of designers, such as their skills, attitudes, and values (Auernhammer & Roth, 2021). As a professional group, planners share common values, visions, and social status, which shape their planning actions (Healey & Williams, 1993). In policy design and implementation, the design process may lack genuine democracy and inclusiveness, especially within contexts permeated by politics and power dynamics (Raynor et al., 2018). Without sufficient transparency and effective public participation mechanisms, the power and agency of other stakeholders may be overlooked, leading to policies that diverge from public interests (Singh Rathore, 2022). Therefore, some critics argue that applying design thinking in the public sector could serve to preserve and defend the status quo, thereby hindering the emergence of genuinely innovative ideas (Iskander, 2018). Under such circumstances, the benefits of rural planning and design remain limited to procedural improvements, failing to address issues such as the concentration of power within local governments, the marginalization of communities, and the tendency to preserve the status quo (van der Bijl-Brouwer et al., 2015). Moreover, this approach may even undermine sustainable economic development in rural areas.

In summary, existing studies have extensively explored the application of design thinking in the public sector. Still, there is a general lack of discussion on the mechanisms of multi-stakeholder interactions and the balancing of needs in complex community environments. Besides, the extent to which design thinking can contribute to effective planning for rural areas and communities in transition and the limits of design thinking need to be further explored. In response to these questions, the following sections present an empirical study of the *Future Village* project in Changzhai Village, Hangzhou, Zhejiang Province, China, with the analysis centered around the following three questions:

- How can the public sector overcome existing organizational and planning cultures to integrate design thinking and enhance the efficiency of public policies?

- How can the public sector implement effective design strategies within complex rural social structures, balancing preserving traditions with promoting innovation while fostering socially just communities?
- What measures should the public sector take during the design process to bridge conflicts among diverse stakeholders and promote the sustainable development of rural design?

In answering these questions, the study will also discuss the transformation of rural development and changes in national governance behind design interventions in rural planning, which help better understand the changes brought about by design.

Case Introduction

Changdai Village is located in Zhuantang Subdistrict, Xihu District, Hangzhou, Zhejiang Province, China, approximately 15 kilometers from downtown Hangzhou. The village covers an area of 3.12 square kilometers, with more than 360 households and a population of over 1,500. Hangzhou, situated in eastern China, is known for its economic prosperity and scenic beauty, with a per capita GDP of USD 23,000 in 2023, providing a favorable external environment for the development of Changdai. The village boasts diverse natural landscapes, including over 1,500 亩(mu) of well-maintained tea plantations, which have sustained local livelihoods for generations through tea cultivation. Leveraging its rich natural and cultural resources, Changdai has embarked on developing a cultural and creative industry and tourism sector focusing on *Tea + Art*. The villagers' per capita income has increased steadily, reaching 58,031 RMB in 2022, with the village welcoming nearly 600,000 tourists that year.

From 2003 to 2023, Changdai Village underwent several significant phases of development (see Figure 1), including environmental management, infrastructure construction, and industrial upgrading, gradually transforming from a traditional agricultural village into an arts-oriented village. Before 2009, village planning primarily focused on environmental restoration and infrastructure improvement. However, from 2010 onward, greater emphasis was placed on ecological conservation, industrial upgrading, and the establishment of public service facilities. For example, establishing the first artist-led public welfare training program in 2010 and creating artist communities in 2017 have provided structured support for the standardized development of local art initiatives. In 2015, Changdai Village was incorporated into the Longwu Tea Town, a development zone centered around the *Tea + Tourism* theme rather than an administrative unit. This incorporation initiated a new wave of environmental improvements and service upgrades, adding tourist facilities such as parking lots, public restrooms, and bike-sharing stations. In 2016, an old factory within the village was transformed into an art park known as the Baihualin Handcraft Garden, drawing a growing number of artists to settle and create. Currently, more than 200 artists are engaged in artistic endeavors in the village.

In 2021, Changdai successfully applied for Zhejiang Province's *Future Village* project, which involved planning and design initiatives spanning landscape enhancement, community services, and industrial development. The project aims to build a model for innovative rural communities and offer replicable approaches to rural development. Between 2022 and 2023, Changdai passed provincial and municipal evaluations for the *Future Village* project due to its livable environment, well-planned community, and successful economic development. This paper focuses on the design practices of the *Future Village* project in Changdai Village.

To understand the overall context of the *Future Village* project, it is essential to briefly introduce the basic situation of rural development and rural planning systems in China. In 2006, the Chinese government officially abolished the agricultural tax, marking a shift in the long-standing urban-rural relationship where rural resources were used to support urban development. Over the following decade, an increasing number of favorable policies and resources were directed toward rural areas to promote urban-rural interaction and rural development. The dynamically improving rural planning system corresponds to the transformation of rural development. *The Urban and Rural Planning Law of the People's Republic of China* was officially enacted in 2008, marking the first time that a clear legal status was given to the rural planning system at the national level. This period saw a gradual extension of urban planning into rural areas, which promoted the modernization and reconstruction of China's countryside (Bray, 2013). The country's planning system operates under a multi-level management model led by the central government, which gradually refines planning content and objectives from the national level down to the provincial, municipal, county, and township levels (Frank et al., 2020). According to the Urban and Rural Planning Law of the People's Republic of China, the rural planning system is divided into township and village planning, formulated by local governments. These plans should comply with national and regional planning objectives while considering local conditions to develop specific planning proposals. For instance, Figure 1 illustrates the hierarchical top-down concretization process from the national level to Zhejiang Province and further to Hangzhou.

