Training Models for Applied Talents in Landscape Architecture within the Context of Rural Revitalization: A Case Study of West Yunnan University of Applied Sciences

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Abstract The rural revitalization strategy has prompted a shift in the demand for landscape architecture talents, emphasizing local contexts, practical implementation, interdisciplinary expertise, and applied skills. Currently, the cultivation of landscape architecture talents in China faces several challenges, including training objectives that are disconnected from the realities of rural areas, limited incorporation of local content in curricula, superficial practical training, formalistic approaches to industry-education integration, and inadequate development of local sentiment. These issues hinder the effective support of constructing harmonious and aesthetically pleasing rural villages. This article, grounded in the strategic framework of rural revitalization, develops an applied talent cultivation model characterized by "one core, three dimensions, four integrations, and five guarantees". Drawing on rural practice cases from various local universities, it proposes a replicable and scalable reform pathway. Using West Yunnan University of Applied Sciences as a case study, the article synthesizes its practical experiences in localization, applicability, and collaboration. Moreover, it offers a valuable reference for comparable institutions with landscape architecture major aiming to tailor their curricula to rural demands and to develop applied talents who "possess agricultural knowledge, demonstrate a commitment to agriculture, and actively promote agricultural development".

Keywords Rural revitalization, Landscape architecture, Applied talent, Training model, Integration of industry and education, Rural landscape

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The rural revitalization strategy prioritizes prosperous industries, a pleasant living environment, rural civilization, effective governance, and a prosperous life as its central objectives. Landscape architecture, as a critical discipline bridging rural ecology, culture, and industry, provides indispensable technical support in areas such as rural ecological restoration, enhancement of the living environment, creation of rural landscapes, and the integration of agriculture, culture, and tourism[1]. Currently, the cultivation of landscape architecture talents in China remains predominantly focused on urban landscapes and generally adheres to a traditional model that "emphasizes artistic expression over engineering implementation, as well as theoretical instruction over practical application". This approach is markedly misaligned with the demand for applied talents in rural areas who are "willing to work on the front lines, capable of making a meaningful impact, committed to remaining in these areas, and performing effectively"[2].

With the ongoing progress of rural revitalization, there are increasingly stringent demands placed on landscape architecture talents regarding their local knowledge, on-site design skills, project execution, and collaborative governance abilities, particularly in relation to the development of harmonious and aesthetically pleasing villages, the preservation of traditional villages, and the renovation of the rural living environment. The reconstruction of an applied talent cultivation system in landscape architecture, specifically focused on rural areas, and the promotion of a deep integration between professional education and rural development, constitute not only a contemporary imperative for the discipline to support national strategies and facilitate rural revitalization but also a crucial approach for local colleges and universities to overcome challenges of homogenization and achieve professional transformation[3].

1 Core requirements for applied talents in landscape architecture within the context of rural revitalization

In the context of rural revitalization, applied talents in landscape architecture must ground their work in the specific realities of rural areas, integrating multiple values such as ecology, culture, and industry. They are required to possess a comprehensive skill set that includes "a deep understanding of rural environments, design proficiency, implementation capability, and effective collaboration". These core competencies can be categorized into six key aspects. The first aspect involves an awareness of the local context and the capacity to design in accordance with local conditions. Individuals should be well-acquainted with the natural texture of villages, indigenous plant species, and folk cultural traditions. They must avoid the pitfalls of "urban-centric design" approaches, instead creating landscapes that respond to local conditions and preserve the authentic rural landscape. The second competency pertains to ecological restoration and environmental governance. Individuals must possess expertise in key technologies, including the restoration of small and micro wetlands in rural areas, slope stabilization, ecological sewage treatment, farmland protection, and biodiversity conservation, to facilitate the development of ecologically sustainable and livable rural villages. The third competency involves project implementation and on-site management. Individuals should demonstrate proficiency in rural landscape construction drawing design, cost estimation, and construction organization management, as well as skill in utilizing local materials for construction, thereby ensuring the effective execution and promotion of design plans. The fourth competency pertains to industrial integration, planning, and strategic development. Individuals should facilitate the connection of emerging business models, including rural complexes, leisure agriculture, rural homestays, and educational study bases, thereby promoting the organic integration of landscape design with rural industries. The fifth competency involves proficiency in digital technologies.

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Professionals must be adept in utilizing tools such as Geographic Information Systems (GIS), unmanned aerial vehicle (UAV) mapping, lightweight Building Information Modeling (BIM), and rural big data analytics to enable precise and intelligent planning, design, and the operation and maintenance of rural landscapes. The sixth competency encompasses a sense of local connection and effective communication and collaboration skills. Practitioners should respect the primary intentions of local villagers, adhere to a "villager-centered" design philosophy, and demonstrate the ability to coordinate among multiple stakeholders, including governments, village collectives, enterprises, and residents, to facilitate the successful implementation of programs.