In many regions, rural plans are drafted by professional teams or companies commissioned by local governments, often neglecting the voices of local stakeholders. However, the Future Village project in Changdai offers an exceptional case. This initiative incentivizes villages to engage in self-directed design and transformation by awarding honorary titles and financial support. The basic process involves villages independently designing their redevelopment plans, implementing changes, and submitting proposals for the *Future Village* designation, which public authorities then review and approve. The decentralization of planning authority to local communities has allowed shared ideologies, norms, and values within village communities to play an increasingly important role in planning and implementation. Consequently, planners are required not only to grasp broader policy intentions but also to adapt plans to local resources, economic conditions, and cultural contexts to ensure practical and effective outcomes. The subsequent analysis of the *Future Village* project in Changdai Village demonstrates that design thinking can, to some extent, reconcile the interests of various parties and enhance collaboration and effectiveness in the rural planning and design process.

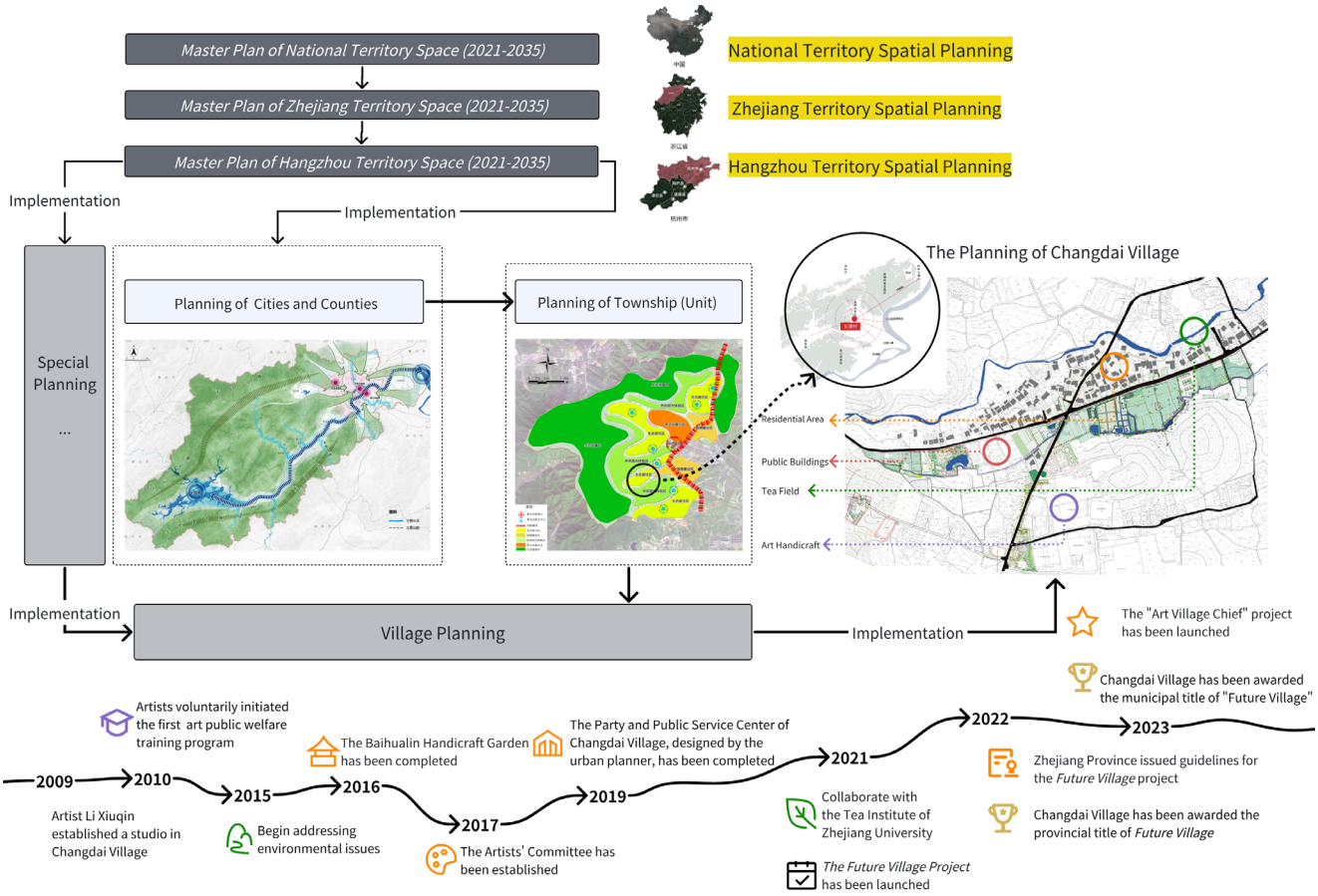

Figure 1. Planning of Changdai Village and notable stages of development in the village.

Methods and Data

To thoroughly examine the rural design process and outcomes of the *Future Village* project in Changdai Village, this study conducted multiple rounds of field research to observe the planning and implementation process, as well as the composition of stakeholders. Additionally, semi-structured interviews were employed to gather insights from various stakeholders, providing a comprehensive and in-depth case analysis. By integrating case study analysis with an in-depth review of interview materials, this study intends to capture and track new practices emerging from rural design practice to better answer the triple challenge of rural design presented earlier.

This study began focusing on the *Future Village* project in 2022, with multiple visits to Changdai between 2022 and 2024 to monitor the progress of the planning practices and conduct interviews with professional planners, designers, and local residents. From 2023 to 2024, one of the authors worked alongside civil servants in the Hangzhou Municipal People's Government on matters related to the *Future Village* project. This immersive engagement allowed for deeper insights into the institutional processes and facilitated the identification of suitable interviewees—individuals with extensive experience and active roles in rural planning and development. These interviews provided valuable perspectives on the design practices and challenges faced throughout the project.