2 Prominent problems existing in the current training model

Currently, the cultivation of applied talents in landscape architecture is misaligned with the requirements of rural revitalization. The primary deficiencies can be identified in six key areas. First, the training objectives are overly homogenized. Many higher education institutions replicate the models of research-oriented universities or urban-focused training programs, without establishing a distinct orientation toward rural revitalization. Consequently, the talent output does not meet the specific needs of rural positions, and students exhibit limited awareness of serving "agriculture, rural areas, and farmers", alongside inadequate practical skills[4]. Second, the curriculum system is inadequately aligned with the realities of rural areas. It predominantly emphasizes urban landscapes and modern garden engineering, while offering insufficient courses related to rural contexts, such as the application of native plants, rural planning, residential renovation, and rural construction. This imbalance hinders the ability to cultivate talent suited to rural development needs[2]. Third, practical teaching is experiencing a decline in substance and effectiveness. Many practical links consist of virtual topics and simulated designs, lacking authentic project experience such as village-based practice, on-site construction, and full engagement. Therefore, students' abilities in engineering implementation are challenging to develop effectively[3]. Fourth, the integration of industry and education remains superficial. Most collaborations between schools and enterprises are limited to nominal partnerships, such as co-branding initiatives, short-term lectures, visits, and internships. These efforts lack a comprehensive four-party collaborative education mechanism involving "schools, government, enterprises, and villages". As a result, they have not succeeded in establishing a deeply integrated model characterized by joint planning, curriculum development, team formation, and quality evaluation[5]. Fifth, there is a significant shortage of teaching staff. Most teachers follow a career trajectory that involves "moving from school to school", resulting in limited practical experience in rural projects. Additionally, they are often unfamiliar with rural policies and local construction techniques, which hinders their ability to deliver targeted, rural-oriented teaching[1]. Sixth, the evaluation system exhibits a bias favoring urban areas. The assessment criteria emphasize the quality of design sketch and theoretical documentation, while overlooking the feasibility of the plans, ecological benefits, and public welfare value. Consequently, the system does not comprehensively assess students' practical abilities to serve rural communities[4].

3 Construction of an applied talent cultivation model oriented towards rural revitalization

In response to the talent requirements for rural revitalization and to address existing deficiencies in training, this paper proposes an applied talent cultivation model characterized by "one core, three dimensions, four integrations, and five guarantees", aimed at fostering a profound connection between professional education and rural development needs. The core element focuses on application-oriented competencies essential for supporting rural revitalization, permeating the entire talent cultivation process. The three dimensions encompass value guidance (local sentiment), knowledge system (rural specialties), and practical ability (on-site construction), thereby establishing a comprehensive educational framework. The four integrations involve the incorporation of courses into rural contexts, education into fieldwork, production into village settings, and assessment into practical outcomes, collectively promoting a deep integration of education and rural practice. Finally, the five guarantees, comprising organization, system, faculty, platform and funds, ensure the effective implementation of the proposed training model.

3.1 Target positioning: precisely cultivating talents for the front line of rural areas

In response to the strategic requirements of rural revitalization, the objectives for cultivating applied talents in landscape architecture have been clearly defined. Emphasizing frontline roles such as township planning, rural landscape engineering, ecological governance, the integration of agriculture, culture, and tourism, as well as the courtyard economy, the model aims to develop interdisciplinary talents who possess "a deep understanding of rural areas, a strong attachment to their native land, advanced design skills, engineering proficiency, and effective coordination abilities". Furthermore, the model will reinforce the value of "commitment to rural development and service", fostering students' local identity and social responsibility.

3.2 Curriculum system: building a "rural +" modular curriculum cluster

To overcome the urban-centric limitations of traditional curricula, a "rural +" modular curriculum cluster has been developed to ensure precise alignment between course content and rural occupational competencies. This cluster is organized into five principal modules. (i) The foundational module reinforces subjects such as local botany, rural ecology, and the preservation of traditional villages, thereby establishing a solid base of local knowledge. (ii) The core module incorporates courses including rural landscape planning, courtyard design, local material construction, and rural engineering management to enhance skills in rural design and implementation. (iii) The interdisciplinary module encompasses rural tourism planning, leisure agriculture design, rural policy analysis, and residential renovation, aiming to cultivate capabilities in industrial integration and collaboration. (iv) The digital module provides instruction in UAV mapping, rural GIS applications, and lightweight BIM technology to improve proficiency in digital technologies. (v) The ideological and political module integrates ideological and political education with local culture, ecological civilization, and rural revitalization education, fostering a strong sense of local identity and patriotism.