Through field research and participatory observation, we learned that the primary planners of the *Future Village* project in Changdai include local government departments, the village committee, and professional planning and design teams. Multiple units from both Hangzhou's municipal and Xihu District governments, such as the departments of planning and natural resources, housing and urban development, and water resources, contributed to the formulation of policy frameworks, project oversight, and technical support. Notably, the Hangzhou Municipal Bureau of Agriculture and Rural Affairs (HMAR) played a crucial role as the comprehensive coordinator of rural development, policymaker, and reform advisor. It also serves as the initiator of Hangzhou's *Future Village* project. The Changdai Village Committee undertakes the management and service functions of the village, with its members absorbing the opinions of villagers to refine the planning scheme and formulate specific implementation strategies. Meanwhile, planners from the Hangzhou Urban Planning and Design Institute were in charge of spatial and landscape planning for the village. A distinctive stakeholder group in Changdai Village's *Future Village* project

is the **New Artist Residents**. These artists, who live and work in the village, have become deeply involved in its planning and development. Some have even been hired as part of the planning team, contributing to the design of the village. Additionally, a leading group of artists was assigned the innovative administrative role of **Art Village Chief**, further integrating artistic perspectives into the governance and planning processes.

We have categorized the stakeholders in rural design into local and external actors. The local actors include the village committee, typically composed of *village elites* (successful individuals who have returned to their hometowns) and local residents. The external actors mainly consist of government entities and market entities. Different stakeholders from the community, local government, and non-governmental market organizations form a multi-interested rural design collective (see Figure 2). Local actors, including village leaders and residents, have resource-based advantages, as they are more familiar with local industries and cultural practices. They provide essential material and human resources for rural design. External actors, such as professional planners and designers, bring expertise and efficiency to the process. They are better equipped to identify the village's needs and development opportunities, offering high-quality design services at lower costs.

In practice, these three groups have varying degrees of collaboration and conflict, resulting in different experiences and levels of recognition regarding the same village plan. These dynamics influence how each group perceives and engages with the outcomes of the rural design process. To gain a complete understanding of the story, the semi-structured interview script was designed for three different groups of stakeholders.

The interviews were conducted in a semi-structured format, meaning they were guided by specific themes but with a flexible question structure that allowed the interviewer to develop new questions based on respondents' answers. This approach facilitated the discovery of previously overlooked or underappreciated facts. Five HMAR officers and leaders were interviewed as representatives of government entities with experience in rural development and who have been responsible for reviewing and advancing the *Future Village* project. The interviews focused on the policy design process, government-community objectives, and urban-rural planning strategies.

On the side of local actors, the primary village leader, who has long managed the village's public affairs, was interviewed. This interview explored the experiences related to project design, application, and implementation—crucial information for understanding the overall project process. Many villagers were

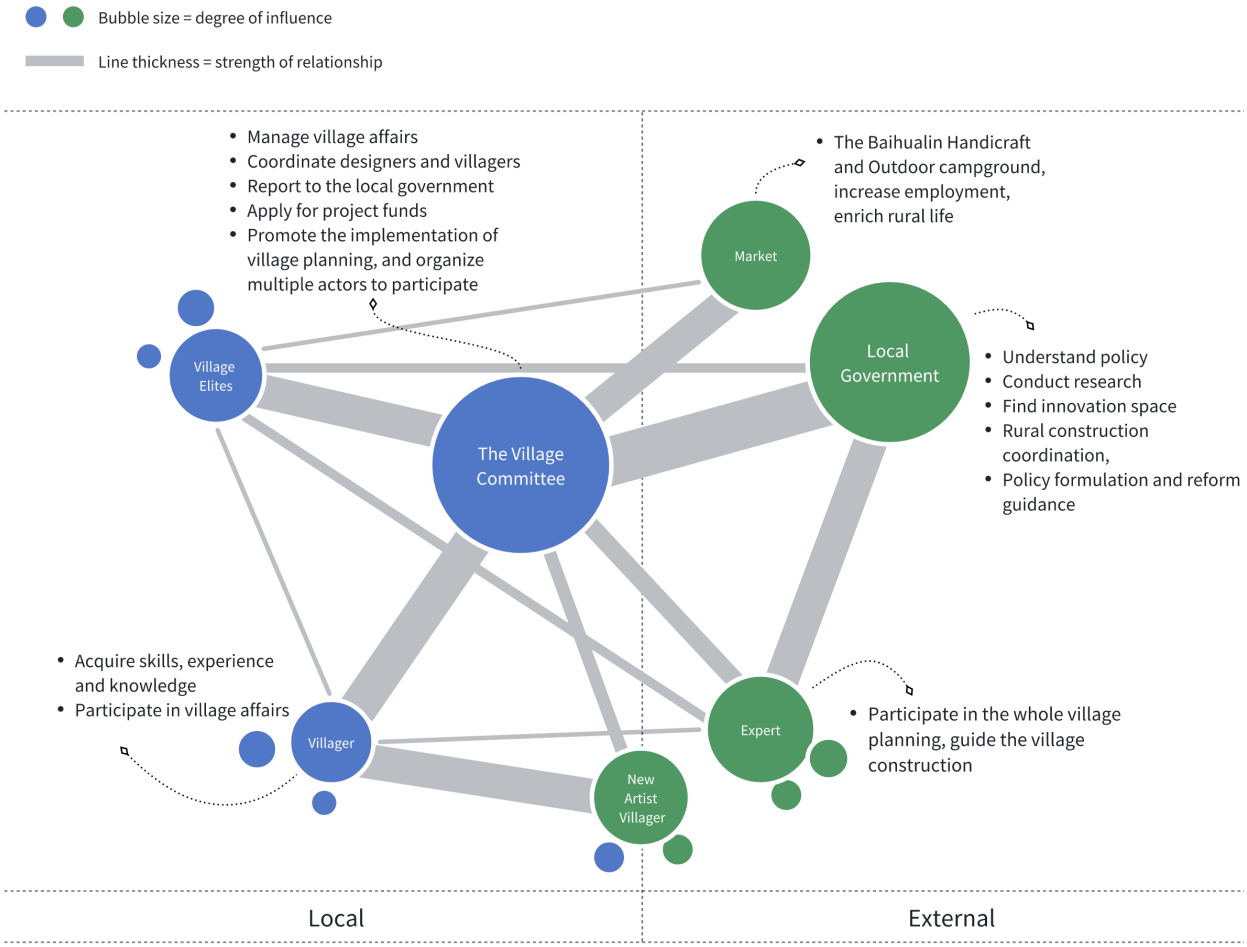

Figure 2. Multi-stakeholder interactions in rural construction.

interviewed, including entrepreneurs, restaurant owners, elderly villagers engaged in traditional agriculture and young people who have returned to the village to live. These individuals were chosen for their diverse backgrounds and perspectives, offering multidimensional viewpoints and data. The interviews explored whether and how they participated in the rural design process, capturing their evaluations of the design and the changes within the village. These assessments serve as critical references for evaluating the effectiveness of the rural design.

Among the external actors, a landscape designer who has been closely involved in the *Future Village* project in Changdai was interviewed. The discussion focused on the design team's rural planning philosophy and design process. Additionally, an artist residing in the Baihualin Handcraft Park was interviewed to explore the role of the **New Artist Residents** in the village's development. A small business owner in the village was also selected as an external actor, with the interview focusing on the attraction of rural design to economic activities. His experiences and insights directly relate to the research questions of this study.

Case Analysis

Drawing on insights from interviews with different stakeholders, the study categorizes the planning and implementation stages of the *Future Village* project in Changdai into three types of rural planning and design: landscape design (focused on public space and architecture), mechanism design (focused on multi-stakeholder interaction and negotiation), and policy design (focused on the optimization and iteration of relevant policies). The analysis below demonstrates that, although these three types of design face multiple challenges, as identified earlier, they have nonetheless shown considerable effectiveness in promoting development and ensuring fairness in Changdai Village.

Landscape Design

Between 2019 and 2021, the planning scheme for Changdai Village underwent multiple iterations, with the design theme evolving from the initial concept of a *Creative Cultural Village* to an *Artistic Community within an Integrated Park* and later to a *Land Art Park*. Designer E described his design process: based on the geographical elements of Changdai, including mountains, valleys, streams, fields, and forests, we interpreted the relationship between village residences and farmland as one between dwelling and garden. The original terrain of the *earth park* was derived from the natural landscape of mountains, waters, and fields. Through reorganizing roads, restoring natural elements, and connecting community blocks, we aimed to provide public landscapes to support community life. The design process includes gathering and identifying the fundamental information required for the design, translating the extracted spatial elements into the design language, and developing design proposals (see Figure 3). The landscape design team adopted innovative approaches to harmoniously integrate Changdai's traditional rural environment with the needs of modern living, reconfiguring pastoral landscapes and community spaces.

The landscape transformation of Changdai has received positive external feedback and generated significant economic returns. The integration of traditional and modern aesthetic styles in its architecture, parks, and sculptures has made the village a popular destination on social media, attracting numerous tourists and contributing to its economic growth. The relatively relaxed management and scenic environment have also drawn a community of artists seeking creative freedom. We interviewed an artist at Baihualin Handcraft Park. He mentioned that he relocated his studio from a city office building to here because the free-spirited atmosphere better suited his artistic practice while also allowing him to avoid the administrative burdens of urban life. Additionally, an entrepreneur, whose business is closely tied to tea culture, selected Changdai after extensive research on various locations, as the village's picturesque environment met his need for a comfortable venue to host clients.

Interviews with villagers reveal that their acceptance of spatial transformations is not founded on the same conceptual understanding as that of external stakeholders such as designers and artists. In reality, many villagers are not concerned with the *symbolic forms* of buildings and environments; rather, they focus on spatial activities that are directly relevant to their daily lives. A young villager remarked: "The reconstruction in recent years has been excellent. I enjoy strolling around the village after dinner, and when friends visit, I'm happy to show them around." Conversely, certain designs that conflict with the village's cultural heritage and traditional ways of life may not be understood by the villagers. For instance, after the design team arranged a bamboo grove, many villagers expressed concerns that it contradicted local customs and might bring bad luck.

An interesting observation is that compared to external designers, artists who live in the village seem to gain greater support from the villagers in terms of design expertise. The art workshop has emerged as an effective model, where some artists regularly organize art education, craft training, and art exchange activities. The village children's paintings and sculptures are creatively used to decorate public spaces in the village, and many villagers have spontaneously decorated their front courtyards. One notable ongoing activity since 2015 is *Can I trade you a cup of coffee?* In this initiative, the children can bring their creations to the Birch Forest Craft Park in exchange for a free cup of coffee. Figure 4 depicts scenes of villagers participating in the beautification of their homes and public spaces. This initiative not only encourages the villagers' creative enthusiasm but also fosters social connections and trust between community artists and villagers, laying the foundation for consensus in subsequent planning consultations.