3.3 Practical teaching: building a closed–loop system of "village–based practical operations"

To address the challenges posed by the virtualization and fragmentation of practical teaching, a comprehensive practical system encompassing "cognitive internships, course design, village-based construction, graduation projects, and entrepreneurship incubation" has been developed. This system emphasizes the focus on village-based practical operations and on-site construction activities. (i) Regularized rural research: a fixed number of class hours each semester are allocated to conduct rural surveys,

interviews with villagers, and the mapping and archiving of traditional villages, thereby enhancing local cognition. (ii) Curriculum design grounded in actual questions: real projects, such as the development of beautiful rural courtyards, village entrance landscapes, small and micro wetlands, and village road greening, are utilized as thematic topics to facilitate practical engagement with actual challenges. (iii) Implementation of village-based practice: it involves establishing rural workstations and engaging students in the comprehensive process of design, construction, and on-site operation and maintenance, thereby transforming blueprints into tangible realities. (iv) Practical-oriented graduation projects: at least 80% of exam topics should be derived from real-world projects. Additionally, a tri-mentor system comprising "on-campus faculty, township cadres, and enterprise mentors" should be adopted to ensure that programs are aligned with the actual conditions of rural areas and possess practical implementation. (v) Encouraging learning through competitions in rural areas: competitions such as rural landscape design, courtyard creation, and native flower border design should be organized to enhance students' practical enthusiasm and innovative capabilities.

Zhejiang A&F University mobilized faculty and students to engage extensively in over 20 counties and more than 110 villages across Zhejiang Province, successfully completing the on-site design and construction of over 230 rural courtyards and village entrance landscapes. This initiative effectively aligned practical teaching with the specific needs of rural areas. Similarly, the Henan Institute of Science and Technology, leveraging the "Science and Technology Small Courtyard", facilitates prolonged student residency in villages, enabling comprehensive participation in projects including rural planning, ecological management, and industrial landscape development. This approach significantly enhances students' practical implementation skills.

3.4 Education mechanism: promoting the collaboration among the four parties of "schools, government, enterprises, and villages"

A four-party collaborative education mechanism involving "schools, government, enterprises, and villages" has been established to move beyond the traditional single education model in colleges and universities. This synergy in education is characterized by "the government providing projects, schools supplying technologies, enterprises offering funding, and villagers contributing labor". (i) Jointly building a training program: township cadres, experts from the planning institute, and village cadres are invited to participate in the development of the program to ensure that the training objectives and curriculum design are accurately aligned with rural job requirements. (ii) Jointly building practice bases: rural workstations, on-campus villages, and field classrooms are established to offer actual practical experiences. (iii) Forming a mentor team: a multidisciplinary mentorship team, comprising on-campus teachers, industry engineers, township cadres, and local artisans, is established to offer comprehensive guidance in practical and design activities. (iv) Jointly promoting project implementation: utilizing the collaborative platform facilitates the conversion of students' design plans into tangible rural projects, thereby achieving a mutually beneficial outcome for both education and service[6].

Anhui Business and Technology College has initiated the "Art Empowering Rural Areas" project, establishing an integrated collaborative framework encompassing design, construction, industry, and talent. Leveraging the combined strengths of these four sectors, the college has completed multiple rural landscape renovation projects that simultaneously enhance students' skills and improve rural living conditions. Similarly, Liaocheng University has developed a comprehensive digital and intelligent education model for rural areas, based on the concepts of "heaven, earth, body, and emotion". This model involves collaboration with local governments and rural enterprises to facilitate the deep integration of digital technologies with rural landscapes, thereby fostering the cultivation of digital and intelligent talents in rural landscape architecture.

3.5 Faculty development: building a "local dual-teacher" team

To address the deficiency of practical experience in rural areas among teachers, a mechanism has been established to develop a rural dual-teacher team characterized by "internal development, external recruitment, and mutual enhancement". (i) Strengthening the internal training of teachers within schools: young teachers are required to participate annually in rural landscape projects within rural areas and enterprises. They are encouraged to obtain professional qualifications in fields such as rural planning and landscape engineering to enhance their practical skills in rural areas. (ii) Increasing the recruitment of local mentors: experts in rural construction, local artisans, senior engineers from enterprises, and distinguished village cadres are engaged as part-time instructors to convert their practical experience into teaching content. (iii) Establishing an incentive mechanism for rural teaching and research: the accomplishments of teachers in participating in rural projects, social services, and the guidance of rural practices are integrated into professional title evaluations, appointments, and performance assessments to enhance their motivation for student development.

3.6 Evaluation reform: implementing a diversified evaluation approach "oriented towards rural effectiveness"

To address the urban bias inherent in traditional evaluation methods, it is imperative to establish a multidimensional evaluation framework focused on rural effectiveness. This framework can comprehensively assess students' professional competencies as well as their capacity to serve rural communities. (i) Strengthening process evaluation: village performance, interview records, research reports, and teamwork are incorporated into the evaluation to emphasize the importance of accumulating practical experience. (ii) Highlighting outcome-oriented evaluation: the implementation rate of the program, the qualification rate of construction drawings, project acceptance outcomes, and ecological and public welfare benefits are considered the primary indicators, supplanting the emphasis previously placed on renderings. (iii) Introducing third-party evaluation: representatives from township governments, enterprises, and local villages are invited to participate in the evaluation of achievements to ensure the objectivity and practical relevance of the assessment. (iv) Promoting the integration of dual certificates: academic certificates are integrated with vocational skills certificates in disciplines such as landscape engineering, flower border design, and rural planning to improve employment competitiveness.

4 Guarantee measures

To facilitate the implementation of the training model characterized by "one core, three dimensions, four integrations, and five guarantees", a comprehensive support system has been established. (i) Organizational guarantee: a professional construction committee for rural revitalization has been established, comprising representatives from the government, enterprises, and rural villages and towns, to facilitate the coordinated implementation of reforms. (ii) Institutional guarantee: measures such as the management of village-based practices, dual-teacher incentives, and social service recognition have been introduced to standardize

the process of talent education. (iii) Platform guarantee: rural construction workshops, native plant gardens, digital rural laboratories, and practical workstations have been established to support teaching practice. (iv) Financial guarantee: a dedicated fund for rural practice has been established to support village-based practices, the procurement of local materials, infrastructure development, and subsidies for enterprise mentors. (v) Quality guarantee: an annual assessment, rural demand research, and graduate tracking feedback mechanism have been established to dynamically optimize the training model. Table 1 presents the core training models for landscape architecture majors at universities across different regions.

5 Analysis of rural practice in the landscape architecture major of West Yunnan University of Applied Sciences

The western region of Yunnan Province is characterized by abundant ecological resources, diverse ethnic cultures, and a variety of village types. It serves as a critical area for rural revitalization within the province. The landscape architecture major plays a significant role in ecological restoration, enhancing living environments, preserving traditional villages, and integrating agriculture, culture, and tourism.

West Yunnan University of Applied Sciences is committed to an educational approach that is "application-oriented, regionally focused, industrially integrated, and distinctive". The university actively promotes the integration of industry and education, serving local areas by collaboratively establishing practical platforms with governments, enterprises, and villages. This collaborative framework provides a robust foundation for the landscape architecture major to engage in actual rural field practice. Developing a practical teaching model tailored to the specific conditions of western Yunnan, which emphasizes application and implementation, is essential not only for the advancement of the discipline but also as a strategic imperative to support the region's rural revitalization efforts.

The primary advantage of the rural practical teaching program in landscape architecture at this university lies in its strong connection to the local areas of western Yunnan. This program emphasizes addressing real-world challenges through hands-on solutions and fosters collaboration among industry, education, government, and villages. Additionally, it integrates ethnic culture and ecological considerations while providing comprehensive education throughout the entire process. Collectively, these elements constitute a distinctive practical training system characterized by local relevance, practical application, servitization, and the incorporation of ideological and political education.

5.1 Teaching positioning: focusing on rural revitalization and serving the local area of western Yunnan

5.1.1 Precise target alignment. Guided by the principles of rural revitalization, the development of beautiful villages, the preservation of ethnic culture, and ecological restoration, practical teaching is thoroughly integrated with local development to cultivate applied talents who "possess a comprehensive understanding of rural areas, demonstrate a commitment to rural communities, and have the capability to contribute to rural construction".

5.1.2 In-depth transformation of regional resources. Based in Dali and the western region of Yunnan Province, the university utilizes Bai ethnic villages, mountainous rural areas, rural complexes, and ecological cultural tourism projects as natural classrooms, integrating regional culture, native plants, and traditional construction wisdom into its teaching resources.

5.1.3 Clear focus on serving the local area. The practical projects directly support local villages and cultural tourism initiatives, including Gusheng Village in Dali, the Xizhou Traditional Village Cluster, and Shuihua Manor. These projects have yielded positive teaching outcomes, benefited rural villages, and enhanced students' skills.