Mechanism Design

How to engage more people in a way that contributes to success is a key issue in the *Future Village project*. At the local government level, the authorities in Xihu District have attempted to involve local chambers of commerce and academic experts in village planning efforts, establishing mechanisms to promote

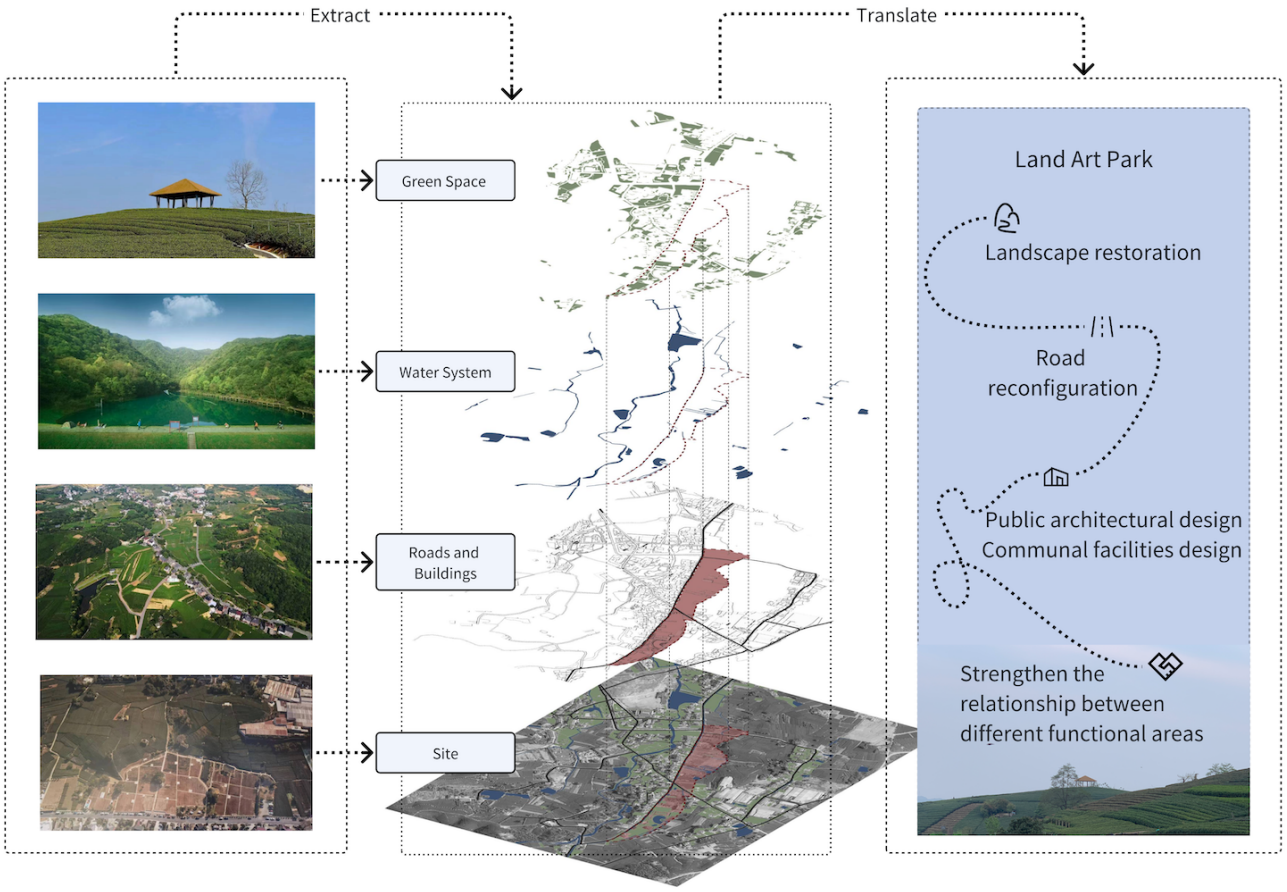

Figure 3. Landscape planning of Changdai Village in the Future Village project.