5.2 Teaching model: CDIO+rural scenario, full–process practical education

5.2.1 Rural implementation of CDIO model. Based on the conception-design-implementation-operation (CDIO) framework, this approach integrates elements such as rural planning, landscape design, plant landscaping, local construction, and industrial operation to develop a comprehensive practical module for rural landscapes, emphasizing experiential learning through the processes of learning by

Table 1 Comparison of core training models for landscape architecture majors at universities across different regions

School	Training model	Positioning of training objectives	Curriculum and teaching reform	Practical platform and collaborative mechanism	Distinctive achievements
Hunan Agricultural University	Xiangcun Dream Creation · Design Empowerment[7]	Compound talents in rural planning, local construction and industrial operation	Interdisciplinary integration of landscape architecture, agriculture and public administration; project-based courses	Establishing school-government partnership practice bases; implementing comprehensive real-world rural projects from inception to completion	Implementation of more than 60 rural projects; demonstration of a harmonious and beautiful village
Jiyang College of Zhejiang A&F University	Bringing the Classroom to Rural Villages: Four Years of Uninterrupted Practice	Rural landscape engineering talents who can start working immediately after graduation	Integration of six practical links; native plants/local construction module	Over 40 internship bases; collaboration between schools and enterprises; a closed-loop process from design to construction	Small-scale rural revitalization, large-scale implementation of courtyard construction
Tianjin University	Interdisciplinary Inte-gration · Labor Education Practice	High-end design talents for rural ecological restoration and human living environment	Core courses on green rural planning and the inheritance of local culture	Cluster of on-campus and off-campus practical bases; research platform for rural human living environment	Benchmark project for rural ecological planning; dual output of academic research and practical experience
Beijing University of Agriculture	A Grand Ideological and Political Education Lesson on Clear Waters and Lush Mountains	Landscape architects with a profound understanding of and appreciation for rural environments	Comprehensive internship in the southern region, with teaching points established in rural areas such as Yucun village	Frontline teaching bases such as Yucun Village in Anji; university-government collaboration on ideological and political education courses	Incorporating rural practice into core internship system
Guangdong Baiyun University	Micro-garden Creation · Closed-loop Teaching	Talents for the construction and implementation of small and micro spaces in rural areas	Project-oriented and task-driven; low-carbon local construction	Professional and enterprise dual mentors; from design to actual implementation	Large-scale implementation of rural micro-gardens; cultivation of the spirit of craftsmanship
Shandong Agricultural University	Three-stage Integration · Four-Party Collaboration	Talents in rural station awareness, small courtyard development, and industrial innovation	Job-specific skills integrated into the curriculum; teaching based on agricultural rhythms	Rural revitalization station, science and technology courtyard, industrial research institute	Collaboration among schools, governments, enterprises and villages; technology serving rural industries

doing and doing while learning.

5.2.2 Practice with real questions, project-driven approach. The university engages in practical projects encompassing rural landscape planning, traditional village conservation, rural complex design, small-scale rural revitalization, and ecological restoration. Students actively participate throughout the entire process, including research, surveying, planning, construction drawing, construction, and operation. Focusing on the Xizhou Traditional Village Cluster, Gusheng Village, and Shuihua Manor, the university has completed practical tasks such as integrated planning of scenic spots and villages, enhancement of the landscape of Bai folk houses, and the design of agricultural and tourism landscapes.

5.2.3 Immersive rural research. Students are organized to conduct in-depth fieldwork in rural villages, including investigations of native plants, traditional skills, interviews regarding villagers' needs, spatial texture mapping, and documentation of cultural heritage. This approach aims to gather first-hand information and develop students' capacity to address local challenges.

5.3 Collaboration among industry, education, government and villages: jointly building a practical ecosystem by multiple entities

5.3.1 Four-party collaboration among schools, government, enterprises, and villages. The university has collaboratively established more than 20 rural practice bases in partnership with the Rural Revitalization Bureau, the Culture and Tourism Bureau, township governments, village collectives, local design institutes, and agricultural, cultural, and tourism enterprises across Dali Prefecture (including cities and counties). This collaboration has resulted in a cooperative framework wherein the government offers guidance, enterprises identify challenges, educational institutions develop talent, and rural villages derive benefits.

5.3.2 Comprehensive support through the dual-mentor system. The teachers specializing in landscape architecture, rural planners, local artisans, inheritors of intangible cultural heritage, and enterprise management experts collaboratively provide comprehensive guidance, integrating professional expertise, indigenous knowledge, and industrial operations.

5.3.3 Resource sharing, platform support. The School of Architectural Engineering provides technical support in surveying, design, plant studies, and construction for rural practice through its Practical Training Center, Plant Cognition Base, and Rural Planning Research Center.