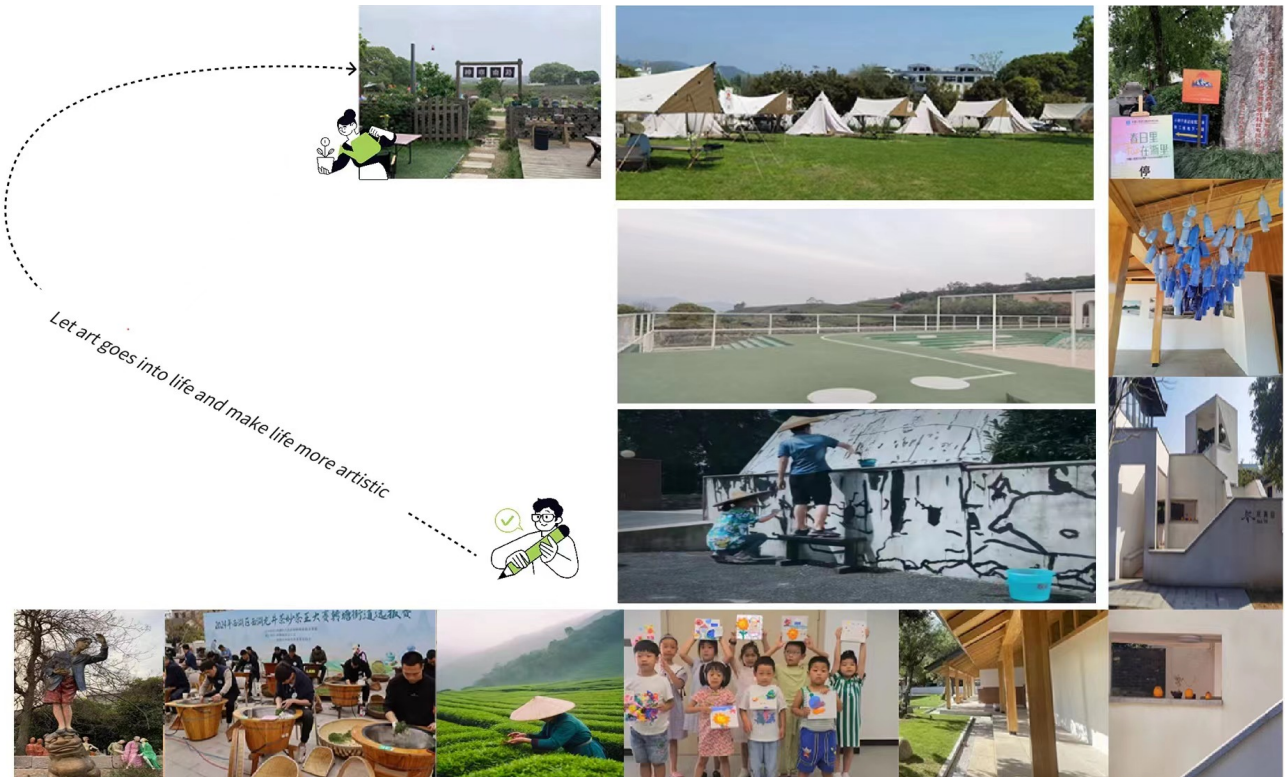

Figure 4. Artistic creation is integrated into villagers' lives.

collaborative practices. Additionally, encouraging university graduates or entrepreneurs who have left their rural hometowns to return and start businesses has been a key strategy in China's rural revitalization efforts in recent years. An HDMR staff member remarked: "Every village will have some talented individuals who are emotionally attached to their hometown. By attracting these native elites back to contribute and raise funds, resources can be brought back into the village." The activation of social capital brings more vitality to the village. In Changdai, the most popular café among tourists is run by a college graduate who returned to his hometown to start a business. Now it has become a frequent haunt for many local young villagers.

However, the involvement of multiple stakeholders inevitably brings about friction. An external designer noted that the most frequent planning conflicts with local villagers revolved around land use and resource allocation. For instance, the construction of a cultural park might require the use of villagers' private land. Even if the village committee steps in to purchase or lease the land long-term, the compensation offered may not meet the expectations and needs of all individuals. In terms of public resource allocation, village representatives may prefer to channel limited resources into education and healthcare services, while some villagers might focus more on how these resources could potentially enhance personal wealth and improve living standards. The conflict between public goals and private interests could result in villagers distrusting the designer, village leaders, or even higher-level government, thereby deepening divisions and exacerbating conflicts within the community.

During the implementation of planning, conflicts between policy objectives and design services may lead to friction among the design team, villagers, and local government. As a key provincial project, the *Future Village* initiative placed the village committee under pressure from periodic inspections by higher authorities. Municipal and district officials were often result-oriented, focusing on whether the plans aligned with higher-level policies, met construction standards, and satisfied residents. In contrast, the design expert team sought to integrate more design knowledge and artistic concepts, but these artistic pursuits often conflicted with the demands for efficiency. Since the phased project evaluations were tied to the disbursement of provincial funds, village staff were primarily concerned with whether observable improvements could be presented within the required timelines. As a result, they sometimes chose to overlook certain design details during the project's execution, leading to the incomplete realization of some spatial planning elements.

To reduce friction among different stakeholders and bridge divergent needs, the local government consciously empowered community residents and designers during the design process, fostering communication among various parties through improved participatory mechanisms. After the landscape planning team for Changdai Village proposed the initial renovation plan, they began negotiations and dynamic adjustments with village representatives and public sector staff, a process that continued throughout the design and construction phases. The finalized plan exhibited two main features: experts scaling back their professional ambitions and compromises being made among all parties. For instance, the original design for the village office included a water feature, but after consultations with village representatives, it was adjusted to a lawn. Although it was impossible to satisfy everyone, this consultative mechanism ensured that the design reflected the villagers' needs and opinions as much as possible, improving both its relevance and satisfaction.

Policy Design

In China's planning community, *speaking truth to power* is widely circulated, emphasizing planners' dual responsibility to both the government and society (Zheng, 2008). However, in practice, the implementation of this ideal often encounters limitations. Many local governments, constrained by financial difficulties or fearing mistakes, tend to follow conservative but safe planning paths, hindering policy innovation. Compared with other regions in China, Zhejiang Province has accumulated successful experiences in this regard, providing solid policy support for the implementation and execution of the *Future Village* project. As early as 2003, Zhejiang provincial authorities introduced the concept of *village planning*, officially designating it as a branch of spatial planning, and launched the *Thousand Model Villages, Ten Thousand Renovated Villages* project. This innovative decision was quickly replicated nationally and successfully continues today.

Interviews with several HDMR staff members reveal that the supporting policies for the Future Village project represent an innovative attempt. Unlike conventional policy directives, the municipal government did not impose a rigid planning path on the villages involved in the project. Instead, it adopted a flexible approach, considering the specific conditions of time and place, resulting in an overall experimental and exploratory character. A respondent of HDMR who has long been in charge of rural development emphasized that planning innovation requires breaking away from established thinking: "We are advancing our work amidst contradictions. On the one hand, we must follow the overarching direction from above, but we can't simply follow instructions. On the other hand, we must instead strive to achieve substantive outcomes and inject originality into our efforts."