5.4 Key features: ethnic culture+ecological wisdom + local construction

5.4.1 Deep integration of ethnic culture. The university centers on the Bai ethnic group's architectural features, including the three-sided house and a screen wall, as well as a courtyard surrounded by four buildings with five skylights. Additionally, it incorporates local cultural elements such as tie-dyeing, woodcarving, and native flora including *Celtis tetrandra*, *Jasminum mesnyi*, and *Camellia reticulata*. Through this approach, the university seeks to both preserve and innovate the landscape culture of ethnic communities, thereby preventing homogenization among villages.

5.4.2 Prioritizing ecology, adapting to local conditions. The university embraces principles such as minimal intervention, ecological restoration, appropriate tree placement, and the development of sponge villages. It implements water system management, slope greening, biodiversity conservation, and native plant landscaping, while fostering ecological design thinking.

5.4.3 Inheritance of local construction techniques. The university seeks to enhance practical rural construction skills by engaging local artisans to instruct on the use of indigenous materials—including stone, wood, rammed earth, and tiles—and traditional construction techniques.

5.4.4 Tiered and progressive practical training system. A comprehensive system encompassing cognitive internships, specialized practices, comprehensive projects, graduation designs, and rural services has been established to progressively enhance capabilities.

5.4.5 Refined process management. A closed-loop management system, comprising group work, weekly reports, mid-term reviews, achievement defenses, and feedback from villagers, has been implemented to enhance team collaboration, communication and expression, problem-solving skills, and the effective implementation of achievements.

5.4.6 Diversification of evaluation system. A multi-stakeholder evaluation system, encompassing teachers, enterprises, villagers, and students, is developed with a focus on project quality, villagers' satisfaction, enterprise recognition, process performance, innovation capacity, and service contribution.

In summary, the university has developed a four-stage progressive, three-integration coordinated, and on-site practical teaching model. The four progressive stages include: rural cognitive practice (freshman year), which encompasses village cognition, identification of native plants, and experience of ethnic culture; course specialized practice (sophomore and junior years), focusing on rural landscape, courtyard design, and low-cost construction; comprehensive practical training (junior and senior years), involving village-based practice, real test projects, and on-site construction; and graduation comprehensive practice (senior year), which consists of rural real-topic graduation design guided by dual mentors from both the university and the local government. The three-integration coordination encompasses the integration of schools with local governments, the integration of industry with education, and the integration of villages with schools. The on-site practice utilizes actual villages, industrial projects, and residential courtyards in western Yunnan as platforms to address real-world problems, facilitate village-based practical training, and implement tangible outcomes. Table 2 presents the rural practical teaching model employed in the landscape architecture major at West Yunnan University of Applied Sciences.

5.5 Typical practical case of rural practice teaching in the landscape architecture major at West Yunnan University of Applied Sciences

This case study was submitted by Leng Chenyu, a member of the third group in the

Table 2 Rural practical teaching model employed in the landscape architecture major at West Yunnan University of Applied Sciences

Practical stage	Core practice content	Main forms of practice	Regional characteristics of western Yunnan
Rural cognitive practice	Village surveys, native plant surveys, and cultural research	Field investigation and on-site mapping	Xizhou, Shuanglang, Ethnic villages
Specialized course practice	Rural landscape design, courtyard design, and local construction	Actual question design and model creation	Bai folk culture, local materials
Comprehensive hands-on practice	Village entrance nodes, waterfront green belts, and small wetlands	Resident construction and on-site guidance	Renovation of small and micro landscapes in rural areas
Graduation comprehensive practice	Village protection and industrial landscape planning	Dual mentorship and practice with actual questions	Coffee plantations, tea plantations, and agritourism projects

Landscape Architecture 2301, instructed by Duan Junhua and Chen Xixi. The practical project involves the planning, improvement, and renovation of the village appearance in Taoyuan Village, Xizhou Town, Dali City. Taoyuan Village, the site of the case study, is situated adjacent to Erhai Lake to the east, Zhoucheng to the south, Cangshan Yunnong Peak to the west, and the Shangguan Village Committee to the north. The area is traversed by Dali Road, National Highway 214, and Huanhai Road. Additionally, Diequan Road connects Taoyuan Wharf and Butterfly Spring Park, thereby facilitating convenient transportation. The central area is organized following a pattern in which "Cangshan Mountain serves as a backdrop and Erhai River as a reflective surface", functioning as the primary setting for the Erhai moon landscape within Dali's "wind, flowers, snow, and moon". The village features a babbling brook, and the Bai folk houses harmoniously integrate with the natural environment.