Additionally, an interviewee, from a macro-vision perspective, outlined the local government's blueprint of the project: "The ideal village we envision harmoniously integrates the benefits of urbanization with the aesthetic appeal of rural landscapes, fostering a sense of relaxation, value, and belonging." This kind of vague but accessible visionary planning without strong target directives gives space and opportunity for innovation to districts, counties, and villages that have a high degree of initiative and adaptability. In addition, the advancement of urban-rural integration remains rooted in the continuity of community spirit, uniting rural communities through the preservation of natural and cultural landscapes and the creation of more public spaces. In Changdai, community activities have become more abundant than before, attracting a significant number of young people to voluntarily return to their hometown.

Even with some innovation, the upward accountability model limits the public sector's design space, and the clash between design thinking and strict organizational regulations can

lead to interruptions in design innovation. As a planning practice combining *bottom-up empowerment* with *top-down support*, the Future Village project in Changdai Village inevitably has to navigate the tension between policy rigidity and the flexibility needed for innovation. Another interviewed civil servant pointed out: "No matter what kind of innovation we pursue, in the end, we need to find a basis within existing national policies to implement it." During the practical phase, the conflict between bureaucracy and service efficiency manifested in various specific issues. For example, villagers in Changdai reported a shortage of public toilets, but efforts to address this were delayed due to the complex approval process required for changes in land designation.

In summary, the *Future Village* project in Changdai faces the complexities of public institutions, the diverse needs of the serviced community, and the contradictions between elite design and villagers' demands. In addition, as design transitions from external to internal aspects of the public sector, the tension between encountering friction and achieving effectiveness becomes increasingly pronounced. However, its design process has, to some extent, transcended the constraints of macro structures, effectively integrating internal community resources and promoting sustainable development within the village. The effectiveness of the design in the *Future Village* project is evidenced by a range of diverse outcomes: (1) Formation of community Identity: Through interviews, we found that the majority of villagers felt a greater sense of pride in the transformed village landscape. They believe that the artistic public infrastructure, such as parks, trails, and basketball courts, has brought a refreshing element to their daily lives. (2) Protection of Rurality: The landscape design, which aligns with the village's spatial characteristics, has preserved its distinctive natural and cultural landscapes. The Changdai Creek, which runs through the village, has become a picturesque landscape corridor, while a tea house matching the style of an ancient park has been established nearby. (3) Economic Development: According to data provided by the village committee, Changdai has recently attracted a number of industries related to cultural creativity and tourism, including outdoor camping bases, design studios, and independent coffee shops. The beautiful environment and diverse activities have drawn many visitors and migrants, leading to a continuous increase in rental income and tea sales for villagers. Therefore, we conclude that the rural design in Changdai Village is effective.

Discussion

In traditional village planning, villages tend to passively accept management and intervention from higher-level authorities. The case of Changdai indicates that contemporary rural planning now appears to define a more proactive role in rural communities. In recent decades, the multifunctionality of villages has necessitated updated approaches to rural planning, and China's public sector has gradually shifted from an emphasis on urbanization and modernization to a greater focus on localism in rural planning. This transformation alters the image of rural areas as *slow movers*, enabling them to participate in national and regional strategic planning in diverse ways, creating a spatial vision tied to narratives of urban-rural integration or globalization (Albrechts et al., 2003; Knaap & Lewis, 2011). Meanwhile, it marks a shift from unidirectional policy implementation to a more interactive and collaborative model of rural planning among multiple actors. In recent decades, village planning has taken on a more active role in the lives of rural communities, and the functions of many villages have gradually expanded from being production-oriented and livelihood-oriented to encompassing aesthetic, ecological, and educational purposes. Villages are now proactively participating in national and regional strategic planning in diversified forms, forming spatial visions associated with urban-rural integration or globalized mobility narratives (Albrechts et al., 2003; Knaap & Lewis, 2011). This calls for adapting rural planning to respond to new demands. Similar to other countries, the public sector planning discourse in China has gradually shifted from a focus on urbanization and modernization to more localism in rural planning. This transition marks a shift from unidirectional policy implementation to a more interactive and collaborative model of rural planning among multiple actors.

In light of the successful transformation of Changdai, a community-based model of rural design has emerged, wherein the public sector and various community actors collaborate through co-design to drive organizational change and rural development. Unlike traditional *human-centered* design, this model emphasizes ongoing interaction and deep collaboration between designers and the community, ensuring that design decisions reflect the community's overall needs and foster sustainable development (Meroni, 2008). This approach represents a viable attempt by the public sector and diverse community actors to support communities in establishing sustainable and equitable social goals (Singh Rathore, 2022). The analysis of the *Future Village* project has confirmed the effectiveness of this model within the context of rural China. We found that as design thinking becomes embedded at various stages and levels within the public sector, the *community-centered* design approach serves as the paradigm that aligns with different practical mechanisms (see Figure 5).

In the initial stages of the design process, the public sector actively seeks spaces for policy innovation, incorporating diverse stakeholders, such as market actors and experts, into design decision-making. During the implementation phase, the public sector emphasizes the cultivation of community social capital and the enhancement of public participation mechanisms. As the depth of design integration increases, the level of *complex participatory design (Desert*i & Rizzo, 2014) also intensifies, requiring all participants and stakeholders to act as co-designers. At this stage, establishing a shared vision, reducing excessive regulation, and clearly defining the roles and responsibilities of each entity becomes potential strategies for facilitating multi-stakeholder consultation and fostering effective rural design.

Actually, local public departments are inevitably constrained in their use of design thinking by existing administrative logic or interfered with by stronger political forces at a higher level. In this way, the need to balance top-level design with grass-roots dynamics is becoming increasingly apparent. The case of Changdai demonstrates how, in regions with relatively

higher flexibility, local public sectors can seek innovation within the framework of upper-level policies: by first adopting *context-specific* policy designs and an iterative *pilot-first then promote* approach to achieve positive developmental outcomes, thereby gaining recognition and endorsement from higher-level governments to affirm the legitimacy of the design.

The public sector's pursuit of innovation stems from its attention to and recognition of the community itself, with the goal of creating a sustainable and equitable rural environment. Under this design imperative, public sector initiatives increasingly respect the natural and cultural fabric of rural areas, using this as a guiding principle to reshape local cultural and landscape values. In Changdai, the local government has consistently acknowledged the importance of community needs and taken active measures to facilitate cooperation between village committees and professional planners, leveraging local resources to promote sustainable development. Throughout this process, various community members are embraced as key actors in the implementation of design and policy, playing essential roles in driving these initiatives forward.

As Jacobs (1961) emphasized, planning is not merely about addressing short-term issues; it is also a practice aimed at advancing democracy and social justice. During the implementation of the future rural project in Changdai, we observed the emergence of a more equitable and collaborative space and dialogue: continuous and meaningful interactions between internal and external community members have fostered a greater sense of belonging among community members and enhanced communication between stakeholders. This has transformed rural design from serving a singular governmental vision to amplifying the voices within the community itself. Through multi-stakeholder collaboration, Changdai Village has shifted from a traditional tea plantation to a sustainable, environmentally friendly, tourism-oriented, and attractive *utopian* village.

Overall, the case of *community-centered* rural design demonstrates its effectiveness in promoting community justice and multi-party collaboration. Although this model has proven beneficial for rural areas, its wider adoption and implementation across different social and political contexts still face numerous challenges. Especially in more conservative municipalities and counties, promoting such an innovative approach may encounter resistance from policy environments and institutional inertia. Additionally, power imbalances may limit the participation of some community members in the decision-making process, thereby undermining the effectiveness of the design model. In this way, exploring flexible policy designs to overcome these obstacles and ensure effective promotion and application of strategies is a topic that merits sustained research.

Conclusion

In the context of complex rural social structures, designing sustainable and inclusive rural communities presents numerous challenges. This study analyzes the design process of the Future Village project in Changdai, revealing that a community-centered public sector design model demonstrates significant potential to enhance community cohesion, improve long-term project outcomes, and increase resident satisfaction. Furthermore, we identify key mechanisms of effective public sector design: by activating the physical and social capital of the community and incorporating the participation of multiple actors, it promotes the construction of a shared community vision and stimulates the endogenous development dynamics of rural communities.

We hope this community-centered design approach will raise awareness among today's public sector designers that an effective design should avoid one-dimensional interventions or transformations. The public sector needs to reconsider and leverage the inherent resources of villages, prioritizing residents' sense of participation and belonging. In this way, rural design

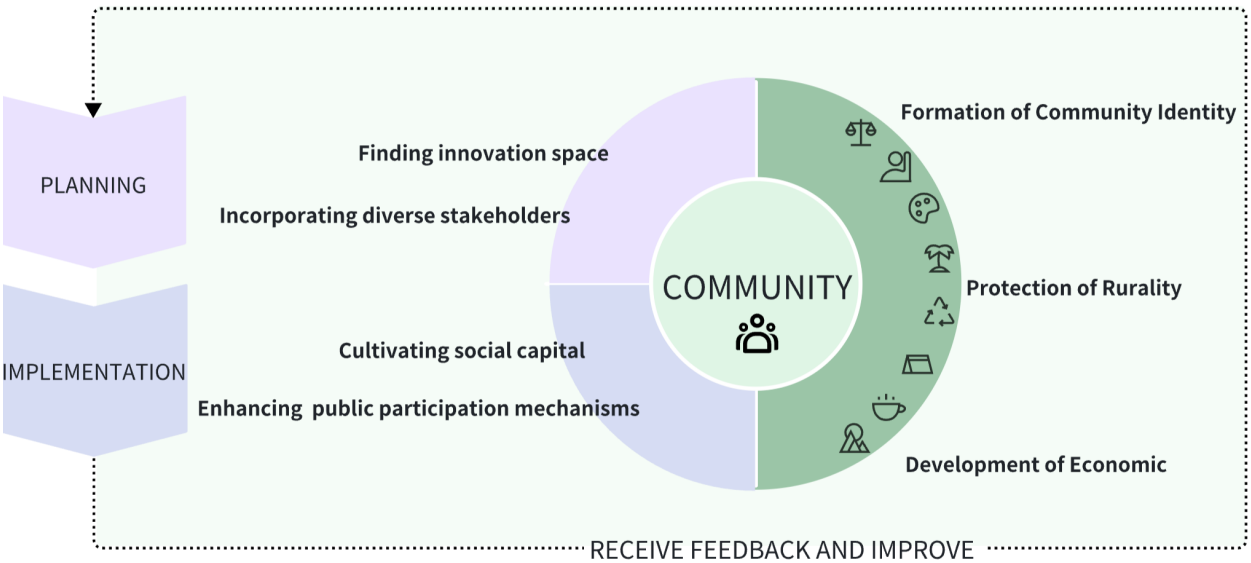

Figure 5. Community-centered rural design practice mechanism.

can promote sustainable economic, social, and environmental development in a balanced and coordinated manner, becoming a powerful tool for shaping the rural future and contributing to the global and local goal of *making better places*.

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