The student presented two sets of design strategies. Fig. 1 illustrates a portion of the schematic design drawings.

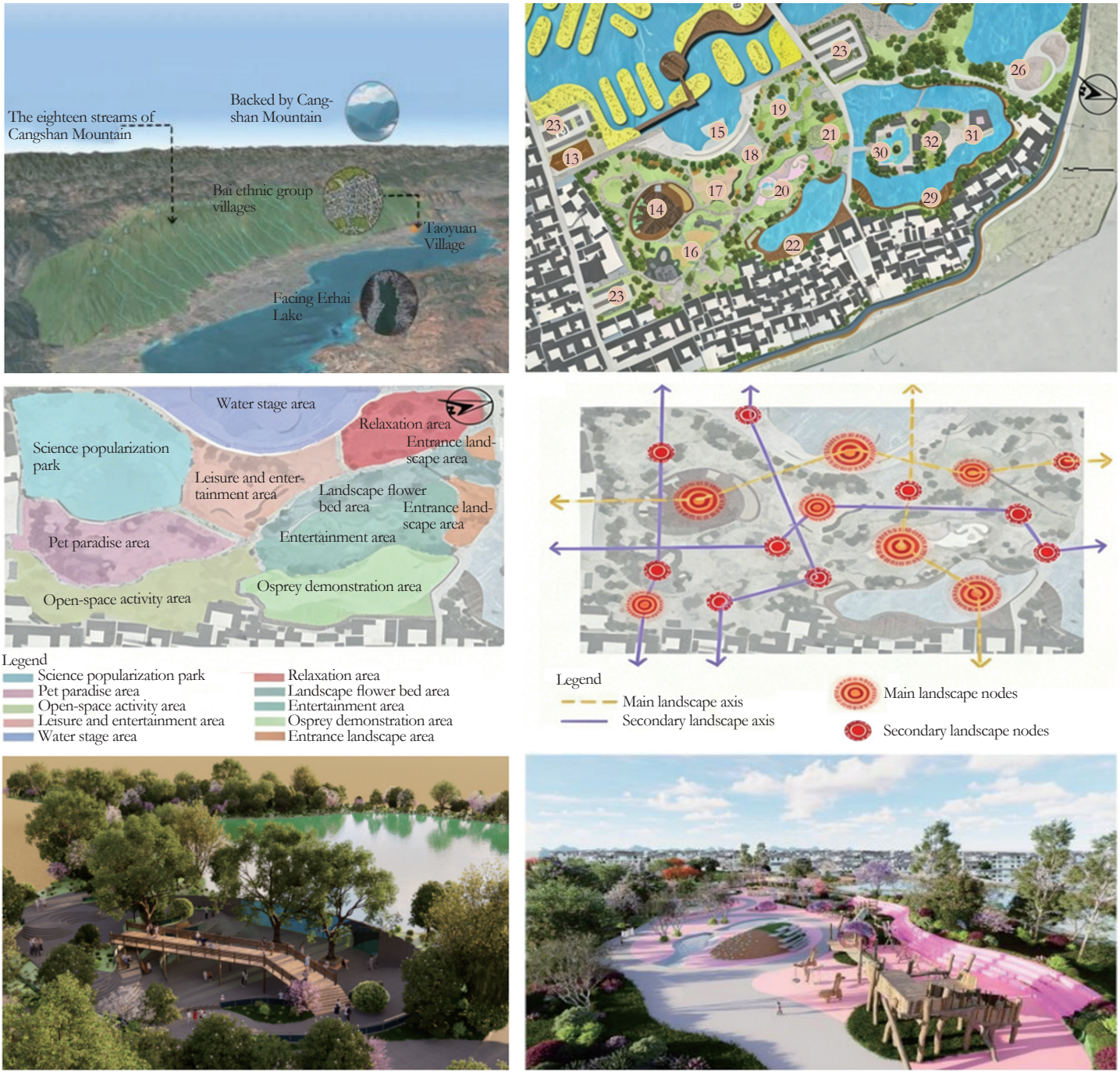
Strategy one: optimization of village supporting facilities. The primary components include the following four aspects. (i) Upgrading of the two water systems and one sewage system: the water supply system can transport water from the source to an elevated water tank. Therefore, a water town landscape water system can be developed around the water transmission pipeline, incorporating elements of the Bai ethnic water landscape to enhance the aesthetic appeal of the water supply facilities. Rainwater management will entail the installation of drainage ditches and storage tanks to collect rainwater and direct it into the village's water supply network, thereby establishing a circular water town landscape and promoting water-centric commercial activities such as water-themed cafés and photography studios. Each household should be provided with a septic tank for sewage treatment, complemented by centralized sewage treatment facilities. The reclaimed water can be utilized for irrigation and replenishing water features, enhancing the local environment and reducing the environmental protection costs associated with ecological agriculture and water town homestays. (ii) Garbage disposal and improvement of public toilets: intelligent sorting equipment can be installed at waste collection sites, accompanied by an online points redemption system. The newly constructed public restrooms may feature design elements inspired by Bai ethnic tie-dyeing and water town aesthetics, thereby establishing them as popular locations for visitors to check in. (iii) Village lighting renovation: solar landscape lights can be installed along roads and waterways, incorporating Bai ethnic patterns and light-and-shadow designs to form a luminous corridor in the Taoyuan water lane. This installation will support night markets, open-air cinemas, and other nighttime economic activities. (iv) Optimization of road and parking system: roads should be repaired to preserve the stone-paved texture characteristic of the water town, incorporate shared parking spaces in densely populated areas, and establish designated slow lanes within the water town. The parking lot should be constructed with permeable pavement and bordered by aquatic plants, thereby reinforcing the thematic identity of the water town.

Strategy two: enhancement of the village's image and industrial integration. The strategy also encompasses four key components as outlined below. (i) Building renovation and business integration: the aquaculture area will undergo comprehensive renovation, incorporating rice-fish coexistence and ecological aquaculture models to establish a water town ecological aquaculture experience park. Additionally, it will support emerging business formats such as aquaculture study tours and fresh food e-commerce. (ii) Immersive water town creation: graffiti and tie-dye water feature installations can be integrated into leisure nodes and waterfront walkways within the water town. Additionally, plants such as lotus flowers and aquatic vegetables, which possess both ornamental and economic value, can be selected to minimize maintenance costs and to support harvesting and floral art commercial activities. (iii) Youth entrepreneurship street development: the homestay and dining areas will focus on attracting returning young individuals and creators to establish the Taoyuan water town youth entrepreneurship street. This initiative will encompass diverse business models, including intangible cultural heritage workshops, digital nomad communities, and water town e-sports homestays. (iv) Youthful operation of rural education bases: rural academies may provide courses on digital village development, new media operations, and cultural tourism planning. They can invite creators and university mentors to deliver lectures, enhance villagers' skills, and establish a platform for youth entrepreneurship exchange.

6 Conclusions

The rural revitalization strategy presents new opportunities and challenges for the major of landscape architecture, necessitating enhanced standards for the development of applied talents. The training of landscape architecture talents must transcend the traditional urban-centric focus and adopt a developmental approach that integrates both urban and rural contexts, with particular emphasis on rural areas. Guided by the framework of "one core, three dimensions, four integrations, and five guarantees", efforts should be directed towards localizing curricula, embedding practical work within rural villages, coordinating educational initiatives, and improving evaluation effectiveness. These measures aim to address the disconnection between theoretical knowledge and practical application, as well as the misalignment between talent supply and occupational demands.

Rural revitalization initiatives have established the need for landscape architecture talents in western Yunnan Province to possess localized knowledge, practical skills, and versatility. Taking West Yunnan University of Applied Sciences as a case study, the institution, aligned with its role as an applied undergraduate university, leverages the region's ethnic culture, ecological resources, and rural development needs to develop a training model that integrates job positions, coursework, competitions, and certification. This model fosters collaboration between the university and the local government and implements project-based practical training, thereby addressing the limitations of traditional teaching methods. By integrating rural construction, the preservation of ethnic villages, ecological restoration, and the convergence of agriculture, culture, and tourism, while enhancing comprehensive training and implementing a dual-mentor system focused on practical rural projects, the university seeks to cultivate applied talents who "possess a thorough understanding of the local environ-ment, demonstrate strong design skills, are proficient in construction, and excel in operational management". This approach not only addresses the demands for improved rural living conditions, ecological conservation, and cultural tourism development in western Yunnan but also offers a replicable model for local higher education institutions to contribute effectively to rural revitalization. Empirical evidence demonstrates that the development of applied talents must be closely aligned with regional needs, promote the integration of industry and education, and reinforce a closed-loop system of practical training to achieve the simultaneous advancement of talent cultivation and rural revitalization.



Note: 14.Natural science popularization park; 15. Paddy field dreamlike drama; 16. Cute pet interaction camp; 17. Gathering and distribution square; 18. Entrance square; 19. Supplication clear pool; 20. Non-powered amusement park; 21. The path reading corner; 22. Osprey observation deck; 23. Parking lot; 29. Waterfront walkway; 30. Yaji cultural and creative courtyard; 31. Waterfront book bar; 32. Dieshan Yuntai square.

Fig.1 Scheme design

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